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Does Exchange Rate Regime, Political Stability, and Capital Controls Influence the Currency Crisis

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Abstract
This study used the probit models to examine the relationship between exchange rate regime, political stability, and capital controls on currency crises. Dataset is based on 1996 to 2020 over the currency crisis episodes in 23 high-income countries and 25 middle-income countries, and the total observation annually is 1200. Recent empirical studies have mixed results and argue that the relationship is expected to depend on capital controls and political stability both with the exchange rate. The analysis provides impressive results for fixed exchange rate and capital controls are negatively associated with crisis, significantly less stable governments. The results strongly support that floating exchange rate and (open) economies are negatively associated with crises and lower the risk of crisis, remarkably more stable political governments. (Open) economies and floating exchange rates are positively associated with a currency crisis and more prone to a currency crisis, exceptionally less stable political governments.

***KEYWORDS*:** currency crisis, exchange rate regime, capital controls, political stability

1. Introduction

A speculative assault on the currency's foreign exchange rate either generates a significant loss of the currency's value or raises interest rates. The currency value depreciates in a successful assault. Still, a failed assault may not affect the present value but may increase the domestic interest rate or result in the loss of foreign exchange reserves. A speculative attack will lead to a sharp deprecation a robust monetary policy may depend on the currency value. A currency crisis is defined as a situation in which a country's exchange rate depreciates or reduces foreign exchange reserves. These situations combine to occur for a short period (Burnside; et al.,

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2001);(Glick & Hutchison, 2013). The currency crisis has alwaysbeen featured in the international monetary system, dramatic currency crisis episodes including the breakdown of the Bretton wood system in 1971-73. The British pound crisis in 1976, the breakdown of the European exchange rate mechanism in 1992-93, Mexico's peso devaluation in 1994-95, the Asian crisis in 1997-98, and the financial crisis in 2008-09, which forced sharp deprecations in many advanced and developing countries (Cardarelli et al., 2008). Three models of generations proposed for currency crisis the Latin American countries let to be the first generation model the second models emerged to resolve the breakdown of the European exchange mechanism. These first two-generation models fail, and the East Asian crisis led to the use of the third-generation models. However, the previous literature did not focus on developing another model for currency crisis but combining them in understanding the nature of the crisis.

The desirability towards the effectiveness of capital control has moved over time back and forth. At the time of the Bretton Woods,the command was used typically. As the postwar progressed, liberalization became the norm and dramatic increase in financial liberalization and reduced capital control. The rising propensity for an increase in capital inflows to abruptly cease caused the Asian and Mexican crises in the 1990s; it initiated revaluation of worldwide financial markets and the necessity of capital liberalization. Once again, it became a top trend, worldwide financial problem raiser. There has been much literature on the political economy of international finance;many determinants are focused on by choices of political governments about international financial policies. The exchange rate capital control macro-economic policies and behavior of the financial institutions,e.g., IMF and World Bank,are the reasons for a currency crisis. There is a debate for a long time and ongoing that capital controls are beneficial and effective in reducing the causes of a currency crisis. However, several empirical investigations were found that, on average, capital control has not only been ineffective in avoiding currency crises(Edwards, 2004); (Glick et al., 2006). There are three limitations of many of these studies. The first one is typically failed to consider the political stability factors that identify the success of the international financial policy. The second one is that the previous study did not study the control on capital flows between high-income and middle-income countries with political stability features. The third one is the exchange rate regime we used with capital control and political stability. These are reasons to believe the effects of capital control may different along with both these dimensions. Our study addresses these limitations by using the data set by (Schindler 2009) and (Fernández et al., 2015) that gives more details about capital control. We use this dataset to study the political stability effects and measures about currency crisis and exchange rate volatility fixed exchange rate and floating exchange rate capital control among the high income and middle-income economies.

This paper is organized as follows. Section 2 is about the literature review and hypotheses. Section 3 provides the research methodology and data used to test hypotheses—section 4 Results and discussions. Moreover, many robustness tests are also explaining in this section. Finally, section 5 is about conclusions.

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2. Literature Review

Theoretical Literature: There are three generations of currency crisis models first, second and third generation. The first model focused on the exchange rate commitment and the government budget deficit monetized. The government must reduce assets in sell-out foreign reserves or remove the imbalance barrow to finance. However, it is hard to sell foreign reserves or borrow to finance. Without fiscal reforms to remove the imbalance, money in the market to finance the deficit excess generates inflation. Keeping a fixed exchange rate is inconsistent with first-generation models; therefore, the regime is unavoidable must collapse (Krugman, 1979).

In second-generation models of the currency crisis, Obstfeld (1988) suggests that policymakers need to defend currency cost and benefits criteria while the cost of doing is exceeded from its benefits willing to give up the prescribed exchange rates. In these models, the problem or doubt is whether the target exchange rate can lead to an equilibrium government willing to maintain that regime. Even though current policies are not inconsistent with the target exchange rate, a currency attack can occur and happen. This is because of the increase in domestic interest rates and rising costs of banking funds to maintain certainly or target exchange rate level. Higher interest rates and weak domestic employment or banking conditions are more likely to generate a speculative currency attack.

Third-generation models focus on how the distortion of the banking system and financial market can lead to currency crises. Third-generation models discuss various things which can lead to a crisis. Aghion et al.(2001) raise the credit constraint cost of foreign currency debt presumption of the firms and lower profits due to initial depreciation of a currency limiting the borrowing power when credit is constrained. These limitations of borrowing may decrease the demand for domestic currency and generate a currency crisis.

Empirical literature exchange rate regime and currency crises: The probability of a currency crisis has been observed in the empirical literature. The question is that what type of exchange rate regimes is prone to currency crisis or avoiding currency crisis fixed exchange rate regime or floating exchange rate regime. Some empirical investigations studied the relationship between currency crises and exchange rate regimes using different methods and datasets (Bubula and Robe 2003; Esaka 2010; Haile & Pozo 2006; Husain et al. 2005). Ghush (2003) took the dataset of IMF member countries from 1972 to 1999 and concluded that the probability of currency crisis is higher in a floating exchange rate regime. Some researchers used the probit model to investigate the probability of currency crises (Berg & Pattillo 1999; Eichengreen et al. 1996; Frankel 2005; Frenkel and Rose 1996;Furceri et al. 2012; Tunio et al. 2020; Komulainen & Lukkarila 2003; Kruger et al. 2000;Licchetta 2011; Zhao et al. 2014).

Before investigating the empirical literature, it is essential to differentiate between currency crisis and currency crashes are different concepts. A currency crash is defined when a certain threshold of 15 % depreciates the nominal exchange rate. When a country has high

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inflation, and a successful speculative attack occurs, and the country goes to a bailout package from IMF or World Bank, we study currency crisis, not currency crash. Eichengreen et al.(1996) investigated currency crises Kruger et al.(2000) using 20 developing economies dataset and investigate that dummy variable for currency crisis and real exchange rate overvaluation has significant relationships and effects on the probability of currency crisis. Licchetta(2011) examined that real GDP growth, debt to GDP ratio, and real exchange rate affect the currency crisis's probability. Frankel(1999) found that Mexico, Thailand, Indonesia, Korea, Russia, or Brazil formally always claimed for pegged, but in actual they are not when a crisis hits. Chang & Velasco(2000) investigate the relationship between exchange rate regime and financial fragility, comparing fixed rates and flexible rates.

A fixed exchange rate is more likely to balance of payment crisis and exchange rate crisis. Aghion et al.(2001) argued that currency crisis occurs in both fixed exchange rate and flexible exchange rate regime since identified the primary source of currency crisis deteriorating private firm balance sheet. They suggest that a small shock hit the economy may be no change in the exchange rate. Still, if large shocks hit the economy, the initial exchange rate regime does not prevent a currency crisis. Calvo & Mishkin(2003) suggested that the risk of misalignment to exchange rate was one of hard exchange rate pig and threat. They also added that no exchange rate regime protects the macroeconomic turbulence. They also suggest that the regime is the second important, the primary one is the financial reforms, and trade openness will protect from a currency crisis.

Capital Control and Currency Crisis: Many economists have argued and debate on capital controls since the currency crisis of Mexico in 1995, East Asia in 1997, Russia in 1998, Brazil in 1999, and Argentina in 2001. Some view such crises as the cause of weak fundamental economic indicators such as current account deficits and excessive external borrowing over investment. However, the main problem is that there is no proper regulation governing and excessive international capital flows in these countries. Restriction on capital flows is expected to avoid speculative assault, especially in developing economies. Using capital moments as a policy instrument in response to reduce the volatility of macroeconomic is not new. Eichengreen et al.(1995b) analyzed that a capital moment might speculate to be reduced in the international currency market due to tax on foreign exchange. Some researchers such as Forbes(2003), Eichengreen & Wyplosz(1993), and Eichengreen et al.(1995b) measured the effect of capital controls inflow for the short term and long term.

Further, analyzed that the tax is applied to all countries to discourage so short-term simultaneously Binici et al.(2009), using the 74 countries dataset, investigate that capital control may affect the composition and volume of capital flows. Glick & Hutchison(2011), employing a panel dataset of 69 emerging/developing economies, investigates the effectiveness of capital restriction from the currency crisis and suggests that capital control has not effectively avoided currency crisis, especially in disconnected economies at any time.

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Under these situations, and a standard policy method imposes on capital flows and some other foreign payments with the hope of disconnecting countries from speculative attacks that generate currency stability. Capital control is a significant policy adoption to limit the larger capital flows, and IMF now focuses more on that than in the past (Ostry et al., 2010). Some study individual country experiences suggest that for disconnect economies capital flows volatility and excess exchange rate capital control is an essential tool. (Rodrik, 2002) argue that capital controls were a better alternative to the country that had adopted an IMF program. Capital control was better and effective during the financial crisis in 1998 in Malaysia.

Empirical literature was not clear enough to manage real exchange rates in capital control economies (Engel 2015;Magud et al. 2011). Some empirical studies, such as Valdés-Prieto & Soto(1998), De. Gregorio et al.(2000), Forbes(2003), and Gallego et al.(2002) analyzed Chile's to prevent the unwanted foreign exchange rate apperception with capital control. The result to limit the short-term capital flows to stabilize the economy. At the same time, most of the investigations suggest that Chile's capital controls had meaningful effects, either short-term or minimal impact on the real exchange rate. Studies of Levy-Yeyati et al.(2008), Baba and Kokenyne(2011), Klein(2012), Jinjarak et al.(2013), Alfaro et al.(2014), Forbes et al.(2015), and Tunio et al. (2021). For example (Baba and Kokenyne, 2011) study the emerging market three different periods in the 2000s and the effects of capital controls on during different events, tax on foreign exchange in Brazil 2008, Thailand 2006 to 2008, and URRS in Colombia 2007 to 2008, and one event where is no restriction of capital outflow in South Korea 2005 to 2008. During the 2000s, the control shows that the overall volume of flows is lowered in Colombia and Thailand. Capital controls also give Brazil and Colombia to preserve their monetary policy independence, although it was temporary. But in conclusion, their results show no evidence that capital controls were influence successfully in the real exchange rate in any country. Haile & Pozo(2006) examine 18 developed economies' datasets from 1974 to 1998 using the IMF classification and de facto database. They examine either the exchange rate regime affect the occurrence of a currency crisis.

Political Stability and Currency Crisis: The weak political government threatens instability and bad performance, poor financial and economic policy adoptions. There is more clear evidence that a weak political government contributes significantly to a currency crisis. In general, a less stable political government trend generates trouble about government objectives and policy-making for financial markets. Edwards & Santaella(1993) investigate 48 countries that availing and without avail the IMF program during the Bretton Woods period (1954-1971). Names use for political variables consist of 'political unpopularity,' political violence, democracy, and ideology, coups, barely knowing how those political variables affected the country requesting to availing the IMF program. Eichengreen et al.(1995a) investigate how political variables, holding constant macroeconomic variables, cause the probability of currency crisis;their sample consists of twenty industrial countries (1959-1993). In general, they fail to find the relation between exchange rate periods and political scenarios. Moreover, they only

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focus on industrial economies; this article focuses on middle-income and high-income economies; it is well known that the less stable government, the greater instability.

Klein and Marion(1997) investigate political variables with an exchange rate peg sample from Latin American economies. They find that the irregular transfers are statistically related to the removal of the exchange rate peg. Frieden et al.(2000) focus on the political variables. Findings suggest that government strength and national executive changes combine effect on timing devolution and exchange rate regime sample from Latin American economies. Mei(1999), Bussire and Mulder(2000),Leblang(2001)and Tunio and Nabi (2021) focuses on political variables, and empirical investigations are a primary variable with a currency crisis. Mei(1999) focused on the financial crisis and election to find a statistical relationship between these two variables and dataset from (1994-1997) annual observations and uses political risk to put the only election as a dummy variable. Leblang(2001) investigated that in developing economies during elections, uncertain attacks are sporadic, and a combined government has the strength to avoid uncertain attacks. Bernhard & Leblang(2002) investigate some industrial economies and found no link between exchange rates and bias. It may follow from uncertain attacks by exchange currency traders in political government's changes, especially in developing economies. Leblang(2002)study on developing economies during election times found very rare, more likely left-wing rather than right-wing necessary, and post-election rather pre-election time frame. Unstable and weak political governments cannot make robust decisions to avoid currency crises (Chiu & Willett 2009;Schamis & Way 2003). The World Bank indicators were commonly used for the technical quality and effectiveness of the governments (Kurtz & Schrank, 2007). Some other study measures are used for government stability (International Country Risk Guide, 2013). Herrera et al.(2014) studied that public ICRG variables capture very well shift. Shimpalee & Boucher(2006) and Chiu & Willett(2009) study that a currency crisis risk probability is higher where political stability is weak. Chiu & Willett(2020) they investigate 56 economies from 1995 to 2015 and find that controls on outflow cause more crisis where less stable governments, and for controls of inflow reduces the risk of currency crisis where strong political and stable governments.

In other words, we should not only focus on the exchange rate and political stability with capital controls for currency crisis we also test the relationship and linkage between these variables. For less stable governments would be more effective to use fixed exchange rate and enforcing capital control restrictions more likely to restrict controls. For these reasons, we develop three hypotheses.

H1: Unstable government increases the risk of a currency crisis.

H2: A less stable government with a fixed exchange rate and restrictions on capital control reduces the risk of a currency crisis.

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H3: A stable government with a floating exchange rate and no restriction on capital controls reduces the risk of a currency crisis.

3. Research Methodology and Data Design

3.1. Data and variables

The dataset consists of 48 counties, 23 high-income countries, and 25 middle-income countries from 1996 to 2020 annual observations. Our primary dependent variable is currency crisis based on EMP (Eichengreen et al. 1996). For capital control we used IMF data based on (Fernández et al., 2015) index. For the exchange rate regime, we used the index of (Levy-yeyati & Sturzenegger, 2016). Use one-year window threshold standard deviations as is expected in the previous literature. For political stability, we used the World Bank data worldwide governance indicators such aspolitical stability variables, control of corruption, and absence of violence, regulatory quality, the voice of accountability. For control variables, we used the World Bank WDI dataset.

Defining currency crisis: A currency crisis is defined as significant changes captured in exchange market pressure in an index; an average weighted yearly exchange rate change is called a currency crisis. We use a minimum 10 percent depreciation rate increase concerning last year and the depreciation rate below 10 percent concerning the previous year. In addition, we used binary numbers 1 for the crisis episode for yes and 0 for no crisis based on yearly data analysis observations. In comparison, the use of annual data for the exchange rate pressure index to identify every annual occurrence of currency crisis for each country using 48 high-income and middle-income economies of a sample.

3.2. Model specifications

Many rounds of probit and logit regressions are using panel models to define the interactions between exchange rate regimes with political stability, capital controls, and the probability of currency crisis.

Our model of study is defined as:

Model 1: $\text{Prob}(\text{Crisis}_{i,t-1}) = \beta_0 + \beta_1 \text{FIX}_{i,t-1} + \beta_2 \Sigma \text{PS}_{i,t-1} + \beta_3 \Sigma \text{Wi}_{i,t-1} + \mu_{i,t}$

Model 2: $\text{Prob}(\text{Crisis}_{i,t-1}) = \beta_0 + \beta_1 \text{FIX}_{i,t-1} + \beta_2 \text{FLOAT}_{i,t-1} + \beta_3 \text{CC}_{i,t-1} + \beta_4 \text{OPEN}_{i,t-1} + \beta_5 \Sigma \text{PS}_{i,t-1} + \mu_{i,t}$

Model 3: $\text{Prob}(\text{Crisis}_{i,t-1}) = \beta_0 + \beta_1 \text{FIX}_{i,t-1} + \beta_2 \text{CC}_{i,t-1} + \beta_3 \text{OPEN}_{i,t-1} + \beta_4 \Sigma \text{PS}_{i,t-1} + \beta_5 \Sigma \text{Wi}_{i,t-1} + \mu_{i,t}$

Model 4: $\text{Prob}(\text{Crisis}_{i,t-1}) = \beta_0 + \beta_1 \text{FLOAT}_{i,t-1} + \beta_2 \text{CC}_{i,t-1} + \beta_3 \Sigma \text{Wi}_{i,t-1} + \mu_{i,t}$

$\text{Crisis}_{i,t}$is a currency crisis dummy variable taking a value of 1 in a crisis year for any country i at time t, and 0 if there is no crisis. FIX mean Fix exchange rate FLOAT stand for floating exchange rate (CC) means capital controls(open) means no capital controls(PS) stand for

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political stability refers to our four primary variables (PS.CC) government stability control of corruption and (PS.AV) political stability absences of violence (PS.RQ) political stability regulatory quality (PS.VA) political stability voice and accountability. Moreover, Wi stands for macroeconomic variables, for example, exports,inflation, imports, Interest rate, current account,Broad money growth rate, reserves, Unemployment, GDP, μ stands for the error term.

3.3. Variables Framework

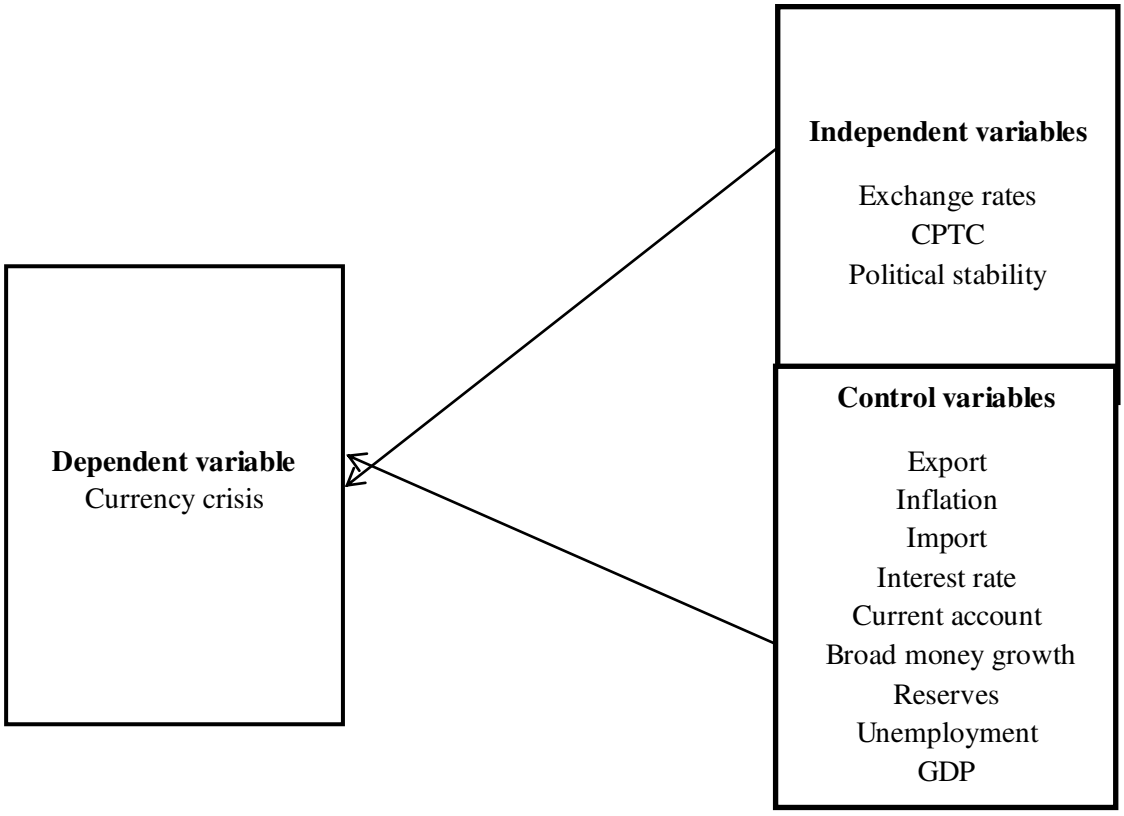

Table one provides the detail, measure, and sources of variables; it contains currency crisis as a dependent variable and is measured by the index of (Eichengreen et al. 1996). Independent variable contains the fix, floating Exchange rates, capital control, and open, and proxy of political stability (control of corruption, regulatory quality, absence of violence and voice and accountability). At the same time, the rest of the variables are used to control the significant level of study.

Table 1: Details summary of variables

Variables	Symbols	Measurement	Sources
Currency Crisis	Crisis	(Eichengreen et al. 1996)	Author Calculation
FIX Exchange Rate	Fix ER	Levy-yeyati & Sturzenegger,	Author

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		2016	Calculation
FLOAT Exchange Rate	Float ER	Levy-yeyati & Sturzenegger, 2016	Author Calculation
Capital Control	CC	(Fernández et al., 2015) Index	Author Calculation
Open	OPEN	(Fernández et al., 2015) Index	Author Calculation
Political stability	PS.CC	Control of Corruption: Number of Sources	WDI World Bank
Political stability	PS.RQ	Regulatory Quality: Number of Sources	WDI World Bank
Political stability	PS.AV	Absence of violence: Number of Sources	WDI World Bank
Political stability	PS.VA	Voice and Accountability: Number of Sources	WDI World Bank
Exports	EX	Exports of goods & services (annual % growth	WDI World Bank
Inflation	INF	Inflation, consumer prices (annual %)	WDI World Bank
Imports	IMP	Imports of goods & services (annual % growth	WDI World Bank
Interest rate	IR	Deposit interest rate (%)	WDI World Bank
Current account	CA	Current account balance (Bop, current US$)	WDI World Bank
Broad money growth	BRMG	Broad money growth (annual %)	WDI World Bank
Reserves	RESV	Reserves and related items (Bop, current US$)	WDI World Bank
Unemployment	UNEM	Unemployment, (% of the total labor force)	WDI World Bank
Gross domestic product	GDP	Growth (annual %)	WDI World Bank

4. Results and Discussion

Table 2 below provides the details ofdescriptive statistics. It shows the mean, standard deviation, minimum and maximum of dependent and independent and control variables, and observations. The mean of crisis is about 0.394, Min: 0 and Max: 1. simultaneously, the mean of

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our independent variables are noted as exchange rate 1.73, Min: 1 and Max: 3, and capital control Mean 1.69, Min: 1, and Max: 3. For Political stability, it contains four sub-variables, control of corruption, regulatory quality, absence of violence, and voice and accountability. Mean recorded as 1.31, 069, 1.27, and 0.739, respectively. For Min: -0.331, 0.693, 0.527, and 0.923 correspondently, and Max noted as 2.46, 2.42, 2.22, and 1.80 respectively.

Table 2: Descriptive statistics

Variable	Mean	Std. Dev.	Min	Max
Crisis	0.39	0.489	0	1
Exchange rates	1.73	0.666	1	3
CPTC	1.69	0.460	1	3
PS.CC	1.31	0.734	-0.331	2.46
PS.AV	0.69	0.693	-4.50	2.42
PS.RQ	1.27	0.527	-0.173	2.22
PS.VA	0.73	0.923	-1.57	1.80
EX	4.59	6.81	-23.4	39.2
INF	2.15	2.50	-4.86	24.9
IMP	5.82	9.42	-31.7	57.9
IR	2.60	0.884	0.024	5.68
CA	46.5	3.69	31.2	54.8
BRMG	3.12	1.32	-4.62	9.69
RESV	20.7	7.14	-51.6	26.6
UNEM	57.9	3.78	-18.4	26.9
GDP	2.90	3.68	-15.8	26.1
NO.OBS	1200	1200	1200	1200

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Table 3: Co-efficient of co-relation Matrix for high-income

	OPEN	FIX	FLOAT	PS.CC	PS.AV	PS.RQ	PS.VA	EX	INF	IMP	UNEM	GDP	RESV	CA	CON
OPEN	1.000														
FIX	0.060	1.000													
FLOAT	-0.094	0.736	1.000												
PS.CC	0.032	-0.14	-0.106	1.000											
PS.AV	-0.257	0.1144	0.2879	-0.199	1.000										
PS.RQ	-0.119	-0.141	-0.2242	-0.671	0.1951	1.000									
PS.VA	- 0.04	0.024	0.0202	-0.055	-0.444	0.4711	1.000								
EX	0.057	0.015	-0.0162	0.0758	-0.079	-0.055	-0.001	1.000							
INF	0.083	0.048	0.2009	0.0497	0.2232	0.0173	-0.194	-0.10	1.000						
IMP	0.015	-0.033	0.0480	-0.099	-0.058	0.0557	0.0512	-0.44	0.049	1.000					
UNEM	-0.115	0.077	-0.1055	0.3060	0.1531	0.0302	-0.576	-0.13	-0.02	-0.05	1.000				
GDP	0.0540	-0.063	-0.0912	0.1455	0.0150	-0.113	0.0054	-0.29	-0.05	-0.33	0.134	1.000			
RESV	0.0159	0.0528	0.0873	-0.125	-0.061	0.0515	0.1638	0.030	0.092	0.182	-0.194	-0.08	1.000		
CA	0.0954	0.1028	-0.2344	-0.008	0.0342	0.1356	-0.349	-0.01	-0.05	-0.06	0.4194	0.108	-0.29	1.000	
CON	-0.055	-0.227	0.101	0.066	-0.087	-0.275	0.4331	0.013	-0.08	-0.00	-0.44	-0.10	-0.87	0.159	1.000

In table 3, above the correlation matrix for high-income economies, the relationship with open and fix exchange rates are positive, which shows fix exchange rate is prone to a currency crisis. Meanwhile, floating exchange rates are negative correlation with open means floating exchange rate is reducing the probability of currency crisis. Political stability is negatively correlated with open means less prone to the currency crisis. Control variables unemployment is negative correlate with open.

Below, table four reports the results of widely used unit root measures. Before using the probit model, it is mandatory to scrutinize each variable's unit root. The variables used are not stationary at I (2); otherwise, the findings scrutinized would prime to apprehensive results. The null hypothesis of Levin-Lin—Chu Fisher Chi-square tests are that the unit root (non-stationary) is the underlying series. These tests indicate a unit root at the level including all dependent, independent, and control variables, whereas these factors have mixed unit root at the level. There is no root unit for all variables; instead of some variables of political stability, such as regulatory quality, absence of violence, voice and accountability, and one variable control reserves, are significant at first difference. The conclusions of the Harris-Tzavalis is a unit root test, validate that both the variables. The level stationary at I(0) while no unit root is at I(I). Simultaneously, they are stationary at level I(0).

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Table 4: Penal Unit Root results

Variable	Levin-Lin-Chu			
	Level		First difference	
	T-test	P- value	T-test	P- value
Crisis	-2.390	0.000	-13.700	0.000
E. rates	-5.270	0.000	-16.600	0.000
PS.CC	4.270	0.005	-9.150	0.000
PS.RQ	6.260	1.000	-12.700	0.000
PS.AV	7.820	1.000	-11.500	0.000
PS.VA	3.900	1.000	-11.200	0.000
EX	-7.930	0.000	-23.900	0.000
INF	-4.400	0.000	-20.100	0.000
IMP	-8.730	0.000	-25.400	0.000
IR	-4.200	0.000	-13.900	0.000
CA	-1.770	0.037	-19.800	0.000
BRMG	-3.880	0.000	-24.800	0.000
RESV	0.500	0.691	-23.200	0.000
UNEM	-2.180	0.014	-11.300	0.000
GDP	-7.134	0.000	-24.600	0.000

In table 5, Fix exchange rates are negatively associated and statistically significant for middle-income. Moreover, the interaction of capital controls with political stability negatively associated and statistically significant relationship with the probability of a currency crisis. On the other hand, float exchange rates are positively associated and significant sign for middle-income economies with open economies, the interaction of floating exchange rate and open economies are positive and statistically significant relationships with the probability of a currency crisis. In table 5, we use the robustness test for middle-income economies. Column 1 fix exchange rate shows negative coefficient and significant value with political stability variables PS.RQ and PS.VA both have negative coefficients and statistically significant values with a probability of currency crisis.

Table 5: Robustness Results

	1 Crisis	2 Crisis	3 Crisis	4 Crisis
FIX	-.961*** (.136)	-.921*** (.138)	-.973*** (.138)	

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FLOAT		.708*** (.116)		.759*** (.121)
CC		-.444*** (.139)	-.302** (.150)	-.458*** (.150)
OPEN		.247*** (.129)	.467*** (.147)	
PS.CC	-.415 (.274)	-.109 (.247)	-.187 (.251)	
PS.AV	-.048 (.350)	.971** (.420)	1.34*** (.431)	
PS.RQ	-1.30** (.535)	.380 (.552)	.442 (.540)	
PS.VA	-.583* (.303)	-.778** (.321)	-.928*** (.347)	
EX	-.094*** (.033)		-.098*** (.034)	-.088*** (.034)
INF	.073 (.052)		.063 (.052)	.071 (.052)
IMP	-.012 (.028)		-.005 (.028)	-.007 (.028)
IR	.080 (.089)		.138 (.102)	.191* (.098)
CA	-.005 (.053)		.032 (.043)	.015 (.050)
BRMG	.132 (.046)		.136*** (.047)	.147*** (.047)
RESV	.020*** (.037)		.024 (.037)	.030 (.038)
UNEM	.020 (.058)		.056 (.061)	.056 (.061)
FIXED EFF	Yes	Yes	Yes	Yes
NO.OBS	625	625	625	625

Note: Standard errors are presented in columns (1) and (4) in parentheses robustness check by probit model. Significance levels: *10%, **5%, ***1%.

Export has a negative sign, and significant value reserve has positive coefficient and significant value with a probability of currency crisis. In column 2, Table 5 shows that the fixed exchange rate and capital control coefficient are negative and significant, while the floating

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exchange rate and the open coefficient are positive and significant. Political stability variables political stability absences of violence have positive and significant relation political stability voice of accountability has a negative and significant relationship with the probability of a currency crisis. In Colum 3 and 4, fixed exchange rate and capital controls are negatively associated, while floating exchange rates and open are positively associated with the probability of a currency crisis. Control variable BRMG is positively associated.

For middle-income economies, the crisis episodes are more than the high-income economies for middle-income crisis episodes are 400, and high-income had 250 episodes. In table 6, Colum 1 to 4, the estimation coefficient of political stability variables was positive and significant, and one had a negative and significant relationship. Political stability with the interaction of open economies and floating exchange rates the coefficient of the open and floating exchange rate with political stability variable is positive and statistically significant with the probability of a currency crisis. It suggests and supports our *H1* that instability and weak political government have more crises when we interact with floating Exchange rate and open economies probability of a currency crisis has positively and significantly. The crisis episodes also suggest that for middle-income economies, the crisis episodes are more than high-income.Meanwhile, results suggest that weak political governments with the floating exchange rate and political stability positive sign show that the less stable government cause more crisis trend to experience.

For middle-income economies, when we put capital controls with the fixed exchange rate and interaction of political stability, the coefficients are negative and statistically significant with a probability of a currency crisis. On the other hand, except for one variable of political stability had a positive sign which suggests that for middle-income economies, the open economies and floating exchange rate have more crisis than capital controls and fix the exchange rate.

We compute four variables for political stability while capital controls having ten indicators to analyze the probability of currency crisis, and exchange rates have three indicators. We are focusing on only two of them.For the middle-income, the political stability variables political stability absences of violence and political stability voice of accountability have a statistically significant sign PS.AV has a positive coefficient during PS.VA a negative coefficient

Table 6: Probit&Logit Estimations for Middle-income countries

	1 **Probit**	**2** **Probit**	**3** **Probit**	**4** **Probit**
FIX	-.973*** (.138)	-.973*** (.149)	-1.70*** (.244)	-1.62*** (.292)
FLOAT	.744*** (.122)	.744*** (.134)	1.25*** (.206)	1.23*** (.221)

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CC	-.302** (.150)	-.458*** .134	-.786*** (.256)	-.548*** (.201)
OPEN	.379*** (.154)	.467*** (.087)	.753*** (.242)	.620*** (.165)
PS.CC	-.268 (.250)	-.109 (.194)	-.456 (.402)	-.456 (.251)
PS.AV	1.14*** (.430)	.971*** (.433)	1.88** (.740)	1.88** (.734)
PS.RQ	.577 (.519)	.380 (.456)	1.05 (.882)	1.05 (.676)
PS.VA	-.820*** (.327)	-.778*** (.273)	-1.41*** (.539)	-1.41 (.456)
EX	-.092*** (.033)	-.098*** (.029)	-.156*** (.057)	-.156*** (.054)
INF	.107** (.052)	.097** (.046)	.185** (.089)	.185** (.077)
IMP	-.007 (.029)	-.005 (.020)	-.016 (.050)	-.011 (.035)
IR	.207** (.095)	.191** (.078)	.347** (.167)	.334** (.139)
CA	-.024 (.049)	.032 (.055)	-.035 (.090)	.056 (.092)
BRMG	.131*** (.052)	.136*** (.041)	.229** (.096)	.256*** (.070)
RESV	.019 (.034)	.024 (.037)	.036 (.060)	.057 (.059)
UNEM	.079 (.061)	.079* (.033)	.134 (.102)	.132* (.059)
FIXED EFF	Yes	Yes	Yes	Yes
NO.OBS	625	625	625	625

Note: Standard errors are presented in columns (1) and (3) in parentheses. Standard errors clustered at the country level are presented in columns (2) and (4) in parentheses by using probit (1-2) &logit (3-4) models. Significance levels: *10%, **5%, ***1%.

In open economies floating exchange rates suggests that political stability variables with open economies and floating exchange rate affect crisis and are prone to a currency crisis. Meanwhile, for middle-income capital controls with the fixed exchange rate and interaction of political stability variables, the coefficients of capital controls and fixed exchange rate have negative and statistically significant relationships with the probability of a currency crisis.

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Capital controls and fixed exchange rates with political stability variables have negative and significant relationships suggest that the probability of a currency crisis is less. It supports and proves our second hypothesis *H2*that an unstable government with a fixed exchange rate and capital controls lowers the risk and probability of a currency crisis. Control variables also have a vital role in this study. Export has a negative coefficient; statistically significant relationship with the probability of a currency crisis inflation,broad money growth rate,interest rate, and unemployment has positive coefficients and statistically significant relationships with a probability of a currency crisis. An export has the opposite relation with a currency crisis and inflation; broad money growth rate, interest rate, and unemployment positively correlate with the probability of currency crisis.

For high-income countries in table 7 below, fix exchange rate coefficients is a positive and significant relationship with the probability of currency crisis. The floating exchange rate is negative coefficients from Colum 1 to 4 and a significant relationship with the probability of a currency crisis. An open economy with no restriction on capital controls has negative coefficients and significant relationships with the probability of a currency crisis. Political stability variables have negative coefficients and significant signs. One variable has a positive and significant sign; results suggest that political stability variables negatively associate with the open and floating exchange rate, which means that a more stable political government, the currency crisis is less. Results suggest and support our third hypothesis *H3* that stable political governments with no restriction on capital controls open and floating exchange rate reduce the probability of a currency crisis.

For high-income economies, the fixed exchange rate has a positive coefficient that is more prone to crises. In contrast, the floating exchange rate has a negative coefficient that shows that the probability of a currency crisis is less prone. The interaction of fixed exchange rate with open is positive while the floating exchange rate has negative relationships.Political stability sub variables are significant. Political stability control of corruption has positive coefficients and significant values. In contrast, political stability, absence of violence,political stability regulatory quality,political stability voice of accountability have negative coefficients, and significant values suggested that strong political governments have less probability of a currency crisis.

Table 7: Probit&Logit Estimations for High-income countries:

	1 **Probit**	**2** **Probit**	**3** **Probit**	**4** **Probit**
FIX	.892*** (.148)	.892*** (.111)	1.40*** (.252)	1.40*** (.181)
FLOAT	-.777*** (.160)	-.777*** (.137)	-1.24*** (.269)	-1.24*** (.221)
OPEN	-.741***	-.699***	-1.29***	-1.23***

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	(.183)	(.113)	(.333)	(.218)
PS.CC	.807*** (.187)	.807*** (.107)	1.38*** (.313)	1.38*** (.196)
PS.AV	-.225** (.109)	-.183** (.086)	-.492** (.199)	-.492*** (.180)
PS.RQ	-.985*** (.286)	-1.16*** (.174)	-1.87*** (.521)	-1.87*** (.323)
PS.VA	-1.05*** (.179)	-1.10*** (.123)	-2.06*** (.398)	-2.06*** (.313)
EX	-.025* (.013)	-.021* (.012)	-.036 (.024)	-.036* (.021)
INF	-.046 (.029)	-.033 (.031)	-.078 (.052)	-.078 (.053)
IMP	-.000 (.011)	-.000 (.014)	-.001 (.020)	-.001 (.027)
GDP	-.004 (.022)	-.012 (.022)	-.002 (.038)	-.002 (.036)
CA	-.039* (.021)	-.031* (.021)	-.081** (.035)	-.081** (.039)
RESV	.033* (.017)	.037** (.016)	.076 (.050)	.076 (.047)
UNEM	-.004 (.022)	-.031 (.021)	-.029 (.043)	-.029 (.043)
FIXED EFF	Yes	Yes	Yes	Yes
NO.OBS	575	575	575	575

Note: Standard errors are presented in columns (1) and (3) in parentheses. Standard errors clustered at the country level are presented in columns (2) and (4) in parentheses by using probit (1-2) &logit (3-4) models. Significance levels: *10%, **5%, ***1%.

For high-income economies, the control variables have an important role in exports has negative coefficients and significant relationships with the probability of currency crisis. The current account has negative coefficients and significant relationships with the probability of a currency crisis. Reserve has a positive and significant relationship with the probability of a currency crisis. Results suggest that middle-income economies with less stable political governments and floating exchange rates with (open) economies have more prone to a currency crisis.

Our developed hypothesis proves that more political stability with open no restriction of capital controls floating exchange rate reduces currency crisis. Furthermore, our results suggest that for middle-income countries with capital controls and fixed exchange rates, less stable

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political governments are prone to a lesser probability of a currency crisis. In contrast, high-income economies' results suggest that open with a floating exchange rate is an excellent option to lower therisk of a currency crisis.

5. Conclusion

We strongly believe that our results are sufficient to support our expectation of the relationship and effect of the exchange rate regime, capital controls. Without the restriction of capital, controls open between high-income and middle-income economies undertaking account of the level of political stability.

Our results suggested that fixed exchange rates and capital controls are negatively associated with a currency crisis, which is more prone to lower the risk of currency crisis for middle-income countries with less stable political governments. Floating exchange rate and open economy are positively associated with currency crisis which is more prone to a currency crisis where political stability is less. Floating exchange rates open without restrictions on capital controls is negatively associated with decreasing the risk of currency crisis for high-income countries with more stable political governments. Fix exchange rate is positively associated with currency crisis for high-income economies where stable political governments are more prone to the currency crisis.Future research will be engaging with the energy consumption and CO2 emission for possible political economy reasons that would also be meaningful to investigate.

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