



Playing with Fire: Pre-Electoral Fiscal Manipulation and the Risk of a Speculative Attack

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Conventional wisdom holds that voters in developing countries fail to punish pervasive pre-electoral fiscal manipulation. However, we argue that governments are unlikely to engage in pre-electoral fiscal manipulation when facing a high risk of speculative currency attacks. In particular, under fixed exchange rates, governments are less likely to engage in fiscal electioneering when either their real exchange rate is highly appreciated or their foreign exchange reserves are low. In contrast, under a flexible exchange rate, neither a country's real exchange rate nor its reserves affects governments' decision to engage in fiscal manipulation. Our argument receives support through a quantitative analysis of government budget balances in 97 developing countries from 1975 to 2005.

Governments are more likely to win reelection in economic good times. Pre-electoral fiscal manipulation—spending more or taxing less prior to an election—is a powerful tool for governments to increase the strength of the economy in the run-up to an election. Recent studies find pervasive pre-electoral fiscal manipulation in developing countries and argue that this results from a low likelihood that voters will punish governments for fiscal manipulation (Brender and Drazen 2005; Shi and Svensson 2006). However, despite widespread recognition of the impact of the international environment on developing countries' fiscal policies, scholars have paid little attention to how developing countries' international economic ties constrain governments' decisions to engage in fiscal manipulation.

We argue that international financial markets may punish governments for pre-electoral fiscal manipulation through currency runs. Governments in developing countries are less likely to engage in pre-electoral fiscal manipulation when their country is at risk of a

speculative attack. In particular, countries that maintain fixed exchange rates are vulnerable to speculative currency attacks—with the risk of an attack increasing as their real exchange rate appreciates or their foreign exchange reserves decline.¹ As a result, we expect that under a fixed exchange rate, governments engage in less fiscal manipulation when their real exchange rate is highly appreciated or their foreign exchange reserves are low. In contrast, because flexible exchange rate regimes do not face the same risk of a speculative attack, under a flexible exchange rate, neither a country's real exchange rate nor its level of reserves should affect governments' decision to engage in fiscal electioneering in the same manner. We test this argument, and find support for it, through a time-series cross-sectional quantitative analysis of government budget balances in 97 developing countries from 1975 to 2005.

The results demonstrate that the constraining effect of countries' international economic ties mediates when governments choose to manipulate the economy in order to enhance their chances for reelection. This tracks with a broader literature suggesting that many governments in developing countries face substantial credibility problems domestically (Keefer 2007) and internationally (Wibbels 2006) and that fixing the exchange rate alone—like other imperfect solutions to commitment problems such as central bank independence—may prove inadequate to reassure market actors (Bodea 2010). This article also substantially qualifies the expectation from existing scholarship that fixed exchange rates necessarily provide greater opportunity for government fiscal expansion (Frieden 1991; Clark and Hallerberg 2000). Indeed, the analyses presented

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¹ A country's real exchange rate is appreciated when the nominal value of the country's currency is relatively greater than that indicated by the country's purchasing power; that is, the country's nominal exchange rate is overvalued.

here suggest that, at least in developing countries, flexible exchange rates make for, on average, greater pre-electoral fiscal expansion.

More broadly, this paper contributes to the growing study of the internationalization of elections. While traditional scholarship focuses on democratic elections as purely domestic events, in recent years, scholars have noted that the conduct of elections increasingly takes place on the international stage. This may both empower and constrain governments (see Kayser 2007). Contemporary scholarship has focused particularly on the extent to which voters distinguish and account for domestic and international sources of their countries' economic performance (for example, Hellwig 2001; Hellwig and Samuels 2007; Kayser and Peress 2012). However, as this article demonstrates, voters are not alone in facing increased challenges in a globalized world. Governments seeking re-election risk playing with fire if they engage in pre-electoral fiscal manipulation too aggressively: They risk provoking a speculative attack on their currency in global financial markets.

Argument

Previous research finds that regimes in developing countries widely employ pre-electoral fiscal manipulation prior to democratically contested elections. Explanations for this pattern focus on domestic characteristics. Research shows that the likelihood of fiscal manipulation increases in states with less consolidated democracies (Gonzalez 2002), less transparent political systems (Alt and Lassen 2006), less media independence (Brender 2003), lower voter awareness (Brender and Drazen 2005), larger benefits from holding office (Shi and Svensson 2006), and less wealth (Schuknecht 2000). These studies suggest that the high cost of losing office coupled with low levels of oversight creates an environment in which fiscal manipulation emerges as a highly demanded, relatively effective, low-risk strategy for increasing governments' chances for reelection.

This economic literature comports well with comparative politics studies of political systems in developing countries. Developing countries tend to have weak and volatile party systems in which neither voters nor politicians exhibit strong party affiliations (Mainwaring 1999). Low partisan attachment increases electoral volatility and thus governments' uncertainty about their reelection chances. Governments' inability to rely on parties or parties' platforms to attract voters exacerbates this uncertainty (Keefer 2007). As a result, governments in developing countries depend on voters' retrospective judgments to win reelection; they face strong pressures to engage in fiscal electioneering (Lewis-Beck and Stegmaier 2008). As democracies in developing countries tend to be weakly institutionalized with low levels of transparency, governments also enjoy little risk of getting "caught" for engaging in fiscal manipulation (Rose and Shin 2001). Even if someone observed such manipulation, it is less likely that voters would find out. As Djankov, McLiesh, Nenova, and Shleifer (2003) find, media are highly likely to be controlled by the state in developing countries and hence are unlikely to expose government electioneering. Thus, the domestic political environment in which such democratically contested elections take place increases governments' desire and capacity to engage in fiscal manipulation. However,

governments in developing countries face not only domestic political pressures, but also international economic pressures.

Current analyses of pre-electoral fiscal manipulation in developed countries examine how countries' exchange rate ties affect governments' decision to engage in fiscal electioneering. Clark and Hallerberg (2000) argue that governments only engage in fiscal expansion under a fixed exchange rate. In contrast, O'Mahony (2011) finds evidence of fiscal manipulation in developed countries under both fixed and flexible exchange rate regimes, but argues that governments' decision to engage in fiscal electioneering depends on their trade openness. For both studies, governments' decisions to engage in fiscal manipulation reflect the efficacy of fiscal electioneering in increasing the incumbent regime's prospects for reelection. Their analyses fail to consider whether fiscal manipulation undermines the perceived sustainability of a country's exchange rate peg. This omission may reflect developed countries' room for maneuver, at least in the short term. However, as Wibbels (2006, 435) notes, "developing nations are much more constrained by global markets than their wealthy counterparts."²

Indeed, the governments of developing countries must consider whether fiscal manipulation will trigger a speculative attack on their country's currency. Countries that maintain fixed exchange rates are vulnerable to speculative currency attacks. Speculative attacks occur when market actors believe that governments cannot or will not successfully defend the fixed value of their currency (as modeled in Krugman 1979). Expansionary fiscal policy calls this commitment into question and thereby typically leads to a substantial appreciation in a country's real exchange rate (Bénétrix and Lane 2009). During a speculative attack, speculators sell the country's currency, lowering demand for the currency and increasing pressure on the government to abandon its exchange rate peg and devalue its exchange rate.

Abandoning an exchange rate peg can prove very costly. Economically, exchange rate devaluation increases the cost of imports, puts upward pressure on inflation, increases countries' foreign debt burden, and erodes economic growth. These costs occur under both fixed and flexible exchange rates. However, because an abandoned peg almost invariably results in an overshooting of the exchange rate, the economic costs of a forced devaluation under a fixed exchange rate are much larger than those generally experienced under a flexible exchange rate.

Devaluation under a fixed exchange rate also entails greater political costs. An abandoned peg amounts to a broken promise and a tacit admission of deteriorating economic conditions; it causes an erosion of public support for the government (Sattler and Walter 2010).³ The political costliness of abandoning an exchange rate peg becomes more acute as elections approach. All else equal, governments that devalue their exchange rate in

² Our argument may be applicable to developed countries in certain circumstances; however, given the expected differences in developed and developing countries' room to maneuver, we have kept the focus of this paper on developing countries.

³ The political costs of devaluation under a flexible exchange rate are much lower because it is generally not perceived as a comparable renegeing on a policy commitment.

the run-up to an election are almost twice as likely to lose office (Cooper 1971; Frankel 2005). As a result, governments attempt to postpone exchange rate devaluations until after elections (Stein and Streb 2004).

We suggest that governments engage in pre-electoral fiscal manipulation differently under fixed and flexible exchange rates. For governments under fixed exchange rates, the attractiveness of fiscal manipulation as a tool for improving governments' chances of reelection is offset by the increased risk of a speculative attack. When the exchange rate is fixed, governments only engage in fiscal manipulation when the risk of a speculative attack is low. In contrast, when the exchange rate is flexible, governments do not face the same risk of a speculative attack. As a result, if the only difference in governments' decision to engage in pre-electoral fiscal manipulation is the risk of a speculative attack, then we should expect more pre-electoral fiscal manipulation under flexible exchange regimes than under fixed exchange regimes. This suggests Hypothesis 1:

Hypothesis 1: *Pre-electoral fiscal manipulation is lower under fixed exchange rates than under flexible exchange rates.*

This hypothesis is opposite the expectations of Clark and Hallerberg (2000). Based on the Mundell-Fleming model, Clark and Hallerberg (2000) argue that when capital is perfectly mobile internationally, fiscal electioneering is ineffective under a flexible exchange rate. Thus, they expect no fiscal manipulation under a flexible exchange rate. However, if capital is viewed as partially rather than fully mobile, exchange rate flexibility would not render fiscal manipulation fully ineffective but would reduce its effectiveness. If so, then governments in developing countries might actually engage in more manipulation under a flexible exchange rate to accomplish the same improvement in their chances for reelection. This is an alternative mechanism that would also lead to results consistent with Hypothesis 1.

The argument developed in this paper focuses on the importance of the risk of speculative attacks. This generates additional observable implications that we explore in more detail below. If the differential effectiveness of fiscal policy under fixed and flexible exchange rates explains the presence of greater fiscal manipulation under a flexible exchange rate, our subsequent hypotheses, which focus on the effect of additional factors influencing the risk of a speculative attack, should receive no support.

Not all fixed exchange rate regimes face the same risk of a speculative attack, and not all speculative attacks are successful. Governments can choose to defend their exchange rate peg by substantially raising interest rates and selling foreign exchange reserves. Defending an exchange rate peg entails tightening monetary policy, weakening economic growth and investment, increasing unemployment, and eroding public support for the government. As a result, governments' chances for reelection should decline in the face of a speculative attack, even if the government successfully defends its exchange rate peg. However, for governments that can successfully defend their currency against a speculative attack, an exchange rate defense appears less costly than a devaluation prior to an election (Leblang 2003; Walter 2009).

While a successful defense may be the lesser of two evils, the better option for a government seeking reelection is to avoid a speculative attack.

What increases the likelihood of a speculative attack? In an analysis of more than eighty papers assessing macroeconomic indicators of financial crises, Frankel and Sarvelos (2012) find that low monetary reserves and real exchange rate appreciation are the two most reliable indicators of international financial market pressure on exchange rates. These findings are corroborated in their own empirical analyses in which an appreciated real exchange rate and low reserves are consistently associated with exchange rate crises. These empirical analyses of leading indicators comport well with macroeconomic and political economic explanations for speculative attacks. Speculative attacks occur when market actors believe that governments cannot or will not maintain the fixed value of their currency. Highly appreciated real exchange rates and low monetary reserves call into question governments' ability and desire to defend their exchange rate pegs.

When a country's real exchange rate is highly appreciated, market actors judge that the real value of the country's currency is less than the currency's nominal value. The larger the differential between real and nominal exchange rates, the greater the potential arbitrage opportunity available to speculators. Moreover, governments' commitment to maintaining their peg is called into question as market actors interpret perceived inconsistencies between governments' chosen macroeconomic policies and those required to maintain a fixed exchange rate as a signal that the government may be unwilling to bear the economic costs associated with an exchange rate defense. Market uncertainty about the government's commitment to its exchange rate is exacerbated prior to an election as governments' time horizons shorten.

In an analysis of speculative attacks in ninety developing countries, Leblang (2003) finds that governments are most likely to defend the value of their currency prior to an election, and argues that governments' greater commitment to their exchange rate peg reduces the likelihood of a pre-electoral speculative attack. If so, then governments may have less reason to worry about speculative attacks prior to an election. However, this argument considers only the likelihood of defense *all else equal*. It does not take into account the impact of government policies that would reduce the sustainability of the exchange rate peg on the likelihood of a speculative attack. As we discuss below, for countries with a highly appreciated real exchange rate, pre-electoral fiscal manipulation constitutes a policy that may be perceived as inconsistent with maintaining an exchange rate peg. When financial markets anticipate that governments are unable or unwilling to maintain the peg, the likelihood of a pre-electoral speculative attack should increase (Krugman 1979).

Increasing government expenditure is associated with real exchange rate appreciation. Because governments disproportionately purchase goods and services produced at home, higher government expenditures increase the price of non-tradables vis-à-vis tradables, causing an appreciation of the real exchange rate. Empirical analyses of both developed and developing countries have estimated that a 1% point increase in government expenditures is associated with a 1.5–3% point appreciation in a country's real exchange rate (Froot and Rogoff 1991; De Gregorio, Giovannini, and Wolf 1994; Ricci, Milesi-Ferretti, and Lee 2008; Galstyan and Lane 2009), an effect

that appears to be larger in countries with fixed exchange rates (Beetsma, Giuliodori, and Klaassen 2007; Bénétix and Lane 2009).⁴ As a result, for countries with a fixed exchange rate, pre-electoral fiscal manipulation will cause an appreciation of the real exchange rate. For countries with an already appreciated currency, this increased real exchange rate appreciation may increase the risk of a speculative attack.

Therefore, we expect that under a fixed exchange rate, the more overvalued the currency, the less likely that governments will engage in fiscal electioneering. In contrast, because flexible exchange rate regimes do not run the same risk of a speculative currency attack, when the exchange rate is flexible, governments' decision to engage in fiscal manipulation should be unrelated to the likelihood of a speculative attack and thus unrelated to the value of the real exchange rate. This leads to Hypothesis 2.

Hypothesis 2: *Under a fixed exchange rate, pre-electoral fiscal manipulation is lower when the real exchange is highly appreciated.*

Speculative currency attacks are not simply a function of a country's long-term macroeconomic fundamentals. Although speculative attacks are more likely when market actors believe the exchange rate peg is unsustainable, they are less likely when markets believe the government can successfully defend its currency against a speculative attack. There are two channels by which reserves can decrease the likelihood of a successful speculative attack: defense and deterrence. At the most basic level, the larger the country's supply of foreign exchange reserves, the longer the country can withstand a speculative attack. However, larger holdings of reserves, by tying up a larger share of the country's financial assets, are also a costly signal of the country's commitment to maintain its fixed exchange rate. Thus, speculators are more likely to be deterred when a country's foreign exchange reserves are large (Leblang 2002; Walter 2009). As a result, countries hold large reserves as a form of self-insurance (Aizenman and Lee 2008), and Leblang (2005) finds that democracies amass reserves as a "war chest" to fend off speculative attacks.

The policy flexibility that foreign exchange reserves purchase should be particularly important for governments in the run-up to an election. By reducing the likelihood of a speculative attack, large reserves should increase governments' ability to engage in fiscal manipulation under a fixed exchange rate. Conversely, for governments with a flexible exchange rate, pre-electoral fiscal manipulation should be unrelated to the level of reserves. This leads to Hypothesis 3.

Hypothesis 3: *Under a fixed exchange rate, pre-electoral fiscal manipulation is greater when foreign exchange reserves are larger.*

The preceding hypotheses treat countries' reserves and real exchange rate as exogenously determined; however, both are influenced by government policies. Foresighted

governments may adopt policies to depreciate the real exchange rate or increase reserves to lower the risk that fiscal manipulation will spark a speculative attack. Alternatively, governments may adopt policies that result in an appreciated real exchange rate and low reserves because the benefits of these policies are perceived to outweigh those of fiscal electioneering. In both cases, the mechanism suggested above and the empirical tests proposed should be valid: There should be less pre-electoral fiscal manipulation under a fixed exchange rate when reserves are low and the real exchange rate is highly appreciated.

Models of speculative attacks (generally building on Krugman 1979) often demonstrate how long-term appreciation of the exchange can interact with reserve levels and the decision of governments to partially or fully commit reserves to the defense of a peg. This partially endogenous nature of the real exchange rate and reserve levels highlights the centrality of the interaction between exchange rate fixity, real exchange rate, and reserves. A speculative attack is most likely when the real exchange rate is appreciated and foreign exchange reserves are low because market actors perceive both that the exchange rate peg is unsustainable *and* that the government is unlikely to successfully defend its exchange rate peg against a speculative attack. Conversely, when the real exchange rate is depreciated and reserves are high, a speculative attack is least likely as the exchange rate peg is perceived to be both sustainable and easily defended.

However, when the real exchange rate is perceived to be overvalued, increasing reserves may be insufficient to stave off a speculative attack. Similarly, when a country's foreign exchange reserves are low, relatively low levels of exchange rate appreciation may trigger a speculative attack. Thus, either low foreign exchange reserves or an appreciated real exchange rate may be sufficient to increase the risk of a speculative attack. As a result, governments under a fixed exchange rate should be most likely to engage in pre-electoral fiscal manipulation when both its foreign exchange reserves are high and its real exchange rate is undervalued. Governments should be less likely to engage in fiscal manipulation when either their real exchange rate is highly appreciated or their foreign exchange reserves are low, as pre-electoral fiscal manipulation in either case may be sufficient to substantially increase the risk of speculative attack. This leads to our central hypothesis, Hypothesis 4:

Hypothesis 4: *Under a fixed exchange rate, pre-electoral fiscal manipulation is lower when either the real exchange rate is highly appreciated or foreign exchange reserves are low.*

Empirical Analysis

This section explores the hypotheses presented above with a quantitative analysis of fiscal manipulation in 97 developing countries, 1975–2005. The results support the argument that governments are more likely to engage in pre-electoral fiscal manipulation when the risk of a speculative attack is low. Under a fixed exchange rate, pre-electoral fiscal manipulation is greatest when the real exchange rate is depreciated and foreign exchange reserves are high. When the risk of a speculative attack increases, either because the real exchange rate is highly appreciated or because the reserves are low, there is less evidence of pre-electoral fiscal manipulation. Under a

⁴ Recent studies (for example, Kim and Roubini 2008) suggest that in some countries with flexible exchange rates, increased government expenditures are associated with a real exchange rate depreciation caused by a concomitant nominal exchange rate devaluation. This finding should only strengthen the difference in fiscal electioneering under fixed and flexible exchange rates suggested in this paper.

flexible exchange rate, regimes do not run the same risk of a speculative currency attack and we observe significant amounts of pre-electoral fiscal manipulation. Pre-electoral fiscal manipulation under a flexible exchange rate does not appear to be associated with a country's real exchange rate value or its level of foreign exchange reserves.

The baseline model adopted here is similar to Brender and Drazen's (2005) analysis of fiscal manipulation. This model was chosen for two reasons. First, findings from Brender and Drazen (2005) and Shi and Svensson (2006) represent the alternative hypothesis that developing countries engage in pre-electoral fiscal manipulation regardless of the risk of a speculative attack. Second, Brender and Drazen adopt a well-accepted array of controls for fiscal policy analyses in developing countries. The estimation technique used is ordinary least squares regression with country and year fixed effects, which limits the analysis to short-term, within-country variation.⁵

The dependent variable, *Government Balance*, represents the central government's fiscal balance as a percent of GDP. It is positive (negative) when the current year's budget is in surplus (deficit). Fiscal manipulation should be inversely related to *Government Balance*—the more the manipulation, the larger the government's budget deficit or the smaller the government's budget surplus will be. Data for *Government Balance* come from two sources—the International Monetary Fund's (2007) *International Financial Statistics* and Brender and Drazen (2005).⁶

Election data are from Hyde and Marinov's (2010) database on elections for national office in developing countries.⁷ The theory developed in this article presupposes that holding an election implies some risk that the incumbent will give up power. In some elections, however, opposition is banned or otherwise restricted. To exclude elections that are *a priori* uncompetitive,⁸ *Election* is coded from three questions in Hyde and Marinov (2010): Was opposition allowed? Was more than one party legal? Was there a choice of candidates on the ballot? *Election* is coded 1 if the answer to all three questions is "yes" and 0 otherwise, generating a set of 426 elections in which competition is possible.

Exchange rate data are taken from Reinhart and Rogoff (2004). Reinhart and Rogoff code exchange rate regimes based on both how flexible countries say their exchange rate is and how flexible it is in reality.⁹ Based on their categorization, *Fixed Exchange Rate* is coded 1 if

exchange rate fixity ranges from "no separate legal tender" to "*de facto* crawling band that is narrower than or equal to $\pm 2\%$." All regimes that exhibit more flexibility are coded 0.¹⁰

Following Rodrik (2008), we use the variable "*p*" from Penn World Tables (Heston, Summers, and Aten 2009), to capture the *Real Exchange Rate*.¹¹ This reflects the value of the domestic currency *vis-à-vis* foreign currency at the current nominal exchange rate. A value of one means that the nominal exchange rate is in line with relative prices. Lower (higher) values of *Real Exchange Rate* capture greater real exchange rate appreciation (depreciation).

To capture *Reserves*, we use foreign exchange reserve data from the IMF divided by money supply (M1). Results are comparable when data from the World Bank are used and when *Reserves in Months of Imports* or *Reserves as a Percent of GDP* are used as alternative measures.

The analyses include a series of economic and demographic control variables.¹² Richer countries, countries with strong economic growth, and countries with high levels of trade tend to run smaller budget deficits; thus, we expect *GDP per capita*, *GDP Growth*, and *Trade* will be positive. *Population between 15 and 64* represents the fraction of the population presumed to be of working age. The greater the working age population, the greater the tax base, all else equal. In contrast, the greater the *Population 65 and above*, the greater the demand for government expenditures. Finally, *Government Balance (lagged)* is included to control for temporal dependence in the dependent variable. Descriptive statistics for these variables, as well as description of further data used for robustness analyses, including data on capital mobility from Chinn and Ito (2008) and debt default data from Laeven and Valencia (2008), can be found in the online appendix.

Table 1 presents our main results. Model 1 shows that on average elections are associated with a 0.5% point decline in *Government Balance*, which is consistent with the conventional wisdom that pre-electoral fiscal manipulation is pervasive in developing countries. *Government Balance* is also positively associated with economic growth, trade openness, and the previous year's budget balance. In contrast, *Government Balance* does not appear to be significantly associated with a country's GDP per capita or demographics.

In Model 2, we test Hypothesis 1 by bifurcating *Election* by exchange rate regime. There is statistically significant evidence of fiscal electioneering under both types of exchange rate regime. However, under a flexible exchange rate, an election is associated with a 1% point

⁵ Results are almost identical when an Arellano-Bond model is used.

⁶ Not all countries' government balance data are included in the *International Financial Statistics*. Brender and Drazen (2005) augment these data based on other IMF publications. As reported in the Online Appendix, there appears to be no systematic bias caused by splicing the two data sources. Furthermore, in some countries, the fiscal year and calendar year differ, complicating analyses. However, the results are robust to excluding countries that have different fiscal years.

⁷ The sample of countries included in the analyses is determined by countries' inclusion in Hyde and Marinov (2010). These countries are defined as developing countries that hold elections but that are not already considered to be consolidated democracies.

⁸ This analysis focuses on electoral competition, rather than quality of democracy. This raises the concern that the results may be driven by the inclusion of elections held in non-democratic countries. To examine this, we re-ran the analysis excluding all observations in which the country received a POLITY score below zero on a -10 to 10 scale (Marshall and Jaggers 2002). These results also provide support for the hypotheses.

⁹ An IMF *de jure* exchange rate measure and an alternative *de facto* measure from Shambaugh (2004) yield similar results, reported in the Online Appendix.

¹⁰ 60% of observations are coded fixed. Results are similar when "managed floating" regimes are coded fixed rather than flexible, or if a trichotomous coding (fixed, managed floating, flexible) or if observations in which a country's exchange rate regime differs from the previous or subsequent year are excluded.

¹¹ Two concerns arise from using this measure. First, the data are not normally distributed. To account for this, we re-ran the analyses with *Real Exchange Rate (ln)*. Second, based on the Balassa-Samuelson effect, *Real Exchange Rate* may produce systematically biased estimates of real exchange rate appreciation in poor countries. Rodrik (2008) proposes an alternative measure that corrects for this effect by regressing *Real Exchange Rate (ln)* on *GDP per capita* and coding *Undervaluation* as the difference between *Real Exchange Rate (ln)* and the predicted values from the regression. These alternative specifications also do not substantially alter the results.

¹² Data for *GDP per capita* (logged), *GDP Growth*, *Trade*-(Imports + Exports)/GDP, *Population between 15 and 64*, and *Population 65 and above* from World Bank (2009).

TABLE 1. Pre-Electoral Fiscal Manipulation and the Risk of a Speculative Attack

	<i>Model 1</i>	<i>Model 2</i>	<i>Model 3</i>	<i>Model 4</i>	<i>Model 5</i>
Election	-0.52 (0.19)*				
Election under Fixed ER		-0.41 (0.20)*	0.11 (0.51)	-0.18 (0.22)	-0.67 (1.05)
Election under Fixed ER × RER			-1.26 (1.17)		0.86 (2.21)
Election under Fixed ER × Reserves				-0.23 (0.10)*	0.68 (0.90)
Election under Fixed ER × RER × Reserves					-1.86 (1.67)
Election under Flexible ER		-1.01 (0.32)*	-0.54 (0.58)	-1.16 (0.48)*	-0.94 (0.34)*
Election under Flexible ER × RER			-0.95 (0.87)		
Election under Flexible ER × Reserves				0.19 (0.33)	
Fixed Exchange Rate (ER)		-0.09 (0.46)	1.31 (1.21)	-0.80 (0.57)	1.65 (1.58)
Real Exchange Rate (RER)			0.37 (0.49)		1.02 (1.39)
Reserves				-0.37 (0.26)	-0.23 (0.92)
RER × Reserves					-0.24 (2.34)
Fixed ER × RER			-3.26 (2.72)		-5.66 (3.30)
Fixed ER × Reserves				0.63 (0.24)*	-0.08 (1.05)
Fixed ER × RER × Reserves					1.43 (2.36)
Government Balance (lagged)	0.39 (0.10)*	0.37 (0.11)*	0.37 (0.11)*	0.37 (0.11)*	0.37 (0.11)*
GDP Growth	0.06 (0.03)*	0.05 (0.03)	0.06 (0.03)*	0.04 (0.03)	0.04 (0.03)
GDP per capita	-0.41 (0.90)	-0.19 (0.99)	-0.11 (0.98)	0.07 (0.96)	0.27 (0.94)
Trade	0.04 (0.01)*	0.03 (0.01)*	0.03 (0.01)*	0.03 (0.01)*	0.03 (0.01)*
Population between 15 and 64	0.15 (0.10)	0.12 (0.11)	0.13 (0.12)	0.11 (0.11)	0.11 (0.11)
Population 65 and above	-0.49 (0.30)	-0.37 (0.32)	-0.21 (0.33)	-0.30 (0.31)	-0.12 (0.34)
Constant	-6.73 (5.57)	-6.70 (6.29)	-7.60 (6.11)	-6.90 (6.52)	-8.39 (5.88)
R^2	0.52	0.51	0.51	0.52	0.53
Observations	1850	1648	1647	1521	1521

*(Note. $p < 0.05$. Standard errors in parentheses.)

fall in *Government Balance*, which is more than twice the size of the 0.4% point decline in *Government Balance* under a fixed exchange rate. Moreover, the difference between these two effects is significant ($p < .07$). Based on these results, governments appear to engage in less fiscal electioneering under a fixed exchange rate than under a flexible exchange rate.

To test Hypothesis 2, that under a fixed exchange rate, pre-electoral fiscal manipulation is lower when the real exchange rate is highly appreciated; Model 3 includes two-way interactions between *Real Exchange Rate* and both election variables. *Real Exchange Rate* is a measure of exchange rate undervaluation. Thus if Hypothesis 2 is correct, fiscal electioneering should increase (*Government Balance* should decline) as *Real Exchange Rate* increases. To better gauge support for Hypothesis 2, Figure 1 Panel A graphically displays the marginal effect of an election on *Government Balance* as *Real Exchange Rate* varies from its 10th to its 90th percentile under fixed and flexible exchange rates.

Based on the results reported in Model 3, the value of a country's exchange rate is not significantly correlated with governments' decision to engage in fiscal electioneering under either a fixed or a flexible exchange rate. Under a flexible exchange rate, governments appear to engage in pre-electoral fiscal manipulation regardless of the value of the real exchange rate. In keeping with Hypothesis 2, under a fixed exchange rate, there is no evidence of fiscal electioneering when a country's real exchange rate is highly appreciated (at its 10th percentile). When the real exchange rate is depreciated (at its 90th percentile), governments do appear to engage in pre-electoral fiscal manipulation. However, the difference between these two effects is not statistically significant. If Hypothesis 4 is correct, then the weak support for Hypothesis 2 in Model 3 may reflect the exclusion of a country's reserves from the model.

Model 4 includes two-way interactions between *Reserves* and both election variables to test Hypothesis 3. If Hypothesis 3 is correct, then pre-electoral fiscal manipulation under a fixed exchange rate should be greater when *Reserves* are larger. Figure 1 Panel B graphically displays the marginal effect of an election under fixed and flexible exchange rates on *Government Balance* as *Reserves* varies from its 10th to its 90th percentile.

As Figure 1 Panel B depicts, Hypothesis 3 receives support. When the exchange rate is fixed and *Reserves* are low (at their 10th percentile), there is no significant evidence of pre-electoral fiscal manipulation. Conversely, when *Reserves* are high (at their 90th percentile), governments do appear to engage in fiscal electioneering. Moreover, this difference is statistically significant ($p < .03$). In contrast, under a flexible exchange rate, governments appear to engage in pre-electoral fiscal manipulation without regard to the level of their foreign exchange reserves. Taken together, these results suggest that when the risk of a speculative attack is high, as captured by low foreign exchange reserves under a fixed exchange rate regime, governments do not engage in pre-electoral fiscal manipulation. When the risk of a speculative attack is low—when the exchange rate is flexible, or, if the exchange rate is fixed, when reserves are high—governments do appear to engage in fiscal electioneering.

The previous two models examine the constraining effect of an appreciated real exchange rate and low foreign exchange reserves separately. However, Hypothesis 4 suggests that under a fixed exchange rate, pre-electoral fiscal manipulation will be lower when *either* the real exchange rate is highly appreciated *or* foreign exchange reserves are low. To test Hypothesis 4, Model 5 includes a three-way interaction between *Real Exchange Rate*, *Reserves*, and *Election under a Fixed Exchange Rate*. These results are presented graphically in Figure 2.

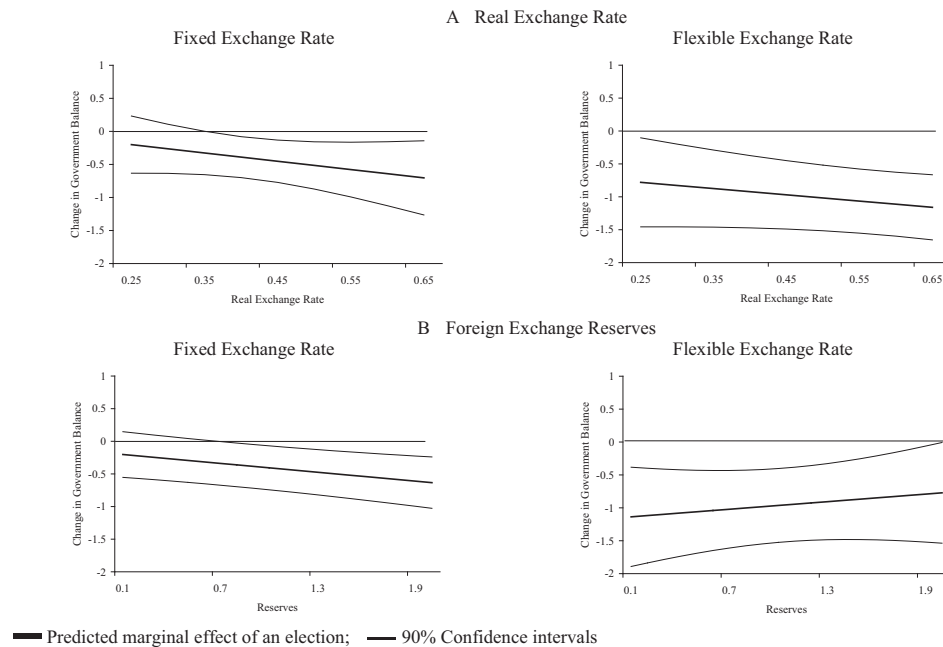


FIG 1. Marginal Effect of an Election on Government Balance (Models 3 and 4)

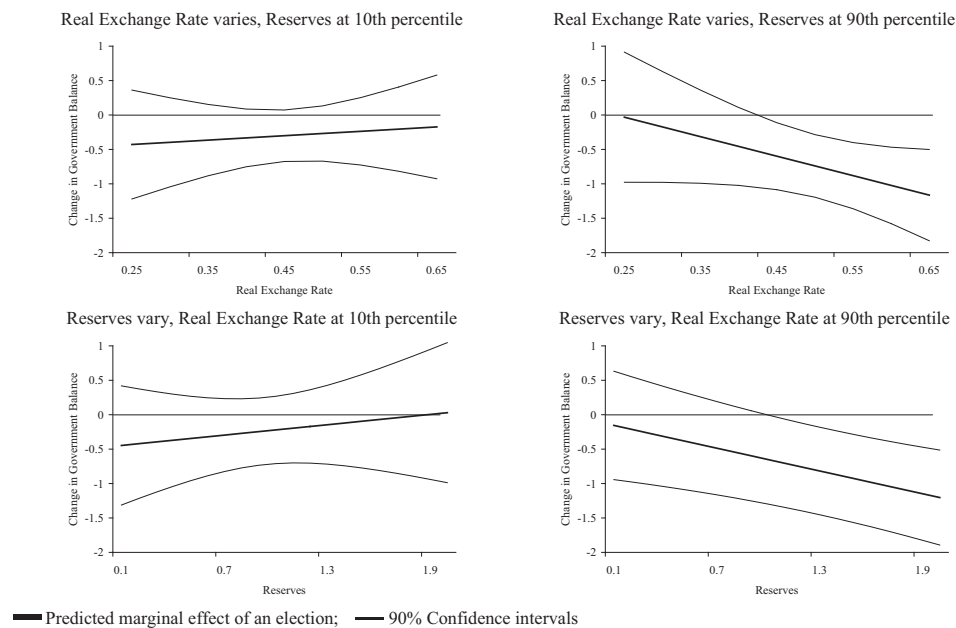


FIG 2. Marginal Effect of an Election on Government Balance as Real Exchange Rate and Reserves Vary, Fixed Exchange Rate

Figure 2 provides clear support for Hypothesis 4. Under a fixed exchange rate, governments only appear to engage in pre-electoral fiscal manipulation when reserves are high and the real exchange rate is not highly appreciated. When *Reserves* are low (10th percentile), there is no significant relationship between elections and *Government Balance*, regardless of the level of *Real Exchange Rate*. Similarly, when *Real Exchange Rate* is highly appreciated (10th percentile), there is no evidence of a significant relationship between elections and *Government Balance*, regardless of the level of *Reserves*.

In contrast, when countries hold large foreign exchange reserves (at their 90th percentile), pre-electoral

fiscal manipulation is greater when the real exchange rate is depreciated. In particular, when the real exchange rate is highly appreciated (at its 10th percentile), there is no evidence of fiscal electioneering (the predicted effect of an election on *Government Balance* is zero). When the real exchange rate is depreciated (at its 90th percentile), an election is associated with a statistically significant 1.2% point decline in *Government Balance* ($p < .01$).¹³

Similarly, when the real exchange rate is depreciated (at its 90th percentile), fiscal electioneering is greater

¹³ The difference in fiscal balance moving from the 10th to the 90th percentile of real exchange rate is 1.2% points ($p < .15$).

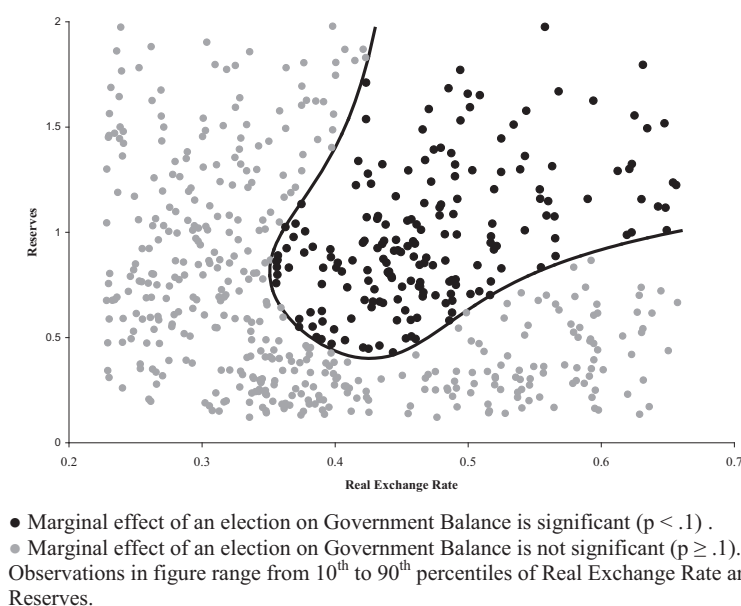


FIG 3. Scatterplot of Observations by Significance of Marginal Effect of an Election on Government Balance, as Real Exchange Rate and Reserves vary, Fixed Exchange Rate

when reserves are larger. In particular, when reserves are low (at their 10th percentile), there is no evidence of fiscal manipulation (an election is associated with a statistically insignificant 0.1% point decline in *Government Balance*). When reserves are high (at their 90th percentile), an election is associated with a statistically significant 1.2% point decline in *Government Balance* ($p < .01$).¹⁴

One concern with the comparisons presented in Figure 2 is that they are “snapshots” that are limited to only high and low values of *Real Exchange Rate* and *Reserves*. To provide a better understanding of when pre-electoral fiscal manipulation is likely under a fixed exchange rate, Figure 3 presents a two-way scatterplot of *Real Exchange Rate* and *Reserves* for the country-year observations under a fixed exchange rate analyzed in Model 5. Based on this sample, only 26% of observations fall within the range of *Real Exchange Rate* and *Reserves* in which an election is statistically significantly associated with a decline in *Government Balance*. These results suggest that when governments are concerned about the risk of a speculative attack, either due to an appreciated real exchange rate or due to a low level of reserves, governments are less likely to engage in pre-electoral fiscal manipulation. Taken together, these results present a very different picture than that depicted in previous research. Far from governments in developing countries engaging unconditionally in fiscal electioneering, these results suggest that for developing countries under a fixed exchange rate, pre-electoral fiscal manipulation may be a tool that governments use relatively infrequently.

After controlling for the effect of *Real Exchange Rate* and *Reserves*, the difference between fiscal electioneering under fixed and flexible exchange rates found in Model 2 disappears. This is shown in Figure 4 Panel A, which compares the marginal effect of an election on *Government Balance* under a flexible exchange rate with the marginal effect of an election under a fixed exchange rate

when *Real Exchange Rate* and *Reserves* are set at their 10th and 90th percentiles. Under a fixed exchange rate, when *Real Exchange Rate* and *Reserves* are both at their 90th percentiles (when the risk of a speculative attack is low), an election is associated with a 1.2% point decline in *Government Balance*. This effect is not significantly different from the 0.9% point decline associated with an election under a flexible exchange rate.

The results from Model 5 support the argument that governments engage in pre-electoral fiscal manipulation only when the risk of a speculative attack is low. Alternatively, these results could reflect variation in demand for fiscal electioneering, other international economic constraints, or political conditions rather than the risk of a speculative currency attack. Below, we discuss a series of robustness tests to evaluate these competing explanations. Due to space constraints, a limited number of these models are included in Figure 4. All models are included in the online appendix.

First, the absence of pre-electoral fiscal manipulation under a fixed exchange rate when the real exchange rate is appreciated and reserves are low may reflect low demand for fiscal electioneering rather than a high risk of a speculative attack. Demand for pre-electoral fiscal manipulation may be lower in economic good times. To assess this argument, we re-ran Model 5, including an interaction between *GDP Growth* and *Election under a Fixed Exchange Rate*. If this alternative explanation is correct, then the negative effect of an election on *Government Balance* should decrease as *GDP Growth* increases, and the relationship between elections, real exchange rate value, and reserves should disappear. As shown in Figure 4 Panel B, this is not the case. *GDP Growth* does not appear to affect pre-electoral fiscal manipulation, and fiscal electioneering remains largest under a depreciated real exchange rate and high foreign exchange reserves.

Conversely, demand for fiscal electioneering may be greater when trade openness is high to offset potentially negative trade shocks. To assess this argument, we report

¹⁴ The difference in fiscal balance moving from the 10th to the 90th percentile of reserves is 1.1% points ($p < .01$).

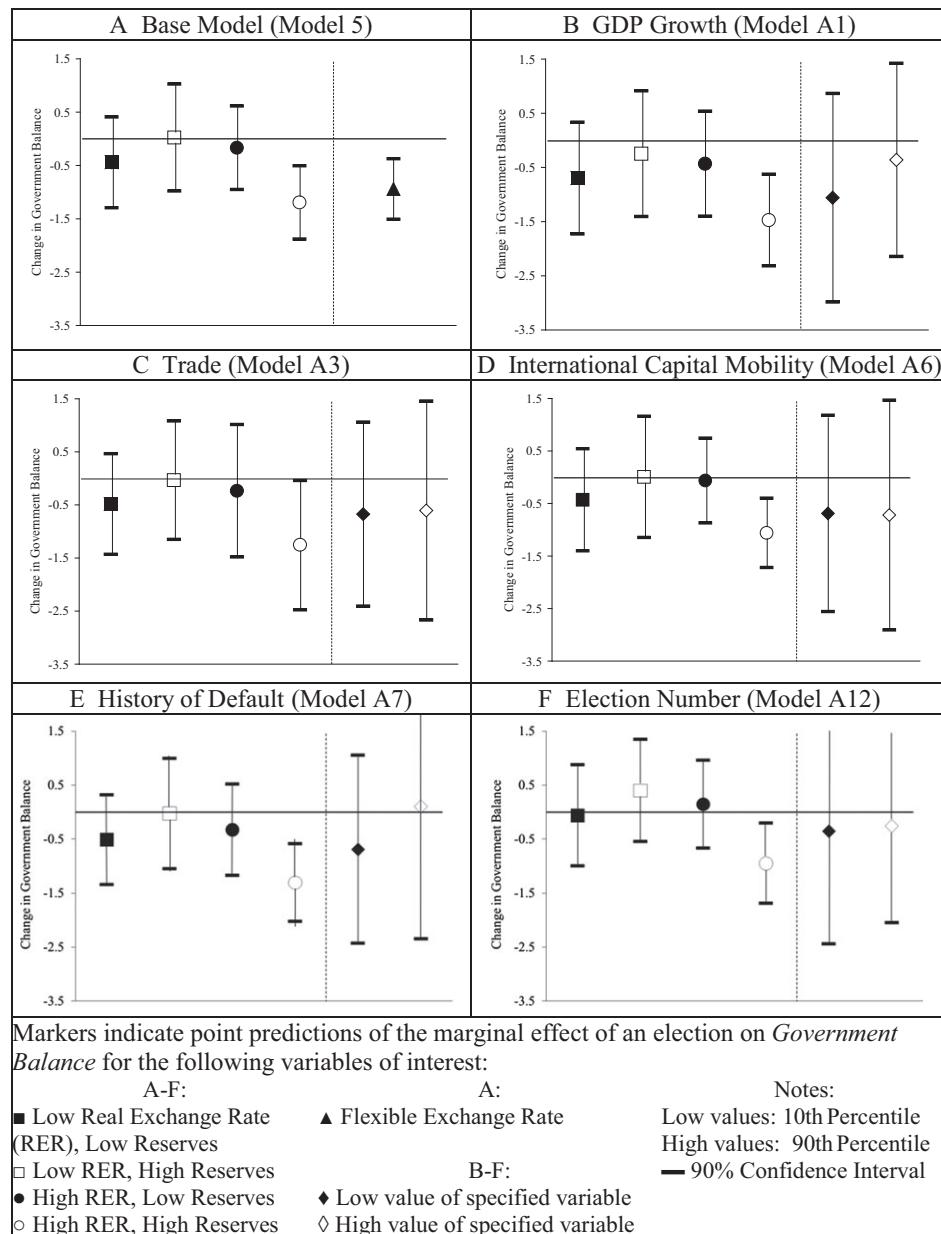


FIG. 4. Marginal Effects of an Election on Government Balance

the results of an interaction between *Trade* and *Election* under a *Fixed Exchange Rate* in Figure 4 Panel C. Based on these results, trade openness does not appear to affect demand for pre-electoral fiscal manipulation in developing countries, nor does it affect the negative relationship between the risk of a speculative attack and fiscal electioneering. The results reported in Model 5 are also robust to the inclusion of other factors that might influence demand for pre-electoral fiscal manipulation such as government partisanship, export dependence, and inflation.

Second, the results reported in Model 5 may reflect variation in other international economic conditions that might constrain governments' ability to engage in fiscal manipulation. Returning to Clark and Hallerberg's (2000) argument that governments will not engage in fiscal electioneering when capital is mobile internationally, countries facing high capital mobility might be more likely to have a fixed exchange rate, an

appreciated real exchange rate, and low reserves. Based on the results in Figure 4 Panel D, capital mobility does not appear to affect fiscal electioneering, while the negative effect of a speculative attack risk remains significant. Alternatively, countries with a history of debt default may engage in less fiscal electioneering because their ability to borrow internationally is constrained. However, the results in Figure 4 Panel E do not support this argument. Model 5's results are also robust to controlling for external debt, current account deficits, budget deficit history, and the presence of an IMF agreement.

Finally, given the existing literature on fiscal electioneering in developing countries, the results reported in Model 5 may capture differences in countries' quality of and experience with democracy. For example, Brender and Drazen (2005) find that pre-electoral fiscal manipulation is more prevalent among new democracies in their first four elections, and find no statistically significant

manipulation in subsequent elections. Figure 4 Panel F includes an interaction with a dichotomous variable capturing whether an election is one of the first four elections under the current regime in a country.¹⁵ Based on these results, there is no support for Brender and Drazen's argument and the main results reported in the paper are robust. The results are also robust to controlling for the effect of regime age, level of democracy, and election endogeneity.

Conclusion

Voters have the opportunity to punish incumbents by voting them out of office. But they are not the only ones capable of punishing governments. Market actors also, even if they do not intend to, take steps that threaten the reelection of incumbents (Lindblom 1982). International capital mobility increases the leverage of international market actors in the developing world. For many governments, concerns about the risk of speculative currency attacks constrain their fiscal policy. This concern may prove so great that governments avoid engaging in opportunistic pre-electoral fiscal policy.

This article focuses on how countries' real exchange rates and foreign exchange reserves influence the risk of speculative attacks, inhibiting pre-electoral fiscal manipulation in the developing world. But other factors influence the likelihood of speculative attacks as well. Chiu and Willett (2009) find that weak governments (with short time horizons) and fixed but adjustable exchange rates (the "unstable middle") heighten market actors' perceptions that a speculative attack will succeed. The transparency of governments' fiscal policies also likely varies across developing countries. Market actors that cannot clearly observe government actions may prove less likely to update their beliefs about the value of a currency. Alternatively, they may be more prone to herding behavior—and therefore over-react to small pieces of information. Future research should explore these possibilities.

Domestic events have international audiences, audiences whose reactions may matter greatly to actors both abroad and at home. International actors now react quickly to events and information from around the world. As such, scholars should increasingly turn their attention to the international dimensions of what we have previously treated as purely domestic concerns.

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¹⁵ Election number coded from Hyde and Marinov (2010).

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Supporting Information

Additional Supporting Information may be found in the online version of this article:

Appendix S1. Tables

Appendix S2. Figures

Appendix S3. Discussion