Political Monetary Cycles and a New de facto Ranking of Central Bank Independence

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Abstract

This paper examines the extent to which monetary policy is manipulated for political purposes by testing for the presence of political monetary cycles between 1972 and 2001. This is the first study of its kind to include not only advanced countries but also a large sample of developing nations where these cycles are more likely to exist. We estimate panel regressions of a monetary policy indicator on an election dummy and control variables. We do not find evidence of political monetary cycles in advanced countries but find strong evidence in developing nations. Based on our results, we construct a new *de facto* ranking of central bank independence derived from the extent to which monetary policy varies with the election cycle. Our ranking of CBI is therefore based on the behavior of central banks during election cycles when their independence is likely to be challenged or their lack of independence is likely to be revealed. The ranking also avoids well-known problems with existing measures of central bank independence.

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1. Introduction

This paper investigates the extent to which monetary policy is manipulated for political purposes during election periods. In the political business cycle model of Nordhaus (1975), opportunistic politicians attempt to lower the unemployment rate before elections to increase their chances of reelection. Implicit in this idea is first, that macroeconomic policy is not neutral (at least in the short-run) and therefore can alter economic outcomes; second, economic outcomes are important determinants of voter behavior; and third, politicians are opportunistic and attempt to exploit this short-run non-neutrality of macroeconomic policy for their own benefit by trying to achieve favorable economic conditions prior to elections. Each of these issues has been explored in the literature.[1]

In this paper, we concentrate on the third issue, in particular the presence of political *monetary* cycles, where there is a lack of consistent evidence. Most existing research on this issue regresses a monetary policy instrument or inflation on an election cycle variable, which is used to test whether policy is significantly different near elections. Using this approach, Alesina and Roubini (1992), Beck (1987), Golden and Poterba (1980), and Leertouwer and Maier (2001) find no evidence of political monetary cycles, in contrast to Boschen and Weise (2003), Grier (1987), and Haynes and Stone (1989). Abrams and Iossifov (2005) find that Fed policy turns significantly more expansionary in the seven quarters prior to the election, but only when the Fed chair and incumbent presidential party have partisan affiliations.

[1] On the issue of effectiveness of policy, Lucas (1972), Sargent (1973), Sargent and Wallace (1975), and McCallum (1978) argue that rational expectations on the part of agents preclude the existence of non-neutrality of policy, in particular monetary policy. Subsequent models with asymmetric information [c.f. Cukierman and Meltzer (1986)] and nominal rigidities [c.f. Fischer (1977), Phelps and Taylor (1977)] show that monetary policy can have real effects in the short-run. Rational expectations models therefore reduce the effect of policy on economic outcomes and therefore the incentives for political manipulation prior to elections, while not completely eliminating them. The second issue is whether the economic situation in a country has a significant impact on the outcome of elections. Fair, in a series of papers, has found evidence that the voting behavior in the U.S. is in general responsive to economic conditions [c.f. Fair (1978, 1982, 1987)].

The conflicting evidence for the presence of political monetary cycles may result from the literature's concentration on the U.S. and OECD countries. In this paper, we use a sample of 115 countries that also includes developing nations where these cycles are more likely to exist. We find that political monetary cycles are prevalent in developing countries but not in advanced economies. We conjecture that this result is in large part due to differences in the degree of central bank independence (CBI). Less independent central banks are more vulnerable to pressure from politicians to stimulate the economy before elections or to finance election-related increases in government spending.[2]

Based on this premise, we propose a new *de facto* ranking of CBI derived from the extent to which monetary policy is significantly more expansionary near elections. Measuring CBI is inherently difficult. First and foremost, it is unobservable. Secondly, it is difficult to infer the effect that politicians have on monetary policy because many factors determine policy. Some are observable and can be controlled for, such as GDP growth; countries that grow faster can accommodate higher money growth without generating higher inflation. Other factors, however, are unobservable (or difficult to measure) and can therefore be confounded with CBI. For example, a *dependent* central bank could still display a strong aversion to inflation on average if there is a developed tax collection system that lowers the need for seigniorage revenue. Similarly, countries with dependent central banks could conceivably experience lower average inflation rates than those with independent central banks if their central bankers are more competent. Measuring relative CBI based on cross-country differences in average inflation or money growth rates would therefore be problematic, even though cross-country differences in average inflation rates are partly due to differences in CBI.

[2] Rogoff (1990) presents a theoretical model of political budget cycles. Haynes and Stone (1988) find empirical evidence of political cycles in fiscal policy for the U.S.

We search instead for *within*-country variation in monetary policy that can be attributed to CBI and then rank CBI accordingly. We propose election cycles as a source of this variation. During election cycles, politicians may place extra pressure on the central bank to produce seigniorage revenue or to expand the economy. Meanwhile, unobservable factors such as the ability to collect taxes or the competence of central bankers are likely to remain constant. It is therefore possible to isolate the impact of CBI on monetary policy. We then rank CBI by election-induced, within-country differences in money growth rates.

One potential problem with assessing the level of CBI based on election cycles is that more autocratic regimes could control the central bank while not necessarily feeling the need to influence monetary policy before elections. To address this issue, we only consider competitive elections and interact the election cycle variable with a measure of democracy. We also take into consideration the exchange rate regime since fixed exchange rates limit the use of election-related monetary expansion even if the central bank is not independent.

Our ranking avoids the major problems with existing measures of CBI. For example, many previous rankings are based on legal measures of independence from the fiscal authorities [c.f. Bade and Parkin (1977), Cukierman, et al. (1992), Eijffinger and Schaling (1993), Grilli, et al. (1991), Jácome and Vázquez (2005), Arnone, et al. (2007)].[3] As the authors themselves recognize, these rankings may be problematic because what is written down in law can be vastly different from actual practice.[4] In light of this problem, the literature has also considered *de facto* measures of independence. For example, Cukierman, et al. (1992) rank independence

[3] For a thorough review of the literature on measures of central bank independence, see Arnone, et al. (2006).
[4] For example, as described in Mishkin (2004), "Legally, the central bank of Canada does not look all that independent because the government has the ultimate responsibility for the conduct of monetary policy… in practice the Bank of Canada is highly independent. In contrast, the central bank of Argentina was highly independent from a legal perspective. However, this did not stop the Argentine government from forcing the resignation of the highly respected president of the central bank Pedro Pou in April of 2001 and his replacement with a president who would do the government's bidding."

using the average turnover rate of central bank governors. One problem with this measure, however, is that central banks that are not independent could still display little turnover since the central bank governor knows that he/she may be forced to resign if he/she acts independently. Subservient governors will therefore exhibit lower turnover. Cukierman, et al. (1992) also introduce a second *de facto* measure based on responses from central banks to a questionnaire focusing on central bank practices. The main drawbacks of this measure are that the responses may be biased and the sample size is quite limited. Eijffinger, et al. (1996) construct a ranking only for OECD countries based on the coefficient of inflation in the central banks' reaction function. A possible problem with their method, however, is that dependent central banks could still be hawkish towards inflation most of the time, except perhaps during election years.

Finally, we compare our CBI ranking with the ranking presented in Cukierman, et al. (1992) and find a high correlation between the two. Using our ranking, we also confirm previous results that countries with more independent central banks have lower inflation rates in general and not only near elections [c.f. Cukierman, et al. (1992), Alesina and Summers (1993), Grilli, et al. (1991)]. A likely explanation for this result is that independent central banks are more immune from political pressure to finance government spending or stimulate the economy and can build a reputation for credibility, thereby reducing the time-inconsistency problem.[5] Our results thus add support to claims of the importance of CBI.

The rest of the paper is organized as follows: Section 2 describes the empirical methodology and the data. Section 3 discusses the results. Section 4 introduces our new ranking of CBI. Section 5 concludes.

[5] See Kydland and Prescott (1977), Calvo (1978) and Barro and Gordon (1983) on the time-inconsistency problem and Blinder (1998) and Mishkin and Westelius (2006) on the importance of central bank independence in reducing this problem.

2. Empirical Methodology and Data

In this section, we test for the presence of political monetary cycles by estimating a series of panel regressions of a monetary policy indicator, *M*, on its own lags, an election cycle dummy, *EC*, and control variables using quarterly data for the years 1972 to 2001:

$$M_{i,t} = \alpha + \beta \cdot EC_{i,t} + \sum_{k=1}^{K} \gamma_k \cdot M_{i,t-k} + Controls_{i,t} \cdot \boldsymbol{\delta} + \varepsilon_{i,t} \qquad (1)$$

where *i* indexes country and *t* indexes time. In section 4, we allow the coefficient of *EC* to vary by country and use these coefficients to generate our ranking of CBI. The sample includes 115 countries for which all necessary data were available.[6] The starting point for our sample, 1972, coincides with the earliest year for which there is data available on the Freedom House democracy indicators. The fixed exchange rate regime indicator is available until 2001, which defines the end point of the sample.

2.1 Monetary Policy Variable

We use the percentage growth rate of M1 over the last four quarters as the monetary policy indicator. The quarterly data are from the IMF's *International Financial Statistics* (*IFS*). We do not use inflation as our monetary indicator since it is not a policy instrument *per se* and is less directly controlled by the central bank. While the monetary base is under direct control, data for most countries were unavailable. We also do not use the money market interest rate due to missing quarterly data for many countries.

Lags of the dependent variable proxy for possible omitted variables, capture the inherent smoothing employed in the monetary policy process, and reduce the presence of autocorrelated

[6] See the appendix for a list of countries and data sources. Note that data on money growth for individual countries in the European Monetary Union do not exist after the formal adoption of the Euro.

error terms. To select the number of lags, we estimate a series of regressions of M1 growth on its own lags and pick the specification that minimizes the Akaike Information Criterion (AIC). Based on this criterion, we use eight lags of M1 growth in each of our regressions.

2.2 Election Cycle Variable

We constructed a large database of quarterly data on the date of elections for the *national leader* (the president in a presidential system and the prime-minister in a parliamentary system). Our main source was the International Institute for Democracy and Electoral Assistance (International IDEA) whose Voter Turnout Database lists the years of parliamentary and presidential elections for 185 countries.[7] The main criterion for including an election in their sample is that "there was a degree of competitiveness (that is, more than one party contested the elections, or one party and independents contested the elections, or the election was only contested by independent candidates)". We complemented this dataset with information from other sources to determine the quarter of elections.

The raw election quarter data were then used to construct four election cycle indicator variables. *EC1* is a dummy variable which takes on the value one for the four quarters prior to elections, the quarter of elections, and the four quarters following elections. Similarly, *EC2* is a dummy variable which takes on the value one for the eight quarters prior to elections, the quarter of elections, and the four quarters following elections. In both *EC1* and *EC2*, the four quarters following an election were considered to be part of an election cycle to account for possible smoothing of money growth by the central bank or for possible post-election monetization of pre-election short-term debt. *EC3* and *EC4* are identical to *EC1* and *EC2* respectively, except

[7] This database can be found at http://www.idea.int/vt/country_view.cfm?CountryCode=PK .

that they exclude the four quarters after elections. A positive coefficient for the *EC* variable (in the absence of interaction terms) would indicate the presence of political monetary cycles.

2.3 Control Variables

As control variables and/or interaction terms with *EC*, we include a dummy indicating whether the country is a developing economy (*DEV*), an exchange rate regime indicator (*FXR*), growth of real GDP (*GROWTH*), government consumption expenditure as a share of GDP (*GOVEXP*), and a democracy index (*DEM*).

The dummy variable *DEV* takes on the value one if the country is classified as either an emerging or developing economy in Arnone, et al. (2007). We expect a positive coefficient on this variable indicating that developing economies on average have higher rates of money growth (unrelated to the election cycle). This may be due to faster GDP growth in these countries, greater need for seigniorage revenue due to underdeveloped tax collection mechanisms, or less CBI. We also interact *DEV* with *EC* to allow for the effect of elections to differ between advanced and developing countries. We expect the sign of this interaction term to be positive, reflecting more severe political monetary cycles in developing economies as a result of lower CBI, for example.

FXR is a dummy variable based on the Reinhart and Rogoff (2001) exchange rate regime indicator and takes on the value one when there is a fixed exchange rate and zero otherwise. A fixed exchange rate regime reduces the scope for independent monetary policy, and hence we expect the sign of *FXR* to be negative. We follow Clark, et al. (1998) and Leertouwer, et al. (2001) and also include the interaction term *EC* FXR* as a regressor. Since fixed exchange rate

regimes should also reduce the likelihood of observing a political monetary cycle, we expect the sign of this interaction term to be negative as well.

We use the World Bank's World Development Indicators (*WDI*) dataset for *GOVEXP* and *GROWTH*. Quarterly data are available from the IFS, but only for 30 countries, most of which are advanced economies. Therefore, we use annual data from the *WDI* and assign each year's value to every quarter in that year. This increases the sample size to 115 countries. We expect a positive coefficient on *GOVEXP* since higher government expenditure may translate into higher monetization of government debt. In addition, a central bank that maintains an interest rate target could find itself accommodating a fiscal expansion, resulting in higher money growth [Beck (1987)]. Omitting the *GOVEXP* variable could bias the coefficient of *EC* because fiscal policy is positively correlated with the election cycle. On the one hand, if the central bank accommodates an election-induced fiscal expansion, there would be an upward bias on *EC*. On the other hand, if it tries to offset the fiscal expansion by lowering the rate of money growth, there would be a downward bias. We also include *GOVEXP* as an interaction term with *EC* since the central bank may respond differently to fiscal expansions depending on whether it is an election period or not. For example, it may offset fiscal expansions during off-election periods but accommodate them during election cycles. This implies a negative coefficient on the interaction term. However, if politicians choose to expand the economy during election periods through government spending, they may not feel the need to pressure the central bank to stimulate the economy, implying a negative coefficient. Thus the sign of the interaction term is ambiguous.

GROWTH is the annual growth rate of real GDP. The sign of *GROWTH* could be positive as high growth economies can accommodate higher liquidity without necessarily

creating higher inflation. However, higher growth may generate inflation concerns and therefore lead to lower money growth rates. Omitting the *GROWTH* variable can bias the coefficient of *EC* since the timing of elections is not necessarily exogenous. In most parliamentary democracies, elections can be called at any time prior to the usual schedule, and it is plausible that this is more likely to occur when the economy is doing well. On the other hand, elections may be called when there is a financial crisis due to pressure from opposition parties or a possible breakup of a coalition government.[8] We also add an interaction term of GDP growth with the election cycle dummy with an expected negative sign since opportunistic money growth may be less needed when the economy is already doing well.

For the democracy index variable *DEM*, we use an average of the Political Rights (PR) and the Civil Liberties (CL) indexes from Freedom House.[9] We include *DEM* in our regression as an interaction term with *EC* to control for the fact that more autocratic regimes have greater power to intervene during election periods, yet have less need to intervene since election outcomes may be manipulated in other ways.[10] This implies that the sign of this interaction term is ambiguous. In addition, by using the International IDEA database, which only considers elections for which there was a "degree of competitiveness," we address the problem that autocrats might not need to pressure dependent central banks during elections. As a robustness test in section 3.1, we also exclude elections that are listed as "not free" in IDEA International, a more binding restriction than requiring a "degree of competitiveness".

[8] If we restrict the sample to presidential elections to avoid endogeneity of election timing, then the sample becomes too small to obtain reliable estimates. Therefore we include both presidential and parliamentary elections.
[9] The PR and CL indexes range from 1 to 7 with lower values indicating more democratic regimes. We invert the indexes so that 1 represents the lowest level of democracy and 7 the highest.
[10] We do not include *DEM* as a control variable since it is not clear why the level of democracy should have an independent effect on money growth, and in fact it does not. Moreover, adding *DEM* as a control variable does not affect results for the other variables.

2.4 Summary Statistics

Summary statistics for the data are provided in Table 1. The sample period is 1972-2001 and includes 115 countries (of which 25 are advanced economies and 90 are developing countries). Advanced countries comprise 25% of all observations. There are 503 elections in the sample, 187 of which took place in advanced economies.[11] Of all advanced country observations, 63% have a democracy index of 7 (the highest level), and advanced countries make up 89% of all observations with a democracy index reading of 7.[12] Advanced countries had a fixed exchange rate regime in 20% of all periods compared to 36% for developing economies. The mean government expenditure to GDP ratios in advanced and developing countries are equal to 0.18 and 0.15 respectively. Finally, the mean growth rate in advanced economies is equal to 3.3% as opposed to 3.5% in developing economies.

Table 1a presents summary statistics during election cycles and non-election periods using *EC1* as the election cycle indicator. In advanced economies, the mean growth rate of money supply does not differ considerably in election cycles vs. non-election periods and is approximately 12% in both periods. In developing economies, however, the mean growth rate of money supply in election cycles is close to 80% compared to 30% during non-election periods. Coupled with the fact that the mean values for the control variables are roughly the same in election vs. non-election periods for both advanced and developing countries, this suggests the presence of political monetary cycles in developing economies, but not in advanced countries.

[11] Note that the election cycle variables *EC1*, *EC2*, *EC3* and *EC4* all contain the same number of elections. In principle, if all elections were at least three years apart, the number of elections would equal the total number of ones in each dummy variable divided by the number of ones for a single election cycle (e.g. nine for *EC1*). There are some elections in the sample, however, which were held in close proximity to each other and therefore that calculation does not hold exactly.

[12] Note that *DEV* and *DEM* have a correlation coefficient of -0.57.

However, not all developing countries are prone to political monetary cycles since the median money growth rates are almost identical in election vs. non-election periods.

3. Results

We estimated equation (1) by pooled OLS and fixed-effects (FE) estimation using three specifications. In Tables 2 and 3, we report results from the regressions using *EC1* and *EC2* as the election cycle indicator variable respectively. All specifications include eight lags of M1 growth, the coefficients of which are not shown.

In specifications (1) and (2), where no interaction terms with *EC* are included, the coefficient of *EC* is positive and in general highly significant, providing evidence for the existence of political monetary cycles. The coefficient varies from approximately 16 to 25 percentage points, implying a large increase in money growth during election cycles. The coefficients of the control variables themselves, by and large, have the expected signs in specification (2). The coefficient of *DEV* has the expected positive sign (roughly 12.5 percentage points) and is significant, implying that money growth in developing countries is considerably higher than in advanced economies. The coefficient of *FXR* is mostly negative as expected but not significant. The insignificance may be a sign of the frequent inability of fixed exchange rates to serve as effective nominal anchors. The coefficient of *GOVEXP* is positive as expected for FE estimation, negative for pooled OLS, and insignificant for both cases. The coefficient of *GROWTH* is significant and implies that a one percentage point increase in GDP growth leads to a 1.3 percentage point decrease in money growth.

In specification (3), we also include interaction terms of *EC* with the control variables. Note that in these specifications, the coefficient of *EC* by itself can be negative and significant. This is due to the fact that the interaction terms pick up most of the effect of the election cycle on

money growth. Thus a negative coefficient on *EC* should not be interpreted as evidence for *lower* money growth during election cycles since we need to consider the coefficients for the interaction terms.

The coefficient of *EC*DEV* is positive and significant, implying that developing nations experience more severe political monetary cycles. In particular, during election cycles, M1 growth increases by 32 to 53 percentage points more in developing nations relative to advanced economies, *all else equal*. Note that the results for *EC2* are slightly weaker due to the fact that we are considering two years prior to the election dates, and it is plausible that some election-induced monetary expansions were not initiated so far in advance. Another potential explanation is that in parliamentary systems, *early* elections can be called and are usually held within a year.

Based on the coefficients and the mean values of the variables in specification (3), M1 growth for the typical economy is approximately 17.6 percentage points greater during elections relative to non-election periods using *EC1* as the election variable. For the typical advanced economy, M1 growth is approximately 1.9 percentage points lower during elections relative to non-election periods. For the typical developing economy, M1 growth is 24.3 percentage points greater. Thus we do not find evidence of political monetary cycles in advanced countries. However, we do find strong evidence of political manipulation of monetary policy in less advanced economies.

The coefficient for *EC*DEM* is positive and significant. This suggests that the need for politicians to win elections in democracies, as opposed to autocracies, leads to higher money growth and therefore more severe political monetary cycles. The size of the coefficient implies that, all else equal, countries with the highest level of democracy (7 on a scale from 1 to 7) experience money growth rates that range from approximately 28 to 62 percentage points more

than those with the lowest level of democracy. The coefficient for *EC*FXR* is not significant, suggesting that once other factors are controlled for, fixed exchange rate regimes do not reduce the presence of political monetary cycles. The coefficient of *EC*GOVEXP* is mostly negative and always insignificant, suggesting that the two competing effects may cancel each other. Finally, the coefficient of *EC*GROWTH* is negative and significant, confirming our intuition that election related monetary expansion is less needed when the economy is performing well. Specifically, during election cycles, a one percentage point increase in GDP growth leads to a 4.7 to 6.4 percentage point reduction in money growth rates, all else equal.

In Tables 4 and 5, we report results from the regressions using *EC3* and *EC4*, both of which exclude the four quarters following elections, as the election cycle indicator variable respectively. The results are similar, but somewhat weaker. This is not surprising since an election cycle should also include several quarters *after* an election. As pointed out above, this is due to the fact that central banks may smooth money growth by slowly reducing it to regular levels after elections, or choose to monetize election-related short-term debt after elections rather than before. Finally, including eight quarters before an election weakens the results somewhat.

3.1 Robustness Tests

We conduct several tests to check the robustness of our results. First, we replicate Table 2 using only post-1973 data to abstract from the fixed-exchange rate regime employed under the Bretton-Woods system. The results of these regressions are very similar to the ones that were obtained using the whole sample period.

Second, we include the overall CBI index from Cukierman, et al. (1992), which is constructed from their measures of central bank governor turnover and legal measures of

independence, as an additional control variable (*CBI*) and as an interaction term with *EC*. We use this variable, available only for the 1980's, for our entire sample yielding one observation per country. Lower values of *CBI* correspond to greater independence. We therefore expect a positive sign on the coefficients of *CBI* and its interaction term. Since the inclusion of this variable reduces the sample size to 60 countries, we re-estimate specifications (2) and (3) using only those countries and then compare the results when *CBI* is included (specifications (2') and (3')). The results from these regressions are given in Table 6. As shown, the evidence for political monetary cycles is still present with the restricted sample and the additional *CBI* variable. The positive interaction term in specification (3') indicates that a more legally independent central bank is able to mitigate the effect of election cycles on money growth. The OLS coefficient of *EC1*CBI* has the correct sign but is insignificant.

Third, we include all presidential and parliamentary elections for each country to construct our election cycle variable, as opposed to including only elections for the national leader. For the most part, this involves including parliamentary elections in presidential systems. Parliamentary elections may still be relevant in a presidential system, albeit less than presidential elections, since a president may want to pressure the central bank to expand output to help his/her own party get elected. As shown in Table 7, we still detect the presence of political monetary cycles although the results are slightly weaker. This confirms our intuition that in presidential systems, parliamentary elections cause less severe monetary cycles than presidential elections.

Fourth, we restrict observations to periods when countries had a democracy index greater than or equal to 3, thereby excluding elections that are listed as "not free" in IDEA

International.[13] We find stronger evidence of political monetary cycles in this case. For example, for the typical developing economy, M1 growth is 34.8 percentage points higher during elections relative to non-election periods, as opposed to the 24.3 percentage points we find without this restriction. This result suggests that the need to stimulate the economy during elections is greater in democracies where election outcomes are more uncertain.

4. Ranking Central Bank Independence

In this section, we construct our ranking of CBI using the following regression:

$$\begin{aligned} M_{i,t} = \alpha + \beta_i \left(EC_{i,t} * COUNTRY_i\right) + \sum_{k=1}^{8} \gamma_k \, M_{i,t-k} + \delta_1 \, FXR_{i,t} \\ + \delta_2 \, GOVEXP_{i,t} + \delta_3 \, GROWTH_{i,t} + \delta_4 \left(EC_{i,t} * DEM_{i,t}\right) \\ + \delta_5 \left(EC_{i,t} * FXR_{i,t}\right) + \delta_6 \left(EC_{i,t} * GOVEXP_{i,t}\right) + \delta_7 \left(EC_{i,t} * GROWTH_{i,t}\right) + \varepsilon_{i,t} \end{aligned} \quad (2)$$

where $COUNTRY_i$ is a dummy variable that takes on the value one for the i^{th} country and zero otherwise. By interacting *EC* with $COUNTRY_i$, we create a separate election cycle variable for each country and allow the coefficients for these election cycle variables, β_i, to differ across countries. The value of these coefficients signify the extent to which political monetary cycles are present in each country, and therefore how dependent the central bank of each country is in conducting monetary policy. We use these coefficients as the CBI score for each country, with lower scores indicating greater independence.

There are several points to emphasize about this specification. First, we use pooled OLS as opposed to a FE model to avoid the problem of limited within-country variation in *FXR* and *DEM*, although FE estimation yields fairly similar results. Second, *DEV* is not used in this

[13] IDEA International's Voter Turnout database uses the average of the PR and CL indexes of Freedom House to designate the elections in its database as free, partly-free or not free. Elections with a score below 3 (i.e. above 5 without inverting the data as we did) are designated as not free.

regression because it partially captures CBI. However, the omitted variable bias is negligible since the correlation of *DEV* with each of the *EC*COUNTRY* dummies is very small. In fact, the ranking is virtually identical when we include *DEV*. Third, *EC*DEV* drops out due to perfect multicollinearity once *EC*COUNTRY* is added to the regression.

Fourth, we use common coefficients for the control variables instead of allowing for different coefficients for each country. The reason is that *FXR* and *DEM* have little, and for some countries, no within-country variation. As explained in section 2, *EC*FXR* is an important control variable since a country with a fixed exchange rate regime may experience weaker political monetary cycles, not necessarily because its central bank is independent, but because the fixed exchange rate regime restricts political meddling in monetary policy. Similarly, *EC*DEM* is an important control variable since a country with a low level of democracy may experience weaker political monetary cycles, not necessarily because its central bank is independent, but because autocratic rulers feel less of a need to intervene during elections. If we had allowed the coefficients of these interaction terms to differ by country (i.e. used *EC*COUNTRY*FXR* and *EC*COUNTRY*DEM*), the interaction terms would have dropped out for countries with no within-country variation and their effects would have been captured in *EC*COUNTRY*, confounding the interpretation of the country-by-country election cycle coefficients. For example, a country with little CBI but a fixed exchange rate throughout the sample period would receive a better CBI score than it should because of similar money growth during elections vs. non-election periods. Since it is important to include interaction terms with *FXR* and *DEM* as controls, we proceed not with a country-by-country interaction effect, but with an effect that is common for all countries. For simplicity and to parallel our method for *FXR* and *DEM*, we use common coefficients for all control variables including the lags of money growth.

One problem with using common factors, however, is that the ranking can change depending on the sample of countries.

Table 8 ranks the 115 countries in our sample according to their CBI score generated from equation (2) using *EC1* as the election cycle variable.[14] As expected, central banks of the advanced economies rank higher than most developing countries. Among the advanced economies, only Singapore lies in the bottom half of the ranking.

There are many countries, including the former Eastern bloc, with limited data and few elections. This may lead to unreliable estimates. We therefore limit our sample to countries with at least 20 years of data and three elections between 1972 and 2001, which yields 55 countries. We then re-estimate the model to generate a new ranking.[15] This ranking resembles closely the ranking from Table 8 when we restrict that ranking to these 55 countries (i.e., when we simply delete countries from Table 8 and re-number the ranking). The results are shown in Table 9. The average difference in the two rankings is 1.3 with a maximum difference of five for Guyana. This suggests that the rankings are not sensitive to adding or dropping countries with few data points from our sample.

Similarly, we restrict the sample period to 1980-2001 and generate a new ranking for these 55 countries. This ranking is highly correlated with the unrestricted ranking, with a correlation coefficient of 0.94. The average difference in the two rankings is 3.9 with a maximum difference of 19 for Panama.

We also use the ranking in Table 8 and re-rank using only the 60 countries common to both our sample and that of Cukierman, et al. (1992). The two ordinal rankings are highly correlated with a correlation of 0.63. This correlation between the two rankings, which are based

[14] Note that the smaller the CBI score, the more independent the central bank.
[15] The results in Section 3 did not change significantly using this restricted sample.

on entirely different characteristics of central banks, provides further credibility to both rankings and additional robustness to results of the impact of CBI that rely on the earlier ranking.

Finally, we compare each country's election cycle coefficient against its average inflation rate between 1972 and 2001. As expected, countries with higher CBI tend to have lower average inflation rates with a correlation of -0.62.

5. Conclusion

Our first goal in this paper is to expand the analysis of election-induced monetary cycles. Existing research has not come to a definitive conclusion on the existence of political monetary cycles in advanced economies. Our results are consistent with studies that have not found a significant effect. More importantly, however, we break with the literature by analyzing developing economies where these cycles are more likely to occur. We find strong evidence of political monetary cycles in these countries. The findings in this paper, therefore, underscore the importance of CBI in conducting monetary policy. The evidence for developing economies that political monetary cycles do indeed exist makes a strong case for reforming the relationship between the monetary and fiscal authorities in these countries. In addition, we confirm that CBI is negatively correlated with inflation, not just during election cycles.

Second, we contribute to the empirical literature exploring the role of CBI by constructing a ranking of CBI that does not rely on legal measures of independence or turnover rates of central bank governors. We argue that one of the main explanations for cross-country variation in the severity of political monetary cycles is the degree of CBI. Based on this intuition, we estimate the impact of election cycles on M1 growth in each country and use cross-country variation in the election cycle coefficients to generate a *de facto* ranking of CBI. Our

ranking of CBI is therefore based on the behavior of central banks during election cycles when their independence is likely to be challenged or their lack of independence is likely to be revealed.

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Table 1: Summary Statistics

All Observations	obs.	mean	median	s.d.	min	max
M1 Growth	10,175	38.60	14.35	374.98	-50.13	23,470.40
Election Quarter	10,175	0.05	0	0.22	0	1
EC1	10,175	0.42	0	0.49	0	1
EC2	10,175	0.24	0	0.43	0	1
EC3	10,175	0.59	1	0.49	0	1
EC4	10,175	0.43	0	0.49	0	1
DEV	10,175	0.74	1	0.44	0	1
DEM	10,175	4.66	5	1.86	1	7
FXR	10,175	0.32	0	0.46	0	1
GOVEXP	10,175	15.55	14.58	6.11	2.90	64.39
GROWTH	10,175	3.43	3.66	4.70	-42.45	39.49

Advanced Countries	obs.	mean	median	s.d.	min	max
M1 Growth	2,604	12.08	10.12	12.35	-28.94	202.46
Election Quarter	2,604	0.07	0	0.26	0	1
EC1	2,604	0.60	1	0.49	0	1
EC2	2,604	0.35	0	0.48	0	1
EC3	2,604	0.82	1	0.39	0	1
EC4	2,604	0.60	1	0.49	0	1
DEM	2,604	6.46	7	1.12	2	7
FXR	2,604	0.20	0	0.40	0	1
GOVEXP	2,604	17.99	18	4.37	8.32	29.94
GROWTH	2,604	3.33	3.19	2.92	-6.85	13.44

Developing Countries	obs.	mean	median	s.d.	min	max
M1 Growth	7,571	47.72	16.80	434.28	-50.13	23,470.40
Election Quarter	7,571	0.04	0	0.20	0	1
EC1	7,571	0.36	0	0.48	0	1
EC2	7,571	0.21	0	0.40	0	1
EC3	7,571	0.52	1	0.50	0	1
EC4	7,571	0.37	0	0.48	0	1
DEM	7,571	4.04	4	1.65	1.00	7.00
FXR	7,571	0.36	0	0.48	0	1
GOVEXP	7,571	14.72	13.28	6.39	2.90	64.39
GROWTH	7,571	3.47	3.94	5.18	-42.45	39.49

Table 1a: Summary Statistics by Election Cycle

All Observations		obs.	mean	median	s.d.	min.	max.
EC1 =0	M1 Growth	5,879	26.74	15.19	147.41	-45.18	9,629.34
	DEV	5,879	0.82	1	0.38	0	1
	DEM	5,879	4.10	4	1.88	1	7
	FXR	5,879	0.36	0	0.48	0	1
	GOVEXP	5,879	15.20	14.08	6.19	2.90	64.39
	GROWTH	5,879	3.49	3.72	5.22	-42.45	39.49
EC1 =1	M1 Growth	4,296	54.82	13.20	550.35	-50.13	23,470.40
	DEV	4,296	0.63	1	0.48	0	1
	DEM	4,296	5.43	6	1.53	1	7
	FXR	4,296	0.25	0	0.43	0	1
	GOVEXP	4,296	16.04	15.28	5.96	2.90	45.96
	GROWTH	4,296	3.35	3.58	3.88	-30.90	38.20

Advanced Countries		obs.	mean	median	s.d.	min.	max.
EC1 =0	M1 Growth	1,033	12.02	10.41	10.33	-11.78	75.55
	DEM	1,033	6.23	7	1.38	2	7
	FXR	1,033	0.22	0	0.42	0	1
	GOVEXP	1,033	17.50	18.11	4.57	8.32	29.94
	GROWTH	1,033	3.64	3.30	3.13	-3.94	12.03
EC1 =1	M1 Growth	1,571	12.12	9.87	13.52	-28.94	202.46
	DEM	1,571	6.62	7	0.87	2	7
	FXR	1,571	0.18	0	0.38	0	1
	GOVEXP	1,571	18.31	18.35	4.21	9.18	29.94
	GROWTH	1,571	3.12	3.13	2.76	-6.85	13.44

Developing Countries		obs.	mean	median	s.d.	min.	max.
EC1 =0	M1 Growth	4,846	29.88	16.99	162.13	-45.18	9,629.34
	DEM	4,846	3.65	4	1.65	1	7
	FXR	4,846	0.39	0	0.49	0	1
	GOVEXP	4,846	14.71	13.34	6.37	2.90	64.39
	GROWTH	4,846	3.46	3.93	5.57	-42.45	39.49
EC1 =1	M1 Growth	2,725	79.44	16.41	689.78	-50.13	23,470.40
	DEM	2,725	4.75	5	1.41	1	7
	FXR	2,725	0.30	0	0.46	0	1
	GOVEXP	2,725	14.73	13.19	6.42	2.90	45.96
	GROWTH	2,725	3.48	3.97	4.40	-30.90	38.20

Table 2: Results from Pooled and Fixed Effects Estimation (using *EC1* = T-4,T+4)

Dependent variable:	Pooled OLS			FE		
M1 Growth (%)	(1)	(2)	(3)	(1)	(2)	(3)
EC1	19.106	20.845	-17.490	24.684	24.434	-35.734
	(2.45)**	(2.52)**	(1.300)	(4.47)***	(4.42)***	(1.170)
DEV		12.313	-2.767			
		(2.33)**	(0.420)			
FXR		-5.872	-7.136		-1.136	0.438
		(0.580)	(1.290)		(0.130)	(0.040)
GOVEXP		-0.251	-0.222		0.501	0.399
		(0.570)	(0.990)		(0.630)	(0.480)
GROWTH		-1.268	0.453		-1.237	0.431
		(2.52)**	(1.380)		(2.14)**	(0.650)
*EC1*DEV*			40.599			52.554
			(2.99)***			(3.60)***
*EC1*DEM*			6.567			10.269
			(2.20)**			(2.66)***
*EC1*FXR*			6.090			1.556
			(0.390)			(0.130)
*EC1*GOVEXP*			-0.408			-0.613
			(0.400)			(0.630)
*EC1*GROWTH*			-6.205			-6.398
			(2.89)***			(5.20)***
Observations	10,175	10,175	10,175	10,167	10,170	10,167
Countries	115	115	115	115	115	115
R^2	0.55	0.55	0.55	0.52	0.52	0.53

Robust t-statistics in parentheses. Coefficients of constant term and lags of M1 growth are not shown.
* significant at 10%; ** significant at 5%; *** significant at 1%.

Table 3: Results from Pooled and Fixed Effects Estimation (using *EC2* = T-8,T+4)

Dependent variable:	Pooled OLS			FE		
M1 Growth (%)	(1)	(2)	(3)	(1)	(2)	(3)
EC2	16.478	18.975	-17.083	24.442	24.489	-46.876
	(2.43)**	(2.54)**	(1.600)	(4.13)***	(4.12)***	(1.490)
DEV		12.886	-4.294			
		(2.40)**	(0.660)			
FXR		-5.584	-8.521		-0.509	-1.114
		(0.550)	(1.440)		(0.060)	(0.100)
GOVEXP		-0.248	-0.364		0.555	0.334
		(0.560)	(1.240)		(0.700)	(0.370)
GROWTH		-1.298	0.595		-1.265	0.498
		(2.56)**	(1.71)*		(2.19)**	(0.680)
*EC2*DEV*			32.694			49.705
			(3.10)***			(2.87)***
*EC2*DEM*			4.607			9.778
			(2.08)**			(2.80)***
*EC2*FXR*			5.500			0.251
			(0.450)			(0.020)
*EC2*GOVEXP*			0.030			-0.010
			(0.040)			(0.010)
*EC2*GROWTH*			-4.682			-4.697
			(2.98)***			(4.11)***
Observations	10,175	10,175	10,175	10,170	10,167	10,170
Countries	115	115	115	115	115	115
R^2	0.55	0.55	0.55	0.52	0.52	0.53

Robust t-statistics in parentheses. Coefficients of constant term and lags of M1 growth are not shown.
* significant at 10%; ** significant at 5%; *** significant at 1%.

Table 4: Results from Pooled and Fixed Effects Estimation (using *EC3* = T-4,T)

Dependent variable:	Pooled OLS			FE		
M1 Growth (%)	(1)	(2)	(3)	(1)	(2)	(3)
EC3	9.266	9.985	-4.718	10.860	10.667	-4.133
	(2.15)**	(2.26)**	(0.320)	(1.79)*	(1.76)*	(0.120)
DEV		8.958	4.752			
		(1.65)*	(0.880)			
FXR		-7.232	-3.799		-2.881	1.969
		(0.730)	(0.340)		(0.330)	(0.210)
GOVEXP		-0.229	0.034		0.460	0.592
		(0.520)	(0.060)		(0.580)	(0.730)
GROWTH		-1.275	-0.884		-1.270	-0.947
		(2.52)**	(1.65)*		(2.20)**	(1.520)
*EC3*DEV*			24.217			25.746
			(2.36)**			(1.630)
*EC3*DEM*			6.681			7.330
			(2.38)**			(1.560)
*EC3*FXR*			-13.916			-18.139
			(1.510)			(1.330)
*EC3*GOVEXP*			-1.576			-1.789
			(1.75)*			(1.620)
*EC3*GROWTH*			-2.507			-2.394
			(1.66)*			(1.640)
Observations	10,175	10,175	10,175	10,171	10,169	10,171
Countries	115	115	115	115	115	115
R^2	0.55	0.55	0.55	0.52	0.52	0.52

Robust t-statistics in parentheses. Coefficients of constant term and lags of M1 growth are not shown.
* significant at 10%; ** significant at 5%; *** significant at 1%.

Table 5: Results from Pooled and Fixed Effects Estimation (using *EC4* = T-8,T)

Dependent variable:	Pooled OLS			FE		
M1 Growth (%)	(1)	(2)	(3)	(1)	(2)	(3)
EC4	3.760	4.736	-5.503	5.344	5.309	-3.540
	(1.210)	(1.440)	(0.310)	(0.970)	(0.970)	(0.120)
DEV		8.654	4.872			
		(1.560)	(0.960)			
FXR		-7.342	-4.257		-2.976	2.172
		(0.750)	(0.330)		(0.340)	(0.210)
GOVEXP		-0.228	0.002		0.456	0.676
		(0.510)	0.000		(0.570)	(0.810)
GROWTH		-1.283	-1.007		-1.283	-1.131
		(2.54)**	(1.610)		(2.22)**	(1.66)*
*EC4*DEV*			13.067			13.997
			(1.79)*			(0.960)
*EC4*DEM*			3.494			4.116
			(1.92)*			(1.100)
*EC4*FXR*			-7.479			-12.233
			(0.810)			(1.030)
*EC4*GOVEXP*			-0.749			-1.036
			(1.000)			(1.070)
*EC4*GROWTH*			-1.007			-0.744
			(0.980)			(0.620)
Observations	10,175	10,175	10,175	10,167	10,171	10,170
Countries	115	115	115	115	115	115
R^2	0.55	0.55	0.55	0.52	0.52	0.52

Robust t-statistics in parentheses. Coefficients of constant term and lags of M1 growth are not shown.
* significant at 10%; ** significant at 5%; *** significant at 1%.

Table 6: Results from Pooled and Fixed Effects Estimation (using *EC1*) - Including Cukierman, et al. (1992) Measure of CBI

Dependent variable:	Pooled OLS				FE[a]	
M1 Growth (%)	(2)	(2')	(3)	(3')	(3)	(3')
EC1	29.865	29.798	-16.164	-13.274	-42.652	-39.139
	(2.37)**	(2.36)**	(0.680)	(0.560)	(0.850)	(0.780)
DEV	18.441	18.790	-12.103	-12.453		
	(2.58)***	(2.51)**	(0.910)	(0.890)		
FXR	-4.567	-4.721	-25.668	-25.496	-17.401	-16.987
	(0.310)	(0.310)	(2.42)**	(2.42)**	(1.090)	(1.070)
CBI		-0.470		0.424		
		(0.820)		(0.580)		
GOVEXP	-0.334	-0.320	-0.786	-0.801	0.659	0.652
	(0.410)	(0.400)	(1.440)	(1.460)	(0.360)	(0.360)
GROWTH	-2.605	-2.601	0.823	0.819	0.907	0.911
	(2.69)***	(2.69)***	(1.080)	(1.090)	(0.740)	(0.740)
*EC1*DEV*			68.274	68.842	84.803	85.533
			(2.62)***	(2.59)***	(4.11)***	(4.14)***
*EC1*DEM*			3.552	2.918	8.775	7.958
			(0.880)	(0.700)	(1.320)	(1.180)
*EC1*FXR*			47.161	46.487	39.717	38.826
			(1.180)	(1.170)	(1.92)*	(1.87)*
*EC1*CBI*				-2.243		-2.517
				(1.75)*		(0.640)
*EC1*GOVEXP*			0.798	0.886	0.559	0.681
			(0.460)	(0.500)	(0.340)	(0.410)
*EC1*GROWTH*			-9.699	-9.692	-10.087	-10.070
			(2.76)***	(2.76)***	(5.04)***	(5.03)***
Observations	6,029	6,029	6,029	6,029	6,029	6,029
Countries	60	60	60	60	60	60
R^2	0.53	0.53	0.53	0.53	0.51	0.51

Robust t-statistics in parentheses. Coefficients of constant term and lags of M1 growth are not shown.
* significant at 10%; ** significant at 5%; *** significant at 1%.
a. We do not present specification (2) and (2)' for FE because *CBI* is time-invariant and therefore drops out of the estimation.

Table 7: Results from Pooled and Fixed Effects Estimation (using *EC1*) - All Elections

Dependent variable:	Pooled OLS			FE		
M1 Growth (%)	(1)	(2)	(3)	(1)	(2)	(3)
EC1	16.727	18.415	-13.376	20.388	20.332	-33.572
	(2.51)**	(2.56)**	(1.100)	(3.71)***	(3.69)***	(1.150)
DEV		12.182	-3.514			
		(2.29)**	(0.490)			
FXR		-5.816	-5.807		-1.996	1.044
		(0.580)	(0.840)		(0.230)	(0.100)
GOVEXP		-0.177	-0.308		0.577	0.232
		(0.400)	(1.430)		(0.730)	(0.270)
GROWTH		-1.280	0.636		-1.232	0.596
		(2.54)**	(1.510)		(2.13)**	(0.870)
*EC1*DEV*			34.288			44.020
			(2.99)***			(3.01)***
*EC1*DEM*			5.227			8.042
			(1.93)*			(2.24)**
*EC1*FXR*			2.282			-2.244
			(0.230)			(0.190)
*EC1*GOVEXP*			-0.129			0.122
			(0.120)			(0.130)
*EC1*GROWTH*			-5.738			-5.957
			(3.00)***			(5.07)***
Observations	10,175	10,175	10,175	10,168	10,167	10,169
Countries	115	115	115	115	115	115
R^2	0.55	0.55	0.55	0.52	0.52	0.53

Robust t-statistics in parentheses. Coefficients of constant term and lags of M1 growth are not shown.
* significant at 10%; ** significant at 5%; *** significant at 1%.

Table 8: CBI Ranking - Full Sample of 115 Countries

Ranking	Country	Ranking	Country	Ranking	Country
1	Sweden	40	Portugal	79	Togo
2	Denmark	41	Costa Rica	80	Cote d'Ivoire
3	Netherlands	42	Croatia	81	Kenya
4	Dominica	43	Greece	82	Georgia
5	Estonia	44	Hungary	83	Thailand
6	France	45	Malta	84	Gabon
7	Czech Republic	46	Panama	85	Tunisia
8	Belgium	47	Venezuela	86	Pakistan
9	Austria	48	Bulgaria	87	Nepal
10	Suriname	49	Botswana	88	Guatemala
11	United Kingdom	50	Ecuador	89	Turkey
12	Israel	51	Antigua and Barbuda	90	Sri Lanka
13	Poland	52	Korea	91	Malaysia
14	Canada	53	Philippines	92	Ghana
15	Germany	54	Ukraine	93	Haiti
16	New Zealand	55	Malawi	94	Kyrgyz Republic
17	Norway	56	Mauritius	95	Mauritania
18	Slovak Republic	57	Honduras	96	Algeria
19	Latvia	58	Romania	97	Zimbabwe
20	Lithuania	59	Gambia	98	Tanzania
21	Australia	60	Lesotho	99	Russia
22	South Africa	61	Senegal	100	Albania
23	Italy	62	Burundi	101	Lebanon
24	Finland	63	Colombia	102	Belarus
25	Iceland	64	Niger	103	Paraguay
26	United States	65	Benin	104	Azerbaijan
27	Ireland	66	Armenia	105	Iran
28	Moldova	67	Zambia	106	Uganda
29	Switzerland	68	Chile	107	Singapore
30	Spain	69	India	108	Chad
31	Macedonia, FYR	70	El Salvador	109	Guinea
32	Slovenia	71	Mexico	110	Kazakhstan
33	Jamaica	72	Burkina Faso	111	Bolivia
34	Guyana	73	Morocco	112	Peru
35	Japan	74	Madagascar	113	Argentina
36	Grenada	75	Cameroon	114	Brazil
37	Mongolia	76	Nigeria	115	Nicaragua
38	Uruguay	77	Mali		
39	Luxembourg	78	Dominican Republic		

Table 9: CBI Ranking - Restricted Sample of 55 Countries

Restricted Sample Ranking		Full Sample Ranking limited to Restricted Sample Countries	
Ranking	Country	Ranking	Country
1	Denmark	1	Denmark
2	Netherlands	2	Netherlands
3	Suriname	3	Austria
4	Israel	4	Suriname
5	Austria	5	United Kingdom
6	United Kingdom	6	Israel
7	Germany	7	Canada
8	New Zealand	8	Germany
9	Canada	9	New Zealand
10	Norway	10	Norway
11	Australia	11	Australia
12	Finland	12	Italy
13	Italy	13	Finland
14	Iceland	14	Iceland
15	Guyana	15	United States
16	United States	16	Ireland
17	Spain	17	Switzerland
18	Ireland	18	Spain
19	Switzerland	19	Jamaica
20	Jamaica	20	Guyana
21	Uruguay	21	Japan
22	Japan	22	Grenada
23	Grenada	23	Uruguay
24	Greece	24	Portugal
25	Panama	25	Costa Rica
26	Portugal	26	Greece
27	Costa Rica	27	Malta
28	Malta	28	Panama
29	Venezuela	29	Venezuela
30	Ecuador	30	Botswana
31	Botswana	31	Ecuador
32	Gambia	32	Mauritius
33	Honduras	33	Honduras
34	Senegal	34	Gambia
35	Mauritius	35	Senegal
36	Colombia	36	Colombia
37	Morocco	37	India
38	Mexico	38	El Salvador
39	El Salvador	39	Mexico
40	India	40	Morocco
41	Madagascar	41	Madagascar
42	Dominican Republic	42	Dominican Republic
43	Pakistan	43	Thailand
44	Turkey	44	Pakistan
45	Thailand	45	Nepal
46	Guatemala	46	Guatemala
47	Nepal	47	Turkey
48	Sri Lanka	48	Sri Lanka
49	Malaysia	49	Malaysia
50	Paraguay	50	Paraguay
51	Singapore	51	Singapore
52	Bolivia	52	Bolivia
53	Peru	53	Peru
54	Argentina	54	Argentina
55	Nicaragua	55	Nicaragua

Table A1: Variables and Data Sources

Variable	Description and Source
M	% change in M1 (variable 34 from the IFS) from 4 quarters before.
Election Quarter Leader	Quarterly Data. Used to generate the election cycle variable *EC* . Takes on the value 1 if there was an election for the national leader. Sources listed below.
DEV	0 for advanced, 1 for developing or emerging economy based on the classification in Arnone, et al. (2007).
DEM	Average of Political Rights and Civil Liberties. The order of variables reversed so that 1 is low democracy and 7 is high. Source: Freedom House.
FXR	1 for fixed exchange rate regime and 0 otherwise based on Reinhart and Rogoff (2003) course classification.
GOVEXP	General government final consumption expenditure (% of GDP). Source: WDI. NE.CON.GOVT.ZS
GROWTH	GDP growth (annual %). Source: WDI. NY.GDP.MKTP.KD.ZG
CBI	Cukierman, et al. (1992)'s overall index of CBI for the 1980's, constructed from their measures of central bank governor turnover and legal measures of independence.
	Sources: http://www.idea.int/vt/country_view.cfm http://africanelections.tripod.com http://www.electionresources.org/ http://cdp.binghamton.edu/era/index.html http://www.electionguide.org/ http://www.wikipedia.org/

Table A2: Countries

Albania	Greece	New Zealand
Algeria	Grenada	Nicaragua
Antigua and Barbuda	Guatemala	Niger
Argentina	Guinea	Nigeria
Armenia	Guyana	Norway
Australia	Haiti	Pakistan
Austria	Honduras	Panama
Azerbaijan	Hungary	Paraguay
Belarus	Iceland	Peru
Belgium	India	Philippines
Benin	Iran	Poland
Bolivia	Ireland	Portugal
Botswana	Israel	Romania
Brazil	Italy	Russia
Bulgaria	Jamaica	Senegal
Burkina Faso	Japan	Singapore
Burundi	Kazakhstan	Slovak Republic
Cameroon	Kenya	Slovenia
Canada	Korea	South Africa
Chad	Kyrgyz Republic	Spain
Chile	Latvia	Sri Lanka
Colombia	Lebanon	Suriname
Costa Rica	Lesotho	Sweden
Cote d'Ivoire	Lithuania	Switzerland
Croatia	Luxembourg	Tanzania
Czech Republic	Macedonia, FYR	Thailand
Denmark	Madagascar	Togo
Dominica	Malawi	Tunisia
Dominican Republic	Malaysia	Turkey
Ecuador	Mali	Uganda
El Salvador	Malta	Ukraine
Estonia	Mauritania	United Kingdom
Finland	Mauritius	United States
France	Mexico	Uruguay
Gabon	Moldova	Venezuela
Gambia	Mongolia	Zambia
Georgia	Morocco	Zimbabwe
Germany	Nepal	
Ghana	Netherlands	