Political Budget Cycle and Financial Losses: An Indonesian Case

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ABSTRACT

This study aims to test the Political Budget Cycle (PBC) in Indonesia as one of the world's largest democracies, specifically testing the presence of PBC across types of local government expenditures. This study further analyzed the effect of changes in expenditure composition during election years on financial local government losses. The financial losses are defined as irregularities in regional finance management found in the Audit Board of The Republic of Indonesia (BPK) audit report. This study uses the data at the district and city levels (local expenditures and financial losses) from 2014 to 2019 and adopts a fixed-effect panel data specification. The empirical estimations show the following evidence: (1) PBC phenomenon occurs in Indonesia, especially on government grants (belanja hibah), expenditure on goods and services, and capital expenditures; (2) There was no difference in PBC behavior between a region having an incumbent running for re-election and a region with incumbents from the previous election; (3) The existence of PBC tend to increase local government (financial) losses.

KEYWORDS:
Expenditure composition; local elections; local government; financial losses; political budget cycle

INTRODUCTION

As the third-largest democracy in the world, Indonesia has adopted a regional autonomy system with fiscal decentralization. The transfer of budgetary authority from the central government to local governments improves public policy at the local level. Indonesia consists of 514 local governments with 416 districts and 98 cities directly responsible for providing public services, including education, health, and infrastructure (Kis-Katos & Sjahrir, 2017). As local governments' authority increases, the role of supervision over regional financial management also needs special attention as local governments tend to abuse their power, such as in granting business permits to take unfair advantage of individuals and organizations (Henderson & Kuncoro, 2011).

Problems of corruption, money politics for buying and selling votes, political dowry, the need for large campaign funds to win local elections, and the politicization of government programs for campaigns such as through grants and social assistance often plague local elections (Pemilihan Kepala Daerah, Pilkada) in Indonesia (Sjafrina, 2019). Voters tend to vote for candidates who can benefit them through direct cash payments, grants, and social assistance distributed through the Local Government Budget (Anggaran Pendapatan dan Belanja Daerah, APBD). In addition to this electoral giving and spending being illegal, off-budget, and resulting in a significant number of corruption cases at the local elections, there are indications that some of these grants and social assistance can also affect the election results (Simandjuntak, 2012).

The Political Budget Cycle (PBC) can be used for many purposes, such as increasing spending, budget deficit policies, reducing taxes, and changing the expenditure's composition to achieve voter preferences. The regional head needs to increase revenue or the budget deficit to increase total spending. In contrast, budget deficits can generally only be obtained from the previous year's remaining budget surplus. The average of Local Own-source Revenues (Pendapatan Asli Daerah, PAD) Ratio of district and city governments in Indonesia from 2014 to 2019 is relatively low, which was only 10.75%. This indicates a high financial dependence of local governments on transfer revenues from the central government. Thereby policies to increase and reduce local taxes are not too influential on total regional expenditure. This study, therefore, focuses more on changing the composition of spending because it is more feasible by incumbent regional heads in Indonesia.

The existence of PBC in Indonesia, shown by the pattern of the highest average ratio of grant expenditure to total expenditure in the election year, is presented in Figure 1. The increase in grant expenditure stems from a decrease in capital expenditure two years before the local elections. By the PBC theory developed by Rogoff (1990), the incumbent regional head will divert less visible spending (capital expenditures) into visible expenditures (grant expenditures) as it approaches the elections. Previous studies in Indonesia also showed discretionary spending increases towards election year (Sjahrir, Kis-Katos, & Schulze, 2013; Setiawan & Rizkiah, 2017).

An increase in the proportion of discretionary spending is generally associated with the misuse of budget, leading to corruption. Lewis and Hendrawan (2019) found that at the end of the coalition period, there was an increase in corruption evidenced by a decrease in audit results opinions produced by the Audit Board of The Republic of Indonesia (BPK RI) as well as an increase in spending in the infrastructure sector which was prone to corruption. This corresponds with the pattern of local government/regional
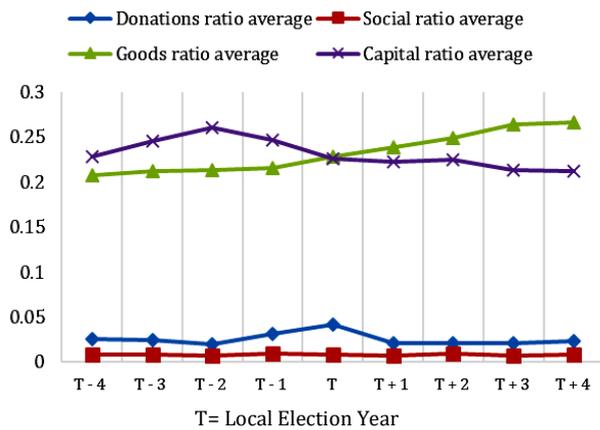
Figure 1. Average Pattern of Grants, Social Assistance, Goods, and Capital Expenditures Against Total Expenditure for 2014-2019

Source: DJPK Ministry of Finance (n.d), (Author Estimation)

(financial) losses where the ratio of the value of regional losses to total expenditure shows a tendency to increase starting from the two years prior to the local elections up to the year of the election, which is presented in Figure 2. Both incumbent and non-incumbent regional heads have a similar pattern in increasing regional losses before implementing local elections.
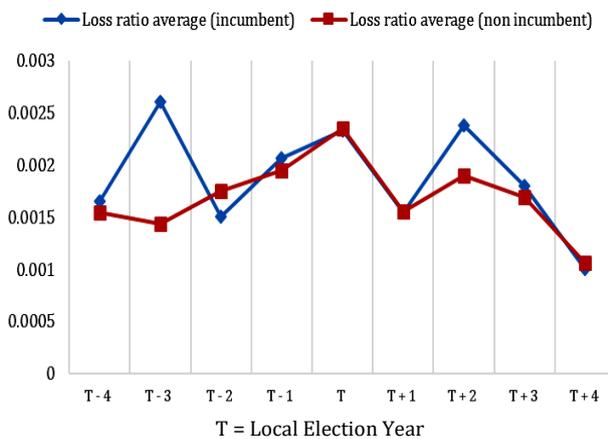
Figure 2. The Pattern of Average Regional Loss Ratio for Incumbents and Non-Incumbents in 2014-2019

Source: BPK RI (2014a, 2014b, 2015a, 2015b, 2016a, 2016b, 2017a, 2017b, 2018a, 2018b, 2019a, 2019b)

This study contributes to enriching PBC literature in Indonesia, specifically focusing on regional heads' opportunistic behavior in managing discretionary spending, which results in regional losses when they have an incentive to be re-elected in the local elec-

tions. Limited empirical research has seen the political budget cycle's impact on Indonesia's regional financial irregularities. However, previous research generally uses outcomes such as human development outcomes (Skoufias, Narayan, Dasgupta, & Kaiser, 2014), public facility infrastructure (Kis-Katos & Sjahrir, 2017), and public services in the health and infrastructure sectors (Lewis, Nguyen, & Hendrawan, 2020) as dependent variables. In comparison, this study uses regional financial losses.

This study also observes the different behavior between the incumbent and non-incumbent regional heads in regional financial management. Several studies look at the impact of politics on corruption. However, they only use the audit opinion produced by BPK RI and the portion of the infrastructure budget as a proxy for corruption (Lewis & Hendrawan, 2019). Other research uses the quality of road infrastructure to see the impact of decentralization (Kuncoro, Adrison, & Isfandiarni, 2013). A similar study looks at the effect of national elections on the Corruption Perception Index (CPI) with data on 100 democratic countries (Potrafke, 2019). The weakness of using CPI is that not all regions have CPI surveys. If they do have CPI surveys, they are not carried out routinely every year, making it challenging to use CPI panel data between areas within a certain period. Uneven data availability can lead to biased results. Therefore, this study uses regional losses data as irregularities/non-compliance found in the BPK RI audits, which are carried out regularly every year for all local governments.

Previous research generally used capital, grant, and social assistance expenditure as components of discretionary spending (Darmastuti & Setyaningrum, 2019) and types of expenditures that fall within the education, infrastructure, and administration sectors (Sjahrir, Kis-Katos, and Schulze,

2014). Meanwhile, this study contributes to the literature by using a complete expenditure account presented in the financial statements as a component of discretionary spending, such as grants, social assistance, goods & services, and capital expenditure. Full utilization of local expenditures can illustrate how expenditure changes during the election year.

LITERATURE REVIEW

PBC Theory

The PBC theory developed by Nordhaus (1975), Alesina (1987), Rogoff (1990), also Drazen and Eslava (2010) explained the behavior of using expansive fiscal budget policies in the year approaching local elections. Based on that theory, regional heads who participated in the second round of local elections (incumbents) have incentives to use fiscal policy to signal their performance positively. The incumbent regional head will dispense more lavish discretionary spending in the election year to increase re-election probability.

The incumbent would take advantage of macroeconomic policies such as balance deficit policies, unemployment reduction policies, and inflation control policies to gain an electoral advantage. This initial model emphasized the incumbent's intention to ensure re-election by maximizing voter expectations. This model assumes that voters will evaluate the incumbent's performance in the pre-election period. Therefore, the incumbent will create voters' economic conditions before the election by carrying out an expansionary fiscal policy to encourage economic growth (Nordhaus, 1975).

The next concept was introduced by Rogoff (1990) by further narrowing the scope of PBC from a macroeconomic perspective to be focused solely on fiscal policy. In this model, the motive for the incumbent's behavior is to provide a positive signal of competence to voters. Incumbents seeking to be re-elected in elections will use government spending to improve fiscal performance to signal competence to voters ahead of the election. Rogoff's (1990) model describes government heads' behavior of wanting to be back in charge and voters who determine their leaders based on the government head's performance in the previous period. Voters face asymmetric information and try to judge the performance of politicians based on the actual conditions. This condition creates a moral hazard and provides incentives for politicians to behave opportunistically when they have the opportunity to be re-elected.

Rogoff's (1990) model categorizes public spending into visible and less visible spending. *Visible spending* is a routine expenditure that can be realized in the short term and is commonly used to produce consumable public goods. Meanwhile, less visible spending is investment expenditure or capital expenditure, which is usually a long-term project. The settlement is more unpredictable or could not be realized before the election. Thus, it can be concluded that easier and faster to realize expenditure or consumptive expenditures are categorized as visible spending. Meanwhile, expenditures that take a relatively long time to realize are classified as less visible spending.

High political costs, especially in democratic countries, encourage politicians and political parties to corrupt, given that they need many funds. Political costs are monetary payments made by politicians and political parties to pursue political goals (Figueroa, 2021). The main objective of politicians is to win elections. Candidates use the funds for various purposes, such as publication in mass media and electronic media, which affect voters' perceptions in the short term.

Political and economic literature can explain the relationship between the private and public sectors through two important theories, namely the rent-seeking theory (Krueger, 1974) and the grabbing hand theory (Hopkin & Rodríguez-Pose, 2007). Both theories explain how political figures (politicians and bureaucrats) take advantage of the position and power for the group or personal interests. The rent-seeking theory suggests that bureaucrats and politicians tend to abuse their power to benefit their groups, such as accepting bribes from the private sector to obtain monopoly rights in specific fields. Meanwhile, the grabbing hand theory explains the phenomenon of exploiting government assets to benefit incumbent bureaucrats and politicians.

According to Besley and Case (1995) also Lopes da Fonseca (2016), there is a possibility that the second-period incumbent's behavior may also have a motive for behaving opportunistically at the end of his position. They have two scenarios. First, non-incumbents try to build their reputation for further political career interests, such as running for governor, participating in legislative elections, or supporting candidates promoted by their coalition political parties. Second, behave honestly and indifferently about their reputation, then run the rest of their tenure as usual. This means that incumbents at the end of their term tend to choose a low-risk path for their future careers and hope to maintain their reputation as an incumbent who can participate in the elections.

Incumbents who no longer run for re-election will act more conservatively by not using fiscal policy ahead of the elections because they either have no political motives or relatively low incentives. However, the regional head in the last period can also change fiscal policy to support the candidates nominated by the political parties in favor of them

(Klein & Sakurai, 2015). In general, there is no difference in spending behavior between regions that have incumbents progressing back in the local elections compared to regional heads who have been in two periods except for the higher component of grants spending (Priyono & Sastiono, 2019). Therefore, this study will also try to see differences in behavior between incumbents and non-incumbents, especially in the budget allocation for discretionary spending in the election year.

Local elections can have various effects on corruption. The existence of election accountability, namely the incumbent's incentive to be re-elected, can reduce corruption compared to regional heads who do not have the motivation to resume office (Ferraz & Finan, 2011). Meanwhile, Lewis and Hendrawan (2019) found those majority coalitions had an impact on the increase of corruption, indicated by the rise in infrastructure spending and decreased audit opinion by BPK when regional heads would run for a second term in the local election. Regional leaders will increasingly commit corruption if their term of office ends and the possibility of being re-elected is relatively small. On the other hand, if the chance of being re-elected is relatively high, they will not commit corruption (Sidorkin & Vorobyev, 2018). Politicians can take advantage of the government's budget allocation policies for corruption purposes (Hessami, 2014).

In Indonesia, PBC occurred at the district and city level when the direct elections started, and it would be even more significant if the incumbent returned to the local election (Sjahrir, et al., 2013; Priyono & Sastiono, 2019). It was discovered that the incumbent would allocate an enormous amount of expenditure on discretionary spending, which was distributed to houses of worship (mosques), community groups/members, or sports clubs for 'purchasing' political support

ahead of the election time (Skoufias et al., 2014). In some cases, they channeled these funds to finance their campaign activities. This discretionary spending can be allocated relatively freely compared to transfers to villages and aid spending to political parties, distributed with specific formulations stipulated in regulations. These funds are generally budgeted for grants and social assistance expenditures.

Sjahrir, et al. (2013); Skoufias et al. (2014); also Priyono and Sastiono (2019) have shown an increase in the budget deficit and increased spending on grants and financial assistance in the election year. Administrative expenditure per capita is higher in areas with lower education levels with literacy levels indicators (Sjahrir, et al., 2014). After the elections, discretionary spending tends to decline, followed by an increase in the health sector (Skoufias et al., 2014). Priyono and Sastiono (2019) also found a higher tendency for grants spending in the 2015 local election in regions with incumbents who participated in the re-election compared to regional heads who had entered the second term of office and were unable to run for elections again.

Previous empirical research (Figueroa, 2021) has shown a linkage between the political cycle and the corrupt behavior of regional heads. Elected regional heads' unscrupulous behavior follows a pattern driven by the political cycle where corruption will be higher approaching the end of the regional head's incumbency. However, this is determined by the probability that the regional head can continue the next term of office. When regional heads learn that they will not be re-elected, they have a higher incentive to commit corrupt practices to gain as much wealth as possible before their term ends. On the contrary, if regional heads have confidence that they will be re-elected, thus, they have a higher incentive to commit corruption evenly

throughout their term of office (Sidorkin & Vorobyev, 2018). A study of around 100 democratic countries discovered that the implementation of parliamentary and presidential elections impacted the increasing corruption perception index (Potrafke, 2019). Research in Argentina by Figueroa (2021) found a political corruption cycle in which bureaucrats accept bribes to pay political parties. There is an increase in the two weeks before the national elections. The motivation for corruption is usually to achieve party goals rather than self-enrichment, and political competition constitutes an incentive to commit corruption in various ways.

Krisnawati (2019) uses data from districts and cities in Indonesia from 2007 to 2013 with a dynamic panel of data estimates. The research proves the existence of PBC, especially in the increased spending of the education, health, bureaucracy, and social sectors as visible sectors. In contrast, the less visible infrastructure sector tends to decline to approach the local elections. These results correspond with the model developed by Rogoff (1990).

Local Government (Financial) Losses

According to Law Number 1 of 2004 concerning State Treasury, the definition of local government (financial) losses is lack of money, goods, and securities, which is a definite and tangible amount resulting from an action against the law, either negligently or deliberately. The findings of non-compliance with statutory regulations are divided into several sub-groups of findings, namely financial losses, potential financial losses, lack of financial revenues, and administration. Deviations that are categorized as regional losses include fictitious spending or procurement of goods/services, goods/services procurement partners not completing the work, lack of work volume, mark up of prices,

specifications of goods/services received are not in accordance with the contracts, spending does not match the provisions and may exceed the specified amount, and the use of money/goods for personal gain.

Roles related to the implementation and supervision of regional finances can impact regional losses due to irregularities or non-compliance by the regional head. Therefore the regional losses in this study are irregularities in regional financial management by regional heads to cover high political costs in facing the regional elections. High political costs, especially in democratic countries, drive politicians and political parties to gain funds, which motivates them to commit corruption to win elections (Figueroa, 2021).

Abuse of local government authority in manipulating the budget prior to the local election can derive from budget planning. Through the Regional Secretary, the regional head acts as the regional government budget team leader in drafting the APBD and granting approval for budget implementation documents. The authority of the regional head in budgeting is one of the triggers that causes PBC and regional losses. Regional heads allocate more expenditure on visible spending to provide positive competency signals. Budget expenditures are misused with the motivation to win regional elections and contribute to regional losses.

Based on literature review and previoys research, this study develop the hypothesis as follows: (1) the PBC that occurs in Indonesia is likely to use shifts between discretionary spending from less visible spending into visible spending, and (2) the financial losses tend to increase in the election year.

RESEARCH METHOD

This study uses panel data sourced from the Summary of Semester Audit Results (Ikhtisar Hasil Pemeriksaan Semester, IHPS) in the first semester published by BPK RI from 2014 to 2019. IHPS provides all audit result data, including classification of financial losses, the value of financial losses, and financial report opinion of all financial statement audits conducted for every local government in Indonesia. Election year data is obtained from the 2015 and 2017 Local Elections Implementation Reports published by the General Election Commission (Komisi Pemilihan Umum, KPU) with a sample of all districts and cities using balanced panel data. The researcher compiled the data of incumbents participating in the elections from various sources such as KPU, the Ministry of Home Affairs, and other sources on the internet due to limited available data published by KPU.

Details of the actual value of expenditures are obtained from the Regional Financial Information System (Sistem Informasi Keuangan Daerah, SIKD) of the Directorate General of Fiscal Balance (Direktorat Jenderal Perimbangan Keuangan, DJPK), Ministry of Finance. These expenditures, such as grants spending, social assistance spending, goods & services spending, and capital expenditures, are discretionary spending components. Furthermore, this study uses data on poverty levels, education levels, population size, and GRDP (Gross Regional Domestic Product) per capita for 2014-2019 from the Central Bureau of Statistics (Badan Pusat Statistik, BPS).

The unit of analysis used in this research is all district and city governments in Indonesia. The research sample consisted of 508 district and city governments in Indonesia, comprising 415 district governments and 93 city governments. In contrast, one regency

and five cities in DKI Jakarta Province were excluded from this study because the financial statements were consolidated into one within the DKI Jakarta Provincial Government.

This study uses a quantitative regression analysis method to answer the research question on the PBC affecting the regional loss behavior in local governments through two stages. The first stage is to test whether there is a PBC phenomenon from 2014 up to 2019. Furthermore, if PBC does occur, then the second stage of testing can be performed. Such testing will be conducted to identify whether the PBC affects regional losses in the local government. To be able to answer these research questions, it is necessary to test the existence of a political budget cycle which follows the equation model (1) used in the research by Sjahrir, et al. (2013).

To test the PBC to use fiscal policy variables $Expenditure_{it}$ as the dependent variable, including grants expenditure, social assistance expenditure, goods & services expenditure, and capital expenditure. The primary variable to test the existence of PBC is $Elect_{it}$, a political dummy variable to capture differences in the behavior of regional heads prior to the elections. This study uses the electoral dummy as the method used by Drazen and Eslava (2010) also Krisnawati (2019), namely classifying the dummy with a value of 1 in the year of the election if the election was held after June; and a value of 1 in the year before the election if the election was held before June; and a value of 0 for others. Meanwhile, the $incumbent_{it}$ dummy variable

is used to capture the difference in behavior between the regional heads who participated in the local elections and those who did not. The vector X_{it} is a control variable that shows the socio-economic, demographic, poverty, and education variables that affect financial performance. The fixed effect panel data is used to test the existence of PBC. After confirmation of the occurrence of PBC in Indonesia is obtained, the following step will be to test the impact on regional losses using the regression model equation (2).

The dependent variable in the primary model of this study is $Loss_{it}$ which shows the loss ratio compared to the total expenditures. Regional losses are irregularities committed by regional heads in managing regional finances, resulting in a lack of money, goods, and securities either negligently or deliberately. This study's regional losses result from audits of financial statements by BPK, carried out regularly every year on all local governments. The independent variable $\Delta expenditure_{it}$ is the change in discretionary spending ratio to total expenditure compared to the previous year's rate.

The research methodology used a data panel with the Difference-in-Difference (DiD) approach to see the difference in the level of regional losses between local governments and incumbents running for re-election (as a treatment group) and those who did not run in the local elections (as a control group). The election period (*electoral* dummy) represents the treatment period of this research. Parameters β_4 and β_5 identify the impact of differences between treatment and control

$$
\begin{aligned}
Expenditure_{it} = {} & \beta_0 + \beta_1 Elect_{it} + \beta_2 \left(Elect - 1it\right) + \beta_3 \left(Elect - 2_{it}\right) + \beta_4 \left(Incumbent_{it}\right. \\
& \left. * Elect_{it}\right) + \beta_5 \left(Incumbent_{it} * Elect - 1_{it}\right) + \beta_6 \left(Incumbent_{it} * Elect - 2_{it}\right) \\
& + X_{it} + \varepsilon_{it}
\end{aligned}
$$

$$(1)$$

$$
\begin{aligned}
Loss_{it} = {} & \beta_0 + \beta_1 Elect_{it} + \beta_2 \Delta Expenditure_{it} + \beta_3 (Elect_{it} * \Delta expenditure_{it}) + \beta_4 (Incumbent_{it} \\
& * Elect_{it}) + \beta_5 (Incumbent_{it} * Elect_{it} * \Delta Expenditure_{it}) + X_{it} + \varepsilon_{it}
\end{aligned}
$$

$$(2)$$

groups regarding incumbents' participation in local elections on regional losses. The causal effect of DiD will be shown by a parameter β_5 in equation (2) as the incumbent's effect using discretionary spending allocations on the dependent variable.

This DiD approach follows research conducted by Skoufias et al. (2014) and Valsecchi (2012) regarding the accountability of direct local elections and local government spending in Indonesia. According to Skoufias et al. (2014) and Valsecchi (2012), the implementation time of direct elections since 2004 is an acceptable natural experiment because it provides a source of exogenous variations in explanatory variables to determine the treatment to provide causal inference. The result supports that the direct election is exogenous, not influenced by regional characteristics that can affect public service outcomes.

The Tobit regression model is used to estimate the model because the dependent variable in a regional loss ratio is continuous data with limitations on the censored lower limit. Namely, some observations have a zero value. According to Tobin (1958), estimating Ordinary Least Squares (OLS) under conditions of limited variable values can give biased results. The solution to overcome this problem is to use the maximum likelihood estimation method with the Tobit model. The Tobit model should be used if the dependent variable has a limit value to reduce the results of biased and inconsistent estimates (Wooldridge, 2016).

RESULT AND DISCUSSION

From 2014 to 2019, KPU has held three elections simultaneously. The first simultaneous local elections in Indonesia were held on 9 December 2015, then on 15 February 2017, and 27 June 2018). All districts and cities have carried out local elections in the three years of the election. Therefore the number of observations is 3.048 (508 x 6 years) with a dummy election year in 2015, 2017, and 2018. Of the 508 regions, as many as 306 incumbent regional heads (60%) consisting of 239 regents and 67 incumbent mayors reran in local elections, as shown in the descriptive statistics in Table 1. Incumbents who did not rerun in the local elections were partly because of the restrictions imposed on regional heads' position to a maximum of two periods or nominated another political office such as governor or legislative member. Of the 202 local elections that were not followed by the incumbent regional head, it is known that 85 deputy regional heads participated in local elections (42%). Of the 306 incumbents who rerun in local elections, 210 (69%) managed to be re-elected.

Higher regional losses were also found nationally in the election year, whether the incumbent ran in local elections or not. There are differences in regional loss ratios between regions where the percentage of losses in Maluku and Papua is relatively higher than in the other areas. To overcome the differences in characteristics between islands, additional control variables in an island dummy will be used in the regression analysis. In the election year, the national average regional loss ratio was 0.23% higher than 0.18%. The percentage of regional losses in the election year is higher than the pre-and post-election periods, including when the incumbent participated in local elections, reaching 0.23%. This result is consistent with the research hypothesis, notably increasing regional losses in the election year.

It is necessary to prove whether there was a PBC in the 2015, 2017, and 2018 elections first to analyze the effect of PBC on regional losses. Empirical testing to determine the existence of PBC was done by estimating several model specifications as listed in Appendix 1. We used 3,048 samples consisting of 508 local governments with panel data

Table 1. Descriptive Statistics

Variable	Unit of	Observa-tion	Mean	Std. Dev.	Min	Max
Regional loss ratio	Percent	3048	.1861848	.6181666	0	16.94068
Year of election (Elect)	Dummy	3048	.1666667	.3727391	0	1
Incumbent	Dummy	3048	.6023622	.4894901	0	1
Grant expenditures ratio	Percent	3048	2.650042	2.254449	0	22.15688
Social assistance expenditure ratio	Percent	3048	.8204348	1.752436	0	21.69571
Goods expenditure ratio	Percent	3048	23.30858	6.582601	0	53.07546
Capital spending ratio	Percent	3048	23.09403	7.476872	0	77.50457
Δgrants expenditure ratio	Percent	3048	-.06764	2.343297	-21.87909	17.59918
Δ social assistance expenditure ratio	Percent	3048	-.0518602	1.778898	- 21.23045	19.4567
Δgoods expenditure ratio	Percent	3048	1.378905	4.365555	-25.48886	29.49563
Δcapital expenditure ratio	Percent	3048	-.5204426	5.968767	-40.00378	63.35661
Audit opinion of BPK	Dummy	3048	.6879921	.463389	0	1
Local revenues ratio	Percent	3048	.1075036	.092102	0	.844732
Population	Thousands of people	3048	492,4308	604,5395	13,497	5965.41
GRDP per capita	Million rupiah	3048	33.82042	37.53305	2.302926	394.6837
Poverty rate	Percent	3048	12.79699	8,04567	0	45.74
Average years of schooling	Year	3048	7.911916	1.663571	.63	12.64

Source: *DJPK Ministry of Finance (n.d), BPK RI (2014a, 2014b, 2015a, 2015b, 2016a, 2016b, 2017a, 2017b, 2018a, 2018b, 2019a, 2019b), BPS (2013, 2019, 2020), KPU (2017).*

from 2014 to 2019, where 1,836 samples were local governments with incumbent regional heads who returned to run in the elections for the second period. The estimation results follow equation (1), as shown in Appendix 1.

The fixed effect data panel regression results in Appendix 1 confirm results of previous studies (Sjahrir, et al., 2013; Setiawan & Rizkiah, 2017) where significant PBC eventuated in Indonesia during the election year with an increase in another expenditure. Other expenditures include grants, social assistance, and financial aid. There is an increase in grant expenditure in the year leading up to the elections, where the coefficient Elect-1 is 0.341. In the election year (Elect), increases reaching 2.347. An increase in the proportion of grant expenditure is obtained

from a reduction in the proportion of goods and capital expenditures with a negative and significant coefficient on the ratio of goods and capital expenditures, which is in line with the research of Skoufias et al. (2014). This result is also in conformity with Krisnawati's study (2019), where there was an increase in visible spending, notably grant expenditure, along with a decrease in less visible spending, namely capital expenditure.

According to Rogoff (1990), visible spending that is easier to realize and can directly benefit the community will increase approaching the local elections. On the other hand, less visible spending that is long-term projects will decline nearing the local elections. Therefore, the incumbent regional head increases the capital expenditure in the years ahead of the election so that the community

can utilize (output of the capital expenditure) in the election year, which demonstrates the incumbent regional head's performance.

The PBC phenomenon eventuates in all local governments in Indonesia, including local governments with incumbent regional heads who do not run in local elections. This is indicated by an increase in the ratio of 2.398% grants in the election year. This value is not much different from the 2.347% rise in the proportion of grant spending to regional heads who ran in the elections. Thus, the participation of incumbent in local elections does not affect the PBC indicated by the interaction variable (incumbent x elect) for all expenditure types. This result is in line with previous research (Setiawan & Rizkiah, 2017; Priyono & Wagner, 2018), notably that the timing of the elections has a significant effect on changes in regional spending. However, there are no differences in behavior between regions and incumbents who participate in the polls compared to the other areas. This condition may be related to the incumbent deputy regional head's run in the local election when the incumbent regional leader has already served for two periods. Nearly half of the deputy regional heads competed in the regional head elections to win provincial head seats. This can be an incentive for incumbent deputy regional heads to use fiscal discretion by incumbent regional authorities.

The PBC in Indonesia could result from the time trend of local elections in individual political years. The effect of certain events on the increase in corruption conforms with the research by Olmos, Bellido, and Román-Aso (2020), where the holding of mega-events such as the Olympics and the world cup can increase the corruption index in the host country given the fact there is an increase in infrastructure spending in the public sector. The influence of the structural PBC in Indonesia is quite difficult to distinguish between incumbents and non-incumbents in allocat-

ing budgets during the election year. A non-incumbent candidate may be affiliated with an incumbent regional head who does not run, such as having family ties or being in the same political party.

Furthermore, to see the impact of PBC on regional losses, the Tobit method is applied because the dependent variable is censored at zero. The author assumes that the independent variable affects the probability of changing the value of the dependent variable. From this probability, we can see the correlation between the year of the election (Elect) and the incumbent who ran in the election (incumbent x Elect) to the regional losses found in local governments (Loss Ratio). The higher the change (Δ) in the expenditure ratio, the stronger the PBC is. The interaction between the election year and differences in the expenditure ratio will show how the PBC impacts the election year on regional losses. The subsequent analysis will only focus on changes in the proportion of grant expenditures, the ratio of goods expenditure, and capital expenditures. These three types of expenditures show significant changes in the election year. The author also focuses only on the year of local elections because the most significant change in regional expenditure eventuates in the election year compared to the one and two years before the election.

The estimation results to test the effect of PBC on regional losses follow equation (2) shown in Appendix 2. It can be concluded that PBC significantly correlates positively with regional losses found in local government financial management. This correlation can be seen in the dummy variable's significance in the election year (Elect) at each regression stage with a consistent coefficient direction in a positive direction. The best model specification is in column 6, as it has added control variables, year effect, and island effect with the highest log-likelihood

value. The impact of increasing regional losses also shows the highest value, namely 0.093 (significant at the 1% level). Before the implementation of the election, there was an increase in regional losses of 0.093%. This behavior is under the hypothesis previously discussed, where the regional head uses his fiscal discretion by increasing discretionary spending in the election year, which impacts increasing regional losses. The increase in regional financial irregularities in the election year corresponds to Valsecchi's (2012) research where the level of corruption increases in the year of the direct election in Indonesia. Potrafke's study (2019) also discovered an increase in the corruption perception index in the public sector in the election year compared to the year before and after the election with a sample of around 100 democratic countries. Figueroa (2021) revealed an increase in bribes two weeks prior to the election to be deposited with political parties in Argentina.

Discretionary spending that affects regional losses is only discovered in goods and capital expenditures, where an increase in goods and capital expenditures will also impact increasing regional losses. A rise of 1% in spending on goods will increase 0.006% of regional losses and remain significant at the 5% level. In comparison, a 1% increase in capital expenditure will increase 0.003% of regional losses and be marked at the 10% level. However, when approaching local elections, only an increase in capital expenditure significantly affects regional losses. Those indicated by the interaction of the variable of the election year and changes in the ratio of capital expenditures (Elect x Δ capital exp ratio), which are consistently positive and significant at the 1% level. The magnitude of the impact of the increase in capital spending in the election year on regional losses was 0.021% higher than the increase in capital expenditure in other years, which was only 0.003%. Although there was an increase in

grant spending in the election year and a reduction in capital expenditure, the only thing that affected increasing regional losses was increased capital spending. This is because most grant expenditures are in direct transfers in cash to grant recipients, making it more difficult for local governments to misuse them. The rupiah value per grantee is generally relatively small. On the other hand, capital expenditures with relatively large project unit values and a fully controlled procurement process controlled by the regional government are more susceptible to being misused by the provincial governments.

Control variables negatively correlate to regional financial irregularities, notably opinions produced by BPK and the total population. The variables that negatively correlate with regional losses are a culture of compliance and an appropriate Internal Control System (Sistem Pengendalian Intern, SPI) within the local government, marked by the unqualified opinion provided by BPK. Local governments that received unqualified opinions were discovered to have lower regional losses of 0.103% than provincial governments that received other audit opinions (qualified, adverse, and disclaimer).

Estimated results to test the impact of PBC on the incumbents who ran in the local elections against regional losses following equation (2) are shown in Appendix 3. Using the fixed effect panel data, the variable Elect gives a positive and significant sign in column 1. Still, the incumbent dummy variable's addition becomes insignificant, although it remains positive in column 3. Because there is a loss ratio that is zero, the fixed effect estimation can give biased results. Therefore, Tobit regression should be used when the dependent variable has a censored value (Wooldridge, 2016).

An appealing result is found in Appendix 3. It appears a decrease in regional losses oc-

curred when the incumbent runs in local elections indicated by the parameter (Incumbent x Elect x Δ capital exp ratio), which is negative and significant at 0.057% and significant at the 1% level. The magnitude of the decline is greater than the increase in regional losses caused by the rise in capital expenditure of 0.052%, notably the sum of the increase in capital expenditure (Δ capital exp ratio) of 0.003% and the increase in capital expenditure before the election (Elect x Δ capital exp ratio) of 0.049%.

This condition dismisses the allegation that incumbents who use their fiscal discretion also positively impact regional financial irregularities. The high regional losses disclosed and published in the audit results can affect the incumbent's electability (Ferraz & Finan, 2008). The costs to be borne by the incumbent will also be large if high regional losses are found. These results are consistent with the research of Ferraz and Finan (2011), where the incumbent has a higher incentive not to act corruptly to increase the chance of being re-elected.

This phenomenon can occur as regional heads who do not run in local elections have more significant regional losses. It is indicated that the provincial heads use their opportunistic powers to take advantage of provincial finances at the end of their office term. Income from the proceeds of corruption can flow into the incumbent's pocket or deposit to political parties (Figueroa, 2021). However, further research is needed whether the increase in losses for incumbent regions that do not run in local elections is for personal gain or to finance the campaigns of other political parties for regional head candidates.

Hence, it can be concluded that the use of fiscal discretion in the election year impacts increasing regional losses by 0.118% and is significant at the 1% level indicated by the parameter Elect. Discretionary spending that

significantly affected the increase in regional losses was only capital expenditures compared to grants and goods expenditure. The additional capital expenditure and the interaction between the election year and the additional capital expenditure are consistently positive and significant. The average capital expenditure ratio to total expenditure is 23%, relatively high and the immense budget value per activity makes deviations from capital expenditure more vulnerable than other expenses (Lewis & Hendrawan, 2019). The use of fiscal discretion in grant spending shows a positive relationship to regional losses but does not significantly impact regional losses. An additional 1% of goods spending could increase regional losses by 0.006%. However, an additional 1% of goods spending reduced regional losses by 0.017% in the election year. The net effect of increasing goods expenditure reduces regional losses by 0.011% and is significant at the 5% level.

The behavior of incumbents who run in local elections tends to reduce irregularities that impact regional losses because it can affect the electability and probability of winning the election. Sixty-nine percent of incumbents who took part in local polls had been inclined to avoid regional losses ahead of the election year, as shown in Figure 3. On average, the value of regional losses to local governments with incumbents who have won the election is 0.155%, which is lower than 0.275%. This is the average regional loss for local governments with incumbents who fail to win the elections. Publication regarding irregularities in regional finance is presumably affecting the reputation of the incumbents. As a result, incumbents will always try to keep the level of regional losses low to continue their position as regional heads. Voters generally only focus on the short-term period approaching local elections to assess the competence of political candidates (Besley, 2006). Thus politicians will avoid getting involved in corruption scandals when the election period approaches. Re-
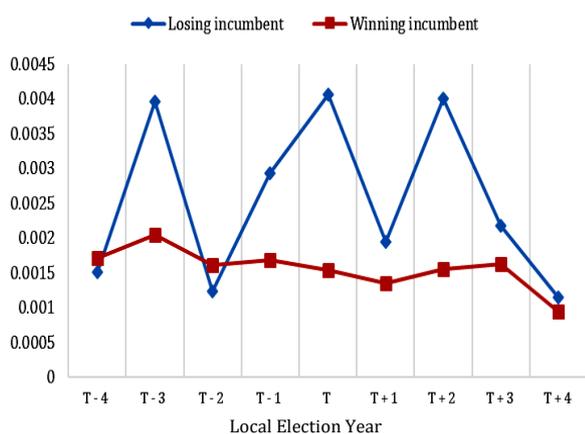
Figure 3. Regional Loss Patterns Between Winning Incumbents and Losing Incumbents in Local Elections

gional heads will increasingly commit corruption when nearing the end of their term of office, and the possibility of being re-elected is relatively small (Sidorkin & Vorobyev, 2018).

Furthermore, to see variations in regional losses before and after the election, this study conducted a robustness check by adding variables for dummy the years before the election (pre-elect) and the years after the election (post-elect) as presented in Appendix 4. Each of these periods will also be divided into two years consisting of two years before local elections (pre-elect2) and a year before local elections (pre-elect1), and a year after the election (post-elect1), and two years after the election (post-elect2). The estimation results in Appendix 4 are consistent with the estimation results in the main model specifications in Appendix 2. The highest regional losses are found in the election year, indicated by the parameters of pre-elect and post-elect insignificant. Only the regional losses in the two years before the election (pre-elect2) were positive and significant at 0.074. However, the magnitude of regional losses in the election year is still larger, amounting to 0.128.

This study only focuses on understanding the behavior of regional heads, whether or not there is a change in the level of regional financial irregularities during the election year. However, this behavior is not intended to measure the effect of the election year on the level of corruption of the regional heads as regional losses still need to be proven legally whether or not it fits the element of a crime. Regional losses presented in the IHPS of BPK are total expenditures that are not separated between grants, goods, and capital expenditures. Therefore, this study's analysis is limited to assessing the impact of grant spending, goods expenditures, and capital expenditures on regional losses in overall spending. The use of more detailed regional losses can be used as an improvement in further research.

Regarding the accuracy of irregularities carried out by regional heads, this study is only limited to the information from the audit reports on regional government financial reports conducted by BPK. The audit by BPK could not detect all types of regional financial irregularities. According to the research conducted by Astuti and Adrison (2019), bribery cases in local governments do not correlate with the opinion of the financial statements published by BPK. Further research needs to be conducted to obtain a more comprehensive result, using the consolidation of corruption data from the BPK, KPK, and other law enforcement bodies.

This study also has limitations on other control variables that are not included in the model. The nomination of regional heads requiring political parties' support creates political competition that can affect the incumbent's electability. In order to gain consent from the party's coalition, the candidate for regional leader must deposit a certain amount of money to the party. These funds are generally illegally obtained from local government finances, affecting regional losses (Lewis, 2020).

CONCLUSION

This study discovered that (1) a political budget cycle phenomenon occurred in Indonesia, especially in the increase in grant spending along with a decrease in goods and capital expenditures; (2) the year of the local elections and the increase in discretionary spending positively correlated significantly with changes in the behavior of regional loss deviations by regional heads; (3) the incumbent regional head's participation in the local elections tend to reduce regional losses. Local elections held in the political year will encourage regional leaders to behave opportunistically by using their fiscal discretion, increasing regional losses. The study also unearthed that the more significant the change in capital expenditure, the more positive and significant correlation with the total regional losses. This suggests that the incentive to commit corruption is based on the number of benefits or financial returns from illegal acts. The more significant the proportion of capital expenditure in the election year, the more excellent the opportunity of irregularities by regional heads. Incentives for incumbents who reran in the elections tend to be lower; therefore, they will try to reduce deviations as regional losses published in the audit results by BPK can affect the probability of being re-elected. Well-managed regional financial management and internal control system (obtaining an unqualified opinion from BPK) could restrain public officials' irregularities.

This study found that implementing local elections in the political year positively and significantly affected the increase in regional losses seen in the BPK audit. However, the increase in regional losses only occurred when the incumbent regional head did not seek re-election in the local election. More in-depth research is needed to determine whether this behavior is influenced by the incumbent regional head's affiliation with local election candidates or is simply rent-seeking for their interests.

Given the preceding, BPK should conduct intensive compliance audits on local governments in the election year, particularly those who have not received an unqualified opinion. In order to tackle the negative impact of PBC, the government should formulate regulations regarding the maximum percentage of inter-year budget changes, especially in the election year, to reduce financial losses that were impacted due to the PBC phenomenon.

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APPENDICES

Appendix 1. Political Budget Cycle in Local Expenditures

Dependent Variable	Incumbents Participating in Local Election				All Local Governments			
	Grants exp ratio	Social exp ratio	Goods exp ratio	Capital exp ratio	Grants exp ratio	Social exp ratio	Goods exp ratio	Capital exp ratio
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Elect	2.347***	0.144	-0.776***	-0.905***	2.398***	-0.034	-0.834**	-0.518
	(0.115)	(0.114)	(0.235)	(0.340)	(0.171)	(0.065)	(0.331)	(0.440)
Elect-1	0.341***	0.141	-0.166	1.318***	0.086	-0.040	0.103	1.455***
	(0.106)	(0.101)	(0.276)	(0.413)	(0.163)	(0.142)	(0.363)	(0.468)
Elect-2	0.253	-0.062	-0.079	1.337***	-0.120	0.097	-0.155	0.681
	(0.173)	(0.107)	(0.356)	(0.501)	(0.200)	(0.210)	(0.487)	(0.895)
Incumbent x Elect					0.002	0.173	0.030	-0.508
					(0.202)	(0.115)	(0.390)	(0.523)
Incumbent x Elect-1					0.240	0.195	-0.263	-0.099
					(0.187)	(0.156)	(0.438)	(0.586)
Incumbent x Elect-2					0.332	-0.130	0.123	0.524
					(0.241)	(0.230)	(0.568)	(0.956)
Local revenue ratio	1.928	-1.317	38.748***	-21.475	2.978	-1.121	22.967***	-11.160
	(1.889)	(2.567)	(7.383)	(21.320)	(2.079)	(1.481)	(7.564)	(11.707)
Log population	3.359*	-0.417	3.724	9.126	2.908**	-0.467	0.661	9.797**
	(1.963)	(1.240)	(4.003)	(5.973)	(1.477)	(0.835)	(3.082)	(4.055)
Log GRDP per capita	2.640	0.103	1.770	13.648**	1.506	0.523	0.161	13.609***
	(1.606)	(1.166)	(3.317)	(5.595)	(1.237)	(0.669)	(2.461)	(3.693)
Poverty rate	0.064**	-0.013	-0.059	-0.174	0.028	-0.000	0.087	0.179
	(0.031)	(0.027)	(0.070)	(0.128)	(0.034)	(0.017)	(0.066)	(0.121)
Years of Schooling	-0.229	-0.287	-1.151	-0.742	-0.517	-0.246	-0.210	-0.953
	(0.378)	(0.315)	(0.805)	(1.158)	(0.339)	(0.207)	(0.722)	(0.954)
Constant	-24.242	5.680	-0.033	-61.583	-15.315	3.987	14.585	-68.218**
	(15.889)	(11.038)	(33.641)	(51.600)	(11.799)	(6.523)	(24.689)	(34.226)
Observations	1836	1836	1836	1836	3048	3048	3048	3048
R^2 – Adjusted	0.263	0.013	0.420	0.219	0.243	0.015	0.388	0.207
Controls:								
Year effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Source: Author Estimation

Notes: Dependent variable uses the ratio of spending to total spending. Column 1-4 uses observations only for the incumbent regional head who participates in local elections while column 5-8 uses the entire provincial government. The results of regression the fixed effect balanced panel data use a robust standard error. Numbers in parentheses indicate a robust standard error.

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Appendix 2. The Impact of Political Budget Cycle on Regional Losses

Dependent Variable	Loss Ratio (1)	Loss Ratio (2)	Loss Ratio (3)	Loss Ratio (4)	Loss Ratio (5)	Loss Ratio (6)
Elect	0.051**	0.056**	0.088***	0.085***	0.090**	0.093***
	(0.024)	(0.026)	(0.032)	(0.032)	(0.036)	(0.036)
Δ Grants exp ratio		0.006	0.005	0.007	0.004	0.004
		(0.004)	(0.005)	(0.005)	(0.005)	(0.005)
Δ Goods exp ratio		0.005**	0.007***	0.008***	0.006**	0.006**
		(0.002)	(0.002)	(0.002)	(0.003)	(0.003)
Δ Capital exp ratio		0.006***	0.003	0.003*	0.004**	0.003*
		(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
Elect x Δ grants exp ratio			0.004	-0.001	0.003	0.001
			(0.013)	(0.013)	(0.013)	(0.013)
Elect x Δ goods exp ratio			-0.006	-0.006	-0.005	-0.005
			(0.006)	(0.006)	(0.006)	(0.006)
Elect x Δ capital exp ratio			0.021***	0.020***	0.020***	0.021***
			(0.004)	(0.004)	(0.005)	(0.005)
BPK Opinion Dummy				-0.110***	-0.102***	-0.103***
				(0.026)	(0.028)	(0.028)
Local revenue ratio				0.048	-0.049	-0.018
				(0.251)	(0.254)	(0.269)
Log population				-0.090***	-0.085***	-0.065**
				(0.023)	(0.023)	(0.026)
Log GRDP per capita				0.004	0.007	0.000
				(0.032)	(0.032)	(0.034)
Poverty rate				0.007**	0.007**	0.001
				(0.003)	(0.003)	(0.003)
Years of Schooling				0.004	0.006	-0.000
				(0.014)	(0.014)	(0.015)
Constant	0.161***	0.157***	0.152***	0.602***	0.567***	0.585**
	(0.020)	(0.020)	(0.020)	(0.216)	(0.217)	(0.240)
N	3048	3048	3048	3048	3048	3048
Log Likelihood	-2575.698	-2565.732	-2551.923	-2517.687	-2513.847	-2497.605
Wald chi^2	4.449	24.505	52.558	125.247	133.049	170.635
Controls:						
Year Effect	No	No	No	No	Yes	Yes
Dummy Island	No	No	No	No	No	Yes

Source: Author Estimation

Notes: The dependent variable uses the ratio of regional losses to total expenditure. Column 1 uses the independent variable of the election year. Column 2 adds a variable change in the proportion of spending compared to the previous year. Column 3 adds the interaction of the election year and the difference in the spending ratio. Column 4 adds control variables. Column 5 adds a dummy year effect. Column 6 adds the island effect to the dummy island because there are differences in regional losses between islands. Regression results using balanced the TOBITpanel data. The numbers in parentheses indicate the standard error.

* p <0.1, ** p <0.05, *** p <0.01

Appendix 3. Impact of Political Budget Cycle on Regional Losses Between Incumbents and Non-Incumbents

Dependent Variable: Loss Ratio	Election Year		Incumbents Participating in Local Elections	
	FE	Tobit	FE	Tobit
	(1)	(2)	(3)	(4)
Elect	0.101**	0.093***	0.124	0.118**
	(0.048)	(0.036)	(0.078)	(0.054)
Δ grants exp ratio	0.003	0.004	0.004	0.005
	(0.006)	(0.005)	(0.006)	(0.005)
Elect x Δ grants exp ratio	-0.002	0.001	0.013	0.014
	(0.020)	(0.013)	(0.020)	(0.019)
Δ goods exp ratio	0.005*	0.006**	0.005**	0.006**
	(0.003)	(0.003)	(0.003)	(0.003)
Elect x Δ goods exp ratio	-0.005	-0.005	-0.016	-0.017**
	(0.011)	(0.006)	(0.011)	(0.008)
Δ capital exp ratio	0.002	0.003*	0.003*	0.003*
	(0.002)	(0.002)	(0.002)	(0.002)
Elect x Δ capital exp ratio	0.021	0.021***	0.049	0.049***
	(0.022)	(0.005)	(0.037)	(0.006)
Incumbent x Elect			-0.054	-0.059
			(0.084)	(0.064)
Incumbent x Elect x Δ grants exp ratio			-0.035	-0.033
			(0.029)	(0.024)
Incumbent x Elect x Δ goods exp ratio			0.011	0.014
			(0.026)	(0.011)
Incumbent x Elect x Δ capital exp ratio			-0.055	-0.057***
			(0.038)	(0.008)
BPK Opinion Dummy	-0.032	-0.103***	-0.039	-0.108***
	(0.025)	(0.028)	(0.025)	(0.028)
Local Revenues Ratio	0.496	-0.018	0.392	-0.073
	(0.384)	(0.269)	(0.313)	(0.268)
Log population	- 0.646	-0.065**	-0.596	-0.060**
	(0.423)	(0.026)	(0.408)	(0.026)
Log GRDP per capita	-0.575*	0.000	-0.537*	0.004
	(0.338)	(0.034)	(0.322)	(0.033)
Poverty rate	-0.005	0.001	-0.005	0.001
	(0.005)	(0.003)	(0.005)	(0.003)
Years of schooling	-0.070	-0.000	-0.071	0.001
	(0.108)	(0.015)	(0.108)	(0.015)
Constant	0.0625*	0.00595**	0.0581*	0.00565**
	(0.0358)	(0.00240)	(0.0350)	(0.00239)

Dependent Variable: Loss Ratio	Election Year		Incumbents Participating in Local Elections	
	FE	Tobit	FE	Tobit
	(1)	(2)	(3)	(4)
Number of Observations	3048	3048	3048	3048
R^2 - Adjusted	0.026		0.046	
Log-Likelihood		-2497.605		-2466.486
Wald chi^2		170,635		235,905
Controls:				
Year Effect	Yes	Yes	Yes	Yes
Dummy Island	Yes	Yes	Yes	Yes

Source: Author Estimation

Notes: Dependent variable uses regional ratio losses to total expenditure. Column 2 is the same as column 6 in Appendix 2. Column 1-2 shows the impact of the election year on the ratio of regional losses, while column 3-4 shows the influence of incumbents' participation in local elections. Columns 1 and 3 are the regression results of the balanced panel data fixed effect, while columns 2 and 4 use the Tobit data panel. The numbers in parentheses indicate the standard error. * p <0.1, ** p <0.05, *** p <0.01

Appendix 4. Robustness Check by Adding the Period Before and After Local Elections

Dependent Variable: Loss Ratio	(1)	(2)	(3)	(4)
Elect	0.118**	0.103*	0.131**	0.128**
	(0.054)	(0.058)	(0.057))	(0.055)
Incumbent x Elect	-0.059	-0.058	-0.058	-0.054
	(0.064)	(0.064)	(0.064)	(0.064)
Δ grants exp ratio	0.005	0.006	0.006	0.006
	(0.005)	(0.005)	(0.005)	(0.005)
Elect x Δ grants exp ratio	0.014	0.013	0.013	0.015
	(0.019)	(0.019)	(0.019)	(0.019)
Incumbent x Elect x Δ grants exp	-0.033	-0.033	-0.033	-0.034
	(0.024)	(0.024)	(0.024)	(0.024)
Δ goods exp ratio	0.006**	0.006**	0.006**	0.006**
	(0.003)	(0.003)	(0.003)	(0.003)
Elect x Δ goods exp ratio	-0.017**	-0.017**	-0.017**	-0.018**
	(0.008)	(0.008)	(0.008))	(0.008)
Incumbent x Elect x Δ goods exp	0.014	0.014	0.014	0.013
	(0.011)	(0.011)	(0.011)	(0.011)
Δ capital exp ratio	0.003*	0.003*	0.003*	0.003*
	(0.002)	(0.002)	(0.002)	(0.002)
Elect x Δ capital exp ratio	0.049***	0.049***	0.049***	0.049***
	(0.006)	(0.006)	(0.006)	(0.006)
Incumbent x Elect x Δ capital exp	-0.057***	-0.057***	-0.057***	-0.057***
	(0.008)	(0.008)	(0.008)	(0.008)

Dependent Variable: Loss Ratio	(1)	(2)	(3)	(4)
Pre_elect		-0.028		
		(0.041)		
Post_elect			0.028	
			(0.041)	
Pre-elect1				0.004
				(0.033)
Pre- elect2				0.074*
				(0.044)
Post_elect1				0.049
				(0.034)
Post_elect2				0.017
				(0.040)
Constant	0.545**	0.575**	0.547**	0.532**
	(0.239)	(0.243)	(0.239)	(0.241)
Observations	3048.000	3048.000	3048.000	3048.000
Log Likelihood	- 2466.486	-2466.250	-2466.250	-2464.534
Wald chi^2	235.905	236.410	236.410	239.959
Control Variables: Local Characteristics	Yes	Yes	Yes	Yes

Source: Author Estimation

Notes: The dependent variable uses the ratio of regional losses to total expenditure. Column 1 is the same as column 4 in Appendix 3. Column 2 adds the variable for dummy the years before the election. Column 3 adds the variable dummy for years after the election. Column 4 adds available dummy two years before local elections and two years after local elections. The estimation results use the Tobit data panel. The numbers in parentheses indicate the standard error. * p < 0.1, ** p < 0.05, *** p < 0.01