THE KOREAN ECONOMIC REVIEW
Volume 16, Number 2, Winter 2000

# GOVERNMENT EXPENDITURE AND POLITICAL BUSINESS CYCLE*

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*We attempt to observe the existence of political business cycle by finding empirical evidence of the effects of elections on government spendings, employing the Korean data. Using annual data from 1970-1998 and dummy variables denoting election year or election lags, we employ the two stage estimation method. The estimated coefficients of dummy variable indicating the year of election are all positive in all specifications and in some cases statistically significant. The estimated coefficients of other dummy variables indicating the lag to the election are all negative. And the absolute value of negatively estimated coefficients are larger as the election lag becomes longer. These facts all together strongly suggest the existence of negative relationship between election lag and government expenditure, which verifies the existence of the political business cycle.*

JEL Classification: H50, H61
Keywords: Government Expenditure, Political Business Cycle, Two Stage Estimation

## I. INTRODUCTION

Fiscal policy in a country plays an important role in determining the economic situation in the present and the future. More recently, the globalization highlights the importance of the fiscal policy, since other policy tools such as monetary policy becomes weaker under the open economy with the financial

*Received for publication:* Sep. 14, 2000. *Revision accepted:* Dec. 2, 2000.

* This paper was presented at the Korea-Japan Symposium in Public Finance, Seoul, Korea on August 3, 2000. We are grateful to, especially prof. Joosung Jun at the symposium and two anonymous referees for their invaluable comments and suggestion and to Dongjun Kim for his data preparation. All errors are our responsibility.

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market and capital market liberalization. There have been enormous efforts to investigate the effects of fiscal policy both in the microeconomic and the macroeconomic levels. In those efforts, fiscal policy have been treated as the politics-free policy. However, fiscal policy cannot be independent of political process. Budget process summarizing fiscal policy mainly relies on the political agenda, so that fiscal policy becomes endogenous in investigating its effect on economic status. Therefore, political effects on fiscal policy can be scrutinized in terms of political business cycles.

There have been many attempts to empirically find the existence of the political business cycles. Among many studies analyzing the political economy of macroeconomic policies, this paper focuses on the political economy of fiscal policy, especially the budget process. In this paper, hence, political business cycle is defined as a systematic influence of the political process like elections on government expenditure. We attempt to observe the existence of political business cycle by finding empirical evidence of the effects of elections on government spendings in Korea.

In the section Ⅱ, we critically review the Korean fiscal policy in past 30 years and observe some problems in the fiscal policy. In the section Ⅲ, we discuss about how political agenda like various elections can affect budget process. And we apply such discussion to the problems of the Korean fiscal policy which were observed in the section Ⅱ. In the section Ⅳ, we construct empirical model testing the existence of the political business cycle and attempt the test.

## Ⅱ. EVALUATION OF FISCAL POLICY

A fiscal policy has two major functions. Firstly, the fiscal policy has a function of stabilizing the economy. An automatic stabilizing effect of the fiscal policy plays a role of counter-cyclical movement in the absence of discretionary policy. Secondly, the fiscal policy can provoke economic growth through its crowding in effect. An expansionary fiscal policy which increases government investment expenditure rather than government consumption expenditure results in economic growth. These two functions can provide good criteria in evaluating one country's fiscal policy.

### 1. Stabilizing Effect of Fiscal Policy

Korean fiscal policy in the past 50 years can be summarized as a consistent budget balance in terms of the principle of 'expenditure within revenue'. Such a longtime budget balance enables the Korean economy to overcome the financial crisis of 1997 by using the revenue in the financial reconstructing and anti-unemployment policy. However, the dark side of the Korean fiscal policy appears to be more critical. Such the conservative role of the fiscal policy had contributed very little into economic stabilization and had a harmful effect on

financial sectors. In this period of rapid economic growth, the Korean government had exercised power in allocating funds in the financial market instead of using fiscal policy, which had prevented the financial industry from developing. Moreover, the maintenance of the balanced budget was not in the consolidated but in the general account level. In other words, the public sector not captured in the general account contained considerable budget deficit. The considerable consolidated budget deficits had been observed until 1982. Since then the deficits have been decreased due to the reluctance of the government in expanding budget in 1980's and a huge surplus in the National Pension Funds in 1990's.

Now, we require a rigorous analysis evaluating the stabilization effect of fiscal policy. We can compare fiscal impulse indicator to GAP gap in order to find whether fiscal policy had been pro-cyclical or counter-cyclical. If it turned out to be counter-cyclical, we can conclude that the Korean fiscal policy. Cho and Park (1994) observed that fiscal policy had been pro-cyclical in most years prior to 1990 and in all the years since 1990. This finding highlighted that the discretionary fiscal policy in Korea for past 10 years magnified economic fluctuations.

## 2. Crowding-In Effect of Fiscal Policy

Another function of fiscal policy is to promote economic growth through the expansion of capital expenditure such as spendings on SOC, scientific technology, manpower development and so on. Government expenditure can be classified into capital expenditure (Investment Expenditure) and current expenditure (Consumption Expenditure). Various studies concluded that government capital expenditure can increase investment and output in terms of the improvement of productivity of private capital, which is the crowding-in effect.

In Korea, the share of current expenditure reached almost 80% in the early 1970s. Since then, the portion has been reduced to 50%, which is still much higher than OECD country's average share of 30%. This implies that the Korean fiscal policy has not exercised GNP increasing effects so far.

Empirical studies on the effectiveness of Korean fiscal policy also showed that capital expenditure had larger multiplier effect and productivity increasing effect than consumption expenditure and transfer expenditure. Sundararajan and Thakur (1980) estimated effects of public investment and private investment on the economic growth rate using 1958-1976 data and showed the estimated longterm multipliers, 5.176 and 24.163 respectively. Wai and Wong (1982), employing 1960-1975 data and the flexible acceleration principle, showed that a one unit increase in the government investment expenditure increased the private investment by 1.145 units. Using the Neo-classical model and 1953-1983 data, Evans (1988) concluded that the permanent government investment expenditure increased private investment and output significantly, while the government

consumption expenditure excluding defence spending crowded out private consumption and private investment. Lee (1990), using the endogenous growth model and 1953-1986 data, found that the economic growth rate had a positive correlation with government investment expenditure/GNP or government investment expenditure/total government expenditure, while it had a negative correlation with government expenditure/GNP.

More recently, Lee (1996) estimated the Cobb-Douglas production function treating the public capital as the third production factor and using 1971-1994 data. Then he found that public capital became the complement relation to private capital since 1990 and stimulated private production. Kim and Lee (1998) also derived similar conclusion using 1987-1996 data such that the government capital expenditure enlarged the potential power of economic growth with a smaller effect on price rise in comparison to the government current expenditure. Park (1998) constructed an econometric model using the quarterly data between 1988 and 1997 and showed that capital expenditure had the largest effect on the economic recovery and the reduction of unemployment, while the transfer expenditure had a small effect on the economic recovery and the current expenditure had the smallest effect.

## Ⅲ. ELECTION AND GOVERNMENT EXPENDITURE

### 1. Political Economy of Fiscal Policy

Fiscal policy is desirable if it is not distorted by political factor. And in order to achieve the goals which fiscal policy pursues, it is necessary to avoid the political distortion such that political process like elections prevent stabilization function of fiscal policy from working by increasing expenditures excessively. Thus, it is very important to accomplish the political neutrality in fiscal policy. Alesina and Perotti (1994) discussed the political influence in budget process and suggested some devices to achieve the political neutrality.

When a certain government holds a power by majority voting, the government easily has an incentive to take over the budget deficit to the following government by increasing government expenditure especially consumption expenditure and transfer expenditure. The stronger power the government can grasp through easily controlling major parties, the more easily the balanced budget results in deficit. Poterba (1994) contented that the state level budget law was more effective in fiscal reconstructing for the balanced budget than the central government level budget legislation. This is because central government can exercise stronger power in the budget process by assuming that the government is supported by the public from the majority voting.

It is also meaningful to focus on the war of attrition in the budget process. Although the remarkable reduction of government expenditure is required for reducing budget deficit and public debt, the ministers in the large sized

ministries try to postpone or abolish the effort of reducing the expenditure. Then, more competition to hinder the efforts occurs among the ministries. The war of attrition also appears in the congress. The interest groups may demand the congress not to reduce the spending for them and even to increase the spendings from the interest groups. As a result of the war of attrition, it is very hard to establish the fiscal discipline which is essential for achieving a balanced budget. The benefits of a numerical target for insuring fiscal discipline are obvious. A balanced-budget law can eliminate persistent deficits induced by political distortions or by the politicians' opportunism and "short-termism."

## 2. Election and Political Business Cycle

Nordhaus (1975) introduced a model of the Politically Induced Business Cycles. Prior to the election, the government or ruling party attempts to reduce unemployment, to increase the disposable income and to increase welfare benefits, which results in the expansion of government expenditure. After the election, however, they focus on the reduction of the government expenditure in order to restrain the inflation which occurs from the fiscal expansion before the election. This trend makes the business cycle around the period of election. Economists supporting Nordhaus hypothesis also argued that the economic equilibrium induced by the political business cycle was sub-optimal. The sub-optimality indicates the higher inflation rate than optimality.

Many empirical researches have undertaken to test the existence of the political business cycle. Nordhaus (1975), Tufte (1978) and Weintraub (1978) investigated the changes in unemployment, real income, transfer expenditure and money supply to test the existence. Frey and Schneider (1981) and Ahmad (1983) estimated the reaction functions of monetary policy and fiscal policy. Beck (1982), Laney and Willet (1983), and Allen (1986) also used the reaction functions. They observed the existence of the election business cycle of fiscal policy.

There are also various attempts to test the political business cycle in Korea. Most studies focused on the monetary policy in testing the political business cycle and accepted the hypothesis in the constrained level because of the shortage of the data series. Recently, Ryoo (1998) and Jung (1998) concluded that the political business cycle existed in money supply. More recently, Lee (1999) applied McCallum (1975)'s testing model to 1987-1997 data which included two presidential elections, asserting that the political business cycle did not exist. He used the Short-Term Phillips Curve type hypothesis that as approaching to election, expansive money policy was used to reduce the unemployment rate, while after the elections, the rise of the unemployment rate was inevitable since reduction of money supply was attempted to lower high inflation. Although many attempts have been undertaken for testing the political business cycle, there has been few studies focusing on the government

expenditure. As discussed earlier, the political process mainly affects the budget process. Hence, if we want to verify the existence of the political business cycle, we may need to scrutinize the effect of political agenda on the government expenditure. This is the reason why this study focuses on the government expenditure in testing the hypothesis.

## Ⅳ. EMPIRICAL EVIDENCE OF POLITICAL BUSINESS CYCLE

### 1. Data

Table 1 summarizes the election years since 1970 in Korea and presents key fiscal variables. There had been twenty five elections between 1970 and 1998, including nine Presidential elections and eight General elections. Most of fiscal variables had increased remarkably during past thirty years of economic growth. Between 1970 and 1998, the average yearly growth rate of fiscal expenditure of public sector (FEPSR, hereafter) was 21.28%, which was a little bit greater than that of the nominal GDP growth rate (NGDPR, hereafter), 20.51%.

While the average growth rate was somewhat similar between the fiscal expenditure and nominal GDP, the volatility of the growth rate of fiscal expenditure was far greater than that of NGDPR. The transition coefficients (standard deviation/average) of FEPSR and NGDPR were 0.1088 and 0.0736 respectively, which could indicate the discretionary fiscal policies during these periods. In fact, it could observe that the growth rate of fiscal variables was negatively correlated with the election lag. This implies that the smaller the election lag defined as the difference between coming election year and current year, the larger growth rate of fiscal variables. This trend seems to be more clearly observed after 1980's than before 1980's. In 1970's, the Korean economy experienced tremendous structural changes such as exceptionally high economic growth, unprecedented demand increase from Middle East Asian Countries, and export-concentrated government policies, which might loosen the relationship between election lag and fiscal expenditure. From 1980s, the negative relation between election lag and fiscal expenditure seems to be somewhat clearly observed as the Korean economy had become more stabilized than 1970s.

There are many ways to empirically investigate the political business cycles. Here, we will use dummy variables denoting election year or election lags. There were nine Presidential elections between 1970 and 1998 as shown in Table 1. Among them, only four of them had been carried out by direct voting, and the remaining five by indirect voting via Peoples' Committee for Korea's Unification. We exclude these five indirect Presidential elections in our analysis, since the ruling parties seemed to have almost no chances to lose in these elections considering the political power of the ruling party around these periods (hence the ruling parties had no sufficient motivations to spend more for the coming elections). The Peoples' Votes (votes asking people's opinion) are also

**[Table 1]** Years of Various Types of Election and Votes, Public Sector Expenditure and Election Lag

| Year | Type of Election and Vote | | | | Public Sector Expenditure (Bil. KRW) | Revenue in General Accounts (Bil. KRW) | Election Lag |
|---|---|---|---|---|---|---|---|
| | Presidential Election | General Election | Local Election | Peoples' Vote | | | |
| 1970 | | | | | 847.1 | 405.1 | 1 |
| 1971 | April 27th | May 25th | | | 1065.4 | 494.5 | 0 |
| 1972 | Dec. 23rd* | | | Nov. 21st | 1241.2 | 605.3 | 1 |
| 1973 | | Feb. 27th | | | 1414.1 | 606.2 | 0 |
| 1974 | | | | | 2291.6 | 942.7 | 5 |
| 1975 | | | | Feb. 12th | 3287.7 | 1446.9 | 4 |
| 1976 | | | | | 4462.6 | 2219.4 | 3 |
| 1977 | | | | | 5537.5 | 2990.8 | 2 |
| 1978 | July 6th* | Dec. 12th | | | 7713.5 | 4040.5 | 1 |
| 1979 | Dec. 6th* | | | | 10325.9 | 5507.3 | 0 |
| 1980 | Aug. 27th* | | | Oct. 22nd | 13456.9 | 6486.1 | 0 |
| 1981 | Feb. 25th* | Mar. 12th | | | 17638.6 | 8040.0 | 0 |
| 1982 | | | | | 18944.4 | 9525.9 | 3 |
| 1983 | | | | | 19920.4 | 10753.3 | 2 |
| 1984 | | | | | 21908.5 | 11828.9 | 1 |
| 1985 | | Feb. 12th | | | 23520.1 | 13008.9 | 0 |
| 1986 | | | | | 27361.6 | 14699.3 | 2 |
| 1987 | Dec. 16th | | | Oct. 27th | 29041.5 | 17883.9 | 1 |
| 1988 | | Apr. 26th | | | 33619.8 | 22040.8 | 0 |
| 1989 | | | | | 40042.0 | 25590.9 | 2 |
| 1990 | | | | | 50697.2 | 31304.6 | 1 |
| 1991 | | | Mar.16th, Jun.20th | | 63011.7 | 32928.7 | 0 |
| 1992 | Dec. 18th | Mar. 24th | | | 73760.0 | 34534.1 | 0 |
| 1993 | | | | | 83169.9 | 38583.7 | 0 |
| 1994 | | | | | 99527.6 | 44935.8 | 1 |
| 1995 | | | Jun. 27th | | 106153.9 | 52928.0 | 0 |
| 1996 | | Apr. 11th | | | 123005.5 | 57962.1 | 0 |
| 1997 | Dec 18th | | | | 146966.8 | 67578.6 | 1 |
| 1998 | | | Jun. 4th | | 161751.7 | 76477.5 | 0 |

1) Elections for Peoples' Committee for Korea's Unification are included in General Election.
2) Local elections include both election for local government and local assembly.
3) * denotes Presidential election by indirect vote.
Source : Central Elections Committee, Bank of Korea

excluded due to the similar reason. We include local elections both for local congress and local government. We treat the year of election whose date were after October 1st as the following year, considering the determination process of fiscal budgeting. We do not put any special weights on the year of multiple election such as 1991.

In the empirical analysis, we used two variables indicating elections: The variable T1 denotes the election lag and variables Di (i=0, 1,2,3,4,5) denote the election lag dummy variables. For example, if the coming election is after three years, then T1 is 3, while D3 is 1 and D0, D1, D2, D4 and D5 are zero.

## 2. Simple Regression Analysis of the Effect of Election on Expenditure

To investigate the relationship between election and fiscal expenditure, we first present simple regression results. In regression (1), we used the growth rate of public sector's fiscal expenditure (FEPSR) as dependent variable and nominal GDP growth rate (NGDPR), election lag (T1) and their intersection term as explanatory variables. The interaction term is used to account for the possible different relation between FEPSR and NGDPR with the changing election lag.

$$FEPSR_t = \gamma_0 + \gamma_1 NGDPR_t + \gamma_2 T1 + \gamma_3 T1 \times NGDPR_t + \varepsilon_{2t} \quad (1)$$

Table 2 reports the estimation result. The growth rate of nominal GDP has positive relation with the growth rate of public sector's fiscal expenditure. In equation (1), one year decrease in election lag is accompanied with the increase in FEPSR by 28.47%. These result can be regarded as one possible evidence of the negative relationship between election lag and fiscal expenditure[1].

**[Table 2]** Regression Results of Simple Regression

| Dep. Var. | Exp. Var. | Coefficient | Std. Err. | R-Squared | D.W. |
|---|---|---|---|---|---|
| FEPSR | NGDPR | 0.7082*** | 0.2502 | 0.7257 | 1.5547 |
| | T1 | -0.2847*** | 0.1336 | | |
| | T1×NGDPR | 0.2345*** | 0.1042 | | |
| | Constant | 0.3477 | 0.2983 | | |

Footnote : "***" denote statistically significant at 1% significance level.

[1] A referee asked to check the regression result without the intersection term. The coefficient estimate of NGDPR from this simplified regression is 1.0860 with standard error 0.2000 and that of T1 is 0.0146 with standard error 0.0132. This result reveals that we can not get the negative correlation between election lag and fiscal expenditure when we do not account for the different reaction of NGDPR to FEPSR with the changing election lag.

## 3. Two Stage Regression Analysis of the Effect of Election and Expenditure

In general, changes in the expenditures of central government or public sector are closely related with those of nominal GDP. The government expenditure tends to increase as the nominal GDP increases. Hence to analyse the effect of election on fiscal expenditure, it is essential to decompose the changes in fiscal expenditure into those due to nominal GDP and those due to election lags.

There are lots of methods, for example the HP filter, to decompose the time series into trend and other components. But these methods only focuses the univariate series itself and neglects the trend associated with other variable. In this section, we employ a simple two stage method for the decomposition of government expenditure. In the first stage, to extract out the trend components from the fiscal expenditure associated with the nominal GDP, we regress the fiscal expenditure on the nominal GDP. The estimated fiscal expenditures from this first stage regression are interpreted as trend components in fiscal expenditure accompanied by the changes of nominal GDP, while the residuals are interpreted as changes in fiscal expenditure which are not explained by the changes of nominal GDP. The residuals, in principle, may not be completely determined by election lags, but other factors such as natural disasters or possible structural breaks in government expenditure patterns.

In the second stage, we regress the residual from the first stage regression on election lag dummy variables. The coefficient estimates of election lags in this second regression can be interpreted as the effects of election lags to fiscal expenditure. As mentioned, the residuals may also be affected by other factors, but we assume that other factors are stochastic in nature with zero expectations. In the first stage regression, we employ Cochrane-Orcutt estimation method and also OLS using the first differences of the dependent and explanatory variables to account for the possible nonstationarities of the level variables.

Table 3 presents the two stage estimation results. In Korea, the changes in fiscal expenditure turn out to be mostly explained by those in nominal GDP. In regressions with the fiscal expenditure of public secfor(FEPS) and the revenue in general accounts(RGA) as dependent variables and the nominal GDP(NGDP) as explanatory variables, the coefficients of determination(R squared) are 0.9982 and 0.9979 respectively. When we use growth rate of each variable, the explanatory powers of the nominal GDP are 0.9098 in expenditure and 0.6342 in revenue. And it is interesting that the increases in expenditure and revenue exceed those of nominal GDP. For example, based on regression FA1, the increase in NGDP by 1 percentage point corresponds to the increase in FEPS by 1.0302 percentage point.

In the second stage regressions SA1, SA2, SB1 and SB2, the estimated coefficients of dummy variable D0 indicating the year of election, are all positive. In regression SA1 and SB1, these estimated coefficients are statistically significant. The estimated coefficients of other dummy variables are all negative.

**[Table 3]** Estimation Results Based on Two Stage Approaches

1. First Stage

| Name | Dep. Var. | Exp. Var. | Coefficient | Std. Error | R-Squared | D.W.4 |
|---|---|---|---|---|---|---|
| FA1 | FEPS | Constant | -1.5502*** | 0.6452 | 0.9982 | 1.5569 |
| | | NGDP | 1.0322*** | 0.0542 | | |
| | | AR(1) | 0.7991*** | 0.1324 | | |
| FA2 | RGA | Constant | -2.2044*** | 0.4055 | 0.9979 | 1.5820 |
| | | NGDP | 1.0302*** | 0.0350 | | |
| | | AR(1) | 0.7119*** | 0.1411 | | |
| FB1 | FEPSR | Constant | -0.0296 | 0.0742 | 0.9098 | 1.7314 |
| | | NGDPR | 1.0318*** | 0.0625 | | |
| FB2 | RGAR | Constant | -0.3470 | 0.2331 | 0.6342 | 1.8078 |
| | | NGDPR | 1.2949*** | 0.1929 | | |

2. Second Stage

| Name | Dep. Var. | Exp. Var. | Coefficient | Std. Err. | R-Squared | D.W. |
|---|---|---|---|---|---|---|
| SA1 | RFA1 | D0 | 0.0222* | 0.0117 | 0.2105 | 1.4573 |
| | | D1 | -0.0142 | 0.0237 | | |
| | | D2 | -0.0730* | 0.0374 | | |
| | | D3 | -0.0794 | 0.0542 | | |
| | | D4 | -0.0218 | 0.7075 | | |
| SA2 | RFA2 | D0 | 0.0028 | 0.0135 | 0.1597 | 1.6739 |
| | | D1 | 0.0093 | 0.0274 | | |
| | | D2 | 0.0121 | 0.0433 | | |
| | | D3 | 0.0666 | 0.0627 | | |
| | | D4 | 0.0666 | 0.0865 | | |
| SB1 | RFB1 | D0 | 0.0383*** | 0.0140 | 0.3147 | 1.5013 |
| | | D1 | -0.0271 | 0.0271 | | |
| | | D2 | -0.1087** | 0.0447 | | |
| | | D3 | -0.1679** | 0.0647 | | |
| | | D4 | -0.0751 | 0.0893 | | |
| SB2 | RFB2 | D0 | 0.0173 | 0.0171 | 0.1822 | 1.7421 |
| | | D1 | -0.0090 | 0.0347 | | |
| | | D2 | -0.0250 | 0.0548 | | |
| | | D3 | 0.0340 | 0.0792 | | |
| | | D4 | 0.0850 | 0.1095 | | |

1) In regression FA1 and FA2, Cochrane-Orcutt method is used, while in regression FB1 and FB2, OLS is used.
2) In regression FA1 and FA2, log values of each variable are used.
3) RFAi (for i=1,2) denote the residual from the regression FAi and RFBi denote that from the regression FBi.
4) "*", "**" and "***" denote statistically significant at 10%, 5% and 1% significance level respectively.

It is interesting to note that the absolute value of negatively estimated coefficients are largest in D2 or D3, and decreases as the election lag become shorter. These facts all together strongly suggest the existence of negative relationship between election lag and fiscal expenditure[2].

In the revenue side, this negative relationship is hard to find.

## V. CONCLUSION

Fiscal policy can play its own positive roles when it is independent of political distortion. The role of fiscal policy indicates the capability of stabilizing economy and provoking economic growth. We reviewed the Korean fiscal policy in past 30 years and observed that Korean fiscal policy trend appeared pro-cyclical and did not played relevant role in stimulating economic growth. Then we presumed that the Korean fiscal policy had been influenced by political process.

We investigated the detailed path through which fiscal policy is distorted by the political process, especially elections. It is also meaningful to focus on the war of attrition in budget process which prevents the fiscal discipline from establishing. Although the remarkable reduction of government expenditure is required for reducing budget deficit and public debt, the ministers at the large sized ministries try to postpone or abolish the effort of reducing the expenditure. The war of attrition also appears in the congress by the various interest groups who demand the congress not to reduce the spending.

So far, there have been many attempts to test the political business cycle. However, there has been few studies focusing on the government expenditure. Hence, if we want to verify the existence of the political business cycle, we may need to scrutinize the effect of political agenda on the government expenditure. Therefore, this paper define the political business cycle as a systematic influence of the political process like elections on government expenditure. We attempt to observe the existence of the political business cycle by finding empirical evidence on the effects of elections on government spendings in Korea. Using annual data from 1970-1998 and dummy variables denoting election year or election lags, we employ two stage estimation method. In the first stage, we regress the government expenditure on the nominal GDP. In the second stage, we regress the residual form the first stage regression on election lag dummy variables and investigate sign and significance of these variables.

Estimation results appear very interesting. The estimated coefficients of dummy variable D0 indicating the year of election are positive in all specifications and

[2] When we use FECG or fiscal expenditure of central government in capital accounts as dependent variables, the estimated coefficients of election lags do not exhibit any systematic pattern. When we use the fiscal expenditure of central government in current accounts as dependent variable, the estimated coefficients of election lags show similar pattern as that in Table 3, but were statistically insignificant.

in some cases statistically significant. The estimated coefficients of other dummy variables indicating the lag to the election are all negative. It is interesting to note that the absolute value of negatively estimated coefficients are larger as the election lag becomes longer. These facts all together strongly suggest the existence of negative relationship between election lag and fiscal expenditure. In conclusion, we empirically observe the existence of the political business cycle within context of our definition of the political business cycle.

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