THE POLITICAL ECONOMY OF CURRENT ACCOUNT REVERSALS: AN EMPIRICAL STUDY

Juan Manuel Jauregui∗

Noviembre 2005

DT 01/ 2005
THE POLITICAL ECONOMY OF CURRENT ACCOUNT REVERSALS: AN EMPIRICAL STUDY

Juan Manuel Jauregui

UCLA Anderson Graduate School of Management & IAE – Austral University

August 2004

Abstract

This paper addresses empirically whether institutions and politics play a role in the genesis of current account reversals. It also identifies which political factors matter and the importance of their influence. In a binary outcome model, it finds that (1) institutional checks –when interacting with the ratio of the net international reserves to GDP-, (2) election frauds and intimidation to candidates, and (3) executive control over the legislature, increase the probability of experiencing a reversal. It also shows how including political economy variables in the model helps to identify the impact of the economic variables. Moreover, the quantitative relevance of the political factors is high. Their impact is of the same order of magnitude than the current account balance and the level of external debt. Also, a policy recommendation can be extracted: when facing unsustainability of the current account, careful consideration must be given to events that could deteriorate the political climate. Policy measures that may improve some economic variables, but could trigger political violence can be very risky.

Resumen

La Economía Política de las Reversiones de Cuenta Corriente: Un Estudio Empírico

Este documento de trabajo analiza empíricamente si las instituciones y la política juegan un rol en el desarrollo de las reversiones de cuenta corriente. También identifica cuáles factores políticos son relevantes y cuán importantes son. En un modelo de resultado binario encuentra que (1) los controles institucionales –cuando interactúan con el ratio de las reservas internacionales netas a PIB-, (2) fraudes electorales y la intimidación a candidatos, y (3) el control del poder ejecutivo sobre la legislatura, incrementan la probabilidad de experimentar una reversión. A su vez, muestra que la inclusión variables de economía política en el modelo ayuda a identificar el impacto de las variables económicas. Más aún, la relevancia cuantitativa de los factores políticos es alta. Su impacto es del mismo orden de magnitud que el balance de la cuenta corriente y que el nivel de la deuda externa. También se puede extraer una recomendación de política: cuando se enfrenta una cuenta corriente insostenible, deben considerarse cuidadosamente los eventos que podrían deteriorar el clima político. Medidas de política que pueden mejorar las variables económicas, pero que pueden resultar en actos de violencia política pueden ser muy arriesgadas.

This research was conducted with the financial support of IAE – Austral University. I am indebted to Professors Edward Leamer and Rossen Valkanov, who reviewed the first version of this paper and provided me with valuable recommendations and suggestions. I would also like to thank Prof. Sebastian Edwards for guidance, and Roberto Alvarez and Guillermo Tolosa for helpful comments. I am grateful with participants at the Emerging Markets Finance Conference organized by the Cass Business School and the Journal of International Money and Finance, the CSGR Workshop at the University of Warwick, the 9th Annual Meeting of LACEA, the Proseminar in International and Development Economics at UCLA and the Management Workshop at IAE – Austral University. Finally, I thank the Statistical Consulting Service of UCLA for advice on statistical computing.

Email: JJauregui@iae.edu.ar

Classification: F32

Key Words: current account reversals - political economy of crises -financial crises
1- Introduction

The last two decades have witnessed astonishing advances in the field of political economy. Previous progress had led naturally to broadening the scope of study and in this way a new perspective was born. To the traditional economic view of the facts, researchers have incorporated a new set of events and considerations. Needless to say that this new perspective was not totally foreign to the mindset of the traditional economists, they have always recognized the importance of institutions and politics and have kept them present in their minds. But political economy had been missing from theoretical and empirical work in the discipline.

The study of macroeconomics benefited dramatically from this blending with some elements of political science and the contributions in the field addressed a great variety of issues: decision-making processes, time-consistency, credibility, monetary policy, fiscal policy, taxation, inequality, growth, privatization, reform, to cite just a few. The list is interminable. Many of the topics in which advances have been made fall also inside the field of international economics: monetary unions, exchange rate arrangements, capital controls and currency crises are among the most notorious ones. Specifically, this paper aims to make a contribution to the sub-field of political economy of international macroeconomics.

Having said that about the perspective that will characterize this paper let me turn to the events that will be the focus of my attention. Financial crises are episodes of great importance. When they occur growth is interrupted, inequality is broadened, investment is refrained and many contracts are broken. Massive bankruptcy and wealth redistribution frequently follow. Their consequences can be devastating and they impact negatively the long term, especially in countries prone to having them. Moreover, in the last decade they have occurred with an undesired frequency. So it is no surprise that the currency and banking crises have been at the center of the academic debate. Even more, it is no exaggeration to say that the economy of many countries
cannot be understood if observed from a perspective other than the one stemming from the study of crises. In this vein, it is encouraging to see that many studies about them have been made, and the research has provided a better understanding. But much more can be learnt, yet. In this paper I will be focusing in current account reversals, a set of events that are closely related to crises but that also have a peculiar and interesting feature.

A common definition of crisis is as a period of great distress. But we also observe that many crises are followed by great changes. So we can have a more rich definition of crises, as periods of danger and change\(^1\). Following this, a definition of financial crises would entail great distress “and” real changes in an economy. These major discontinuities in the external sector can be measured in many ways, and each measure implies a definition, being each one related to a different set of events. As always, there is a trade-off in each definition that sets a frontier between the elements that will be included and those that will be disregarded. The events I am about to study –the current account reversals– provide a measure with a blending of both distress and change.

Many usual measures –big nominal or real devaluations, sudden stops in capital inflows or high levels of interest rates, to name the most common– capture the distress. But they need not to be related to a change in the course of the economy. For example, a large pass-through or high inflation can make ineffective a nominal devaluation. Also, high interest rates can be a dubious measure when concurring with high inflation or if the regulation of capital controls is changing. And this last thing is very common in periods of trouble. Even more, a sudden capital inflow can lower interest rates significantly. The real devaluation is an excellent measure, but the difficulties in determining the equilibrium real exchange rate in times of large changes can render this measure meaningless. For example, abrupt policy changes in capital account controls, tariffs on international trade or fiscal policy changes towards import and export sectors can introduce

---

\(^1\) By the way, this idea is not new. The Chinese ideogram for crisis is composed by two characters, one that means danger, and the other opportunity.
significant noise as to make this variable ineffective for the analysis. Lastly, sudden stops in capital inflows can be short termed, since the capital account can be very volatile. In many cases, they can be managed effectively with the use of international reserves. Summarizing, many of the events named as crises under these typical definitions could be capturing distress, but not discontinuity.

In a different manner, a reversal in the current account is showing a change in the effective behavior of the external sector. Associated with reversals are deep changes in consumption, investment and savings. More interestingly, in order for them to happen, large changes in relative prices are necessary: the prices of tradable products must suffer a great increase in terms of non-tradables. Such changes in the relative prices in a short period of time are the cause of great distress. Consequently, current account reversals are closely related to currency crises, since they require a major change in the real exchange rate, usually under the form of a major stepwise devaluation or under a big depreciation in a very short interval. This relationship has been documented in the literature. Using a non-parametric test based of stratified case-control methodology, Edwards (2004a) showed that “countries subject to a current account reversal have a significant probability of suffering a major devaluation of their currency”. He also found that “major reversals in current account deficits have tended to be associated to “sudden stops” of capital inflows”. This last is not surprising, since the changes in the capital account and the current account are only different by the change in international reserves. So, the current account reversals are a set of events that capture distress with discontinuity in the external sector of the economy. And they are serious episodes; these abrupt adjustments have very large consequences on the welfare of the countries, and usually happen with major reductions in real output\(^2\). To sum up, when searching for a definition of external sector crises, the current account reversals account for large real external sector adjustments.

\(^2\) Edwards (2004a) find that the growth effects of reversals are related to openness of the economy and could be typically of \(-3.8\%\) to \(-2.6\%).
All previously said express the reasons for my interest in the political economy of current account reversals. But what relevance do I expect from the present study? My aim is to provide results that are policy oriented. I will be addressing some questions that appear frequently in discussions of crises prevention: the level and composition of the debt, the level of the international reserves, the fiscal deficit, the rate of credit growth. From the results exposed later policy recommendations can be extracted in all the cited variables.

But I will be focusing mainly in the institutional setting and the political factors that enrich the analysis. Here we face some gap in the literature of the political economy of crises. Great advances have been made but many issues remain unresolved. So, when studying the current account reversals some valid questions are:

a) How do institutional checks and balances affect the prospects these events?
b) Does electoral fraud or political violence have any impact in the current account?
c) Is it more likely to face a reversal in a country with a strong government or with a weak one?
d) Are presidential systems different than parliamentary ones for this matter?
e) Are these events influenced by the political business cycle?
f) Are the times of elections critical?
g) Could the outcome of the election precipitate a change in the current account balance?
h) Is ideological polarization important?
i) Is political instability something to be worried about?

These questions are the best expression of the motivation of this paper. Can we expect them to be of any importance? The political economy variables have proved to be key in understanding inflation and stabilization programs and we can infer that in this case they could be so. Closer to this study, Keefer (2002b) studied the politics and determinants of banking crises.
Stressing the importance of political economy factors, he says: “Not only do political institutions have a significant effect on the causes of banking crises, but the effect is of a magnitude that frequently exceeds the effects of the more standard financial and economic variables that are usually the focus of attention.” In relation with speculative attacks, Leblang and Bernhard (2000) find that “political factors strongly influence the probability of a speculative attack, suggesting that currency traders do incorporate political information into their expectations”. Their empirical study was applied to the industrial democracies.

The previous references show support to the idea that they could be important. But, a last question could be asked: What role do these factors have? This is the kind of insight that only theoretical research can answer, and this empirical paper will not be navigating those waters. But the sketch of an answer can come from considering two ways of interpreting them. One is to consider that the political economy variables could be behind the "sunspots" or the signals that help coordinate a change of equilibrium when multiple equilibria are possible, especially in self-fulfilling crises or in the cases in which the timing of occurrence of a crisis is not determined by economic variables. Other is to think that, when an external shock hits an economy, the external sector could be sustainable if some changes in fiscal policy are implemented. In such a situation, the political economy variables may be indicating the willingness or ability of a government to undertake these endeavors.

2- The Empirical Model

In two recently released papers, Edwards (2004a,b) characterized thoroughly the current account reversals and, among other findings, he identified the variables that capture the probability of them to happen. Analyzing panel data for thirty years he found that current account reversals and sudden stops are closely related, but they are significantly different. In particular, he
concludes that “the probability of a country of experiencing a reversal is captured by a small number of variables that include the (lagged) current account to GDP ratio, the external debt to GDP ratio, the level of international reserves, domestic credit creation and debt services”. This paper will be building on these results.

I will be evaluating the probability of the event of experiencing a current account reversal using the probit specification:

\[ \Pr (R=1) = \Phi(\beta_1 X_1 + \beta_2 X_2), \] (1)

Where: \( R \) is a dummy variable that takes the value of one when there is a current account reversal.

\( X_1 \) is the set of economic variables used by Edwards (2004a):

a) the current account deficit to GDP ratio,

b) the external debt to GDP ratio,

c) the net international reserves to GDP ratio,

d) the short-term debt to exports ratio,

e) the rate of growth of domestic credit,

f) the total services to the debt to exports ratio.

\( \beta_1 \) is a vector of coefficients for \( X_1 \). \( X_2 \) is the set of political economy variables –to be presented in the following pages and \( \beta_2 \) is the vector of coefficients for \( X_2 \).

The dependent variable, a current account reversal, is defined as a reduction of 3 percentage points in the current account deficit to GDP ratio in one year. In this manner, only important improvements in the current account are considered to matter as an event. It is important to keep in mind that changes that lead to a lower level in the current account balance are different in nature than those that lead to a higher level. However, it can be argued that this is not the case for small changes, and I agree with this, but for the kind of adjustment of the external sector that motivates this research –the one that is frequently related to crises- only important
positive changes matter. These are the kinds of changes in the current account related to external sector crises. Also, the object of this study are the reversals as events, not the current account balance itself, so the use of the current account level or any continuous measure would not be the best choice. Related to my study, it would be interesting to analyze the political economy of the current account balance, including an analysis of the dynamics, but this is not the focus of the present paper. Consequently, a cutoff point is necessary in order to define the event of a reversal. The requirement of 3 percentage points change to count as a reversal is somewhat arbitrary, but related to an intuitive measure of what is an important change in the current account in a single year.

The independent economic variables were included in the regression following the work done by Frankel and Rose (1996), Milesi-Ferreti and Razin (2000) and Edwards (2002), among others. Milesi-Ferreti and Razin (2000) found empirical evidence that low international reserves help predict the occurrence of current account reversals. The theoretical foundation for including this variable is provided by the first generation models of currency crises, like Krugman (1979). In this model, the central bank loses reserves while maintaining an unsustainably low value of the foreign currency. When they reach a threshold, the speculative attack follows and the devaluation is unavoidable. This model justifies also the inclusion into the regression of the rate of growth of domestic credit, since excessive credit growth –because of monetized fiscal deficits– is what makes central bank’s intervention unsustainable. In this line, Frankel and Rose (1996) find empirical evidence that currency crashes tend to occur when the growth of domestic credit is high. With respect to the inclusion of the current account deficit and the level of external debt, Edwards (2004a) found empirical evidence of their association with the probability of current account reversals. Finally, the short-term debt to exports ratio and the total services of the debt to exports ratio are included to control for short-term liquidity pressures in the balance of payments that could trigger a currency crisis or could make the preceding variables play a different role.
All independent variables in the equation will be lagged one year in order to avoid some endogeneity problem with the dependent variable. Also country fixed effects will be introduced, in order to capture the effect of permanent institutional settings and idiosyncratic political characteristics. I do so because I am only interested in the political economy effects that can be captured by the variables of the dataset. Other idiosyncratic effects would be interesting to understand, and could be addressed in further research, but they would be very hard to identify and analyze in the current setting and with the database used here—to be presented later. Also, these country fixed effects capture different geography and history, which I find necessary to control for in order to interpret better the results. Finally, time fixed effects are included, mainly to control for worldwide economic conditions. The oil shocks, international episodes of contagious financial crises, the interest rates and GDP growth rates in the US and other major economies, and other factors may modify per se the probability of a country of facing a reversal. No time trends are included due to the characteristics of the event under study. Some cyclical behavior could be observed in the occurrence of the reversals, captured by the year dummy, but the long run equilibrium does not seem to be having any trend.

2-1- The Political Economy Variables

In this section I will be presenting the political economy variables used in the study. They will enter the model as $X_2$ in the empirical model presented earlier. This vector will be changing as I evaluate different specifications of the model, as will be discussed in the section devoted to the results.

Let us begin discussing the variable that measures the checks and balances in the political system. The importance of the institutional checks in the economy has been properly detailed in the literature. Keefer (2002b) addresses the role of checks and balances in banking crises and
finds that many economic variables have different roles in countries were checks and balances are weak. Interest liberalization, deposit insurance, credit growth and private credit relative to GDP are all more strongly associated with crises in such countries. Also, he states: “...[I]n countries lacking checks and balances the ratio of the money supply to foreign reserves is a weak indicator of impending crises, but it is a very good indicator in countries that exhibit strong checks and balances.” In another study, Keefer and Stasavage (2002) make the theoretical proposition that “central bank independence will prove to be more effective as a commitment mechanism in countries with multiple veto players [i.e. checks and balances] in government” and find empirical evidence supporting it.

In order to consider the checks and balances, I will use the categorical variable “checks” which measures the institutional balance of power and accounts for veto opposition. It counts the number of checks that the government have, or the veto players in the political system. (See appendix 2 for a detailed definition of how this variable and the ones to be presented later are measured).

The literature on currency crises is also relevant for this study, since many of the current account reversals happen after a big devaluation. Eichengreen et al (1995) analyzed quarterly data from 1959 to 1993 for twenty OECD countries. There, the authors evaluate a few variables of political economy finding that “Although recent government defeats seem to provoke realignments [in the exchange rate] there is remarkably little evidence of feedback between government’s popularity and the exchange rate regime”. They also find that a change in the finance minister is significantly related to exchange rate episodes. I do not have variables that reflect popularity, change in ministers nor the outcome of elections for such a broad sample of countries, but I expect that some of these political developments can be captured by the variable “checks” because a government defeat can usually make one of the legislative chambers to

---

3 For example, this number increases by one for each legislative house that the executive doesn’t control in a presidential system, or the number of parties in a coalition in a parliamentary system, among other institutional considerations.
become controlled by the opposition. It can also force governments to increase the number of parties in the coalition, being this both cases captured by an increase in the variable “checks”. Also, the resignation of a finance minister –usually a notorious event- can be closely related to these two cases.

Also it has been argued that the elections create uncertainty about the future policies, increasing volatility in the exchange rate. Lobo and Tufte (1998) find that in the United States, the exchange rate volatility is higher before elections. Frieden (1998) also finds higher volatility in the period surrounding elections. So, I will include the dummy variables “legislative election” and “executive election” that mark the years in which there are legislative elections and executive elections, respectively. The election years are also important from the perspective of the incumbent when choosing policies. It has been shown empirically that policy makers take into consideration the impact of any policy in the elections to come, and even sometimes they engage in policy manipulation in order to increase there electoral support.

Also theoretical models have provided formal insight of the reasons behind this behavior (Drazen (2000) provides a thorough review of this broad literature). Stein and Streb (2003) present a political cycle budget model where elections play a key role in explaining the timing of movements in nominal exchange rates and find empirical evidence that the devaluation rates are higher in the months following an election. An interesting empirical result was presented by Aisen (2004) who found evidence that, when governments have to choose if to implement a money based or an exchange rate based stabilization program, the latter is more likely to be adopted when elections are close because of the initial consumption boom associated with its implementation. This result is related to the topic of this paper since exchange rate stabilization programs are also followed by an initial deterioration of the current account balance. So, in order to control for this political business cycle, on top of the election years dummies I included the variable “years in office”, which accounts for the number of years that the chief executive has been in office.
With respect to violence, stability and polarization, countries with political systems that are weaker, more unstable and more polarized face increased difficulties in implementing a successful stabilization program. Persson and Tabellini (1990) showed how a more unstable political system makes the reputational constraint less binding, providing one explanation for that phenomenon. Another explanation is given by Cukierman, Edwards and Tabellini (1992) who provide a theoretical model of tax reform and empirical support for the idea that governments in ideologically polarized and unstable political systems tend to rely more on inflation for financing their expenditures. Also Edwards (1994) finds evidence that the inflation tax depends positively on the degree of political instability of the country in question, but he advances one more step by showing that countries with more volatile political sectors are less likely to have successful stabilizations. Related to this, but centered on the timing of stabilizations, Alesina and Drazen (1991) proposed a model of “war of attrition” in which stabilizations are delayed because of the strategic behavior of groups that try to avoid the burden of reform.

Accordingly with this literature, I include in the model variables that measure political instability, polarization, frauds and political violence.

a) Fraud: this variable is a dummy that detects the presence of fraud or candidate intimidation serious enough as to influence the outcome of the elections. Naturally, it is also related with political violence.

b) Polarization: measures the ideological gap among the government parties and the largest opposition one. It is a categorical value that takes three different values.

c) Stability: is measured as veto players drops. It accounts the percentage of veto players—as defined previously in the variable “checks”—that drop from the government in any given year.

I also included some variables that reflect the institutional framework, in order to control for political systems because we can expect that the other political economy variables are going to have different impact in different institutional settings. That is the case for the categorical
variable “system”, which distinguishes (0) presidential systems, (1) those with an assembly elected president and (2) parliamentary systems. In a recent work, Persson and Tabellini (2003) have found empirical evidence that presidential regimes induce smaller public sectors, showing the relevance of this variable.

Some variables are going to reflect the power of the government, especially the ability of the executive to pass critical pieces of legislation. These variables are very strongly related to “checks”, since, the higher the number of veto players, the lower the control of the chief executive. The variable “all houses” is a dummy that accounts for the control of the party of the executive over all relevant legislative houses. I include it because it is showing the ability of the executive to rule without engaging in negotiations with other political parties. I interpret this characteristic as the better indicator of strong power. The variable “majority” measures the margin of majority, which is the share of total seats in the legislature, held by the government. This variable is a proxy to relative power, and consequently is of great importance to assess the current political situation in a country.

To sum up, the vector \( X_2 \) of political economy variables of the model include the following:

a) “checks”
b) “legislative election”
c) “executive election”
d) “fraud”
e) “polarization”
f) “stability”
g) “system”
h) “years in office”
i) “all houses”
j) “majority”
Not much has been said about the impact of these political economy variables on the external sector of the economy. One hypothesis could be that they are not important, or to put it differently, that if they play a role, they do so through other economic variables, like affecting investment and –consequently the total output– or the government deficit –which affects the level of the debt. This hypothesis of them being irrelevant is the one implicit in most theoretical models of current account determination or models of financial crises. They are usually absent –see, e.g. Obstfeld and Rogoff (1996), Edwards and Frankel (2002), Dooley and Frankel (2003), Drazen (2000). By including them in the regressions, what I am testing is there importance, but not any specific theory about how they are affecting the external sector. In this sense, I could say that this study is only of exploratory nature, since it is bringing new factors into consideration, but with no prior about how they should affect the results. It is left to further theoretical research to elaborate an explanation of their role, and further empirical research to test those theories.

Now let me add a final paragraph about methodology. In this probit maximum-likelihood estimator, the normal probability model might be misspecified. For this reason I have used the Huber/White/sandwich estimator of variance. Green (2000) explains in detail how this procedure provides an asymptotic covariance matrix for an estimator that is biased in an unknown direction and consequently, it is good for the case in study, in which heteroskedasticity and omitted variables bias could also be present. However, it is important to keep in mind that using a robust estimator does not solve the inconsistency problems created by the situations mentioned earlier, it only provides an appropriate covariance matrix for the estimator.
3- The Dataset

The economic data is taken from the World Development Indicators (WDI) and the political economy data is from the Database of Political Institutions (DPI2000), both from The World Bank. Keefer (2002a) provides a detailed explanation of the variables in DPI2000 and explains the methodological reasons for having them defined in certain ways. It also introduces some improvements from previous versions of the database constructed initially by Beck et al (2001). The database used covers more than 170 countries during 26 years (1975-2000). A great number of political and institutional variables are detailed there, but only some of them were taken into consideration in this research.

Of 3076 observations of current account changes in the data set, 601 qualify as reversals according to the definition stated earlier, that is 19.5%. Only a few countries experienced three or four years with consecutive improvements of 3 percentage points in the current account (see table 1). None of them experienced more than four years of such improvements. Two consecutive events are more frequent, but not so many, only 88 in the whole sample. See appendix 1 for a summary statistics of the economic variables used in the model.

The political economy variables are less usual in the literature, so a brief reference to their summary statistics might be of interest. The dummy that detects frauds or candidate intimidation has a mean of 10.5% and a standard deviation of 30.78% (see table 2 for summary statistics about the political economy variables). So these episodes are not rare in the database. The variable “system” has a mean of 0.7667 and a standard deviation of 0.8971, but more informative is to say that 54.61% of the cases are presidential, 31.28% are parliamentary and 14.11% are semi-presidential (see figure 1), showing that parliamentary governments are relatively few, being presidential systems the broad majority of the cases. Maybe more surprising is the fact that 65.88% of observations relate to executives that control the legislative branch of government, so strong governments are very common. The standard deviation of this variable is
47.42%. The variable “checks” has a mean of 2.360 and a standard deviation of 1.711. It is interesting to note that almost 50% of the observations have one check and almost 90% have at most five institutional checks (see figure 2). For “polarization” the mean is 0.3226 and the standard deviation 0.7062, being the more interesting feature of this variable that more than 80% of the observations are with no polarization, that is, a value of zero (see figure 3). Note that this variable measures polarization in the government, since it measures the ideological gap between the executive and the opposition in congress. But for cases when the executive controls the legislature, or dictatorships, this value is zero. This does not say that the political system or the society is not polarized, many dictatorships arise in very polarized societies. But since they are not granted voice in the legislature, the opposition parties are outside the government, and this measure of polarization is may be zero in those cases. The variable “years in office” has a mean of 7.8 and a standard deviation of 8.1. The most salient characteristic of this variable is that almost 50% of the observations correspond to four or less years (see figure 4).

The mean and standard deviation for the elections variables are, respectively, 0.18 and 0.39 for legislative and 0.07 and 0.27 for the executive ones. This relation of roughly 2-1 for legislative over executive seems to suggest that, whenever elections are held with regularity, there is a typical mid-term legislative election in each presidential term. Finally, the variable “stability” has a mean of 12% and a standard deviation of 28%. The interpretation for this is that in average, 12% of the veto players change in a year. Note that in more than 80% of the observations, the value of the variable is zero, meaning that there are no changes in veto players during those years (see figure 5).

A simple way to explore this dataset is to present contingency tables of the current account reversals and each of these political economy variables. In table 3 we observe the reversals and the lagged values of the variable “all houses”. The Pearson $\chi^2$ is 28.39 so we can reject the hypothesis that both populations (with and without control over the legislature) have the same probability of facing a reversal. It seems as if control over both houses of the legislature is
associated with a higher frequency of reversals. When comparing the reversals with the variable “system”, the presidential system seems to have higher incidence of reversals, and also the Pearson $\chi^2$ is 23.67 –high enough as to reject the hypothesis of the probabilities being the same for each column (see table 4). Other cases in which the association hypotheses were rejected were with the variable “stability” and with the variable “checks”\textsuperscript{4}. Table 5 is similar, but using the lagged value of the variable “fraud”. In this case we are not able to reject the hypothesis that both columns are associated (the same happened with the dummies of election years). In these tests we are not controlling for all the other variables, so we should handle this measures of association with care and only for general description purposes.

4- Empirical Results

The main empirical findings can be seen in tables 6 and 7\textsuperscript{5}. A number of probit regressions with different specifications of the vector $X_2$ of political economy variables where run\textsuperscript{6}. We see in table 6 that when running the regression with only the economic variables, that is $\beta_2 = 0$ in equation (1), we get similar results to those reported in Edwards (2004a), being the current account deficit to GDP ratio and the external debt to GDP ratio the only two significant variables. Both of them have a positive sign in the regression.

When we consider the political economy variables presented earlier (see table 6) the variables that proved to have a significant effect were:

(a) the product of the variable “checks” with the ratio of net international reserves to GDP (“checks * reserves”, for short),

\textsuperscript{4} Not reported here. These tables are available upon request.
\textsuperscript{5} I only report selected results due to space considerations. All the results commented in the paper are available upon request.
\textsuperscript{6} Note that, as previously explained, all the independent variables are lagged one year and there are country and year fixed effects.
(b) “frauds”,

(c) “all houses”.

The current account deficit to GDP ratio continues to have a positive sign and is statistically significant at 1% level. Also the short term debt to exports ratio, the domestic credit growth rate and the services of the external debt to exports ratio continue to have not significant coefficients.

The presence of electoral frauds or credible candidate intimidation increases the probability of a current account reversal in the following year, being its coefficient significant at the 5% level, and of a large value. It confirms the negative effects on the economy of a deteriorated political climate as was already reviewed—Cukierman et al. (1992), Edwards (1994) and Edwards and Santaella (1993) are some references about this.

Another variable of a large impact is “all houses”, which is significant at the 1% level. This result suggests that concentration of political power could be changing the investors’ behavior and consequently the sustainability of the capital account.

The variable “system” was not significant when included, but controlling for it increases the significance of the “all houses” variable. This is not surprising, since the effect of the executive controlling the legislature cannot be indifferent to the institutional context, that is whether there is a parliamentary or presidential system. I choose to keep it in many specifications because I think that the way the political economy of some country evolves is influenced by the macro institutional set up of the system.

The ideological polarization variable does not have a significant coefficient in the regressions (see table 6). This is surprising and opposite to what is found in Cukierman et al (1992). One explanation for this could be that the categorical variable used here has only three values, so it is not capturing the effects of extreme polarization when radical parties are present, as a different case to when there are moderated left and right parties. It is interesting to note that when controlling for polarization, the significance of the variable all house is reduced to 5%
level, and also its coefficient decreases. At the same time, the coefficient of the variable majority
increases notably and it becomes significant at the 10% level. It seems as if in this case part of the
effect of controlling the legislature, that was previously captured by the variable all house, is now
captured by the variable majority. This result encourages further research on the impact of power
of the executive over the legislature, especially considering subtle differences on the way it is
measured. One way in which more insights could be provided could be finding a more refined
measure of the ideological polarization and of the balance of power between the executive and
legislative branches of government.

Something similar occurs with the variable “stability”, that unexpectedly appeared not to
be significant (see table 6). Again it could be due to the way it is measured, as a percentage
change of the number of veto players. It is likely that other measures of stability could achieve
different results. Particularly, I am afraid that two different types of situations can be mixing in
this variable: one being that instability can be observed when there is political deterioration of a
regime and further turmoil is expected, and the other when reforms are introduced and political
re-foundation is taking place, with better expectations about the future. Or to say it in another
way, this measure of instability does not make reference about the prospects of future stability, if
instability is leading to a weaker or stronger institutional environment.

When including the variable that measures the number of years at office, its coefficient is
not significant either, and the results do not change much (see table 7). I think that the issue of the
government cycle is important, but again what may be needed is some other measure, e.g. the
percentage of the tenure already served, or time left until the next election. Further research could
address these variations. Or maybe there is a nonlinear effect of time, with a quadratic function of
time served. Also the dummy variables that control for executive or legislative election years
were not statistically significant when introduced to the model (see table 7). It is interesting to
note that “executive elections” has a greater coefficient and a greater z statistic value than the
“legislative elections”. Both with positive signs, they seem to suggest that there is an increased
probability of a reversal in election years, and that executive elections have a bigger effect, may be because they are more important. Could it be that a different measure of electoral activity could capture better some underlying effect? Some measure of what is at stake in the elections could be helping in this. I think that some measure of elections that takes into account how polarized are the proposals of the competing parties might provide interesting results. Another interesting measure could be related to note if leadership at the legislative chambers or at the parties’ executive boards is at stake.

It is interesting to note that adding the political economy variables does not produce significant changes on the economic variables, except for the net international reserves to GDP ratio, whose coefficient becomes statistically significant. This means that the effect captured by the political economy variables is orthogonal to the economic ones, which is somewhat surprising because it can’t be that the political events are unrelated to the economy. What may be going on is that the political economy variables that were correlated to the economic variables did not prove to be statistically significant and were not considered in the base model. So those that proved to be statistically significant were only those orthogonal and were the ones included in the model.

4-1 The variable “checks”

In table 7 we see under the specification named “base model” that the interactive variable “checks * reserves” is significant at the 1% level. It is interesting to note that “checks” was significant only at the 10% level when introduced alone. Also, when controlling for it, the interactive “checks * reserves” continued to be significant at the 1% level, being “checks” not significant. This suggests that the interactive variable was capturing better the effect of checks and balances.
To see why the interactions could be important, note that when a political development occurs, its marginal effect on the probability of having a reversal need not positive or negative by itself. If economic fundamentals are strong, for example if the current account deficit is near to zero, there is no need for adjustment in the external sector. In such a case, only an interaction of the political economy variables with the economic variables could capture the effect of a changing political situation that combined with external accounts figures has a significant impact.

In the model run here, the coefficient of this interactive variable means that when the number of checks increases in the political system, the likelihood of facing a current account reversal increases in a way that is directly related to the level of the ratio of international reserves to GDP. The fact that it increases with the number of checks could be explained if when more checks are present, the government faces more institutional constraints, making it harder to introduce the reforms necessary for sustaining high deficits in the current account. However this simple explanation is challenged by the results that control over “all houses” has also a positive and significant coefficient, suggesting the opposite mechanism. Also the fact that it does so in a direct relation with the level of reserves posses some challenge to understanding.

The coefficient of the net international reserves to GDP ratio is significant at 5% level – but the probability of being 0 is 0.017\(^7\). This significance is an improvement to the model with no political economy variables, in which the coefficient is not significantly different from zero. Having a negative coefficient, the direct effect is that an increase in reserves reduces the probability of a reversal.

But through the interactive variable, we observe that when the reserves increase, there is also an indirect effect that depends on the number of checks present. That is, an increment of the level of reserves also increases the probability of a reversal by an amount that is directly related to the number of checks. For low levels of checks, the increase in reserves reduces the probability

---

\(^7\) In this paper I report these probability values following the methodological recommendation of Ziliak and McCloskey (2004) that “Size Matters” [See their discussion about statistical significance and economic significance].
of a reversal, but for high levels, an increment of reserves decreases directly the probability of a reversal by less than the increase through the interactive variable.

The effect of an increase in reserves lowering the likelihood of a reversal can be seen as a deterrent to the attack on the currency that would otherwise allow a necessary devaluation. So being the effect when the number of checks is low –that is, the executive has more political control- this could be showing the likely success of the government in sustaining a fixed exchange rate. To the contrary, when the number of checks is high, higher reserves seem to be ineffective, being correlated to higher probability of reversals –or may be showing some credibility issue. So more reserves could be an endogenous political response to signal commitment in an unsustainable situation, trying to defer what seems plausible. Also, in an environment in which the current account deficit seems sustainable, there is no need to have high reserves, and a policy response could be not having them. This finding about this double effect of international reserves and its interaction with the number of checks is surprising, but the consequences suggested by these results are of great political importance, especially considering that the level of reserves is one of the most carefully observed variables by economic agents, and constitute one of the main policy resources when facing prospects of a currency crises. A more subtle theoretical research could be insightful.

Finally, the contradictory effects of “checks” and “all houses” can be settled by looking at the relative sizes of the coefficients. “All houses” is a dummy variable, that when changing from zero to one increases the probability of a reversal in 0.11. This is approximately twice the impact of the probability of decreasing the number of checks by two –which accounts for gaining control over two revision instances, and is more than one standard deviation of the variable- at the mean level of international reserves. This indicates that the effect of controlling the legislative power is big enough to have a clear effect on the model.

Now that the role of each of the political economy variables in the model has been discussed, and after analyzing the interactive role of the variable “checks”, a last test of joint
significance seems appropriate before ending this section that present the empirical results. The hypothesis that all the coefficients of the political economy variables of the base model are simultaneously equal to zero is tested and rejected using the Wald test. The probability of them being simultaneously zero is 0.0012. This result, which may not seem surprising at this stage of the paper, does not lack of importance. The political economy surrounding the current account reversals influences the occurrence of such events significantly. Being those events so closely related to financial crises, it is vital to understand deeply the way in which the institutional and political circumstances play a role. By now, the inclusion of these variables in theoretical models is very unusual, and this shows a direction in which theoretical research is needed. Also empirical evidence of their impact is scarce. The casual observations of their importance, and the everyday recognition of experts that these factors are obviously central, do not have the appropriate correlation in the economic literature, be it theoretical or empirical.

As a final note to this section, I would like to comment on a result that is related to the study conducted here. Some doubt can remain about how similarly could be a current account deterioration to a current account improvement. Or to put it in another way, now that political economy seems to play an important role on these events of rapid current account recovery, one could ask, whether the same thing happen when a sudden deterioration happens. The result of running the same base model on these events does not achieve any meaningful result. Only the lagged current account and the domestic credit growth appear as statistically significant. I find this as evidence –though is only weak- that these two kinds of events, namely sudden large improvements and deteriorations, are completely different in nature, and the forces shaping them are not easily comparable. That is why I only focus on reversals as defined initially.
4-2- Robustness

Some robustness checks tests have been performed to evaluate the results previously presented. The definition of the current account reversal as an improvement of 4 percentage points in the current account balance in one year –instead of 3- leads to similar results for the political economy variables in the base model. Also, using a model with a logistic distribution instead of normal provides very similar results. Some variables –like the net international reserves to GDP ratio and “all houses”– become significant at a lower level, but they remain so. Not surprisingly, the correlation coefficient of the predicted probabilities of having a reversal using the probit and the logit models is 0.9979. Something similar happens when the events of consecutive improvements in the current account are disregarded. After eliminating those cases from the data set –112 observations–, the variable “all houses” was significant only at the 5% level and the interactive variable only at the 10%.

5- Economic Significance

In the previous section I have addressed the issue of the statistical significance of the political economy variables included in the model. It was necessary to do so in order to provide some support of their inclusion in the empirical model. However, any mindful economist would keep surveillance over the political events in the economy without even considering that they are superfluous, so their influence is not a surprise. Current account reversals are one of those economic events that are surrounded by great uncertainty, and the relevance of policy decisions makes the economic agents monitor the political events even more closely. Consequently, this paper provides some empirical evidence of that influence which was missing in the literature until now.
But more important than the statistical significance of the coefficients is the economic significance of the political economy variables. So, in this section I move from the question if political economy matters to the more important and interesting ones of how it matters and how much it matters\(^8\). The relevance of the study then will be given by the economic significance of these variables\(^9\).

5-1- Frauds and Candidate Intimidation

Consequently, in this section I will address the economic insight of these results. Let us begin with “frauds” which measures not only electoral fraud, but also political violence and candidate intimidation (see Appendix 2 for a detail of how it is measured). By having a positive coefficient, it means that the presence of such exasperated political climate increases the probability of having a reversal. As stated earlier, this is not the first empirical work supporting the idea of a negative impact of turmoil on the economy –for a good discussion about how political instability can affect property rights, investment and growth see Drazen (2000). But here I relate internal turmoil to the external sector of the economy. Note that a current account reversal is defined as a large increase in the external balance of the economy, and it happens almost simultaneously with a reversal of the capital account. This relationship can be altered through changes in the net international reserves, but long periods of divergence between both accounts are not sustainable. The increase in the current account balance is related to a decrease in the capital account balance, and political turmoil in this case is associated with a deterioration of the capital account, or a capital outflow. So, the idea that internal political violence leads to investor anxiety and external financial retrenchment is confirmed by the data in this study.

---

\(^8\) The discussion about the economic significance of the variable checks has been done simultaneously with the statistical significance earlier in the paper for the sake of clarity.

\(^9\) See Ziliak and McCloskey (2004) for a detailed discussion about economic significance.
Also the size of the coefficient is large and it is economically significant. At the mean of the other variables, a change in the dummy variable “frauds” from 0 to 1 increases the probability in more than 11 percentage points. Note that the unconditional expectation of having a reversal is less than 17%, so the magnitude of the impact of the variable “frauds” is large. A policy recommendation can be extracted from this result: preventing political turmoil is important for avoiding external sector problems. This brings an important lesson for government and also for multilateral institutions, especially when there is concern about fiscal deficit or growing debt. A typical policy recommendation is to reduce government budget deficits considering that this will alleviate the external sector distress. But here I am presenting a result that says that if political violence may follow a cut in expenditure, then the probability of a reversal could be increased neutralizing the positive relief brought by the expected debt reduction. This speaks of the importance of this variable.

In table 8 there are the predicted values for different levels of current account deficit and values of “frauds”. Here we can see a comparison of the effects of these two variables. Notice that the effect of the variable “frauds” is important even when compared with the level of the current account, which is a factor of maximum relevance. For example, at a zero deficit, and keeping all other variables at their means, the predicted probability is 5.07% when no fraud is present and 11.33% otherwise. That is, a difference of 6.26% is attributable to the latter variable. In order to have a similar effect varying only the current account deficit, we need it to increase it to 3.4% of GDP, which is a remarkable change. At that level, it jumps from 11.32% to 21.75% when the dummy for “frauds” changes from zero to one, that is 10.43 percentage points. In order to have such a change, the deficit would need to go as far as 6.8%. At that level, the jump is 14.49 percentage points, and we see in Figure 6 that the impact of this political economy variable is increasing with the level con current account deficit. This suggests another policy recommendation: to take these episodes of violence more seriously in an economic unstable situation –as it would be when the deficit is high.

27
Now let us compare the impact of this variable with that of the external debt level. In table 9 and in figure 7 we see an even more dramatic effect than in the previous case. The predicted probability when there is no fraud and only 10% of debt / GDP is 8.44%. If frauds are present it is 17.18%, that is an increase in 8.74 percentage points. In this case, the necessary level of debt to have the same probability when no fraud is present is 91.41% of GDP. At that level, frauds create an increase in probability of 13.04 percentage points taking it to 30.22%. It is common sense that an increase in debt is an important factor in deteriorating the sustainability of the current account. However, here we have a political economy effect that seems to be even more important.

Another question of interest is how costly are these episodes of political violence or frauds? The answer exceeds the scope of this paper, but we can evaluate the expected cost related to the reversals. We see here how they affect the probability of facing such an event, and we can combine this probability with the estimated cost for the economy of those reversals. Edwards (2004a) estimates it in –2.53% for an economy of an average openness\(^{10}\). Consequently, an approximate value for the cost of a fraud or candidate intimidation is 0.28% of GDP. Needless to say that the costs of these events exceed by far the number just sketched because the negative effect over institutions is long standing and have consequences in many areas of the economy. The previous number is just to have an idea of how costly they can be with respect to the external sector, area in which usually this cost is sometimes neglected when assessing public policy.

5-2- The Control Over All Legislative Houses

---

\(^{10}\) In his model the cost depends on how open is the economy. For the sake of simplicity I am just considering the average.
The variable “all houses” has an effect in the probability of having a reversal that is of similar magnitude to the one of the variable “frauds”, that is around 0.11. We see in table 10 and in figure 8 the compared effect with the current account deficit to GDP ratio. At zero deficit, the probability of facing a reversal increases from 2.38% to 7.76% -that is 5.38 percentage points-, an equivalent to increasing the current account deficit to 4.4% of GDP. At this last level, the increase is of 11.63 percentage points, equivalently to doubling the deficit to 8.8%. We observe large comparative impact again. At a CA / GDP ratio of 8.8 percent, the event of gaining control over the legislature would take the probability to 37.73%, increasing it by 18.60 percentage points. Table 11 and figure 9 show the comparison with the level of the debt. At a level of 10% external debt over GDP, the effect of changing from no control over both houses to controlling them is as large as to increase the debt to a level higher than 100% of GDP.

So, this dummy variable that is measuring if the executive branch of government has political control over both chambers of the legislative seems to be remarkably important. Why would that be? There is no clear answer for this question in the literature. No models of crises or of current account determination include this variable in the analysis. However, I think of a mechanism that could be explaining this relationship between reversals and control. It refers to the behavior of the capital account.

We see that reversals are more likely to happen when there is a large current account deficit, which means that there is a large amount of capital entering the country. The investors financing this deficit may be evaluating continuously the probability of a crisis in the external sector that could end in great distress for the economy, and could provide an incentive for the government to default on its debt. Also, the turmoil surrounding default episodes is not easy to handle for governments, which can be swept away by the crisis. A strong government, for example one that controls both chambers, might be more confident to undergo such a process. Consequently, investors may evaluate that an executive that controls the legislature is less reliable
and then the current account deficits could be less sustainable in these cases, increasing the probability of reversals.

5-3- Analysis of Standardized Estimates

Until here I have discussed the economic effects of changes in the independent variables, but it is worth to ask what are likely changes. Table 12 presents the unstandardized and standardized estimates for the probit base model. The economic variables appear to be of the maximum importance here, as expected. We can see that the lagged current account deficit to GDP ratio is the most important variable, with a standard coefficient of 0.89. The net international reserves to GDP ratio is also of high impact, with an estimate of –0.48 and impacting also through the interactive variable of its product with “checks”, with a coefficient of 0.76. Lastly, the external debt also shows importance, being 0.40 its standardized estimate. The political economy variables seem to have less impact when analyzing these likely changes in the independent variables, with “frauds” and “all houses” depicting coefficients of 0.15 and 0.25, respectively. The interpretation of the impact of the variable of checks and balances is somewhat tricky, since it does not appear in the model directly, but only through an interactive variable with the net reserves. Analyzing the impact of a change of one standard deviation of this product of two variables is not straightforward.

However, for the scope of the paper, just noting that the economic variables seem to be more important than the political ones is not a minor point. The previous section emphasized the importance of the latter, but did not mean to say that economic variables are superfluous. Consequently, to provide some balanced analysis, it is also appropriate to compare them with more likely changes in the independent, like those reflected by one standard deviation.
But this poses one problem of interpretation with respect to the dummy variables. What does it mean to have a one standard deviation in the dummy related to frauds and candidate intimidation? I find it more meaningful to think about the event under consideration, and for this reason I propose to compare the standardized coefficients of the economic variables with the unstandardized coefficients of the political dummies. The unstandardized coefficients of the variables “fraud” and “all houses” are 0.43 and 0.56, respectively, showing how important are those conditions in the probability of having a reversal. Although they are not as large as the standardized estimate for the current account deficit (0.89), they are of similar order of magnitude of the ones of the debt (0.40) and of the international reserves (0.48).

6- Conclusions

The objective of this paper was to fill in the gap in the empirical literature about how political economy variables affect the genesis of current account reversals. Using a new and complete database, the main findings are that political economy does play a role. Economic and political factors combine to alter the probability of such reversals. The specifically findings are: (1) institutional checks –when interacting with the ratio of the net international reserves to GDP-, (2) election frauds and intimidation to candidates, and (3) executive control over the legislature increase the probability of experiencing a reversal. It also shows that including these political economy variables helps to identify the impact of the ratio of net international reserves to GDP.

These political economy variables are quantitatively important, too. Their economic significance comes from comparing the impact that they have in the probability of facing a current account reversal. Electoral frauds and intimidation to candidates have an impact of a magnitude comparable to changes in the current account and in the level of external debt. Something similar occurs with concentration of power in the executive branch of government.
New policy recommendations can be extracted from these findings: when the current account balance seems unsustainable, and policy measures are being evaluated, it is extremely important to take into consideration events that could deteriorate the political climate.

The political economy variables found to matter are supported by previous literature in economics but the mechanism through which they affect the probabilities is not clear in some cases. More research is required to identify more clearly how the interact with economic variables and provide some theoretical insights that explain those mechanisms.

References


Table 1: Countries with consecutive current account reversals (CAR)

<table>
<thead>
<tr>
<th>Country</th>
<th>Number of consecutive CARs</th>
<th>Year events ended</th>
</tr>
</thead>
<tbody>
<tr>
<td>Guinea-Bissau</td>
<td>3</td>
<td>1995</td>
</tr>
<tr>
<td>Kenya</td>
<td>3</td>
<td>1983</td>
</tr>
<tr>
<td>Kuwait</td>
<td>3</td>
<td>1997</td>
</tr>
<tr>
<td>Maldives</td>
<td>4</td>
<td>1987</td>
</tr>
<tr>
<td>Mauritania</td>
<td>3</td>
<td>1989</td>
</tr>
<tr>
<td>Mauritania</td>
<td>3</td>
<td>1996</td>
</tr>
<tr>
<td>Mauritania</td>
<td>3</td>
<td>1986</td>
</tr>
<tr>
<td>Portugal</td>
<td>4</td>
<td>1985</td>
</tr>
<tr>
<td>Saudi Arabia</td>
<td>3</td>
<td>1996</td>
</tr>
<tr>
<td>Suriname</td>
<td>3</td>
<td>1994</td>
</tr>
<tr>
<td>Swaziland</td>
<td>4</td>
<td>1987</td>
</tr>
</tbody>
</table>

Table 2: Summary Statistics of the Political Economy Variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frauds</td>
<td>0.1059</td>
<td>0.3078</td>
</tr>
<tr>
<td>System</td>
<td>0.7667</td>
<td>0.8971</td>
</tr>
<tr>
<td>Majority</td>
<td>0.7510</td>
<td>0.2199</td>
</tr>
<tr>
<td>All Houses</td>
<td>0.6588</td>
<td>0.4742</td>
</tr>
<tr>
<td>Checks</td>
<td>2.360</td>
<td>1.711</td>
</tr>
<tr>
<td>Polarization</td>
<td>0.3226</td>
<td>0.7062</td>
</tr>
<tr>
<td>Years in Office</td>
<td>7.800</td>
<td>8.056</td>
</tr>
<tr>
<td>Legislative Elections</td>
<td>0.1843</td>
<td>0.3878</td>
</tr>
<tr>
<td>Executive Elections</td>
<td>0.0766</td>
<td>0.2660</td>
</tr>
<tr>
<td>Stability</td>
<td>0.1191</td>
<td>0.2827</td>
</tr>
</tbody>
</table>

Figure 1: Political Systems

Note: Parliamentary (2), Assembly-elected President (1), Presidential (0)

Figure 2: Checks
Figure 3: Polarization

Figure 4: Years in Office
Figure 5: Stability (percentage of veto players that change in a given year)

Table 3: CA Reversal and Lagged “All Houses”

<table>
<thead>
<tr>
<th></th>
<th>No Control Over Legislature</th>
<th>Control Over Legislature</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>No CA Reversal</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>827</td>
<td>1,265</td>
<td>2,092</td>
</tr>
<tr>
<td></td>
<td>39.53</td>
<td>60.47</td>
<td>100.00</td>
</tr>
<tr>
<td></td>
<td>87.51</td>
<td>79.16</td>
<td>82.27</td>
</tr>
<tr>
<td><strong>CA Reversal</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>118</td>
<td>333</td>
<td>451</td>
</tr>
<tr>
<td></td>
<td>26.16</td>
<td>73.84</td>
<td>100.00</td>
</tr>
<tr>
<td></td>
<td>12.49</td>
<td>20.84</td>
<td>17.73</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>945</td>
<td>1,598</td>
<td>2,543</td>
</tr>
<tr>
<td></td>
<td>37.16</td>
<td>62.84</td>
<td>100.00</td>
</tr>
<tr>
<td></td>
<td>100.00</td>
<td>100.00</td>
<td>100.00</td>
</tr>
</tbody>
</table>

Pearson $\chi^2$ (1) = 28.39   Pr = 0.000
Table 4: CA Reversal and Lagged “System”

<table>
<thead>
<tr>
<th></th>
<th>Presidential</th>
<th>Semi-Presidential</th>
<th>Parliamentary</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>No CA Reversal</td>
<td>1,283</td>
<td>255</td>
<td>927</td>
<td>2,465</td>
</tr>
<tr>
<td></td>
<td>52.05</td>
<td>10.34</td>
<td>37.61</td>
<td>100.00</td>
</tr>
<tr>
<td></td>
<td>77.52</td>
<td>81.21</td>
<td>84.97</td>
<td>80.56</td>
</tr>
<tr>
<td>CA Reversal</td>
<td>372</td>
<td>59</td>
<td>164</td>
<td>595</td>
</tr>
<tr>
<td></td>
<td>62.52</td>
<td>9.92</td>
<td>27.56</td>
<td>100.00</td>
</tr>
<tr>
<td></td>
<td>22.48</td>
<td>18.79</td>
<td>15.03</td>
<td>19.44</td>
</tr>
<tr>
<td>Total</td>
<td>1,655</td>
<td>314</td>
<td>1,091</td>
<td>3,060</td>
</tr>
<tr>
<td></td>
<td>5.08</td>
<td>10.26</td>
<td>35.65</td>
<td>100.00</td>
</tr>
<tr>
<td></td>
<td>100.00</td>
<td>100.00</td>
<td>100.00</td>
<td>100.00</td>
</tr>
</tbody>
</table>

Pearson $\chi^2$ (2) = 23.37  Pr = 0.000

Table 5: CA Reversal and Lagged “Frauds”

<table>
<thead>
<tr>
<th></th>
<th>No Frauds</th>
<th>Frauds</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>No CA Reversal</td>
<td>1,864</td>
<td>217</td>
<td>2,081</td>
</tr>
<tr>
<td></td>
<td>89.57</td>
<td>10.43</td>
<td>100.00</td>
</tr>
<tr>
<td></td>
<td>82.40</td>
<td>78.34</td>
<td>81.96</td>
</tr>
<tr>
<td>CA Reversal</td>
<td>398</td>
<td>60</td>
<td>458</td>
</tr>
<tr>
<td></td>
<td>86.90</td>
<td>13.10</td>
<td>100.00</td>
</tr>
<tr>
<td></td>
<td>17.60</td>
<td>21.66</td>
<td>18.04</td>
</tr>
<tr>
<td>Total</td>
<td>2,262</td>
<td>277</td>
<td>2,539</td>
</tr>
<tr>
<td></td>
<td>89.09</td>
<td>10.91</td>
<td>100.00</td>
</tr>
<tr>
<td></td>
<td>100.00</td>
<td>100.00</td>
<td>100.00</td>
</tr>
</tbody>
</table>

Pearson $\chi^2$ (1) = 2.759  Pr = 0.097
### Table 6

<table>
<thead>
<tr>
<th>Without political economy variables</th>
<th>Base Model</th>
<th>No System Control for Polariz.</th>
<th>Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CA deficit to GDP</strong></td>
<td>0.02109</td>
<td>0.02946</td>
<td>0.03009</td>
</tr>
<tr>
<td></td>
<td>(8.18)***</td>
<td>(9.32)***</td>
<td>(8.99)***</td>
</tr>
<tr>
<td><strong>External Debt to GDP</strong></td>
<td>0.00125</td>
<td>0.00124</td>
<td>0.00134</td>
</tr>
<tr>
<td></td>
<td>(2.77)***</td>
<td>(2.34)***</td>
<td>(2.50)***</td>
</tr>
<tr>
<td><strong>Net. Intl. Res. to GDP</strong></td>
<td>-0.00052</td>
<td>-0.00693</td>
<td>-0.00840</td>
</tr>
<tr>
<td></td>
<td>(-0.29)</td>
<td>(-2.04)**</td>
<td>(-2.11)**</td>
</tr>
<tr>
<td><strong>Short-term Ext. Debt to Exp.</strong></td>
<td>-0.00039</td>
<td>-0.00073</td>
<td>-0.00051</td>
</tr>
<tr>
<td></td>
<td>(-0.92)</td>
<td>(-1.48)</td>
<td>(-1.07)</td>
</tr>
<tr>
<td><strong>Domestic Credit Growth</strong></td>
<td>0.00004</td>
<td>0.00005</td>
<td>0.00005</td>
</tr>
<tr>
<td></td>
<td>(1.17)</td>
<td>(1.37)</td>
<td>(1.49)</td>
</tr>
<tr>
<td><strong>Ext. Debt Service to Exp.</strong></td>
<td>0.00104</td>
<td>0.00156</td>
<td>0.00093</td>
</tr>
<tr>
<td></td>
<td>(0.86)</td>
<td>(1.22)</td>
<td>(0.67)</td>
</tr>
<tr>
<td><strong>Checks * Reserves</strong></td>
<td>0.00344</td>
<td>0.00346</td>
<td>0.00425</td>
</tr>
<tr>
<td></td>
<td>(3.36)***</td>
<td>(3.38)***</td>
<td>(3.37)***</td>
</tr>
<tr>
<td><strong>Polarization</strong></td>
<td></td>
<td></td>
<td>-0.00192</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(-0.06)</td>
</tr>
<tr>
<td><strong>Fraud</strong></td>
<td>0.11636</td>
<td>0.11740</td>
<td>0.10430</td>
</tr>
<tr>
<td></td>
<td>(2.28)**</td>
<td>(2.31)**</td>
<td>(1.93)*</td>
</tr>
<tr>
<td><strong>System</strong></td>
<td>0.02680</td>
<td>0.05056</td>
<td>0.03866</td>
</tr>
<tr>
<td></td>
<td>(0.54)</td>
<td>(0.97)</td>
<td></td>
</tr>
<tr>
<td><strong>Majority</strong></td>
<td>0.08214</td>
<td>0.08058</td>
<td>0.21613</td>
</tr>
<tr>
<td></td>
<td>(0.82)</td>
<td>(0.81)</td>
<td>(1.86)*</td>
</tr>
<tr>
<td><strong>All Houses</strong></td>
<td>0.11407</td>
<td>0.11065</td>
<td>0.09569</td>
</tr>
<tr>
<td></td>
<td>(2.62)***</td>
<td>(2.55)**</td>
<td>(1.97)**</td>
</tr>
<tr>
<td><strong>Years at Office</strong></td>
<td></td>
<td></td>
<td>0.00218</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(0.85)</td>
</tr>
<tr>
<td><strong>Stability</strong></td>
<td></td>
<td></td>
<td>0.00550</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(0.13)</td>
</tr>
<tr>
<td><strong>Observations</strong></td>
<td>1532</td>
<td>1110</td>
<td>1110</td>
</tr>
<tr>
<td><strong>Wald chi2 (deg. of freedom)</strong></td>
<td>286.55</td>
<td>264.83</td>
<td>259.88</td>
</tr>
<tr>
<td></td>
<td>(117)</td>
<td>(112)</td>
<td>(111)</td>
</tr>
</tbody>
</table>

The dependent variable is a dummy indicating a current account reversal.
Changes in probabilities at the mean are reported instead of the probit coefficients. z statistics between parentheses.
All variables are lagged one year. Country-specific and year dummies are included but not reported.
* Significant at 10%, ** significant at 5%, *** significant at 1%.
The dependent variable is a dummy indicating a current account reversal. Changes in probabilities at the mean are reported instead of the probit coefficients. z statistics between parentheses.
All variables are lagged one year. Country-specific and year dummies are included but not reported.
Significant at 10%, ** significant at 5%, *** significant at 1%.
Table 8

Predicted Probabilities for Different Values of Current Account Deficits and Frauds

<table>
<thead>
<tr>
<th>CA Deficit /GDP (%)</th>
<th>No Fraud or Intimidation</th>
<th>Fraud or Intimidation</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0.0507</td>
<td>0.1133</td>
<td>0.0626</td>
</tr>
<tr>
<td>3.4</td>
<td>0.1132</td>
<td>0.2175</td>
<td>0.1043</td>
</tr>
<tr>
<td>6.8</td>
<td>0.2174</td>
<td>0.3623</td>
<td>0.1449</td>
</tr>
</tbody>
</table>

All other variables at their means.

Table 9

Predicted Probabilities for Different Values of External Debt and Frauds

<table>
<thead>
<tr>
<th>External Debt / GDP (%)</th>
<th>No Fraud or Intimidation</th>
<th>Fraud or Intimidation</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>10.25</td>
<td>0.0844</td>
<td>0.1718</td>
<td>0.0874</td>
</tr>
<tr>
<td>91.41</td>
<td>0.1718</td>
<td>0.3022</td>
<td>0.1304</td>
</tr>
</tbody>
</table>

All other variables at their means.

Table 10

Predicted Probabilities for Different Values of Current Account Deficits and Control over the Legislature

<table>
<thead>
<tr>
<th>CA Deficit /GDP (%)</th>
<th>No Control</th>
<th>Control</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0.0238</td>
<td>0.0776</td>
<td>0.0538</td>
</tr>
<tr>
<td>4.4</td>
<td>0.0767</td>
<td>0.1930</td>
<td>0.1163</td>
</tr>
<tr>
<td>8.8</td>
<td>0.1913</td>
<td>0.3773</td>
<td>0.1860</td>
</tr>
</tbody>
</table>

All other variables at their means.

Table 11

Predicted Probabilities for Different Values of External Debt and Control over the Legislature

<table>
<thead>
<tr>
<th>External Debt / GDP (%)</th>
<th>No Control</th>
<th>Control</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>10.25</td>
<td>0.0424</td>
<td>0.1224</td>
<td>0.0800</td>
</tr>
<tr>
<td>98.86</td>
<td>0.1045</td>
<td>0.2436</td>
<td>0.1391</td>
</tr>
</tbody>
</table>

All other variables at their means.
Table 12

Unstandardized and Standardized Estimates for the Base Model

<table>
<thead>
<tr>
<th></th>
<th>Unstandardized Estimates</th>
<th>Standardized Estimates</th>
</tr>
</thead>
<tbody>
<tr>
<td>CA deficit to GDP</td>
<td>0.1260</td>
<td>0.8924</td>
</tr>
<tr>
<td>External Debt to GDP</td>
<td>0.0053</td>
<td>0.4046</td>
</tr>
<tr>
<td>Net. Intl. Res. to GDP</td>
<td>-0.0296</td>
<td>-0.4830</td>
</tr>
<tr>
<td>Short-term Ext. Debt to Exp.</td>
<td>-0.0031</td>
<td>-0.1772</td>
</tr>
<tr>
<td>Domestic Credit Growth</td>
<td>0.0002</td>
<td>-0.1657</td>
</tr>
<tr>
<td>Ext. Debt Service to Exp.</td>
<td>0.0067</td>
<td>0.0964</td>
</tr>
<tr>
<td>Checks * Reserves</td>
<td>0.0147</td>
<td>0.7672</td>
</tr>
<tr>
<td>Fraud</td>
<td>0.4288</td>
<td>0.1462</td>
</tr>
<tr>
<td>System</td>
<td>0.1145</td>
<td>0.1003</td>
</tr>
<tr>
<td>Majority</td>
<td>0.3509</td>
<td>0.0755</td>
</tr>
<tr>
<td>All Houses</td>
<td>0.5604</td>
<td>0.2477</td>
</tr>
</tbody>
</table>
Figure 6: Predicted probability of a Current Account Reversal

All other variables at their means

Figure 7: Predicted probability of a Current Account Reversal

All other variables at their means
Figure 8: Predicted Probability of a Current Account Reversal

![Graph showing predicted probability of a Current Account Reversal.](image)

All other variables at their means

Figure 9: Predicted probability of a Current Account Reversal

![Graph showing predicted probability of a Current Account Reversal.](image)

All other variables at their means
Appendix 1: Summary Statistics of the Economic Variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current Account Reversals</td>
<td>0.1954</td>
<td>0.3966</td>
</tr>
<tr>
<td>CA Deficit to GDP (%)</td>
<td>3.974</td>
<td>10.10</td>
</tr>
<tr>
<td>External Debt to GDP (%)</td>
<td>67.35</td>
<td>70.53</td>
</tr>
<tr>
<td>Net. Intl. Res. to GDP (%)</td>
<td>10.41</td>
<td>13.39</td>
</tr>
<tr>
<td>Short-term Ext. Debt to Exp. (%)</td>
<td>35.96</td>
<td>54.40</td>
</tr>
<tr>
<td>Domestic Credit Growth (%)</td>
<td>-31.95</td>
<td>4110</td>
</tr>
<tr>
<td>Ext. Debt Service to Exp. (%)</td>
<td>17.85</td>
<td>14.58</td>
</tr>
</tbody>
</table>


Appendix 2: Detail of Selected Political Economy Variables

Extracted from Keefer (2002a).

Chief Executive Variables

SYSTEM
Parliamentary (2), Assembly-elected President (1), Presidential (0)

Systems with unelected executives (those scoring a 2 or 3 on the Executive Index of Political Competitiveness – to be defined below) get a 0. Systems with presidents who are elected directly or by an electoral college (whose only function is to elect the president), in cases where there is no prime minister, also receive a 0. In systems with both a prime minister and a president, we consider the following factors to categorize the system:

a) Veto power: president can veto legislation and the parliament needs a supermajority to override the veto.

b) Appoint prime minister: president can appoint and dismiss prime minister and / or other ministers.

c) Dissolve parliament: president can dissolve parliament and call for new elections.

d) Mentioning in sources: If the sources mention the president more often than the PM then this serves as an additional indicator to call the system presidential (Romania, Kyrgyzstan, Estonia, Yugoslavia).

The system is presidential if (a) is true, or if (b) and (c) are true. If no information or ambiguous information on (a), (b), (c), then (d).

Countries in which the legislature elects the chief executive are parliamentary (2), with the following exception: if that assembly or group cannot easily recall him (if they need a 2/3 vote to impeach, or must dissolve themselves while forcing him out) then the system gets a 1.
YEARS IN OFFICE (YRSOFFC)
How many years has the chief executive been in office?

Some decision rule is needed to deal with partial years. We use the following: years are counted in which the executive was in power as of January 1 or was elected but hadn’t taken office as of January 1. Thus, a “1” is recorded in the year following his/her election. Example: Bush was president as of January 1, 1992, so although he lost the election in November 1992, this variable is recorded as a 4 in 1992, marking Bush’s fourth year in office. Although Clinton was elected in November of 1992 and took office in January 1993, since he was president-elect on January 1 1993, this variable is recorded as “1” for 1993.

If a country made a transition from colony to independence, we date a chief executive’s tenure to the granting of internal self-government, not the start of independence. Republics of the Soviet Union do not fall into this category - they are tracked from full independence.

The executive who formally (de jure) holds power is counted. However, the executive must actually be in the country to be counted. If an executive is deposed by a coup and returns to power within the same calendar year, the coup is counted as “failed” and the executive’s rule is considered unbroken. On the other hand, if a parliamentary government resigns and then is re-appointed, this is counted as a new government.

In the case of Communist nations, we track the general secretary of the Communist party, regardless of who is president/premier.

ALLHOUSE
Does party of executive control all relevant houses?

Does the party of the executive have an absolute majority in the houses that have lawmaking powers? The case of an appointed Senate is considered as controlled by the executive. A senate made up along the lines of ethnic or tribal representation is not controlled by the executive, as these groups nominate their own representatives.

EXECRLC
Right (R); Left (L); Center (C); Not applicable (0)

Our sources had little detail on party platforms and agendas with respect to economic policy. Therefore, to identify party orientation with respect to economic policy, we used the following criteria:

1) In the Handbooks, we first considered the party name, and used the following rules:
   Right: for parties that are defined as conservative, Christian democratic, or right-wing.
   Left: for parties that are defined as communist, socialist, social democratic, or left-wing.
   Center: for parties that are defined as centrist or when party position can best be described as centrist (e.g. party advocates strengthening private enterprise in a social-liberal context). *Not described as centrist if competing factions “average out” to a centrist position (e.g. a party of “right-wing Muslims and Beijing-oriented Marxists”).*
   0: for all those cases which do not fit into the above-mentioned category (i.e. party’s platform does not focus on economic issues, or there are competing wings).
   Blank: for those cases where orientation is unknown.

2) If the orientation of a party was not immediately obvious from its name or description in the handbooks, we consulted the website: http://www.agora.stm.it/elections/parties.htm. This site provides one-word descriptions of party orientation which could be fit into the above framework.
Cross-checks on parties listed in both sources showed a high degree of agreement. As this source provided no historical information, we assumed that party location on the left-right spectrum remained unchanged over time, and we recorded this party orientation for all years.

Terms on the website such as “liberal”, “progressive”, “authoritarian” or “xenophobic” were dealt with in the following way: For “liberal” we went with the European definition (right), since the website is based in Europe. We classified “progressive”, “authoritarian”, “xenophobic” as “0” (none of the above) unless we had additional information that allowed us to position the party on the left-right spectrum (see 2).

3) We further spot-checked party orientations with Political Parties of Africa and the Middle East and Political Parties of Eastern Europe and the Successor States, both published by Longman Current Affairs series. If there was a conflict among these sources, we went with the description of the party economic platform (from any source).

4) If there was evidence that the executive deviated considerably from the party orientation (e.g. austerity policy of a socialist / social democratic party) the executive’s orientation is recorded in the database.

5) Finally, we compared our coding with that of Inglehart and Huber (1995). The coincidence of coding was high, but there were some discrepancies between theirs (based on party platforms) and ours (determined as stated above). When we noted deviations, we revisited our sources to determine whether a change in coding was warranted.

**Stability and Checks & Balances**

**CHECKS**

CHECKS equals one if LIEC OR EIEC is less than 5 – countries where legislatures are not competitively elected are considered countries where only the executive wields a check. (See below for a definition of LIEC and EIEC).

In countries where LIEC and EIEC are greater than or equal to 5:

CHECKS is incremented by one if there is a chief executive (it is blank or NA if not).

CHECKS is incremented by one if the chief executive is competitively elected (EIEC greater than six).

CHECKS is incremented by one if the opposition controls the legislature.

In presidential systems, CHECKS is incremented by one:

for each chamber of the legislature UNLESS the president’s party has a majority in the lower house AND a closed list system is in effect (implying stronger presidential control of his/her party, and therefore of the legislature).

for each party coded as allied with the president’s party and which has an ideological (left-right-center) orientation closer to that of the main opposition party than to that of the president’s party.

In parliamentary systems, CHECKS is incremented by one

for every party in the government coalition as long as the parties are needed to maintain a majority
for every party in the government coalition that has a position on economic issues (right-left-center) closer to the largest opposition party than to the party of the executive.

In parliamentary systems, the prime minister’s party is not counted as a check if there is a closed rule in place – the prime minister is presumed in this case to control the party fully.

**POLARIZATION (POLARIZ)**

**Maximum polarization between the executive party and the four principle parties of the legislature**

POLARIZ is zero if LIEC or EIEC are less than five (elections are not competitive).

POLARIZ is zero if the chief executive’s party has an absolute majority in the legislature.

Otherwise:

POLARIZ is the maximum difference between the chief executive’s party’s value (EXECRLC) and the values of the three largest government parties and the largest opposition party. (EXECRLC as defined earlier).

**STABILITY**

**STABS**

This counts the percent of veto players who drop from the government in any given year. Veto players are defined as in CHECKS.

If LIEC is less than 5 in year $t-1$, then it is assumed that the only veto player in year $t-1$ is the executive.

STABS in year $t$ is 1 if chief executive changes in year $t$, 0 otherwise.

If LIEC is 5 or greater:

In presidential systems, if the president does not control the legislature (via closed list and a majority), then veto players are the president, and each chamber. If presidents gain control of the legislature in time $t$, then the chambers are counted as no longer being veto players. Similarly, if the president changes. If the largest opposition party has a majority in the legislature in time $t-1$ but not in time $t$, a change in veto players is again recorded. If the largest government party has a majority in the legislature (and there is no closed list) in time $t-1$ but not in time $t$, a change in veto player is again recorded.

In parliamentary systems, if members of the government coalition in $t-1$ are no longer in government in $t$, that number of veto players changes. Similarly if the prime minister changes. If an opposition party has a majority in $t-1$ but that same party does not have a majority in $t$, then one veto player is said to have dropped. If parliamentary systems go from no government majority or no closed list to government majority and closed list in time $t$, then the chambers are counted as no longer being veto players.
Electoral Rules

Legislative and Executive Indices of Electoral Competitiveness
(criteria modified from the scale created by Ferree & Singh 1999)

<table>
<thead>
<tr>
<th>LIEC Legislative IEC</th>
<th>Scale:</th>
</tr>
</thead>
<tbody>
<tr>
<td>No legislature:</td>
<td>1</td>
</tr>
<tr>
<td>Unelected legislature:</td>
<td>2</td>
</tr>
<tr>
<td>Elected, 1 candidate:</td>
<td>3</td>
</tr>
<tr>
<td>1 party, multiple candidates:</td>
<td>4</td>
</tr>
<tr>
<td>multiple parties are legal but only one party won seats:</td>
<td>5</td>
</tr>
<tr>
<td>multiple parties DID win seats but the largest party received more than 75% of the seats:</td>
<td>6</td>
</tr>
<tr>
<td>largest party got less than 75%:</td>
<td>7</td>
</tr>
</tbody>
</table>

- In the case of “Front” parties (as in many Communist nations), the same criteria as in the legislature is used to separate single from multiple parties.

- Voting irregularities are picked up elsewhere, and are ignored here.

- If an elected legislature exists but parties are banned (i.e. a legislature made up of independents), the legislature gets a 4.

- Constituent assemblies, if convened for the *sole* purpose of drafting a constitution, are not counted as legislatures (i.e. system gets a 1 if there are no other assemblies).

- Appointed advisory councils (frequently used in the Middle East and North Africa) are given a 2, but only if they have legislative power.

- If it is unclear whether there is competition among elected legislators in a single-party system, a “3.5” is recorded.

- If multiple parties won seats but it is unclear how many the largest party got, a “6.5” is recorded.

- If it is not clear whether multiple parties ran and only one party won or multiple parties ran and won more than 75% of the seats, a “5.5” is recorded

- Assemblies that are elected with indefinite (or life-long) terms are scored based on their competitiveness, *then marked down by one*.

- Assemblies that are elected by other groups are scored based on the competitiveness of those groups.

- If an assembly is partly elected and party appointed, we score based on how the majority is decided.

- Assemblies operating under conditions of civil war or where there are power struggles within a country, with the result that its institutions do not control most of the territory or the most important parts of the territory, are scored as 1. This is irrespective of how competitively the assembly has been elected and its formal powers.
• Even if the right to vote or the right to run for office is restricted to a small sub-group of the population, we still score according to the normal system and make a note.

**EIEC Executive IEC**

• Uses same scale as Legislative IEC

• Executives who are:
  1) Elected directly by population, or
  2) Elected by an electoral college that is elected by the people and has the sole purpose of electing the executive, are scored on the above scale.

• Executives elected by bodies other than these are given the same score that the electing body would get. Even if the electing body is not the actual “legislature” that is tracked in the LIEC (such as an appointed electoral college), the competitiveness of that body is used to score the executive.

• This means that competitively elected prime ministers get 6 or 7. The chief executives of Communist nations (the chairman of the Communist Party) is given a 3, because they are elected by the Party Congress, electing bodies which they do not appoint. Executives elected by small, appointed juntas or by appointed electoral colleges get 2.

• Rival chief executives in one country, particularly in the setting of armed conflicts, are counted as No executives, and thus score a 1.

• Referenda and votes by “popular acclamation” on unelected executives are scored as 3.

• If executives unilaterally extend their terms of office, they get a 2 starting in the year they should have held elections. Any executive elected for life, even by the people or an elected assembly, gets a 2. This elected-for-life rule is slightly different from that followed for legislatures that unilaterally extend their rule.

For “Electoral Rules” variables: all get an NA if the LIEC is 1. If LIEC is 2, then legislature is unelected and we infer that district magnitude is NA. If LIEC is less than or equal to 4, then PR is also NA irrespective of district magnitude. If LIEC is less than or equal to 3.5, then both PR and Plurality are NA.

In order to assess electoral rules we use the IPU website as well as the Europa Yearbook (and to a lesser extent Banks). IPU has the most recent information whereas Europa has information up to 1984, and from 1990 to 1994. If there are discrepancies between Europa (to 1984) and IPU (1998), we assume that changes have occurred, and only input the IPU information for 1995, leaving blanks from 1985 to 1994. If the IPU matched the Europa exactly, we assumed no changes took place, and filled in the intervening years. In the event that a system changed and then switched back, this introduces errors. Since this assumption was made only when institutions from 1984 matched those in 1998, these cases are limited to very stable democracies.

**FRAUD**

*Were vote fraud or candidate intimidation serious enough to affect the outcome of elections?*

This variable captures extra-constitutional irregularities, which are recorded only if mentioned in sources. 0 reported for countries where, for example, opposition parties are officially and constitutionally banned or where irregularities are not mentioned (although may still exist); “1” when opposition is officially legal but suppressed anyway. If not an election year, or if elected government has been deposed, refers to most recent election (i.e. the only way to get rid of a “1” is to hold a fair election). Recording is irrespective of whether only opposition claims that fraudulent elections have occurred or whether allegations are backed by independent international observers. Recorded also are any forms of boycotts carried out by important
parties before or after parliamentary elections. In the cases where irregularities are mentioned in the text of the sources, they were recorded. However, there may have been instances of fraud/violence that were not reported, thus resulting in false negatives.