Policy Responses to Balance-of-Payments Crises: The Role of Elections

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Abstract: Governments have a number of policy tools that can be used to address pressure on the balance of payments, threatening an undesirable decline in the relative value of the national currency. They can: (1) sell reserves, (2) raise interest rates, (3) impose capital controls, (4) apply trade restrictions, or (5) depreciate the currency. While researchers typically analyze these policies in isolation from one another, we treat them as a menu of options available to election-minded politicians. We analyze the use of these five policy responses to payments difficulties for a large sample of countries since the early 1970s. We argue that governments try to minimize political costs by adopting less transparent policies first and only moving to more visible policies as necessary, delaying the most visible and politically costly policies until after elections. The evidence is consistent with these claims: governments are more likely to draw down reserves and impose capital controls before other options. If these policies do not succeed, they tend to raise interest rates. If further action is needed, they delay devaluations and trade protection until after elections.

1. Introduction

Governments have a rich toolbox of policies at their disposal to manage exchange rates and attempt to avoid currency crises. When faced with pressure on the balance of payments – whether due to a slowdown or sudden stop of capital inflows, a terms of trade shock, or some other factor -- policymakers can: (1) sell reserves to support the currency, (2) raise interest rates to encourage capital inflows, (3) impose capital controls to limit sales of domestic assets, (4) apply a combination of import tariffs and export subsidies to stimulate demand for domestic products, or (5) depreciate the currency.[1] Since these policy tools may substitute for or complement one another, the challenge for researchers is to explain why governments adopt one policy over another--or a combination of policies--when faced with exchange market pressures.

With the exception of an important recent paper by Kristin Forbes and Michael Klein (Forbes and Klein 2015), the existing literature has not directly addressed this question. Most related research in economics and political science has analyzed one or another of these policies, in isolation from one another. There are large but separate literatures on devaluations, the imposition and removal of capital controls, the determinants of tariffs and subsidies, interest rates, and so on. But policymakers can and do choose different policy strategies in response to similar problems. For example, during the recent Global Financial Crisis, a number of countries officially devalued their exchange rates (Dominguez 2014; Forbes and Klein 2015).[2] Although some of these same countries also introduced capital

[1] Sales of foreign reserves are constrained by the size of the country's accumulated stock.

[2] Between December 2008 and April 2009, Angola, Argentina, Armenia, Belarus, Fiji, Kazakhstan, Russia, Singapore, Switzerland, Ukraine, and Vietnam either officially devalued or experienced large depreciations in their currencies.

controls, others were able to maintain their exchange rate pegs by drawing down reserves, and still others did not experience major changes in currency values,reserves, or capital controls because they opted to raise interest rates. On average, however, countries were more likely to choose currency depreciation during the Global Financial Crisis than to raise interest rates or impose capital controls. By contrast, during the crises of the late-1990s, countries were more likely to raise interest rates and impose capital controls than to depreciate (Forbes and Klein 2015).

While the expected rise in trade protection did not materialize during the Global Financial Crisis (Bown and Crowley 2013), trade measures adopted for balance-of-payments reasons were common in previous eras. During the Bretton Woods period, at least nine major industrial countries – including Canada, France, Sweden, the United Kingdom, and the United States – imposed import surcharges in response to payments crises (Bergsten 1977).[3] The most famous example was the "Nixon Shock" of August 1971. Historically, the Great Depression was the heyday of payments-related trade restrictions. According to Irwin (2012), the generalized rise of trade protectionism during the Great Depression can be understood as a macroeconomic policy response induced by the "trilemma" of the gold standard.

History thus illustrates that there is wide variation over time and across countries in the policies governments adopt to deal with payments crises. The existing literature, however, is ill-suited to account for this variation. While many researchers recognize that the

[3] The major countries that imposed import restrictions during this period were: France (1954-58, 1968), Denmark (1955-56, 1971-72), Sweden (1959-60), Spain (1958-59, 1965-71), Canada (1962-63), the United Kingdom (1964-66, 1968-70), Germany (1968), the United States (1971), and Italy (1974-75).

"policy trilemma" imposes constraints on crisis policy choice, few studies analyze government choices across the full spectrum of policy options that they have at their disposal.[4] There is a large literature on the political economy of exchange rates, for example, but it is largely disconnected from the literatures on trade policy, capital controls, interest rates, and reserves.[5] Apart from Forbes and Klein (2015) – the paper that pioneered the analysis of the causes and consequences of different policy responses to payments crises – scholars either study policies in isolation from one another or investigate connections between a limited number of policy areas. For example, several recent papers explore the relationship between exchange rates and trade policy (Broz and Werfel 2014; Bown and Crowley 2013; Copelovitch and Pevehouse 2013). In a similar vein, Stefanie Walter explores why some countries devalue their currencies during a balance-of-payment crisis while others opt for "internal devaluations" – the combination of high interest rates, fiscal austerity, and structural reforms that seek to regain competitiveness by lowering wage costs and increasing productivity (Walter 2015; Walter 2013). While moving in the right direction, these previous works neglect to consider all the policy instruments that authorities have at their disposal during crises.[6]

[4] The trilemma--that fixed exchange rates and open capital markets mean a loss of monetary policy autonomy--is explored empirically by Aizenman, Chinn, and Ito (2010) and Obstfeld, Shambaugh, and Taylor (2005).

[5] For a survey of the exchange-rate policy literature, see Broz and Frieden (2008). Rodrik (1999) provides a review of the trade policy literature.

[6] We do not consider fiscal austerity and structural reforms in this paper because these policies tend to be more difficult to implement in the short-run context of a payments crisis.

Since multiple policies can help restore external equilibrium, we follow Forbes and Klein (2015) and analyze them jointly. Yet our paper is distinctive in a number of ways. First, and most important, whereas Forbes and Klein (2015) assess the economic covariates of policy responses to sudden stops in international capital flows, we take an explicitly political economy approach to this topic by focusing on how elections shape the choice and sequencing of policies. Second, while Forbes and Klein (2015) concentrate on four crisis policy responses (i.e., reserve sales, currency depreciations, interest rate increases, and capital controls), we add trade policy as a fifth potential response to crises. As Keynes (1931) recognized during the Great Depression, trade policy can substitute for exchange rate policy because the trade impact of devaluation is equivalent to a uniform tariff on all imports plus a uniform subsidy on all exports. Beyond this equivalence, we also base our arguments on the trilemma: devaluation allows monetary policy to be used to reduce interest rates and increase domestic demand while trade measures do not free up interest rate policy. Third, we document and analyze crisis responses back to the early 1970s, greatly expanding the historical coverage of Forbes and Klein (2015), who focus on crisis responses from 1997 to 2011.

Our focus on elections is related to the literature on opportunistic political business cycles which emphasizes how electoral calendars shape the policy choices of office-seeking politicians.[7] One strand of this literature shows that incumbent politicians manipulate fiscal and monetary policies before elections to signal their competence to voters (Rogoff 1990; Rogoff and Sibert 1988). Another strand establishes that the proximity of elections induces

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However, an analyses of medium-term responses to crises would include these policies in the menu of adjustment options open to policymakers.

[7] For reviews, see Franzese (2002) and Drazen (2000).

politicians to become more protectionist (Conconi, Facchini, and Zanardi 2014; Karol 2007). We show that electoral calendars also affect politicians' choice of balance-of-payments policies during crises.

The paper is organized as follows. In the next section, we present our theoretical expectations regarding which policy instrument authorities will turn to during a crisis, as well as the order in which these policies are implemented. Here we focus on delineating how the timing of elections influences the choice of policy instruments, and we base our predictions on the relative unpopularity and transparency of these instruments to voters. With the option to "Pick their Poison" – the title of Forbes and Klein's (2015) paper – we expect governments to first select temporizing and opaque policies, such as reserves drawdowns and capital controls, prior to elections, and to postpone more transparent and unpopular policies, like devaluations and import surcharges, until after elections. In Section 3, we describe how we measure "policy responses," which follows Forbes and Klein (2015), and provide descriptive statistics of the patterns of responses that we find in the data. Section 4 provides statistical tests of our political economy arguments and Section 5 concludes.

2. Theory: Explaining the choice of responses

Policymakers faced with pressure on the payments balance have a variety of options available to them. While all may help relieve payments pressure, each option operates differently and has somewhat different economic effects. As a result, each option may also have different *political economy* implications. In this section, we focus on how elections relate to each policy alternative, highlighting how politicians choose among policies that vary in their unpopularity with, and transparency to, voters. Since any policy response to a crisis is likely to have some negative effects, the consequence is that countries must "pick their poison" (Forbes and Klein 2015). Building on this insight, we expect policymakers to choose

less unpopular and/or more opaque policies before elections and delay the more unpopular and transparent policies until after elections.

In a crisis compelled by a sudden stop of international capital flows, all policy alternatives have negative macroeconomic effects. For example, a policy-induced increase in the short-term nominal interest rate that aims to restore balance-of-payments equilibrium causes aggregate output and employment to fall, while a devaluation of the currency for the same purpose reduces national purchasing power and aggravates inflation as imports become more expensive. Inasmuch as all policy options have negative macroeconomic consequences, our focus differs from that of the political business cycle literature, which assumes that incumbent politicians can *expand* the economy in the pre-election period by way of monetary stimulus (Nordhaus 1975; MacRae 1978) or fiscal (Keech and Pak 1989; Drazen 2000). In a balance-of-payments crisis, policymakers are restricted to choosing the least politically costly policy from a set of bad options.

We assume that politicians will try to minimize the political costs of dealing with a payments crisis. We expect them to try options that have lower political cost first, only moving to higher-cost options if these options fail to stem the crisis. Furthermore, we expect that politicians will delay higher-cost options until after elections.

"Political cost" is a function of the transparency and immediacy of the policies' negative economic impact. In this section, we assess each of the five policy options in terms of their observability to voters and the speed and intensity of their impact on voters. We reason that before elections, politicians will prefer policies whose negative consequences are less observable to voters or are delayed until after elections take place. When more than one policy is used, we argue that politicians will implement the least visible and least objectionable policies first, before they move on to more unpopular policies.

A. Selling reserves.

We think governments will turn first to foreign exchange intervention, in which the central bank seeks to counter a currency crisis by selling reserves. Exchange market interventions by the central bank are generally unobserved by the electorate and can be an effective means of reducing pressure on the exchange rate. But a central bank has finite stocks of foreign exchange reserves that can be depleted rapidly. Hence, the sale of reserves might end up being a transitory measure with no lasting effect on currency values, unless it is supported by other policies, such as an interest rate increase that signals the intended path of future market interest rates. Policymakers, seeking to avoid more unpopular policies, like devaluation or generalized trade protection, may thus sell reserves when they first face serious exchange market pressure. Given that the policy buys the government some time, we also expect reserve sales to be more likely before elections, so that more politically onerous policies can be delayed.

B. Capital controls.

Although there is continuing debate over the efficacy of capital controls, especially in times of crisis,[8] we abstract from this issue simply to assume that capital controls do have some impact on capital flows and domestic monetary conditions, specifically to reduce outflows and keep interest rates lower than they might otherwise be. However, this impact on interest rates is indirect and less likely to be observed by the electorate, hence less politically costly, than other policies. Like using reserves to prop up the currency, capital controls allow the government to retain some monetary policy breathing space, which is most politically valuable in the run-up to elections. So we expect governments to be more likely to impose capital controls before elections and thereby delay the imposition of more unpopular policies.

C. Raising interest rates.

[8] See Klein 2012 for the latest word.

Tightening monetary policy to stanch capital outflows or encourage capital inflows has more direct and transparent effects on voters than reserve sales or capital controls, by way of its impact on aggregate demand and employment. When the central bank raises nominal interest rates for balance-of-payments reasons, it translates into increases in real interest rates as well due to sticky prices (Mishkin 1996). Firms, finding that their real cost of borrowing over all horizons has increased, cut back on their investment expenditures. Likewise, households facing higher real borrowing costs scale back their purchases of homes, automobiles, and other durable goods. These cutbacks in investment and spending cause aggregate output and employment to fall, which is unpopular with voters.[9] However, there can be a significant lag before interest rate changes influence spending and saving decisions, and thus have an impact on the overall economy. The time lag is variable, but research suggests that it can take six to eight quarters for a change in the central bank policy rate to have its full effect on the economy (Goodhart 2001). This extended lag suggests that a policymaker could mount a defense of the currency with an interest rate increase within, say, two or three quarters of an election without worrying too much about the negative impact on economic growth. Hence, if governments decide to mount an interest rate defense, they will do so ahead – perhaps well ahead – of impending elections.

D. Trade barriers.

The GATT/WTO has long accepted the right of member governments to use import restrictions to address balance-of-payments problems, and has actively regulated exceptions to GATT/WTO obligations that are justified on this basis (Eglin 1987; McCusker 2000; World Trade Organization 2009). The policy has been invoked dozens of times in

[9] A key finding of the economic voting literature is that when the economy prospers voters reward the incumbent government, but when the economy falters they punish incumbents (Lewis-Beck and Stegmaier 2000; Hellwig 2010).

GATT/WTO history by both developing and developed countries, including by the United States in 1971, which imposed a 10 percent temporary import surcharge to address its payments problems (Stewart and Drake 2009). According to GATT/WTO rules, such import restrictions must not exceed those necessary to stop or forestall a serious decline in reserves, must be temporary, and must be broad-based, as in an "import surcharge," which is a uniform tax applied to all or most imports. This last requirement is meant to prevent abuses, whereby a member government justifies protecting a particular domestic industry or sector on the basis of balance-of-payments considerations. Given that import surcharges raise the domestic price of all or most imports and import-competing goods, this policy option is likely to be unpopular.[10] Hence, we expect that policymakers will avoid using import surcharges. But when they do, we predict the policy will be adopted after less visible and less politically costly policies are implemented, and after elections, when voters cannot directly sanction the government for the pain that generalized trade protection brings.

E. Devaluation or depreciation.

The consequence of a depreciation for the electorate is an immediate and transparent reduction in purchasing power and real wages, as the prices of imports, and related goods, increase in domestic-currency terms. It is therefore not surprising that devaluations and large depreciations significantly lower governments' approval ratings and lead to large drops in their chances of being re-elected (Cooper 1971; Bernhard and Leblang 2006; Frankel 2005). Devaluations are politically costly to leaders. We therefore expect devaluations and large deprecations to be relatively rare. However, when devaluations do occur, governments will do all they can to delay them until after elections. When an election looms, governments will try to postpone devaluations, whether to get re-elected, or so that their successor will get the

[10] For a welfare analysis of import surcharges, see Congressional Budget Office (1985).

blame, or out of hope that something will happen to relieve pressure on the balance of payments (Blomberg et al. 2005).

From these general considerations we can derive some simple hypotheses for each of the measures, and some observable implications of these hypotheses. These expectations relate to both the timing and the sequencing of these five policy options:

1. Politicians are more likely to draw down reserves before other options, and to delay more transparent and unpopular measures until after elections.
2. Politicians are more likely to impose capital controls before other options, and to delay more transparent and unpopular measures until after elections.
3. If reserve use and/or capital controls do not succeed, politician will raise interest rates, perhaps even before elections, since the negative economic effects are realized with a substantial lag.
4. Politicians are unlikely to impose across-the-board trade barriers before they try other policy options. But if they do resort to generalized trade protection, it will be after elections.
5. Politicians are unlikely to devalue the currency before they try other policy options. But if they do devalue, it will be delayed until after elections.

On the basis of these relatively simple – perhaps over-simplified – expectations, we move to a rudimentary and suggestive evaluation of the data.

3. Policy Response Data

This paper examines responses to balance-of-payments crises. We determine that a balance-of-payments crisis occurred if policymakers used at least one policy response to ease payments pressure, as in Forbes and Klein (2015). Our universe of observations is thus all

instances ("cases") in which policymakers mounted a balance-of-payments defense, measured at the country-quarter unit of analysis.

We adopt Forbes and Klein's (2015) definitions of four "policy responses" and add a fifth response to the menu. The four policy responses capture large changes involving major sales in foreign exchange reserves, sharp depreciations of the nominal exchange rate, substantial increases in interest rates, and adjustments in capital controls. We follow the definitions Forbes and Klein (2015) use because it eliminates the need for making potentially arbitrary, but influential, decisions about when policies are enacted. Many of our variables are continuous and would require discretion to determine when a "large" change occurs. We only depart from Forbes and Klein in our measure of capital controls because their measure is based on data that are only available between 1995 and 2011. As in Forbes and Klein (2015) we aim to restrict the cases to only "economically meaningful" cases (e.g., cases that are not caused by other unobserved factors, such as rising inflation) by imposing a number of conditions on the terms of the policy use. Table A1 in the Appendix provides detailed information on variable definitions, limitations, and sources.

Our additional and final measure of policy response is the use of trade restrictions. Trade restrictions include import surcharges, restrictions, and quotas as well as licensing, deposits, and other requirements. We identified these cases by reviewing all GATT and WTO Balance-of-Payment consultation documents between 1947 and 2011.[11] The Committee on Balance of Payments Restrictions consults with member states that maintain restrictions for balance-of-payments reasons to determine whether they conform to GATT/WTO provisions. Appendix Table A2 lists all cases of trade restrictions in our dataset from 1975 to 2010. We focus our analysis mainly on the cases of import surcharges. We define import surcharges as

[11] In 2006, the WTO General Council decided to make public all official documents issued under the General Agreement on Tariffs and Trade (GATT).

instances where the surcharge is an across-the-board duty on imports and not levies on specific products.

We focus our analysis on the years 1975 to 2010, for which we have better data coverage. For all five policies, we adopt Forbes and Klein "exclusion window" that excludes any cases occurring in the three quarters before and after any major policy change to avoid using a country that has just made one of these policy changes.

In the 1975 to 2010 period, few quarters qualify as being major policy changes and hence, as appearing in our cases. Instances of substantial interest rate increasescomprise approximately five percent of country-quarters between 1975 and 2010. Fewer than two percent of country-quarters meet the cutoff for devaluations or reserve use. And, less than one percent of country-quarters meet our criteria for being a surcharge, or any trade protection, or imposing capital controls.

Table 1 shows the distribution of cases that meet the criteria for our policy use definitions. Numbers on the diagonal are instances in which a policy was used in isolation whereas numbers on the off-diagonal, upper triangular part of the table present instances in which two policies were used simultaneously. For ease of presentation, the table excludes cases in which three policies are used simultaneously, which comprise less than one percent of all the cases of policy use. Appendix Table A3 shows the full distribution of all policy use, including these triples.

Use of a single policy in isolation is the most common way that countries use the five policies to address balance of payment pressure, although use of discount rates is more than 15 times more likely than the use of trade protection. Drawing down reserves and depreciating are also common policy choices with the imposition of capital controls being less common. The simultaneous use of two policies is fairly common among three types of policies: depreciations, discount rate increases, and reserve drawdowns. The table reveals that

capital controls and trade protection are not often used in combination with other policies, although these two measures are also just less common policy choices.

Table 1: Policy Use 1975-2010

	Capital Controls	Depreciation	Reserves	Discount Rates	Trade Protection
Capital Controls	96	1	2	6	0
Depreciation		256	16	28	0
Reserves			353	23	3
Discount Rates				801	7
Trade Protection					53

Notes:

(1) Table shows policy use for instances in which one or two policies are used and excludes instances in which three policies are used simultaneously, which comprise less than 1% of cases.

(2) There are 188 countries in the sample.

We analyze how electoral timing affects politicians' *choice* of policy from a menu of policy options. We identify cases as being driven by political motivations if a policy is significantly more or less likely to be chosen in a quarter leading up to, or after, an election. We compute the quarter in which an election took place using the National Elections Across Democracy and Autocracy (NELDA) dataset version 4.0 (Hyde and Marinov 2012). The data set includes elections for a national executive figure, such as a president, or for a national legislative body, such as a parliament, legislature, constituent assembly, or other directly elected representative bodies. Elections must meet basic requirements to be included in the data, including: that voters must directly elect the person or persons appearing on the ballot to the national post in question and that voting must also be direct, or "by the people" in the sense that mass voting takes place.

All else equal, we expect politicians to be more likely to sell reserves, impose capital controls, and increase discount rates prior to elections and to be more likely to devalue and impose trade protection following elections. Simple graphical presentations showing the number of times politicians select, or delay, using a policy due to an impending election largely support our hypotheses. Figure 1 below shows the number of times politicians imposed a major reserve sale or a major increase in interest rates in the quarter prior, or subsequent to, a national election. Politicians are almost twice as likely to sell reserves prior to an election than immediately after one. Contrary to our expectations, politicians are slightly more likely to impose a major interest rate increase following an election than before. However, this difference is relatively small. Furthermore, if voters are myopically retrospective, as in Bartels (2010), they can be implemented in the quarter after an election without doing much electoral damage because interest rate increases reduce aggregate economic activity with a lag of up to eight quarters.

Figure 1. Instances of Reserve Sales and Discount Rate Increase Before and After Elections

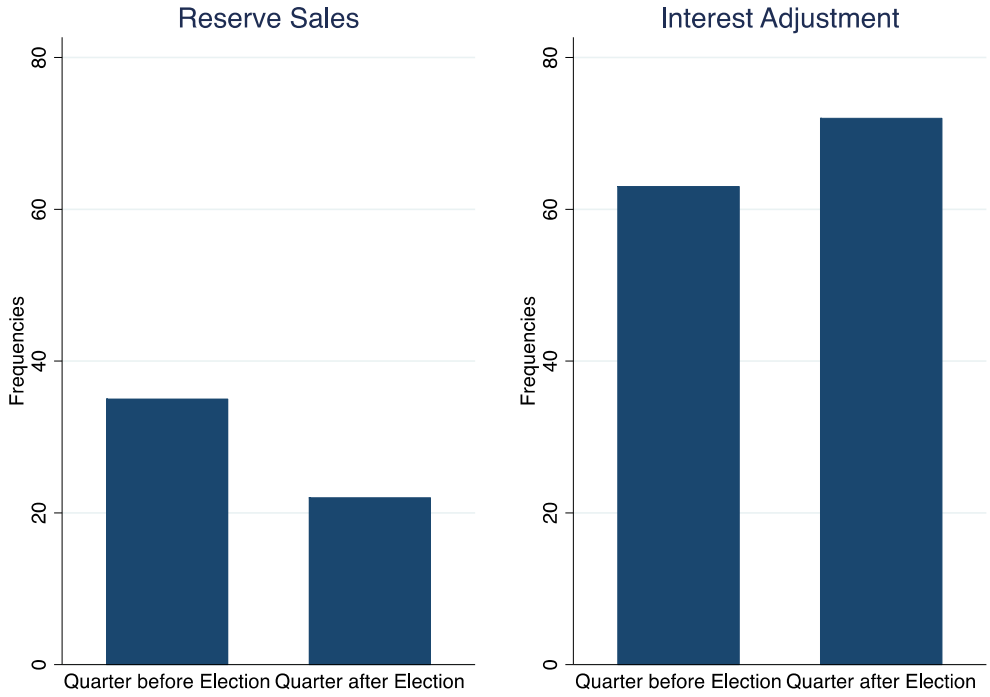
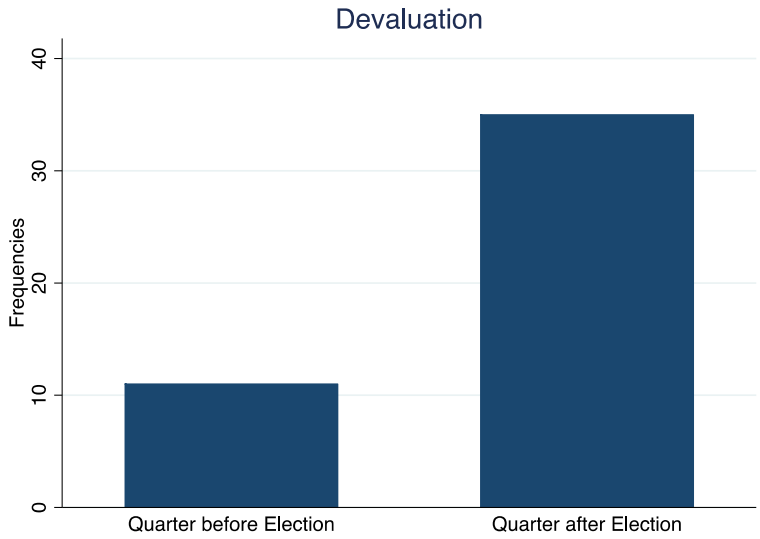


Figure 2 similarly plots the number of times devaluations were imposed either before or after a national election. It appears that politicians do tend to delay devaluations until after an election.

Figure 2. Instances of Devaluations Before and After Elections



The very small number of cases in which trade protection and capital controls were imposed before or after elections make drawing any inferences about the politically motivated timing of these policies unwise (there are seven total cases of use of trade protection around elections and 17 cases of capital controls immediately before or after elections). Despite the expressiveness of these graphical representations, the effects of election timing on policy choice shown above could be driven by a number of other factors. We attempt to isolate the effect of election timing by controlling for salient economic variables.

4. Political Economy Determinants of Policy Choice

In this section, we focus on the correlation between election timing and politicians' choice and sequencing of policies from the five policy options at their disposal. We estimate the likelihood of selecting a given policy from the menu using a logit model. We proxy for

policymakers facing balance-of-payments pressure by conditioning on policymakers use of at least one of the policy options available to them. The unit of observation is country-quarter and the data span the first quarter of 1975 to the last quarter of 2010.

Our choice of controls includes a measure of change in the U.S. interest rate, as a measure of the global economic environment. To control for the domestic economic environment, we include a measure of GDP growth, changes in CPI inflation, and the current account balance as a percent of GDP.[12]

To capture politicians' choice over the sequencing of policies we include a final category of variables that denote any changes over the previous year in four of the five policies which we are focusing on: changes in reserves (as a share of GDP), changes in the country's policy interest rate relative to the U.S. rate, the percent change in the nominal exchange rate versus the U.S. dollar, and the addition of any new restrictions on capital outflows. All these covariates enter the regression lagged by one quarter, or by one year if only annual data are available. We do not include lagged changes in use of trade protection because, by construction, we only count trade protection as occurring if it is not within the "exclusion window." The exclusion window excludes any cases occurring in the three quarters before and after any major policy change.

Table 2 presents the results from the logit regressions showing the probability of policymakers' selecting a given policy from the policy menu, when they are facing balance of payments pressure. Standard errors are clustered by country.

[12] Departing from the control variables used by Forbes and Klein (2015), we also estimated models that included a dummy variable for being under an International Monetary Fund (IMF) Standby Arrangement. The variable was not significant and our core explanatory variables retained their significance and substantive effects.

Table 2. Probability of Adopting A Given Policy During Crises

	(1) Reserves	(2) Capital Controls	(3) Discount Rates	(4) Exchange Rate	(5) Trade Protection
	b/se	b/se	b/se	b/se	b/se
US interest rate (change)	-0.085	-0.141	0.149**	-0.196**	-0.053
	(0.07)	(0.11)	(0.06)	(0.09)	(0.18)
GDP Growth	-6.063***	0.155	7.658***	-4.040	-2.361*
	(1.56)	(3.41)	(1.49)	(2.48)	(1.41)
Change in Inflation	0.020***	0.004	-0.036***	-0.001	0.003
	(0.01)	(0.01)	(0.01)	(0.00)	(0.00)
Current account balance (% of GDP)	-0.018**	-0.018	0.018**	0.002	0.006
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Quarter before Election	0.419*	-0.424	0.088	-0.635	-0.452
	(0.25)	(0.57)	(0.25)	(0.47)	(0.71)
Quarter after Election	-0.538	0.278	0.175	0.739***	-0.571
	(0.35)	(0.49)	(0.27)	(0.26)	(0.71)
Lag Change in Reserves	-1.174*	0.302*	0.099	-0.379	-1.788**
	(0.63)	(0.17)	(0.16)	(0.44)	(0.71)
Lag Change in Exchange Rates	-0.536	0.854	-2.771*	4.261**	1.007
	(0.70)	(0.89)	(1.48)	(1.97)	(0.69)
Lag Change in Discount Rates	-0.003	-0.107**	0.005	0.044***	-0.010
	(0.02)	(0.05)	(0.01)	(0.02)	(0.03)
Lag Change in Capital Account Openness	-0.092	-0.184	0.391	-0.596	-0.747
	(0.37)	(0.20)	(0.36)	(0.50)	(0.65)
Constant	-1.573***	-2.980***	1.034***	-2.354***	-3.303***
	(0.16)	(0.22)	(0.13)	(0.15)	(0.22)
Observations	1065	1065	1065	1065	1065
Pseudo R-squared	0.064	0.032	0.089	0.084	0.039

Notes: * is significant at the 10% level, ** at the 5% level and *** at the 1% level. Errors are clustered at country level.

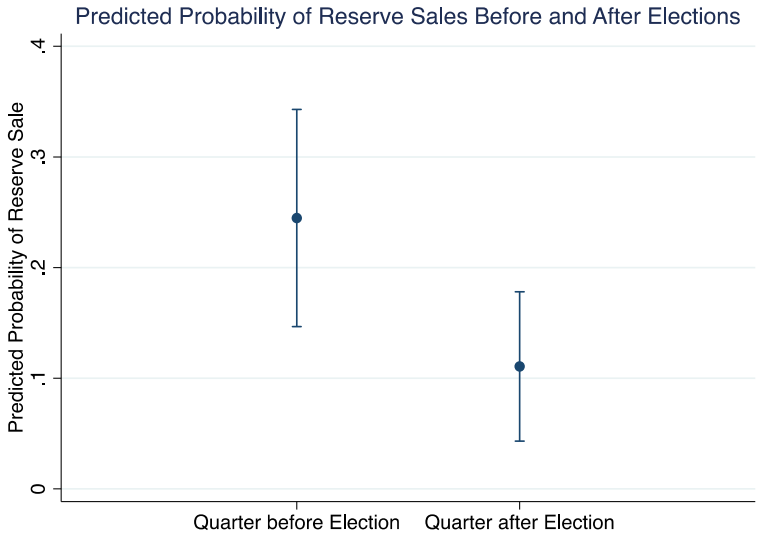
The logit models in Table 2 perform relatively well in predicting policymakers' policy choices. Despite the relatively low pseudo-R^2, all the models correctly predict over 70 percent of the cases, and over 90 percent of the cases for three of the five policies (trade protection, devaluations, and capital controls). The results reveal that the estimates for the election timing and sequencing variables largely support our predictions. With respect to the election timing variables, we interpret evidence as supporting our hypothesis when we

observe a positive and significant coefficient on the quarter before election dummy for less politically costly policies and a positive and significant coefficient on the quarter after an election dummy for more politically costly policies. With respect to sequencing, if we find that a previous policy positively predicts an equivalent or more politically costly subsequent policy, we interpret this as evidence for our hypothesis that when policymakers face continuous pressure that is not relieved by a single policy they will tend to choose among relatively less politically costly policies first and only move on to costlier options if pressure persists. We similarly interpret evidence for our hypothesis when we observe that a more politically costly policy negatively predicts a subsequent less politically costly policy.

Turning first to Model 1 predicting the use of reserves, as expected, the results show that, when faced with balance of payments pressure, policymakers prefer to draw down reserves, rather than use other policies, in the quarter leading up to a national election. Domestic vulnerabilities also affect use of reserves, as countries experiencing slower economic growth, increases in inflation, or deterioration in their current account balance are significantly more likely to sell reserves. With respect to sequencing, a decrease in reserves over the previous year is associated with a lower likelihood of a subsequent major reserve sale. Policymakers can usually avoid a major reserve sale by imposing a smaller sale first. If pressure persists, they will be more likely to do so before an election owing to its relatively lower political cost.

Figure 3 below plots the predicted probability of selling reserves in the quarter before and after an election. The predicted probability of selling reserves decreases approximately 13 percent in the quarter following an election compared to the quarter before an election, holding all other variables at their means. A test of the difference in these predicted probabilities reveals that the difference in these predicted probabilities is statistically significant at the 95% confidence level (Prob > chi2 = 0.0198).

Figure 3. Predicted Probability of Reserve Sales Before and After Elections



The election timing coefficients are not statistically significant in Model 2, predicting use of capital controls, likely due to the small number of cases in which capital controls were used, and the even smaller number of cases in which they were used prior or subsequent to an election. Only two factors in our model statistically significantly predict use of capital controls: indicators for the previous use of other policies to combat balance of payments pressure. The choice to increase the discount rate negatively predicts subsequent capital control increases, whereas reserve sales positively predict later capital control imposition. Confirming our hypothesis, policymakers will first try to sell reserves and then impose capital controls, if pressure persists. However, we also find that policymakers will try to increase discount rates first, a less politically costly option, and will avoid subsequent capital control increases.

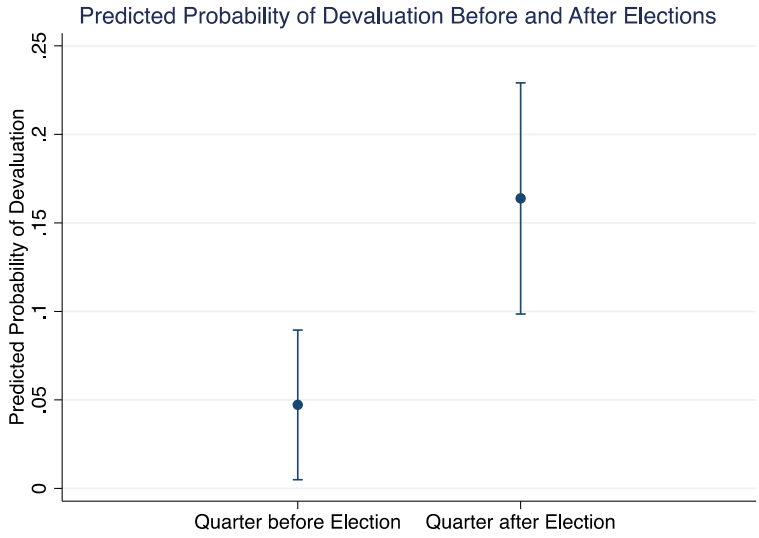
A priori, we expected policymakers to increase discount rates before elections. However, we find no effect of election timing in Model 3 predicting policymakers' choice to increase discount rates. Instead, domestic vulnerabilities predict increases in discount rates, including: rapid economic growth, decreases in inflation, increases in the change of the U.S. interest rate, and increases in the current account balance. Depreciations are associated with a

lower likelihood of a subsequent major discount rate increase. We interpret this as evidence for our hypothesis, if policymakers pursue the more politically costly route of devaluation they will be less likely to use a less costly option, such as a discount rate increase, after.

Turning next to Model 4 on devaluations, we find that policymakers are significantly likely to delay devaluation until after elections. The results indicate that policymakers will try smaller devaluations and increases in discount rates first. If pressure persists, they will wait and impose a large devaluation post-election. Policymakers will also be more likely to devalue if there is a decrease in U.S. interest rates or a slowdown in domestic economic activity.

We plot the predicted probabilities of devaluing in Figure 4 below. Holding all other values at their means, the predicted probability of devaluing increases almost 12 percent in the quarter following an election compared to the quarter before the election. This difference is statistically significant at the 99% confidence level (Prob > chi2 = 0.0014).

Figure 4. Predicted Probability of Devaluations Before and After Elections



Finally, although we predicted that policymakers would be more likely to delay use of trade protection until after an election, Model 5 does not show that election timing plays a

significant role in policymakers' decision to impose protection. However, the small number of instances in which trade protection was used, and the notably small number of cases in which protection was used around election time, once again limit us. In fact, the only covariates that predict trade protection in the model are a slowdown in the domestic economy and a prior attempt to draw down reserves, indicating that policymakers will try to sell reserves first to avoid imposing trade protections.

Overall, we take these estimates as supporting our hypotheses that when faced with balance-of-payments pressure, policymakers will prefer to use relatively less politically costly policies (reserve sales, interest rate increases, and imposition of capital controls) leading up to an election, and will delay more politically costly policies, namely devaluations and trade protection, until after elections. We believe that with more data, or potentially with data at a more disaggregated unit of time, we would be able to estimate the effect of election timing on the choice to use capital controls, discount rates, and trade protection, rather than other policy options, as well.

5. Conclusion

Governments have a number of tools at their disposal to address balance-of-payments difficulties. They can draw down reserves, employ capital controls, raise interest rates, impose import surcharges, devalue the currency, or sequence these policies in many possible combinations with one another. While economists and political scientists have analyzed these policies in isolation from one another, we treat them here as a menu of "bad options" available to governments and we try to explain the choice, timing, and sequencing of these policies. We assume that governments seek to minimize the political costs of resolving a payments crisis. We argue that they will adopt lower-cost policies before moving on to higher-cost options, and that they will delay higher-cost options until after elections. "Political costs," in turn, are a function of the visibility of the policy and the speed or

intensity of its effect. Our expectations are that governments will draw down reserves and employ capital controls before moving on to more transparent options with delayed impacts, like interest rate hikes, and that they will postpone transparent options with immediate impacts, such as devaluations and import surcharges, until after elections.

We evaluated these expectations on an original quarterly dataset of all instances in which one or more of these five policy options was used by a government to address severe payments problems. To avoid making arbitrary coding decisions about when each of these policies were implemented, we closely follow Forbes and Klein's (2015) definitions. We also extend Forbes and Klein (2015) to include the use of a fifth policy – import surcharges – and we expanded coverage of all policies to 188 countries from 1975 to 2010.

We found support for several of our hypotheses. With respect to reserve sales, we found that use of this policy over the previous year is associated with a lower likelihood of a subsequent major reserve sale, but that if pressure persisted, policymakers are more likely to draw down reserves before an election than after one. This suggests that policymakers can usually avoid a major reserve sale by imposing a smaller sale first. But if that does not work, they will be more likely to resort to a large reserve draw-down before an election.

We also found that a decrease in reserves over the previous year is associated with a higher likelihood of a subsequent major capital control increase, and that an interest rate increase over the previous year is associated with a lower likelihood of a subsequent major capital control increase. These results suggest that policymakers will first try to sell reserves, as we predicted, and then impose capital controls if pressure persists. Policymakers will also try to increase discount rates first and avoid subsequent capital control increases, which may be due to the fact that capital controls are unpopular with investors.

With respect to interest rates and devaluations, we found that a depreciation of the currency in the previous year is associated with a lower likelihood of a subsequent major

interest rate increase. Furthermore, increases in discount rates and devaluations are associated with a higher likelihood of a subsequent major devaluation. These findings suggest that policymakers will try smaller devaluations and increases in discount rates first. If exchange-market pressures persist, they will wait to impose a large devaluation until after an election.

Our findings regarding trade protection are limited due to the small number of cases in which trade protection was used around election time. However, we did find that a decrease in reserves over the previous year is associated with a lower likelihood of imposing trade protection. This result suggests that policymakers will try to sell reserves first to avoid imposing more visible and political costly import surcharges.

Overall, we find these results to be quite promising. They suggest that policymakers confront balance-of-payments problems with awareness of the political ramifications of each policy option before them. There are no good policy options during a crisis. What governments face is a set of bad options that differ in terms of their transparency to voters and the speed and intensity of their economic impact. Intuitively, governments appear to sequence policies, starting with less politically costly policies and moving to more politically costly policies as needed. Highly transparent policies with immediate and intense impacts are delayed until after elections.

References

Aizenman, Joshua, Menzie D Chinn, and Hiro Ito. 2010. "The Emerging Global Financial Architecture: Tracing and Evaluating the New Patterns of the Trilemma's Configurations." *Journal of International Money and Finance* 29 (4): 615-41.

Bartels, Larry. 2010. *Unequal Democracy: The Political Economy of the New Gilded Age.* Princeton, NJ: Princeton University Press.

Bernhard, William and David Leblang. 2006. "Polls and Pounds: Public Opinion and Exchange Rate Behavior in Britain." *Quarterly Journal of Political Science* 1 (1): 25-47.

Bergsten, C. Fred. 1977. "Reforming the GATT: The Use of Trade Measures for Balance-of-Payments Purposes." *Journal of International Economics* 7, 1 (February): 1-18.

Blomberg, S. Brock, Jeffry Frieden, and Ernesto Stein. 2005. "Sustaining Fixed Rates: The Political Economy of Currency Pegs in Latin America." *Journal of Applied Economics* 8, (2): 203-225.

Bown, Chad P. and Meredith A. Crowley. 2013. "Import Protection, Business Cycles, and Exchange Rates: Evidence from the Great Recession." *Journal of International Economics* 90(1): 50-64.

Broz, J. Lawrence and Jeffry A. Frieden. 2006. "The Political Economy of Exchange Rates." In *The Oxford Handbook of Political Economy*. Edited by Barry R. Weingast and Donald Wittman, Chapter 32. Oxford: Oxford University Press, 2008.

Broz, J. Lawrence, and Seth H. Werfel. 2014. "Exchange Rates and Industry Demands for Trade Protection." *International Organization* 68 (2): 393-416.

Conconi, Paola, Giovanni Facchini, and Mauricio Zanardi. 2014. "Policymakers' Horizon and Economic Reforms: The Protectionist Effect of Elections." *Journal of International Economics* 94 (1):102-118.

Cooper, Richard, 1971, Currency Devaluation in Developing Countries. *Essays in International Finance* no. 86, June, Princeton University.

Copelovitch Mark S. and Jon C.W. Pevehouse. *2013."*Ties that Bind: Preferential Trade Agreements and Exchange Rate Policy Choice*."* *International Studies Quarterly* 57, 2 (June): 385-99.

Congressional Budget Office. 1985. "The Effects of an Import Surcharge on National Welfare: A Qualitative Analysis." *Staff Working Paper* Congressional Budget Office. The Congress of the United States (March): 1-23.

Dominguez, Kathryn M.E. 2014. "Exchange Rate Implications of Reserve Changes: How Non-EZ European Countries Fared During the Great Recession." *Comparative Economic Studies* 56 (2): 229-252.

Drazen, Allan. 2000. “The Political Business Cycle after 25 Years.” In Ben S. Bernanke and Kenneth Rogoff, eds, *NBER Macroeconomics Annual 2000* (Cambridge, Massachusetts: MIT Press), pp. 75-138.

Eglin, Richard. 1987. “Surveillance of Balance-of-Payments Measures in the GATT. *World Economy* 10, 1 (March): 1–26.

Frankel, Jeffrey A. 2005. “Contractionary Currency Crashes in Developing Countries.” *IMF Staff Papers* 52 (2): 149-192.

Franzese, Robert J. 2002. “Electoral and Partisan Cycles in Economic Policies and Outcomes.” *Annual Review of Political Science* (5): 369-421.

Forbes, Kristin and Michael Klein. 2015. “Pick Your Poison: The Choices and Consequences of Policy Responses to Crises.” *IMF Economic Review* 63: 197-237.

Goodhart, Charles. A. 2001. “Monetary Transmission Lags and the Formulation of the Policy Decision on Interest Rates.” *Review* (Federal Reserve Bank of St. Louis) 83 (4): 165–86.

Hellwig, Timothy. 2010. “Elections and the Economy.” In *Comparing Democracies 3: Elections and Voting in the 21st Century.* 3d ed. Edited by Lawrence LeDuc, Richard G. Niemi, and Pippa Norris, pp. 184–201. Thousand Oaks, CA: Sage.

Hyde, Susan D. and Nikolay Marinov. 2012. “Which Elections can be Lost?” Political Analysis 20, (2): 191-210.

Irwin, Douglas A. 2012. *Trade Policy Disaster: Lessons from the 1930s.* Cambridge, MA: The MIT Press.

Karol, David. 2007. “Does Constituency Size Affect Elected Officials’ Trade Policy Preferences?” *Journal of Politics* 69 (2):483-494.

Keech, William R., and Kyoungsan Pak. 1989. “Electoral Cycles and Budgetary Growth in Veterans Benefit Programs,” *American Journal of Political Science* 33(4): 901-11.

Keynes, John Maynard. 1931. Addendum I to: Great Britain. *Committee on Finance and Industry. Report* [Macmillan Report] London: His Majesty's Stationery Office, 190-209. Reprinted in Donald Moggridge. 1981. *The Collected Writings of John Maynard Keynes*, Vol. 20. Cambridge: Cambridge University Press, pp. 283-309.

Klein, Michael. 2012. “Capital Controls: Gates versus Walls.” *Brookings Papers on Economic Activity.*

Lewis-Beck, Michael. S., and Mary Stegmaier. 2000. “Economic Determinants of Electoral Outcomes.” *Annual Review of Political Science* (3): 183–219.

McCusker, Karen. 2000. “Are Trade Restrictions to Protect the Balance of Payments Becoming Obsolete?” *Intereconomics* 35, 2 (March/April): 89-93.

McRae, C. Duncan. 1977. “A Political Model of the Business Cycle.” *Journal of Political Economy* 85(2): 239-64.

Mishkin, Frederic S. 1996. "The Channels of Monetary Transmission: Lessons for Monetary Policy.” *NBER Working Paper No. 5464* National Bureau of Economic Research.

Nordhaus, William P. 1975. “The Political Business Cycle.” *Review of Economic Studies* 42(2): 169-90.

Obstfeld, Maurice, Jay Shambaugh, and Alan Taylor. 2005.“The Trilemma in History: Tradeoffs among Exchange Rates, Monetary Policies, and Capital Mobility.” *Review of Economics and Statistics* 87: 423-38.

Rodrik, Dani. 1995. “The Political Economy of Trade Policy.” In Grossman, Elhanan and Kenneth Rogoff. eds. *Handbook of International Economics.* Vol. 3. Amsterdam: Elsevier Science-, pp. 1457–1494

Stewart, Terrence P. and Elizabeth Drake. 2009. “Addressing Balance-of-Payments Difficulties under World Trade Organization Rules.*” EPI Working Paper No. 288*. Economic Policy Institute, Washington, DC.

Walter, Stefanie. 2015. “Crisis Politics in Europe. Why Austerity is Easier to Implement in Some Countries than in others.” *Comparative Political Studies,* forthcoming.

_____. 2013. *Financial Crises and the Politics of Macroeconomic Adjustments.* Cambridge: Cambridge University Press.

World Trade Organization. 2009. “Report of the Committee on Balance-of-Payments Restrictions.” WT/BOP/R/96 (October 30, 2009). Downloaded on July 23, 2014 from http://docsonline.wto.org/imrd/directdoc.asp?DDFDocuments/t/WT/BOP/R96.doc

Appendix:

Table A1. Variable Definitions and Sources

Variable	Definition	Restrictions	Source	Time Period
		Policy Outcomes		
Reserves	Dummy equal to one if international reserves (excluding gold) fell by at least 20 percent from the average reserve level in the previous year.	We only count cases where the reserve to GDP ratio is at least 5 percent. We impose an exclusion window that excludes any cases occurring in the three quarters before and after any major policy change.	IMF, IFS accessed on March 17, 2012	Use 1970-2010, quarterly due to missing data in prior years
Depreciation	Dummy equal to one if there was at least a 25 percent depreciation over the previous year average in the country's exchange rate versus the US dollar.	We only count those quarters in which the 25 percent depreciation was not preceded by a quarter in which annual inflation was 20 percent or higher so as to avoid episodes in which this depreciation just reflects a response to inflation. We impose an exclusion window that excludes any cases occurring in the three quarters before and after any major policy change.	IMF, IFS accessed on March 17, 2012	Use 1970-2010, quarterly due to missing data in prior years
Interest Rates	Dummy equal to one if there was an increase in the policy rate of at least five percentage points over the past year.	We restrict the cases to quarters in which the annual rate of inflation is less than 20 percent to avoid changes in interest rates that are due to rising inflation. We impose an exclusion window that excludes any cases occurring in the three quarters before and after any major policy change.	IMF, IFS accessed on March 17, 2012	Use 1970-2010, quarterly due to missing data in prior years

Capital Controls	Dummy equal to one if there was a decrease of more than 1.5 standard deviations in its degree of capital account openness.	We impose an exclusion window that excludes any cases occurring in the three quarters before and after any major policy change.	Chinn and Ito (2010), downloaded from their website.	Use 1970-2010, annually due to missing data in prior years
Trade Protection	Dummy equal to one if there was an import surcharge, restriction, quota or licensing, deposit, or other requirement.	We count the policy as occurring in the first quarter in which a country imposed the restriction. We impose an exclusion window that excludes any cases occurring in the three quarters before and after any major policy change.	GATT and WTO Balance-of-Payment consultation documents	1947-2011, quarterly
Import Surcharges	Dummy equal to one if there was an across the board duty on imports and not levies on a specific product.	We do not count as separate cases surcharges that ran concurrently or overlapped with another surcharge. We impose an exclusion window that excludes any cases occurring in the three quarters before and after any major policy change.	GATT and WTO Balance-of-Payment consultation documents	1947-2011, quarterly
Independent Variable				
Election	Dummy equal to one if an election took place in a given quarter for a national executive figure, such as a president, or for a national legislative body, such as a parliament, legislature, constituent assembly, or other directly elected representative bodies.		National Elections Across Democracy and Autocracy Dataset, Version 4.0, downloaded from website	1945-2012, daily
Controls				
US interest rate change	Quarterly difference in US money market rate.		IMF, IFS accessed on March 17, 2012	Use 1970-2010, quarterly

			due to missing data in prior years
Domestic GDP growth	Percent change in real domestic GDP.	Quality of Governance 2013, downloaded from website	1970-2011, annually
Change in Inflation	Percent Change over Corresponding Period of Previous Year in Consumer Price Index	IMF, IFS accessed on March 17, 2012	Use 1970-2010, quarterly due to missing data in prior years
Current account balance share of GDP	Current account balance (% of GDP).	World Bank World Development Indicators, downloaded from website	Use 1970-2010, annually due to missing data in prior years

Table A2. List of Trade Protection Cases (1975-2010)

Country	Date	Restriction Type
argentina	1982q1	import licensing, import duties, prior import deposits, 10% point emergency tariff increase
bangladesh	2000q4	ban and restrictions
brazil	1995q2	tariff increases and import quota
bulgaria	1993q3	surcharge
bulgaria	1996q2	surcharge
colombia	1984q4	surcharge
colombia	1985q4	import restrictions, licenses, deposits, tariffs
congodemrepof	2009q2	surcharge
czechrepublic	1990q4	surcharge
czechrepublic	1997q2	non interest bearing import deposit scheme
denmark	2009q2	surcharge
dominicanrepublic	2009q2	surcharge
ecuador	2009q1	surcharge
finland	1975q1	surcharge
france	2009q2	surcharge
germany	2009q2	surcharge
greece	1979q4	surcharge
hungary	1983q1	surcharge
hungary	1995q1	surcharge
india	1996q3	quantitative restrictions
indonesia	1979q4	restrictions
israel	1982q2	surcharge
israel	1991q3	surcharge
israel	1995q3	restrictions
italy	1981q2	import deposit
italy	2009q2	surcharge
korea	1987q4	restrictions, licensing
korea	2009q2	surcharge
nicaragua	2009q2	surcharge
nigeria	1982q2	import prohibitions
pakistan	1982q1	surcharge
pakistan	1996q4	quantitative restrictions
pakistan	2009q2	surcharge
peru	1978q2	surcharge
peru	1980q3	licenses, prohibitions, tariffs, and foreign exchange controls
peru	1982q1	surcharge
philippines	1983q1	surcharge
philippines	1991q1	surcharge
philippines	1996q2	restrictions

poland	1992q4	surcharge
portugal	1975q2	surcharge
portugal	1976q3	surcharge
romania	1992q2	surcharge
romania	1998q4	surcharge
slovakrepublic	1994q1	surcharge
slovakrepublic	1997q2	import deposit scheme
slovakrepublic	1999q2	surcharge
southafrica	1976q3	import deposit
southafrica	1979q1	import restrictions, licenses, tariffs
southafrica	1985q1	surcharge
spain	1976q3	surcharge
spain	2009q2	surcharge
srilanka	1990q1	surcharge
srilanka	1996q3	restrictions
sweden	2009q2	surcharge
thailand	1982q1	surcharge
tunisia	1991q1	surcharge
tunisia	1996q3	quantitative restrictions
turkey	1996q2	combination of import duties with payments to the mass housing fund(3)
turkey	2009q2	surcharge
ukraine	2009q1	surcharge
unitedkingdom	2009q2	surcharge
uruguay	1978q1	surcharge
yugoslavia,sfr	1975q2	surcharge
yugoslavia,sfr	1979q4	various - see notes

Table A3: Policy Changes, 1975-2010

Impose Capital Control	Depreciation	Reserve Loss	Raise Interest Rate	Trade Protection	Frequency	Percent
One Policy used, only						
0	0	0	1	0	801	49
0	0	1	0	0	353	21
0	1	0	0	0	256	16
1	0	0	0	0	96	6
0	0	0	0	1	53	3
Two Policies used, only						
0	1	0	1	0	28	1.7
0	0	1	1	0	23	1.4
0	1	1	0	0	16	1.0
0	0	0	1	1	7	0.4
1	0	0	1	0	6	0.4
0	0	1	0	1	3	0.2
1	0	1	0	0	2	0.1
1	1	0	0	0	1	0.1
Three Policies used, only						
0	1	1	1	0	1	0.1
1	0	1	0	1	1	0.1

Note:
(1) There are 188 countries in the sample.