

Merit or Luck? International Determinants of Presidential Performance in Latin America*

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Abstract

Economic voting is a widely accepted regularity in the political science literature; voters hold governments accountable for economic performance, rewarding them in good times and punishing in bad ones. Yet most of the literature on economic voting either assumes that economic performance is a result of governments' decisions or, in case it is not, that voters are aware of it. In this paper we challenge this assumption, by showing that in Latin America voters punish and reward presidents based on factors which are utterly exogenous to leaders' decisions. Our study reveals that it is possible to predict presidential success in Latin America without resorting to a single domestic economic factor, just based on the behavior of commodity prices and international interest rates. These findings have important implications for the literature on economic voting, and challenge the notion of accountability ex-post in Latin America.

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Carlos Andrés Pérez governed oil-rich Venezuela for the first time between 1974 and 1979, presiding over an unprecedented oil boom. In the late 1980's he ran and won a second term on the promise to revive the "good times." His second government coincided with the lowest oil prices in modern history, he could not match his original performance and did not make it to the end of his term. Even though he did not control oil prices, Venezuelans neither "cut him some slack" for the rough economic scenario the country faced in the early 1990's, nor discounted the impressive performance he delivered in the 1970's.

These dynamics are not restricted to oil-rich countries. Most of Venezuela's regional counterparts are subject to the same process because they essentially commodity exporters, whose prices are set in an international market, independently of any action taken by the presidents themselves. Moreover, commodity prices are not the only way in which presidents are at the mercy of external economic conditions.

When the Federal Reserve Bank under Paul Volcker increased US interest rates sharply to deal with stagflation, capital flows to Latin America dried up, and all governments faced extreme duress in an inflationary crisis that lasted for a decade. Most military regimes in the region ended, and elected presidents governing through the hard times that followed suffered with low popularity and had a dismal record electing their successors. In contrast, in the early 1990's, when US interest rates hit their lowest point in decades, an abundance of capital flowed into the region seeking better returns. Presidents in countries as varied as Peru, Argentina, and Brazil were credited by their domestic constituents with ending inflation through the usage of ingenious exchange rate-based stabilization plans, and were reelected. Voters did not discount the fact that international conditions beyond the president's control were very auspicious for such plans allowing inflation to be brought under control in most countries at about the same time.

In this paper, we address these issues systematically by examining the extent to which international economic conditions that are *not* under the control of Latin American presidents affect voters' assessments. We show that these conditions have, indeed, a strong impact on presidential popularity and reelection rates, and as such, provide a greatly consequential twist to standard economic voting theories.

The economic vote is a widely accepted regularity in the political science literature. Scholars since Kramer (1971) have long established a positive correlation between eco-

conomic performance and the success of politicians and parties in office. In its simplest form, economic voting posits that citizens hold the government responsible for economic events, rewarding incumbents in good times and punishing them in bad times.

A number of caveats apply to this simple notion. Among them, scholars have debated whether economic voting is a matter of sanction or selection (retrospective or prospective), if it is sociotropic or egotropic, which instances of government get punished and rewarded under different institutional settings, and what determines the aspects of the economy voters respond to.

More directly relevant to our analysis, scholars have been increasingly interested on whether and how voters differentiate economic performance which results from policy-making from that determined by exogenous factors beyond governments' control. Initial studies of economic voting did not problematize whether economic performance was actually a function of governments' competence. Only more recently authors have begun to focus on voters' behavior in a scenario in which performance results not only from competence but also from exogenous factors. Yet, models generally assume that voters are capable of identifying one from the other and therefore to punish/reward competence after discounting luck. Although this assumption seems to find support in the literature on economic voting in the OECD, here we argue that it does not apply in most Latin American countries.

Latin American countries are particularly suitable for this analysis. They share a longer democratic history than other emerging economies, and many institutional similarities—such as fixed presidential terms, and concentration of power in the executive branch—that favor comparative analyses of the impact of economic performance on incumbents' success.

Also very importantly, not only these economies are heavily dependent on exogenous factors, but these factors have been extensively studied by economists. Since many Latin American countries are mostly commodity exporters and have very low levels of domestic savings, economic performance in the region is highly determined by the behavior of commodity prices and of capital flows that vary with fluctuations in international interest rates. Latin American economies suffer when commodity prices are low and international interest rates are high, and do particularly well when the opposite occurs.

There are many reasons to believe that Latin American voters are unaware of these

cycles. Latin American democracies are relatively young, and those that fit the commodity exporting/low savings description also tend to have a long tradition of inward looking economic development, which suggests that citizens are less oriented towards the world economy than, for example, Europeans, or even than latin americans in countries that are very closely tied to the US economy. For all these reasons, we hypothesize that voters will ignore exogenous determinants of economic performance, attribute variations in economic performance to the incumbents, and reward lucky incumbents in “good times”—when commodity prices are high and international interest rates are low—and punish the unlucky ones in “bad times,” when the opposite happens.

We start, in the next section, with a discussion of why and how exogenous factors determine economic performance in Latin America, we lay out our hypothesis and present our index of “good economic times,” which summarizes the international factors that influence on most latin american economies. We also divide the countries in two groups, those whose economy is “determined” by the exogenous economic factors, and those that whose economy are “not determined”.

In the following section we examine the extent to which a positive economic outlook affects reelection in a large sample of Latin American countries. We find a strong effect of the exogenous economic indicator on the probability of reelection that in the determined countries, and no effect in the not determined countries.

The subsequent section takes a closer look at two countries and examine the extent to which monthly presidential popularity varies with these exogenous economic factors. We find that in the case of a determined country it is possible to satisfactorily predict presidential popularity using solely our index of good economic times, which is clearly *exogenous* to president’s decisions. In contrast, in the case of the country whose economy is not determined by the same international factors our indicator of good economic times has no effect on presidential popularity.

These findings have important implications for the study of economic voting. They suggest that, in less developed democracies, uninformed voters are not always capable of correctly attributing responsibilities to incumbents. If this is true, the linkage between punishment/reward and performance is broken, potentially decreasing governments’ electoral incentives to improve policymaking, and loosening the connection between economic voting and democratic accountability.

Exogenous Determinants of Economic Performance

Students of economic voting have paid serious attention to the problem of assigning responsibility for economic performance. Most of this research examines institutional characteristics of political systems, and how they concentrate or disperse responsibility for the economy among different branches of government. Samuels (2004), for example, shows that in presidential systems electoral sanctioning is stronger when presidential and legislative elections are concurrent; Johnson & Schwindt-Bayer (2009) reinforce these findings in a sample restricted to Central American countries. Benton (2005) argues that citizens punish incumbents when electoral laws are more restrictive, limiting party competition. Cutler (2004) contends that federalism and intergovernmental policymaking may reduce voters' ability to hold their governments accountable.

Less attention has been paid, however, to another very important aspect of the assignment of responsibility problem: whether voters can identify and, if so, how they respond, to circumstances in which economic performance has an important exogenous component. This has become more problematic as economic integration advances and the share of economic performance determined by exogenous factors increases.

Alesina & Rosenthal (1995) offer a foundation for this analysis by proposing a model in which economic growth is established as a function of a natural rate plus unanticipated shocks that are caused by incumbents' competence, and by an exogenous element. In this model, voters can not identify the components of economic shocks, but by observing the variance of these shocks over time they attribute more or less responsibility to incumbents for the economy. Scheve (2000) uses a similar framework to argue that globalization, by reducing the variance of exogenous shocks, should increase voters' capacity to punish/reward governments' competence.

More recently, Duch & Stevenson (2008) propose a modification to Alesina & Rosenthal's (1995) model, which establishes two different types of decision-makers: electorally dependent (EDDs) and non-electorally dependent (NEDDs). The first one includes elected officials, and the second encompasses firms, interest groups, bureaucrats, foreign lenders, international institutions, and any other non-elected actors whose decisions have an impact in the economy. In this model, competency shocks are associated with the decisions of EDDs, and exogenous shocks with that of anyone else.

The authors propose that fully rational voters can distinguish variations in competency shocks from variations in exogenous shocks, and do not punish or reward governments that are not mostly responsible for economic performance.

Since the variance in the overall competence shock should be larger in countries in which EDDs make most of the relevant economic decisions, in these countries the competence signal should be stronger, and so should the economic vote. Conversely, voters should be less likely to punish/reward governments in economies in which NEDDs make most of economic decisions.

Duch & Stevenson (2008) find support for these claims in Europe, by showing that citizens who perceive domestic fluctuations as diverging from those in the overall European economy are more likely to register an economic vote. Ebeid & Rodden (2005) use data from gubernatorial elections in the United States to show that the connection between macroeconomic performance and incumbent success is weak in states dominated by natural resources and farming, but strong elsewhere.

In this paper, we argue that there are few—if any—reasons to believe that this assumption holds in less developed democracies. We look at Latin American countries, because they share a longer democratic history than other emerging regions, and many institutional similarities that favor comparative analyses of that sort. All Latin American countries have presidential systems which, with some variation, concentrate strong power in the executive branch. Not surprisingly, studies on economic voting in Latin America are mostly focused on presidential elections (Samuels 2004, Benton 2005, Johnson & Sooh-Rhee 2010, Baker & Greene 2011). Presidential terms are fixed in the whole region, which eliminates potential endogeneity on the timing of elections. In many countries the central bank has some level of independence, but in most of them this independence can be quite limited.¹

More importantly, not only most Latin American economies are very dependent on exogenous factors, but these factors are known and have been extensively studied by economists. Many countries are commodity exporters, and therefore economies in which performance is very dependent on internationally-determined commodity prices. Most also have also in common very low rates of domestic savings, which makes them reliant

¹According with the IMF, central banks are closer to independent in Peru, Chile, Colombia, Bolivia, Mexico and Dominican Republic, and less so in Argentina, Brazil, Venezuela, Costa Rica, Nicaragua, Paraguay, Guatemala, Honduras, Uruguay (Carstens & Jácome H. 2005)

on inflows of foreign capital that are largely driven by fluctuations in international interest rates. When rates are low and liquidity is high, capital is more likely to flow to Latin America. When the opposite happens, international capital flees to safer havens (Santiso 2003).

As a result, the economic literature has shown that Latin American countries tend to do exceptionally well when international interest rates are low and commodity prices are high, and are likely to suffer when the opposite occurs (Maxfield 1998, Calvo, Leiderman & Reinhart 1996, Gavin, Hausmann & Leiderman 1995, Izquierdo, Romero & Talvo 2008). Izquierdo, Romero & Talvo (2008), especially, show that both capital flows and economic growth in Latin America are fundamentally determined by changes in the international interest rates and in commodity prices.

Both variables, together, capture the main ways by which the global economy affects most Latin American economies. However, this does not mean that both variables are equally important to every Latin American country. Interest rates are more relevant to economies reliant on international private capital flows; they should be less influential in countries whose domestic financial markets are poorly integrated to the world economy, those reliant on official creditors and multilateral institutions, and those whose economy depends heavily on remittances. Commodity prices, on the other hand, affect almost all countries in the region, except for those that have specialized in labor intensive manufacturing for exports to the US, of which Mexico is the best example.

It is not our goal to flesh out the nuances and intricacies of how and when each of the two variables affect each of Latin American economies, nor to second guess the vast economic literature on the issue. However, we are interested in determining which countries are most subject to the the joint effect of these two exogenously defined variables on the economic performances, and ultimately, on the electoral success and popularity of presidents, as this determines the scope conditions of our argument, and structure of the empirical tests we present in the rest of the paper.

To simplify the analysis we combine the two international economic variables into an index that captures their joint effect. Our “Good Economic Times” index (henceforth GET) is a one-dimensional summary of commodity prices and international interest rates.² This index offers, we argue, a clear indication of the international economic out-

²GET was produced by performing a principal components reduction of US 10 Year Treasury Constant Maturity Rate—provided by the Federal Research Bank of Saint Louis (FRED)—and UNCTAD’s

look for countries that are commodity exporters and dependent on external savings, as is the case in most of the region. Although GET is measured in a unit-less normalized scale, it has the intuitive property that that higher values represent “good times” and lower values represent “bad times.”

Figure 1 shows the variation in GET over the past 30 years, a period in which it has varied from -1.7 in 1982 to just over 3 in 2011. US interest rates were extremely high at the start of the 1980’s, and helped precipitate the Mexican default and the subsequent debt crisis that ravaged the region. During the 1980’s, lower US interests rates prompted a boom of private capital inflows to, favoring exchange-based stabilization plans which put and end to the inflationary cycle in many Latin American countries. In the 2000’s, very low interest rates prompted by slow growth in the US, combined with sky-high commodity prices have helped fuel a period of unprecedented wealth creation in the region. The GET index tracks long term shifts in the economic outlook facing Latin American countries quite well, but is also sensitive enough to capture relatively smaller shifts in economic conditions, such as the Russian/Asian crisis of the late 1990’s.

Yet, there is some variation in the extent to which domestic economies are directly impacted by the world economy. Table 1 reports how responsive each country’s economy is to GET. Countries are ranked by the extent to which their economic performance is determined by GET, and as such, the table summarizes the scope conditions of our argument. Economic performance in countries in the top of the table are highly determined by international economic conditions, so our argument that presidential popularity follows the world economy should apply to them.

Estimates in the table were obtained from regressions ran separately for each country.³ The dependent variable, GDP, was normalized to an index in which the value of the GDP of each country in 1980 corresponds to 100, and we dealt with the time structure by including the lagged dependent variable and performing an AR-1 correction⁴ We used GDP measured in constant local currency to account for widely different monetary policies employed across countries and over time.⁵

aggregate “free market commodity prices” index.

³Results obtained using both constituent components of GET separately, instead of the index, are very similar and are reported in the appendix.

⁴Graphical analysis of the residuals of these regressions reveal that the series are stationary, and show no signs of higher order autoregressive or moving average processes. Diagnostics are available from the authors.

⁵Using current US dollars, for instance, tends to misrepresent GDP performance of countries that

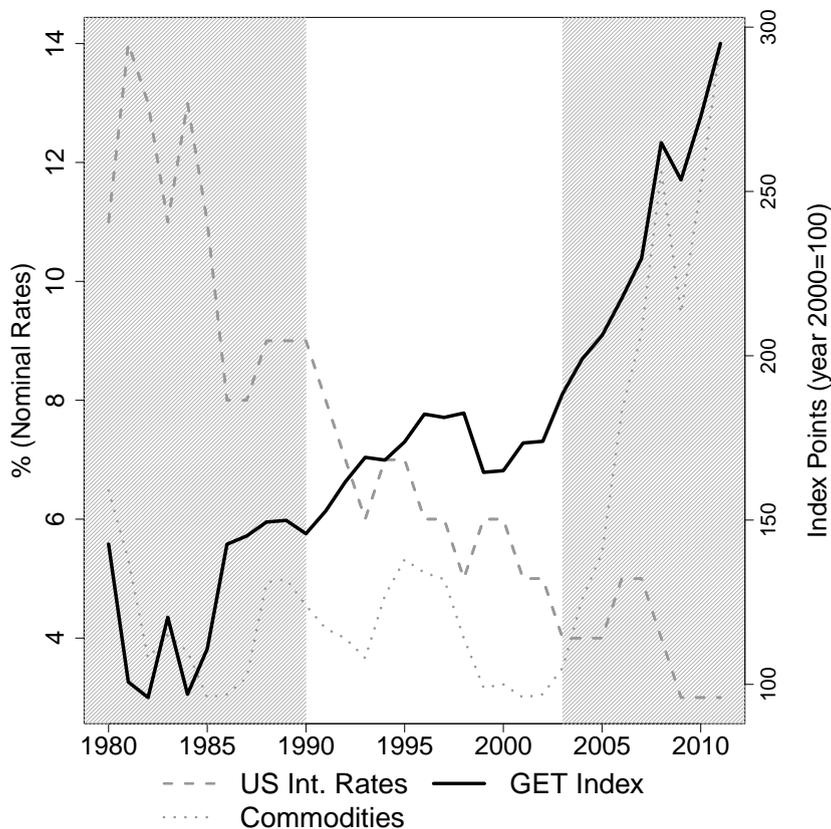


Figure 1: Good Economic Times Index (GET) and Its Constituent Components

Figure shows the evolution of GET and its two constituent components (US Interest Rates and Commodity Price Index) over three periods of interest that correspond roughly the 1980's, 1990's and 2000's, and which are discussed in more detail in the next section.

Table 1 shows a few striking results that allow us to determine which countries exhibit characteristics that would make them more subject to the mechanism we are exploring. The region as a whole is strongly influenced by exogenous factors. Although the GET coefficient for Latin America is not directly comparable to those for each country,⁶ it is highly significant, and goes a long way in explaining variation in economic performance in the region over time.

GET is positive for all Latin American countries in the sample, indicating that in all countries, the economy tends to do better when the international economic conditions are positive. The contrast with the US further underscores this general point. As an advanced industrial country, the US's relationship with the world economy is completely

have high inflation.

⁶Latin America GDP is measured in constant US Dollars instead of constant local currency, and as such, does not account well for differing inflation rates in different countries.

Table 1: Good Economic Times Index and GDP (1980–2011)

	Coefficient on GET	p-value		
Latin America	33.91	0.003 **		
Argentina	11.55	0.000 **		
Bolivia	3.57	0.000 **		
Paraguay	9.11	0.000 **		
Uruguay	8.09	0.000 **	Determined	
Venezuela	10.17	0.001 **		
Brazil	4.81	0.004 **		
Chile	6.53	0.011 *		
Colombia	4.56	0.011 *		
Ecuador	4.49	0.048 *		
Peru	4.82	0.061 .		
El Salvador	2.70	0.103		Not Determined
Guatemala	1.72	0.104		
Dominican Republic	4.20	0.122		
Costa Rica	3.76	0.167		
Nicaragua	3.10	0.170		
Mexico	1.99	0.245		
Panama	2.73	0.387		
Honduras	1.85	0.418		
<i>United States</i>	<i>-0.92</i>	<i>0.484</i>		

For simplicity, p-values are represented as ** < 0.01, * < 0.05, and . < 0.1. Countries above the horizontal line are considered externally “determined,” and those below the line (with the exception of the US) are considered “not determined” in the analysis presented in the next section. The dependent variable is GDP measured in constant local currency for all countries, but for “Latin America”, it was measured in constant US Dollars.

different than that of Latin American countries, evidenced by the fact that it is the only country in the table in which the impact of GET is negative.

GET, however, does not predict all countries economic performance equally well. Mexico and the Central American countries appear in the bottom of the table, and GET is never statistically significant for any of these. These results reflects the increasing divide between commodity-oriented economies in the South and labor-intensive manufacturing in Central and North America.⁷

It is worth highlighting another feature of GET, and of our argument. We are not claiming that the economy in countries in the bottom of the table do not depend on *any*

⁷World Bank figures for 2000 show that only 16% of Mexican exports are commodities. In contrast, this figure is 47% in Brazil, and above 60% for most other countries in the region.

international conditions. Our argument is simply that they do not depend on international economic conditions *in the same way* as countries in the top of the table. Their economies might (and probably do) follow other exogenous indicators beyond US interest rates and international commodity prices. The smaller countries in the bottom of the table, for instance, are heavily dependent on aid and remittances, and Mexico's economy is very closely tied to the US economy. As such, it is plausible that alternative GET indices could be created for countries whose ties with the world economy are not primarily through commodity prices and international interest rates.

To restate our reasoning, the economic performance of countries in the upper portion of the table is strongly determined by exogenous factors that we, as analysts, can observe. However, in a context of low information, a tradition of inward-looking development and relatively recent integration into the world economy, there are few reasons to expect Latin American voters to be aware of the relevance of these factors, or to be able to distinguish between the impact of policymaking and of exogenous shocks on their countries' economic performance. If this is true, Latin American presidents in the "determined" sample will typically be punished and rewarded on the basis of how favorable the world economy is (measured by GET), while those in the bottom of the table will not. This is what we test in the rest of the paper.

Research Design

Very rarely in social science observational research can we confidently state that the independent variable is unambiguously exogenous to the outcome to be explained. The fact that we can do so in the present case puts us in the position to make bolder than usual inferences. However, our general research design merits additional explanation.

Our theory does not contradict standard economic voting theories that make some form of the argument that (domestic) economic performance affects voters' assessments of the incumbent governments. We "simply" add a prior step in the argument, stating that exogenous variables that are not under the control of the incumbents affect domestic economic performance. This addition, we argue later, has non-trivial normative implications, but we accept the basic empirical fact that voters feel and react to domestic performance, as the standard arguments suggest.

The structure of the arguments can be conceptually understood by borrowing the

language from mediation analysis, and the schematic presentation in Figure 2 (for a formalized statement, see Imai, Keele, Tingley & Yamamoto 2011). The total effects of an exogenous independent variable on any given outcome can be parsed into direct and indirect effects, the latter of which is channeled through a mediating variable. The indirect effects are estimated by summing the two components of the indirect path (i.e. the horizontal and vertical arrows), and the direct effects (i.e. the diagonal arrow) are estimated by subtracting total effects from the indirect effects.

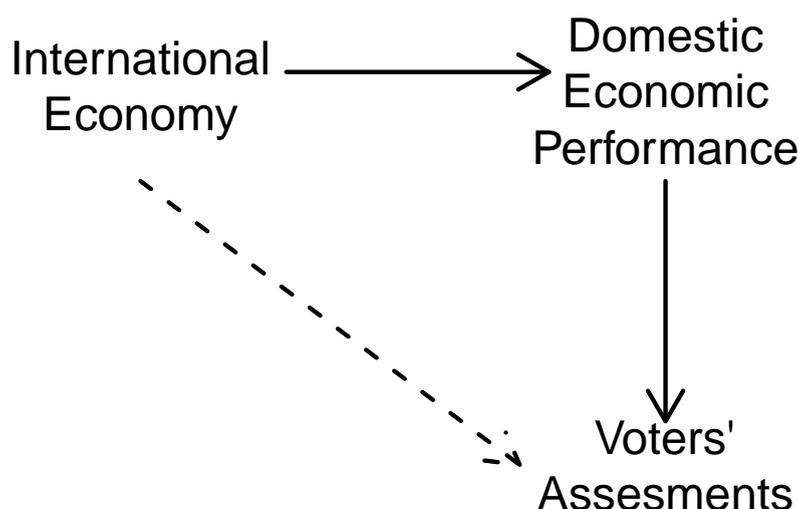


Figure 2: Possible Effects of International Economy on Voter Assessments of Incumbents

Standard economic voting models revolve around the vertical downward arrow in Figure 2. Our theory adds the horizontal arrow, which amounts to stating the existence of an indirect effect of the international economy on voters assessments of the incumbent mediated by domestic economic performance.

If the international economy were to have a direct effect on voters' assessments, we would need to block that path to estimate only the indirect effects. However, we make the assumption that such a direct link — represented by the dashed diagonal arrow — *does not exist*. We are backed in this assumption by the inattention of voters in commodity exporting/low domestic saving countries to international matters, but a rough test of the mediation path also suggests that close to 90% of the effect of the GET Index (our measure of the international economy) on voters's assessments is mediated through GDP.⁸

⁸Results are presented in the appendix but we do not want to overlay these results because GDP

In the absence of the direct effect, the indirect effects (which are of interest here) will be equal to the total effects, so we can concentrate on them. It does not make sense to control for the mediating variable in estimating the total effects, in the same way that it does not make sense to control for some consequence of a treatment when estimating treatment effects. The conclusion is that a test of our argument does not require, and in fact, *precludes* controlling for the effect of domestic factors on voters' assessments.⁹ Doing so would be an attempt to identify the direct effects, which we are claiming do not exist, and which we are not interested in.

Yet another way to consider the issue is to think of GET as an instrument for exogenous economic performance in the context of estimating the effects of domestic economic performance on voters' assessments. Domestic performance is potentially endogenous to voters' assessments because of president's political manipulation of policy for electoral purposes (i.e. political business cycles). In many Latin American countries — those at the top of Table 1 — GET strongly influences economic performance (i.e. it is a strong instrument). More importantly, it is reasonable to state that GET can *only* affect popularity through its effect on domestic economic performance (i.e. it satisfies the exclusion restriction). One can test for the strength of the instrument and, in fact we have shown it to be quite strong. However, the exclusion restriction has to hold by assumption, just as we assume direct effects away.

In the next two sections, we exploit the exogeneity of GET and absence of the direct effect to estimate the “total” effects of the international economy on voters' assessments in two different settings. We first conduct a cross-sectional analysis of how GET affects the probability of reelection of incumbents across all free and fair elections in Latin America held since 1980, and we then examine how GET affects the popularity of incumbent presidents across more than twenty years in a determined and in a non-determined country.

is one of many possible indicators for domestic economic performance that can act as a mediator, and because this estimate is based on time series data for the popularity of Brazilian presidents, which is not particularly well suited for mediation analysis. Our primary defense of the lack of a direct effect is theoretical.

⁹In a slightly different formulation, if we were interested in estimating the effect of domestic economic performance on voters' assessments, we would need to condition on (control for) international economic factors. See Morgan & Winship (2007, p. 77). However, we should not condition on domestic economic performance if estimating the effects of international economic factors on voters' assessments.

International Factors and Presidential Reelection

In countries where economic performance is strongly determined by the international economic variables, we expect to observe a high incidence of presidential reelection in good times, when commodity prices are high and international interest rates are low, and a low incidence of reelections when the opposite occurs.

Independently of how the effects of the world economy are transmitted to the average citizen, and regardless of whether this impact is alleviated or stressed by policy, the fact that GET is clearly and truly exogenous to the popularity of Latin American presidents provides us with an unique setup in which to test arguments about attribution of responsibility.

As a first approximation of the role of international economic factors in determining the fate of Latin American presidents, Figure 3 shows re-election rates in the two samples of countries, by decade.¹⁰ Recall that GET (see Figure 1, above) was much lower in the first period (reflecting high US interest rates and low commodity prices) than in the latest period (reflecting low US interest rates and high commodity prices). Figure 3 shows reelection rates increased markedly from 22% in the worse period, to 67% in the best period in the determined countries, but did not follow any noticeable trend in the countries whose economies are not determined by GET.

In order to further assess the relationship between international factors and presidential reelection in the region, we ran a simple logit analysis of the effects of the average value of GET in the twelve months prior to the election date on the probability of reelection, estimated separately for the determined and non-determined economies in Latin America.

We identified a total of 120 presidential elections in 18 Latin American countries since 1980, of which 107 were deemed free of electoral process and/or franchise violations (Mainwaring, Brinks & Liñán. 2010). Of these, 44 elections were held in the 7 countries in the non-determined sample, and 63 elections in the 11 countries in the determined group.

We coded each of these elections as a “reelection” if the candidate supported by the

¹⁰Although we refer to the three periods as the 1980’s, 1990’s and 2000’s, we partitioned our data so that we would have a similar number of elections in each period. As such, the 1980’s cover 1982–1994, the 1990’s cover 1994–2004, and the 2000’s cover 2005–2012.

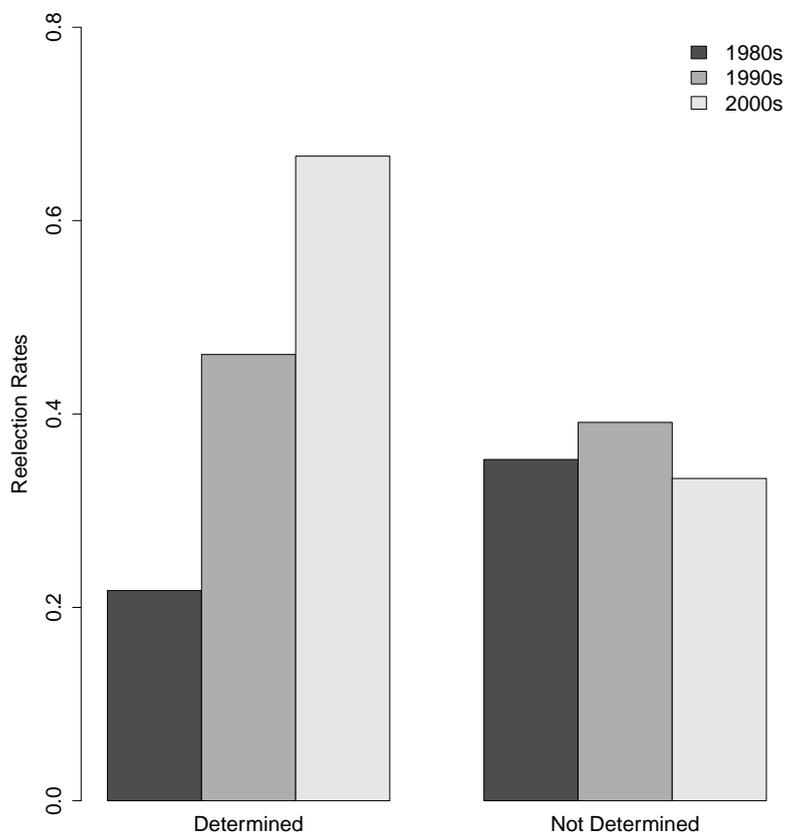


Figure 3: Reelection Rates in Determined and Not Determined Economies

Figure shows that reelection rates increased by decade in countries whose economies are determined (by GET), but remained roughly stable in countries whose economies are not determined. See text for definitions.

(elected or *the facto*) incumbent government won the election.¹¹ In most cases, this means that either the incumbent president or a candidate of the president’s party won the election, but some cases are less straightforward. The appendix provides a detailed discussion of the coding of potentially dubious cases.

Table 2 reports several different model specifications for both samples. We report models with different approaches to the panel structure in our data and with and without controls for the ideology of government and political risk, which deserve some attention.

Latin American countries have extremely high levels of income inequality, therefore redistribution has a significant effect on the well-being of the poorest. For this reason, we expect governments that engage in redistributive policies to enjoy an electoral advantage.

¹¹One of the elections in non-determined economies (Guatemala 2012) is coded as missing on the reelection variable due to particularities of the case, and is not included in the analysis (see appendix for details).

In order to verify whether partisanship affects presidents' evaluation, we built on Campello (Forthcoming), coding all governments in our sample as either left or right-wing, which we assume would be correlated with actual redistributive policies.

Another common explanation for reelection success is that some governments might be simply more competent than others. GET is by definition exogenous to any policy choices, so if we can show that it affects popularity the argument should stand even without explicitly controlling for competence. Still, to examine whether competence changes the effect of GET on reelection we control for average political risk assessment in the twelve months prior to the election. This indicator, available in the International Country Risk Guide, published by Political Risk Services since 1985, is a rough proxy for competence. Higher values in this variable mean lower risk, higher competence.

It is worth noting that this index is not “technical” or devoid of ideological content, since it reflects a perception of competence shared by business and investors. Yet it seems reasonable to expect that if a government is perceived as more competent or trustworthy by economic agents this could affect its popularity, either through real economic performance (more investment and growth) or propaganda.

Results are consistent with our expectations, despite the relatively small sample. In all specifications GET has *always* a positive effect on the probability of reelections in the determined sample, but *never* in the sample of countries not-determined by commodity prices and US interest rates.¹²

The random effects model (Mod. 3) performs slightly better in terms of fit, but it also makes more taxing assumptions than fixed-effects models and the simple standard error corrections, especially with the relatively small number of elections per country. Despite this variation, the message here is that GET has a statistically significant and very stable effect across all specifications in the elections held in determined economies.

The magnitude of these effects are clearer in Figure 4, which shows the changes in probability of reelection as the international economic outlook changes from “bad” to “good,” defined as a move from one standard deviation below to one standard deviation above the mean value of GET. In the determined sample, substantive effects range from just 0.36 for the model that includes political risk as a control (and is estimated on a

¹²Results shown in the appendix reveal that commodity prices have a positive effect and US interest rates have a negative effect on the probability of reelection, and are always jointly significant in the determined sample but never in the non-determined one.

Table 2: Predicting Incumbent Candidate Reelection (1980–2012)

	Determined					Not Determined	
	Mod. 1	Mod. 2	Mod. 3	Mod. 4	Mod. 5	Mod. 6	Mod. 7
	Cl. SE	FE	RE	Cl. SE	Cl. SE	Cl. SE	FE
GET Index	0.998	1.214	1.029	0.960	0.793	0.163	0.085
Std. Error	0.329	0.441	0.335	0.334	0.411	0.170	0.355
p-value	0.002	0.006	0.002	0.004	0.054	0.338	0.811
Ideology			-0.365				
				0.533			
				0.493			
Political Risk					0.049		
					0.018		
					0.008		
(Intercept)	-0.755	-0.014	-0.780	-0.470	-3.612	-0.781	-0.511
	0.329	0.571	0.346	0.431	1.303	0.405	0.731
	0.022	0.981	0.024	0.276	0.006	0.054	0.484
Baseline Error	0.397	0.397	0.397	0.397	0.439	0.326	0.326
Model Error	0.302	0.286	0.254	0.317	0.333	0.326	0.302
Prop. Reduction in Error	0.240	0.280	0.360	0.200	0.240	0.000	0.071
Countries	10	10	10	10	10	8	8
N	63	63	63	63	57	43	43

Coefficients are logit estimates. Table header indicates whether clustered standard errors, fixed effects, or random effects (intercepts) were used to account for the hierarchical nature of the data. The dependent variable is a binary indicator of whether the incumbent supported candidate was reelected. GET Index was operationalized as the average value of the index in the 12 months prior to each election. The samples size is smaller in Mod. 5 because political risk data is only available starting in 1985.

smaller sample), to 0.51 for the model with country fixed-effects. In contrast, effects in the not determined sample are always smaller than than 0.07, and never statistically significant.

Results indicate that the extremely favorable international economic scenario observed in the the 2000s goes a long way towards explaining the change in the probabilities of reelection of Latin American incumbent parties.

Yet presidential elections are relatively rare events, which can be determined by many factors besides the state of the economy. The Chilean case illustrates these perils very well: our model predicts a slow and steady increase in the probability of reelection in the country over time. Governments in Chile were reelected three times throughout the nineties when our model predicted somewhat lower probabilities of reelection, and failed to elect a successor in the 2000's, when our model predicted a higher probability

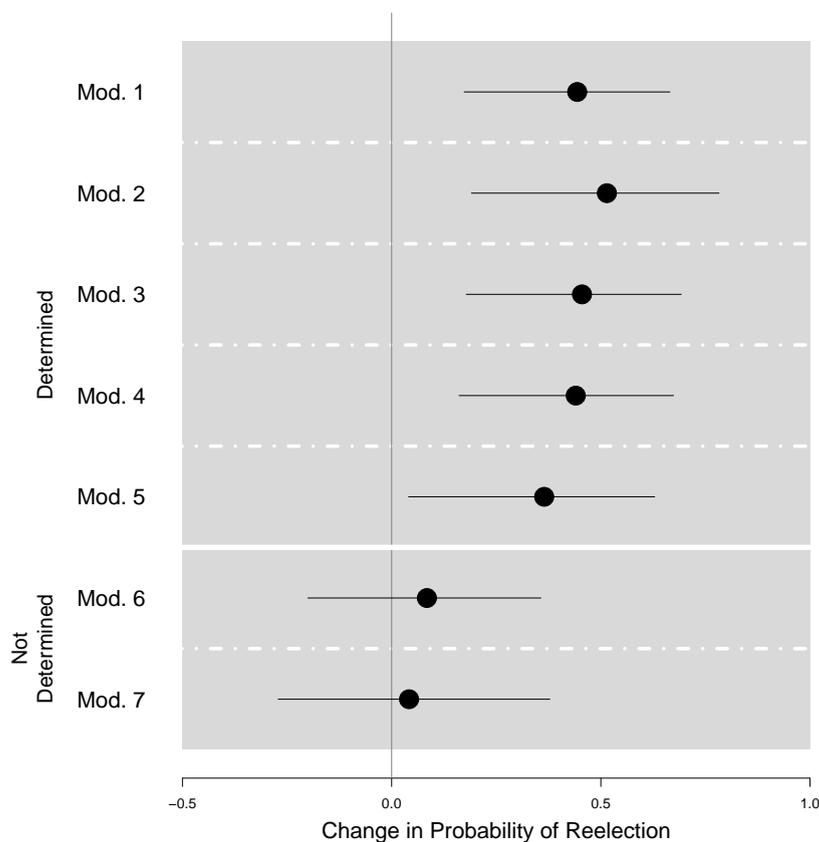


Figure 4: Effects of Changing from “Bad” to “Good” Economy on Reelection

Figure shows the change in probability of reelection associated with moving from a “bad” international economy (i.e. one standard deviation below the mean of the GET index) to a “good” international economy (i.e. one standard deviation above the GET index). Models 1–5 are estimated on the set of elections held in determined economies, and models 6 and 7 in the economies not determined by US interest rates and commodity prices, as defined in Table 1.

of reelection. Notwithstanding, all elections in Chile, particularly the last two, were very close, and very likely determined on the margin, by less structural issues than we discuss here. Moreover, Michelle Bachelet, the incumbent president who failed to reelect her successor left office with sky-high approval ratings. As such, the ultimate test of our argument should not rely on reelection rates, but rather on much more fine-grained data, which we now turn to.

International Factors and Presidential Popularity

In order to test the relationship between international factors and presidential success, we examine presidential popularity rates in Brazil over time, and determine the extent to

which they can be predicted by fluctuations in commodity prices and US interest rates—both exogenously-determined variables. Brazil appears in the upper portion of Table 1, and as such is clearly within the scope of our argument. To strengthen our argument further, we contrast results for Brazil with analogous time series results for the US, a country that clearly falls outside the scope of our argument.¹³

GET and the Popularity of Brazilian Presidents

We compiled 375 observations of presidents popularity, taken by four polling firms, and spanning the period between march 1987 and december 2012.¹⁴ We converted these observations originally produced at irregular intervals into monthly observations by averaging multiple observations per month, which led us to 222 observations spanning 310 months. We then imputed the missing 88 observations using Amelia II (Honaker, King & Blackwell 2011), which allows us to make use of lead and lag values.¹⁵ All independent variables were also observed monthly.

We report results of four different models, all of which include the GET index as the explanatory variable, as well as dummies for different pollsters, time in office to control for any “honeymoon” effect, and a dummy variable that indicates whether there was a major political crisis in the month of the observations,¹⁶ One model also includes a variable that capture Brazil’s economic performance *relative* to similar countries.¹⁷

We report a simple naive OLS regression — which greatly overstates the effects of the substantive explanatory variables — two models that deal with the time structure simply by the inclusion of the lag of the dependent variable — one of which includes relative performance as a control — and the version of the model that implements an

¹³We are in the process of collecting data on Mexico, which in many ways is a better comparison to Brazil than the US is. The next version of the paper will include those data.

¹⁴These observations are mostly publicly available. 72% of all our observations were compiled by journalist Fernando Rodrigues (noticias.uol.com.br/politica/pesquisas/), but our data set expands the number of observations by using several other sources. Three data points exist for the period between 1985 and 1987, but they are too sparse to used reliably and were dropped. At the time of writing, one datapoint existed for march 2013, but most of the other covariates were not available beyond december 2012. See the appendix for the question wordings.

¹⁵We worked with five imputed sets in the analysis. All results presented combine the analysis in the five sets and correct standard errors accordingly. Details of the imputation process and its results are provided in the Appendix.

¹⁶A month was coded as 1 if a major scandal or crisis was on the front pages of the main print media outlets.

¹⁷This was measured as the differential between growth in Brazil and average growth in Argentina, Chile, and Mexico.

AR-1 correction and includes the lag of the dependent variable.¹⁸ As detailed in the appendix, we ran multiple diagnosis for time structure and stationarity that lead us to conclude that the inclusion of the lag dependent variable and/or the implementation of AR-1 corrections were best models to correct for the time structure in the data.

Figure 5 reports coefficients of the variables of interest across the four different specifications. Domestic political crises take a popularity toll of close to two percentage points, but the effects of GET are always statistically significant across *all* models, and hardly change with the inclusion of relative performance.

Even in the “preferred” more conservative AR-1 model with lag dependent variable, GET is statistically significant and substantively important. Consider that Fernando Henrique Cardoso’s popularity at the eve of his reelection was 42.3%. Had he faced the same international conditions Lula da Silva faced at a similar point in his first term, Cardoso could have enjoyed a popularity rate of 48%. In contrast, Lula’s popularity at reelection was very close to its predicted value, at 49.7%. Had he faced the much more unfavorable conditions Cardoso faced, his popularity could have been as low as 35.9%.

To illustrate the power of international factors in predicting presidential success in Brazil, Figure 6 reports actual popularity and the popularity predicted by the simplest OLS regression that includes *only* the GET index. We chose this model for this illustration as it *does not* include a lagged dependent variable, which would “artificially” improve the fit. The R^2 of this very bare-bones model is still a whopping 0.66. The inclusion of political crisis, and pollster dummies increases the R^2 to close to 0.7, even without a lagged dependent variable.

For the sake of comparison, a model including only “domestic” economic variables (i.e. average income index, GDP, inflation in the preceding six months, and unemployment) yields an R^2 of 0.68, which rises to 0.72 if including pollster dummies and political crisis. The fact that a model relying on only two *exogenous* economic variables can predict popularity as well as a model with several domestic economic variables is striking and has important implications for democratic accountability. We return to this point in the closing discussion.

Figure ?? shows that the fit of the regression improves after the economic liberalization

¹⁸In the appendix we present results of the analysis using US interest rates and commodity prices separately, as well as alternative ways of dealing with the time structure in the data, almost all of which generate larger estimates for the effect of GET on popularity than the effects reported below.

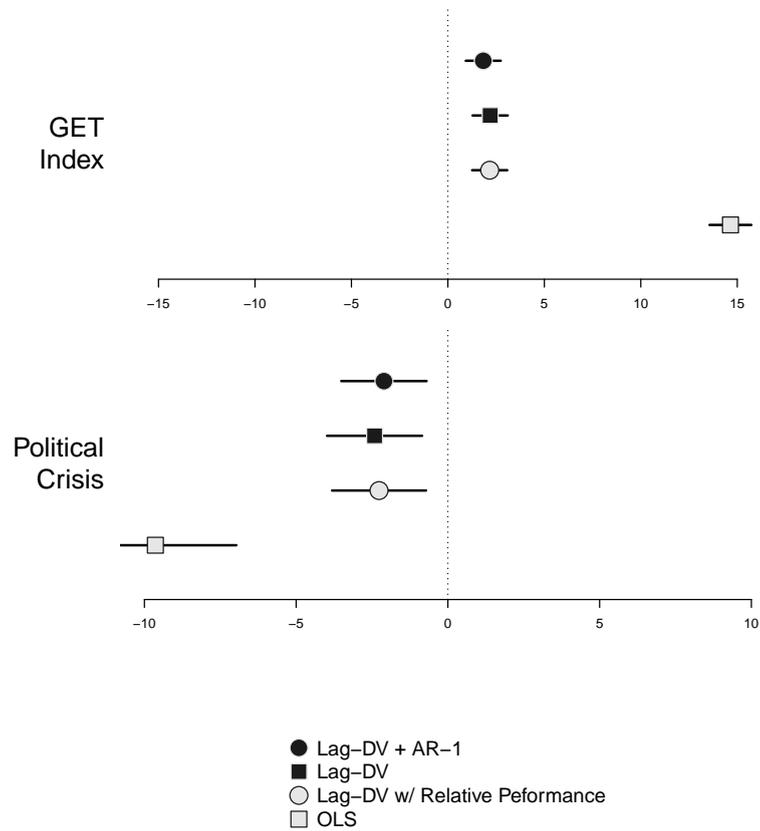


Figure 5: International Economic Determinants of Presidential Popularity in Brazil (1987–2012)

Figure shows coefficients on the variables of interest in four regressions specifications that deal differently with the time structure in the data. All regressions also included pollster fixed effects and time in office, and one regression included Brazil’s relative economic performance, measured in contrast to the performance of Argentina, Chile, and Mexico.

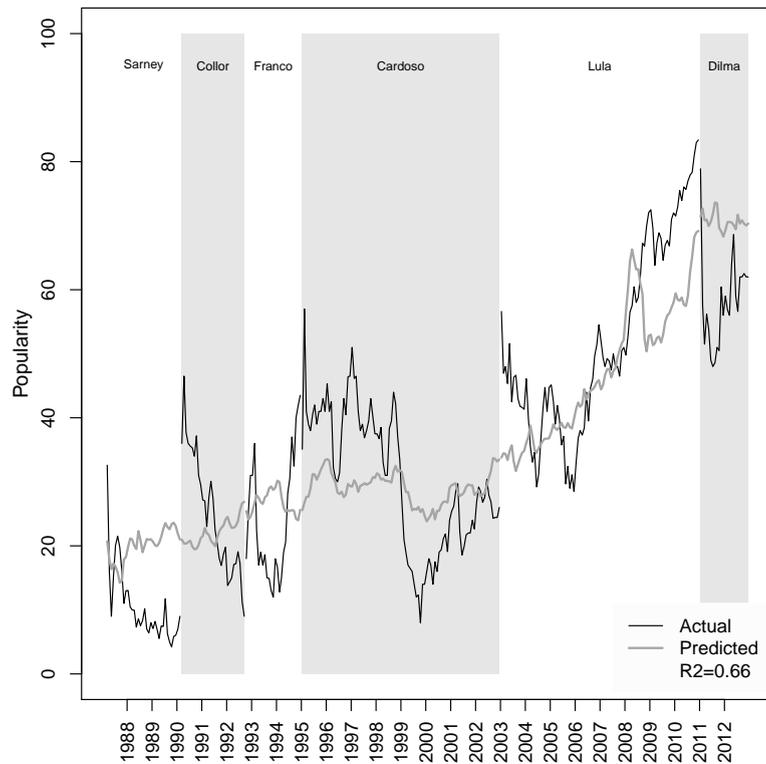


Figure 6: Predicted and Actual Popularity of Brazilian Presidents (1987–2012)

Figure shows actual popularity of Brazilian presidents and the predicted popularity, based on the simplest possible OLS model including using only the GET Index .

of the Collor-Franco (1990-1994) government. It also shows that Cardoso over-performed in his first term (1995-1998), and Lula in his second term (2007-2010), which suggests that there is some room for deviations from the international determinants. Cardoso probably reaped the rewards of currency stabilization, as Lula of his redistributive policies. Though both stabilization and redistribution were at least partially made possible by a benign economic outlook, in both moments presidents were able to make the most of good economic times.

GET and the Popularity of US Presidents

Our argument is that voters reward/punish presidents for economic performance regardless of whether it is determined by external factors beyond presidents control. The fact that we can clearly see this process in Brazil, one of the cases that most neatly conforms to the scope conditions of our argument, suggests that our argument does in fact hold. Our confidence that this is the mechanism at work is bolstered if we can show that the link between these two international economic factors and popularity does not exist in a country in which the economy is not determined by these same variables.

We turn, for this exercise, to the US. As evidenced in Table 1, the US does not conform to the scope conditions of our argument. As a developed and capital intensive economy, the US relates to the rest of the world much differently than do commodity exporters, and its economy is not determined by commodity prices. While US interest rates should be expected to affect the US economy—even if in different ways than in Latin America—, rates are independently set by the Federal Reserve Bank, and as such can be treated as exogenous to the president’s control.

The popularity of US presidents is available since the Kennedy administration,¹⁹ but for symmetry we restrict the analysis to the same period for which we have data from Brazil, and estimate the models that are almost exactly the same. The contrast is stark: where the most basic OLS model—with just the GET Index as an explanatory model—had yielded an R^2 of 0.66, we find only 0.32 for the case of the US. More importantly, as Figure 7 shows, the “effect” of GET disappears after correcting for the time structure in the data. The size of the coefficient is roughly 4 times smaller in the case of the US, it is not statistically significant and has the opposite sign than in Brazil (as expected, given

¹⁹See www.presidency.ucsb.edu/data/popularity.php.

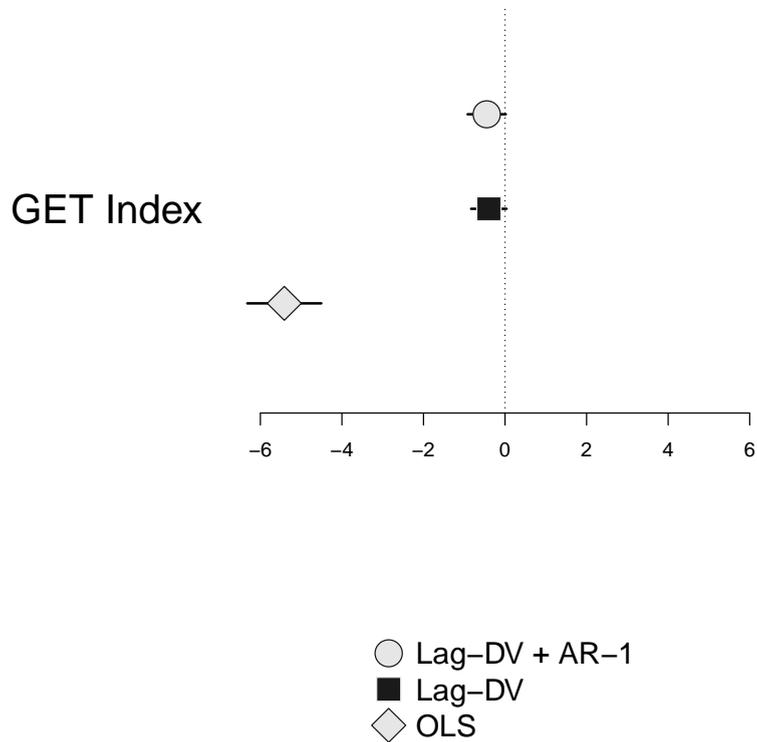


Figure 7: GET and Presidential Popularity in the USA 1987–2012

Figure shows coefficients on GET in three regressions specifications that deal differently with the time structure in the data. All regressions also included time in office (in months).

that the US is an importer of commodities).

To sum up, in a country whose economy is strongly determined by US interest rates and commodity prices, GET has an important impact in predicting fluctuations in presidents' popularity. Conversely, in a country whose economy is not determined by these two external variables, GET has no impact on presidential popularity.

Conclusions and Implications

This paper examined the hypothesis that voters reward/punish presidents for economic performance regardless of whether this performance is determined by external factors

beyond presidents' control. We find strong evidence in support of voters' inability to take exogenous conditions into account when evaluating presidents.

We show that in Latin American countries whose economies are strongly determined by international commodity prices and US interest rates, these variables are strong predictors of re-election rates. We also show that conversely, in countries whose economies are not as determined by these external variables, commodity prices and US interests have no effect on reelection rates. In all cases, results were independent of quality of governance or partisanship of the incumbent president.

Using time series data, we show that these same two international economic variables have substantial effects on the popularity of presidents in Brazil—a country whose economy is highly determined by external factors—while being all but irrelevant to explain popularity of presidents in the US—a country whose economy is not externally determined in the same way.

Granted, our results provide some glimpses that presidents are able to marginally affect their own destiny. Reelections are not perfectly predicted by our international factors, and even within Brazil, the country which we examine in more depth, presidents have occasionally over-performed relative to the state of the world economy.

We find, however, that models relying only on an index that summarizes the two international economic variables of interest can predict popularity *as well* as models with several domestic economic variables, and this has very important implications for understanding democratic accountability in the region. Our findings imply, in essence, that incumbents are punished and rewarded according to luck—or at least to factors beyond their control—, rather than merit, much in the same way as voters have been shown to punish incumbents for shark attacks and droughts (Achen & Bartels 2006).

These findings have important consequences for the study of economic voting. They suggest that, in less developed democracies, uninformed voters are not always capable of correctly attributing responsibilities to incumbents. As a result, they might not only reward incompetent incumbents in booming times, but also punish competent ones simply because their happened to lead during an unfavorable economic scenario.

Our findings fundamentally challenge the established notion of *accountability ex-post* (Stokes 2001), according to which incumbents' frequent breaking of electoral promises does not affect democratic accountability because voters' ultimate concern is with their

material conditions, and they can always reward or punish incumbents depending on the economic impact of their policy choices. Accountability ex-post hinges on the capacity of voters to link results to performance. But if economic performance is mostly determined exogenously, the ex-post logic — and any other form of meaningful accountability — cannot hold.

An analogy with a firm helps grasp the consequences of this myopic behavior. Imagine that shareholders have to decide how much to reward the CEO of an oil company, in a scenario in which they cannot observe his/hers actions directly, but only observe the company's performance (Bertrand & Mullainathan 2001). Shareholders want to devise a payment scheme that will attempt to make sure the executive acts in their best interest. Considering that oil prices are not determined by the CEO's decision, should shareholders simply punish a CEO that ruled under declining oil prices, and consequently lower profit, and reward one that presided over rising oil prices? Most analysts would agree that simply tying payment to performance of the firm is not the best solution. In fact, the optimal way to make sure the best executives are selected is to discount exogenous factors in order to evaluate CEOs strictly based on his/her contribution to the firms' performance.

Back to democracy, normatively, the best way to select the most competent incumbents would be to discount luck and associate punishment and rewards, as much as possible, to merit. Whenever this does not happen, and the linkage between electoral success and policymaking is broken, the incentives for the incumbent to promote the best economic performance diminish. For example, rulers in good times might find they can extract rents from office and still be reelected; examples from Latin America in support of that are abundant.

Another potential consequence of voters' myopia is well illustrated by the opening anecdote about Andrés Pérez. Failure to discount the differing world economic conditions led to profound disappointment and to violent response by Venezuelans, both major steps in the dissolution of the country century-long party system that plunged the country into decades of turmoil.

Much work is needed to understand the full implications of our results. Do politicians facing a threatening international environment attempt to convey to voters information about the state of the world economy? Can voters change their ratings of the president if presented with such information? Can counter-cyclical policies break the transmission

mechanism and reduce the effect of international factors? Irrespective of the answers we eventually encounter, the main finding in this paper should prompt democracy enthusiasts to engage in some soul-searching.

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A Alternative Approach to Determined Economies

The first part of table A.3 is identical to what is reported in the main part of the paper. It reports country-by-country regressions of economic performance (GDP) on the GET index. Regressions include the lag dependent variable and AR-1 corrections. Countries are ranked by the statistical significance of the index. The second part of the table describes results from a similar regression analysis in which GET is replaced by its two constituent parts (commodity prices and US interest rates). The conclusion is that the two criteria yield very similar samples. The only differences is that if we had relied on an joint significance test with the the two-variable approach, Ecuador and Peru would not have made it into the sample.

Table A.3: Alternative Specifications of Determined Economy Regressions

	GET Only		Interest Rates and Commodity Prices			
	Coef	P-value	Int. Rates	log(Comm)	Joint Test	Joint p-value
arg	11.55	0.000**	-2.39**	26.23**	21.91	0.000**
bol	3.57	0.000**	-1.06**	7.09**	33.38	0.000**
par	9.11	0.000**	-1.21*	20.79**	47.84	0.000**
uru	8.09	0.000**	-1.75**	18.13**	34.92	0.000**
ven	10.17	0.001**	-2.36**	24.26**	13.17	0.001**
lat	33.91	0.003**	-4.95*	103.03**	27.10	0.000**
bra	4.81	0.004**	-1.06*	8.04*	6.17	0.046*
chi	6.53	0.011*	-2.27*	11.33*	9.07	0.011*
col	4.56	0.011*	-0.77	10.78**	8.45	0.015*
ecu	4.49	0.048*	-0.81	9.71.	3.68	0.159
per	4.82	0.061.	-0.84	12.19.	3.26	0.196
els	2.70	0.103	-1.19.	-0.09	3.07	0.216
gua	1.72	0.104	-0.38	4.34	3.22	0.200
dom	4.20	0.122	-1.01	10.01.	3.30	0.192
cri	3.76	0.167	-1.43.	3.46	3.54	0.171
nic	3.10	0.170	0.10	12.14.	3.95	0.138
mex	1.99	0.245	-0.40	4.44	1.45	0.484
pan	2.73	0.387	0.11	11.42	3.54	0.170
hon	1.85	0.418	-0.64	2.39	1.04	0.595
usa	-0.92	0.484	-0.27	-4.19.	3.67	0.160

B Sample of Elections

Our coding of reelections and incumbent vote share followed these steps, detailed below. 1) We identified all presidential elections held in Latin America since 1980 and excluded elections deemed not free and/or fair; 2) we determined who the incumbent president (and party) was; 3) we determined who the incumbent candidate(s) was(were); 4) we coded the case as reelection= 2 if the incumbent president won reelection; 1 if the incumbent supported candidate won candidate won; and 0 otherwise; 5) we recorded the vote share of the incumbent supported candidate; 6) we recorded the margin of victory/loss of the incumbent candidate (if a win, it is the difference to the next most voted candidate, if a loss, the margin relative to the winner). We recorded first and second round results separately, so winners can have negative margins in first rounds of elections.

Discarding Unfree and Unfair Elections: For step 1 we used Mainwaring, Pérez-Linan & Brink’s coding of Latin american regimes. Our argument requires that unpopular incumbents be able to lose an election, but it does not necessarily require “full democracy.” Mainwaring, Pérez-Linan & Brink’s coding of Latin american democracies is particularly appealing because they code separately four different types of “violations” /deviations from democracy, two of which (“elections” and “franchise”) relate directly to electoral politics. We kept in the sample all elections that were held in years that their data set code the country as having no violations in these two categories. This meant excluding the following elections DOM94, ELS84, ELS89, HON85, HON09, MEX88, MEX94, NIC84, PAN89, PAR89, PAR93, PAR98, and PER00.

We chose to depart from Mainwaring et al’s coding in the case of Venezuela 2006. They code Venezuela as having some electoral violations during 2004–2012 period. While we concede that the 2012 elections in Venezuela were “free but not fair,” because of Chavez tight control over the media, the fact that Chávez lost the constitutional referendum in 2008 suggests that he could have lost the 2006 elections as well. In fact, the previous version of their data set coded Venezuela as not having any violations through 2007.

Coding of reelections Given steps 2 and 3, steps 4-6 were quite straightforward. In most cases, steps 2 and 3 were relatively simple. However, there are several cases that deserve greater attention. We describe here our general coding criteria, and subsequently briefly describe each possibly controversial case.

Most of the controversial cases occur when the incumbent government did not field a candidate. Most of these are “first” elections held at the tail end of a dictatorial regime, but some

cases include elected incumbents. In almost all cases, the incumbent was a clearly identifiable political group, and we considered not fielding a candidate the same as losing an election. This makes sense in most cases, we believe, because the decision not to field a candidate is endogenous to the bad political outlook.

Consider, for instance, that the Argentine military regime did not field a candidate in 1983 elections. One option, here, would be to code this elections as not-observed. However, a comparison to Chile in 1989 shows that even outgoing military regimes *can* field political candidates in subsequent elections. As for the vote-share, we decided to code cases without an incumbent supported candidate as “0” vote share.

Whenever a political or potentially political interim was in charge and did not present a candidate, we also coded the case as not being a reelection (0), and assigned 0 as the incumbent vote share. The rationale here is that interim presidents can become relevant political players (as in Brazil 1994 and Argentina 2003).

The most controversial cases occur when a clearly non-partisan and apolitical caretaker was in power at the time of the election (Bolivia 2005, Uruguay 1985). In these cases, we considered the last “political” or potentially political incumbent as the reference. Non-partisan apolitical caretakers typically are supreme court justices. In all cases, we considered military governments as potentially political de facto rulers.

Some elections in Uruguay, Honduras and Argentina had multiple candidates affiliated with the president’s party. We sought to determine who, if anybody, had the support of the outgoing president, and then proceeded as before. For the purposes of margin of victory, we considered the vote of individual presidential candidates even though rules in Uruguay and Honduras required pooling the vote share of different candidates in the same party.

In a few cases, such as Brazil 1994, Colombia 2006, and in some cases of coalitions (Bolivia, Chile), the president’s supported candidate is not from the same party as the president. This was typically fairly straightforward to code. In other cases (Argentina 1999) the president did not support his party candidate. As long as the president did not support another candidate, we considered his party’s candidate as the incumbent candidate.

- Argentina 1983: Incumbent=Bigonne (Military), Reelection=0, Inc. Vote Share=0
None of the presidential candidates supported the incumbent non-elected government. While reelection could have been coded as missing because the the government, by not fielding a candidate, could not have won the election, we code it as a non-reelection because the government was so unpopular that it could not muster strength to field a candidate. Had it fielded a candidate in a free and fair election, it would have lost. This

stands in contrast to Chile 1989, when the outgoing military regime supported a candidate in free elections.

- Argentina 1999: Incumbent=Menem (PJ), Reelection=0, Inc. Vote Share=Duhalde's
Menem was denied the opportunity to run for a third term, and did not support the PJ's candidate, Eduardo Duhalde. However there is no doubt that Duhalde had was the peronist candidate in the election, and as such is coded as the incumbent candidate.
- Argentina 2003: Incumbent=Duhalde (Interim, PJ), Reelection=1, Inc. Vote Share=Kirchner's
Duhalde took office in January, 2002, following a succession of extremely short presidencies in the wake of the fall of elected president de la Rúa. By election time, Duhalde had already been ahead of the country for more than one year, and the economic recovery had begun, making de la Rúa a distant memory. In the 2003 elections, however, the PJ allowed several candidates to run as "peronists," even though they all ran under different labels. There is no doubt that Duhalde supported Kirchner, even if only to oppose Menem, who was also running. In the first round, Menem narrowly beat Kirchner, but then withdrew from the second round, anticipating defeat.
- Bolivia 1985: Incumbent=Siles Suazo (UDP-MIR), Reelection=0, Inc. Vote Share=0
The only doubt here is whether Paz Zamora, who had been Suazo's vice president, can be considered as the incumbent candidate. In 1984 he broke with the government as its popularity sank, and did not run as the president's candidate. Siles Suazo's party did not support any candidate, and disappeared soon after.
- Bolivia 2005: Incumbent=Carlos Mesa (non-partisan), Reelection=0, Inc. Vote Share=0
Rodriguez Veltzé was a supreme court judge charged with overseeing new elections following the resignation of Carlos Mesa Gisbert. Because Rodriguez was clearly a non-political player, we focus, instead, on the previous incumbent Carlos Mesa who had taken office in October 2003, after Sánchez de Lozada was forced to flee the country. By then, Mesa who has never really been part of the MNR had distanced himself from the president. During his government, he sought out support from Evo Morales, and appointed a non-partisan cabinet. He at first announced he did not intend to serve out the full term but eventually changed course before being forced to resign in June 2005. Had Mesa remained in office until the election and supported a candidate (such as Franco in Brazil 1994) this could have been potentially a reelection. Given that he did not even manage to finish his term, we coded is a a failure to obtain reelection by not even presenting a candidate.
- Brazil 1994: Incumbent=Franco (PMDB), Reelection=1; Inc. Vote Share=Cardoso's
Itamar Franco broke with elected president Fernando Collor prior to his resignation. Franco who was unaffiliated to any party during most of his term before joining the

PMDB, administered the country with a large coalition. He appointed Fernando Henrique Cardoso foreign minister, and then economic minister, and under his watch, Cardoso oversaw the Real stabilization plan. Franco and his new party overtly backed Cardoso in the election.

- Chile 1989: Incumbent=Pinochet (military), Reelection=0; Inc. Vote Share=Büchi's
Although Pinochet was not affiliated to any party, the pro-Pinochet parties coalesced and offered Büchi as a unified candidate of the pro-regime political forces. Büchi lost, but we code his result as the incumbent candidate's vote share.
- Colombia 2002: Incumbent=Pastrana (PCC), Reelection=0; Inc. Vote Share=0
The conservative coalition that supported Pastrana had trouble finding a candidate, but after a tortuous process decided to field Juan Camilo Restrepo. Meanwhile, Alvaro Uribe had returned from abroad to contest the Liberal Party primaries. After another tortuous process, Uribe presents himself as an independent and Horacio Serpa ran as the liberal candidate. In February, a few months ahead of the election, some conservatives defected to Uribe's camp and eventually the party withdrew its candidate and bandwagoned behind him. However, we cannot label Uribe the incumbent candidate, as he hailed from the opposing force, was endorsed very late in the race by the incumbent party, and was highly critical of Pastrana, the sitting president.
- Ecuador 1996: Incumbent=Duran-Ballén (PUR); Reelection=0; Inc. Vote Share=0
Sixto Durán-Ballén split from the PSC after the party selected Jaime Nebot Saadi as its candidate in 1992. Durán-Ballén defeated Nebot, and governed with irregular support from the PCE during much of his term. He grew increasingly unpopular as the term progressed, the PUR did not present a candidate in 1996, and essentially disappeared thereafter. He did not formally endorse any candidate, though it was rumored that he preferred Abdalla Buracaran over Nebot, strictly for personal reasons.
- Ecuador 1998: Incumbent=Alarcón (Interim, FRA); Reelection=0; Inc. Vote Share=0
Following Bucarán's resignation in february 11, 1997, and the disqualification of vice-president Rosalía Arteaga, Fabián Alarcon (Frente Radical Alfarista, a small legislative party) then president of the legislative branch took on as interim president. He oversaw a plebiscite on a new constitution, its drafting, and early elections held in 1998, but did not participate directly in the elections. The question here is whether to code this case as non-observed or no reelection. We opted for the latter because as a politician Alarcón *could* have followed what other interim presidents did, and used the office to build some political influence (see Argentina 2003), so we code this case as one of no reelection by lack of incumbent candidate.

- Ecuador 2002: Incumbent: Noboa (UDC); Reelection=0; Inc. Vote Share=0
Gustavo Noboa (UDC), then vice-president, took office after elected president Jamil Mauhad (UDC) was forced to leave office. He stayed course with respect to the dollarization of the economy implemented by Mauhad at the end of his time in office, and oversaw a regular electoral transition. Noboa could have followed other vice presents into becoming a political player (see Brazil 1994), but did not, and did not support any candidate in the 2002 elections.
- Ecuador 2006: Incumbent: Palacio (non-affiliated); Reelection=0; Inc. Vote Share=0
Palacio, then vice president, took office after the elected president Rafael Gutierrez (PSP) was forced out of office. He nominated Rafael Correa as his finance minister, but Correa left after only four months in office complaining about having received only lukewarm support from the president. Correa then ran and won the 2006 elections, without support from Palacio, who did not participate in the elections. Palacio could have followed other vice presents into becoming a political player (see Brazil 1994), but did not.
- Guatemala 1985: Incumbent: Mejia (de facto); Reelection=0; Inc. Vote Share=0
- Guatemala 1995: Incumbent: Ramiro de Leon; Reelection=0; Inc. Vote Share=0
De Leon was the popular national ombudsman who became president after Jorge Serrano and his vice-president Gustavo Espina were deposed following a failed auto-coup. De Leon oversaw the transition to an elected successor without supporting any candidates. The doubt here is whether De Leon supported his former party (UCN) candidate Fernando Andrade Díaz-Duran, or no candidate. Although De Leon had been an elected official and founder of the UCN in the 1980's he had abandoned partisan activities at the end of the decade prior to becoming ombudsman and did not support any candidates in the 1995 elections.
- Guatemala 2011: Incumbent: Colón (UNE); Reelection=NA; Inc. Vote Share=NA
Guatemalan law prevented relatives of the sitting President of participating in elections. In August 2011, the constitution court ruled that Sandra Torres, former wife of the current president who got divorced to run for the presidency, was ineligible, therefore the incumbent was left without a candidate against his will. We coded this cases a not-observed.
- Honduras 1981: Incumbent: Paz Garcia (military); Reelection=0; Inc. Vote Share=0
In principle, the outgoing military regime did not support any candidate, but la mayoría de la población hondureña, asumía que el PNH (ultimate losers) sería favorecido por los militares en el poder.

- Honduras 1985: Incumbent: Suazo Cordova (PLH); Reelection=1; Inc. Vote Share=Mejia Arrelano's
The incumbent PLH could not decide on a single candidate, so they adopted an “Uruguayan” solution and allowed multiple candidates per party, with pooling. José Azcona Hoyo, the winning candidate, had broken with the sitting president in 1983, who supported his justice minister Óscar Mejía Arellano. The Liberals won, which makes this a reelection. However, we considered the incumbent vote share as being just Mejia Arrelanos's, the candidate backed by the president.
- Nicaragua 1996: Incumbent Chamorro; Reelection=1; Inc. Vote Share=Aleman's
Despite the changes in party names, Alemán was from the same political group as the incumbent Chamorro.
- Peru 1980: Incumbent: Bermudez (military); Reelection=0; Inc. Vote Share=0
Although the military had participated in the drafting of the constitution in 1979, by a decision of president Morales Bermúdez they sat out of the presidential election in 1980.
- Peru 2001: Incumbent: Paniagua (AP, interim); Reelection=0; Inc. Vote Share=0
Paniagua was selected by the Peruvian Congress to replace ousted president Alberto Fujimori. He served for under one year, oversaw elections, and although he was a longtime member of Acción Popular, his party did not present a candidate and he did not support any other candidate in the 2001 elections.
- Peru 2006: Incumbent: Toledo (PP); Reelection=0; Inc. Vote Share=0
Toledo did not support any presidential candidate in 2006.
- Peru 2011: Incumbent: Garcia (APRA); Reelection=0; Inc. Vote Share=0
The APRA did not field any presidential candidate in 2011.
- Uruguay 1984: Incumbent: Gregorio Alvarez; Reelection=0; Inc. Vote Share=0
Rafael Addiego Bruno was supreme court justice who took office as interim president after the resignation of the last military leader Gregorio Álvarez in february 1985 to oversee the transition to the elected president Sanguinetti in march of the same year. His position is very similar to that of Rodriguez Veltzé in Bolivia 2005, as he was clearly not a political president. We refer, then, to the last political president Gregorio Álvarez. Although the military did not field or support any political candidate in the 1984 election, they could have done so in the same way that Pinochet did in Chile 1989. Hence, we coded this case a failure to obtain reelection by not fielding a candidate.
- Uruguay 1989: Incumbent: Sanguinetti (PC); Reelection=0; Inc. Vote Share=Batlle's
The only question here is how to code the incumbent candidate vote share. These elections

in Uruguay allowed for multiple candidates from each party, and required pooling of votes to determine the party that would win the presidency. The Colorado party fielded three candidates, Jorge Batlle (14.82%), Jose Pacheco Areco (14.68%), and Fernández Faingold (0.70%), and received a total of 30.1%. Batlle was a “rival” to president Sanguinetti, and defeated his preferred candidate in a primary election of his faction. However, the president’s group presented joint lists with Battle’s group, and as such we code Battle as the incumbent candidate.

- Uruguay 1994: Incumbent: Lacalle (PN); Reelection=0; Inc. Vote Share=Ramírez’s
Again, the question here is how to code the incumbent candidate vote share. Partido Nacional fielded three candidates, Alberto Volonté (14.9), Juan Andrés Ramírez (13.0) and Carlos Julio Pereyra (3.2), who collectively received 31.2%. Ramirez had been Lacalle’s interior minister, and was the incumbent supported candidate. The Partido Nacional lost the elections by narrow margin to the Colorado Party, whose three candidates received 32.3% of the vote.
- Venezuela 1993: Incumbent: Velazquez (AD); Reelection=0; Inc. Vote Share=Claudio Fermin’s
Velazquez was elected president by Congress after one month of a provisional government by Octavio Lepage (AD), following the resignation of Carlos Andres Perez. Although Velasquez was a “consensus” choice by both AD and COPEI, the parties did not appoint ministers to the cabinet. Still, Velazquez was a senator elected by AD, and had been an AD member before, hence, we coded him as being from the AD, even though it was somewhat of a caretaker government.
- Venezuela 1998: Incumbent: Caldera (Convergencia); Reelection=0; Inc. Vote Share=0
Caldera’s new party (Convergencia) did not participate in the presidential elections of 1998 and 2000, and since the end of Caldera’s term has survived as a small regional and parliamentary party. It supported Rosales in 2006, but no other presidential candidates before that.

C Determinants of Reelection — Alternative Results

In the paper, we report logic regressions using GET as the main independent variable. In this section we report equivalent regressions that use US Interest Rates and US Commodity Prices instead of GET.

As before, results are in-line with our expectations, despite the relatively small sample. In all specifications, commodity index has always a positive effect and interest rates a negative

effect on the probability of reelections. Individually, the two variables have statistical significant effects, even when controls are included. When both variables are entered simultaneously, the statistical significance of commodity prices fall below conventional levels. This is due to the fact that they do vary together, to some extent. The important point, however, is that commodity prices and US interest rates are always *jointly significant*, and produce substantively large effects.

Table C.4: Determinants of Incumbent Candidate Reelection (1980–2012)

	Interest Rates			Commodity Index			Combined	
US Interest Rates	-0.436	-0.417	-0.345				-0.378	-0.417
Std. Error	0.091	0.081	0.118				0.093	0.179
p-value	0.000	0.000	0.004				0.000	0.020
log(Commodity)				2.222	2.074	2.015	0.815	1.314
				1.122	1.097	1.204	1.282	1.271
				0.048	0.059	0.094	0.525	0.301
Ideology		-0.541			-0.459			
		0.464			0.423			
		0.244			0.277			
Political Risk			0.039			0.060		
			0.019			0.021		
			0.039			0.004		
(Intercept)	2.212	2.504	-0.635	-11.337	-10.272	-13.835	-2.117	-3.447
	0.567	0.574	1.174	5.531	5.303	6.334	6.544	6.747
	0.000	0.000	0.589	0.040	0.053	0.029	0.746	0.609
Fixed Effects	No	No	No	No	No	No	No	Yes
Clustered SE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
Baseline Error	0.397	0.397	0.439	0.397	0.397	0.439	0.397	0.397
PRE	0.120	0.240	0.280	0.240	0.200	0.200	0.280	0.320
N	63	63	57	63	63	57	63	63
Countries	10	10	10	10	10	10	10	10

The dependent variable is a binary indicator of whether the incumbent party was reelected. Samples differ in size because political risk data is only available starting in 1985. PRE is proportional reduction in error of the estimated model relative to the baseline error (i.e. a null model).

Figure C.8 shows the changes in probability of reelection as the international economic outlook changes from “bad” to “good.” We defined bad (good) outlook by setting commodity prices one standard deviation below (above) and US interest rates one standard deviation above (below) their means for the period. In all specifications, the change in probability of reelections is statistically significant.

Substantive effects range from just under 0.3 for the model with just US interest rates to 0.5 in the model with both variables and country fixed-effects. Commodity prices seem to be

the stronger predictor, but US interest rates' contribution is far from negligible. This is not surprising given that we have previously shown that US interest rates play a significant role in the economies of fewer countries. Interest rates, however, do play an important role in some countries, including Brazil, one of the countries which we analyze in depth in the subsequent section.

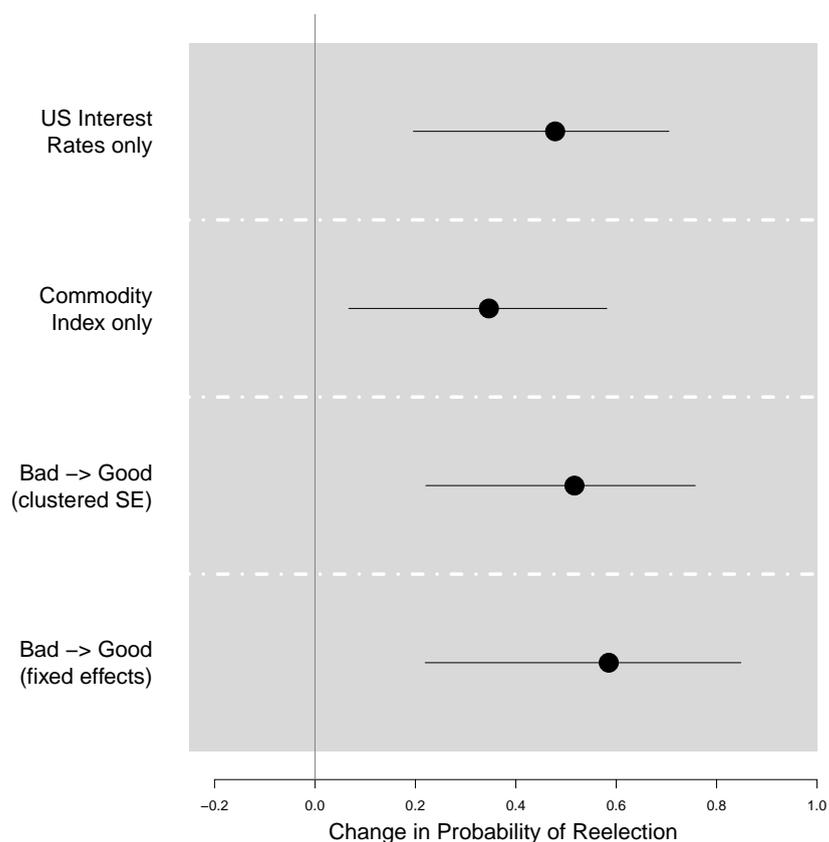


Figure C.8: Effects of Changing from “Bad” to “Good” Economy on Reelection

Figure shows the change in probability of reelection associated with moving from a “bad” international economy (i.e. commodity prices one standard deviation below and US interest rates one standard deviation above their means for the whole period) to a “good” international economy (i.e. the reverse), as estimated in four of the models reported in Table C.4.

D Popularity Question Wording

Sampling procedures and question wording vary across pollsters, and overtime within pollsters. However, the “popularity” question has been asked by these main pollsters in Brazil in very similar formats since the late 1980’s, and all of them use a standard five level scale that ranges from excellent to terrible. The original text of the questions is reported in Table D.5, below.

Table D.5: Popularity question wording

Pollster	Question
Sensus	O(A) Sr.(a) avalia o governo da Presidente Dilma Rousseff como? [Ótimo, Bom, Regular, Ruim, Péssimo] Como você avalia o desempenho do governo presidente Luiz Inácio Lula da Silva? Está sendo ótimo, bom, regular, ruim ou péssimo?
Datafolha	Na sua opinião, a presidente Dilma Rousseff está fazendo um governo ótimo, bom, regular, ruim ou péssimo? Na sua opinião, o presidente Luiz Inácio Lula da Silva está fazendo um governo ótimo, bom, regular, ruim ou péssimo? Na sua opinião, o presidente Fernando Henrique está fazendo um governo ótimo, bom, regular, ruim ou péssimo? Na sua opinião, o presidente Itamar Franco está fazendo um governo ótimo, bom, regular, ruim ou péssimo? Na sua opinião, o presidente Collor está fazendo um governo ótimo, bom, regular, ruim ou péssimo? Na sua opinião, o presidente José Sarney está fazendo um governo ótimo, bom, regular, ruim ou péssimo?
Ibope	Na sua opinião, a presidente Dilma Rousseff está fazendo um governo ótimo, bom, regular, ruim ou péssimo? Na sua opinião, o presidente Luiz Inácio Lula da Silva está fazendo um governo ótimo, bom, regular, ruim ou péssimo? Na sua opinião, o governo do presidente Fernando Henrique Cardoso, até o momento, está sendo? [Ótimo, Bom, Regular, Ruim, Péssimo] Na sua opinião, o governo do presidente Fernando Collor de Mello, até o momento, está sendo? [Ótimo, Bom, Regular, Ruim, Péssimo]
Vox Populi	Na sua opinião, o governo do presidente José Sarney, até o momento, está sendo? [Ótimo, Bom, Regular, Ruim, Péssimo] De uma maneira geral, como você avalia o desempenho do Presidente Lula à frente do governo federal: Ótimo, bom, regular, ruim ou péssimo? Como você avalia o desempenho do presidente Fernando Henrique Cardoso à frente do governo: está sendo ótimo, bom, regular, ruim ou péssimo?

E Imputation of Popularity Data

We used Amelia II to conduct multiple imputation of missing values in the monthly data set. All of the missingness occurs exclusively in the popularity data. We used a logit transformation to force Amelia to impute values between 0 and 1, and included leads and lags in the imputation. Figure E.9 shows observed popularity values and imputed observations for the popularity of the six Brazilian presidents.

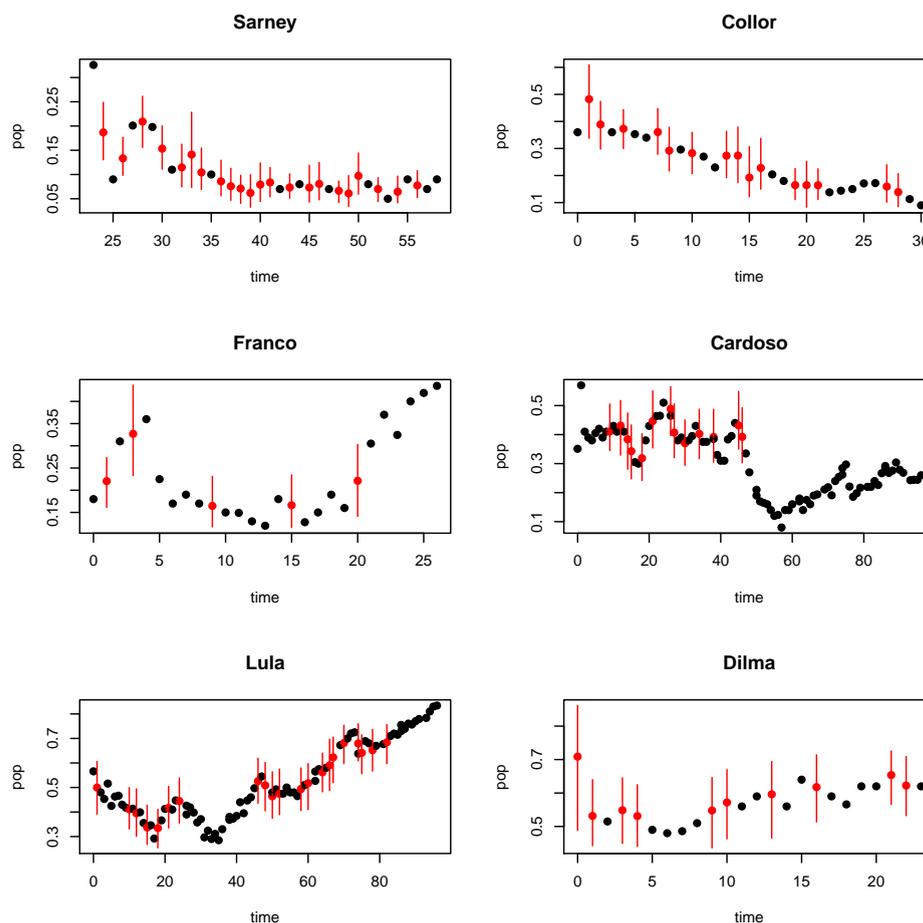


Figure E.9: Imputed and Observed Values of the Dependent Variable

F Extended Results for the External Determinants of Presidential Popularity

In the main body of the paper we report the estimates of the effect on GET in graphical form only (Figure 5), and for simplicity we omitted the coefficients for other variables included in the model. The first columns in Table F.6 report complete results from those regressions. The last columns show results that obtain using US Interest Rates and (log of) Commodity Index in the time series analysis of the international economic determinants of presidential popularity in Brazil. These two variables are the constituent parts of the GET Index, that is used in the main body of the paper. As the table shows, GET is always positive and statistically significant, and so are its constituent parts. Interest Rates contribute negatively to presidential performance while commodity prices contribute positively. Analysis of the residuals suggests that the inclusion of the lag alone makes the series stationary and purges serial correlation, but we also conservatively report the AR-1 results. In the naive OLS models, the effect of the substantive variables is magnified, but the simple inclusion of a lag dependent variable in the OLS regression brings the coefficients within close distant of what is found by adding a AR-1 correction to the model. The inclusion of the relative performance of Brazil GDP in comparison to its “peer group” (i.e. Argentina, Chile, and Mexico) does not alter any of the results.

Table F.6: International Factors and Presidential Popularity in Brazil

	GET Models				Interest Rates & Commodities			
	OLS	OLS	OLS	AR1	OLS	OLS	OLS	AR1
	OLS	Lag-DV	Lag-DV	Lag-DV	OLS	Lag-DV	Lag-DV	Lag-DV
Lag-DV		84.97	85.01	87.11		83.11	83.14	85.21
		3.08	3.08	3.15		3.21	3.20	3.36
		0.00	0.00	0.00		0.00	0.00	0.00
GET Index	14.65	2.17	2.19	1.83				
	0.66	0.55	0.56	0.55				
	0.00	0.00	0.00	0.00				
Interest Rates					-4.11	-0.62	-0.64	-0.52
					0.42	0.28	0.28	0.26
					0.00	0.03	0.03	0.05
(log)Commodities					26.51	4.88	4.83	4.31
					2.42	1.50	1.50	1.50
					0.00	0.00	0.00	0.00
Time in office	-0.03	-0.00	-0.00	-0.00	-0.03	-0.00	-0.00	-0.00
	0.03	0.01	0.01	0.01	0.02	0.01	0.01	0.01
	0.25	0.79	0.93	0.92	0.22	0.75	0.88	0.86
Relative Growth			-0.09				-0.09	
			0.10				0.10	
			0.36				0.37	
Political Crisis	-9.64	-2.27	-2.42	-2.11	-9.44	-2.37	-2.52	-2.22
	1.62	0.94	0.95	0.85	1.55	0.94	0.96	0.86
	0.00	0.02	0.01	0.01	0.00	0.01	0.01	0.01
(Intercept)	31.66	4.78	4.65	4.09	-68.35	-13.89	-13.66	-12.48
	1.70	1.32	1.33	1.34	13.47	7.41	7.42	7.05
	0.00	0.00	0.00	0.00	0.00	0.06	0.07	0.08
R2	0.70	0.92	0.92	0.92	0.72	0.92	0.92	0.92

Table reports time series estimates of the effect of international variables on presidential popularity in Brazil. Columns with GET estimates were presented graphically in the paper. Columns with the two separate components are extended results. All models also include indicators for pollsters.