UNIVERSIDAD DEL CEMA
Buenos Aires
Argentina

Serie
DOCUMENTOS DE TRABAJO

Área: Economía

REGIME UNCERTAINTY AND EXCHANGE RATE DYNAMICS: A POLITICAL ECONOMY PERSPECTIVE

Emilio Ocampo y Nicolás Cachanosky

Septiembre 2025
Nro. 908

https://ucema.edu.ar/publicaciones/doc_trabajo.php
UCEMA: Av. Córdoba 374, C1054AAP Buenos Aires, Argentina
ISSN 1668-4575 (impreso), ISSN 1668-4583 (en línea)
Editor: Jorge M. Streb; Coordinador del Departamento de Investigaciones: Maximiliano Ivickas

Exchange Rate Dynamics Under Regime Uncertainty

Emilio Ocampo
Universidad del CEMA

Nicolás Cachanosky
Center for Free Enterprise
The University of Texas at El Paso
500 W. University Ave.
El Paso, TX 79968
ncachanosky@utep.edu

10-Nov-25

Abstract

Exchange rates reflect macroeconomic fundamentals, which in turn are regime dependent. In politically unstable countries, expectations of regime change can have a significant impact on exchange rate dynamics. We use Argentina's unexpected 2019 primary election results as a natural experiment to gauge the impact of a change in such expectations. When populist candidate Alberto Fernández's victory margin (15.6%) doubled pre-election polling predictions (7.2%), financial markets immediately recalculated the probability of a change in regime. Using parallel market exchange rates, we estimate the real exchange rate differential between populist and non-populist regimes exceeds 100%. This large gap creates extreme political sensitivity: an increase in the probability of regime change can trigger one-to-one change in the nominal exchange rate. Our findings help explain persistent exchange rate volatility in emerging economies and highlight the limitations of purely macroeconomic stabilization approaches when political sustainability is uncertain.

JEL Codes: E42, E52

Keywords: exchange rates, regime uncertainty, Argentina

1. Introduction

In an economy operating with flexible exchange rates (freely floating or dirty floating), the equilibrium exchange rate is a function of the underlying fundamentals. These in turn are partly dependent on the institutional and economic policy regime. In politically unstable countries in which changes in such regimes are frequent and abrupt, expectations of an impending regime change can have a significant and immediate impact on the nominal exchange rate. In the short run, regime uncertainty can have a significant impact on foreign exchange rate dynamics even in the absence of changes in macroeconomic fundamentals. Markets react, sometimes abruptly, to anticipated shifts in the institutional and economic policy regime.

The political and macroeconomic implications of this expectation-driven volatility are significant. Our analysis reveals that exchange rates in politically unstable countries are highly sensitive to regime uncertainty. In such countries, nominal exchange rate dynamics cannot be fully explained by macroeconomic fundamentals alone. For example, the evidence from Argentina, suggests that an increase in the probability of a regime change can trigger an almost one for one increase in the nominal exchange rate. This sensitivity is driven by a significant gap between the real equilibrium exchange rate under populist and non-populist regimes.

This paper argues that in such countries, the nominal exchange rate must be understood not only as a macroeconomic variable but also as a forward-looking indicator of regime durability. Given that alternative institutional economic policy

regimes imply substantially different long run equilibrium real exchange rate levels, foreign exchange markets price in expectations of regime reversal. This creates a channel through which political uncertainty directly affects nominal exchange rate dynamics, independent of current macroeconomic conditions. Argentina provides an ideal laboratory to test our hypothesis. Since World War II, the country has frequently alternated between widely different economic policy regimes.

We base our empirical strategy on a natural experiment: Argentina's August 2019 presidential primary elections (PASO). Although non-binding and solely designed to pre-select the candidate for each competing party, the market views the PASO as a large-scale semi-official opinion poll that serves as the best predictor of the presidential election held in October. In 2019, pre-election polls suggested a close race between incumbent Mauricio Macri (standing for completing the transition to a non-populist regime) and challenger Alberto Fernández (representing a return to populist policies). Fernández's margin of victory was approximately twice what polls predicted, creating a sudden and largely exogenous shift in regime change expectations that led to an abrupt and significant depreciation of the peso.[1]

This expectation shock provides a rare opportunity to isolate the effect of regime change expectations on exchange rate dynamics. The peso depreciated dramatically immediately following the election results, even before any actual policy changes

[1] In this paper, we use the term "populist" to identify Latin American left-leaning populist regimes. We are aware that a populism take different ideological positions.

occurred. Using exchange rates adjusted for parallel market premiums (which better reflect market-determined values under capital controls), we estimate that the equilibrium real exchange rate (RER^E) differential between populist and non-populist regimes exceeds 100%. The magnitude of the immediate market reaction demonstrates how regime expectations can create self-reinforcing dynamics that can destabilize both the exchange rate and political dynamics.

Our findings have important implications beyond Argentina. In any economy where changes between alternative institutional and economic policy regimes that imply substantially different equilibrium exchange rates are common, even small changes in the perceived probability of regime change can trigger large exchange rate movements. Under such scenario, typical macroeconomic stabilization measures may prove to be ineffective if they are not perceived by the market as being politically sustainable. The results also help explain why some emerging economies experience persistent exchange rate volatility despite apparently sound macroeconomic policies—political uncertainty can overwhelm economic fundamentals in determining market outcomes.

2. Conceptual Framework

2.1. Diverging Real Exchange Rates

In regime-switching economies, exchange rates reflect probability-weighted fundamentals: $E_t[RER^E] = pRER_P^E + (1-p)RER_{NP}^E$, where $E_t[RER^E]$ is the expected real exchange rate of equilibrium in period t, $p \in [0,1]$ is the probability of a populist regime

in the period t, and RER_P^E and RER_{NP}^E are the real exchange rates of equilibrium under a populist and non-populist regime.

The sensitivity of the expected real exchange rate of equilibrium to regime probability is very sensitive to the spread between the RER under each regime: $\partial E_t[RER^E]/\partial p = RER_p^E - RER_{NP}^E$. The term on the right is significantly greater than zero and changes in p can be abrupt and significant.

Following Olivera (1991), we distinguish between market equilibrium and social equilibrium. Although they are related, they are not merely two sides of the same coin. The set of relative prices that ensures market equilibrium may differ (sometimes substantially) from the set of prices compatible with social equilibrium. Deviations from market equilibrium prices trigger price movements to restore balance. Likewise, deviations from social equilibrium provoke political or institutional responses, which also induce price adjustments. This framework can be applied to foreign exchange markets.

Populist regimes tend to target exchange rates levels that maintain social equilibrium, i.e. that satisfy the distributive aspirations of key political constituencies, particularly labor unions. Non-populist regimes instead attempt to maintain exchange rate levels consistent with external sustainability and macroeconomic equilibrium. In normal circumstances, the RER required to maintain macroeconomic equilibrium is compatible with that required for social equilibrium. Gerchunoff and Rapetti (2016) argue that in Argentina, this equivalence does not hold due to an unresolved structural

distributive conflict. The RER_P^* systematically differs from RER_{NP}^*, which results in unstable equilibria.

Our key contribution lies in looking into how p_t (the perceived probability of regime change) responds to political shocks and drives exchange rate volatility. When $(RER_P^* - RER_{NP}^*)$ is large, even small changes in regime change expectations can trigger substantial exchange rate movements.

When the exchange rate is no longer floating and capital controls are present, this expectations channel operates through parallel exchange rate markets. The exchange rate in parallel markets, such as Argentina's CCL rate (see Appendix), reflects the full probability-weighted expectation, while the official rate may be administratively constrained.

Based on this framework, we identify two key dynamics in Argentina's regime-switching economy. First, populist and non-populist regimes operate with fundamentally different RER^E. Populist regimes require higher RER^E levels than non-populist regimes, meaning that both social and macroeconomic equilibrium concepts diverge across political regimes. Second, the regimes pursue conflicting exchange rate objectives: populist governments target RER levels that maintain social equilibrium (satisfying distributive aspirations), while non-populist governments target macroeconomic equilibrium levels (ensuring external sustainability). Since social equilibrium typically requires a lower RER than macroeconomic equilibrium, populist regimes systematically follow policies that lead to the real appreciation of the domestic currency, which partly explains the recurrence of current account crises under such

regimes. This creates an endogenous regime-switching cycle driven by the political unsustainability of non-populist regimes and the macroeconomic unsustainability of populist regimes.

2.2. The Role of Parallel Exchange Rate Markets

A potential objection to the above hypothesis merits a clarification. *Observed* RER is typically lower under populist regimes. However, this reflects the undervaluation of the domestic currency generated by the foreign exchange policy and the imposition of capital controls. The RER is calculated using the official nominal exchange rate (FX). Populist policies tend to lead to an appreciation of the domestic currency, significantly below the RER^E. The appropriate measure of the real exchange rate when FX and capital controls exist must be estimated using the nominal exchange rate determined in parallel markets not subject to government controls (FX_P). For Argentina, we take the CCL exchange rate as the best proxy for the FX_P (see the appendix for a discussion of Argentina's parallel FX markets). When calculated using the FX_P, the adjusted RER reflects both market expectations and macro fundamentals more accurately. Crucially, this adjusted RER tends to overshoot in anticipation of a regime shift: when market participants perceive an increased probability of a transition to a populist regime, the adjusted RER rises even before the shift materializes. Once the populist regime takes power, the adjusted RER remains higher than under a non-populist regime, consistent with our hypothesis.

The argument that the nominal exchange rate reflects not only current fundamentals but also the perceived probability of a transition from a non-populist to a

populist regime (or vice versa) connects with earlier theoretical work on speculative attacks and currency crises such as Krugman's (1979), Obstfeld's (1994) and Dornbusch's (1976). Although Dornbusch abstracts from political economy, the mechanism whereby expectations of regime change induce large immediate movements in exchange rates—outpacing real fundamentals—is conceptually aligned with the overshooting behavior we observe in Argentina's free exchange rate (FX_P), especially during regime transitions. Agénor's (1990b, 1990a, 1991, 1992) shows that parallel FX markets internalize expectations of policy shifts, amplify distortions created by government controls, and serve as leading indicators of macroeconomic stress. In particular, the premium between the parallel and official rate reflects market expectations of devaluation and credibility loss—central themes in our framework. Kiguel and O'Connell (1995) argue that the emergence of parallel markets is typically a symptom of inconsistencies between the domestic policy stance—particularly fiscal dominance and monetary accommodation—and fixed or controlled exchange rate regimes. Their framework shows how the premium in parallel markets acts as a forward-looking indicator of expected devaluations, regime credibility, and inflationary pressures. This reinforces our core argument that the relevant RER must be derived from market-determined exchange rates, particularly under regimes with capital and exchange controls. Their findings support our hypothesis that parallel market dynamics embed expectations of regime change and are thus crucial for anticipating future exchange rate movements in politically unstable economies like Argentina.

Recent work by Farah Yacoub et al. (2022) also reinforces the relevance of using a parallel FX-adjusted RER. Parallel markets emerge when the government imposes

controls on exchange rates and capital movements, and official rates are perceived as unsustainable, undermining confidence and distorting price signals. The existence of multiple exchange rates distorts resource allocation, erodes policy credibility, and weakens the effectiveness of stabilization programs. Moreover, the persistence of parallel markets and the premium between official and market rates is also interpreted as a forward-looking indicator of regime inconsistency and impending macroeconomic adjustment.

3. Regime Uncertainty in Argentina

Earlier we introduced a distinction between populist and non-populist regimes. It is important to note that such distinction involves not only than differences in the orientation of economic policy but also in terms of the institutional framework and its quality. It is useful to complement the discussion of regime uncertainty with a narrower distinction solely focused on economic policy. Sargent (1984) introduced the concept of Ricardian versus Non-Ricardian policy regimes. Under the former, governments commit to financing current fiscal deficits by raising taxes in the future or by increasing public debt. The monetary authority "in effect dominates the fiscal authority insofar as decisions about the present value of government deficits are concerned" (Sargent, 1984, p. 27). One important but sometimes overlooked conclusion emerging from this definition is that there is a close but asymmetrical relationship between economic policy regimes and exchange rate arrangements. A fixed exchange rate in theory does not allow for deficit monetization and is only consistent with a Ricardian regime (e.g., the gold standard). Since fiscal deficits do not influence the evolution of base money, they have

no impact on the price level. For a Ricardian regime to survive, deficits must be transitory and financed with greater tax revenues or debt issuance. Governments must credibly commit to generating compensatory surpluses in the future. In other words, a Ricardian regime also presupposes the temporal consistency of fiscal policy.

In contrast, under a Non-Ricardian policy regime, there is absolute fiscal dominance: current fiscal deficits are financed only by printing money (inflation tax). Therefore, persistent fiscal imbalances inevitably lead to high inflation rates. In the real world, there are a variety of intermediate regimes in which governments finance deficits with a combination of inflation tax, debt, and taxes. As a result, hybrid fiscal and monetary regimes are compatible with a variety of exchange rate regimes (the least sustainable of which is fixing with full convertibility).

Populism adds a political-institutional dimension to this distinction.. A populist regime is essentially non-Ricardian and resorts to expansionary fiscal policies, capital and foreign exchange controls, protectionist measures, and government intervention in key markets. In contrast, non-populist regimes try to be Ricardian and tend to feature greater fiscal discipline, trade openness, deregulation, and market-oriented policies. Populist regimes tend to operate under hybrid exchange rate systems, usually crawling pegs with capital controls, sometimes with multiple exchange rates. In addition, legal or illegal parallel markets emerge (see **Table 1**). Interestingly, in recent decades, the improbable emergence of a populist Ricardian regime occurred thanks to dollarization (Ecuador between 2007 and 2017).

Table 1. Exchange rate policy by political regime

Feature	Populist regime	Non-populist regime
Exchange rate system	Fixed or semi-fixed	Any
Controls on capital movements	Yes	No
Existence of parallel FX markets	Yes	Ni

Because each political regime reflects different underlying RER, the exchange rate serves as an indicator of both macroeconomic conditions and potential regime shifts. Consequently, shifts in expectations regarding regime changes can contribute to exchange rate volatility. For example, if economic agents perceive that a non-populist regime lacks sufficient electoral support, the exchange rate can overshoot abruptly.

4. Measuring the real exchange rate

A key complication when estimating the RER in Argentina is the distortion introduced by central bank interventions in the foreign exchange markets and controls that forbid or restrict economic agents from purchasing US dollars and/or transferring them abroad. For example, the RER rate indices published by the Argentine central bank (BCRA), the World Bank and private economic consultants are estimated using the official nominal exchange rate. However, this exchange rate is not accessible to all market participants and does not necessarily reflect the interaction of demand and supply. Those excluded from the official exchange rate market trade in the parallel or informal market. The RER based on the value of the official exchange rate does not generally reflect the true market dynamics of the exchange rate market. This has been

the case in Argentina since September 9, 2019.[2] To correct for this distortion, we the adjust the RER index by the premium paid in parallel FX markets.

There are three such markets in Argentina (see Appendix). The informal or parallel, although broadly used by the population, is not technically legal, and trading volumes tend to be relatively small, catering to retail investors. The other two markets, known by their acronyms CCL and MEP, are legal and require the simultaneous purchase and sale of Argentine sovereign bonds denominated in dollars. In the Appendix, we provide a succinct explanation of the trade and settlement mechanics in both markets. Although differences are minimal, for our analysis we rely on the CCL exchange rate which is used mostly by corporate entities and therefore has higher trading volumes, which makes it informationally more relevant.

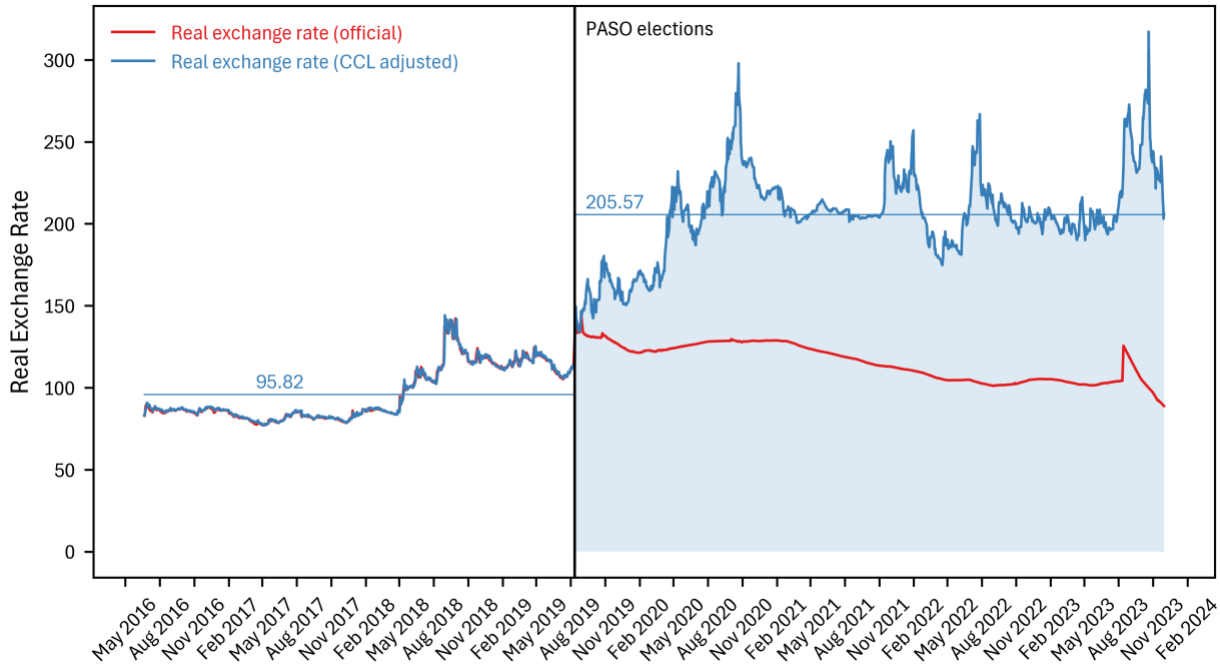
The market turmoil that followed the PASO election led Macri's government to reimpose capital controls on September 2nd, 2019. We adjusted BCRA's published bilateral RER (with the US) by the premium that existed between the CCL and the official exchange rates, starting when the capital controls were reinstated.

As shown in **Figure 1**, the official and adjusted RER show a marked difference starting with the PASO election results. A simple look at the data also depicts a significant change in the average RER across regimes. The Macri presidency had an RER

[2] Argentina had strict capital controls before Macri's administration. The reinstatement of capital controls on September 9, 2019, was an outcome of the PASO electoral result, which triggered a run against the Argentine peso.

average of 96.13, while the populist regime depicted an average RER of 205.65. Such a massive change in the RER is more than a market price correction; it is also a source of political instability.

Figure 1. Bilateral exchange rate, official and CCL adjusted



Note: The shaded area marks the change of regime expectation (PASO election day).
Source: BCRA (official exchange rate), Ámbito Financiero (CCL), and authors' calculations.

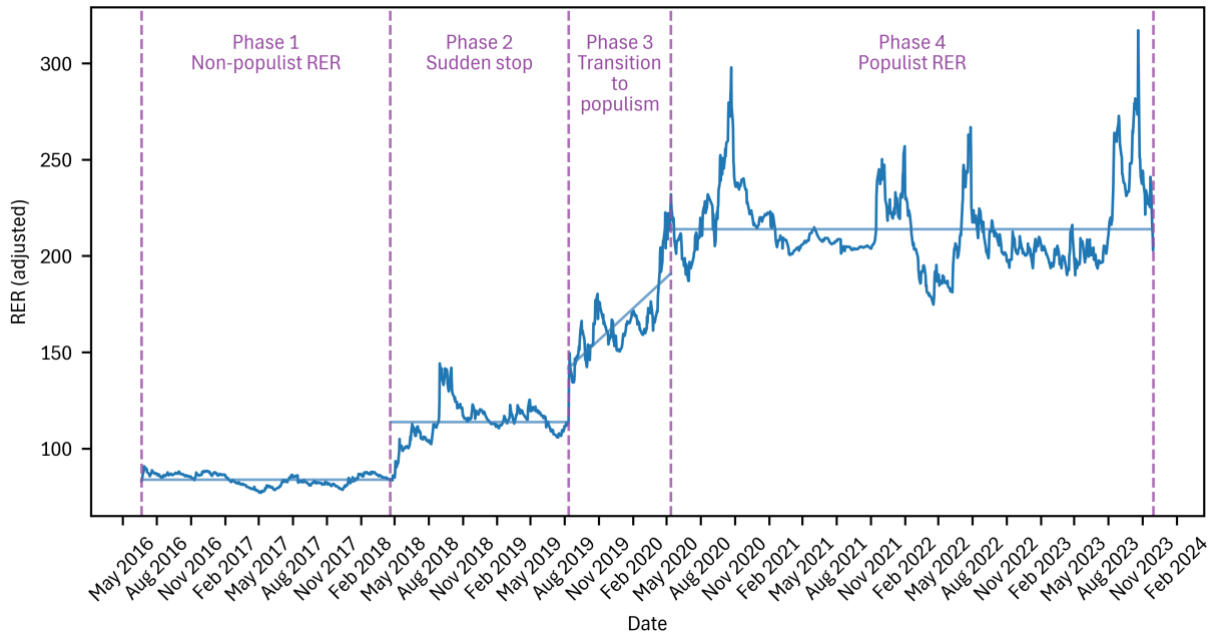
Yet, the RER is not free of other events within our sample, which allows for dividing the sample into four phases. First, the sudden stop of 2018. We date the beginning of the sudden stop on May 4, 2018. This is the day with the first significant jump in the adjusted RER. Starting on June 18, the series seems to depict a slow downward trend toward its "normal" non-populist RER level. This sudden stop correction, however, is interrupted by the PASO shock, which marks the beginning of another phase: transition to populism. We date the end of the transition period on May 13, 2020, when the RER shows a first peak in its value. The RER, then, has four phases

(**Table 2** and **Figure 2**). These phases will be important controls in the analysis that follows.

Table 2. Bilateral RER, four phases

Phase #	Denomination	Start date	End date
Phase 1	Non-populist RER	21-Jun-2016	04-May-2018
Phase 2	Sudden stop	04-May-2018	12-Aug-2019
Phase 3	Transition to populism	12-Aug-2019	13-May-2020
Phase 4	Populist RER	22-Apr-2020	30-Nov-2023

Figure 2. Bilateral exchange rate, official and CCL adjusted



Note: The shaded area marks the change of regime expectation (PASO election day).
Source: BCRA (official exchange rate), Ámbito Financiero (CCL), and authors' calculations.

5. Identifying the PASO results as an Unexpected Shock

5.1. The Electoral Results, Media Coverage, and Market Reaction

To serve as a natural experiment, the PASO election results must reasonably be considered as an unexpected shock. PASO elections took place on Sunday, August 11,

with preliminary results being announced that same night. There are three indications that the PASO results can be treated as an unexpected shock.

The first one is the difference between the electoral results and polls (**Table 3**). Alberto Fernández, representing the Kirchnerista (populist) party, received more votes than non-populist incumbent Mauricio Macri (Cambiemos coalition), significantly exceeding the predictions of most pre-election polls. While market polls (on average) showed Fernández had a lead of 7.2 points over Macri, the PASO elections showed a leading margin of 15.6 points, making a victory by Macri virtually impossible. A smaller advantage of Fernández over Macri in the PASO election would not indicate a necessary win by Fernández, as supporters of candidates with no chance of winning were expected to vote for Macri during the general election. However, a lead of 15.6 points put that scenario to rest.[3]

Table 3. Primary election polls and results

Month	Pollster	A. Fernández	M. Macro	Lead
September	Opinaia	48.0	30.0	18.0
July	Synopsis	40.6	38.1	2.5
July	Gustavo Córdoba y Asociados	33.5	32.5	1.0
July	Universidad de San Andrés	29.0	25.0	4.0
June	Meridional	42.5	34.5	8.0
June	Synopsis	40.3	36.2	4.2
June	CEOP	43.7	32.3	11.4
June	Trespuntozero	42.0	33.4	8.6
	Average polls	40.0	32.8	7.2
August	Primary Elections	47.7	32.1	15.6

[3] There were no prediction markets for the argentine PASO elections.

The second one is media coverage. *La Nación* (Rumi, 2019), a major media outlet in Argentina, reported that night that the "unexpected" results call for a Monday with "red numbers" in the financial market. Similar treatment was given by most local media outlets. Internationally, the "definitive" winning of Alberto Fernández was reported by outlets such as *El País* (Spain), *El Mundo* (Spain), the BBC (United Kingdom), *El Mercurio* (Chile), and *The Wall Street Journal* (United States).

The third is one of the market reactions observed as soon as Monday, August 12, soon labeled by the Argentine press as a "Black Monday." The nominal exchange rate jumped 23% in one day, and the Merval index lost 38% of its value. The magnitude of these market corrections speaks to the fact that the PASO elections, showing a certain win to the Kirchnerista candidate, were not properly priced by the market.

It is also worth mentioning that there are no other significant events that would compete with the results of the PASO elections as an explanation for such an increase in foreign exchange volatility. The price of commodities, to which Argentina is sensitive, was stable until mid-2020. There were no international events that would explain a pure contagion effect on Argentina's FX market. The sudden stop mentioned above, for instance, took place more than a year before the PASO election. Also, Universidad Torcuato di Tella's *Indice de Confianza en el Gobierno* (ICG) shows that the public support for Macri's government has been in an upward trend since April 2019.

5.2. A Markov Confirmation

Despite the PASO elections having a given date with a clear market reaction as soon as the next business day, we also run a Markov switching regression to see if the model identifies the PASO shock as a regime switch event.

Controlling for the sudden stop of 2018, a Markov regime switch regression identifies a regime switch (probability of the other regime becomes at least 0.50) exactly on August 12, 2019. The sudden stop, however, is identified later that when it took place, on August 30, 2017. This date coincides with the second peak in the above-identified Phase 2 of the RER (CCL-adjusted) series. This regime switch is short-lived, as the model estimates a reversal to a low RER regime on October 17, 2018, which supports the reading that the sudden stop effect started to slowly vanish, and that the process was interrupted by the PASO shock. Despite the RER volatility of the post-PASO period, the Markov regime switch model does not identify any other regime switch after the elections.

6. Empirical Application

To evaluate the magnitude of the PASO shock and the presence of any structural change, we look at daily data for three related variables: a) the RER (CCL-adjusted), b) an interest rate spread,[4] and c) central bank gross reserves. Ex-ante, we expect these three series

[4] We look at the spread between Argentina's 30-45 days CDs in US dollars and the 3M Treasury Bill.

to be not only endogenous but also cointegrated. We also divide the sample between pre-PASO (724 observations) and post-PASO (997 observations).

Johansen's cointegration test yields different results before and after the PASO shock (**Table 4**). There is no statistical evidence of cointegration pre-PASO, while trace and eigenvalues results point to 2 and 3 cointegrations, respectively, for the post-PASO period. The different cointegration results before and after the PASO shock support the interpretation that the shift in political regime expectations had a structural effect, changing the relationship between these variables.

Table 4. Johansen cointegration test

Trace		
Pre-PASO	Post-PASO	Critical value
$r \leq 0$: 25.5939	$r \leq 0$: 49.0985*	35.0116
$r \leq 1$: 9.4488	$r \leq 1$: 20.9149*	18.3985
$r \leq 2$: 3.5037	$r \leq 2$: 7.8361*	3.8415
Max eigenvalue		
$r = 0$: 16.1451	$r = 0$: 28.1835*	24.2522
$r = 1$: 5.9452	$r = 1$: 13.0788	17.1481
$r = 2$: 3.5037	$r = 2$: 7.8361*	3.8415

* Denotes cointegration

We initially attempted VAR analysis but encountered systematic instability, consistent with structural breaks around political transitions. We were unable to find a stable VAR up to six lags, both on levels and first differences (with and without exogenous variables as controls). Rather than viewing this as a methodological failure, we interpret this instability as evidence supporting our central thesis: that political regime uncertainty creates inherent economic instability that resists standard time series modeling. This result led us to adopt alternative approaches that explicitly model the regime shift.

A limitation of our analysis stems from the absence of a continuous measure of regime uncertainty in Argentina. Unlike developed markets, where prediction markets, volatility indices, or survey-based uncertainty measures provide high-frequency proxies for political risk, Argentina lacks such systematic data collection during our sample period. This constraint prevents us from implementing threshold vector autoregression (TVAR) or smooth transition models that would allow for gradual regime switching based on evolving political expectations.

Consequently, we treat our regime change as a discrete event triggered by the PASO election results, rather than modeling it as a continuous process of evolving expectations. While this binary approach captures the dramatic shift in regime expectations documented by media coverage and market reactions, it necessarily simplifies the more complex dynamics of political uncertainty that likely evolved gradually in the months preceding the election.

We employ three complementary approaches: OLS estimation with HAC standard errors, ARMA forecasting using pre-PASO training data, and ARIMA models for robustness. Each uses identical control variables across three specifications.

Our OLS base model (Model 1) controls the PASO shock (where $PASO$ is a dummy variable that takes the value 1 starting on PASO day.) OLS Model 2 adds controls for the sudden stop and the transition to the populist regime. And OLS Model 3 adds the interest rate spread and gross reserves as controls.

The estimated coefficient for the regressor of interest – PASO Shock – ranges from 109.7 to 128.8 (see **Figure 5**). The lower bound of this range coincides with the spread observed on plain data. All OLS models should be read cautiously. Models 1 and 2 lack proper market controls, and Model 3 is subject to potential endogeneity. To avoid affecting the estimated coefficient of the PASO shock through multicollinearity, we do not include a trend (VIF tables reported in the appendix). The models also suffer from heteroskedasticity and non-normal errors, calling for caution into reading the coefficient *t*-statistics.

The sign for the sudden stop dummy is positive, as expected. The transition to populism coefficient has a statistically significant but economically non-significant negative sign. The negative sign, the opposite of what is expected, is related to the sudden stop that comes immediately before. The sudden stop contributes to a positive time trend, one that is marginally slowed down during the transition to the populist period.

Table 5. OLS Model Estimations

```
--------------------------------------------------------------------------------
Dependent Variable: Real Exchange Rate (CCL Adjusted)
Method: Ordinary Least Squares with HAC Standard Errors
Sample Period: 2016-06-21 to 2023-11-30

--------------------------------------------------------------------------------
Variable                  (1)             (2)             (3)
                          Baseline        + Controls      + Financial
--------------------------------------------------------------------------------
Constant                  95.8192***     84.8518***      114.8518***
                          (0.8594)       (0.7422)        (2.7158)

PASO shock               109.7495***    128.7741***     123.9595***
                          (1.1291)       (0.9306)        (1.0227)

Sudden Stop               ---            31.5096***      40.2611***
                          ---            (1.2580)        (1.4397)

Transition to populism    ---            -0.0573***      -0.0528***
                          ---            (0.0017)        (0.0017)

Interest Rate Spread      ---            ---             0.7753***
                          ---            ---             (0.2477)

Central Bank Reserves     ---            ---             -0.0006***
                          ---            ---             (0.0001)

--------------------------------------------------------------------------------
MODEL STATISTICS
--------------------------------------------------------------------------------
Observations              1721           1721            1721
R-squared                 0.8461         0.9252          0.9306
Adjusted R-squared        0.8460         0.9251          0.9304
F-statistic               9447.6903      7083.4629       4596.3327
AIC                       15696.8889     14457.8033      14334.8652
BIC                       15707.7902     14479.6060      14367.5692
--------------------------------------------------------------------------------
Notes:
Standard errors in parentheses.
*** p<0.01, ** p<0.05, * p<0.10
HAC standard errors robust to heteroscedasticity and autocorrelation.
Model 1: Baseline specification with populist regime dummy.
Model 2: Adds sudden stop dummy and transition interaction.
Model 3: Adds financial controls (interest rate spread and reserves).
Sudden Stop: Dummy for transition period (2018-08-31 to PASO election).
================================================================================
```

ARMA models 1 through 3 have the same baseline and controls as the OLS Models. On this occasion, the regression is using only pre-PASO data as the training period to forecast the RER (CCL adjusted) after the PASO elections. The average regime shock, that is, the average post-PASO difference between the ARMA forecast and the

observed RER (CCL adjusted), serves as the proxy for the magnitude of the populist shock. The average PASO shock ranges from 60.9 to 103.5 (**Figure 5**). In this case, the higher estimate is slightly below the plain data reference value; that is, the ARMA model provides more conservative estimates than the OLS models.

ARMA Model 1, which does not control for the sudden stop, has an upward trend forecast that is likely to be biased (reducing the estimated impact of the PASO effect). ARMA models 2 and 3 do control for the sudden stop event. The sudden stop correction, however, was interrupted by the PASO shock. This interruption produces the "drop" at the beginning of models 2 and 3 forecast with respect to the last datapoint of the pre-PASO period (**Figure 3**).

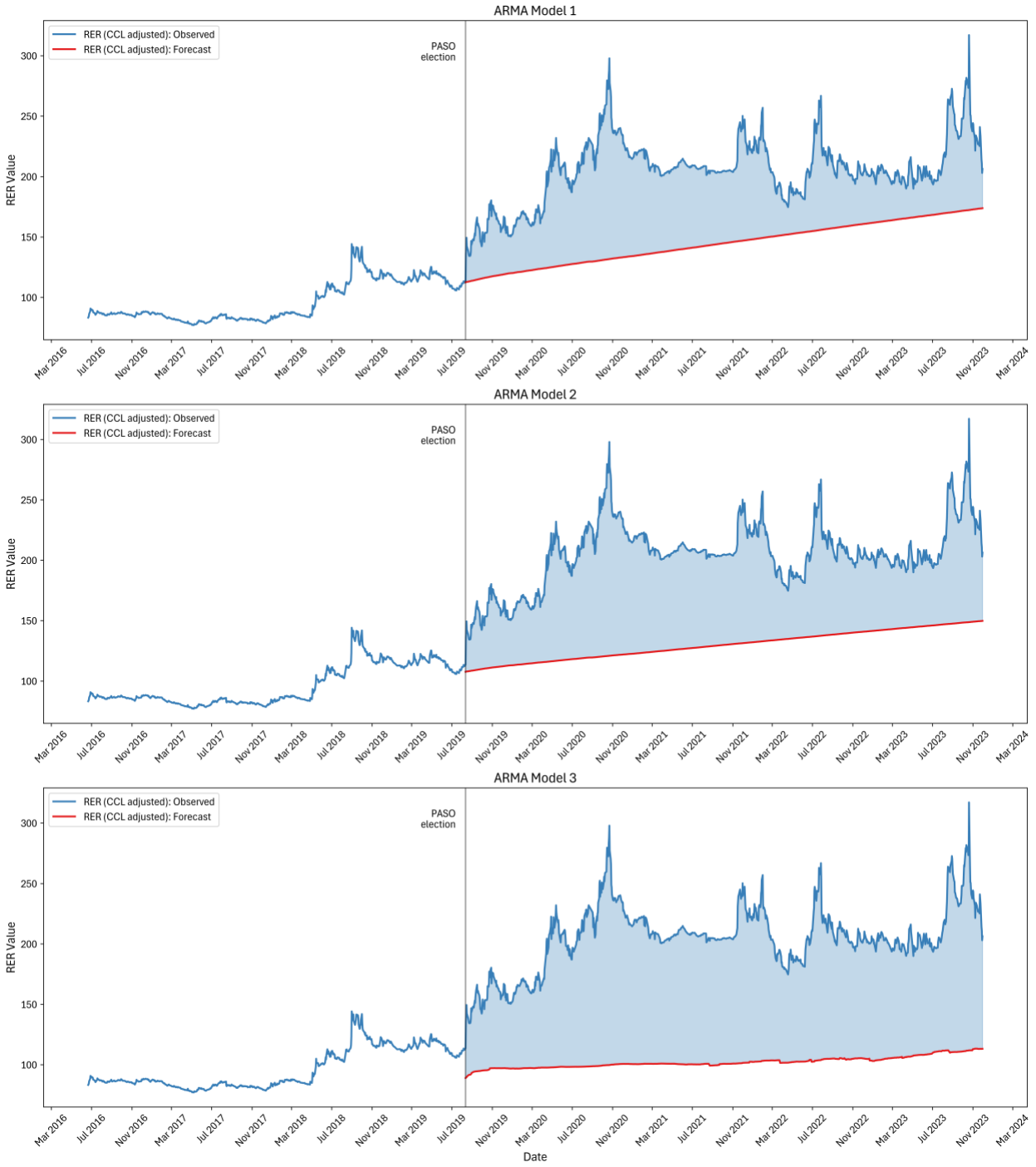
Table 6. ARMA(1, 1) Model Estimations

Dependent Variable: Real Exchange Rate (CCL Adjusted)
Method: ARMA(1,1) with Exogenous Variables
Sample Period: 2016-06-21 to 2019-08-12 (Pre-PASO Training)
Forecast Period: 2019-08-12 to 2023-11-30 (Post-PASO Testing)

Variable	(1) Baseline	(2) + Controls	(3) + Financial
AR(1)	0.9878	0.9858	0.9451
MA(1)	0.0375	0.0445	0.0840
$Sigma^2$	---	---	---
EXOGENOUS VARIABLES			
Trend	0.0580***	0.0399	0.0078
	(0.0205)	(0.0405)	(0.0079)
Sudden Stop (D1)	---	4.7775	23.5678***
	---	(12.4496)	(0.2900)
Interest Rate Spread	---	---	-0.1674
	---	---	(0.9599)
Central Bank Reserves	---	---	-0.0004***
	---	---	(0.0000)
MODEL STATISTICS			
Training Observations	724	724	724
Log-Likelihood	-1329.3422	-1323.7589	-1414.1753
AIC	2668.6844	2659.5178	2844.3506
BIC	2691.6084	2687.0265	2881.0290
OUT-OF-SAMPLE FORECAST PERFORMANCE			
Forecast Observations	997	997	997
Average Regime Shock	60.9484	75.8048	103.5114
RMSE	65.6957	79.5293	106.4892
MAE	60.9484	75.8048	103.5114

Notes:
Standard errors in parentheses.
*** p<0.01, ** p<0.05, * p<0.10
ARMA(1,1) specification with exogenous variables.
Models estimated on pre-PASO data, forecasts evaluated on post-PASO period.
Regime Shock = Actual RER - Predicted RER in post-PASO period.
Model 1: Baseline with populist regime dummy.
Model 2: Adds sudden stop dummy and transition interaction.
Model 3: Adds financial controls (interest rate spread and reserves).
Sudden Stop: Dummy for transition period (2018-08-31 to PASO election).

Figure 3. ARMA models forecasts



Finally, we have the ARIMA models, with the same baseline and control setup as our previous models. The ARIMA model is intended to correct for potential non-stationarity in the dependent variable. The ARIMA model forecasts produce the most conservative estimates of the PASO shock effect, ranging from 73.2 to 81.2 (**Table 7**).

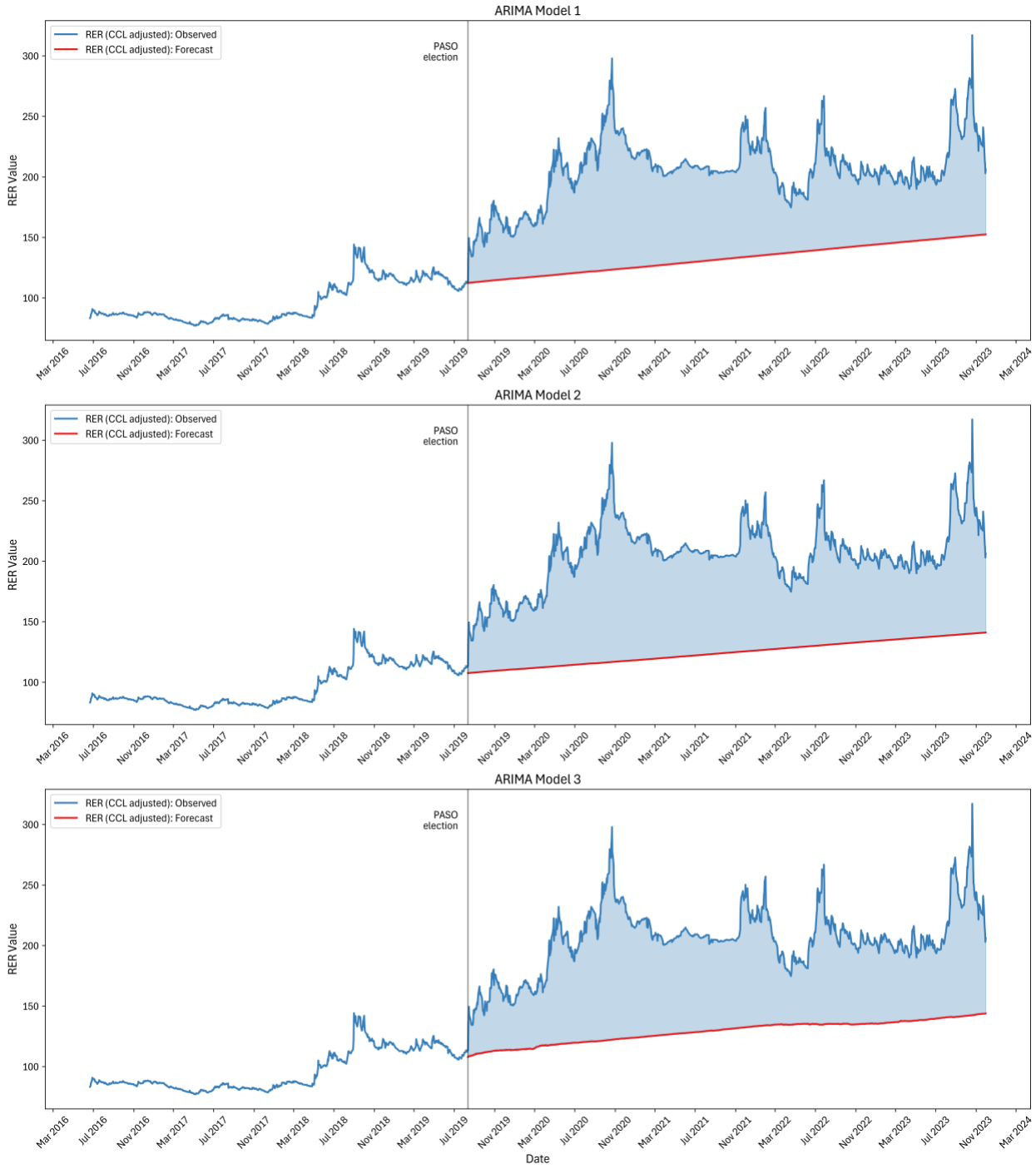
Different from the AMRA models, all ARIMA forecasts depict an upward trend (**Figure 4**).

Table 7. ARIMA(1, 1, 1) Model Estimations

Dependent Variable: Real Exchange Rate (CCL Adjusted)			
Method: ARIMA(1,1,1) with Exogenous Variables			
Sample Period: 2016-06-21 to 2019-08-12 (Pre-PASO Training)			
Forecast Period: 2019-08-12 to 2023-11-30 (Post-PASO Testing)			
Variable	(1) Baseline	(2) + Controls	(3) + Financial
AR(1)	0.2930	0.2863	-0.2364
MA(1)	-0.2499	-0.2421	0.2670
$Sigma^2$	---	---	---
EXOGENOUS VARIABLES			
Trend	0.0402	0.0336	0.0398
	(0.0788)	(0.0783)	(0.0719)
Sudden Stop (D1)	---	4.8198	4.7203
	---	(10.2832)	(13.0516)
Interest Rate Spread	---	---	1.5876**
	---	---	(0.7278)
Central Bank Reserves	---	---	-0.0001
	---	---	(0.0001)
MODEL STATISTICS			
Training Observations	724	724	724
Log-Likelihood	-1327.5873	-1322.4991	-1319.7895
AIC	2663.1747	2654.9982	2653.5791
BIC	2681.5083	2677.9152	2685.6629
OUT-OF-SAMPLE FORECAST PERFORMANCE			
Forecast Observations	997	997	997
Average Regime Shock	73.1573	81.2622	76.8935
RMSE	77.0670	84.8274	80.4550
MAE	73.1573	81.2622	76.8935

Notes:
Standard errors in parentheses.
*** p<0.01, ** p<0.05, * p<0.10
ARIMA(1,1,1) specification with exogenous variables.
Models estimated on pre-PASO data, forecasts evaluated on post-PASO period.
Regime Shock = Actual RER - Predicted RER in post-PASO period.
Model 1: Baseline with populist regime dummy.
Model 2: Adds sudden stop dummy and transition interaction.
Model 3: Adds financial controls (interest rate spread and reserves).
Sudden Stop: Dummy for transition period (2018-08-31 to PASO election).

Figure 4. ARIMA models forecast



7. Policy Implications

In politically unstable countries like Argentina, where changes in economic policy and institutional regimes are frequent and abrupt, expectations of regime change can have

a significant impact on nominal foreign exchange rate dynamics. Argentina's experience during 2019 suggests a RER^E gap across regimes of 100% (if not more) means that a low probability of regime change can have a significant impact on the RER.

Figure 5 shows the probability of political regime change needed to produce a 10% deviation in the RER. These values range from 6.8% to 15.8%. This means that the RER stability of a non-populist regime is very sensitive to changes in the likelihood of a switch to a populist regime. A reason behind this high sensitivity is the large gap between the RER across political regimes. Save for two exceptions, in all cases the RER gap between the populist and the non-populist regime more than doubles

Figure 5. The probability needed for a 10% change in the RER.

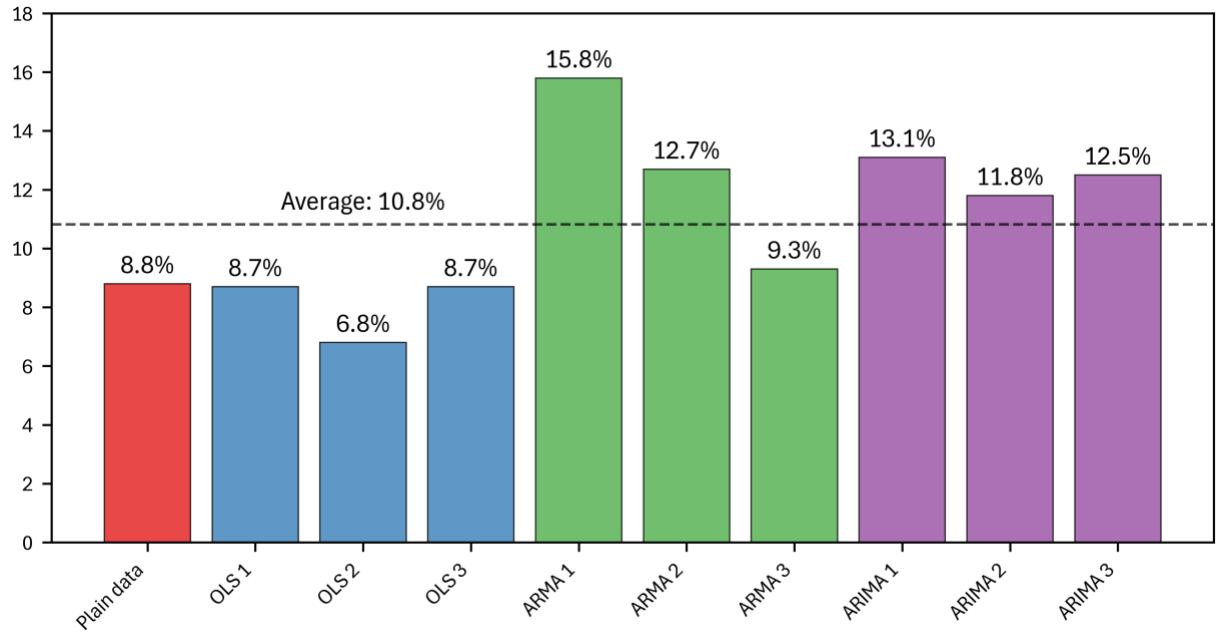


Table 8. PASO shock effect and probability of 10% on the RER

	RER Non-populist	RER populist	RER Regime gap	10% Depreciation	Probability of regime change
Plain data	96.13	205.65	109.52	105.74	8.8%
OLS Model 1	95.82	205.57	109.75	105.40	8.7%
OLS Model 2	87.08	215.85	128.77	95.79	6.8%
OLS Model 3	107.48	231.44	123.96	118.23	8.7%
ARMA Model 1	96.13	157.08	60.95	105.74	15.8%
ARMA Model 2	96.13	171.93	75.80	105.74	12.7%
ARMA Model 3	96.13	199.64	103.51	105.74	9.3%
ARIMA Model 1	96.13	169.29	73.16	105.74	13.1%
ARIMA Model 2	96.13	177.39	81.26	105.74	11.8%
ARIMA Model 3	96.13	173.02	76.89	105.74	12.5%

A linear extrapolation of **Table 8** estimations serve as a proxy of the change in the expected regime change to trigger different RER movements (**Table 9**). Even though sensitivity varies with model specification, it remains high across the different estimation techniques.

Table 9. Sensitivity table: Probability threshold for key RER movements

Model	5% RER	10% RER	15% RER
Plain data	4.4%	8.8%	13.2%
OLS Model 1	4.4%	8.7%	13.1%
OLS Model 2	3.4%	6.8%	10.1%
OLS Model 3	4.3%	8.7%	13.0%
ARMA Model 1	7.9%	15.8%	23.7%
ARMA Model 2	6.3%	12.7%	19.0%
ARMA Model 3	4.6%	9.3%	13.9%
ARIMA Model 1	6.6%	13.1%	19.7%
ARIMA Model 2	5.9%	11.8%	17.7%
ARIMA Model 3	6.3%	12.5%	18.8%
Minimum	3.4%	6.8%	10.1%
Average	5.4%	10.8%	16.2%
Maximum	7.9%	15.8%	23.7%

If political stability depends partly on exchange rate stability, then it will be very sensitive to small changes in the probability of a regime change. This can occur, for example, if the incumbent non-populist government has a bad electoral performance in mid-term elections.

If the nominal exchange rate serves as a political thermometer, then policymakers must acknowledge that macroeconomic stabilization measures alone are insufficient to ensure stability. Credibility matters. Not only must good policies be implemented, but they must also be perceived as durable. Formal (and informal) institutions can reduce regime-switch volatility if they are effective in constraining populist regimes. However, where there is institutional anomie, central bank independence and fiscal rules are non-credible regardless of how many laws support their independence. The question is whether an effective commitment device exists.

Either a populist or non-populist regime would try to implement an exchange rate policy that would shield them from FX volatility. Managed or fixed exchange rate regimes stand on weak credibility, especially when the government is unable to secure enough central bank reserves and is subject to speculative attacks and sudden stops.

8. Conclusions

Our analysis shows that exchange rate dynamics in institutionally and politically unstable emerging market economies cannot be explained by macroeconomic fundamentals alone. The average 11% probability threshold we estimate for Argentina is a remarkably low bar for triggering significant currency movements. This suggests that normal political uncertainty—as reflected in opinion poll volatility, mid-term elections, policy debates—can destabilize exchange rates independent of economic policy changes. Under such circumstances, traditional policy tools—monetary policy,

fiscal adjustment, structural reforms—may prove insufficient to stabilize currency markets.

While our analysis suggests potential value in exploring threshold levels and non-linearities in political risk transmission, the binary nature of our regime classification and the absence of a continuous political risk measure make such extensions unfeasible.

The policy implications of our findings extend beyond Argentina. In any democracy where alternative institutional and economic policy regimes are frequent and imply substantially different equilibrium exchange rates, even modest shifts in expectations of regime change can trigger destabilizing FX dynamics. This suggests that sustainable macroeconomic policy requires not just technical competence but credible institutional mechanisms that reduce regime uncertainty—whether through stronger democratic institutions, constitutional constraints on policy reversals, or in extreme cases, monetary arrangements that limit policy discretion. Finally, our analysis also suggests that relying on historical averages or purchasing power calculations to estimate whether the currency is over- or undervalued can lead to significant error. The conclusion is regime dependent; therefore, even if historical averages suggest its value is near levels that in the past were consistent with macroeconomic equilibrium, an increase in the probability of a regime change can trigger destabilizing dynamics.

9. References

[1] Agénor, P.-R. (1990a). Exchange Restrictions and Devaluation Crises. *IMF Working Papers*, *90*(84), 1. https://doi.org/10.5089/9781451954340.001

[2] Agénor, P.-R. (1990b). Stabilization Policies in Developing Countries with a Parallel Market for Foreign Exchange: A Formal Framework. *IMF Working Papers*, *90*(16), 1. https://doi.org/10.5089/9781451923230.001

[3] Agénor, P.-R. (1991). A Monetary Model of the Parallel Market for ForeignExchange. *Journal of Economic Studies*, *18*(4). https://doi.org/10.1108/EUM0000000000153

[4] Agénor, P.-R. (1992). *Parallel Currency Markets in Developing Countries: Theory, Evidence, and Policy Implications*. Princeton University.

[5] Cachanosky, N., Ocampo, E., Hernández, K. C., & Ramseur, J. (2025). Did Dollarization Help Ecuador? *Scottish Journal of Political Economy*, *72*(1), 1–11. https://doi.org/10.1111/sjpe.12397

[6] Cachanosky, N., Ocampo, E., & Salter, A. W. (2023). Lessons From Dollarization in Latin America in the 21st Century. *The Economists' Voice*, *20*(1), 25–42. https://doi.org/10.1515/ev-2023-0001

[7] Cachanosky, N., Salter, A. W., & Savanti, I. (2022). Can Dollarization Constrain a Populist Leader? The Case of Rafael Correa in Ecuador. *Journal of Economic Behavior and Organization*, *200*(August), 430–442. https://doi.org/10.1016/j.jebo.2022.06.006

[8] Calvo, G. A. (2001). Capital Markets and the Exchange Rate, with Special Reference to the Dollarization Debate in Latin America. *Journal of Money, Credit and Banking*, *33*(2), 312–334.

[9] Calvo, G. A. (2002). On Dollarization. *Economics of Transition*, *10*(2), 393–403.

[10] Cochrane, J. H. (2018). *Dollarize Argentina*. The Grumpy Economics. https://johnhcochrane.blogspot.com/2018/09/dollarize-argentina.html

[11] Dornbusch, R. (1976). Expectations and Exchange Rate Dynamics. *Journal of Political Economy*, *84*(6), 1161–1176. https://doi.org/10.1086/260506

[12] Dornbusch, R. (2001). Fewer Monies, Better Monies. *American Economic Review*, *91*(2), 238–242. https://doi.org/10.1257/aer.91.2.238

[13] Farah Yacoub, J. P., Hanadeh, N., & Reinahrt, C. (2022). The Pitfalls of Parallel Currency Markets: Higher Inflation and Lower Growth. *Let's Talk Development*. https://blogs.worldbank.org/en/developmenttalk/pitfalls-parallel-currency-markets-higher-inflation-and-lower-growth

[14] Friedman, M. (1978). *How Well Are Fluctuating Exchange Rates Working?* (Subcommittee on Internatinal Economics of the Joint Economic Committee) [Hearing]. U.S. Government Printing Press.

[15] Gale, D., & Vivez, X. (2002). Dollarization, Bailouts, and the Stability of the Banking System. *The Quarterly Journal of Economics*, *117*(2), 467–502.

[16] Gerchunoff, P., & Rapetti, M. (2016). La economía argentina y su conflicto distributivo estructural (1930-2015). *El Trimestre Económico*, *83*(330), 225–272. https://doi.org/10.20430/ete.v83i330.199

[17] Hanke, S. H., & Schuler, K. (1999). A Dollarization Blueprint for Argentina. *Foreign Policy Briefing*, *52*.

[18] Kiguel, M., & O'Connell, S. A. (1995). Parallel Exchange Rates in Developing Countries. *The World Bank Research Observer*, *10*(1), 21–52. https://doi.org/10.1093/wbro/10.1.21

[19] Krugman, P. (1979). A Model of Balance-of-Payments Crises. *Journal of Money, Credit and Banking*, *11*(3), 311–325.

[20] Nino, C. S. (1992). *Un País al Margen de la Ley: Estudio de la Anomia como Componente del Subdesarrollo Argentino*. Emecé Editores.

[21] Obstfeld, M. (1994). The Logic of Currency Crises. *Cahiers Economiques et Monétaires*, *43*, 189–213.

[22] Ocampo, E. (2022). Fiscal and Monetary Anomie in Argentina: A Legacy of Endemic Populism. *UCEMA Documentos de Trabajo*, *836*.

[23] Ocampo, E. (2023). *Dollarization as an Effective Commitment Device: The Case of Argentina* (No. 848; Documentos de Trabajo). Universidad del CEMA.

[24] Ocampo, E., & Cachanosky, N. (2022). *Dolarización: Una Solución para Argentina*. Editorial Claridad.

[25] Olivera, J. H. (1991). Equilibrio social, equilibrio de mercado e inflación estructural. *Desarrollo Económico*, *30*(120), 487–493.

[26] Rumi, M. J. (2019, August 12). PASO 2019: Tras un resultado inesperado, en los mercados prevén un lunes con números rojos. *La Nación*. https://www.lanacion.com.ar/economia/paso-2019-tras-resultado-inesperado-mercados-preven-nid2276562/

[27] Sturzenegger, F. (2019). Macri's Macro: The Meandering Road to Stability and Growth. *Brookings Papers on Economic Activity*.

10. Appendix

10.1. Mechanics of CCL MEP Exchange Rates in Argentina

In the context of Argentina's strict foreign exchange controls, two parallel financial mechanisms—Contado con Liquidación (CCL) and Mercado Electrónico de Pagos (MEP)—have emerged as key channels for converting pesos into U.S. dollars. These mechanisms allow residents and non-residents to legally bypass the official exchange rate by exploiting price differentials in dual-currency financial instruments, particularly dollar-denominated government bonds issued under both local and foreign law.

10.1.1. Contado con Liquidación (CCL) Market

The Contado con Liquidación (often abbreviated as "CCL") enables the transfer of domestic currency into U.S. dollars held abroad. The mechanism involves purchasing a dollar-denominated sovereign bond (e.g., GD30 or AL30) in the domestic market using pesos, and subsequently selling the same instrument in a foreign jurisdiction—typically New York—against U.S. dollars. The proceeds are then deposited in a foreign custodial account under the control of the investor.

The CCL exchange rate is determined by the ratio between the domestic peso price and the foreign dollar price of the same security:

$$CCL_t = \frac{P_t^{ARS}}{P_t^{USD}}$$

where P_t^{ARS} is the bond price in pesos on the Argentine exchange and P_t^{USD} is the bond price in dollars on a foreign exchange.

CCL is typically used by institutional investors and companies seeking to expatriate capital or hedge against devaluation, particularly in the face of capital account restrictions. It entails operational complexity, including custodial transfers via international clearing systems such as Euroclear or DTCC.

10.2. Mercado Electrónico de Pagos (MEP) Market

The MEP, also known as “dólar bolsa,” serves a similar purpose but does not involve cross-border transfer. Investors buy and sell the same U.S. dollar-denominated bond within Argentina, using separate ARS and USD segments of the local capital market.

The investor purchases the bond in pesos and, after a minimum holding period (typically one business day), sells it for dollars that are credited to a domestic brokerage subaccount.

The MEP exchange rate is similarly determined by:

$$MEP_{\text{t}} = \frac{P_t^{ARS}}{P_t^{USD}}$$

The MEP is generally more accessible to retail investors and does not require foreign custodial arrangements. However, it is still subject to regulatory constraints imposed by the Comisión Nacional de Valores (CNV), including "parking periods" and restrictions on simultaneous access to other foreign exchange markets.

10.3. Instruments and Regulatory Considerations

The most commonly used instruments in both the CCL and MEP markets are Argentine sovereign bonds denominated in U.S. dollars, particularly the Bonos Globales (e.g., GD30, GD35) and Bonos del Tesoro en Dólares Ley Local (e.g., AL30, AL35). The distinction between foreign and local law bonds is relevant for settlement and liquidity purposes, with GD-series bonds typically offering greater cross-border fungibility. To deter arbitrage and speculative capital outflows, regulatory authorities frequently adjust transaction rules. These include minimum holding periods ("plazo de permanencia"), limits on daily trading volumes, and prohibitions on simultaneous operations across regulated exchange segments. These measures are updated through resolutions issued by the CNV and the Central Bank (BCRA).

Suppose an investor purchases 100 GD30 bonds in the local market at ARS 18,000 per bond, for a total of ARS 1,800,000. After satisfying the regulatory holding period, the investor sells those same 100 bonds for USD 45 each in the dollar segment of the local market (in the case of MEP) or abroad (in the case of CCL), receiving USD 4,500. The implied exchange rate is:

$$\frac{1{,}800{,}000 ARS}{4{,}500 USD} = 400 \frac{ARS}{USD}$$

This rate typically exceeds the official exchange rate (the "dólar oficial"), and is closely monitored by market participants as a barometer of currency pressure and expectations of devaluation.

Table 10. Comparison between CCL and MEP

	CCL	MEP
Destination of settled funds	Offshore account	Domestic brokerage account
Instruments used	GD30, AL30	Same
Jurisdiction	Domestic buy, foreign sell	Domestic buy and sell
Settlement	Via foreign custodian	Settled locally in US$ subaccount
Regulatory body	CNV, BCRA	CNV, BCRA
Main users	Firms, institutional investors	Retail and local investors

10.4. Econometric Model Diagnosis

Table 11. OLS models, VIF

	OLS Model 1	OLS Model 2	OLS Model 3
Constant	2.38	3.65	52.50
PASO shock	1.00	1.40	1.81
Sudden stop		1.31	1.84
Transition to populism		1.09	1.24
Interest rate spread			1.21
Reserves			2.31

Table 12. OLS models diagnostics

Durbin-Watson test for autocorrelation		
OLS Model 1	DW statistic: 0.0392	Possible autocorrelation
OLS Model 2	DW statistic: 0.0698	Possible autocorrelation
OLS Model 3	DW statistic: 0.0737	Possible autocorrelation
Breusch-Pagan test for autocorrelation		
OLS Model 1	p-value: 0.000	Autocorrelation detected
OLS Model 2	p-value: 0.000	Autocorrelation detected
OLS Model 3	p-value: 0.000	Autocorrelation detected
White test for heteroskedasticity		
OLS Model 1	p-value: 0.000	Heteroskedasticity detected
OLS Model 2	p-value: 0.000	Heteroskedasticity detected
OLS Model 3	p-value: 0.000	Heteroskedasticity detected
Jarque-Bera normality test		
OLS Model 1	p-value: 0.000	Non-normal residuals
OLS Model 2	p-value: 0.000	Non-normal residuals
OLS Model 3	p-value: 0.000	Non-normal residuals

Table 13. ARMA models diagnostics

Ljung-Box Test for serial correlation		
ARMA Model 1	p-value: 0.000	Serial correlation detected
ARMA Model 2	p-value: 0.000	Serial correlation detected
ARMA Model 3	p-value: 0.001	Serial correlation detected
Jarque-Bera normality test		
ARMA Model 1	p-value: 0.000	Non-normal residuals
ARMA Model 2	p-value: 0.000	Non-normal residuals
ARMA Model 3	p-value: 0.000	Non-normal residuals

Table 14. ARIMA models diagnostics

Ljung-Box Test for serial correlation		
ARIMA Model 1	p-value: 0.996	No significant serial correlation
ARIMA Model 2	p-value: 0.996	No significant serial correlation
ARIMA Model 3	p-value: 0.997	No significant serial correlation
Jarque-Bera normality test		
ARIMA Model 1	p-value: 0.000	Non-normal residuals
ARIMA Model 2	p-value: 0.000	Non-normal residuals
ARIMA Model 3	p-value: 0.000	Non-normal residuals