

The Political Business Cycle in Asian Countries

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Abstract: The political business cycle (PBC) theory argues that an incumbent party tends to use government resources to impress voters, so government spending always rises before but declines after an election. Many PBC studies have been done for an individual country or cross-countries, but the results are conflicting. The purpose of this paper is to explore possible fluctuating patterns of government spending in response to political elections in Asian countries because of a lack of studies across this region. In this study, data on 219 elections in 26 countries from 1990 to 2014 are collected. There are two main findings: firstly, government spending falls the year after elections in Asian countries; secondly, the degree of democracy and transparency have impacts on government spending in Asian countries.

Key words: political business cycle; election cycle; government spending; government expenditure; Asian JEL code: H51

1. Introduction

The political business cycle (PBC) theory has been addressed for four decades. The theory states that an incumbent party will use government resources to impress voters, so economic performance is good before but is poor after an election. However, empirically, scholars have not reach a consensus. Many PBC studies have been done for an individual country or cross-countries, but the results have not been consistent. In other words, PBC is a convincing theory but is difficult to prove in the real world.

There are several findings drawn from the past literature: firstly, unlike researchers who studied PBC in individual countries such as United States (Tufte, 1975) or in developed countries (Nordhau, 1975), PBC researchers have more recently shown great interest in cross-country studies in the EU, the OECD, Latin America, and Africa (Andrikopoulos et al., 2004; Barberia & Avelino, 2011), or developing countries (Brender & Drazen, 2005; Baleiras & da Silva Costa, 2004; Coelho, Veiga & Veiga, 2006).

Secondly, many past studies have used government spending as the dependent variable and election variables as the main independent variable, but the latest PBC studies use various dependent variables and third variables. For instance, Sezgin (2010) used military expenditures and Tansey et al. (2005) used the steel and iron producer index as dependent variables; Brender and Drazen (2005) ulitlized the degree of democracy, and Shi and Svensson (2006) applied the degree of transparency as a third variable in their models. Finally, a panel data set that overcomes cross-sectional time bias with a fixed effect or GMM methods have also been used in recent studies (Aidt, Veiga & Veiga, 2011; Coelho et al., 2006; Dreher & Vaubel, 2009; Rose, 2006; Shi & Svensson, 2006).

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Following the trend of PBC research, the purpose of this paper is to explore possible fluctuating patterns in government spendings in response to political elections in Asian countries because of a lack of studies across this region. Futhermore, variables such as democracy and transparency are introduced to analyze possible relationship changes created by a third variable. The rest of the paper is organized as follows: after a review of the PBC literature for cross-country/cross-region and Asian countries, the data and methodology are outlined. Next, the empirical results are presented. Finally, conclusions and implications are provided.

2. Literature Review

This session firstly reviews several cross-country and cross-region PBC studies to lay the groundwork for conducting cross-country research. However, because there is a lack of PBC studies across Asian countries, the author examined PBC in individual Asian countries, such as Russia, Japan, South Korea, Taiwan, etc. in order to understand PBC in this region.

2.1 Cross-country and Cross-region PBC research

Articles written by Drazen (2001) and Sevensson (2003) are two thorough PBC reviews. Drazen (2001) argues that PBC studies from 1975 to 2001 follow two veins: an opportunistic model (Kramer, 1971; Tufte, 1975, 1978; Nordhaus, 1975) and a partisan model (Hibbs, 1977; Alesin, 1987, 1988). From Drazen's point of view, scholars have learned a lot through numerous empirial studies but still have many disagreements on some issues. Specifically, although most studies agree that aggregate economic conditions affect election outcomes in the United States, there is significant disagreement about whether there is an opportunistic manipulation that can be observed in the macro data (Drazen, 2001, p. 76). Moreover, despite the fact that a clear partisan effect was observed in some countries, the underlying driving mechanism has yet to be uncovered. Shi and Svensson (2003) focus on studies of the political budget cycle. The three areas they discuss include new theoretical models, time series methods for dynamic panel data regressions in cross-country analyses, and examinations of target shifts from industrialized countires to developing countries.

The reviews of Drazen (2001) and Shi and Svensson (2003) reveal that after several decades of the development of PBC theory, rather than focusing on studying the economic effects of elections, scholars have greater interest in understanding how policy instruments, such as government budgets or spending, have been affected by elections. Moreover, because of the advancement of quantitative analysis, researchers have been able to analyze large crosscountry datasets by utilizing sophiscated econometric models. Notably, because of political reforms, the experiences of "new democractic" countries have been examined, where evidence of political budget cycles has been provided (Krueger & Turan, 1993; Remmer, 1993; Gonzalez, 2002).

The evolution of PBC research follows the summaries of Shi and Svenssion (2003). Andrikopoulos et al., (2004) examine whether incumbent national governments of the member states of the European Union (EU) manipulate fiscal policy instruments at their disposal in order to create national political business cycles, either opportunistic or partisan, in the 1970 to 1998 period. The results of analyzing 14 members does not support their PBC hypotheses from either viewpoint. In other words, they find that governments have pursued stabilization policies. Baleiras and da Silva Costa (2004) test an annual panel data sample of 30 Portuguese (mainland) municipalities comprising five full electoral terms, from 1977 to 1993, for an opportunistic PBC. They find a structural break between two subperiods: 1977-1985 and 1986-1993. The empirical results demonstrate a stronger PBC effect in the 1986-1993 subperiod. Baleiras and da Silva Costa (2004) explain it from the perspective of a

learning process. Because Portugal was ruled by a dictatorship for 48 years (until 1976), it took time for people to learn democracy and to discover the kind of politico-economic incentives that occur in an election. Brender and Drazen (2005) find a political budget cycle in a cross-sectional dataset of 106 countries collected from international financial statistics. They argue that the PBC is driven by the experience of "new democracies" because voters are inexperienced with electoral politics or simply lack the information needed to evaluate fiscal manipulation in these new democractic countries. The cycles they discovered are stronger in newer democracies. Gonzalez (2002) investigates the case of Mexico's fiscal policies between 1957 and 1997 and finds that the magnitude of the election cycle has been exacerbated during the country's most democratic episodes.

Therefore, democracy is an important factor that changes the PBC pattern in a nation. In addition to democracy, Hung and Hsien (2015) suggest that one possible moderator of the relationship between elections and government fiscal variables is the degree of transparency. For instance, Gonzalez (1999) finds that there is a positive correlation between the degree of transparency and the PBC, but the effect was only found in samples whose transparency indexes were at intermediate levels. By the same token, Shi and Svensson (2006) also include a CPI (Corruption Perceptions Index) variable that measures the degree of transparency in their model, in an attempt to discover the reasons for variations in the PBC across countries. Additionally, Alt and Lassen (2006) find that electoral cycles in budget deficits were stronger in countries with lower degrees of fiscal transparency among OECD countries during the 1990s.

The other observation stemming from the PBC literature is that a growing number of scholars have either performed cross-country comparisons or examined developing countries in their studies. Rose (2006) collects a panel dataset from forty-three American states between 1974 and 1999 to anayze their financial patterns according to elections. The results suggest that states with strict no-carry out rules do not exhibit political business cycles, while states with weak rules or no rules that can be easily circumvented by borrowing do exhibit fiscal balance cycles. Brogan (2012) also investigates election budget cycles in the U.S. at the state level. He exmines state-level budget submissions for the beginning of the fiscal year from 1992 to 2008 and discovers that incumbent governors are periodically prone to underestimating budgetary forecasts so that spending can be decreased during off-election years. The purpose of the spending decreases is to demonstrate their financial management abilities. Schneider (2010) uses a public spending and deficit dataset in the West German states from 1970 to 2003. He discovers that the incumbents who are not restricted to deficit spending may choose alternative fiscal policy instruments to increase political support before an election. Cross-country studies were conducted not only in developed countries but also in developing countries. Drazen and Eslava (2010) collect local public financial data for all Colombian municipalities to determine if incumbents try to influence voters by changing the composition of government spending. The evidence indicates that regular expenditures were reduced but development projects related to housing, highway, and public infrastructures were increased before elections. In a study of fifteen South American democracies between 1973 and 2008, Barberia and Avelino (2011) suggest that there are political budget cycles in Latin American democracies. Their findings partially confirm the results presented by Brender and Drazen (2005, 2007), who argue that "new democracies" are more prone to political budget cycles.

2.2 PBC in Asian Countries

Although there is a rich body of the PBC literature and quite a few cross-country or cross-region empirical studies in PBC, there is no research concerning PBC across Asian countries. One of the reasons for this might be that most Asian countries are "new democracies" with few public elections, so there is not sufficient election data for the PBC studies in some countries. Consequently, studies in individual countries are examined in order to provide

some insights concerning PBC studies in Asian countries.

Most studies in Russia explore the PBC in the presidential and State Duma elections. Thames (2001) seeks to understand whether it existed during Yeltsin's tenure in the Second Russian Republic. The elections that Thames (2001) examined include Duman elections in 1993, 1995, and 1999 as well as the presidential election in 1996. The results support that the level of real wage arrears decreased during electoral periods, but only show weak evidence in terms of federal budget spending or the average monthly pension. Akhmedov and Zhuravskaya (2004) collect a regional monthly panel dataset from 194 local elections between August 1995 and December 2003. They argue that this detailed dataset allows more powerful tests of the theory. Akhmedov and Zhuravskaya (2004) also add some mediating variables suggested by previous literature, such as information symmetry, voter awareness, and the level of regional democracy. They find that the PBC in Russia's local elections is sizable and short-lived, and public spending shifts toward direct monetary transfers to voters, and the magnitude of the cycle decreases with democracy, government transparency, media freedom, voter awareness, and over time. They also find that the government spending in education and health care grows faster than other spending. Therefore, they prove the predication made in Rogoff's (1990) model that argues that the shift in public expenditures is toward the most visible voters.

Political systems also possibly affect how scholars studying the PBC in their home country. Unlike semipresidentialism in Russia, the parliamentary nature of the Japanese government causes scholars to have different thoughts respecting the PBC in Japan. Ito (1990) points out that previous PBC studies were mostly based on the U.S. political system. However, considering election timing is not fixed in a parliamentary system, one must be cautious about applying the U.S. research framework in other countries. The main question that many studies are attempting to answer in regard to the PBC in Japan is whether elections cause booms or booms trigger elections in Japan. Inoguchi was the first scholar to emphasize the endogeneity of election timing in Japan. He concludes that it is more likely that the Japanese government seized the opportunity of good economic performances to call a general election (Ito, 1990). Therefore, instead of political manipulation, as used in previous PBC literature, Inoguchi (1979) uses "political surfing [on an economic wave]" to describe Japanese style PBC. Similarly, Ito and Park (1988) devise an econometric test of the endogeneity of elections and find a significant effect of unexpected improved economic performance on the probability of elections.

On the other hand, Cargill and Hutchison (1988) also investigate whether the probability of elections is influenced by economic performance. They conclude that "the incumbent party does not appear to systematically use generally good economic conditions (or news of these conditions) in its decision to call elections early." Similarly, Kohno and Nishizawa (1990) challenge Inoguchi's "political surfing" assessment by showing that the Liberal Democratic Party government has not always been capable of controlling the timing of elections. Kohno and Nishizawa (1990) examine quarterly data from the first quarter of 1965 to the first quarter of 1981 in order to understand the short-term changes in economic activity in response to general elections. Their study provides evidence of political manipulation by targeted manipulation of specific economic programs, namely, public works spending. Thus, the Japanese PBC literature sheds light on the importance of political systems in PBC research.

Park (2011) is aware of that the pertinence of the PBC model may vary from country to country. He argues that the high interdependence between politics and the economy in South Korea makes the country a good object for studying PBC. However, he finds that the results of past PBC studies have been mixed: Lee (1999a and 1999b) reports that South Korea does not exhibit the classical Nordhaus-type PBC, but Choi (2000) and Kang (2010) insist that government policies, such as government expenditures and taxation, are significantly influenced by the electoral calendar (cited by Park, 2011). Therefore, Park (2011) examines the PBC of the presidential and National Assembly

elections between 1963 and 2002. Although the classic PBC is not found for the entire period, he still concludes that it did exist during presidential elections after Korea was democratized.

Some other studies point out that targeted spending will generate additional support for presidents who deliver pork (Park, 2012; Hong & Park 2016; Park, 2009; Choi & Park, 2012). In addition to examining economic and fiscal variables, scholars in South Korea also use some other indicators to explore the PBC. For instance, Choi and Park (2012) explore real-estate values and demonstrate that a positive connection between real-estate values and electoral support is more obvious in presidential and legislative elections than in local elections. Similarly, Kim and Lee (2012) show that large-scale public projects funded by the central government generate positive effects on the reelection odds of incumbent legislators in the areas where those projects are implemented (cited from Kang, 2015). Park (2011) believes that a significant PBC implies a high degree of distortion in the economy, and it is imperative that the role of the government is monitored and that the state's impartiality is ensured in respect to managing the nation's economy.

Most studies on India's PBC examine local elections. Baskaran, Min, and Uppal (2015) construct a panel dataset of about 68,500 constituency-year observations by collecting 4,000 constituencies over the country from 1992 to 2009. The uniqueness of their research is that they use the provision of electricity as the dependent variable because electricity is often featured as one of the top priorities of Indian voters in election surveys. The usage of satellite imagery of night lights provides an objective, consistent measure resistant to human biases in reporting. According to their research, political leaders in India's states do boost service provision and improve the economic climate prior to elections because significant increases in the provision of electricity have been observed in years in which a constituency holds a special election. However, there is no net positive welfare resulting from the increases in electricity availability due to diversion of electricity from non-election areas (Baskaran et al., 2015). Similarly, Cole (2009) finds that government-owned bank lending tracks the electoral cycle, with agricultural credit increasing by 5 to 10 percentage points in an election year in India's local districts. However, the election-year credit booms do not measurably affect agricultural output. In other words, no net welfare is created by the PBC bank lending. Vadlamannati (2015) extends political budget cycles theory to corruption by using a panel dataset comprised of 30 Indian states from 1988-2009 to investigate whether the timing of elections affects the incumbent government's efforts to control corruption. Vadlamannati (2015) finds that scheduled elections are associated with an increase in the number of corruption cases registered by the respective state's anti-corruption agencies. His main contribution is that the results highlight the fact that PBCs are not restricted to economic and fiscal policies but are also associated with key governance-related issues such as government policies on anti-corruption.

PBC studies in Taiwan started in the 1990s. Many empirical studies focused on local governments because of data availability (Chang, 2000; Fu, 2002; Fu, 2006; Wang & Chang, 2006; Chang, 2000). The empirical findings of Fu (2002) and Wang and Chang (2006) both indicate that the local government budgets expand in the election years. Furthermore, Fu (2005) examines the central government budget from 1970 to 2000 and finds that total central expenditures increased significantly in election years. Hung and Hsien (2015) reach a similar conclusion to that of Fu (2005) when they studied Taiwanese central government expenditures between 1992 and 2010. Their findings show that an opportunistic PBC has been evident in Taiwan since the first direct presidential election in 1996.

Although it is hard to find PBC studies in other countries, there are a few related studies in Thailand. Sagarik (2013) attempts to understand how elections affect the Thai government's specific spending. Pensute (2014) uses interviews to understand vote buying behavior in Thailand. Pensute argues that when candidates use government resources to reach their own goals, this is exactly the same phenomenon as the PBC and thus distorts resource

distribution (Pensute, 2014).

There are several insights from Asian PBC literature: first, PBCs have been found in many countries, but the results were mixed. For instance, scholars in South Korea have not reached a consistent conclusion yet. Second, many scholars have recently constructed panel datasets to overcome the disadvantages of cross-sectional data analyses, especially in the case of local elections. Third, a country's political system must be taken into account while conducting cross-country research. For instance, Japan's parliamentary nature causes scholars to consider "political surfing" rather than "political manipulation".

3. Research Design

3.1 Research Hypotheses

The purpose of this research is to explore possible fluctuations in government spending in response to political elections in Asian countries. There are four research questions and hypotheses listed responding to the discussions of past literature.

Although there are still debates in the PBC literature, most studies have discussed opportunistic manipulation in national or regional elections.

Thus, the first research hypothsis is:

H1: Government spending changes according to elections in Asian countries.

Notably, opportunistic manipulation theory argues that incumbents tends to impress voters before elections but take a hands off approach after elections, so Hypothesis one can be expressed further as:

H_{1a}: Government spending rises the year before elections in Asian countries.

H_{1b}: Government spending falls the year after elections in Asian countries.

There are several intervening variables raised by past literature in terms of a causal relationship between elections and government spending. This study examines three possible moderators: democracy, transparency, and the constitutional system. Firstly, following the argument that the magnitude of PBC has been exacerbated during the Mexico's most democratic episodes (Gonzalez, 2002), the second hypothesis is:

H2: A higher level of democracy in an Asian country results in a stronger PBC in that country.

Secondly, the degree of transparency is another factor used to examine possible changes in the magnitude of the PBC. Accoding to past literature (Gonzalez, 1999; Shi & Svensson, 2006), transparancy and the magnitude of the PBC have a negative relationship. Thus, the third hypothesis is as follows:

H3: A lower level of transparency in an Asian country leads to a stronger PBC in that country.

Finally, the discussion of the PBC in Asian countries implies that a parliamentary system might cause a smaller PBC because the timing of elections are not fixed. Therefore, the fourth hypothesis is:

H4: A parliamentary system createsa smaller PBC in Asian countries.

3.2 Data and Model Specifications

The dataset includes Asian countries that have periodic national elections. The panel dataset is constructed to control for unobservable individual heterogeneity across countries as well as to overcome the problems of omitted values. The model specification is:

gexpenditure / $GDP_{it} = \alpha_{it} + election(p)_{it} + moderator(q)_{it} + control(k)_{it} + election(p)_{it} \times moderator(q)_{it} + \varepsilon_{it}$

The symbol it represents the data of *i* country in year *t*. For example, the dependent variable,

gexpenditure/GDPit denotes the share of government expenditures in the GDP of country i in year t. The main independent variable, election, has three settings: one year before an election, the year of an election, and one year after an election. There are three moderator variables as stated in the hypotheses: the degree of democracy, the degree of transparency, and the constitutional system. The control variables are the economic and demographic variables in each country.

Table 1 lists the concept, operation, unit, and data source of the variables used in the model. There are four types of variables: DV (dependent variables), IV (independent variable), MVs (moderator variables), and CVs (control variables). Data is collected for a total of 219 elections in 26 countries from 1990 to 2014. Table 2 provides a list of the countries and the type of election that took place.

Туре	Concept	Operation (variable)	Unit	Data source
DV	Government expenditure	Share of Government Expenditure to GDP (EXP)	% of GDP Billions	WDI*
		Year of election =1, otherwise = 0 (Election)	Dummy	Election Guide**
IV	election	Year before election = 1, otherwise = 0 (B_Election)	Dummy	Election Guide
		Year after election = 1, otherwise = 0 (A_Election)	Dummy	Election Guide
	Degree of democracy	Freedom score (DEM)	Index, 0 (best) -100 (worst)	Freedom house****
MV	Degree of transparency (CPI index (CPI)		Index, 0 (worst) -100 (best)	Transparency International***
	Constitutional system	Presidential system or executive system with two heads = 0; parliament government =1 (CON)	Dummy	Election Guide
	Economy	Unemployment rate (UNEMP)	%	WDI
CV	Consumption	Cell Phone Subscribers (CELL)	Per 100 person	WDI
	Health	Child mortality (CHD)	Per 1000 new born baby	WDI
	Demography	Population (POP)	Person	WDI
	Openness	Exports of goods and services of GDP (OPEN)	%	WDI

Table 1 Variables and Data Sources

Note: *WDI: World Development Indicator http://data.worldbank.org/indicator;

**Election Guide: http://www.electionguide.org/;

*** Transparency International: http://www.transparency.org/research/cpi/overview;

**** https://freedomhouse.org/report/freedom-world/freedom-world-2016.

Table 2Countries and Elections

Country	Constitutional system	Type of elections	Elections included
Afghanistan	Presidential system	President/House of people	7
Bangladesh	Cabinet System	President/National Parliament	4
Bhutan	Cabinet System	Cabinet System National council/National Assembly	
Brunei	Cabinet System	House of Representatives	7
Cambodia	Cabinet System	National Assembly	3
India	Cabinet System	People's Assembly/President	20
Indonesia	Presidential system	President/House of representatives/regional representative council	8
Japan	Cabinet System	House of Councilors/House of Representatives	13

(Table 2 to be continued)

Kazakhstan	Presidential system	President/House of representatives	7
Kyrgyzstan	Presidential system	President/Supreme Council/Referendum	11
Malaysia	Cabinet System	House of representatives	4
Maldives	Presidential system	President/People's Council	10
Mongolia	Dual-leadership system	President/State Great Hall	8
Myanmar	Cabinet System	House of representatives/House of representatives	7
Nepal	Cabinet System	Constituent Assembly	2
Pakistan	Cabinet System	National Assembly/President/referendum	6
Philippines	Philippines Presidential system President/House of Representatives/Senate		16
Republic of China (Taiwan)	Republic of China (Taiwan) Dual-leadership system President/Le		12
Russia	Russia Dual-leadership system Pr		8
Singapore	Cabinet System	Parliament	5
South Korea	Presidential system	President/National Assembly	8
Sri Lanka	Dual-leadership system	Parliament/President	9
Tajikistan Presidential system		President/National Assembly/Assembly of representatives/Referendum	8
Thailand	Cabinet System House of Representatives/Senate		18
Timor-Leste	Dual-leadership system	National Parliament/President	8
Turkmenistan	Presidential system	President/Assembly of representatives/Referendum	5
Uzbekistan	stan Presidential system Senate/Legislative hamper/President		7

(Table 2 continued)

4. Empirical Results

4.1 Descriptive Statistics for Variables

Although data from 26 countries were collected, after deleting some countries with extreme values or too many missing values, 22 countries were left in the dataset for further anaylsis¹. Figure 1 provides box graphs regarding government spending as a share of the GDP for the 22 Asian countries. Among these countries, Taiwan has the highest, and Bangladesh has the lowest average share of government spending as a percent of the GDP. Moreover, the average share of government spending in most countries is less than 25%. Table 3 lists the descriptive statistics for all variables under consideration in this research.

Variable	Sample size	Average	Standard deviation	Minimum	Maximum		
EXP	514	12.7	5	3.5	30.3		
Election	549	0.1	0.3	0	1		
B_Election	549	0.1	0.3	0	1		
A_Election	550	0.1	0.3	0	1		
СРІ	343	36.8	19.5	0	94		
DEM	461	55.4	18.2	17	100		
CON	550	0.2	0.4	0	1		
UNEMP	529	5.74	3.38	0.1	14.7		
CELL	351	50.1	65.1	0	322.6		
CHD	519	53.4	40.3	2.7	176.2		
POP (thousand)	548	102,824	225,481	218	1,311,051		
OPEN	669	47.41	38.76	0.18	230.27		

Table 3 D	escriptive	Statistics
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¹ The four countries dropped from the dataset include Brunei, Timor-Leste, Turkmenistan, and Uzbekistan.



Figure 1 Government Spending as Share of GDP in Asian Countries: Box Graph (1990-2014)

4.2 Random Effect Model

There are twocommonly used models to test a panel data set: a fixed effects model and a random effects model. The difference between these two models is that under the fixed-effect model, we assume that the true effect size for all individuals is identical, while under the random-effects model, the true effect size varies. The Hausman test is used to decide which model is preferred. After performing the Hausman test for the random and fixed effect models, the random effect model was choosen for the following analyses². Table 4 presents the final results for the random effect model, which includes 3 regressions with different election dummy variables: before_election year, election year, and after_election year.

The value of the adjusted R-squared in the regressions is around sixty percent. However, the goal of this research is not to attempt to construct a good model to predict the share of government spending in the GDP, so the adjusted R squared is not a main concern. The coefficients in the election dummies in the three regressions are all negative, but only the after-election year coefficient is statistically significant. Therefore, H1a was not supported, but H1b was supported. From the observations, government spending statistically significantly falls in the year after elections in Asian countries (in the third regression, p < 0.1). The result of decreasing government spending after an election is consistent with the findings of Akhmedov and Zhuravskaya (2004) and Park (2011) regarding opportunistic PBC.

² Hauman test: Chisq = 1.0940, p-value = 0.9818. Therefore, the null hypothesis (random model is preferred) is not rejected.

Regression	1		2		3				
	b	t-value		b	t-value		b	t-value	
Election				-1.404	0.526				
B_Election	-1.549	0.418							
A_Election							-4.234	0.082	
СРІ	0.186	0.000	***	0.212	0.000	***	0.230	0.000	***
DEM	0.046	0.003	**	0.057	0.000	***	0.060	0.000	***
CON	5.602	0.000	***	5.853	0.000	***	5.857	0.000	***
UNEMP	0.235	0.000	***	0.265	0.000	***	0.296	0.000	***
CELL	-0.004	0.072		-0.003	0.139		-0.003	0.185	
CHD	0.006	0.445		0.009	0.271		0.010	0.170	
POP	0.000	0.765		0.000	0.474		0.000	0.241	
OPEN	-0.033	0.007	**	-0.028	0.018	*	-0.025	0.034	*
ELECTION*CPI				0.023	0.394				
ELECTION*DEM				0.015	0.541				
ELECTION*CON				-0.404	0.580				
B_ELECTION*CPI	0.029	0.218							
B_ELECTION*DEM	0.019	0.381							
B_ELECTION*CON	0.130	0.845							
A_ELECTION*CPI							0.050	0.084	
A_ELECTION*DEM							0.047	0.083	
A_ELECTION*CON							0.528	0.520	
F-value	37.71		27.46		22.150				
Adj. R-Squared	0.525		0.579		0.637				
Ν		231		232		232			

Table 4 Regression Results

*** P< 0.001; **P< 0.01; *P< 0.05, . P< 0.1.

Next, the three mediator variables (democracy, transparency, and parliamentary system) are all positively significant. The results are consistent across the three regressions. The outcomes indicate that firstly, a lower degree of a country's democracy (the value of DEMis larger), and a larger share of government spending occurred in Asian countries; secondly, a higher degree of a country's transparency (the value of CPI is larger), and a larger share of government spending occurred in Asian countries. Since DEM and CPI have the same measurement scale (0 to 100), the results indicate that the impact magnitude of CPI on government spending is larger than that of DEM. Finally, compared to a presidential system or an executive system with two heads, the GDP of a parliamentary country has a larger share of government spending in Asian countries.

However, the moderator effects are examined through hypotheses 2 to 4, rather than the sole effects of the three variables. The interaction variables show moderate effects from the election dummies and moderator variables. Only the after-election dummy has a statistically significant effect among the three regressions when alpha = 0.1, so only the interaction effects in the third regression were interpreted. In the third regression, there were two moderators having significant interaction effects with the after-election dummy: democracy and transparency. Both coefficients of the significant interactions were positive, which means that the interactions increase the magnitude of effects of the democracy and transparency variables in the after-election year. Specifically, in the after-election year, the effect

of democracy on the the share of government spending in the GDP increases by 0.047, and the effect of transparency increases by 0.05. Therefore, the effects of democracy and transparency on government spending was clear in the after-election year. Nevertheless, the direction of the enlarged effects of democracy and transparency is opposite that of the effect of the after-election dummy. Consequently, the two interaction effects indicated that the government spending decreases in the after-election year was offset by the degree of democracy and transparency of a given country although the magnitude was not large (0.05 and 0.047, see Table 4).

Hypothesis two argues that the degree to which a country is democratic has a positive effect on that country's PBC, which was demonstrated by the positive interaction effect coefficient between the after-electon dummy and the democracy variable. Because a larger value of democracy variable means a lower degree of democracy in a country, a positive value of the interaction coefficient denotes that when democratic status becomes worse (the index increases), the PBC decreases (the negative value of the after-election dummy coefficient increases because of the addition of the positive interaction coefficient). Accordingly, the second hypothesis is supported: A higher level of democracy in an Asian country results in a stronger PBC in that country.

In the same vein, the positive interaction transparency coefficient means a larger CPI value (better transparency) and a decrease the strengths of the after-election dummy coefficient (a weaker PBC). In other words, because the transparency index has an opposite direction of the democracy index in this study, the same positive sign of the two interaction coefficients justified the trueness of hypothesis three: *A lower level of transparency in an Asian country leads to a stronger PBC in that country*. Hypothesis 4 was not supported because of the insignificance of the constitutional system variable.

5. Discussion and Conclusion

This study is an attempt to fill the gap in the past literature by studying the PBC across Asian countries. The author uses a panel dataset collected from 22 countries from 1990 to 2014. Additionally, three moderator variables drawn from the literature were added in the analytic model in order to examine how democracy, transparency, and constitutional system affect election cycles.

Table 5 summarizes the hypotheses testing results. The two main findings are: Firstly, government spending falls the year after elections in Asian countries; secondly, the degree of democracy and transparency have impacts on government spending in Asian countries.

Hypothesis	Result
H ₁ : Government spending changes according to elections in Asian countries. H _{1a} : Government spending rises the year before elections in Asian countries. H _{1b} : Government spending falls the year after elections in Asian countries.	H _{1b} is not rejcted.
H ₂ : A higher level of democracy in an Asian country results in a stronger PBC in that country.	H ₂ is not rejeted.
H ₃ : A lower level of transparency in an Asian country leads to a stronger PBC in that country.	H ₃ is not rejected.
H ₄ : A parliamentary system results in a smaller PBC in Asian countries.	H ₄ is rejected.

Table 5 Hypotheses Testing Results

The first finding partly supports that PBC happens in Asian countries. Theoretically, opportunistic PBC refers that elections induce government spending increasing before elections and decreasing after elections. Empircally, some studies demonstrated the existence of opportunistic PBC across countries (Brender & Drazen, 2005; Barberia & Avelino, 2011) or in individual countries (Akhmedov & Zhuravskaya, 2004; Baleiras & da Silva Costa, 2004).

Specifically, Ames (1987) reports that government expenditures increased by 6.3 percent in the year before and decreased by 7.6 percent in the year after while studying seventeen Latin American countries between 1947 and 1982. Hence, the findings of after-election year in this study is in consistence with Ames' results. The "new democracy" characteristic in most Latin American and Asian countries is a possible explanation for the significant government spending decreasing after elections. However, the results did not support PBC in election or before-election year.

The second finding indicates that moderator factors do affect the magnitude of PBC in Asian countries. Two of the three moderators show significance in the regressions: democracy and transparency. Nonetheless, the two factors are sometimes interrelated conceptually. For instance, Gonzalez (2002) argues that a higher level of democracy increases an economy's "degree of transparency". However, the measurement of democracy used in this study includes three main aspects: political rights, civil liberties, and freedom rating. Also, the transparency indicator used is the corruption perceptions index (CPI) developed by Transparency International, which reflects the perceived levels of public sector corruption worldwide based on expert opinion around the world (Transparency International, 2017). In other words, the transparency in this study describes the integrity of the public sector according to experts, but democracy represents the overall freedom status of a country. The correlation between the two variables is 0.37, which signifies a low-to-moderate relationship between the two variables. In this sense, the effects of democracy and transparency are discussed separately.

The support for H_2 implies that democracy encourages an increase in government spending after an election. Likewise, Gonzalez (2002) finds that the magnitude of the election cycle in Mexico has been exacerbated during the country's most democratic periods. Gonzalez (2002) argues that there are two opposite forces generated from a democratization process that will affect the size of the PBC: the first force is attempts of politicians to be "visible" by increasing government expenditures; the other force is because democracy increases the voters' knowledge regarding the true value of an office-holder's administrative competence, the PBC is attenuated. In the case of Asian countries, the first force dominates significantly after elections. The result could be explained by the findings of Brender and Drazen (2005), which suggest that the PBC is stronger in "new democracies" because voters are inexperienced with electoral politics or simply lack the information needed to evaluate fiscal manipulation. Finally, the support for H₃ indicates that transparency has a significant impact on the PBC. The positive coefficient in the interaction term suggests that a higher level of transparency will reduce the magnitude of the PBC. This result is consistent with the findings of Gonzalez (2002) for Mexico.

The existence of a PBC implies manipulation of the economy or government spending. When politicians try to please voters by re-allocating government resources over year or over areas, these intervening behaviors in the market certainly reduce social welfare. If democracy or transparency affects the magnitude of the PBC, there are two things that can be done to correct it: Firstly, monitor how politicians use public resources. In the past, monitoring politicians was typically a judiciary or public media obligation. Currently, the World Wide Web helps citizens to do their part in monitoring politicians. For instance, in Taiwan, a website called g0v (gov-zero) was started by several open source developers in 2012. Its goal is to make government information more understandable. By using a budget visualization tool to release government spending information, citizens can easily understand the context of government spending and then monitor it. Its second goal is to educate citizens regarding the consequences of the PBC. The underlying assumption of PBC theory is that voters are myopic — they vote for candidates who can create a short economic boom for them. However, some studies assert that voters tends to punish politicians who manipulate economies in order to win elections (Brender & Drazen, 2005). Therefore, one strategy to offset the

PBC is to educate voters, so they will be more "rational". When facing informed, rational voters, politicians will not choose manipulation but will rather be honest when allocating government resources.

There are two main contributions of this study. The first is that this study fills the gap in the literature due to a lack of PBC studies focusing on the Asian region. The second contribution is determining significant moderators when examining the relationship between elections and government spending. In the past, most studies tended to use either degree of development or the degree to which a country is democratic as a third varaiable when examining the PBC, but transparency has rarely been used. The author argues that there is a conceptual difference between democracy and transparency. Following the findings of Gonzalez (2002), this study also finds a significance effect of transparency on the PBC in Asian countries.

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