NBER WORKING PAPER SERIES

HOW INSTITUTIONS INTERACT WITH EXCHANGE RATES AFTER THE 2024 US PRESIDENTIAL ELECTION: NEW HIGH-FREQUENCY EVIDENCE

Joshua Aizenman Jamel Saadaoui

Working Paper 33193 http://www.nber.org/papers/w33193

NATIONAL BUREAU OF ECONOMIC RESEARCH 1050 Massachusetts Avenue Cambridge, MA 02138 November 2024

Joshua Aizenman gratefully acknowledges the financial support of the Dockson Chair research fund of the University of Southern California. The views expressed herein are those of the authors and do not necessarily reflect the views of the National Bureau of Economic Research.

NBER working papers are circulated for discussion and comment purposes. They have not been peer-reviewed or been subject to the review by the NBER Board of Directors that accompanies official NBER publications.

© 2024 by Joshua Aizenman and Jamel Saadaoui. All rights reserved. Short sections of text, not to exceed two paragraphs, may be quoted without explicit permission provided that full credit, including © notice, is given to the source.

How Institutions Interact with Exchange Rates After the 2024 US Presidential Election: New High-Frequency Evidence Joshua Aizenman and Jamel Saadaoui NBER Working Paper No. 33193 November 2024 JEL No. F01, F31, F36, F4, F40, F42

ABSTRACT

This paper is a case study of the exchange rate adjustments during the first week following the swapping US election results. We compute three measures of exchange rate depreciation: the maximum depreciation during the 1st trading day after November 6 UTC 0:00 to capture the reaction on the FOREX immediately after the news for our sample of 73 currencies against the USD, practically all currencies depreciated sharply at the news. Second, the depreciation after 4 days to capture the reaction of monetary authorities and the global markets to the news; third, the depreciation 1 week after the shock to observe whether some countries have experienced a further depreciation or a return to the pre-shock exchange rate level. In 26 countries out of a sample of 73 bilateral exchange rates against the US Dollar, the depreciation after 1 week was even more pronounced than just after the election. We also find that the correlation between the depreciation rate after a week from the initial news and the ICRG institutional score is positive and significant at the 1 percent level. A multivariate regression for exchange rate movements indicates that after a week, the bilateral trade surplus with the US, and better institutional scores are associated with stronger depreciations. Exchange rate interventions have helped to stabilize the currencies at all time horizons. The exposure to policy changes, measured by EIU's Trump Risk Index seems to be at play after 4 days.

Joshua Aizenman Economics and SIR University of Southern California University Park Los Angeles, CA 90089-0043 and NBER aizenman@usc.edu

Jamel Saadaoui University Paris 8, IEE, LED 46 Avenue de la Foret Noire Strasbourg 67000 France jamelsaadaoui@gmail.com

1. Introduction

The outcome of the 2024 US presidential election has resonated all around the world. On the exchange rate markets, virtually all the exchange rates depreciated around midnight the November 6, 2024, when the outcome of the election was certain. In Figure 1, we can see that the US Dollar to Mexican Peso exchange rate moved from 20.15 Mexican pesos per US Dollar to 20.7701 Mexican pesos per US Dollar in a couple of hours. These high-frequency exchange rate movements reflect the expectations linked to the future orientations of US policy in terms of trade, immigration, capital flows, security, and foreign affairs. Mexico is expected to be among the first countries that will be impacted by these new policies. To some extent, the depreciation of the Mexican peso is driven by these expectations.



Figure 1. US Dollar to Mexican Peso exchange rate

Source: https://www.xe.com/

After this information shock, it is worthwhile to note that the depreciation occurred for virtually all countries around the world, as shown in Figure 2. We compute three measures of exchange rate depreciation, namely: first, the maximum depreciation during the first trading day to capture the reaction on the FOREX immediately after the news; second, the depreciation after 4 days to capture the reaction of monetary authorities and financial markets to the shock; third, the depreciation 1 week after the shock to observe whether some exchange rates experienced a further depreciation or a return to the pre-shock exchange rate level. The overall assessment is that the exchange rate movement observed immediately after the 2024 US election has not been reversed one week later. In 26 countries

out of a sample of 73 bilateral exchange rates against the US Dollar, the depreciation after 1 week was even more pronounced than just after the election. Among them, we find South Africa, Thailand, Hungary, Czech Republic, Romania, Bulgaria, and Poland, as the countries with the largest differences. These movements are at the heart of policymakers' discussions, as they create instability, especially for emerging markets.¹





Source: authors' calculations.

The outcome of the 2024 US election offers us a very well-suited quasi-natural experiment to test the resilience of countries to exchange-rate market pressures. Indeed, due to the nature of the Republican platform and thanks to the use of high-frequency data, we can identify the factors that explain the cross-sectional differences in currency returns against the US Dollar. Preliminary graphical evidence reveals an important piece of evidence. In Figure 3, we plot the exchange rate movements against the USD one week after the news against the ICRG institutional score, a broad measure of the quality of institutions created and maintained by the PRS group. For our sample of 73 currencies against the

¹ Financial Times, <u>https://www.ft.com/content/8aecd4a8-5f24-4899-999b-8e93ac2f67b6</u>, consulted on 16 November 2024.

 $^{^{2}}$ We do not include the euro in the sample because the eurozone is composed of different sovereign countries. We have 73 currencies against the USD, but the sample is reduced to 64 in Table 1 because of the limited availability of institutional scores. There are 62 in the first three columns of Table 2 due to the availability of the other control variables. In Table 3, it is reduced to 40 due to the limited country coverage of the EIU's Trump Risk Index.

USD, we show that the correlation between the depreciation rate and the institutional score is clearly positive around 40 percent, and significant at the 1 percent level.³

How do we interpret these preliminaries? This correlation may indicate that countries with better institutions have experienced the largest depreciation. Due to the nature of the shock, we can infer that the market expects that the new US administration will be more favorable or at least more neutral visà-vis countries with political regimes that are less cautious about several dimensions of institutional development, like the respect of property rights, the central bank independence, the transparency of monetary and fiscal policy, democratic accountability of the economic policy decisions and so on. The rest of the paper will try to provide further evidence about this conjecture. In Section 2, we present the implemented methodology and provide a brief overview of the related literature. In Section 3, we present and discuss the empirical results. We conclude in Section 4.



Figure 3. Correlation between institutions and exchange rate movements

Note: a negative value indicate an appreciation. At Nov 6 UTC 0:00, vitually all the exchange rates started to depreciate as the path for victory was almost certain. dFX_1week is the depreciation after 1 week.

Source: authors' calculations.

³ The correlation around 37 percent and significant at the 1 percent level for the other two measures of exchange rate depreciation.

2. Empirical methodology

Our empirical methodology relies on the cross-sectional regression analyses of Eichengreen and Gupta (2015), Ahmed et al. (2017), Ahmed (2020), Ahmed et al. (2024), Aizenman et al. (2024) and Aizenman and Saadaoui (2024)⁴. We can briefly consider a simple two-period setup in the spirit of differences-in-differences to give some insights about our approach:

$$p_{it} = \mu + \gamma_i + \delta_t + \boldsymbol{\beta} X_i' D_t + u_{it}, \tag{1}$$

where p_{it} is the log of the exchange rate *vis-à-vis* the USD for country *i* in period $t \in \{0,1\}$. Period 0 denotes the period before the dollar appreciation began and Period 1 denotes the treatment period of dollar appreciation. Country and time-fixed effects are given by γ_i and δ_t , respectively. The vector X_i' contains a set of *ex-ante* or pre-treatment values of country fundamentals and currency factors including institutional score, and D_t denotes an indicator equal to 0 in the pre-event period and equal to 1 in the treatment period. The vector of coefficients of interest, β , captures the relationship between country *i*'s *ex-ante* country fundamentals and its *ex-post* depreciation vis-à-vis the dollar. Because our setting involves two periods, the specification can be expressed in a simpler form by taking differences of the dependent variable to consider the exchange rate *return* over the treatment period:

$$\Delta p_i = \alpha + \beta X_i + u_i,\tag{2}$$

where $\Delta p_i = p_{i1} - p_{i0}$, $\alpha = \delta_1 - \delta_0$ and $u_i = \epsilon_{i1} - \epsilon_{i0}$. Therefore, our empirical specification takes the form of a cross-sectional regression of the percent depreciation of currency *i* over the treatment period. Identification is achieved under the assumption that these countries did not anticipate the swapping results where Trump has full control of Washington with a 'trifecta',⁵ and the ensuing US dollar appreciation that came with it.⁶

https://www.bbc.com/news/articles/cn42dzejpjvo, consulted on November 16, 2024.

⁴ In the set of related literature, we find Eichengreen and Gupta (2015) and Ahmed et al. (2017) that investigate the determinants of exchange rate changes over the 2013 Taper Tantrum period. Ahmed (2020) examines cross-sectional exchange rate changes of oil exporters and importers following an unexpected oil supply shock in 2019. Ahmed et al. (2023) and Aizenman et al. (2024) examine the determinants of resilience during US monetary cycles. Aizenman and Saadaoui (2024) extend these two last papers to the resilience of CESEE countries during ECB's monetary cycles. ⁵ BBC news, Trump has full control of government - but he won't always get his way,

⁶ The surprise is reflected in the ABC news last pre-election report <u>UPDATED Nov. 5, 2024</u>, at 6:00 AM "Who Is Favored To Win The 2024 Presidential Election? 538 uses polling, economic and demographic data to explore likely election outcomes. Harris wins 50 times out of 100 in our simulations of the 2024 presidential election. Trump wins 49 times out of 100. There is a less than 1-in-100 chance of no Electoral College winner." A similar uncertainty is found the latest update of The Economist forecasting model for the US election, <u>UPDATED Nov. 5, 2024</u>. They report that "Kamala Harris moved into a narrow lead in our final update, with her chance of winning rising from 50% to 56%. With no time left before the election, our model reacts sharply to the latest data. AtlasIntel published 13 polls with better

3. Results and discussion

In Table 1, we can see that the coefficient for the institutional score is positive, fluctuating around 2.6 and 4.8 percent, significant at the one percent level for a sample of 64 usable observations. As you can see in Appendix A in Table A1, the institutional score ranges between 43.75 for Pakistan to 86.56 for Australia.

	(1)	(2)	(3)
	Maximum	Depreciation after	Depreciation after
	depreciation	4 days	1 week
	during the		
	1st trading		
	day		
ICRG institutional score	0.035***	0.026***	0.048^{***}
	(0.008)	(0.008)	(0.009)
Constant	-1.102*	-1.086*	-1.931***
	(0.581)	(0.550)	(0.635)
Observations	64	64	64
R-squared	0.140	0.142	0.183
RMSE	0.930	0.677	1.093

Table 1.	Univariate	regression f	for the exch	ange rate m	ovements
		0		0	

Note: Robust standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1. Authors' estimates.

In order to achieve reliable causal estimates, we also control for a vector of relevant confounding variables in Table 2. The definition and sources of the variables are given in Table A2 of Appendix A. Table 2 offers multiple insights. First, the evidence presented in Figure 1 and Table 1 are confirmed at all time horizons. The countries with better institutions have known a stronger depreciation. Second, exchange rate interventions (proxied by exchange rate stability scores) have helped to stabilize the currencies at all time horizons. Third, misalignment of the real effective exchange rate contributes to the exchange rate depreciation only after 4 days. This coefficient can reflect an error-correction mechanism, as overvalued currencies are expected to depreciate in the future. Fourth, the bilateral trade deficit contributed to the depreciation after 4 days. Higher exposure to the risk linked to expected changes in the US policy, measured by the EIU's Trump Risk Index (see Figure A2 in Appendix A), contributes to limiting the depreciation after 4 days. This possibly reflects the observation that most

numbers for her than its Trump-friendly norm, and she led on average in new surveys

of <u>Michigan</u>, <u>Pennsylvania</u> and <u>Wisconsin</u>. A poll by faculty and students at Dartmouth College also gave her a remarkable 28-percentage-point lead in <u>New Hampshire</u>."

exposed economies have experienced the largest movements immediately after the shock (in line with dynamics suggested by Larson and Madura, 2001).

	(1)	(2)	(3)	(4)	(5)	(6)
	Maximum	Depreciation	Depreciation	Maximum	Depreciation	Depreciation
	depreciation	after 4 days	after 1 week	depreciation	after 4 days	after 1 week
	during the	-		during the	-	
	1st trading			1st trading		
	day			day		
ICRG Institutional Score	0.045***	0.031***	0.065***	0.059***	0.038**	0.057**
	(0.013)	(0.011)	(0.016)	(0.021)	(0.015)	(0.026)
REER Misalignment	0.015*	0.019***	0.017	-0.007	0.025**	0.043*
	(0.007)	(0.004)	(0.010)	(0.029)	(0.011)	(0.023)
Exchange Rate Stability	-0.014***	-0.011***	-0.012**	-0.015**	-0.008*	-0.019**
	(0.004)	(0.003)	(0.005)	(0.006)	(0.004)	(0.008)
Capital Account Openness	-0.079	-0.025	-0.133	-0.178	-0.032	-0.117
	(0.114)	(0.068)	(0.132)	(0.153)	(0.100)	(0.210)
Current Account Balance	-0.017*	-0.006	-0.018	-0.016	-0.017	-0.023
	(0.009)	(0.008)	(0.013)	(0.014)	(0.012)	(0.019)
Bilateral Trade with the US	-0.402	-0.240	-0.685**	-0.225	-0.577**	-0.715
	(0.399)	(0.227)	(0.294)	(0.412)	(0.245)	(0.484)
Trump Risk Index				0.004	-0.015**	-0.014
				(0.015)	(0.006)	(0.015)
Constant	-2.572**	-2.838***	-4.185***	-1.365	-3.498**	-5.311**
	(1.202)	(0.878)	(1.379)	(2.924)	(1.376)	(2.389)
	60	60		10	10	10
Observations	62	62	62	40	40	40
R-squared	0.314	0.356	0.313	0.364	0.450	0.359
RMSE	0.871	0.619	1.054	0.951	0.598	1.110

 Table 2. Multivariate regressions for exchange rate movements

Note: Robust standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1. Authors' estimates.

5. Conclusion

This paper presents new evidence on the influence of institutional development and FX depreciation after the recent US presidential election. Using a broad cross-section of over 70 countries, we document statistically and economically significant estimates implying that better institutional scores are associated with stronger depreciation, reflecting the new orientation of the US policy. Economic policies (currency interventions) and fundamentals (overvaluation and bilateral trade deficits with the US) influence the degree of exchange rate depreciation. Finally, the exposure to policy changes seems to be at play after 4 days.

References

Ahmed, R. (2020). Commodity currencies and causality: Some high-frequency evidence. Economics Letters, 189, 109016.

Ahmed, R., Aizenman, J., Saadaoui, J., & Uddin, G. S. (2023). On the effectiveness of foreign exchange reserves during the 2021-22 US monetary tightening cycle. Economics Letters, 233, 111367.

Ahmed, S., Coulibaly, B., & Zlate, A. (2017). International financial spillovers to emerging market economies: How important are economic fundamentals? Journal of International Money and Finance, 76, 133-152.

Aizenman, J., Chinn, M. D., & Ito, H. (2008). Assessing the emerging global financial architecture: Measuring the trilemma's configurations over time (No. w14533). National bureau of economic research.

Aizenman, J., Park, D., Qureshi, I. A., Saadaoui, J., & Uddin, G. S. (2024). The performance of emerging markets during the Fed's easing and tightening cycles: a cross-country resilience analysis. Journal of International Money and Finance, 148, 103169.

Aizenman, J., & Saadaoui, J. (2024). *The Resilience of Central, Eastern and Southeastern Europe* (*CESEE*) *Countries During ECB's Monetary Cycles* (No. w32957). National Bureau of Economic Research.

Chinn, M. D., & Ito, H. (2006). What matters for financial development? Capital controls, institutions, and interactions. Journal of development economics, 81(1), 163-192.

Eichengreen, B., & Gupta, P. (2015). Tapering talk: The impact of expectations of reduced Federal Reserve security purchases on emerging markets. Emerging Markets Review, 25, 1-15.

Larson, S. J., & Madura, J. (2001). Overreaction and underreaction in the foreign exchange market. Global Finance Journal, 12(2), 153-177.

Appendix A

	(1)	(2)	(3)	(4)	(5)
	Count	Mean	SD	Min	Max
Maximum depreciation during the 1st trading day	73	1.19	1.00	-0.30	4.68
Depreciation after 4 days	73	0.61	0.74	-0.73	2.01
Depreciation after 1 week	73	1.26	1.20	-0.49	4.09
Current account balance in 2022	117	-1.72	11.90	-42.68	34.50
Capital account openness in 2021	117	0.38	1.50	-1.93	2.30
Exchange rate stability in 2020	116	54.50	31.87	3.86	100.00
ICRG Institutional Score in 2022	85	66.06	10.26	44.17	86.46
REER misalignment in 2020	116	99.27	14.27	56.82	198.55
Bilateral trade balance with the US in 2022	112	-0.04	0.18	-1.64	0.08
Trump Risk Index in 2024	46	31.89	13.44	9.44	71.37

Country list. 1 Albania; 2 Algeria; 3 Argentina; 4 Australia; 5 Bangladesh; 6 Bhutan; 7 Bolivia; 8 Botswana; 9 Brazil; 10 Brunei; 11 Bulgaria; 12 Cambodia; 13 Canada; 14 Cape Verde; 15 Chile; 16 China; 17 Comoros; 18 Costa Rica; 19 Czech Republic; 20 Denmark; 21 Dominica; 22 Dominican Republic; 23 Egypt; 24 Guatemala; 25 Haiti; 26 Honduras; 27 Hong Kong; 28 Hungary; 29 Iceland; 30 India; 31 Indonesia; 32 Iraq; 33 Israel; 34 Jamaica; 35 Japan; 36 Kazakhstan; 37 Kuwait; 38 Laos; 39 Lebanon; 40 Macao; 41 Madagascar; 42 Malaysia; 43 Mexico; 44 Morocco; 45 Namibia; 46 Nepal; 47 New Zealand; 48 Nicaragua; 49 Norway; 50 Oman; 51 Pakistan; 52 Paraguay; 53 Peru; 54 Philippines; 55 Poland; 56 Romania; 57 Russia; 58 Sao Tome and Principe; 59 Singapore; 60 South Africa; 61 South Korea; 62 Sri Lanka; 63 Suriname; 64 Sweden; 65 Switzerland; 66 Thailand; 67 Trinidad and Tobago; 68 Tunisia; 69 Turkey; 70 United Kingdom; 71 Uruguay; 72 Uzbekistan; 73 Vietnam.

Number of countries, clarifications: We do not include the euro in the sample because the eurozone is composed of different sovereign countries. We have 73 currencies against the USD, but the sample is reduced to 64 in Table 1 because of the limited availability of institutional scores. There are 62 in the first three columns of Table 2 due to the availability of the other control variables. In Table 3, it is reduced to 40 due to the limited country coverage of EIU's Trump Risk Index.

Table A2. Data sources

Variable	Definition
Maximum depreciation during the 1st trading day	Maximum depreciation of the bilateral exchange rate against the USD during the 1st trading day (15 minutes data), source: xe.com.
Depreciation after 4 days	Depreciation of the bilateral exchange rate against the USD between Nov. 6 UTC 0:00 and Nov 10 UTC 0:00, source: xe.com.
Depreciation after 1 week	Depreciation of the bilateral exchange rate against the USD between Nov. 6 UTC 0:00 and Nov 13 UTC 0:00, source: xe.com.
Current account balance in 2022	World Development Indicators, World Bank, BN.CAB.XOKA.GD.ZS.
Capital account openness in 2021	Chinn and Ito's database (Chinn and Ito, 2008), https://web.pdx.edu/~ito/Chinn-Ito_website.htm.
Exchange rate stability in 2020	Aizenman, Chinn and Ito's database (Aizenman et al, 2008), https://web.pdx.edu/~ito/trilemma_indexes.htm.
ICRG Institutional Score in 2022	The sum of the Political Risk score components in the ICRG dataset, <u>https://www.prsgroup.com/</u> .
REER misalignment in 2020	The ratio between the real effective exchange rate in 2020 and the average value between 2014-2018, multiplied by 100, BRUEGEL, <u>https://www.bruegel.org/</u> .
Bilateral trade balance with the US in 2022	Bilateral trade balance with the US in percent of GDP, World Bank, <u>https://wits.worldbank.org/</u> .
Trump Risk Index in 2024	An overall risk score is based on an assessment of vulnerability across three areas - trade, immigration, and security - where important policy changes under the Trump administration are expected, The Economist Intelligence Unit, https://www.economist.com/.



Figure A1. The Economist's forecasting model

Source: The Economist, consulted on 15 November 2024, https://www.economist.com/interactive/us-2024-election/prediction-model/president/

Figure A2. The Trump Risk index



Trump risk index (TRI)

Note: The TRI is based on an assessment of vulnerability where important policy changes are expected. The countries involved in the estimations of Table 2 are displayed. TRI score: 0=least exposed, 100=most exposed.

Source: The Economist Intelligence Unit.