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ANALYSIS OF
POLITICAL BUDGET CYCLES IN
EMERGING SOUTH EAST ASIAN
ECONOMIES

Adri A. L. Poesoro

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Adri Poesoro¹

Political budget cycles has been widely studied through many researches that conducted since many years ago. Most of researches focused on the causal effects of an election on macroeconomic policies.

In this paper, we analyzed the effect of parliamentary and executive election separately in five emerging South East Asian Countries on fiscal policies during period 1985 to 2011. Fiscal policies on this paper are refers to direct government expenditures and changes in the level and composition of tax revenue.

We used econometric approach to analyze linkage between political events and budget cycles. We found that incumbent governments often exercise expansionary fiscal policies through either reducing tax collection or increasing government expenditure, or both, during election years to get more voters.

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¹ Adri A. L. Poesoro is a *Chief Economist*, DANNY DARUSSALAM Tax Center

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1. Background Context

Analysis of the causal effects of an election on macroeconomic policy (e.g. tax-cut, government spending, monetary policy, etc.) or famously known as political budget cycles has been widely studied primarily in developed countries such as the OECD countries. The first political economy literature to explain the economic effect of elections was written by Nordhaus (1975) and then followed by Lindbeck (1976). They both found out the existence of political business cycles where incumbents kept growth high and unemployment low just before a general election. Further, Alberto Alesina and Nouriel Roubini (1997) studied the relationship between political cycles and broader macroeconomic variables. Similar analyses have also been replicated with some modifications for developing countries.

In addition, Min Shin and Jakov Svensson (2002) analyzed political budget cycles in developed and developing countries. They identified larger budget deficit during election year using a large panel data set. Yet, they unsurprisingly demonstrated that political budget cycles are much larger in developing than in developed countries. Compared to developed country, emerging or developing countries have relatively unstable democratic systems and therefore prone to political rent-seeking manipulation. Due to limited government effectiveness, corruption, bureaucracy, as well as political education, most voters chose their candidate based on myopic and impulsive judgment. Asymmetric information becomes apparent as the cause of political instability in a new democratic country.

Similar to Nordhaus (1975), Persson and Tabellini (1990) provided evidence that incumbents would conduct pre-election expansionary policies leading to temporary higher inflation. Rogoff and Sibert (1988) predicted short-term political budget cycles, where incumbent utilizes fiscal policy to affect consumption. Alesina and Roubini (1992) identified that inflation tends to increase due to loose fiscal policy in election years (with low taxes and high spending). Khemani (2000) addressed that for fiscal policy during election years have negative effects on some commodity taxes, a positive effect on investment spending, but no effect on deficits, primarily because consumption spending is reduced.

This paper analyzes the effect of parliamentary and executive election separately in five emerging South East Asian countries on fiscal policies during the course of 1985 to 2011. We find evidence that government expenditure increase while tax revenue falls, leading to a larger fiscal deficit during

election year. However, the effect of executive election on political budget cycles is more obvious compared to legislative election.

The rest of this paper is structured as follows. Section 2 discusses the data and methodology used in the analysis. Section 3 estimates the relationship using dynamic panel data techniques specifically two-stage least square and Generalized Methods of Moment to accommodate endogeneity cases. Finally, Section 4 is the conclusion.

2. Election Years in Five South East Asian Countries

Based on our time frame, Indonesia held 3 legislative elections in 1987, 1992, and 1997 during the period after 1985 to before the Asian Crisis emerged in 1998. After the collapse of the New Order era due to Asian financial crisis, the first election was held in 1999 where forty-eight political parties participated. Similar to the New Order era, the new President was elected by the parliament. Beginning in 2004, all the seats in the parliament would be directly elected. Given an amendment of Indonesian constitution, it provides a pathway for a direct election of the President and Vice President. This considers as major steps for Indonesia political system and the road towards a full democracy. Indonesia still faces an ongoing, and as yet incomplete, governance transition from a centralized regime to a decentralized democratic state. Furthermore, decentralization has changed accountability structures, as the division of roles and responsibilities between the various levels of government often remains unclear in many spheres of activity.

Over the past decades, the Constitution of Malaysia requires that a general election at the federal and state level be held every five years. Over 1985 - 2011², general election was conducted six times and usually controlled by the Barisan Nasional in most of the states. The member of House of Representatives, then, elects the Prime Minister of Malaysia. The Prime Minister appointed by the Yang-di-Pertuan Agong. Moreover, they are currently parliamentary and presidential elections in Singapore, which must be conducted within 5-6 years. Unlike the parliamentary election, presidential elections have been only held since 1993. The politics of Singapore are currently based on the framework of a constitutional parliamentary democratic republic, whereby the President is act as the head of state or Country's symbol and the Prime Minister is the head of the government.

² Please check Appendix 2 for details list of election years.

Democratic process in Thailand selects members that will sit in the House of Representative, Senate, local administrations, and the Governor of Bangkok. Thailand has had around 11 general elections since 1985; the last election was in 2011 where Yingluck Shinawatra was chosen as a prime minister. Elections in the Philippines were held for a six-year term to choose president, vice-president, and senators. Unlike most of South East Asian Countries, the president and vice president are directly elected during election days. These presidential election days have been held from its independence in 1949.³

3. Fiscal Policy Analysis

Two main fiscal policies that the government may use are direct government expenditures and changes in the level and composition of tax revenue. The nature of fiscal policy depends on the state of the economy and also on the tendency of monetary policy executed by the Central Bank.⁴ During economic boom, the government usually tries to alleviate the growth by increasing tax rates. This strategy is known as automatic stabilizer or counter-cyclical policies to bring the economy into its considerable path. While, government spending; through line ministries' spending, subsidies, and other government development programs; increases well above tax receipt in order to foster socio-economic development to a much greater extent than it has accomplished to date. Conversely to the previous notion, economists call this government action as pro-cyclical policy. Keynesian stream economics argues that increasing government expenditure with constant or decreasing tax rates will stimulate aggregate demand. As such, the government usually conducts this more prevalent strategy to bring the economy out of recession or want to have faster economic growth.⁵

There is a consequence of exercising loose fiscal policy, which fiscal economists refer to crowding out effect. In other words, following an increase in government expenditure, aggregate demand/ or income would surge. Hence, this leads to more people want to hold more money to be spent for consumption leading to an increase in inflation

or higher the price level. To lessen inflationary pressure, Central Bank would take precautionary measure such as tight monetary policy by increasing its short-term interest rates, absorbing M0, M1 and/or M2 in circulations, and defending its currency. An increase in interest rate, however, would result in diminishing private investment.

Specific to the case of Indonesia, the country has been suffering from a growing current account deficit, slowing growth, rising inflation and a budget deficit since the end of 2012. The budget deficit is caused by bloating fuel subsidy due to increases in imported raw materials and exchange rate depreciation; and national populist programs (e.g., National Program for Community Empowerment, School Operational Assistance, Water Supply and Sanitation for Low Income Communities, Rice for Poor, etc.), which could not be fully financed by steady tax revenue receipt. This problem gets worse as Rupiah depreciates more than 10 percent during 2013. Rupiah depreciated by 6 percent in August 2013 only, making it the worst performing currency in Asia.

Slowly the economy now seems to have got out of the worst situation thanks to various measures taken to shore up the economy. The government took fiscal policy package aimed at boosting its struggling economy. The measure includes new import taxes on some luxury goods, a reduction in oil imports and the removal of export quotas on minerals and metal. The government hopes to reduce current account deficit and demand of foreign currency. Softening international demand for commodities has also caused exports decline in recent times.

Other possible fiscal expansionary strategies that a government could take mainly to generate the economy are, to name a few:

- ◆ Tax Incentive:⁶
 - » Tax Savings (e.g. income tariff reduction and tariff for imported goods; increase tax allowance, increase tax holiday and; decrease CIT rate).
 - » Tax Subsidy given to vegetables oil VAT; biofuel VAT; geothermal VAT; imported duties; and income tax.
- ◆ Improvement of the effectiveness of tariff harmonization in the framework of regional and international cooperation.
- ◆ Extensification and intensification tax and non-tax revenue by performing the evaluation, improvement of regulations, system, and

³ We exclude Brunei Darussalam into our selected countries because the country runs an absolute monarchy, where the Sultan of Brunei is both acting as the head of state and also head of government.

⁴ Fiscal and Monetary Coordination is commonly executed through Joint Workforce of Ministry of Finance and Central Bank.

⁵ While economic growth has remained strong, public investment in infrastructure has not kept pace with the rising demand for urban services. Over the years, much of responsibility of public spending (up to 35% of national budget) has shifted into the control of local governments. Yet, many local governments have only limited capacity for responsive and strategic planning, preparation, and execution of public investments in order to meet the rising demand for basic services.

⁶ Tax incentive package is an integral part of MP3EI, one of Indonesia National Development Priorities.

procedures for the management.

- ♦ Non-Tax Subsidy: decreasing oil price subsidy; decreasing electricity subsidy; increase national program for poor; basic infrastructure, health, and education; extending small credit access. Other strategies are enhancement of infrastructure spending and controlling the deficit within safe limits.

Despite the needs of well-executed fiscal policy, there are few others important factors needed to attract direct investment, for instance, legal certainty, credible monetary policy, political and economic stability, availability of infrastructure, wood quality of labor force, etc.

Another critical issue that is worth exploring is fiscal policy integration beyond 2015⁷. In 2007, the ASEAN leaders affirmed their strong commitment to accelerate the establishment of an ASEAN Community by 2015. The ASEAN Community is comprised of three pillars, namely the ASEAN Political-Security Community, ASEAN Economic Community and ASEAN Socio-Cultural Community. Essentially for ASEAN Economic Community (AEC), it will considerably transform ASEAN into a region with free movement of goods, services, investment, skilled labor, and freer flow of capital.

Although each member is still having sovereignty in their fiscal policy discretions and rules, they need to adopt there beyond 2015 policies to support the AEC Blueprint. One example is to gradually eliminate tariffs and non-tariff barriers on agricultural products, processed food, and manufactured products. Further, Custom administration in those ASEAN – 6 (i.e. Brunei Darussalam, Indonesia, Malaysia, Philippines, Singapore, and Thailand) have to accelerate to modernization of customs techniques and procedures to enhance trade facilitation.

4. Data and Methodology

Similar to previous researches, we consider the database on political institutions from the World Bank that provides a wide coverage of countries' political systems and elections between 1975 and 2013⁸. We create a binary election indicator, Exelec and Legelec, which take the value 1 in election years and 0 otherwise. We include the two indicators to accommodate different political systems across the five economies.⁹ The rest of

the data such as tax revenue (%GPD), government expenditure, unemployment, industrial share of GDP, household consumption and Real GDP are obtained from International Financial Statistics (IFS) and Government Financial Statistics (GFS), yearly published by the IMF. To simplify the analysis, we assume that both executive and legislative elections are positively correlated and will bring similar effect to other variables.¹⁰

We convert some variables into logarithmic function, such as GDP, in order to reduce the skewness that might exist. Logarithmically transforming variables in a regression model is a very common way to handle situations where non-linear relationships exist between the independent and dependent variables (Moon & Benoit, 2011). The sample ranges from 1985 to 2011.¹¹ Summary statistic of the key variables is represented in the Appendix 1.

We use Two Stage Least Squares and General Method of Moments to find out the causal effect between election and fiscal performances. The point of utilizing these two dynamic panel models is consistent estimation of the parameter determined in a model. We believe the endogeneity problems exist in one of the regressors, some of which are correlated with the disturbance process. 2SLS is nothing more than the Instrumental Variable (IV) estimator with a decision rule that reduces the number of instruments to the exact number needed to estimate the equation and fill in the Z matrix (Baum, 2006). As discussed, when we have multiple endogenous variables, we need at least the same number of instruments as the endogenous variables (exact identification).

To fulfill requirement of these models, the instruments should satisfy two conditions. The first is that they should not be correlated with the error term. Second is that they should be correlated with the endogenous variables. When we have multiple endogenous variables, the second condition has a more complex expression, called a rank condition. Moreover, the second methodology that we apply is the Generalize Method of Moments (GMM). GMM estimators use assumptions about the moments of the random variables to derive an objective function (Baum, 2006). Based on GMM, we obtain parameters estimates by finding the parameters that make the sample moment conditions as true as possible.

7 Currently, the DDTC team is working on a paper in tax related issues to AEC.

8 Users of the database cited from Thorsten Beck, George Clarke, Alberto Groff, Phillip Keefer, and Patrick Walsh, 2001. "New Tools in Comparative Political Economy: The Database of Political Institutions." 15:1, 165-176 (September), World Bank Economic Review.

9 Before the Asian crisis, Indonesia exercised a political system where

president is elected by the winning party which become majority in the parliament

10 We also conducted a collinearity test to check the relationship between the two variables. Results will be provided among request.

11 We have also tested the model using structural break since there was a crisis between 1998-1999 in this region. However, the results are pretty similar.

5. Econometric Results

Figure 1 below illustrates the relationship between the tax revenue and its causal factors. These plots are the y-x planes, in which regression of dependent variable on each of this factor would determine the line of best fit. Based on the figure, there are positive relationship between tax revenue and Real GDP or Cash Surplus; whereas, the relationship is reversed between tax revenue and unemployment or household consumption expenditure. Meanwhile Figure 2 demonstrates the relationships between government expenditure and its causal factors.

As earlier mentioned, the full sample period runs from 1985 to 2011. Relationship of variable unemployment and binary variable executive election are consistent with previous empirical findings. Meanwhile, variable log_government expenditure has negative relationship with variable unemployment and positive correlation with household final consumption. This leads to conclusion that as government increase their expenditure; it will create multiplier effects to aggregate income level through several channels such as an increase in household expenditure and decrease unemployment.

We also conduct other test to make sure the

Figure 1 - Scatterplot Matrix of Tax Revenue (% of GDP) to Other Variables

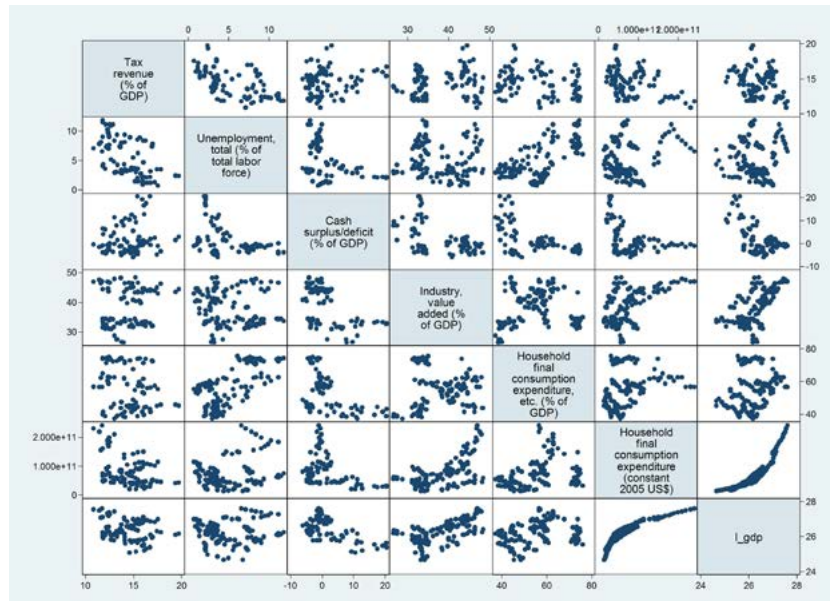
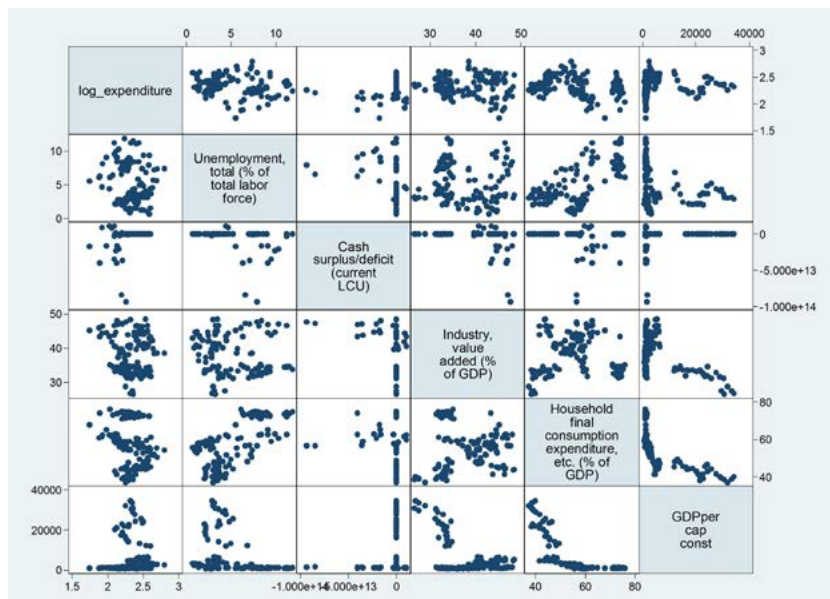


Figure 2 - Scatterplot Matrix of Government Expenditures to Other Variables



model that we built is consistent to all BLUE (best linear unbiased estimators) assumptions. However, due to the succinctness of this paper, we did not include all relevant tests such as collinearity, heteroscedasticity, and autocorrelation test. Moving to regression results, coefficient unemployment is statistically significant at 90% probability level. The sign of coefficient unemployment is negative meaning that for one percentage increase in unemployment would decrease tax revenue ratio by 0.14%.

Meanwhile, tax revenue ratio is lower by 1.45% during executive election compare to any other period. This coefficient is also significant at 90% probability level. We believe, considering previous studies and econometrics approach, that unemployment variable is affected by other factors such real GDP, previous year unemployment, and government expenditure. Based on the econometric results in Table 1 below, keeping all other variables held constant, there is a tendency of loosening fiscal policy during election year.

Table 1 - Econometric 2SLS Results using Tax Revenue (%GDP) as Dependent Variable

| Variable | Coefficient | Standard Errors | Z | P> Z |
|------------------|-------------|-----------------|-------|-------|
| Unemployment | -0.14* | 0.84 | -1.70 | 0.089 |
| Executive Elec | -1.45* | 0.814 | -1.70 | 0.089 |
| Legislative Elec | 0.56 | 0.55 | 1.11 | 0.267 |
| Industry VA | 0.024 | 0.028 | 0.86 | 0.38 |
| Cons | 14.19*** | 1.27 | 11.16 | 0.0 |
| Number of Obs | 88 | | | |
| R-Squared | 0.3 | | | |

Instrumented variable: Unemployment over total labor force. Instruments: log GDP, unemployment [-1], and log household consumption.

Using different fiscal policy, log government expenditure, to understand the behavior of political budget cycle during election year, we found evidence that binary variable executive election and industry value added to GDP are significant at 90 and 99% probability levels. Different sign with the previous model, binary variable executive election has positive and significant coefficient. It means that during election year government expenditure increase by 0.34%, holding other variables constant. The two tests that we run provide evidence that incumbent government in five South East Asian countries exercise expansionary fiscal policy through increasing government expenditure or both during election years to get more voters.

Table 2 - Econometric 2SLS Results using Log Government Expenditure as Dependent Variable

| Variable | Coefficient | Standard Errors | Z | P> Z |
|------------------|-------------|-----------------|-------|-------|
| Unemployment | -0.006 | 0.02 | -0.03 | 0.974 |
| Executive Elec | 0.34* | 0.2 | 1.69 | 0.092 |
| Legislative Elec | -0.04 | 0.1 | -0.4 | 0.68 |
| Industry VA | 0.049*** | 0.0069 | 7.12 | 0.0 |
| Cons | 21.28*** | 0.302 | 70.36 | 0.0 |
| Number of Obs | 124 | | | |
| R-Squared | 0.31 | | | |

Instrumented variable: unemployment over total labor force. Instruments: log GDP, unemployment [-1], and log household consumption.

We now move to use General Method of Moments specification to find the relationship between elections and fiscal policy chosen by the government. We choose the same variables as appears on the last two models. The alternative model specifications seem to work by incorporating similar variables especially binary variable executive election and industry value added to GDP for the first GMM and legislative election binary variable for the second model.

Binary variable executive election is significant at the ten percent level of significance for the same period of time. It interprets that during executive election year, on average, the tax ratio decreases by 1.19 percent. On the other hand, an increase of variable industry (as a share of GDP) leads, on average, 0.73 percent of tax ratio.

Instead of binary variable executive election, legislative election is now significant at the ten percent level of significance for the same period of time. It interprets that during legislative election year, on average, government expenditure expands by around 5.3 percent. Other variables, however, are not significant; although, we get all the signs in accordance to theoretical assumption.

6. Conclusion

This paper contributes to the political budget cycles literature in several aspects. First, it focuses on emerging South East Asian countries namely Indonesia, Singapore, Malaysia, Thailand and Philippines. These five countries are considered above other South East Asian countries in terms of their macro-economic performance (e.g. real GDP). Second, we attempt to identify the causal effects from the incidence of elections to fiscal policy by distinguishing between parliamentary and

Tabel 3 - Results from First GMM methodology

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|--------------------|-------------|--------------------|-------------|----------|
| UNEMPLOYMENT | 0.059249 | 0.105212 | 0.563144 | 0.5749 |
| EXELEC | -1.194867 | 0.702809 | -1.700131 | 0.0930 |
| LEGELEC | 0.017354 | 0.575626 | 0.030148 | 0.9760 |
| INDUSTRY | 0.728905 | 0.061997 | 11.75708 | 0.0000 |
| R-squared | 0.6192164 | Mean dependent var | | 2.659014 |
| Adjusted R-squared | 0.6465284 | S.D. dependent var | | 0.133604 |
| S.E. of regression | 0.365043 | Sum squared resid | | 10.52723 |
| Durbin-Watson stat | 1.823032 | J-statistic | | 8.197470 |
| Instrument rank | 7 | Prob(J-statistic) | | 0.042102 |

Tabel 4 - Results of Second GMM Specification

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|--------------------|-------------|--------------------|-------------|----------|
| UNEMPLOYMENT | 0.336411 | 0.284594 | 1.182074 | 0.2395 |
| EXELEC | 3.343041 | 2.890536 | 1.156547 | 0.2498 |
| LEGELEC | 5.290670 | 2.870891 | 1.842867 | 0.0678 |
| INDUSTRY | 0.019110 | 0.018235 | 1.047980 | 0.2968 |
| R-squared | 0.704188 | Mean dependent var | | 2.341877 |
| Adjusted R-squared | 0.796793 | S.D. dependent var | | 0.188491 |
| S.E. of regression | 2.122489 | Sum squared resid | | 540.5950 |
| Durbin-Watson stat | 2.402290 | J-statistic | | 4.058148 |
| Instrument rank | 5 | Prob(J-statistic) | | 0.043959 |

executive elections. Third, in one of our models, the size of industry to GDP indeed affects tax revenue. Supporting previous literatures, we find political budget cycles to be also a phenomenon in South East countries. Results from two of the four regression models show that tax revenue (%GDP) shrinks to about one and a half percent during election years; whereas, government expenditure (log) is almost half point larger during executive election years. Thus, the two econometric methods that we run provide findings that incumbent government in the sample economies exercise expansionary fiscal policies through either reducing tax collection or increasing government expenditure or both during election years to get more voters.

For further studies, we need to disaggregate and look deeply on each policies measurement taken by the government pre and post-election years. Some policies are intended to maintain the economy on the right path such as balance calls for spending and tax-cut policies and some are just for political reasons. For example, Sunset Policy program and personal & corporate tax income reduction in Indonesia during 2008-2009 could be considered as reforms for the whole fiscal adjustment program or part of the incumbent' strategies to entice the voters. A simple argument supporting the latter view is that voters like low taxes and high

government expenditures especially oil and food subsidy. Voters observe taxes and government consumption prior to voting. There, they argued that electoral cycles in certain macroeconomic policy variables derive from temporary information asymmetries. Hence prior to election periods the incumbent has an incentive to try to "signal" that is doing well.

Appendix 1 - Summary Statistics

| Variable | Obs | Mean | Std. Dev. | Min. | Max |
|---------------|-----|-----------|-----------|-----------|----------|
| year | 135 | 1998 | 7.81789 | 1985 | 2011 |
| gdppercap~t | 135 | 6291.987 | 8801.164 | 654.7356 | 34378.92 |
| gdpconst | 135 | 1.29e+11 | 7.47e+10 | 3.24e+10 | 4.02e+11 |
| gdpppp | 135 | 2.99e+11 | 1.92e+11 | 5.08e+10 | 9.93e+11 |
| govtexp~p | 135 | 10.50689 | 1.936671 | 5.693508 | 16.3903 |
| govttextcon~s | 135 | 1.31e+10 | 6.66e+09 | 3.70e+09 | 3.49e+10 |
| householdf~i | 135 | 7.24e+10 | 4.81e+10 | 1.43e+10 | 2.41e+11 |
| v11 | 135 | 2763.992 | 3387.174 | 390.636 | 12120.46 |
| v12 | 135 | 56.11325 | 11.1535 | 37.2709 | 75.92113 |
| industryva~p | 135 | 38.28863 | 5.594238 | 26.49913 | 48.53022 |
| cashsurplu~p | 80 | 1.734042 | 6.405511 | -6.133355 | 20.48771 |
| cashsurplu~u | 80 | -4.91e+12 | 1.67e+13 | -9.37e+13 | 1.08e+13 |
| unemployme~r | 124 | 4.937097 | 2.926733 | .7 | 11.9 |
| legelec | 135 | .2518519 | .4356933 | 0 | 1 |
| exelec | 135 | .0518519 | .2225537 | 0 | 1 |
| taxrevenu~p | 89 | 14.44234 | 1.880318 | 10.85171 | 19.75337 |
| taxrevenue~u | 89 | 6.53e+13 | 1.70e+14 | 1.03e+10 | 8.74e+14 |
| country | 135 | 3 | 1.419481 | 1 | 5 |
| l_gdp | 135 | 26.22764 | .6392982 | 24.65184 | 27.624 |

Appendix 2 - Election Years

| Country | Year | Legislative Election | Executive Election |
|-------------|------|----------------------|--------------------|
| Indonesia | 1987 | 1 | 0 |
| Indonesia | 1992 | 1 | 0 |
| Indonesia | 1997 | 1 | 0 |
| Indonesia | 1999 | 1 | 0 |
| Indonesia | 2004 | 1 | 1 |
| Indonesia | 2009 | 1 | 1 |
| Malaysia | 1986 | 1 | 0 |
| Malaysia | 1990 | 1 | 0 |
| Malaysia | 1995 | 1 | 0 |
| Malaysia | 1999 | 1 | 0 |
| Malaysia | 2004 | 1 | 0 |
| Malaysia | 2008 | 1 | 0 |
| Philippines | 1987 | 1 | 0 |
| Philippines | 1992 | 1 | 1 |
| Philippines | 1995 | 1 | 0 |
| Philippines | 1998 | 1 | 1 |
| Philippines | 2001 | 1 | 0 |
| Philippines | 2004 | 1 | 1 |
| Philippines | 2007 | 1 | 0 |
| Philippines | 2010 | 1 | 1 |
| Singapore | 1988 | 1 | 0 |
| Singapore | 1991 | 1 | 0 |
| Singapore | 1993 | 0 | 1 |
| Singapore | 1997 | 1 | 0 |
| Singapore | 1999 | 0 | 1 |
| Singapore | 2001 | 1 | 0 |
| Singapore | 2005 | 0 | 1 |
| Singapore | 2006 | 1 | 0 |
| Singapore | 2011 | 1 | 1 |
| Thailand | 1987 | 1 | 0 |
| Thailand | 1992 | 1 | 0 |
| Thailand | 1995 | 1 | 0 |
| Thailand | 1996 | 1 | 0 |
| Thailand | 2001 | 1 | 0 |
| Thailand | 2005 | 1 | 0 |
| Thailand | 2007 | 1 | 0 |
| Thailand | 2011 | 1 | 0 |

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