



Do Exchange Rates Influence Voting? Evidence from Elections and Survey Experiments in Democracies

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Abstract Intense debate surrounds the effects of trade on voting, yet less attention has been paid to how *fluctuations in the real exchange rate* may influence elections. A moderately overvalued currency enhances consumers' purchasing power, yet extreme overvaluation threatens exports and economic growth. We therefore expect exchange rates to have a conditional effect on elections: when a currency is undervalued, voters will punish incumbents for further depreciations; yet when it is highly overvalued, they may reward incumbents for depreciation. We empirically explore our argument in three steps. First, we examine up to 412 elections in up to 59 democratic countries and show that voters generally punish depreciation in the real exchange rate when the currency is undervalued. We also find that at extremely high levels of currency overvaluation, voters sometimes reward incumbents for depreciation. A currency peg, especially in the eurozone, appears to insulate incumbents from these effects. In a second step, we explore the microfoundations of the election results through survey experiments in three advanced industrialized and two emerging market nations with different monetary and exchange rate policies and institutions. Respondents in countries with undervalued to mildly overvalued currencies disapprove of currency depreciations, whereas those facing a very highly overvalued currency favor depreciation. Third, we examine the mechanism of political competition in exchange rate policymaking and demonstrate that sustained undervaluation is rare in countries with strong political competition. Democratic governments have electoral incentives to avoid using undervalued currencies as a means of shielding workers from import competition.

The uneven distributional consequences of globalization have upended politics in many of the world's oldest and most stable democracies. Job losses and stagnant wages caused by import competition, technological change, and offshoring have fueled several defining political trends in recent

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years.¹ Research links the rise of nationalist and populist movements, anti-incumbent sentiment, and increasing political polarization to voters' economic and cultural insecurities stemming from globalization.² Yet globalization can also improve incumbents' chances of re-election. Owen showed that local foreign direct investment (FDI) exposure benefited incumbents in local elections in Brazil,³ while Jensen, Quinn, and Weymouth identified the "winners" from trade globalization, who rewarded US presidential incumbents.⁴

While most studies have focused on how trade shocks affect elections, exchange rate policies and outcomes may also shape political behavior.⁵ Frieden described a country's exchange rate as its "most important price ... since it affects all other prices."⁶ Thus it stands to reason that exchange rates have political implications: they influence a country's trade balance and economic growth as well as other outcomes. Rodrik finds that currency devaluations are linked to increasing exports and higher growth.⁷ This could encourage governments in open economies to leverage exchange rates to expand employment and exports, and to shield domestic producers from foreign competition. Several single-country studies, however, demonstrate that voters electorally punish incumbents for sharp depreciations in the value of their currency, at least when they are caused by an external shock that is largely beyond the government's control.⁸ Less is known about how exchange rates influence voting in a broad range of countries experiencing various types of currency fluctuations, which is surprising given that political interests and institutions consistently influence exchange rate behavior,⁹ and that politicians' political considerations are important for government exchange rate policies.¹⁰

Our study examines the electoral consequences of real exchange rate (RER) fluctuations. The RER captures variation over time in the price of a basket of goods and services abroad relative to the price of the same basket of goods and services domestically, accounting for changes in the nominal exchange rate. In other words, it represents the purchasing power of a country's currency relative to the currencies of other countries.¹¹

1. For the preregistration of our experiments, see <<https://osf.io/8rq2t>>.

2. Baccini and Weymouth 2021; Ballard-Rosa, Jensen, and Scheve 2022; Jensen, Quinn, and Weymouth 2017; Margalit 2011; Milner 2021; Mutz 2021; Rickard 2021.

3. Owen 2017.

4. Jensen, Quinn, and Weymouth 2017.

5. Ahlquist, Copelovitch, and Walter 2020; Bernhard and Leblang 1999; Leblang 2003; Schiumerini and Steinberg 2020.

6. Frieden 2015.

7. Rodrik 2008.

8. Ahlquist, Copelovitch, and Walter 2020; Schiumerini and Steinberg 2020.

9. Bernhard and Leblang 2006.

10. Bernhard and Leblang 1999.

11. Formally, $RER = e \frac{P^*}{P}$, where e is the nominal exchange rate, P^* is the domestic currency price of a basket of goods and services in the domestic country, and P is the foreign currency price of the same basket in the foreign country. Following Rodrik 2008, our RER index adjusts for the Balassa-Samuelson effect, which captures the tendency toward overvaluation in wealthier countries; it is thus comparable across

We posit that individuals care about the economic consequences of RER fluctuations because these affect their consumption potential and the availability of goods and services, as well as the economy's export competitiveness and overall performance. A stronger (weaker) RER can increase (decrease) purchasing power and make imports cheaper (more expensive).¹² Changes in the RER can also affect inflation: a depreciating RER can increase the price of imported goods and thus contribute to inflation, while an appreciating RER generally has the opposite effect.¹³ Consumers tend to prefer RER overvaluation due to the associated increase in purchasing power, whereas exporters—at least those without significant overseas inputs—tend to favor RER undervaluation to enhance their competitiveness.

We focus on how the RER influences elections; we therefore consider what shapes voters' RER preferences. Building on insights from the economic voting literature, we argue that a voter's interests, sometimes expressed as a weighted utility function, reflect the trade-off between consumption, employment, and national economic performance, encompassing growth and stability.¹⁴ These goals can conflict when it comes to RER valuations. On the one hand, an appreciated RER can enhance consumers' purchasing power, enabling them to consume more tradable products. On the other hand, a depreciated RER can bolster a nation's export competitiveness, export-related employment, and overall economic growth.

We argue that voters care about both consumption *and* national economic performance, but also that they weigh the impact of RER changes on these two objectives differently depending on whether the RER is overvalued or undervalued. Some RER appreciation is desirable for consumers, but when the exchange rate becomes highly overvalued, it jeopardizes exports and growth. We consider how voters balance their interests as consumers with those of national economic performance.

We propose that changes in the RER may influence how people vote, but voters' reactions will depend on the prior RER level. We expect competing interests related to the RER to prevent extreme undervaluation or overvaluation over time in countries with strong political competition. While moderate overvaluation can benefit incumbents electorally, highly overvalued currencies can harm the export sector and

countries and over time. The section on Computing RER Valuations and the appendix discuss the construction of the index.

12. Aklin, Arias, and Gray 2021; Frieden 2015.

13. See Scheve 2004 on public preferences regarding macroeconomic priorities and trade-offs, including unemployment and inflation.

14. Baker 2005; Duch and Stevenson 2008; Hellwig 2014; Naoi and Kume 2015; Quinn and Wooley 2001; Rodrik 2008; Scheve 2004; Walter 2013. The literature extensively debates whether voters engage in "pocketbook voting," which is based on individual economic concerns, or "sociotropic voting," which is based on the performance of the economy. There is also a debate regarding whether voters evaluate candidates retrospectively or prospectively. (See Healy, Persson, and Snowberg 2017 for a comprehensive review.) We argue that voters' preferences for the RER stem from a combination of individual pocketbook consumption interests and a sociotropic interest in national economic performance. We assume that voters engage in retrospective candidate assessments, and our observational analyses are designed to test this retrospective voting channel. In our survey experiments, we attempt to disentangle pocketbook and sociotropic concerns and their connections to voting intentions.

generate electoral benefits for currency depreciation. Thus, we expect currency depreciation in highly overvalued (undervalued) settings to benefit (harm) incumbents electorally.¹⁵

We examine the empirical implications of our argument in three steps. First, we study how changes in the RER affect electoral outcomes in democracies over multiple decades. We examine the results of national elections and original survey experiments, as well as RER outcomes over time. Our main finding is that RER fluctuations do influence election outcomes: when currencies are undervalued, voters tend to punish incumbents for RER depreciations. When RERs are highly overvalued, however, voters sometimes reward depreciation electorally. Our analysis reveals an electoral “safe zone”—which roughly corresponds to real currency valuations on par with the US dollar—in which relatively modest changes in currency valuations have little effect on incumbents’ re-election prospects. These results are robust in countries with floating currencies. In those with pegged regimes and monetary unions, voters do not appear to punish or reward incumbents for RER fluctuations, which we discuss in greater detail later. We also find very little evidence that either (1) greater export exposure or intermediate import exposure or (2) greater *de jure* or *de facto* financial openness affect the results.

In a second step, since the previous RER is potentially endogenous to previous policy decisions, we evaluate the empirical validity of our argument in supplemental analyses, including survey experiments. One set of experimental analyses examines the microfoundations of the voting models using survey experiments in five countries with varying exchange rate conditions: Australia, India, Japan, Mexico, and the United States. Our survey experiments investigate the competing channels through which RER variation may influence voters’ perceptions and behavior.

Respondents in this diverse set of countries react in different ways to the same exchange rate movements, depending on the initial valuation of their currencies. In Mexico, which has an undervalued exchange rate, respondents punish governments for depreciation and reward them for appreciation. In Japan, which has the most overvalued exchange rate in our sample, respondents reward governments for depreciation, though we observe no effects from further appreciation. In the other three countries, respondents do not react to appreciation, but still punish governments for depreciation. In our survey experiments, depreciation appears to have greater salience than appreciation.

Third, we examine the relationship between political institutions and RER valuations between 1975 and 2017. The political logic of our argument implies that the degree of competitiveness of a country’s political institutions is the key to understanding why they do (or do not) undervalue their currencies. We report two novel findings. First, countries with competitive political institutions are very unlikely to maintain an undervalued currency; authoritarian governments are the only ones

15. Scheve 2004 finds that a country’s economic context helps explain the public’s macroeconomic priorities. For instance, rising and volatile inflation leads people to prioritize lower inflation.

that engage in sustained real currency undervaluation. Second, neutral-to-overvalued currencies correlate with other features of democratic governance, but the statistical significance of the estimated effects of such features largely vanishes once we account for the competitiveness of democratic institutions.

Overall, our results suggest that sustained currency undervaluation and competitive devaluations (“currency wars”) are unlikely in democracies even in the context of a “globalization backlash.” Since incumbents in countries that belong to monetary unions appear to be more insulated electorally from RER fluctuations, our findings also suggest a novel political motivation for the eurozone, which we discuss in the conclusion.

Real Exchange Rate Valuations and Economic Voting

We begin with the premise that a depreciated RER can stimulate growth by increasing export competitiveness, creating a possible growth incentive to undervalue. Rodrik finds that undervalued RERs strongly correlate with economic growth, especially in emerging market economies,¹⁶ while sustained currency overvaluation is linked to slower economic growth. However, as Weldzius notes, the relative absence of sustained RER undervaluation presents an important empirical puzzle, given the export-driven growth incentives associated with depreciated currencies.¹⁷ We help resolve this puzzle by demonstrating that *political competition* deters sustained undervaluation.

Here, we argue that exchange rate fluctuations can influence elections. A moderately overvalued currency can enhance consumers’ purchasing power, but extreme overvaluation can harm exports and economic growth. Therefore, a currency’s overvaluation or undervaluation has a conditional effect on elections. When a currency is undervalued, voters tend to penalize incumbents for further depreciations, but when it is highly overvalued, they may reward incumbents for depreciation. We develop our argument in three steps by discussing the role of government policies and institutions in RER outcomes, the distributional consequences of RER fluctuations, and the role of political competition in pushing incumbents to pursue RERs within an electoral “safe zone.”

Exchange Rate Valuations and Government Policies and Institutions

Since a country’s RER reflects the relative price of goods and services in both foreign exchange and domestic markets, RER fluctuations are generated by both government policy choices and domestic and international economic forces, some of which are

16. Rodrik 2008. According to Rapetti, Skott, and Razmi’s 2012 literature review, undervaluation triggers growth in both developed and developing countries.

17. Weldzius 2021.

beyond the government's control. Governments famously face the Mundell–Fleming trade-off, in which policies that influence the value of the *nominal exchange rate* come at the partial expense of autonomous monetary policy management, assuming open capital accounts.

Elected officials do have tools to influence changes in the RER.¹⁸ Most of the countries we examine have maintained some form of capital controls, which can ameliorate the Mundell–Fleming trade-off and influence the value of the real (and nominal) exchange rate.¹⁹ Domestic government policies—fiscal, tax, labor, and others—also influence the RER. For instance, a poor-quality macro-policy environment is associated with depreciated RER valuations.²⁰ Some governments have maintained either undervalued or overvalued exchange rates over extended periods, usually through a combination of policies.²¹

Elected officials might also create institutions and adopt policies to deflect responsibility from themselves. Independent central banks might shield elected officials from accountability for RER movements. Alternatively, adopting a successful currency peg and turning management over to an independent central bank might insulate governments from the electoral effects of RER fluctuations. In the extreme, currency unions help shield elected domestic officials from being held responsible for adverse RER outcomes. We empirically explore these implications later.

Distributional Politics of RER Changes

Our argument focuses on voters' RER interests, and the ways in which RER fluctuations affect those interests. We follow an economic voting framework, which suggests that incumbents tend to receive more support when the economy is doing well, and less support during difficult economic times.²² Adopting an informal, weighted utility approach, we posit that voters' interests include their purchasing power and employment conditions, as well as strong and stable national economic performance: a blend of personal and sociotropic considerations.²³

This blend yields predictions about how RER changes affect voter interests. A key consideration for most voters is that a moderately overvalued RER can improve consumer purchasing power. Moreover, an appreciated domestic currency increases import competition, encouraging firms to keep prices low and thus helping restrain

18. Eichengreen 2007.

19. For the countries and elections examined here, the capital accounts were on average moderately open, with a sample average of 78 out of 100 in the CAPITAL measure of Quinn and Toyoda 2008. More than 60 percent of the countries examined maintained some form of capital controls.

20. Leblang 2003 shows that when “economic fundamentals are weak,” speculators are more likely to bet against a currency, weakening it. Stein, Streb, and Ghezzi 2005 note that devaluations potentially signal governmental incompetence to voters and others.

21. Rodrik 2008.

22. Dassonneville and Lewis-Beck 2013; Duch and Stevenson 2008; Powell and Whitten 1993.

23. Quinn and Woolley 2001.

inflationary pressures.²⁴ An undervalued RER, in contrast, can contribute to inflation if domestic firms increase their prices in response to diminished foreign competition, and can expose the country to speculative attacks by currency traders, resulting in greater volatility.²⁵ An undervalued RER increases the costs of public goods provision.²⁶ All else equal, voters' consumption interests will lead them to favor an appreciated RER.

Yet if the currency becomes highly overvalued, exports can suffer and economic growth can slow. All else equal, overvalued currencies can make exports less competitive, increase import competition, and lead to employment losses.²⁷ As a result, some economic interest groups, especially smaller exporter firms and import-competing firms and their employees, will disapprove of an overvalued currency.²⁸ In contrast, when a currency is undervalued, exporters benefit, since exports are more competitive in global markets, which tends to increase sales, as well as wages and employment, in exporting firms and industries.²⁹ Import-competing firms also benefit as the prices of imported products rise.

Many of the firms and workers vulnerable to RER appreciation will be expected to advocate for their RER interests. Exporting and import-competing firms and their employees may mobilize to demand protection, including favorable exchange rate policies.³⁰ In trade politics, the relationship among firm interests, lobbying, and trade barriers is consistent with Grossman and Helpman's "protection for sale" model, as Gawande and Bandyopadhyay have found.³¹ It is therefore plausible that workers in vulnerable export-only and import-competing firms may respond electorally to unfavorable RER changes,³² and our empirical analyses will account for the interests of those vulnerable to RER appreciation.

24. Balance sheet considerations may also contribute to voters' aversion to depreciation, particularly when borrowers take out loans in foreign currency (Walter 2008). Domestic depreciations are harmful to foreign currency borrowers, and studies have demonstrated that voters respond to rapid depreciations by ousting the party in power (Ahlquist, Copelovitch, and Walter 2020; Walter 2013, 2016).

25. Leblang 2003. Plümper and Neumayer 2011 show that exchange rate depreciations lead to a rise in inflation. In line with this, Bodea 2014 finds that stable exchange rates reduce inflationary expectations. See also Walter 2013.

26. Stein, Streb, and Ghezzi 2005.

27. See Frieden 2015 on exchange rate politics. Broz, Frieden, and Weymouth 2008 show that firms in tradable goods sectors are more likely to express concerns about exchange rate *appreciation*. See Broz and Werfel 2014 and Jensen, Quinn, and Weymouth 2015 on exchange rates and demands for trade protection. See Owen and Walter 2017 for a review of "open economy politics."

28. Bearce and Hallerberg 2011; Bodea 2014; Broz, Frieden, and Weymouth 2008; Frieden 1991, 2015; Steinberg 2015; Walter 2008, 2013.

29. As distributional models clarify, in a world of global value chains, not all tradables producers benefit from an undervalued exchange rate. We test the implications of this insight later.

30. Frieden 1991; Schiumerini and Steinberg 2020; Walter 2008, 2013.

31. Grossman and Helpman 1994; Gawande and Bandyopadhyay 2000. See Kim and Osgood 2019 for a review.

32. Examining the role of trade competitiveness in electoral politics, Jensen, Quinn, Weymouth 2017 find that workers in comparatively advantaged firms were more likely to support incumbents, whereas workers concentrated in import-competing firms were more likely to oppose them.

We anticipate, however, that competitive devaluations may be undesirable for many exporting firms due to fragmented global value chains, as firms produce and source inputs from multiple countries. Most trade involves large firms that both export *and* import.³³ As Amiti, Itskhoki, and Konings summarize, “major exporters are almost always major importers.”³⁴ And while RER depreciation can expand exports, it can also increase the costs of imports, including those from either affiliated or arms-length suppliers.³⁵ The export boost from an undervalued RER may be offset by higher import costs for the very same firms. Consistent with this logic, the fragmentation of supply chains has coincided with a decrease in demands for protection from larger firms, reflecting the opposing interests involved in exporting and importing.³⁶ Therefore, we expect that the constituency favoring undervaluation will be relatively small and fragmented in many countries.

The Role of Political Competition

Democratic elections shape government responses to diverse interests.³⁷ Political competition plays a crucial role in aligning exchange rate policy with the interests of broad constituencies. To garner political support, democratically elected governments tend to prioritize policies that enjoy widespread appeal.³⁸ We expect democratically elected policy makers to be dissuaded from pursuing undervaluation as an export-oriented growth strategy due to the fragmented industrial interests regarding depreciated RERs and consumers’ overall support of appreciated RERs. The large constituencies that oppose a weak domestic currency (and favor an appreciated RER) will likely make undervaluation politically untenable in countries with competitive elections. We therefore expect countries with strong democratic political competition to pursue somewhat *overvalued* RERs. By contrast, authoritarian regimes seeking an export advantage through currency undervaluation can more easily suppress consumer and worker demands for cheaper goods or higher wages.³⁹

The RER trade-off between consumption and national economic performance yields an expected conditional effect of RER changes on elections. Under a weighted utility approach, voters care about both consumption and growth, but may weigh these two objectives differently at different RER levels. We propose that changes in the RER may influence how people vote, but voters’ reactions will depend on

33. Bernard et al. 2007. Using US microdata for two benchmark years (1993 and 2009), Jensen, Quinn, and Weymouth 2015 demonstrated that more than 60 percent of employees of US manufacturing firms worked for US firms that imported. Most of the employees worked for firms engaging in related-party importing, which generally means these firms had established overseas affiliates.

34. Amiti, Itskhoki, and Konings 2014, 1945. Using Belgian micro data, Amiti, Itskhoki, and Konings demonstrate that 78 percent of Belgian exporters also import.

35. Egan 2016; Frieden 2015; Jensen, Quinn, and Weymouth 2015; Weldzius 2021.

36. Jensen, Quinn, and Weymouth, 2015

37. Mansfield, Milner, and Rosendorff 2002; Milner 1999.

38. Milner and Kubota 2005; Sattler and Walter 2010.

39. Steinberg 2015.

prior RER levels. For instance, moderate overvaluation can benefit incumbents electorally, but there is likely a limit to overvaluation as a vote-maximizing strategy. At high levels of overvaluation, further appreciation may jeopardize incumbents' re-election prospects due to the risk of deflation and slow growth. Indeed, the Swiss National Bank included these two reasons among the justifications of its surprise devaluation of the Swiss franc and its peg to the euro in September 2011. In highly overvalued (undervalued) settings, we expect currency depreciation to increase (decrease) support for incumbents.

In sum, political competition should constrain RER valuations. Deviations from a moderately overvalued RER are likely to threaten incumbents' chances of re-election. A vote-maximizing exchange rate policy should tend toward moderate overvaluation in an effort to balance the broader public's growth and consumption objectives. We expect political competition to constrain governments' ability to undervalue their currencies.

Computing RER Valuations

Using methodologies outlined by Rodrik and adapted from the International Monetary Fund,⁴⁰ we compute country-specific indices of RER valuations using the 2019 Penn World Tables (PWT 9.1).⁴¹ Our valuation index captures the unique yearly value of a country's goods and services relative to those in the United States at the prevailing nominal exchange rate.⁴² To generate the valuation index, we first compute

$$\text{RERUNADJ}_{it} = \ln(\text{XRAT}_{it}/\text{PPP}_{it}), \quad (1)$$

where XRAT_{it} is the nominal exchange rate and PPP_{it} is the purchasing power parity price index, which reflects the relative prices of goods and services across countries above and beyond those captured by nominal exchange rate movements. The RER can be thought of as a mixture of currency, product, and factor prices set by a complex array of international and domestic economic and political agents.

Following Rodrik, we use logged per capita GDP to control for the Balassa-Samuelson effect (that the relative prices of nontradables tend to increase with country wealth). The undervaluation index is the residual ($\hat{\text{EXR}}_{it}$) of the regression

$$\text{RERUNADJ}_{it} = \alpha + \beta(\text{LNGDPPC})_{it} + \gamma_t + \varepsilon_{it} \quad (2)$$

where γ_t is a year fixed-effect term.⁴³ By convention, positive values of $\hat{\text{EXR}}_{it}$ denote undervaluation and negative values indicate overvaluation, and the mean (global)

40. International Monetary Fund 2013; Rodrik 2008.

41. Feenstra, Inklaar, and Timmer 2015.

42. Following the convention of measuring RERs using PPP adjustments, US prices are the universal benchmark for assessing the RER. We use the US dollar as the benchmark due to data constraints.

43. This indicator is widely used in the international political economy and trade literature; see, for example, Betz and Kerner 2016; Jensen, Quinn, and Weymouth 2015; Steinberg 2015.

observation is zero. Since advanced industrial countries generally have more overvalued real currencies even after controlling for wealth, we estimate and explore separate samples for OECD member and nonmember democracies (as of 1986).

Exchange Rate Valuations: An Electoral Connection?

We estimate incumbent vote share election models using the change in the incumbent's (or incumbent party's) contemporaneous vote share as the dependent variable.⁴⁴ The data cover national elections in democracies, 1972 to 2017, from Alesina and colleagues⁴⁵ We take democratic elections to be those occurring in countries with POLITY 5 scores of 7 or greater for the most recent and two prior elections.⁴⁶ The key independent variable is the change in RER of country i at $t-1$, or $\Delta \hat{\text{XR}}_{i,t-1}$ (see Equation (2)).

We allow both changes in, and levels of, currency valuation to affect the relationship with electoral outcomes by adding the prior level ($\hat{\text{XR}}_{i,t-2}$) to some specifications. We also permit *changes* in the exchange rate to conditionally depend on the *prior level* of exchange rate, because we expect continuous increases in currency overvaluation to have diminishing marginal (and indeed negative) electoral returns at high levels of overvaluation. We therefore include an interaction term, $\Delta \hat{\text{XR}}_{i,t-1} \times \hat{\text{XR}}_{i,t-2}$. In keeping with the advice of Hainmueller, Mummolo, and Xu, we examine the linearity assumption in this specification.⁴⁷ Figure 1 displays histograms of the distributions of the key conditioning variable ($\hat{\text{XR}}_{i,t-2}$).

The model controls for known macroeconomic determinants of voting outcomes, including economic growth, trade balance, trade openness, inflation, and unemployment. It also includes a dummy variable for whether a country belongs to the eurozone, and a separate dichotomous indicator for the presence of a pegged exchange rate, from Klein and Shambaugh.⁴⁸ This latter shows a currency peg in 31 percent of election years in our sample.⁴⁹

44. In presidential systems, the incumbent is either the incumbent seeking re-election or a successor from the incumbent's party. We treat the president as the incumbent. In parliamentary systems, the leading party is considered the incumbent. Alesina and colleagues (forthcoming) find that political accountability effects from policy changes are concentrated in the main party in a coalition.

45. Alesina et al., forthcoming.

46. This is the threshold recommended by the Polity Project's creators: Marshall and Gurr 2020, 35 define a "full democratic polity" as scoring between 7 and 10 on the Polity scale, which runs from -10 (strongly autocratic) to 10 (strongly democratic). Nearly identical results are obtained using Polity scores of 6 or greater (details available on request).

47. We use the "binning approach" of Hainmueller, Mummolo, and Xu 2019, using a Wald test to indicate whether the estimated linear interaction model and a three-bin model are statistically equivalent (the null hypothesis is that they are equivalent). We also estimate a kernel density model and compare the figures. See the appendix for details.

48. Klein and Shambaugh 2009. In separate estimates (in the appendix), we test the robustness of our results using a different indicator in place of PEG: COARSE 1-4 from Reinhart and Rogoff 2004.

49. In the OECD (non-OECD) countries in our sample, 34 percent (20%) of the country-election year observations are either pegs or monetary unions.

Since an exchange rate peg could plausibly moderate the effect of exchange rate changes on incumbent vote shares, we estimate models of increasing complexity by interacting PEG with $\Delta\hat{\text{EXR}}$, the expected directionality of which differs in competing theories. If voters value monetary autonomy (as in Bearce and Hallerberg),⁵⁰ there should be political costs associated with pursuing a peg. By contrast, a fixed-exchange-rate regime might insulate incumbent politicians from responsibility for fluctuations in the RER by relegating the blame for RER and related price movements to outside forces. As Powell and Whitten first showed,⁵¹ incumbents are penalized electorally for a poor economy when voters have “clarity about responsibility” for economic performance. Since a currency union (such as the euro) or a pegged regime places exchange rate policymaking outside the purview of domestic political actors, these institutions may shield incumbents from electoral penalty following changes in the RER.

We estimate models with country (θ_i) and year (γ_t) fixed effects. As an alternative to country fixed effects, we estimate two lags of the incumbent (candidate or party) vote shares to control for autoregressive properties of the data. This estimator is not a classic “lagged endogenous” model, as the lags are given by the dates of prior elections rather than lagged by (for example) a year. We also follow Powell and Whitten and include a dummy for majoritarian electoral systems while continuing to include year fixed effects.⁵²

Our base model is

$$\begin{aligned} \Delta\text{INCUMBENTVOTESHARE}_{i,t} &= \beta_0 + \beta_1(\Delta\hat{\text{EXR}}_{i,t-1}) + \beta_2(\text{PEG}_{i,t-1}) + \beta_3(\text{LNGDPGROWTH}_{i,t-1}) \\ &\quad + \beta_4(\text{TRADEBALANCE}_{i,t-1}) + \beta_5(\text{LOGTRADEOPENNESS}_{i,t-1}) \\ &\quad + \beta_6(\text{INFLATION}_{i,t-1}) + \beta_7(\text{UNEMPLOYMENTRATE}_{i,t-1}) \\ &\quad + \beta_8(\text{EUROZONE}_{i,t-1}) + \beta_9(\text{MAJORITARIANPOLITICALSYSTEM}_{i,t-1}) + \theta_i + \gamma_t \\ &\quad + \varepsilon_{i,t}, \quad i = 1, 2, \dots, 59 \end{aligned} \quad (3)$$

In some models, we add $\beta_{10}(\text{INCUMBENTPARTYVOTESHARE}_{i,s-1}) + \beta_{11}(\text{INCUMBENTPARTYVOTESHARE}_{i,s-2})$, omitting country fixed effects (θ_i).⁵³ As noted, we also estimate more complex models that include $\Delta\hat{\text{EXR}}_{i,t-1} + \hat{\text{EXR}}_{i,t-2}$ and $\Delta\hat{\text{EXR}}_{i,t-1} \times \hat{\text{EXR}}_{i,t-2}$.

A potential concern associated with our estimation approach is collider bias, which occurs when a “collider variable” in a regression model could be associated with other independent variables or, through relationships with other independent variables, with the dependent variable.⁵⁴ We begin by considering possible collider bias.⁵⁵

50. Bearce and Hallerberg 2011.

51. Powell and Whitten 1993.

52. These results are available on request.

53. The subscripts $s-1$ and $s-2$ refer to the results of the prior two elections.

54. See Elwert and Winship 2014 for a discussion.

55. We thank an anonymous reviewer for this suggestion.

In a robustness check, we add the following macroeconomic and policy regressors to the baseline specification: exports and imports separately estimated (instead of the trade balance); FDI flows to account for possible financial integration and value chain effects; Bodea and Hicks's measure of a country's central bank independence (LAVU); Quinn and Toyoda's measure of de jure capital account openness (CAPITAL, updated through 2017); and the Laeven and Valencia measures of financial and banking crises.⁵⁶ To account for the possibility that firm and other exporter interests are stronger in countries with more exports, we explore whether either (1) more exports or a larger trade balance or (2) more (or less) intermediate imports relative to a country's exports moderate our results. Countries also vary in the efficacy of business lobbying and organization. We therefore proxy for business influence over economic policy, especially from import-competing or exporting businesses, using indicators of the extent of nontariff barriers in a country's exports and imports.⁵⁷ Including these controls or potential moderators does not substantively change our results (full results are reported in the appendix).

Results

Table 1 reports the results of our regressions. Model 1 estimates a simple regression model version of Equation (3) (with no controls and no country or year fixed effects, to guard against collider bias) with $\Delta \hat{\text{eXR}}_{i,t-1}$ as the independent variable and change in incumbent vote share as the dependent variable.⁵⁸ A 10 percent currency depreciation, roughly equivalent to one standard deviation, is associated with a 1.2 percent decrease in incumbent vote share.⁵⁹ Model 2 adds the prior exchange rate, and model 3 includes the interaction term as well. Figure A1 in the appendix charts the results from model 3: when a currency is overvalued by 25 percent or more, incumbents face no electoral penalty from either real currency depreciation or appreciation. Yet when a currency is either undervalued or slightly overvalued, incumbents gain from appreciation and lose from depreciation. These findings are consistent with our theoretical expectations. At a 10 percent currency undervaluation, a 10 percent devaluation in the RER is associated with a 1.8 percent decrease in incumbent vote share. Models 1, 2, and 3 contain no other covariates or fixed effects, mitigating possible collider bias concerns.

56. Bodea and Hicks 2015; Quinn and Toyoda 2008; Laeven and Valencia 2020.

57. We use the "coverage ratio" of nontariff barriers of a country's imports and exports from the World Bank's World Integrated Trade Solutions database, available at <<https://wits.worldbank.org/tariff/nontariff-measures/en/ntm-datadownload>>. This is the percentage of the value of a country's imports and exports that is subject to a tariff barrier (or subsidy). The higher the nontariff barrier coverage, the more effective we assume business lobbying is.

58. The correlations between $\Delta \text{INCUMBENTVOTESHARE}_{i,t}$ and $\Delta \hat{\text{eXR}}_{i,t-1}$ (change in the RER) and $\hat{\text{eXR}}_{i,t-2}$ (level of the RER) are -0.08 ($p < 0.10$) and -0.15 ($p < 0.01$), respectively. This is from a sample of 412 elections in 59 countries, which is the fullest election sample.

59. Real values of the currency index are recovered by $1 - (\exp(\hat{\text{eXR}}))$.

TABLE 1. *Effects of Currency Valuations on Changes in Incumbent Vote Share, 1972–2017*

<i>Model</i>	<i>(1.1)</i> <i>Simple</i>	<i>(1.2)</i> <i>Simple</i>	<i>(1.3)</i> <i>Simple</i>	<i>(1.4)</i> <i>Unit/year FE</i>	<i>(1.5)</i> <i>Unit/year FE</i>	<i>(1.6)</i> <i>Unit/year FE</i>	<i>(1.7)</i> Y_{s-1}/Y_{s-2}	<i>(1.8)</i> Y_{s-1}/Y_{s-2}	<i>(1.9)</i> Y_{s-1}/Y_{s-2}
$\Delta \hat{\epsilon}XR_{i,t-1}$	-12.179*** (4.156)	-13.258*** (3.920)	-16.559*** (4.900)	-15.633** (7.784)	-19.567** (8.298)	-29.553*** (9.318)	-10.585 (7.220)	-13.217* (7.388)	-24.980** (10.113)
$\hat{\epsilon}XR_{i,t-2}$		-3.194 (2.344)	-2.721 (2.632)		-7.775 (6.861)	-8.464 (6.750)		-6.805*** (2.174)	-6.687*** (2.085)
$\Delta \hat{\epsilon}XR_{i,t-1} \times \hat{\epsilon}XR_{i,t-2}$			-17.045* (9.711)			-32.738* (18.700)			-37.939** (18.067)
$PEG_{i,t-1}$				-0.691 (1.274)	-1.191 (1.437)	-1.112 (1.485)	1.510 (1.296)	-0.168 (1.509)	-0.181 (1.522)
$\ln GROW_{i,t-1}$				32.999 (24.885)	40.764* (23.345)	40.278* (22.203)	32.381 (22.928)	48.054** (22.301)	47.566** (21.909)
$TRADE\ BALANCE_{i,t-1}$				-0.003 (0.088)	0.029 (0.091)	0.038 (0.089)	0.020 (0.053)	-0.034 (0.056)	-0.042 (0.053)
$TRADE\ OPENNESS_{i,t-1}$				0.101 (0.086)	0.140 (0.095)	0.140 (0.097)	-0.013 (0.029)	-0.010 (0.028)	-0.010 (0.027)
$INFLATION_{i,t-1}$				-0.003 (0.005)	-0.003 (0.005)	-0.003 (0.005)	-0.007** (0.003)	-0.006* (0.003)	-0.007** (0.003)
$UNEMP_{i,t-1}$				-0.165 (0.172)	-0.173 (0.168)	-0.231 (0.179)	-0.144 (0.163)	-0.070 (0.168)	-0.099 (0.170)
$EURO_{i,t-1}$				-4.214* (2.288)	-5.030** (2.426)	-5.057** (2.463)	0.736 (1.516)	-1.615 (1.562)	-1.614 (1.560)
$MAJORITARIAN\ SYSTEM_{i,t-1}$							3.205*** (1.164)	1.234 (1.140)	1.250 (1.056)
$INC\ VOTES_{i,t-1}$							-0.386*** (0.105)	-0.348*** (0.102)	-0.333*** (0.105)
$INC\ VOTES_{i,t-2}$							0.052 (0.097)	0.035 (0.093)	0.013 (0.098)
CONSTANT	-4.800*** (0.786)	-5.192*** (0.958)	-5.161*** (1.018)	-1.709 (6.590)	-4.817 (6.763)	-4.462 (6.852)	14.422** (5.781)	12.371** (5.285)	12.825** (5.307)
Elections	412	412	412	309	309	309	289	289	289
R^2 within	0.0278	0.0327	0.0552	0.194	0.202	0.211	0.310	0.307	0.309
Countries	59	59	59	52	52	52	48	48	48
Year fixed effects	N	N	N	Y	Y	Y	Y	Y	Y
Country fixed effects	N	N	N	Y	Y	Y	N	N	N
Wald P -value			0.0018			0.5726			0.4809

Notes: The unit of analysis is country-year elections. Regressors lagged by one period unless otherwise noted. Robust standard errors adjusted for country-level clustering. * $p < .10$; ** $p < .05$; *** $p < .01$.

Models 4 to 9 in Table 1 report the main results of Equation (3) including covariates. In models 4 (year and unit fixed effects) and 7 (a lagged endogenous model), we identify an unconditional negative relationship between increasing undervaluation and subsequent incumbent vote shares. A one-standard-deviation increase (that is, depreciation) in the undervaluation index (0.1) is associated with a 1.5 percent (model 4) to 1.2 percent (model 7) decrease in incumbent vote share. The sign and statistical significance are similar to the model with no covariates (model 1). These results are consistent with our expectation that voters punish incumbents for currency undervaluation and reward them for overvaluation.

Models 5 and 8 include the undervaluation index in both changes and levels. We find that increasing undervaluation, and greater initial undervaluation, decrease incumbents' chances of re-election. A one-standard-deviation increase in the change indicator, $\Delta\hat{X}R_{i,t-1}$, is associated with a 1.3 to 1.9 percent decrease in incumbent vote share.

As we discuss in the theoretical section, we propose that the effects of changes in currency valuations are conditional on the current levels of valuation. As in model 3, in model 6 (year and unit fixed effects) and model 9 (lagged endogenous) the estimated effect of changes in the index ($\Delta\hat{X}R_{i,t-1}$) depends on its prior level ($\hat{X}R_{i,t-2}$). The interaction terms are negative and statistically significant at the 0.1 level, and the coefficient estimates for change in the index are statistically significant at the 0.05 or 0.01 level. The Wald test for equivalence between the linear interaction term and a "three-bin model" using the Hainmueller, Mummolo, and Xu *interflex* command fails to reject the null of equivalence for models 3, 6, and 9 (see Figure A2 in the appendix).⁶⁰

For ease of interpretation, Figure 1 (*top*) displays the estimated range of the effects, confidence intervals, and density of the distribution of the observations for Table 1, model 6 (unit and year fixed effects). Depreciation of an undervalued-to-moderately-overvalued RER diminishes the incumbent's re-election prospects. For example, given the average value of the Mexican peso (roughly 10% undervalued during the study period), an incumbent party running for re-election following a one-standard-deviation depreciation loses an estimated 5.2 percent of the vote share compared to an incumbent presiding over a 10 percent currency appreciation. (We assess this example further in the survey experiments.) Yet the depreciation of highly *overvalued* currencies is not electorally harmful. For instance, where the currency starts out as more than 33 percent overvalued (-0.4 or more), which is roughly consistent with the average value of the Australian dollar during this period, we find no evidence that depreciation harms incumbents.⁶¹

60. Hainmueller, Mummolo, and Xu 2019.

61. Figure A2 (in the appendix) displays the results of the "three-bin" model (based on model T1.6). The Wald test cannot reject the null hypothesis that our preferred linear interaction models in models 6 and 9 in Table 1 and the three-bin model, which tests for nonlinearities, are statistically equivalent.

In Table 2, we examine the electoral effects in emerging and advanced economies separately, given their propensity to have undervalued and overvalued currencies, respectively.⁶² The main difference between the OECD and non-OECD sample results is that the coefficient estimates of the interaction term ($\Delta\hat{\epsilon}XR_{i,t-1} \times \hat{\epsilon}XR_{i,t-2}$) are highly statistically significant and negative in the OECD sample (models 2 and 3) but not in the non-OECD sample (models 2.4–2.6 in Table 2.)

TABLE 2. *Effects of Currency Valuations on Changes in Incumbent Vote Share, 1972–2017 (OECD versus non-OECD)*

Model Grouping	(2.1) Simple OECD	(2.2) Unit/year FE OECD	(2.3) Y_{s-1}/Y_{s-2} OECD	(2.4) Simple non-OECD	(2.5) Unit/year FE non-OECD	(2.6) Y_{s-1}/Y_{s-2} non-OECD
$\Delta\hat{\epsilon}XR_{i,t-1}$	-40.084*** (14.575)	-41.043*** (10.627)	-27.625* (16.082)	-12.271** (5.504)	-50.621** (22.418)	-31.959* (18.537)
$\hat{\epsilon}XR_{i,t-2}$	-1.946 (1.636)	-9.259 (7.673)	0.052 (3.680)	-2.301 (5.405)	-18.318 (12.576)	-7.187 (4.879)
$\Delta\hat{\epsilon}XR_{i,t-1} \times \hat{\epsilon}XR_{i,t-2}$	-72.598** (29.517)	-87.993*** (18.292)	-67.733*** (25.212)	0.703 (11.345)	-17.841 (41.155)	-34.048 (33.157)
PEG		-1.548 (2.313)	0.801 (1.419)		-2.334 (4.218)	-3.642 (3.840)
$\ln GROW_{i,t-1}$		70.134* (36.526)	70.194* (35.947)		22.004 (38.801)	41.185 (32.377)
$TRADE\ BALANCE_{i,t-1}$		-0.046 (0.079)	-0.067 (0.065)		0.272 (0.351)	0.056 (0.192)
$TRADE\ OPENNESS_{i,t-1}$		0.134 (0.104)	-0.042 (0.028)		0.080 (0.207)	0.017 (0.065)
$INFLATION_{i,t-1}$		0.244 (0.214)	0.189 (0.198)		0.005 (0.081)	0.016 (0.037)
$UNEMP_{i,t-1}$		-0.074 (0.234)	-0.240** (0.114)		0.246 (1.065)	0.154 (0.564)
$EURO_{i,t-1}$		-4.858 (2.922)	-1.650 (1.628)			-0.425 (8.743)
$MAJORITARIAN\ SYSTEM_{i,t-1}$			0.910 (1.192)			-1.843 (3.198)
$INC\ VOTES_{i,t-1}$			-0.340*** (0.104)			-0.395** (0.201)
$INC\ VOTES_{i,t-2}$			-0.011 (0.080)			0.044 (0.197)
CONSTANT	-3.732*** (1.029)	-7.285 (7.716)	16.406** (8.234)	-6.183*** (0.989)	-15.757 (20.372)	-68.872 (127.035)
Elections	233	184	183	179	125	106
R^2 within	0.0464	0.384	0.479	0.0516	0.394	0.491
Countries	19	19	19	40	33	29
Year fixed effects	N	Y	Y	N	Y	Y
Country fixed effects	N	Y	N	N	Y	N
Wald P -value	0.0002	0.5035	0.4321	0.1826	0.0950	0.4733

Notes: The unit of analysis is country-year elections. Regressors lagged by one period unless otherwise noted. Robust standard errors adjusted for country-level clustering. * $p < .10$; ** $p < .05$; *** $p < .01$.

62. The Balassa–Samuelson effect suggests that countries with lower per capita incomes and purchasing power are likely to have lower RERs, as producers in the tradables sector will reduce their prices to maintain sales. Hence, emerging economies will have lower real currency values than advanced economies.

Figure 1 (bottom) presents the results for the OECD economies (Table 2, model 2, unit and year fixed effects). We find that *depreciations* are electorally beneficial for incumbents if the prior level of overvaluation is very high (roughly 50%, or -0.65). At these levels, *devaluing* the currency has a positive and statistically significant effect on incumbent vote shares. Roughly 24 percent of the advanced industrial sample observations lie within that overvalued range (for example, Sweden in the 2010s or Japan in the 1990s). Relatedly, currency depreciations are electorally punished starting at a roughly 22 percent overvaluation (more than -0.25) through the observed range of undervaluation. Observations in that range of undervaluation constitute 14 percent of the advanced economy sample (for example, New Zealand in the early 2000s).

However, we find no evidence that moderate overvaluation has a statistically significant effect on incumbent vote shares in OECD economies. There appears to be a “safe zone” for incumbents of roughly 22 to 45 percent overvaluation; 62 percent of the observations occur in that range (see Figure 1, bottom). Thus, moderate overvaluation does not seem to incur an electoral penalty in advanced economies. Incumbent politicians appear to have an incentive to maintain stable and moderate real currency overvaluation, and to avoid either extreme overvaluation or undervaluation. More than 85 percent of the eurozone’s country-year-election observations fall within the safe zone, compared to 57 percent for non-eurozone countries.

As noted, the estimated effects of the interaction terms are not statistically significant for non-OECD democracies. Voters in these countries punish RER devaluations, as measured by the β estimates of $\Delta\hat{X}R_{i,t-1}$. That said, once the covariance of the coefficients is accounted for in the interaction term, the conditional relationship of $\Delta\hat{X}R_{i,t-1}$ to $\hat{X}R_{i,t-2}$ is statistically significant across most of the observed range, even if less precisely estimated. (See Figure A3 in the appendix.) Very few of the observations for emerging market democracies, however, occur in the moderate-to-highly-overvalued range (where we expect that voters may reward devaluations);⁶³ the vast majority (89%) have initial real currency values from -0.25 (modest overvaluation) to 0.7 (high level of undervaluation). Only two observations (1.5% of the sample) in this subsample are in the highly overvalued zone; both are from Argentina.

The coefficient estimates of the other covariates are generally consistent with prior findings in the economic voting literature. For example, as in Scheve,⁶⁴ increasing INFLATION always has a negative coefficient estimate, and is occasionally statistically significantly associated with decreasing incumbent vote shares. GROWTH is generally positively signed and is occasionally significant. The estimated UNEMPLOYMENT coefficient is negatively signed and is occasionally statistically significant. MAJORITARIAN systems are generally associated with larger incumbent vote shares. The coefficient estimates of the trade variables are rarely statistically significant, with the exception of TRADEOPENNESS, which is negatively associated with incumbent vote shares in the OECD subsample.

63. Argentina in the early-to-mid-1990s is the main exception; see Schiumerini and Steinberg 2020. Most emerging market elections were held in the context of an undervalued currency.

64. Scheve 2004.

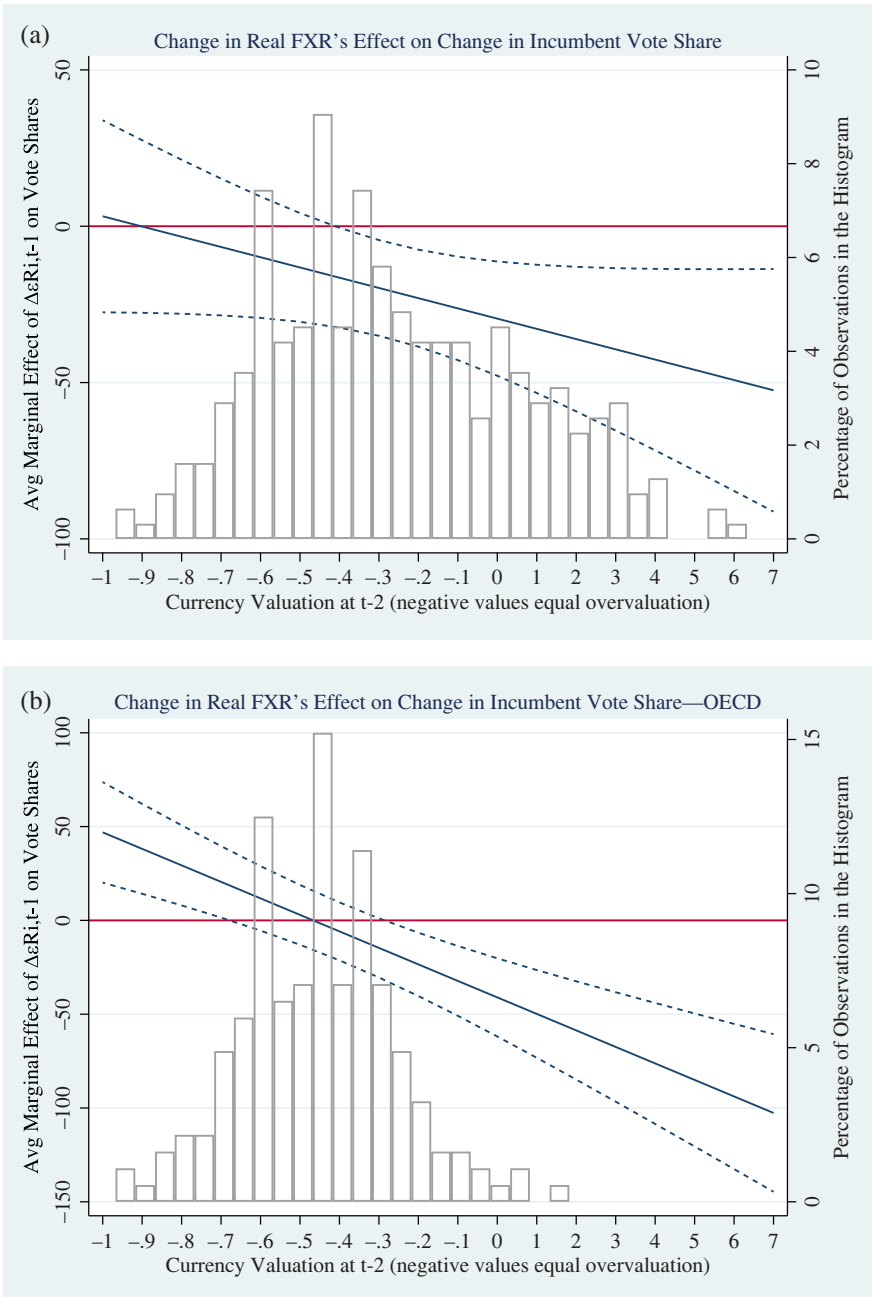


FIGURE 1. Effect of RER change on vote share. Top: full sample (based on Table 1, model 6). Bottom: OECD nations (based on Table 2, model 2)

Extension: Currency Valuations Under Different Exchange Rate Regimes

Does the presence (or absence) of a currency peg have electoral consequences? Studies show that politicians opt into different exchange rate regimes based on political considerations, such as the need to use macroeconomic policies for electoral purposes.⁶⁵ The indicator for a pegged currency never approaches statistical significance in any model in Table 1 or 2, which suggests that voters neither reward nor penalize incumbent governments directly for the presence or absence of a pegged exchange rate per se.⁶⁶

However, the presence of a currency peg or monetary union might moderate the effects of currency valuations on electoral outcomes. One possibility is that voters hold politicians more accountable for changes in underlying currency valuations (at a given level of RER) when the currency has been pegged, as government officials presumably committed to the peg and deviations from the target will be obvious. An alternative possibility, consistent with the “clarity of responsibility” arguments,⁶⁷ is that elected officials can deflect responsibility for RER changes away from themselves by either adopting a peg or joining a currency union and turning management of the RER over to central bank officials.

Table A2 (in the appendix) reports models in which the RER is interacted with PEG.⁶⁸ Due to the complexity of directly interpreting the regression coefficients, the appendix includes figures that display the estimated effects. Figure A4 assesses the peg versus non-peg condition for OECD countries; Figure A5 omits eurozone countries and examines other peg conditions versus non-pegged conditions among OECD countries; Figure A6 compares eurozone countries to other OECD countries; and Figure A7 examines pegged versus non-pegged conditions in emerging markets.

In all cases, the non-pegged condition generates statistically significant results for currency overvaluations of roughly 30 percent or less. For the advanced economies, we find statistically significant and positive effects of devaluations at high levels of currency overvaluation only in the non-pegged condition. We find no statistically significant estimates of RER changes on incumbent vote shares for pegged currencies. For eurozone members (Figure A6), the estimates of the interaction effect are close to zero, suggesting that incumbents were not generally held accountable for changes in the euro’s value.⁶⁹ This evidence is consistent with the “clarity of responsibility”

65. Bernhard and Leblang 1999.

66. We substitute COARSE from Reinhart and Rogoff (2004) for PEG in Table A1 (in the appendix). COARSE is a categorical measure of a government’s stance (1 = a currency union or fixed peg; 4 = a freely floating currency). The correlation between PEG and COARSE is -0.62 in the samples examined in Table 1. In Table A1, the estimated coefficient for COARSE is occasionally negative and statistically significant, implying that voters might penalize incumbent governments for freely floating exchange rate regimes.

67. Powell and Whitten 1993.

68. We combine all pegged countries, eurozone and non-eurozone alike.

69. The RER valuations for eurozone member countries are overwhelmingly located in the “safe zone.” The euro moved, for example, Germany, were it to have retained the Deutsche Mark, away from likely Swiss/Japanese-style levels of overvaluation and Greece, were it to have retained the drachma, away from nearly certain high levels of undervaluation.

argument whereby currency unions or central banks in pegged contexts absorb responsibility for RER changes.

Robustness Checks and Additional Regressors

We estimate models using Driscoll-Kraay standard errors to account for possible cross-sectional spatial correlation.⁷⁰ The estimates of the standard errors are nearly identical to those in Table 1.6, and Figure A8 virtually replicates Figure 1 (top).

As a placebo treatment test, we add future values of the RER indicators, which occurred *after* the elections were held.⁷¹ We find no statistically significant estimated effects from future values either with or without the originally timed RER variables included (Figure A9).⁷² Again, the original RER electoral effects nearly match Figure 1 (top), even after including the leads of the RER variables.

The appendix reports models with additional covariates. Table A3 substitutes imports and exports as percentages of GDP separately instead of incorporating them into the composite TRADEOPENNESS variable. Table A4 adds an indicator for FDI FLOWS. Table A5 adds indicators for CENTRALBANKINDEPENDENCE and CAPITALACCOUNTOPENNESS. Table A6 adds the overall CRISES measure from Laeven and Valencia.⁷³ In all cases, the coefficient estimates of the exchange rate indicators retain the signs, levels of statistical significance, and general magnitudes of the estimated effects found in Table 1. With a few exceptions, the coefficient estimates of the additional regressors are not statistically significant.

An additional possibility is that these and other variables moderate the effect of exchange rate changes on incumbent vote shares.⁷⁴ Increased exposure to certain aspects of globalization could amplify the effects of RER changes. Examining such concerns requires a conditional model with triple interactions between and among the conditioning variable and the two RER terms.

Figures A10 to A16 present the estimated effects of the average value of the conditioning variable and an increase in this value.⁷⁵ We consider increased export

70. Driscoll and Kraay 1998.

71. We add $\Delta \hat{X}R_{i,t-2} \times \hat{X}R_{i,t-1}$ as the placebo treatment test, with and without $\Delta \hat{X}R_{i,t-1} \times \hat{X}R_{i,t-2}$. The placebo treatment test variables are never close to statistical significance, and the original RER measures maintain nearly identical magnitudes and standard errors when including the placebo treatment test variables.

72. Eggers, Tuñón, and Dafo 2023.

73. Laeven and Valencia 2020.

74. We thank anonymous reviewers and the editors for these suggestions.

75. Due to the complexity of the results, we show the mean conditional effect and the effect of an increase in the conditional variable. The FDI data are highly skewed, so we use the 90th-percentile observation, which is two-thirds of a standard deviation above the mean. The countries in the sample are generally open to capital flows, with a mean and median openness of 80 out of 100 and a standard deviation of 20 on the Quinn/Toyoda 2008 scale. Since crises are rare (mean instance near zero), we show the movement from no crisis to one crisis. The data for exports, trade balance, and intermediate imports are also highly skewed; we log the data and show the mean and half a standard deviation increase. The central bank data are relatively normally distributed; we show the average and one standard deviation above the mean.

exposure from exports as a percentage of GDP (A10), trade balance as a percentage of GDP (A11), intermediate imports as a percentage of exports (A12), increased FDI exposure (A13), increased central bank independence (A14), capital account openness (A15), and banking and currency crises (A16). The mean estimates closely match those in [Figure 1](#). Future research should explore why increases in the exposure / macro policy / crises variables, if anything, reduce the precision of the estimates.

Table A7 adds an indicator from the Database of Political Institutions of right-leaning (versus left or center-leaning) partisan governments. Figure A17 compares the interactions among right-leaning governments and the exchange rate indicators to center or left-leaning governments. (Note that the sample shrinks substantially due to data limitations.) In Table A7, the estimated coefficients, signs, and levels of statistical significance are similar to those in [Table 1](#). Figure A17 indicates that right-leaning governments may be more heavily penalized for depreciations when the currency is undervalued (although changes in the sample composition make comparisons difficult)—a promising area for further research.⁷⁶

In another extension, we consider whether exporter or import-competing interests influence exchange rate policies in an undervaluation direction. We use WITS non-tariff barrier (NTB) data on imports (exports) covered by NTBs as a percentage of total imports (exports) to proxy for producer support for undervaluation. High NTBs are likely to be associated with firm preferences for currency undervaluation because NTBs are a potential protectionist complement to RER undervaluation. However, interactions among import coverage and the RER variables (Figure A18) and among export coverage and the RER variables (Figure A19) show little evidence that countries with high NTBs differ from others on the core results.

Finally, we compare the estimated effects of nominal exchange rate changes to RER changes on incumbent vote shares.⁷⁷ Using model T1.6 as the base model, nominal currency depreciations are negatively associated with changes in incumbent vote shares (Table A8.1). However, when the RER variables are added to the models with nominal changes, the estimated effects on changes in the nominal currency vanish, while the RER estimates are similar to the original estimates in T1.6 (Table A8.2). According to this evidence, changes in currency values that do not affect real prices do not matter electorally.

In sum, we find that how RER changes affect voting depends on the initial exchange rate. When a currency is undervalued, voters punish devaluations and reward appreciations. Yet if a currency starts out as highly overvalued, voters penalize appreciations and (sometimes) reward depreciations. We observe no electoral penalty for moderate changes in RER valuations when the initial exchange

76. Rys and Steinberg [2020](#).

77. Positive changes in the nominal exchange rate indicate depreciation against the US dollar, which is similar in directionality to the RER changes. The correlation of changes in the nominal exchange rate with changes in RER in the electoral sample is +0.39.

rate is somewhat overvalued. In the next section, we explore the microfoundations of the election results using original survey experiments conducted in five countries.

Individual-Level Responses to Exchange Rate Movements

Identification Strategy and Country Selection

We used preregistered experimental survey data to examine how the exchange rate affects individual voters.⁷⁸ These experiments complement the observational analysis in the previous section because they help isolate the causal effect of currency valuations on citizens' voting tendencies. They also allow us to unpack voter assessments of how exchange rates affect both the aggregate economy and their personal circumstances.

We selected these five countries for the survey experiments because they represent a mix of emerging and advanced economies and vary significantly in their historic exchange rate valuations (Table 3, Figure 1)—undervalued (Mexico, India), strongly overvalued (Japan), and moderately overvalued (Australia, United States). According to our argument, this variation implies that voters in these countries should react differently to exchange rate movements (Table 3). In Mexico and India (undervalued), voters should disapprove of further exchange rate depreciation and approve of appreciation. Voters in Australia and the United States (overvalued by 25–33%, the lower bound of the “safe zone” estimated in the macro analysis) are likely to react negatively to substantial depreciation but largely ignore currency appreciation. In Japan (strongly overvalued), voters should disapprove of further appreciation and approve of depreciation. The appendix discusses between-country differences, including exchange rate regime differences (from managed to freely floating) and different degrees of trade exposure (very high for Mexico, much lower for the United States).

Experimental Design

The experimental part of our survey introduced respondents to three scenarios of how the exchange rate could develop in the future: depreciate, appreciate, or stay the same (control). Each scenario included a figure illustrating the hypothetical exchange rate movements and outlined the implications for the trade-off between exports and prices (the description weighted both equally). The country's exchange rate at the time of the survey served as the starting point. For the appreciation (depreciation) scenario, the exchange rate appreciated (depreciated) by a total of 10 percent over six months, which roughly corresponds to a one-standard-deviation change in currency values in the voting analysis reported in Table 1. For the control scenario, the data in the figure fluctuated around a constant level over the same period. The volatility of the exchange rate was identical in all three scenarios.

78. See, for example, Bearce and Tuxhorn 2017 for a survey analysis along similar lines.

TABLE 3. *Real Exchange Rate Valuation and Expected Voter Response*

		Mean (s.d.) (1972–2017)	Expected response to...	
			depreciation	appreciation
Undervalued	Mexico	0.09 (0.23)	Negative	Positive
	India	0.26 (0.22)	Negative	Positive
Moderately overvalued	Australia	−0.39 (0.13)	Negative	None
	United States	−0.32 (0.11)	Negative	None
Highly overvalued	Japan	−0.54 (0.23)	Positive	Negative

Notes: Lower numbers denote overvaluation. Real values of the currency index calculated as $1 - (\exp(\hat{\epsilon}XR))$. The real values for the five countries vary from an average currency undervaluation of 28 percent for India to an average overvaluation of 42 percent for Japan.

Source: Calculated from Penn World Table 9.1.

Respondents were then randomly assigned to one of the three scenarios regarding how the exchange rate of their country's currency develops. After reading the scenario, respondents were asked to indicate: (a) how likely they were to vote for the head of government's / president's party (less likely, same, more likely); (b) how they rated the performance of their government and central bank (from 1 = very bad to 5 = very good); and (c) how the exchange rate would affect the national economy and their personal well-being (from 1 = very negatively to 5 = very positively). The appendix gives the exact wording of the vignettes and all figures presented to the respondents.

We included a comprehension check after the introductory screen. To guard against the possibility that respondents evaluate “upward”-trending economic series more favorably than “downward”-trending series, half of the respondents saw graphs that reversed the relationship between the domestic and foreign currency.⁷⁹

We administered the experiments simultaneously to 5,000 respondents, 1,000 in each of the five countries, using professional polling firms, in August 2020.⁸⁰ To enhance the representativeness of our sample, we set quotas for age and gender that match the characteristics of the national populations according to the latest available census data.

Results

Figure 2 illustrates the estimated impact of the different exchange rate scenarios on vote intentions and national economic and personal financial expectations. The

79. The standard graph shows the exchange rate as the number of US dollars that can be obtained for one home currency unit, denoted “1 Australian dollar to US dollar” in the graph. The alternative graph shows the reverse, denoted “1 US dollar to Australian dollar.”

80. The surveys in India and Mexico were administered by Respondi. The others were administered by dataSpring.

dots represent the average effects of exchange rate depreciations and appreciations on voter evaluations relative to the baseline (unchanged exchange rate). Figure A20 (in the appendix) illustrates the full distribution of responses by treatment.

In line with our theoretical argument, we find that the exchange rate's impact on voter evaluations depends on the country's actual exchange rate valuation at the time of the survey. The chart on the left shows that in Mexico (undervalued), voters *punished* the government for an exchange rate depreciation and rewarded it for appreciation. In Japan, which has the most overvalued exchange rate in our sample, depreciation had the opposite impact: voters *rewarded* the government. Depreciations have a negative and statistically significant effect on vote intentions in the United States, Australia, and India.

Mexico is a key case for examining reactions to depreciation. It is the most trade-dependent country in our sample and therefore theoretically the most likely to have its exports boosted by depreciations. Yet due to the country's high level of imports, such devaluations also depress prices, which reduces consumer purchasing power. On average Mexican respondents weigh the price effect more than the growth effect of a depreciation.

Depreciations are salient for voters in all countries in our sample. In four of the five countries, voters punish governments if the value of their currency drops—including in Australia and the United States, the two countries with an exchange rate at which, according to our macro analysis, voters should respond the least to exchange rate movements. In these countries, however, the 10 percent depreciation we describe in the survey experiment moves the currencies out of the “safe zone.” In Japan, voters rewarded governments for depreciation from a highly overvalued RER.

The results for appreciation are consistent with our expectations in Mexico, Australia, and the United States. In Table 3 we predicted a reward for India and a penalty for Japan, but obtained null results for appreciation in both.⁸¹ In our experiment, voters appear to react more to depreciation than to appreciation. This suggests that depreciation may be more salient to voters than appreciation, which is consistent with research showing that losses (here, losses in currency value) are more salient to voters than gains.⁸²

The other two charts in Figure 2 illustrate that voting decisions are directly related to respondents' assessments of how the exchange rate will impact the national economy (a sociotropic consideration) and their personal economic (or pocketbook) situation. Respondents believed currency changes would affect both in roughly the same way: the direction of responses is identical and the magnitudes, with one exception, are similar.⁸³ Both, in turn, are highly correlated with voting

81. Due to resource constraints, we conducted the Indian survey only in English, which led to an over-representation of the highly educated, urban middle class.

82. Pacek and Radcliffe 1995; Quinn and Wooley 2001.

83. In Japan, the positive depreciation response for the “national economy” question was nearly twice as large as for the “personal situation” question.

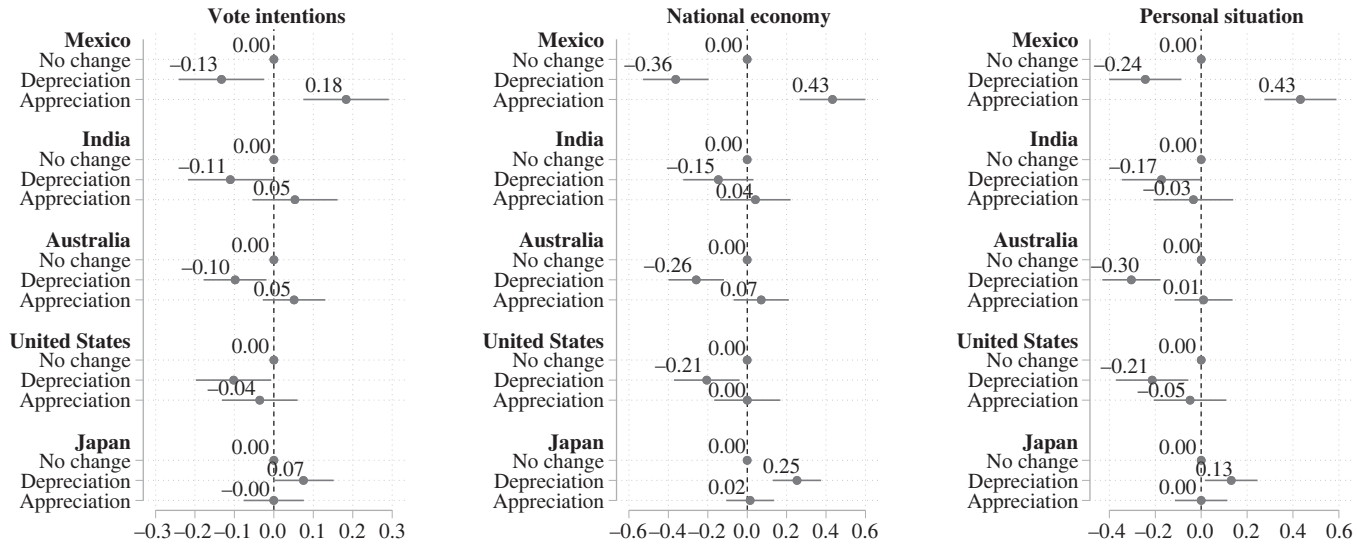


FIGURE 2. Impact of exchange rate on voter evaluations (unchanged exchange rate is the reference category), with 95% confidence intervals. Vote intentions vary from 1 (against) to 3 (in favor); national economic and personal financial expectations vary from 1 (very bad) to 5 (very good).

intentions.⁸⁴ The close correspondence between respondents' assessment of national economic and personal situations is consistent with the results of Healy, Persson, and Snowberg.⁸⁵ Respondents exhibited similar patterns of responses regarding central bank and government performance and their voting intentions (Figure A23 in the appendix).

Although our analysis focuses on the overall effect of exchange rates on political evaluations, we explore how individual respondents might react differently to exchange rates based on their industry of employment.⁸⁶ We measure trade dependence in two ways: commonly across the five countries, based on whether goods and services are tradable;⁸⁷ and a country's export competitiveness, based on the composition of its exports as given by revealed comparative advantage (discussed further in the appendix).⁸⁸ We find few differences between respondents employed in either the tradables sector or export sectors and those who are not (Figures A24 and A25).⁸⁹ Figure A26 examines treatment effects by education, and reveals no consistent evidence of a factor-based explanation for differences among respondents.⁹⁰

Our analysis confirms that exchange rate effects are difficult for voters to understand. Less than half of the respondents passed the comprehension check (Figure A27). Our main results are sharper for respondents who passed this check, and less clear for those who failed it (Figure A28).⁹¹ Following the advice of Alvarez and colleagues,⁹² we do not exclude respondents who failed the check from our main analysis.⁹³ On average, voters still respond to exchange rates in both the observational analysis of the previous section and the experimental analysis in this section. Exchange rates are therefore politically salient despite the complexities associated with this policy area and the trouble many respondents had in comprehending the scenario in the experiment.

84. A factor analysis of the connectedness between a respondent's assessment of her personal situation, national economic performance, and vote intentions shows that one large and very precisely estimated latent variable is underneath responses to the three prompts. See Table A8 in the appendix.

85. Healy, Persson, and Snowberg 2017.

86. Frieden 1991.

87. Identified in the appendix.

88. Respondent employment is linked to sectors in which the country has substantial exports, also identified in the appendix.

89. We acknowledge that respondents in online surveys have trouble assigning themselves to the complex categorization of economic sectors that is used in economic analyses, which introduces noise in our measurement of tradables/nontradables sectors and exporters/non-exporters.

90. Other robustness checks are reported in the appendix.

91. For these additional analyses, the point estimates are as expected, but the confidence intervals are wider than in the main analyses because we split the sample and have fewer observations for the subsamples.

92. Alvarez et al. 2019.

93. Kung, Kwok, and Brown 2018, however, demonstrate that attention-check questions can be used without threatening the validity of the experiment.

Political Competition and Exchange Rate Valuations

In the previous two sections, we demonstrated that incumbent governments in democracies suffer electoral losses when depreciations move the RER out of the moderately overvalued “safe zone.” We therefore expect democratic governments to be more likely than nondemocratic governments to maintain appreciated RERs over time. Based on our findings, we also propose that it is the competitiveness of political institutions, rather than other aspects of democratic governance, that matters.

We constructed a panel of up to 133 countries, from 1970 (or independence, if later) to 2017, to investigate the political institutional correlates of undervaluation and overvaluation. We use democracy indicators from Polity V.⁹⁴ As a robustness check, we use another indicator, Unified Democracy Scores.⁹⁵ We also use two “concept” Polity V variables: constraints on the executive (EXCONST), and openness of political competition (POLCOMP). In addition, we use measures of political rights and civil liberties from Freedom House and veto points from Henisz (POLCON).⁹⁶

We estimate dynamic panel models of the undervaluation index. We test for possible panel unit roots and cointegration among variables. Several panel unit root tests strongly reject the null hypothesis that all panels have unit roots.⁹⁷ All of our models include year dummies, τ_s , to account for global shocks. The base five-year panel model and the index s representing a five-year period, from 1975 to 2017,⁹⁸ is

$$\begin{aligned} \Delta \hat{\text{XR}}_{i,s} = & \beta_0 + \beta_1(\hat{\text{XR}}_{i,s-1}) + \beta_2(\text{POLCOMP OR POLITY}_{i,s-1}) + \beta_3(\text{PEG}_{i,s-1}) + \\ & \beta_4(\text{LOGGDPPERCAPITA}_{i,s-1}) + \beta_5(\text{GDPGROWTH}_{i,s-1}) + \beta_6(\text{TRADEBALANCE}_{i,s-1}) + \\ & \beta_7(\text{LOGTRADEOPENNESS}_{i,s-1}) + \beta_8(\text{INFLATION}_{i,s-1}) + \\ & \beta_9(\text{AGEDDEPENDENCYRATIO}_{i,s-1}) + \tau_s + \varepsilon_{i,s}, i = 1, 2, \dots, 133 \end{aligned} \quad (4)$$

The models are estimated in five-year-average panels to smooth out business cycle effects. The economic control variables come from the Penn World Tables. POLCOMP captures the measures of democratic institutions outlined earlier. Some models use year fixed effects, and others use $\hat{\text{XR}}_{i,s-1}$ as a lagged endogenous variable.

As in the elections models, we use indicators of exchange rate regimes in the analysis: PEG, as developed by Shambaugh and Klein and Shambaugh,⁹⁹ and COARSE, as

94. Marshall and Gurr 2020.

95. Pemstein, Meserve, and Melton 2010.

96. Henisz 2000.

97. We use Im-Peseran-Shin and Fisher-augmented Dickey-Fuller unit root tests with trends, which are appropriate for unbalanced panels.

98. The 2015 panel has three years of data.

99. We use PEG from Shambaugh 2004, updated by Klein and Shambaugh 2009. In this section, we treat the eurozone members as members of a peg, including Germany (compare Shambaugh 2004).

established by Reinhart and Rogoff and subsequently updated.¹⁰⁰ (The results as presented are substantively identical regardless of the measure used.) We report PEG's results in the main tables and the estimates using COARSE in the appendix. We estimate a model with PEG interacting with POLCOMP to assess whether PEG moderates the relationships.

Since it is difficult to control for the full set of factors that may correlate with political institutions and the exchange rate, we estimate and report instrumental variables models using global waves of institutional change to instrument for competitive political institutions, in addition to ordinary least squares models.¹⁰¹ We statistically examine and confirm the relevance of the instrument (test statistics reported later), which is motivated by a large literature showing that episodes of democratization are correlated around the world, and that international factors play a role.¹⁰² The untestable assumption underlying the exclusion restriction requires that, conditional on the lagged RER and the covariates, global changes in democratic political competition do not affect the RER of country i in period s except through our proposed channel of political competition. Our instrumental variables approach seeks to alleviate concerns that unmeasured factors accounting for changes in political competition are biasing our estimates.

Other Attributes of Democratic Governance that Could Influence Exchange Rates

Along with competitive elections, democracies have broader sets of institutions that make sustained undervaluation more difficult, compared to autocracies. In robustness tests, we consider a number of alternative channels through which democracies, and the constellation of institutions normally associated with them, may influence the RER over time. We consider the role of capital controls,¹⁰³ institutional checks and balances, and other facets of decentralization or coalition formation.¹⁰⁴ These aspects complement, yet remain empirically distinct from, our main channel.

Related research has examined how institutional variation across democracies and autocracies and within democracies influences prices.¹⁰⁵ Rogowski and Kayser contend that majoritarian institutions favor consumers' interests, leading to lower prices, while proportional representation favors producers' interests.¹⁰⁶ Iversen and Soskice find that lower inequality—measured as the ratio of the income of the

100. Klein and Shambaugh 2009; Reinhart and Rogoff 2004; Shambaugh 2004.

101. Acemoglu et al. 2019; Freeman and Quinn 2012.

102. Ahlquist and Wibbels 2012; Freeman and Quinn 2012.

103. Milner and Murkherjee 2009; Quinn and Toyoda 2008.

104. Henisz 2000; Nooruddin 2011.

105. Baker and Wojcik 2017; Manger and Sattler 2020.

106. Rogowski and Kayser 2002. Betz and Pond 2019 note an important puzzle: democracies often impose tariffs on goods that are intensely consumed. See Acosta and Cox 2022 for a historical account of the origins of regressive US tariffs.

bottom-decile earner to the median—is associated with appreciating RERs.¹⁰⁷ We include an indicator for proportional representation as well as the Iversen and Soskice wage ratio variable ($d1/d5$) in some specifications to account for this potential democratic-institution explanation.¹⁰⁸

Results

We begin with correlations and simple regressions to guard against collider bias. The pairwise correlations between the dependent variable in Equation (4), $\Delta \hat{X}R_{i,s}$, and the main independent variables, $POLITY_{i,t-1}$ and $POLCOMP_{i,t-1}$, are -0.28 and -0.29 , respectively ($p < 0.01$ for both). Table A10 (in the appendix) estimates a simple regression model version of Equation (4) with no controls (model 1, to guard against collider bias), with unit and year fixed effects (model 2), and with a lagged endogenous model (model 3). The coefficient estimate of $POLITY$ is negative, highly statistically significant, and relatively stable. In models 4 to 6 in Table A10, we replace $POLITY$ with one of its concept variables, political competition ($POLCOMP$), and re-estimate the simple models. The coefficient estimates for $POLCOMP$ are negative and highly statistically significant. In model 5 (unit and year fixed effects), a one-unit increase (decrease) in a country's $POLCOMP$ score is associated with a 1.4 percent appreciation (depreciation) of the RER.

Table A11 (in the appendix) reports the results using the full set of regressors in Equation (4). The results reported in columns 1 (year and unit fixed effects) and 2 (lagged endogenous model) indicate a strong negative relationship between undervaluation and the Polity measure of democracy, controlling for economic correlates of RERs. In column 3, we instrument for $POLITY$ using our measure of global averages of $POLITY$, and the coefficient estimates are very similar to those reported in columns 1 and 2 (Table A12 reports the first-stage results). KP and Hansen J -tests show the instruments to be strong and plausibly valid.¹⁰⁹ We rerun models 2 and 3, comparing the $POLITY$ results to those using Unified Democracy Scores. On identical samples, the results are statistically nearly indistinguishable. (Results available on request.)

In columns 4, 5, and 6, we again replace $POLITY$ with one of its concept variables, political competition ($POLCOMP$). Figure 3 presents the estimated average effects of $POLCOMP$ and currency valuation from column 5. The most autocratic countries are statistically significantly associated with currency undervaluation, and the most

107. Iversen and Soskice 2010. We update the wage compression data for their 2.5 model from sixteen to thirty-four countries and extend the sample to 2016 from 2000. For the relevant data, see the OECD Employment Database: Earnings and Wages, available at <<https://www.oecd.org/employment/emp/employment-database-earningsandwages.htm>>.

108. $d1/d5$ is the ratio of the bottom decile of income to the fifth decile.

109. The Kleibergen–Paap rk Wald F -statistic is higher than the Stock–Yogo critical value, indicating a strong instrument. The Hansen J -statistic fails to reject the null hypothesis that the instruments are valid (exogenous).

politically competitive countries with currency overvaluation. Sustained real currency undervaluation is in the preserve of autocratic regimes.

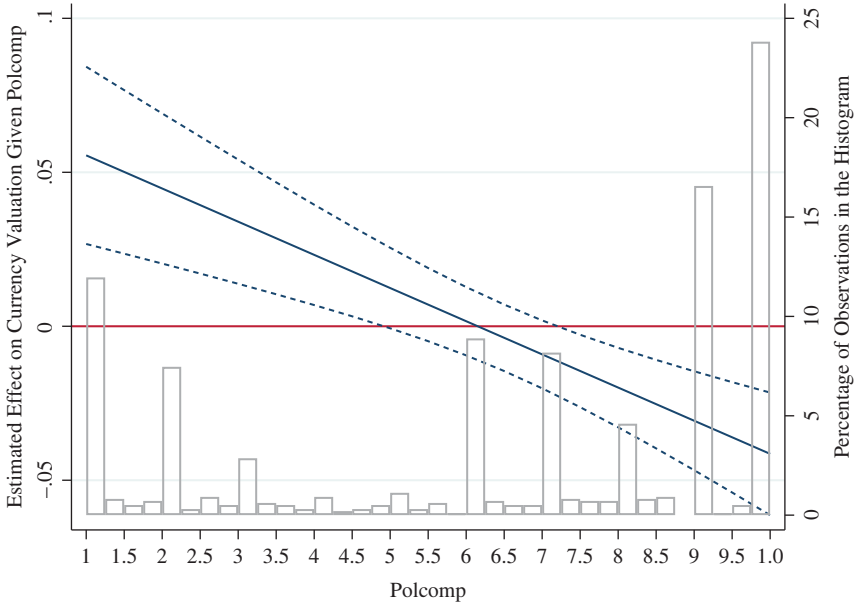


FIGURE 3. *Real exchange rates by levels of political competition (PolComp)*

The strong association between POLCOMP and the undervaluation measure is robust to using global POLCOMP as an instrument (column 6). As before, the KP and Hansen J -statistics suggest that the instruments are strong and valid/exogenous. When we omit eurozone members, the estimated coefficient of POLCOMP retains its sign, relative magnitude, and level of statistical significance (column 7). Consistent with the results from the election models reported earlier, democratic countries with a peg are not statistically significantly correlated with sustained currency overvaluation (column 8 in Table A11, and Figure A30.) Highly autocratic regimes, with or without a peg, are associated with sustained currency undervaluation.

In the appendix, we report a series of robustness checks. The models in Table A13 contrast the estimated effects of POLCOMP with the results of alternative variables that represent other potential mechanisms through which democracies may influence exchange rate valuations. In all instances, the sign and statistical significance of the estimated coefficient of POLCOMP are unchanged, and the magnitudes of the estimates are similar to that of the base models in Table A11. The evidence strongly suggests that political competition—rather than other aspects of democratic institutions— influences exchange rate valuations. The identifying variance appears to reside in the POLCOMP (political competition) variable.

Conclusion

Given the evidence linking RER undervaluation to faster growth, it is natural to ask what constrains leaders from pursuing an undervalued currency. We contend that domestic political competition does, and instead pushes democracies toward moderate overvaluation. Evidence from three empirical settings supports our claims. First, an analysis of electoral outcomes in democracies shows that politicians are rewarded for moderate overvaluation and punished for undervaluation. Second, an experimental analysis of individual-level preferences confirms that citizens in countries with undervalued exchange rates punish governments for depreciation and sometimes reward them for appreciation. Likewise, voters in countries with heavily overvalued exchange rates reward the incumbent government for depreciation. Third, our analysis of exchange rate valuations around the world since the 1970s illustrates that political competition in democracies coincides with more overvalued currencies.

All this evidence points to a political logic underpinning currency unions, especially the eurozone. The euro is often derided as a suboptimal arrangement due to member countries' divergent economic trends, labor and goods market rigidities, and the lack of a budgetary union.¹¹⁰ Following the Great Recession, the eurozone crisis required fiscal transfers that strained relations within Europe.¹¹¹ Yet despite these challenges, member countries remain committed to the project. An overriding consideration, of course, is the continent's commitment to economic and political unity following a century marked by devastating wars.

Our analysis sheds light on another possible motivation for the eurozone: the shared currency has maintained a relatively stable and appreciated valuation, generally within the "safe zone," shielding incumbents to some degree from the electoral penalties associated with undervaluation or extreme overvaluation.¹¹² While the counterfactual valuations of national currencies in the absence of the euro are impossible to assess, we might expect significant appreciation for some members (such as Germany) and depreciation for others (such as Greece). The prospects of this instability provide ample electoral incentives for leaders to maintain the currency union despite its economic shortcomings. While some may question whether the euro makes economic sense, our results reveal some inherent political sense in the currency union, at least regarding RER valuations.

Finally, our results confirm previous findings that democracy and domestic political competition are a decisive source of international cooperation.¹¹³ Competitive devaluations, like trade wars, seriously threaten the stability of the international economic system because they may be difficult to contain once set in

110. De Grauwe 2013.

111. Copelovitch, Frieden, and Walter 2016; Frieden and Walter 2017.

112. Price differences across eurozone members lead to RER differences among member states. Yet 85 percent of the country-year-election eurozone observations fall into the electoral "safe zone."

113. Mansfield, Milner, and Rosendorff 2002.

motion. Our findings, however, suggest that such dynamics are unlikely among democracies despite the political backlash globalization has caused in recent years. Workers harmed by globalization and trade shocks should *not* expect exchange rate policy to serve as a trade remedy for their economic difficulties. Our results indicate that using exchange rate devaluations to protect firms and workers hit by trade shocks is a losing electoral strategy. Despite the ongoing political tumult linked to globalization, domestic electoral pressures make sustained competitive devaluations unlikely among democracies. Autocratic regimes, in contrast, potentially retain competitive devaluation as a policy option.

Data Availability Statement

Replication files for this article may be found at <<https://doi.org/10.7910/DVN/LV9DYB>>.

Supplementary Material

Supplementary material for this article is available at <<https://doi.org/10.1017/S002081832300022X>>.

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