

Globalization and Government Short-Term Room to Maneuver in Economic Policy: An Empirical Analysis of Reactions to Currency Crises

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Thomas Sattler and Stefanie Walter

Abstract

This article assesses the popular view that currency crises represent a prime example of the constraints that globalization imposes on government room to maneuver. We show that governments in fact have the possibility to respond to speculative pressure in different ways. Whether or not policymakers succumb to this pressure is not solely determined by economic factors but also a question of political considerations. Political preferences, institutions, and events significantly affect policy responses to currency crises. Our results suggest that national governments retain substantial short-run policy autonomy even in highly internationalized policy areas such as monetary and exchange rate policy.

KEYWORDS: globalization, policy autonomy, currency crises, exchange rate politics

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1. Motivation and Research Question

How big is the governments' room to maneuver in a globalized world? This question has been hotly debated by political scientists (Berger 2000; Grande and Risse 2000; Schirm 2006). Some authors see the continuing progress of globalization as a threat for states' policy autonomy (e. g. Strange 1996; Sattler et al. 2008; Genschel 2002). Other scholars contend that globalization does not decrease national policymakers' room to maneuver, and that national political factors continue to affect domestic politics and policies in significant ways (e. g. Ganghof 2004).¹ Researchers mostly agree that in certain policy areas globalization does restrain the countries' policy autonomy in the long run. However, it is less clear whether and to which extent globalization curtails states' political capacity to act in the short to medium run.

So far, political science research has analyzed this question primarily for areas in which long term effects of globalization can be expected – fiscal and social policy (Rodrik, 1998; Genschel 2000; Garrett and Mitchell 2001; Swank and Steinmo 2002; Sattler et al. 2007) as well as regulatory politics (Bernauer 2000; Simmons 2001; Busch 2003; Singer 2004), for instance. In contrast to this literature, our article examines a policy field, in which globalization has particularly strong effects not only in the long, but also in the short run: exchange-rate policy. Following Andrews (1994), we define governments' policy autonomy as the set of possible courses of action which (political) decision-makers are able to implement. For instance, in exchange-rate policy a large room to maneuver entails the ability to choose a certain exchange-rate regime and maintain it.

The continued integration of international financial markets has made capital substantially more mobile than it was thirty years ago. This development has engendered the argument that governments' room to maneuver in monetary and exchange-rate politics has been significantly reduced, because high levels of capital mobility imply that governments can no longer influence both policies at the same time, but face a trade-off between monetary policy autonomy and exchange-rate policy autonomy (e. g. Obstfeld 1998). Since both interest rates and exchange rates significantly influence a country's economic wellbeing, changes in exchange and interest rates have the potential to disrupt the economy and can therefore lead to political conflict. A loss of policy autonomy in these two policy fields is such politically consequential.

To assess the degree of governments' short- and medium-run room to maneuver, we concentrate on currency crises. Such crises are episodes in which a country's currency suffers from speculative pressure because both domestic and

¹ A third group of scholars argues that the influence of international financial markets on domestic politics is strong, but limited (Mosley 2000).

foreign market actors sell the domestic currency, thus lowering demand for the currency and creating devaluation pressure (Chiu et al. 2008).² Such pressure emerges when financial market actors begin to suspect that a government cannot or does not want to keep its exchange rate at the existing level.³ On these highly internationalized markets, financial market participants buy and sell high quantities of almost every currency, so that some authors attribute to them the ability to massively curtail national governments' room to maneuver. The powers of globalization thus operate particularly strongly during such crises. Some authors, such as Ohmae (2000: 208), argue that genuinely global capital markets dwarf states' ability to control their exchange rates and to protect their currencies. Other scholars point out that even under high capital mobility it is, at least technically, possible to defend fixed exchange rates against speculative pressure (Obstfeld and Rogoff 1995).

We proceed in three steps to examine the extent of government's room to maneuver during currency crises. The first step (section 2) analyzes whether there is any room to maneuver during currency crises in fact. We discuss which policy options governments have when facing a currency crisis and how globalized financial markets could curtail these options. We then use a quantitative analysis of 191 currency crises to demonstrate that such crises do not inevitably cause currency devaluation, but that governments do have the option of resisting speculative pressure and defending their currency. Only about every second speculative attack results in a devaluation. Section 3 examines this result more closely by analyzing whether this variation is attributable only to economic factors, or whether political considerations also contribute to this variation. For this purpose, we use duration and probit models to examine to what extent economic and political variables can explain the outcome of speculative attacks. The results show that despite the growing power of international finance markets, political variables have a statistically significant impact on national exchange-rate policymaking during currency crises. In a final step (section 4), we show that the extent of this short-term room to maneuver for national governments is far from insignificant. Our results suggest that even in situations, in which international market actors are regarded to strongly restrict the policy options of national political decision-makers, some room to maneuver exists at least in the short run.

² Currency devaluations are not the same as currency crises. Whereas a devaluation can be the result of a currency crisis, our definition of currency crises as speculative attacks also contains episodes in which a currency is not devalued, despite speculative pressure. Below, we use the terms currency crisis and speculative attacks synonymously.

³ While the central bank is responsible for implementing and operating the country's exchange-rate policy, the underlying policy decisions regarding the exchange-rate regime and - in case of fixed exchange rates - their level are taken by the government, even in countries with very independent central banks.

2. Do Governments Have Room to Maneuver in Exchange-rate and Monetary Policy during Currency Crises? Reactions to Speculative Pressure

The recent wave of capital account liberalization and the resulting increase in international capital flows have significantly increased the possibility and severity of speculative attacks. Currency crises are frequently cited as a demonstration of the growing power of international financial markets. Time and again, politicians identify international speculators as the main culprits of such crises.⁴ In the media, individual speculators have been attributed the power to single-handedly overthrow a currency. The Economist, for instance, called George Soros the man who broke the Bank of England in 1992 and forced it to devalue the British Pound (The Economist, 6.12.1998). Finally, in popular scientific research, some authors contend that growing international capital flows have eliminated government's ability to guarantee the stability of their currency (Barnet and Cavanagh 1996). This view is echoed by political scientists, who argue that the globalization of financial markets strongly curtails national governments' ability to autonomously pursue exchange-rate and monetary policies (Cerny 1995: 209) and that their macroeconomic room to manage a crisis is particularly small when international financial markets are only weakly regulated (Furman and Stiglitz 1998). For these authors, the financial power of capital markets strongly impairs the short-, middle-, and long-term room for governmental action. Speculative attacks on exchange rates, carried out by powerful capital markets, inevitably result in a devaluation of the national currency and constrain the government's options of responding to such attacks. In this view, any attempt to defend the exchange rate is doomed to fail.

At the same time, the consequences of speculative attacks (a strongly devalued currency or much higher interest rates) are likely to bring about significant distributional conflict. Whereas export-oriented sectors often benefit from a devalued exchange rate, consumers suffer from rising import prices and individuals and companies holding foreign-currency denominated face a higher debt burden (Walter 2008). In addition, devaluations have direct implications on the careers of politicians: Heads of government and finance ministers associated with a devaluation of the currency are significantly more likely to lose their office than politicians who defend the exchange rate (Frankel 2005). However, the tight monetary policy associated with a currency's defense also inflict high costs on all actors with debt in domestic currency. These distributional conflicts generate

⁴ On November 12, 1956, the British Labour Politician Harold Wilson accused the "Gnomes of Zurich" to speculate against the British Pound. During the Asian Financial Crisis in 1997, Mahathir Mohamad, President of Malaysia, characterized speculators as "wild beasts" (Herald Tribune, 1.9.1997).

incentives for policymakers to base their decision of how to respond to speculative pressure not only on economic, but also on political concerns.

If national policymakers retain some room to maneuver in economic policy despite the process of globalization, both political and economic concerns should influence the decision of how to respond to speculative pressure. The political economy literature on exchange-rate policy suggests that such considerations should be driven by the political interests of individual economic sectors and parties, as well as the institutional setting, such as the political regime type, the election cycle, or the degree of central bank independence. Several studies, mostly by political scientists, emphasize that political factors matter for the emergence and management of currency crises. For example, political factors influence the likelihood that currency crises occur (Leblang and Bernhard 2000; Leblang 2002; Block 2003). Moreover, several qualitative case studies have shown that politics influences the course of such crises (e. g. Simmons 1994; Haggard and Mo 2000; Noble and Ravenhill 2000; Walter 2008) – a result which quantitative studies echo (Leblang 2003; Sattler 2006; Walter 2009).

This short review of previous research suggests that literature is divided both on the question of the existence and the extent of policymakers' short-term room to maneuver during currency crises. To illuminate this debate, we examine whether speculative attacks always result in devaluations, or whether governments can resist the pressure on their currency and hence demonstrate their ability to withstand international financial markets. We focus on speculative attacks in 52 industrialized countries and emerging markets from 1975 until 2003. Since we are interested in governments' policy autonomy in face of globalization, our analysis starts after the collapse of the Bretton Woods regime in 1973, after which trade barriers and capital controls were successively lowered. This has led to a massive increase in international capital flows and the emergence of today's international finance system (Quinn 2000).

We limit our study to countries with fixed and intermediate exchange-rate regimes, which allow governments and/or central banks to intervene in currency markets in order to stabilize the exchange rate. This restriction is important, because speculative attacks can only occur when governments actually intervene in currency markets with the objective of systematically influencing their exchange rates. In countries with fully flexible exchange rate regimes, the currency rate drops automatically with increasing speculative pressure, so that governments do not have the option to defend the exchange rate. Therefore, we exclude countries with a completely flexible currency rate. To determine the actual degree of a country's exchange rate flexibility, we use Reinhart and Rogoff's (2004) *de facto* classification of exchange rate regimes. Our analysis includes all exchange rate regimes, fluctuate within a maximum range of ± 2 per

cent, and all more rigid regimes (Categories 1–11 in the Reinhart-Rogoff classification).⁵

Unfortunately, speculative pressure cannot be measured directly.⁶ Instead, both economists and political scientists have established the use of an indirect measure of speculative pressure (Leblang and Bernhard 2000; Leblang 2002; Eichengreen 2003; Leblang 2003). We follow this literature and identify currency crises using the Exchange-Market-Pressure (EMP)-Index, which takes into account changes in exchange rates, short-term interest rates and foreign currency reserves (Eichengreen et al. 1995). The index builds on the insight that governments can respond to speculative attacks in several ways. They can a) give up the exchange-rate peg, which leads to considerable changes in the exchange rate, or defend the exchange rate by either b) tightening monetary policy or by c) selling foreign reserves. In contrast to speculative pressure, these changes in exchange-rate and monetary policy can be directly observed. Exchange-market pressure is therefore operationalized as the unweighted monthly average of standardized exchange-rate changes, reserve changes, and changes in the interest-rate differential relative to the interest rate in a stable reference country. Since speculative pressure requires a change in at least one of these three variables, large values of the EMP index indicate that speculative pressure is high. Note that even though the index uses information on policy responses, the index does not indicate whether the currency was defended or not. It only indicates how strongly the government had to react to speculative pressure and therefore allows an indirect measurement of speculative pressure.⁷

Currency crises are identified as episodes in which the EMP-index exceeds the country-specific mean by at least two standard deviations. This selection-criterion generates a sample of 191 currency crises, which comprises many well-known currency crisis episodes, such as the Mexican Tequila Crisis in December 1994 or the speculative attacks on the Thai Baht in 1997.⁸

Several empirical studies indicate that currency crises typically last several months (Moutot 1994; Bensaid and Jeanne 1997: 1472–73). Our analysis of policy

⁵ A stricter threshold would exclude important crises, e.g. the currency crisis in the Czech Republic 1997.

⁶ Ideally, one would measure the total amount of a currency sold globally within a certain time frame while taking into account fluctuations motivated by real economic developments. Unfortunately, such data is not publicly available.

⁷ Other studies of policy responses to currency crises also use this index (Kraay 2003; Leblang 2003). Since the index does not distinguish between devaluations and defenses and only serves as a case selection criterion, there is no danger that the results are biased due to this indirect way of identifying crises.

⁸ For a detailed description of this index see Sattler and Walter (2006). The two-standard-deviation-threshold is the standard threshold used in the literature (see for example Leblang 2003). The index is based on monthly data from the IMF's *International Financial Statistics*.

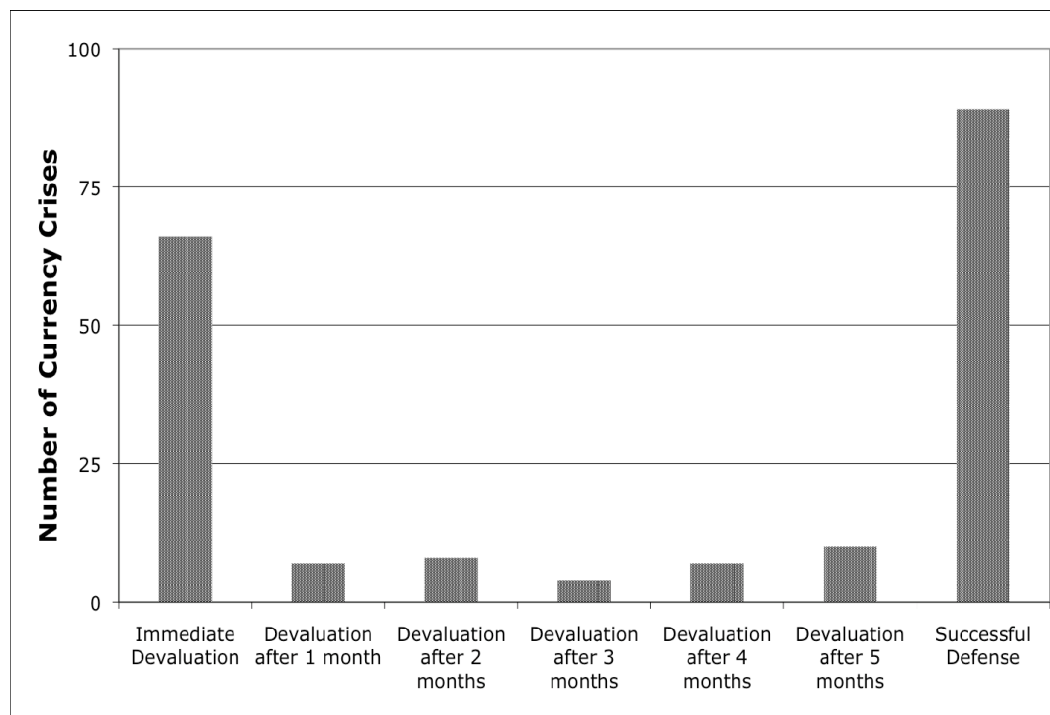
responses therefore focuses not only on the first month of a crisis, but also includes the following six months. To operationalize the policy response to a currency crisis we thus examine whether the exchange rate was devalued within the first six month after the onset of the crisis.⁹ We use a behavioral criterion to identify devaluations, which evaluates exchange-rate behavior based on the country's pre-attack *de facto* exchange-rate regime and grants intermediate exchange-rate regimes more freedom to depreciate than countries with a fixed exchange rate (for a more detailed description of the devaluation criteria see table A2 in the appendix). This is because large exchange-rate swings may still be well in the limits of a relatively flexible regime, while relatively small exchange-rate changes can be an indicator that a more rigid exchange-rate regime has been given up. The devaluation-criterion examines whether the authorities adhered to the limits imposed by their exchange-rate regime in the six months following the first attack on the currency and considers both monthly devaluations as well as the cumulative loss in the currency's value since the start of the crisis. If the exchange rate is not devalued during this period, the episode is counted as a successful defense. Otherwise, the first month, in which either the monthly or the cumulative devaluation measure crosses the devaluation-threshold, is coded as the month of devaluation. Hence, the variable measures both whether and how many months a country defended its exchange rate.

Figure 1 shows the distribution of policy responses to speculative pressure. Between 1975 and 2003, 46.6 percent of the 191 currency crises that have been studied did not end successfully for speculators, because policymakers were able to defend their currencies. In 66 cases, the government devalued the currency relatively quickly, and in one fifth of all crises, an initial attempt to defend the currency failed.¹⁰

⁹ We use six months as the maximum length of a currency crisis because other studies have identified the six-month period as the typical length of currency crises (Moutot 1994; Bensaid and Jeanne 1997). Our results are robust to using longer time periods (see section 3.2.3).

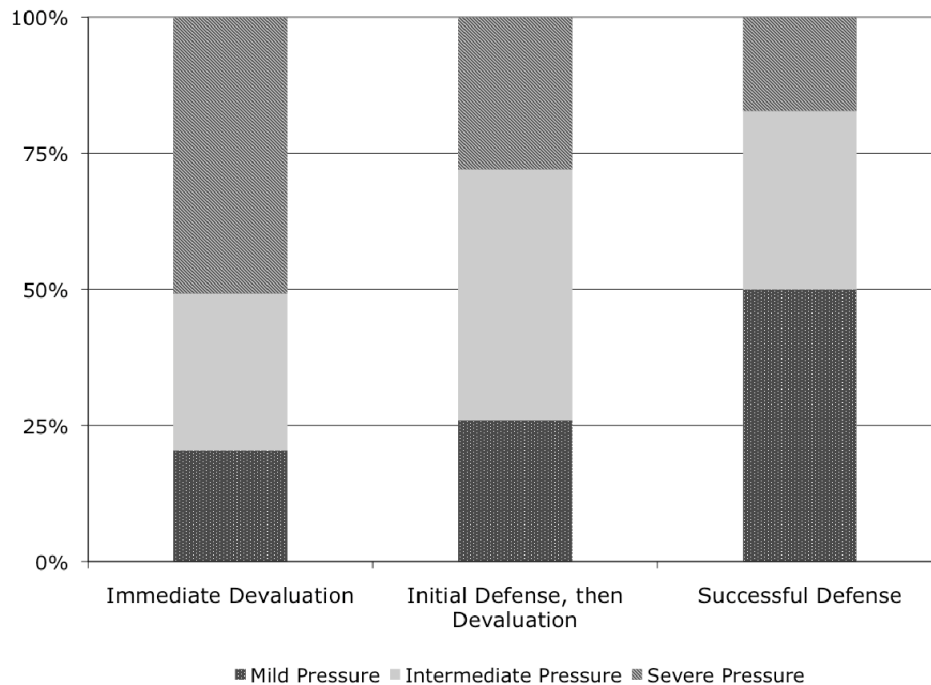
¹⁰ These results correspond to those of similar studies (Kraay 2003; Leblang 2003).

Figure 1: Currency Crisis Outcomes, 1975–2003



A first cut at the empirical evidence thus disproves the argument that policymakers inevitably have to succumb to speculative pressure on their currency. Contrary to the widely held assumption that high international capital mobility diminishes policymakers' ability to resist the will of international financial markets, our analysis suggests that national governments have retained a certain level of policy autonomy at least in the short-run.

Figure 2: Intensity of Speculative Pressure and Currency Crisis Outcomes¹¹



The fact, that reactions to speculative pressure differ so widely, raises the question under which political circumstances policymakers devalue or defend their currency. This is particularly relevant in light of the fact that even strong speculative pressure does not always result in a devaluation. Figure 2 shows that strong speculative pressure increases the probability of devaluation, but is not a sufficient condition for a devaluation. In other cases, policymakers devalue the currency, although pressure is comparatively low. In a next step, we therefore examine whether this variation can be explained by variation in economic conditions, or whether political factors also influence this decision. Support for the latter would strongly indicate that policymakers indeed have room to implement politically motivated economic policies.

¹¹ Intensity of speculative pressure in the first month of the crisis, as measured by the EMP-index discussed above (Eichengreen et al. 1995).

3. Economic and Political Determinants of Policymakers' Room to Maneuver during Currency Crises

3.1 Determinants of Policy Autonomy: Theoretical Considerations

How policymakers respond to speculative pressure naturally depends on the country's economic situation. Bad macro-economic fundamentals, such as high inflation or a low level of foreign currency reserves, are a main cause of currency crises and significantly curtail policymakers' political room to maneuver. In so-called "first-generation currency crises," in which pressure emerges because of unsound macroeconomic fundamentals, speculative attacks always result in a devaluation or float of the currency (Krugman 1979). However, not all currency crises emerge because of bad macroeconomic fundamentals. A second generation of currency crisis models shows that currency crises can also affect countries whose economic fundamentals are merely vulnerable, but not bad (Obstfeld 1994, 1996). This type of crisis emerges when markets begin to doubt the government's willingness to give up other policy goals, such as low unemployment, in exchange for a exchange-rate stability. This willingness, in turn, decisively depends on the preferences of important actors and the institutional environment.

The macroeconomic situation thus influences the range of available policy options during times of speculative pressure. Extremely bad macroeconomic conditions strongly limit these options, while in the more frequent case of vulnerable (but not bad) macroeconomic fundamentals the range of policy options is significantly higher. It is not surprising, then, that studies on this topic performed by economists show that the macroeconomic situation cannot sufficiently explain why some governments devalue, while others defend (Eichengreen et al. 2003; Kraay 2003). Whenever the macroeconomic environment allows policymakers to pursue one of several policy options, the question whether to devalue or defend is no longer an issue of economic necessities, but a matter of political priorities.¹² These priorities are a result of partisan preferences, political institutions, the political regime type, the independence of the central bank, and political events, such as elections. In instances with some room to maneuver such political and institutional factors should have a high explanatory power for explaining the variation in policy responses to currency crises.¹³

¹² Some authors even argue that this decision is always purely political, because technically, a defense is always possible, regardless of the intensity of speculative pressure (Obstfeld and Rogoff 1995). However, the political costs of a defense against severe pressure tends to be exorbitantly high, making it not a realistic option for most policymakers.

¹³ Since we are mainly interested in short-term policy autonomy, this article focuses on those political and institutional variables most frequently discussed in the literature. We use these

Partisan Preferences

Partisanship is an important determinant of exchange-rate policymaking (Simmons 1994; Bernhard and Leblang 1999; Bearce 2007; for studies which find no effect of partisanship, see Freitag 1999a; 1999b). Different parties face different demands and constraints under which they have to decide how to respond to speculative pressure. For example, left-wing governments tend to experience currency crises more often than conservative ones (Leblang and Bernhard 2000; Leblang 2002; Block 2003). Political parties also differ in how they respond to currency crises. Simmons (1994) argues that conservative governments are more likely to defend their currencies successfully, but Leblang (2003) and Walter (2009) find the opposite effect and show that left-wing governments are more likely to defend their currencies. This latter finding can be explained by considering that left-wing governments have to fight harder for monetary policy credibility than conservative governments and therefore need to send stronger signals, such as a defense of their currency against speculative pressure. Overall, existing research in political economy suggests that left-wing and conservative parties should use a potential room to maneuver during currency crises differently.

Political Regime Type

A very robust finding of political economy research is that democratic countries are more likely to implement flexible exchange rate regimes than autocratic countries, regardless of whether one looks at officially announced exchange rate regimes or the de facto behavior of the exchange rate (Leblang 1999; Broz 2002; Bearce and Hallerberg 2006; Stierli 2006). Broz (2002) argues that this is because the transparency of monetary commitment institutions and the transparency of the political system are complements. He contends that autocracies have a less transparent political system and therefore rely more frequently on fixed or pegged – and hence highly transparent – exchange rate regimes than democratic countries. In terms of reputation and monetary credibility, a devaluation consequently is more costly for autocratic regimes. In addition, implementing the painful policy measures necessary for a currency defense is more difficult for democratic governments (Simmons 1994; Eichengreen 1996). This leads to the expectation that autocratic regimes are likely to defend their currency more often

variables to illustrate the extent of policy autonomy in the context of currency crises. While other factors, such as social preferences (Frieden 1991; Walter 2008), the number of veto-players (MacIntyre 2001) or the institutional setting (Haggard 2000), also influence the outcome of speculative attacks, a detailed examination of all these variables would exceed the capacity of this article.

than democracies. At the same time, however, voters tend to perceive a devaluation as a signal of weakness and frequently penalize it by voting the incumbent government out of office (Walter 2009). This in turn increases the political cost of devaluing for democratic policymakers. This leads us to the hypothesis that governments of democratic states are more willing to defend their currencies against speculative attacks (Sattler and Walter 2005). In both cases, however, an increased room to maneuver should result in different responses to speculative pressure in democratic and autocratic countries.

Central Bank Independence

The central bank is, at least operationally, responsible for the implementation of monetary and exchange rate policies, so that its institutional structure is particularly relevant for these policy fields (Cukierman 1994). The degree of central bank independence, i. e. the extent to which a central bank is obliged to follow instructions by the government, is especially important. Compared with elected politicians, independent central bankers tend to have more conservative preferences and are less exposed to public pressure (Rogoff 1985). Consequently, they are usually more willing than elected politicians to implement painful, inflation-reducing measures, which tend to strengthen the national currency (Freitag 1999a, 1999b). Moreover, attempts to defend the exchange rate are more credible if the central bank can credibly guarantee that monetary policy is focused on price stability. As a result, an independent central bank should increase the probability that the currency will be successfully defended against speculative pressure. Room to maneuver in economic policy should hence be reflected in the fact that countries with independent central banks respond differently to speculative pressure than countries with a more dependent central bank.

Elections

The literature on political business cycles has shown that democratic elections present strong incentives to incumbents for influencing economic policy in such a way that positive short-term effects can be felt right before the next elections. This is particularly true for exchange-rate politics. Devaluations occur much more frequently right after an election, and they are very rare events during election campaigns (Frieden et al. 2001; Stein and Streb 2004; Blomberg et al. 2005). Considering that devaluations not only reduce the purchasing power of consumers – and hence of voters –, and that voters also perceive devaluations as signals of incompetence, this is not surprising (Walter 2009). Speculative attacks increase these effects, because they lead to larger devaluations and focus voters' attention

on exchange-rate policy. If politicians have room to maneuver, election dates should consequently influence the outcome of currency crises.

The discussion has shown that policymakers clearly have incentives to use any room to maneuver to implement different types of policy responses to speculative pressure. If such room actually exists, political, and not just economic factors should consequently be able to explain systematic differences in currency crisis outcomes.

3.2 Empirical Analysis of Currency Crisis Outcomes

3.2.1 *Research Design*

Based on these insights, we analyze empirically whether governments' reactions to currency crisis are exclusively influenced by economic factors, or if the political factors discussed above have additional explanatory power. If the political variables show a statistically significant influence on the outcome of crises, this implies that governments have some room to maneuver even in such strongly constrained situations.

The quantitative analysis in this section is based on the data of 191 currency crises presented at the beginning of this study. The dependent variable is the outcome of a speculative attack, specifically the duration of the defense against the attack. The explanatory variables can be divided into economic and political factors. The economic variables assess whether a government is technically able to defend the exchange rate, while the political variables reflect additional room to move. If we find that only the economic, but not the political variables have a statistically significant impact on crisis outcomes, this suggests that the government's room to maneuver is constrained because it cannot take choices based on political considerations.

As outlined above, governments that face bad macroeconomic circumstances generally do not have any other option than devaluation. For instance, it is not possible to keep the exchange rate fixed if foreign exchange reserves are depleted during the attack: if the government is running out of reserves, it has to devalue the currency. An important variable that captures this mechanism is the size of foreign exchange reserves relative to the stock of money circulating in an economy, M1.¹⁴ Other relevant economic variables are economic growth, the inflation rate and the gross domestic product per capita.¹⁵ Since

¹⁴ We use the money supply M1 because it is more difficult to use financial investments with more long-term maturity (which are captured in other monetary concepts such as M2 or M3) for speculative attacks.

¹⁵ Data on foreign reserves, money supply, and inflation are from the *International Financial Statistics* (IFS) database provided by the International Monetary Fund. We use IFS lines 11.d

measures aiming at defending the exchange rate (e. g. interest rate increases) have negative effects on the country's economic performance, such exchange rate defenses are particularly painful when economic growth is low implying that exchange rate devaluations are more likely when economic performance is poor. Inflation is measured as the percentage change of consumer prices compared to the previous year. High inflation rates are not compatible with a fixed exchange rate in the long run suggesting that countries with lower inflation should be more likely to defend their exchange rate. The gross domestic product per capita measures the income level of a country. We suspect that rich countries are more likely to bear economically costly defense measures than poor countries.

The second group of explanatory variables includes political and institutional factors, which influence the economic policy priorities of politicians. Since all estimations include the economic variables, the results reflect the impact of political preferences, institutions and events on government choices provided that the economic situation allows for some room to maneuver. If room for distinct political decisions exists, then political and institutional differences across countries should lead to statistically significant differences in the probability of an exchange rate defense. The political and institutional factors include government ideology, the democracy level of a country, the timing of elections and the degree of independence of the central bank.

To measure the level of democracy, we use the POLITY IV dataset (Marshall et al. 2002), which classifies countries on a scale from -10 (autocratic) to +10 (democratic). Government ideology takes the value 1 if a country has a left-wing government at the time of the crisis. For center or right-wing governments, the variable takes the value 0. We use two different variables for electoral timing. Pre-election (Post-election) variables take the value 1 during three months before (after) an election, and are zero otherwise. Data on government ideology and elections are from the *Database of Political Institutions* (Beck et al. 2000). Data about the legal independence of central banks are from Cukierman et al. (2002).¹⁶ Table A1 in the Appendix presents the descriptive statistics for these variables.

We use duration and probit models to estimate the probability that a government defends the exchange rate. The decision of a government to devalue

(reserves), 34 (M1) and 64 (inflation). Average real economic growth in the three months preceding the attack is calculated using data from the *World Development Indicators* provided by the World Bank.

¹⁶ This indicator does not take into account central bank reforms in some EU countries during the mid/late 1990s. This is not problematic, however, because our dataset does not include crises in any EU country after these reforms. For post-communist transition countries, the index by Cukierman et al. (2002) reflects the relevant changes in central bank independence over time.

or to defend the exchange rate is a discrete choice.¹⁷ The models used in our analysis allow us to capture such discrete choices by the government. Duration models estimate the duration until an event – in our case a devaluation – occurs (Box-Steffensmeier and Jones 2004).¹⁸ These models are useful because they not only capture the government's behavior, but also take into account the dynamics, i. e. the temporal dimension, of a crisis. In other words, duration models assess the probability that a government defends the exchange rate in a particular month after the outbreak of the crisis, given that it has not devalued until then.¹⁹

Probit models estimate the probability that the exchange rate is defended within a pre-specified time period after the onset of a crisis. The probit models therefore also reflect government decisions to defend or to devalue, but do not take into account the time period between the beginning of the crisis and a devaluation. The dependent variable in these models is binary and measures whether the government defends the exchange rate after the onset of a speculative attack for at least six months. The variable takes the value 1 if the government defends the exchange rate, and takes the value 0 if the government decides to devalue the exchange rate within the six-month period. The probit results complement the results of the duration models and allow us to assess the sensitivity of the estimation with respect to changes in the operationalization of the dependent variable.

3.2.2 Results

Table 1 presents the estimation results from the duration models; table 2 shows the results from the probit models. In both tables, positive coefficients indicate that higher values of the independent variable increase the duration of the fixed exchange rate and the probability of a defense. Models 1 through 7 are based on estimations with all available observations for the respective independent

¹⁷ While fixed exchange rates usually vary within a pre-specified band, the fluctuations within this band are different from deliberate decisions by a government to end market interventions and to allow the collapse of the exchange rate below the limits of an exchange rate band. Only deliberate decisions to give up the exchange rate peg or band are treated as devaluations.

¹⁸ We use parametric models because these are more efficient in small samples than semi-parametric models. Based on a series of tests and for theoretical reasons, we use models with a log-normal distribution. These models reflect our expectations that the hazard rate is non-monotonic. Since a country may experience multiple currency crises, some countries appear in our dataset more than once. Since the pooled time series are rather short, we refrain from using more complex models, e. g. duration models with random effects. The statistical inference of all models is based on robust standard errors, which cluster on countries.

¹⁹ The duration models also account for the possibility that some exchange rates survive our six-month period of analysis, but collapse afterwards (right censoring). Our results thus do not depend on the exact definition of the duration of a crisis.

variables.²⁰ The last two models distinguish between OECD countries (model 8) and developing and emerging market countries (model 9).

Table 1: The Impact of Economic and Political Factors on Currency Crisis Outcomes (Duration Models)

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
	Baseline model	Partisans hip	Democrac y	Central Bank Indep.	Elections	Full model
Reserves/M1(t-1)	0.117* (0.067)	0.152* (0.082)	0.114 (0.077)	-0.613 (0.587)	0.109 (0.066)	0.127 (0.086)
Growth(t-1)	-0.466 (0.418)	-0.354 (0.434)	-0.362 (0.346)	-1.773 (1.269)	-0.434 (0.420)	-0.250 (0.358)
Inflation(t-1)	-0.006** (0.003)	-0.005* (0.003)	-0.005** (0.003)	-0.015*** (0.006)	-0.005* (0.003)	-0.005* (0.003)
GDP per Capita	0.041** (0.020)	0.038** (0.019)	0.020 (0.020)	-0.006 (0.039)	0.042** (0.020)	0.020 (0.019)
Left Government		0.490* (0.286)				0.326 (0.292)
Democracy			0.053*** (0.020)			0.052** (0.020)
Central Bank Ind.				2.760** (1.388)		
Pre-Election					-0.294 (0.282)	-0.357 (0.285)
Post-Election					-0.509** (0.234)	0.602*** (0.225)
Constant	1.449*** (0.215)	1.276*** (0.206)	1.267*** (0.231)	1.646** (0.779)	1.521*** (0.222)	1.239*** (0.233)
Sigma	1.440	1.429	1.410	1.591	1.437	1.398
N	191	191	188	82	191	188
χ^2	25.46	27.81	27.90	26.68	32.09	39.84
Pr > χ^2	0.000	0.000	0.000	0.000	0.000	0.000
Log Likelihood	-248.41	-246.65	-241.37	-96.82	-247.28	-238.78

* p<0.10, ** p<0.05, *** p<0.01; values in brackets are robust standard errors, clustered on countries.

²⁰ The number of observations and the number of months in which exchange rates faced a risk of a collapse varies because of missing data for some explanatory variables.

Table 2: The Impact of Economic and Political Factors on Currency Crisis Outcomes (Probit Models)

	Model 7	Model 8	Model 9
	All countries	Only OECD	Only developing / emerging market countries
Reserves/M1(t-1)	0.072* (0.043)	-0.445 (0.473)	0.090 (0.061)
Growth(t-1)	-0.336 (0.375)	-1.383 (1.542)	-0.406 (0.379)
Inflation(t-1)	-0.007 (0.004)	-0.100* (0.059)	-0.007* (0.004)
GDP per Capita	0.010 (0.014)	-0.084 (0.053)	0.019 (0.029)
Left Government	0.367 (0.229)	0.877*** (0.308)	-0.090 (0.328)
Democracy	0.033* (0.018)		0.031 (0.019)
Pre-Election	0.520* (0.292)	0.121 (0.483)	1.128*** (0.428)
Post-Election	-0.665*** (0.251)	-0.300 (0.392)	-1.386*** (0.479)
Constant	-0.266 (0.212)	2.075 (1.285)	-0.262 (0.219)
N	188	75	115
χ^2	38.00	13.54	28.55
Pr > χ^2	0.000	0.060	0.000
Log Likelihood	-120.21	-43.01	-70.38

* p<0.10, ** p<0.05, *** p<0.01; values in brackets are robust standard errors, clustered on countries.

Model 1 shows the results of our economic baseline model and thus reflects the restrictions of government policy autonomy due to economic factors. The economic variables are lagged by one month because we assume that the government and speculators learn about economic developments only with a delay implying that the decisions by market participants are based on information

from the previous month. As the first-generation models of currency crises (Krugman 1979) suggest, poor macroeconomic fundamentals, like low foreign reserves or a high inflation rate, have a positive and statistically significant impact on the probability that the exchange rate collapses.²¹ Currency reserves relative to the money supply measures whether a government is technically able to defend the exchange rate. If the stock of reserves is too low, then the exchange rate has to be devalued. A high inflation rate indicates that the government's economic policy is not compatible with a fixed exchange rate in the long run. For instance, a large budget deficit may lead to higher inflation and thus to a capital outflow. Following second-generation models of currency crises, we also account for the possibility that low economic growth reduces the willingness of governments to defend the exchange rate (Obstfeld 1994, 1996). The coefficient on this variable is not statistically significant suggesting that economic growth does not have an important influence on the stability of exchange rates. Finally, the results show that rich countries are more likely to defend their exchange rates in times of crisis than poor countries.

The remaining models examine whether the political and institutional factors discussed in section 3.1 can explain differences in crisis outcomes after controlling for economic circumstances. Model 2 tests the hypothesis that partisan preferences of policymakers influence the government's reaction to currency crises. The results show that left-wing governments defend the exchange rate more often than right-wing governments. The effect of partisanship is statistically significant and indicates that left-wing governments attempt to strengthen their monetary credibility by pursuing orthodox economic policies. The level of statistical significance is lower than for the other political variables, but the influence of government ideology is consistently positive across different model specifications. As we will show below, the effect of partisanship is less stable in estimations with all observations because the role of government ideology varies across different groups of countries. We conclude from these results that governments have economic room to maneuver that different party governments exploit differently. An estimate of the size of this room will be provided and discussed in the fourth section of this study.

The next two models (3 and 4) assess the influence of political institutions, specifically the political regime type and central bank independence. Model 3 examines the hypothesis that democratic countries defend their exchange rates more often and for a longer period of time than non-democratic countries. The results show that the impact of the democracy level is positive and statistically

²¹ The impact of the variables corresponds to our theoretical expectations for all models except model 3. The results of the third model deviate from the other models because of a large number of missing values in the central bank independence variable.

significant.²² Our results support the hypothesis and the corresponding explanation that democratically elected politicians aim at avoiding the loss of reputation that is associated with a currency devaluation. Again, this confirms that policymakers have the possibility to choose distinct economic policies, and democratic policymakers use this room differently than autocratic policymakers.

Model 4 examines the influence of central bank independence on government reactions in times of crisis. Our theoretical expectation that governments with an independent central bank defend their exchange rate for a longer period of time than governments without an independent bank is strongly supported. The coefficient on the central bank variable is positive and statistically significant. The number of observations is smaller than in other model specifications because only limited data on central bank independence exist, especially for developing countries. The reduced number of observations affects the results of the other variables, particularly foreign reserves. The coefficient reflecting the impact of reserves on crisis outcomes does not correspond to our theoretical expectations, but it is not statistically significant. This is because industrialized countries dominate the subsample of crises in this model. As previous studies have shown, foreign exchange reserves play a minor role in these countries because governments in the industrialized world usually have a large stock of reserves at their disposal (Obstfeld and Rogoff 1995).

Finally, model 5 examines the impact of electoral cycles on government behavior. We hypothesize that governments tend to defend before elections, but tend to devalue after elections. The results show that governments in fact devalue more often after an election. This effect is statistically significant. In contrary, the influence of pre-election periods on crisis outcomes is not statistically significant. The problem is that some governments in our dataset defend their exchange rate until the election is over, but devalue afterwards. The duration models do not capture this behavior, which leads to an underestimation of the pre-election effect on the probability of devaluation. The results of the probit model (model 7 in table 3) show, however, that governments defend their exchange rate before elections more often than in non-election periods. Again, these results suggest that governments are able to respond differently when they face speculative pressure, and that some room to maneuver with respect to exchange rate policy exists. Governments can use this room to manage their political popularity and thus to influence their electoral chances.

²² The effect of the economic level of development on the probability of an exchange rate defense is much smaller when we include the level of democracy. We explain this effect with the high correlation between the democracy level and level of development, which can lead to an increase in standard errors. The coefficient on the democracy variable, however, is statistically significant across different model specifications, and the estimated impact is largely the same.

Model 6 (duration) and 7 (probit) show the full specifications, which include all relevant economic and political factors.²³ Models 8 and 9 examine if differences in policy autonomy exist across OECD and developing / emerging market countries. Two findings are particularly striking. The influence of government ideology on the probability of defense is particularly strong in industrialized countries, but not statistically significant in developing and emerging market countries. This suggests that, especially in rich countries, left governments systematically try to avoid a loss of monetary credibility by pursuing an orthodox economic policy. In developing countries, however, a systematic relationship between the government's partisan ideology and its response to speculative pressure does not exist. Although the impact of election periods on government behavior is similar across the two groups of countries, the relevant coefficients are not statistically significant for industrialized countries. This suggests that elections in developing countries have a more significant impact on economic policymaking in developing countries than in industrialized countries. Finally, the results show that differences in income level across countries do not play a role within the two groups.

In summary, our quantitative results show that policymakers have a substantial, short-term room to maneuver in monetary and particularly exchange rate policy. The influence of individual variables, however, can vary across industrialized and developing / emerging market countries.

3.2.3 *Robustness*

We conducted several tests to analyze the robustness of our results. To examine whether the underlying assumptions of the log-normal duration model hold, we estimated the different specifications using a semi-parametric Cox model, which relies on less restrictive assumptions, but also is less efficient. The results show that the assumptions about the shape of the hazard rate are justified.²⁴

Second, we examine whether the six-month definition of a crisis affects our results. Estimations of the models in tables 1 and 2 using crisis indicators based on nine- and twelve-months periods lead to substantially similar conclusions.²⁵ We conclude that our results do not depend on a particular definition of crises.

Third, we use selection models to examine whether our results change when we account for the possibility that crises do not occur randomly, but mainly

²³ We do not take into account central bank independence in these models because of the large amount of missing values in this variable.

²⁴ Empirical tests also show that the log-normal model is preferable to other parametric models (e. g. the Weibull model).

²⁵ The results are available from the authors.

happen in economically vulnerable countries. Such selection effects can lead to biased results. Our estimations show that among the economic variables, economic growth and contagion effects are particularly important for the emergence of a crisis. This means that an exchange rate is at risk if the country's economic performance is bad or if another country was hit by a crisis in the recent past. Among the political factors, only electoral timing has a significant impact on the probability of a crisis. The results of the selection model suggest that our conclusions on the influence of political variables on government responses to currency crises are not subject to selection bias. The relationships between the explanatory variables and the probability of a defense are almost identical to the results in table 2. The relevant test statistics also indicate that the selection effect is negligible.²⁶ We conclude that the less complex models in tables 1 and 2 are preferable to the selection model as the latter increases the complexity of the empirical analysis without additional insights.

4. The Size of Political Room to Maneuver

The results of the quantitative analysis suggest that national governments have some room to maneuver when they face speculative pressure despite economic globalization, at least in the short run. However, besides the existence of such room for distinct policy choices, we are also interested in the size of this room.

Although a government may have multiple options during a currency crisis, we can only observe one particular choice in practice. This complicates the assessment of political room to maneuver because the other options, if they exist, are never realized and thus difficult to establish empirically in a particular case. To address this problem, we compute the predicted probabilities of a devaluation when a government faces speculative pressure for different values of the relevant variables. Specifically, we show the predicted probabilities for different possible realizations of the political-institutional variables while holding economic conditions fixed. This allows us to draw conclusions about the average political room to maneuver.

In this section, we thus examine how likely an exchange rate defense is under diverging political-institutional constellations. The analysis is based on the estimation results from the fully specified model 7 (table 2). We plot the predicted probability of a defense for the minimum and maximum values of the four political-institutional variables. To get an idea how much the government's choice set is restricted by economic conditions, we compute these probabilities for different levels of foreign exchange reserves and present them graphically in

²⁶ The parameter ρ , which reflects the correlation of the errors in the selection and the outcome equation and thus the size of the selection effect, is small in magnitude (-0.36) and not statistically significant.

figure 3. The solid lines show the estimated probabilities. The increasing slopes mean that the probability of a defense increases when the stock of reserves becomes larger. The dashed lines show the 90% confidence intervals for these estimations.

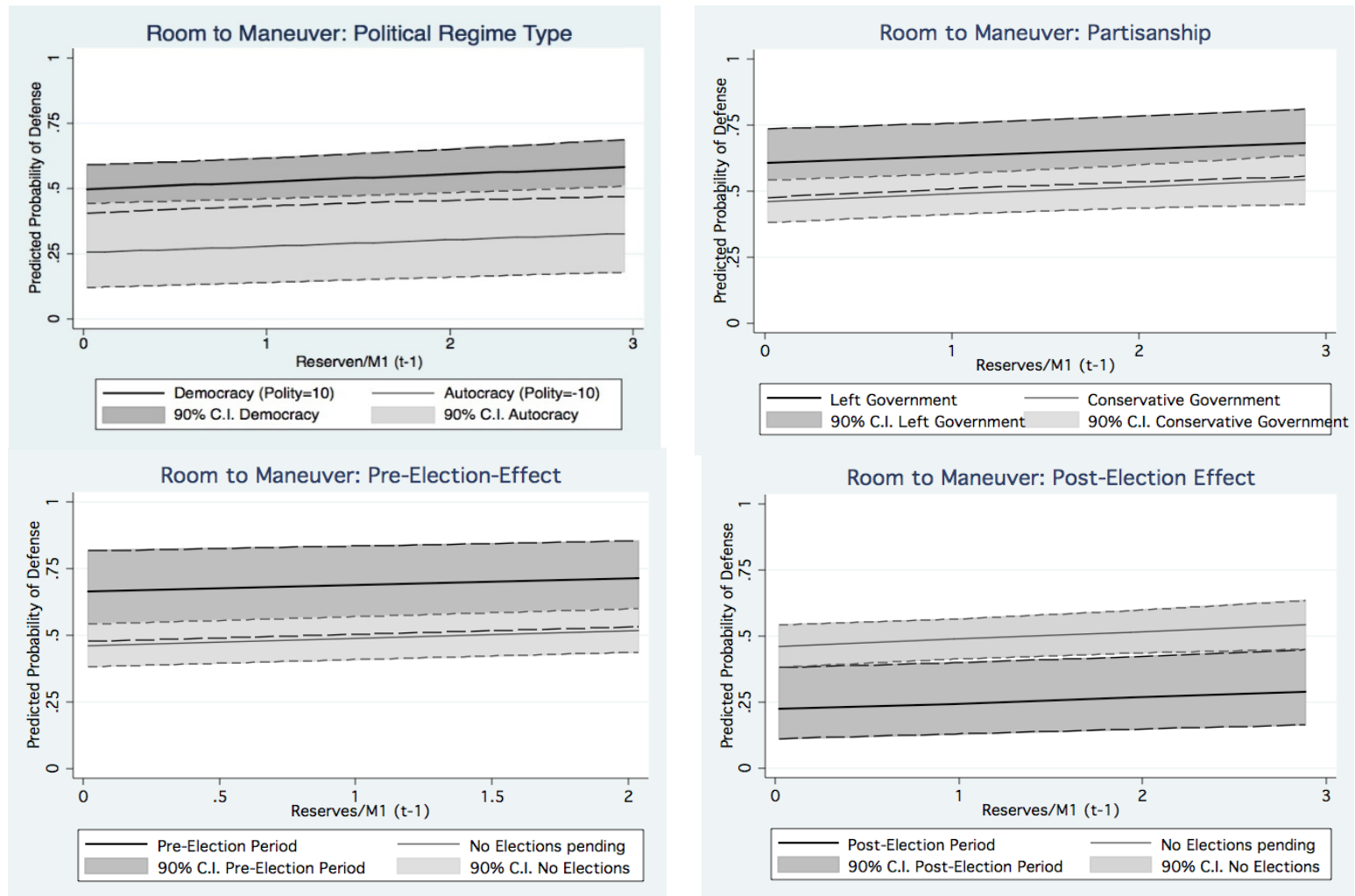
Figure 3 shows that the predicted probabilities of a defense for different values of the political-institutional variables (given pre-specified economic conditions) diverge considerably. As an example, the probability of a defense is considerably larger for democratic governments than for autocratic governments. When reserves are low, the probability of a defense is 26% (35.9% for a high reserve level), holding other economic and political conditions constant. The same probability increases to 50.3% (61.5%) when the political regime is democratic. Since all government characteristics except political regime type are held constant, this results implies that political considerations lead to this difference in predicted probabilities.

The difference between the predicted probabilities for the two regime types (as indicated by the arrows in figure 3) shows the range that includes the possible reactions by the government and thus represents the government's room to maneuver. Within the two curves, governments can choose their willingness to defend depending on their economic policy preferences. The size of this room is considerable, at least in the short run. The difference between the predicted probabilities of defense for very autocratic and very democratic regimes is 24.7% (25.6%), for instance, showing that governments can choose distinct monetary and exchange rate policies even under economically very difficult conditions. For the other variables, the estimated room to maneuver (i. e. the difference between the two solid lines) varies between 10.7% for diverging partisan preferences and 23.7% for post-election versus non-election periods.²⁷

The confidence bands, however, suggest that some of the estimation results are characterized by substantial uncertainty. However, the confidence intervals do not include the estimated probability of defense for the reference value of the respective political variable in any of the four analyses. As an example, the point estimate for the probability of defense before elections does not lie within the confidence interval of the point estimate for the probability of defense in non-election periods, and vice versa. Moreover, we used a rather conservative approach for our analysis in figure 3. The graphs are based on estimations, which show lower significance levels for the political variables compared to the other models in table 2. Similar analyses for the other models show more significant differences between the estimated probabilities and hence imply that the room to maneuver is larger than suggested by figure 3.

²⁷ For a substantive interpretation of these results, see section 3.2.2.

Figure 3: The Size of Short-Term Room to Maneuver During Currency Crises



5. Conclusion

Until now, political science research mainly examined how much globalization restricts the long-term policy autonomy of national governments. In contrast, this study analyzes the short-term room to maneuver of governments in economic, and specifically monetary, policy by focusing on government reactions to currency crises. We show that governments can choose among different policy options, at least in the short run, even in situations where the policy autonomy of politicians generally is considered to be highly restricted. In almost half of the cases we investigated, government defended its exchange rate against speculative pressure by international financial markets. More importantly, we show that the government's choice to defend or to devalue the currency not only depends on economic factors, but to a large extent depends on political considerations by the government. A comparison of predicted government behavior for different political constellations shows that the estimated probability of a defense can vary by up to 25%. This suggests that the short-term room to maneuver, which governments enjoy, is considerable.

This does not mean that the government's choice set is not restricted in the long run. To avoid the risk that the crisis resumes in the medium and long term, governments have to pursue market-friendly, i. e. restrictive, monetary and fiscal policies after a successful exchange rate defense. If the government does not consolidate its economic position by following a more orthodox approach after the crisis, it remains vulnerable from speculators' point of view. In this case, it is likely that market participants will test the government's resolve to defend the exchange rate again later. Exchange rate defenses without simultaneous economic adjustments thus are economically costly and socially questionable. This means that governments continue to enjoy room to maneuver in economic policymaking, but this room is temporally restricted. Finally, our study shows that in this context policymakers' preferences not only matter, but also that the policy autonomy of politicians depends on the institutions that these actors face.

Some institutions, e. g. central bank autonomy, have a twofold effect, however. On the one hand, they positively influence the degree of policy autonomy that economic policymakers have. On the other hand, they are designed in a way that they constrain the public's ability to hold policymakers accountable for their decisions. This raises the question to what extent room to maneuver in open economies and political participation in democratic political systems are compatible. Greater policy autonomy implies that governments are better able to design economic policy according to the preferences and desires of the public. But it seems to be necessary to isolate economic policy from the government's and thus public influence, e. g. through central bank autonomy, to create this room to maneuver. This is not only the case in monetary and exchange rate

policy, but also for other institutions, such as the Maastricht Criteria for fiscal policy. If and how successful economic policy and democratic participation in certain policy fields are mutually exclusive, and how this tension can be resolved, should be addressed by future research.

Appendix

Table A1: Descriptive Statistics

	# Obs.	Mean	Standard Deviation	Min	Max
Reserves(t-1) / M1(t-1)	191	0.86	1.55	0.02	18.2
Growth(t-1)	191	0.16	0.29	-2.24	0.79
Inflation(t-1)	191	13.77	30.01	-10.13	343.57
GDP per Capita	191	6.15	6.74	0.12	29.63
Democracy	188	5.75	5.85	-10	10
Central Bank Indep.	82	0.39	0.16	0.17	0.78
Left Government	191	0.29	0.46	0	1
Pre-Election	191	0.11	0.31	0	1
Post-Election	191	0.08	0.28	0	1

Table A2: Devaluation Criteria Based on the de Facto Exchange-rate Regime Type (Reinhart and Rogoff (RR) Fine Classification)

	Coded as devaluation if...	
	...depreciation in one of the 6 months following the speculative attack exceeds	...overall depreciation after the speculative attack exceeds
Preannounced Peg (RR 2)	1%	1%
Preannounced Horizontal Band (RR 3)	2%	2%
De Facto Peg (RR 4)	2%	2%
Preannounced Crawling Peg (RR 5)	2.5%	5%
Preannounced Crawling Band (RR 6)	2.5%	5%
De Facto Crawling Peg (RR 7)	4%	8%
De Facto Crawling Band (RR 8)	4%	8%
Preannounced Crawling Band (5%) (RR 9)	5%	10%
De facto crawling band (5%) (RR 10)	5%	10%
noncrawling band (2%) (RR 11)	5%	10%

Source: Reinhart and Rogoff (2004)

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