The Performance of Emerging Markets During the Fed's Easing and Tightening Cycles: A Cross-Country Resilience Analysis

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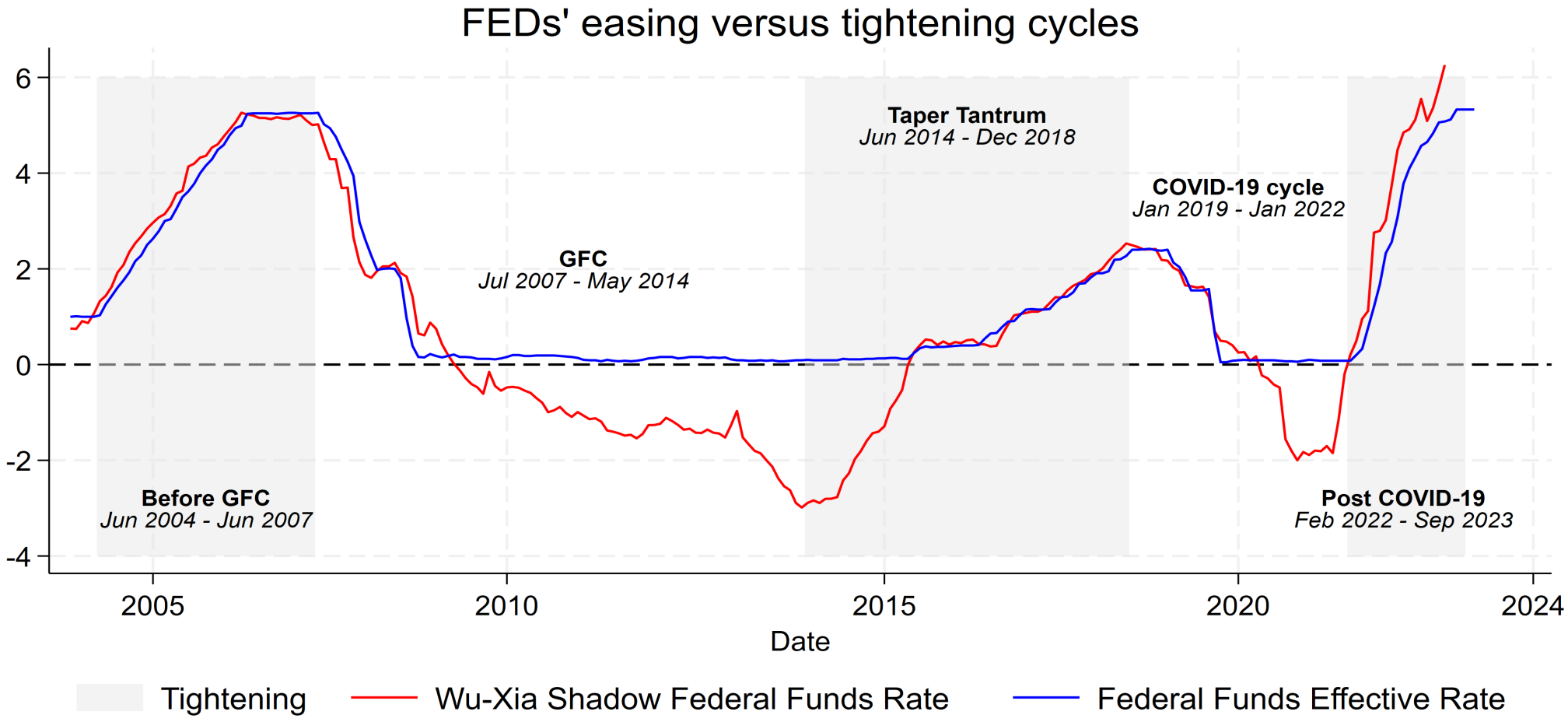
Outline

I. Motivation and Literature

II. Methodology

III. Results

I. Motivation: Monetary Cycles



Source: data retrieved from https://www.atlantafed.org/cqer/research/wu-xia-shadow-federal-funds-rate, and https://fred.stlouisfed.org/series/FEDFUNDS.

I. Motivation: Research Question

- **Do ex-ante macroeconomic fundamentals explain why some EMs are more resilient than others during monetary cycles?**

- Our baseline cross-sectional regressions examine how macroeconomic variables affect three measures of resilience:
  - Bilateral exchange rate against the USD
  - Exchange rate market pressure (EMP, Goldberg and Krogstrup JIE 2023)
  - Equity country-specific Morgan Stanley Capital International index (MSCI, in local currency)

- Macro fundamentals and institutional factors (observed before the cycle) as determinants of EM resilience

I. Motivation: Measurement

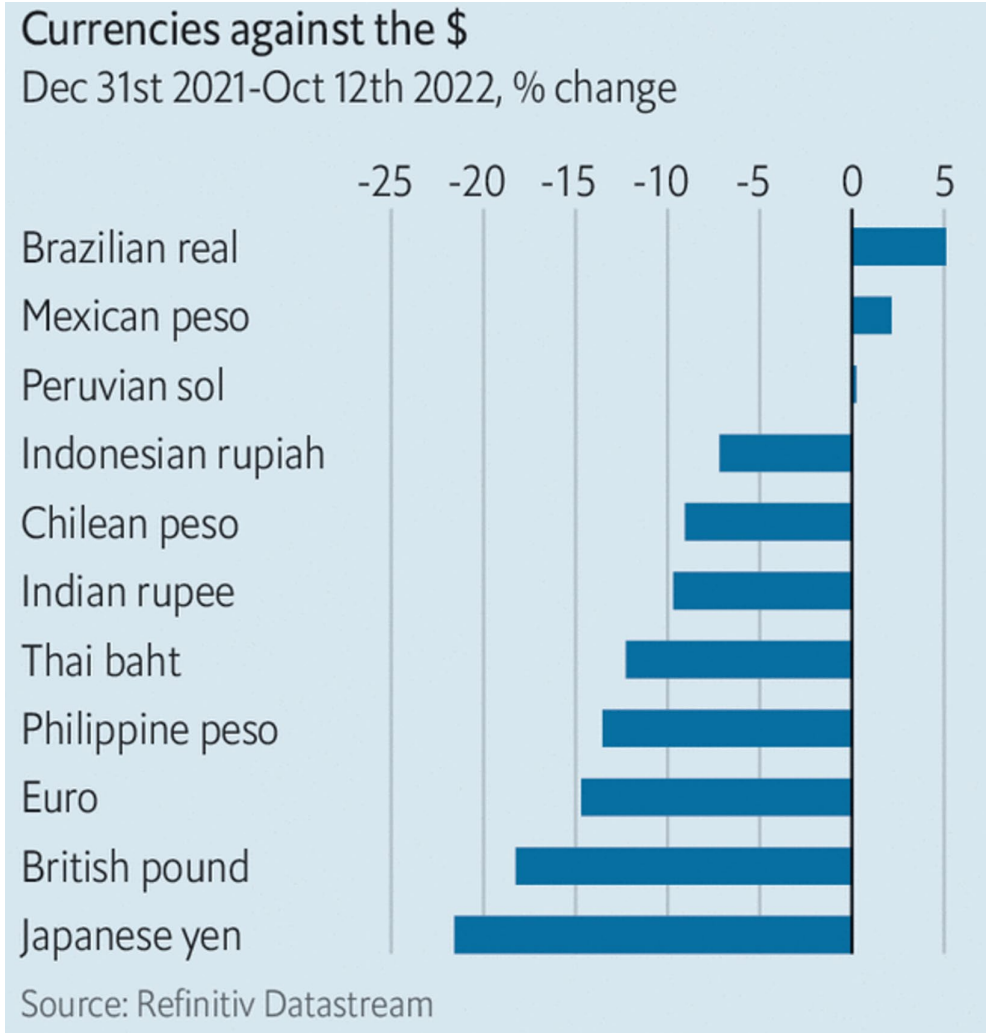
Three measures of resilience in EMs over the monetary cycles:

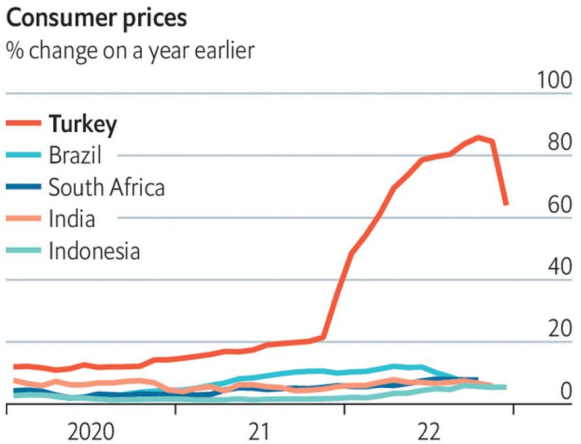
1. Variation of the bilateral exchange rate against the USD (Flight-to-safety)
   A negative value: appreciation over the cycle

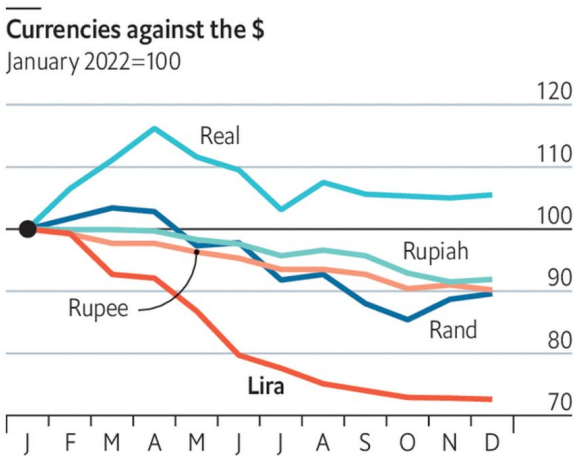
2. Variation of the EMP index, where a negative value corresponds to a weighted combination of three factors:
   - an appreciation of the bilateral exchange rate;
   - interventions on the FOREX market aimed at limiting the appreciation;
   - a decrease in the policy rate

   A negative value for the EMP can be interpreted as a pressure reduction (on international capital flows markets)

3. The MSCI country-specific index is designed to measure the performance of the large and mid cap segments over the cycle







Sources: Haver Analytics; Refinitiv Datastream

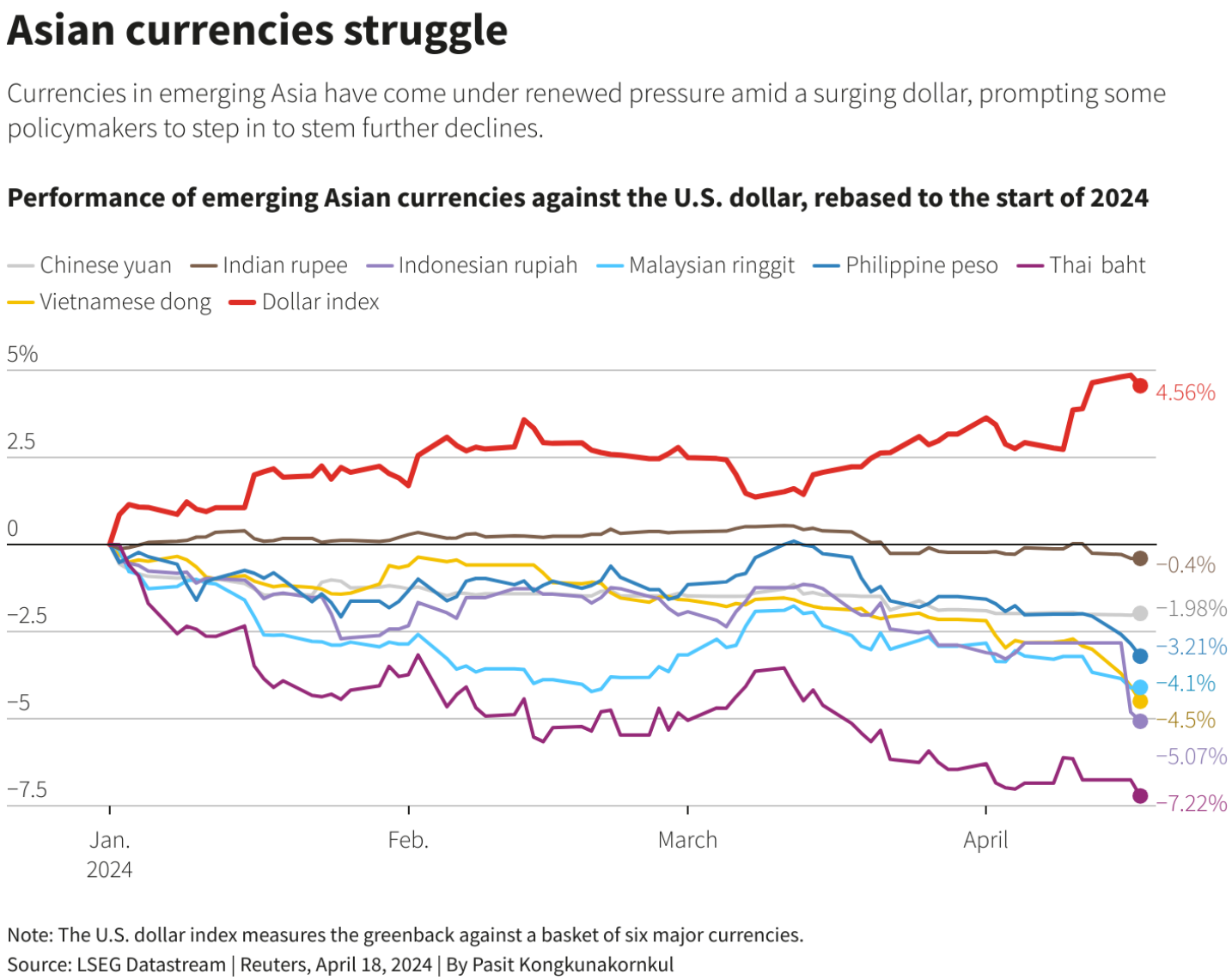
Note: a negative value for the currency variation is depreciation of the currency. Source: The Economist.

The Economist

A recent paper by Rashad Ahmed of America's Office of the Comptroller of the Currency and co-authors suggests that big reserve accumulators may, in fact, have reason to rebuild. Countries that entered 2021 with larger reserves and greater credibility in their capacity to intervene saw smaller depreciations in their currencies, all else equal. The authors calculate that additional reserves worth ten percentage points of national GDP were associated with 1.5% to 2% less depreciation in the domestic currency, relative to the dollar.

Meanwhile, a number of countries which began this period with modest reserves have suffered deep depreciations. The Egyptian pound, which traded at 16 to the dollar at the start of 2020, now trades at 31. The official exchange rate of the Pakistani rupee has also weakened, from 154 to the dollar at the start of the covid-19 pandemic to 278 more recently. In both places black markets offer even weaker rates.

Note: 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. Source: The Economist, Feb 23rd, 2023.



Note: a negative value for the currency variation is depreciation of the currency. Source: Reuters.

I. Motivation: Preview of the Results

- **Cross-sectional Evidence**
  - Higher international reserves, higher current account surpluses, and larger net international investment positions help EM cope better with EMP, especially during tightening cycles
  - Financial institution development was associated with inferior performance during the first two tightening cycles - before the GFC and the Taper Tantrum: ‘flight to safety’

- **Panel Evidence**
  - Benefits of having better government stability only appears during bad times for the exchange rate and the stock market
  - For the EMP index, the financial institution development is associated with an increase of pressures and democratic accountability is associated with a reduction of pressures (in line with cross-sectional evidence)

I. Motivation: Literature

- We contribute to the literature on cross-country determinants of EMs performance and international financial spillovers of the US monetary policy
  - **Caldara et al. (2023), Georgiadis et al. (2024), Hoek et al. (2022), Ugazio and Xin (2024)**

- Previous studies test the role of fundamentals during monetary cycles
  - **Alvarez and De Gregorio (2014), Eichengreen and Gupta (2015), Aizenman et al. (2016), Ahmed et al. (2017), Ahmed et al. (2023)**

- We generalized these results and explore the role of institutions in the resilience of EMs

- We also explore the possible asymmetries between easing and tightening cycles

II. Methodology: Cross-sectional regressions

- We follow Ahmed et al. (2017) and use cross-sectional regressions for the five identified monetary cycles:

$$\Delta FinVar_i = c + \sum_j \alpha_j LX_{i,j} + \sum_l \beta_l LZ_{i,l} + \varepsilon_i$$

- where $\Delta FinVar_i$ is the variation of one of the three measure of resilience over the monetary cycle for country *i*; the *LX* and *LZ* variables are macroeconomic and institutional variables **observed during the previous year before entering the cycle**, respectively

- Possible candidates for the initial conditions include stock variables, including the ratio of initial international reserves to GDP, public debt in local currency / foreign currency as a percentage of GDP, private debt as a percentage of GDP, and institutional variables (ICRG)

- Variables are selected with an agnostic backward-stepwise stepwise procedure

II. Methodology: Panel Regressions

- We stack the cross-section to build an unbalanced panel and identify asymmetries during easing and tightening cycles for our three measures of resilience:

$$\Delta FinVar_{it} = c + \sum_{j} \alpha_j LX_{it,j} + \sum_{l} \beta_l LZ_{it,l} + \sum_{k} \delta_k TC \times LX_{it,k} + \sum_{m} \delta_m TC \times LZ_{it,m} + \varepsilon_{it}$$

  - With the time dimension will be our five monetary cycles, so $t = 1, 2, 3, 4, 5$
  - *TC*, *TE*: dummy variables for tightening and easing cycles
  - These asymmetries may provide useful information to policy-makers about excessive leverage during monetary easing
- Monetary easing associated with underregulated leverage growth may increase macroeconomic vulnerability in the next cycle:
  - Warren buffet's quote: "**A rising tide floats all boats..... only when the tide goes out do you discover who's been swimming naked**"
  - The role of institution quality may be hidden during monetary easing: intense episodes of financial and economic stress may reveal the importance of good institutions

III. Results: Cross-sectional evidence for exchange rate variations

	FED tightening I June 2004 – June 2007	FED easing I June 2007 – May 2014	FED tightening II June 2014 – Dec 2018	FED easing II Jan 2019 – Jan 2022	Fed tightening III Feb 2022 – Sep 2023
Current Account Balance		-0.3738		0.4898**	
		(0.2285)		(0.1977)	
International Reserves		-0.4075**	-0.1087**		-0.1600***
		(0.1821)	(0.0431)		(0.0572)
Net International Inv. Pos.		6.4131			2.5039*
		(4.6179)			(1.2762)
Consumer Price Inflation	-1.0617***	2.6812***	1.0046**		1.0877**
	(0.3166)	(0.8072)	(0.4786)		(0.4387)
Financial Openness			1.3469		-2.6850**
			(0.9512)		(1.1547)
Exchange Rate Stability			-27.3594***	-17.6173**	-
			(6.6048)	(7.3684)	-
Inflation Targeter	-16.3697***		-4.9236*		-4.5660
	(3.6481)		(2.8583)		(3.2522)
Financial Institution Dev.	-11.3020	-49.2099***	-13.5700	-19.5798**	
	(8.4619)	(14.7421)	(10.0757)	(8.1516)	
Financial Market Dev.		24.8325**			10.0849
		(10.1394)			(6.1635)
External Conflict Rating			2.0494*		
			(1.0478)		
Government Stability Rating		2.6784*	2.1304***		
		(1.5746)	(0.7742)		
Constant	30.0433***	-17.7384	3.4317	-9.1127	-4.5227
	(11.2073)	(15.0958)	(13.7423)	(11.3732)	(6.9015)
Countries	61	63	58	65	54
R-squared	0.4109	0.4561	0.6653	0.4295	0.4362
RMSE	11.93	15.45	8.029	8.880	9.474

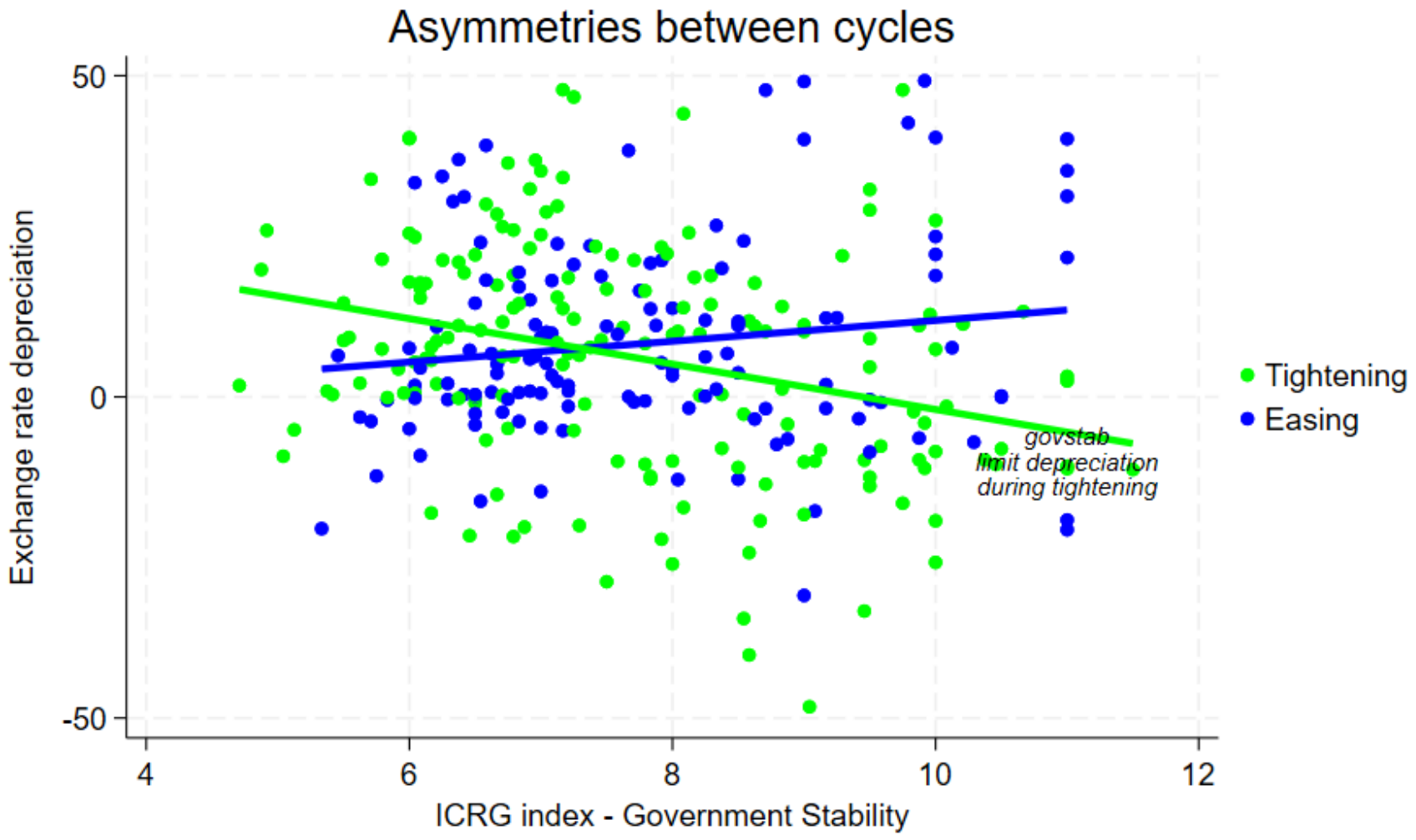
III. Results: Cross-sectional evidence for EMP index variations

	FED tightening I June 2004 – June 2007	FED easing I July 2007 – May 2014	FED tightening II June 2014 – Dec 2018	FED easing II Jan 2019 – Jan 2022
Current Account Balance	0.2851***	0.1434***	-0.3632***	
	(0.0667)	(0.0499)	(0.0956)	
International Reserves	-0.0847***	-0.0587*		
	(0.0224)	(0.0299)		
Net International Investment Pos.				
Consumer Price Inflation			0.2620	
			(0.1874)	
Financial Openness		0.4880*		
		(0.2723)		
Exchange Rate Stability	-5.5121***		-7.8250***	-5.5836***
	(1.7070)		(2.2291)	(1.9437)
Inflation Targeter		1.2110	-2.9149*	
		(0.8609)	(1.5027)	
Financial Institution Development		6.7426*	15.8086***	
		(3.6310)	(4.7414)	
Financial Market Development		-7.3645***	-5.8688**	
		(2.0023)	(2.6826)	
External Conflict Rating	-1.7226***	0.9637*		
	(0.4206)	(0.4816)		
Government Stability Rating	-0.8420***			
	(0.2482)			
Constant	38.5930***	-3.5384	-1.0353	4.1801***
	(7.1478)	(4.0283)	(3.5280)	(1.0513)
Countries	34	37	36	35
R-squared	0.7535	0.5723	0.6972	0.3055
RMSE	1.843	2.140	2.129	2.738

III. Results: Cross-sectional evidence for MSCI index variations

	FED tightening I June 2004 – June 2007	FED easing I July 2007 – May 2014	FED tightening II June 2014 – Dec 2018	FED easing II Jan 2019 – Jan 2022	Fed tightening III Feb 2022 - Sep 2023
Current Account Balance			1.8921*	2.8357***	1.2139**
			(1.0894)	(0.7788)	(0.5845)
International Reserves			0.3260**		
			(0.1422)		
Net International Investment Pos.		20.6097***			-5.2687**
		(6.3923)			(2.0591)
Consumer Price Inflation		4.4311**		3.2733***	4.0851**
		(2.1580)		(1.0317)	(1.7339)
Financial Openness		-6.3564*	-6.1469	-6.9717*	
		(3.7329)	(3.6632)	(4.0977)	
Exchange Rate Stability	-26.2608**	-56.5185***			
	(11.9296)	(13.6488)			
Inflation Targeter	-22.5462**		12.8086		15.1116**
	(8.9436)		(7.9744)		(7.3195)
Financial Institution Development	-53.1829***	43.5014	-81.3427**		
	(11.2608)	(28.9008)	(38.6590)		
Financial Market Development			38.4880		22.1271
			(24.8987)		(16.2644)
External Conflict Rating				-5.1425*	-6.5920*
				(2.5551)	(3.6307)
Government Stability Rating	-7.1514**		-9.9294***		
	(2.8119)		(2.9244)		
Constant	179.0449***	122.6686***	12.3096	-35.6822	32.7229
	(30.1521)	(35.2992)	(26.2127)	(31.9476)	(40.2296)
Countries	39	44	45	44	44
R-squared	0.7201	0.6905	0.3983	0.5541	0.5304
RMSE	16.47	27.16	19.50	18.82	20.43

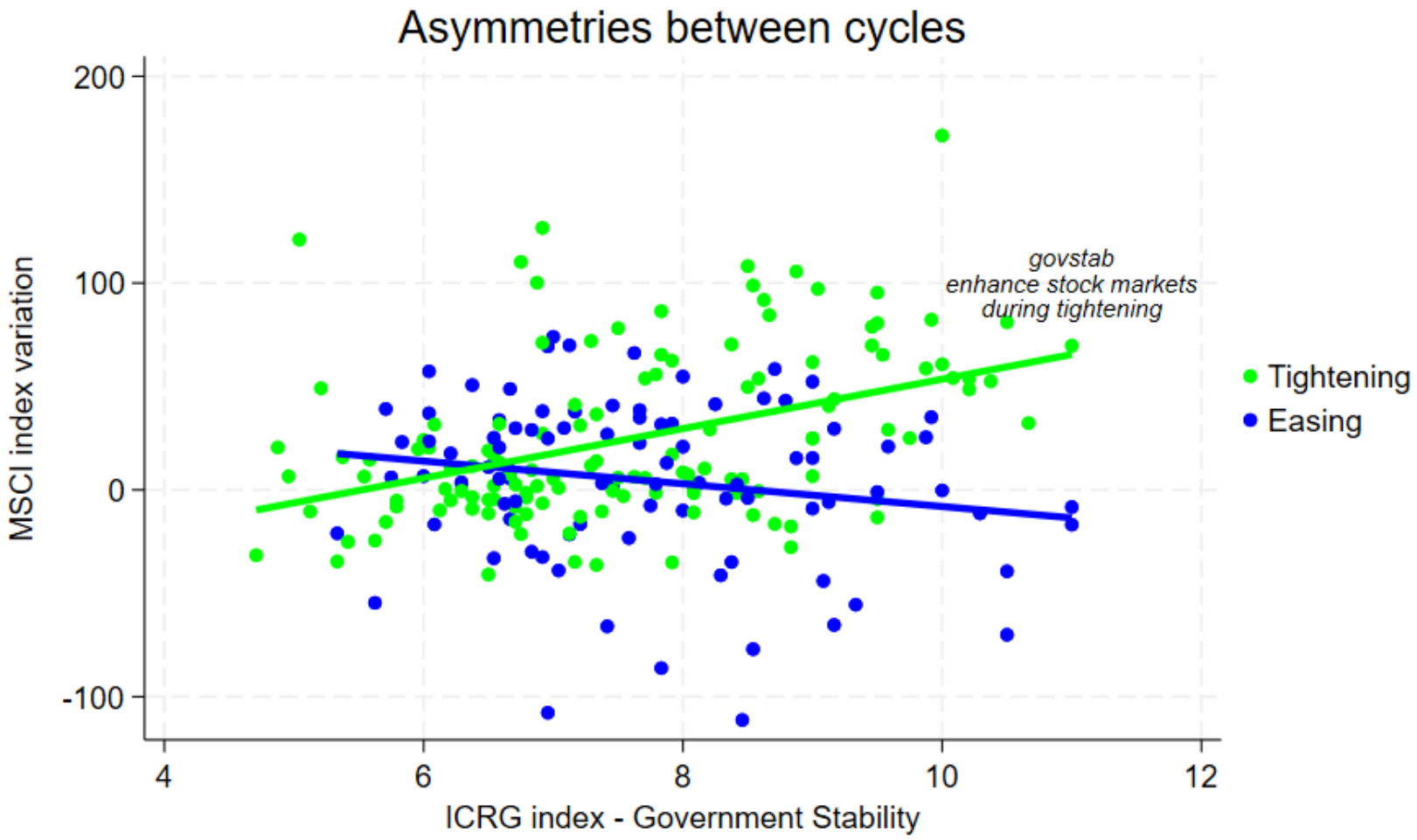
III. Results: Panel evidence for exchange rates variations



III. Results: Panel evidence for exchange rates variations

Variables	Tightening cycle ΔXR all 4 Cycles	Easing cycle ΔXR all 4 Cycles
Current Account Balance	-0.3295**	-0.3368
	(0.1495)	(0.2073)
Tightening cycle dummy	41.9752***	
	(12.9289)	
Current Account Balance*Tightening cycle dummy	-0.0072	
	(0.2555)	
Financial Openness	-1.4127	-1.3132
	(1.0452)	(1.1562)
Financial Openness*Tightening cycle dummy	0.0994	
	(1.5586)	
Net International Investment Pos.	-1.6504	4.8681*
	(1.6844)	(2.5342)
Net International Investment Pos.*Tightening cycle dummy	6.5185**	
	(3.0429)	
Government Stability Rating	2.1891*	-4.0505***
	(1.1590)	(0.9436)
Government Stability Rating*Tightening cycle dummy	-6.2396***	
	(1.4945)	
Constant	-7.9835	33.9917***
	(9.0842)	(9.1997)
Countries (max.)	83	83
Observations	247	247
R-squared	0.1989	0.1989
RMSE	16.51	16.51

III. Results: Panel evidence for MSCI index variation



III. Results: Panel evidence for MSCI index variation

Variables	Tightenings ΔMSCI all 4 Cycles	Easings ΔMSCI all 4 Cycles
Current Account Balance	1.4598**	0.7739
	(0.7006)	(0.6057)
Tightening cycle dummy	-30.0741	
	(37.9127)	
Current Account Balance*Tightening cycle dummy	-0.6859	
	(0.9262)	
Financial Institution Dev.	-27.7682	-78.4734***
	(23.6623)	(22.0292)
Financial Institution Dev.*Tightening cycle dummy	-50.7052	
	(32.3294)	
Government Deficit	-1.8118	-2.2064***
	(1.3384)	(0.7742)
Government Deficit*Tightening cycle dummy	-0.3946	
	(1.5462)	
Government Stability Rating	-5.5716*	9.2714***
	(2.9149)	(2.2233)
Government Stability Rating*Tightening cycle dummy	14.8430***	
	(3.6661)	
Constant	59.3109**	29.2368
	(27.1966)	(26.4144)
Countries (max.)	46	46
Observations	172	172
R-squared	0.4157	0.4157
RMSE	34.78	34.78

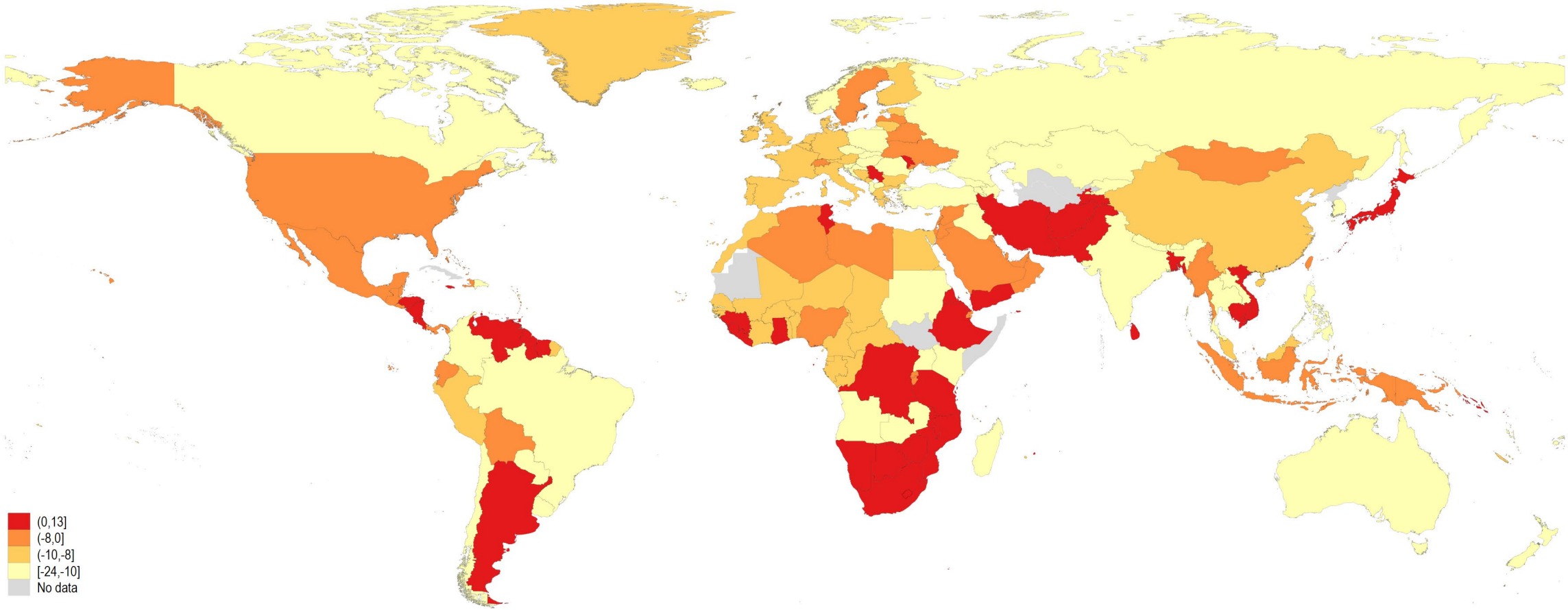
Conclusion

- A key result of our paper is the asymmetric importance of institutional variables, where these variables gain much greater significance during downturns
- This result is in line with the paradox of regulation:
    - Effective regulator effort, while helping avoid a crisis, may be confused as a signal that the environment is less risky, reducing the posterior probability of the crisis, and eroding the political support for costly regulation
    - This may test the independence of central banks, and their ability to withstand this pressure
- A recent example of these dynamics is the relaxation of the Dodd-Frank tightening banks' supervision due to political pressure in 2018, just 10 years after the GFC explained the Silicon Valley bank and other banks' 2023 collapses
- This concern remains the enduring challenge of regulatory quality, testing all central banks' time consistency and independence, especially at a time of growing fiscal dominance pressures

Appendix

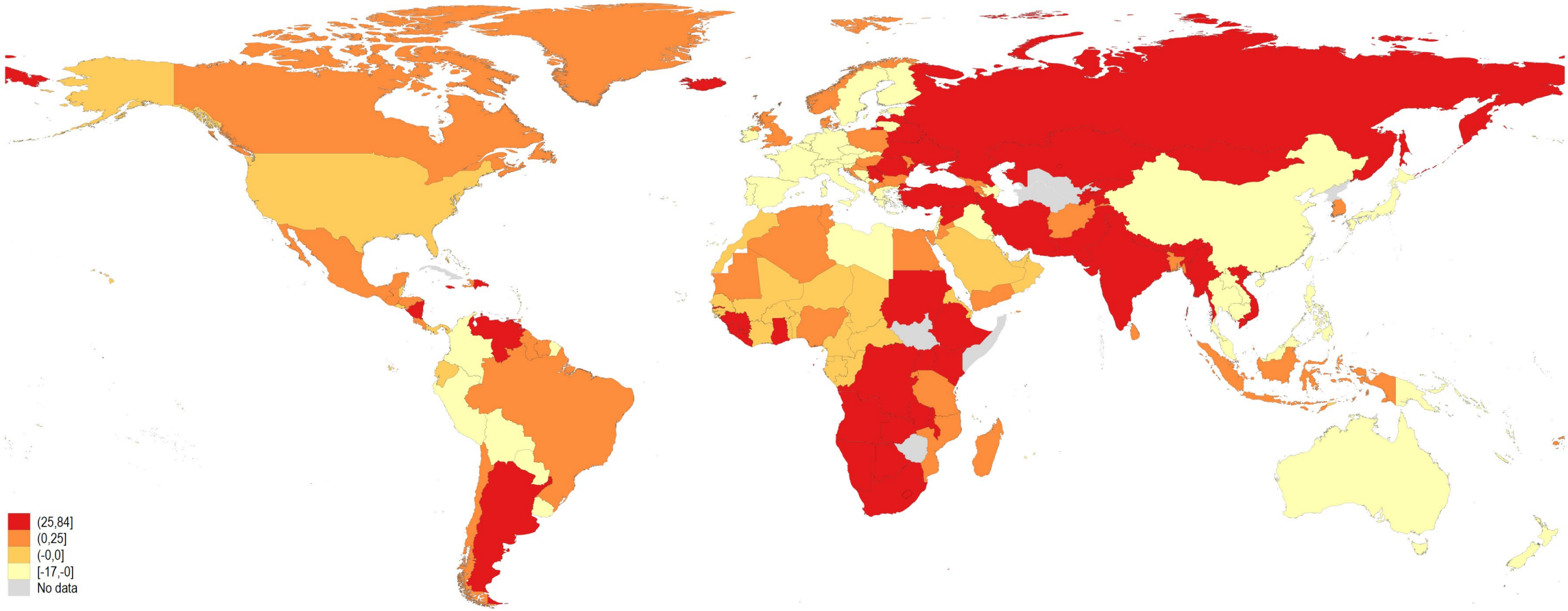
Bilateral Exchange Rate

Variation of the Exchange Rate During the Cycle 1



More red colors indicate a stronger depreciation. Exchange rates are windsorized.

Variation of the Exchange Rate During the Cycle 2



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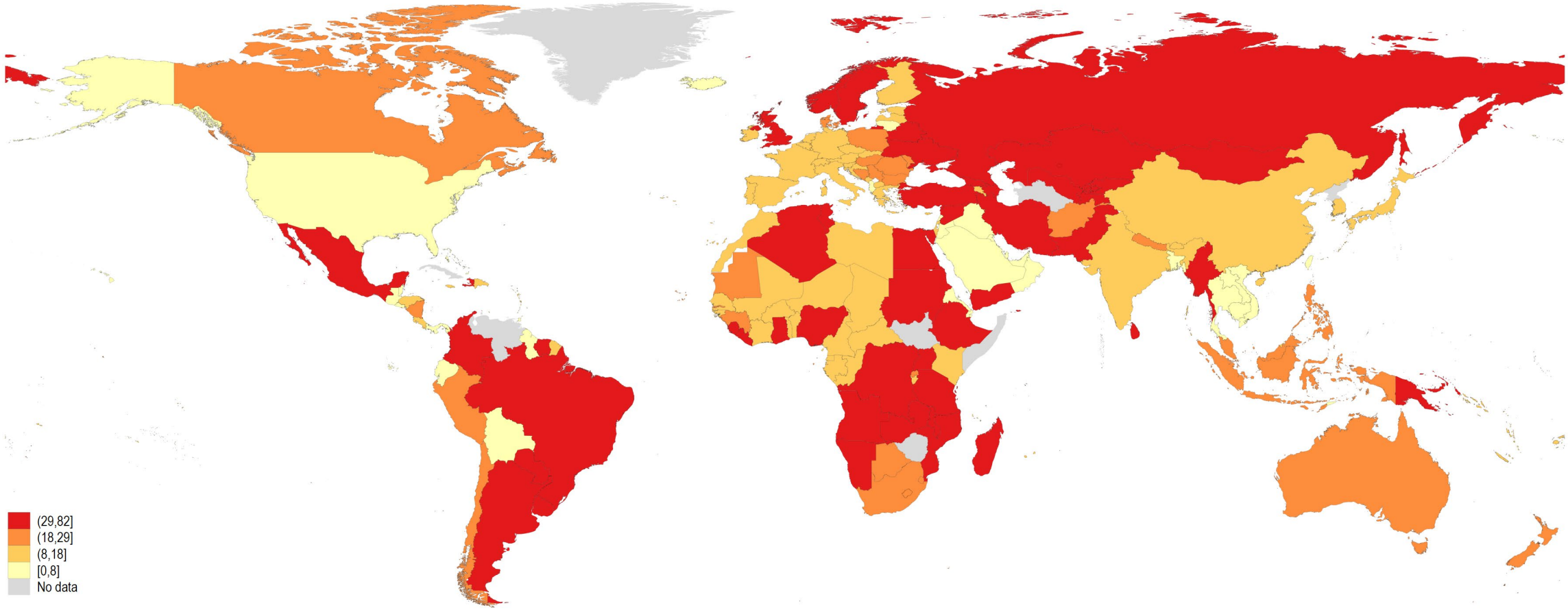
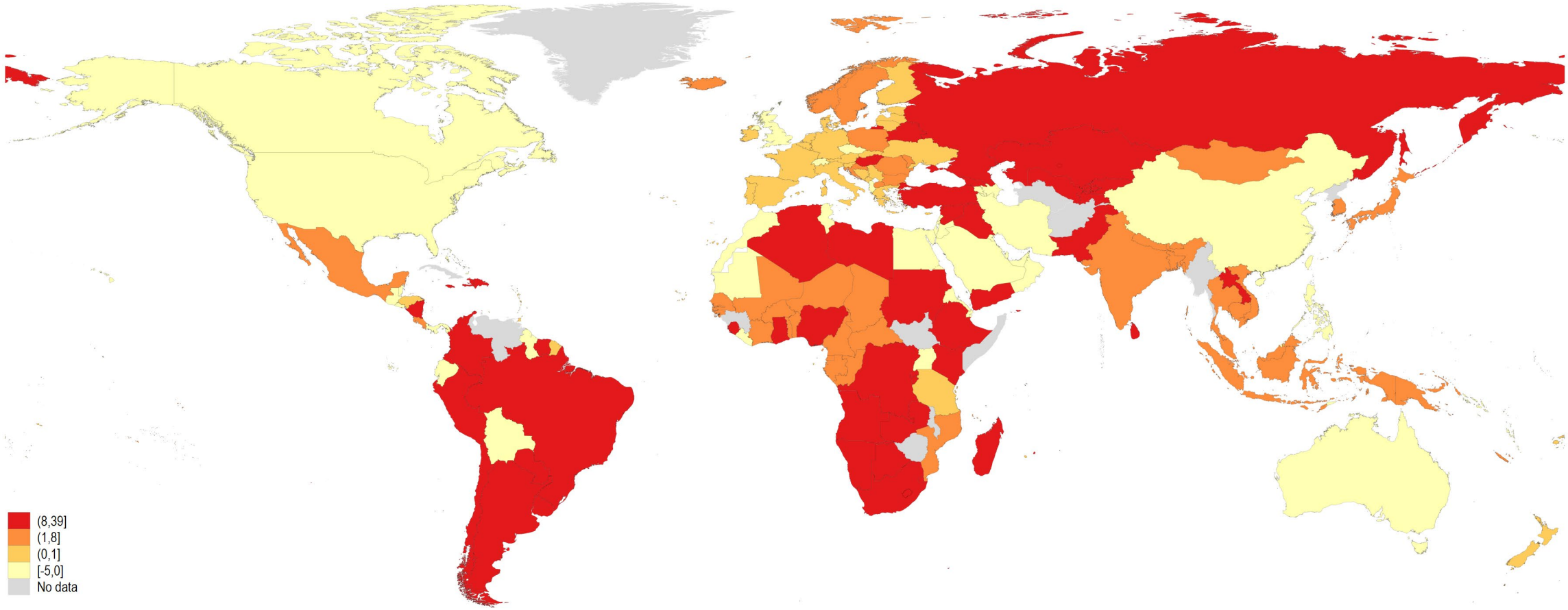
Variation of the Exchange Rate During the Cycle 3



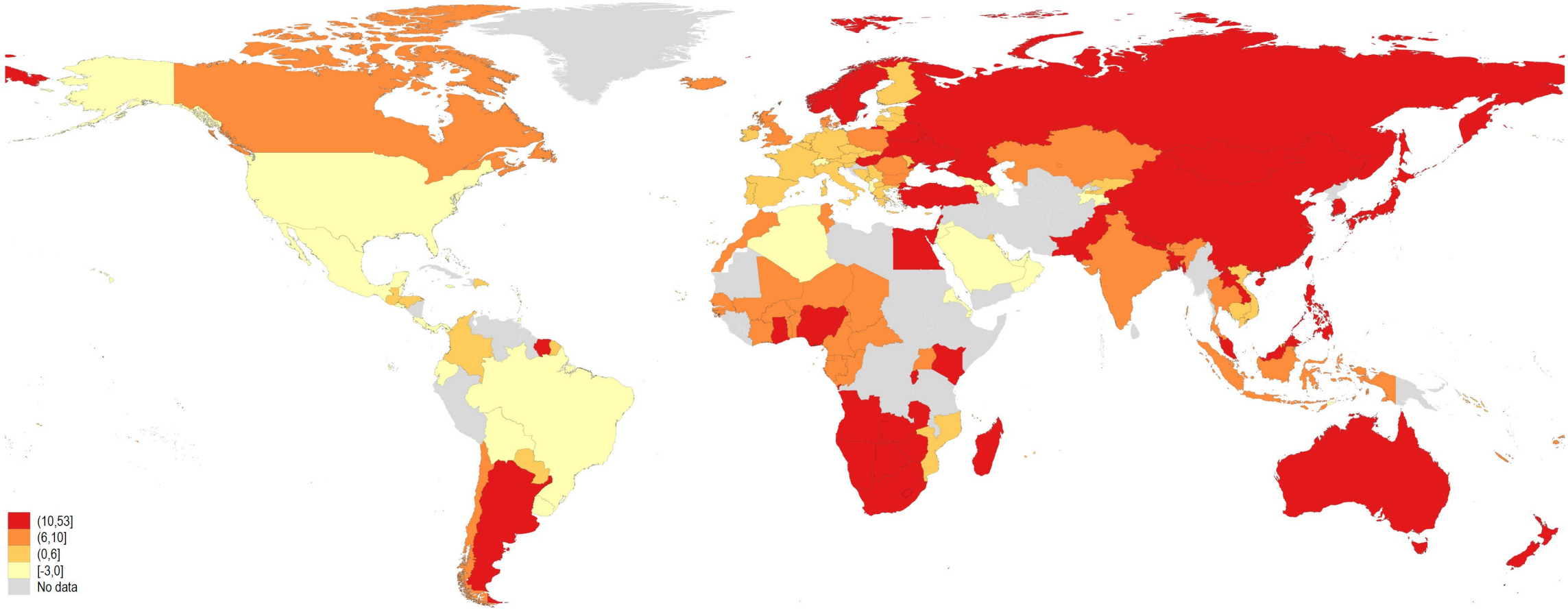
More red colors indicate a stronger depreciation. Exchange rates are windsorized.

Variation of the Exchange Rate During the Cycle 4



More red colors indicate a stronger depreciation. Exchange rates are windsorized.

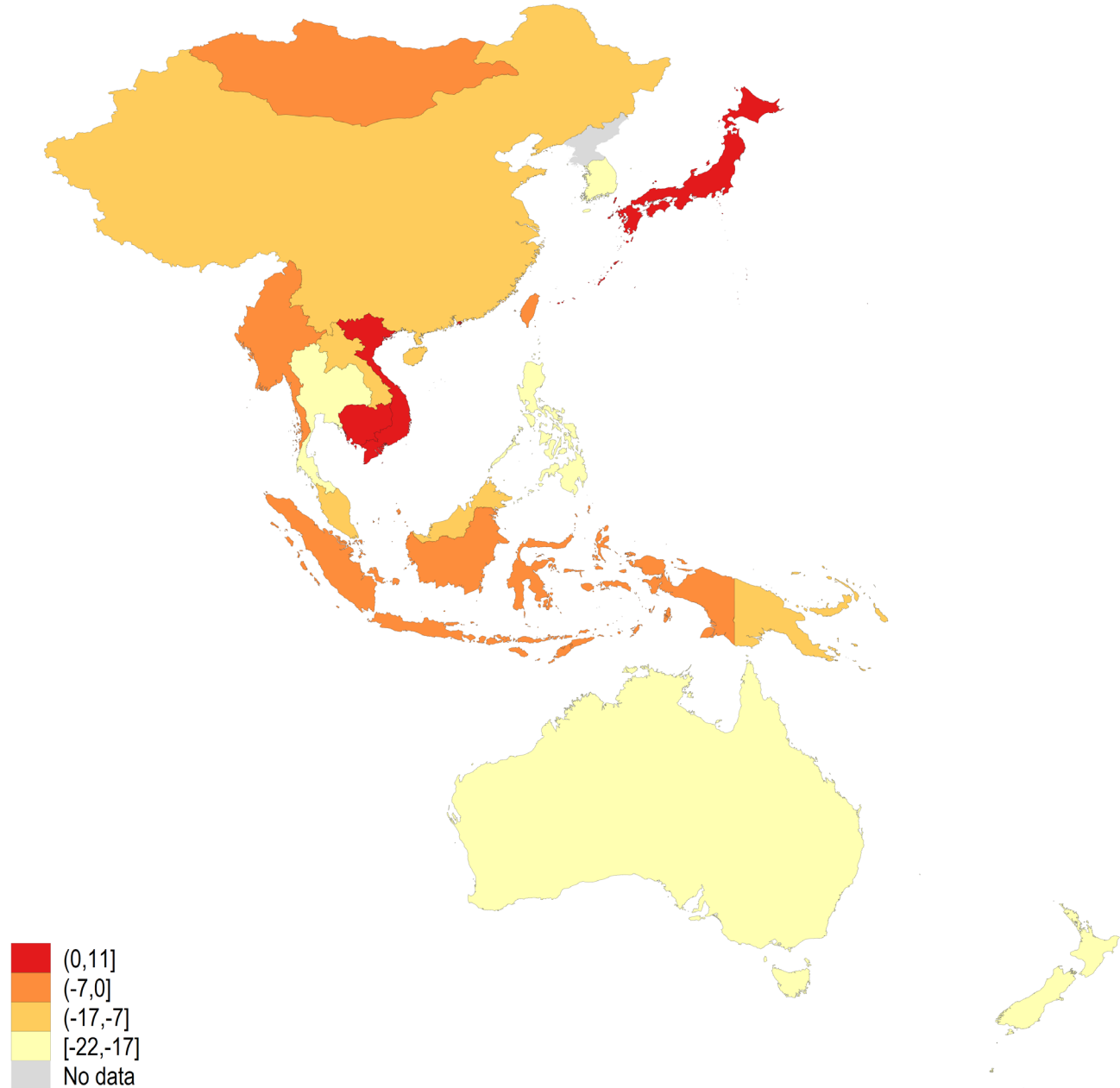
Variation of the Exchange Rate During the Cycle 5



More red colors indicate a stronger depreciation. Exchange rates are windsorized.

Bilateral Exchange Rate
(Focus on East Asia and Pacific)

Variation of the Exchange Rate During the Cycle 1



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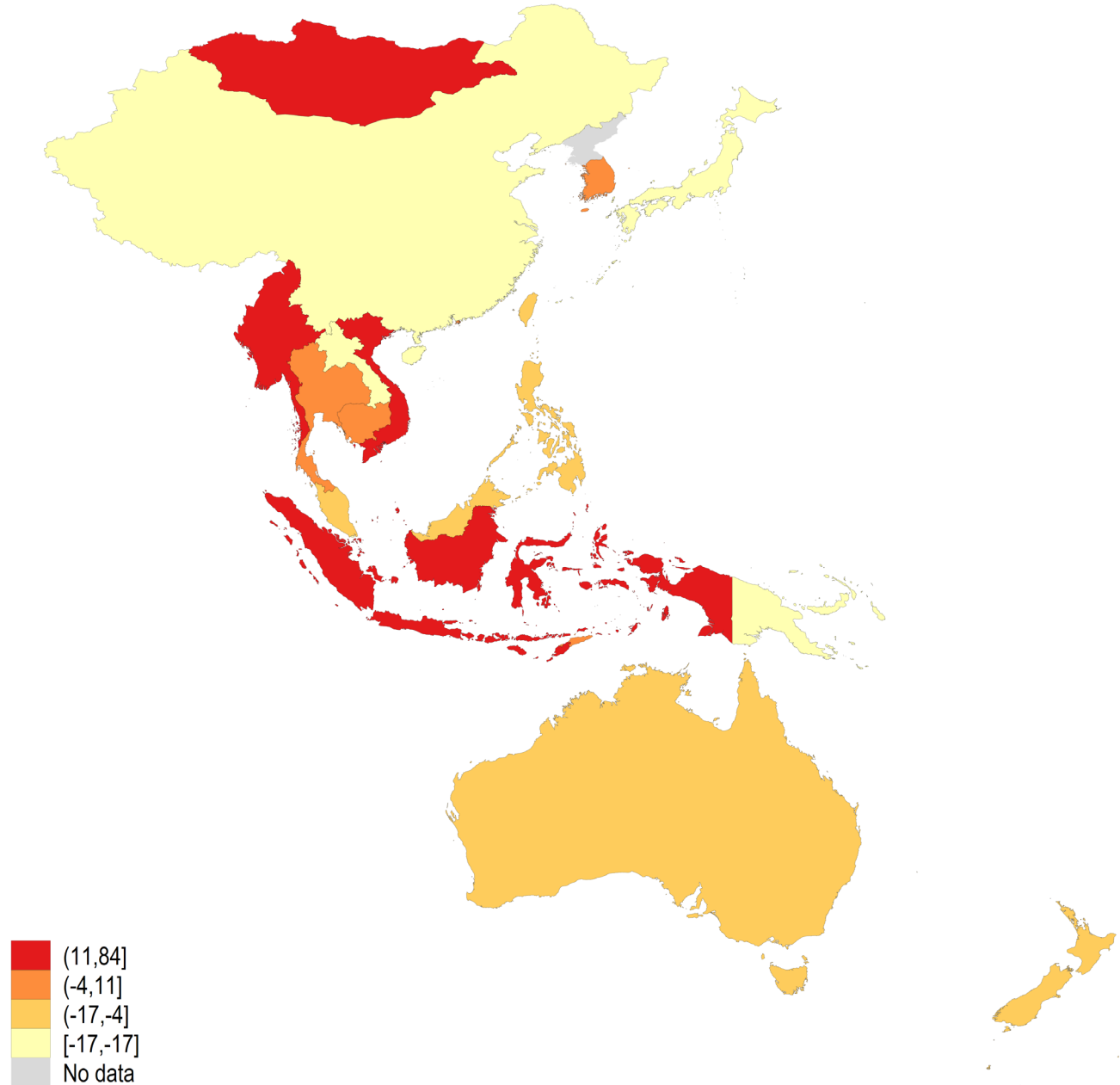
Variation of the Exchange Rate During the Cycle 2



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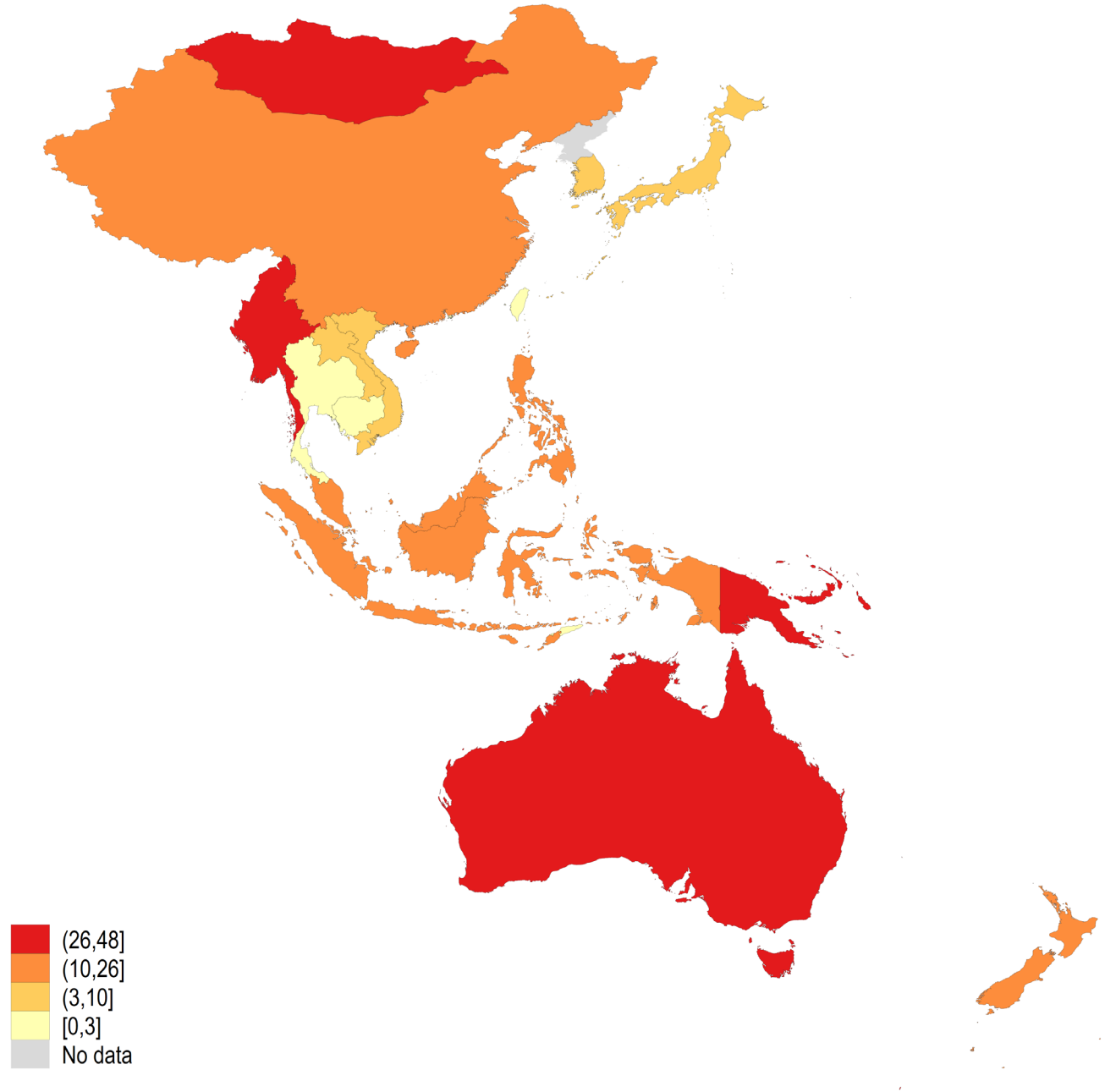
Variation of the Exchange Rate During the Cycle 3



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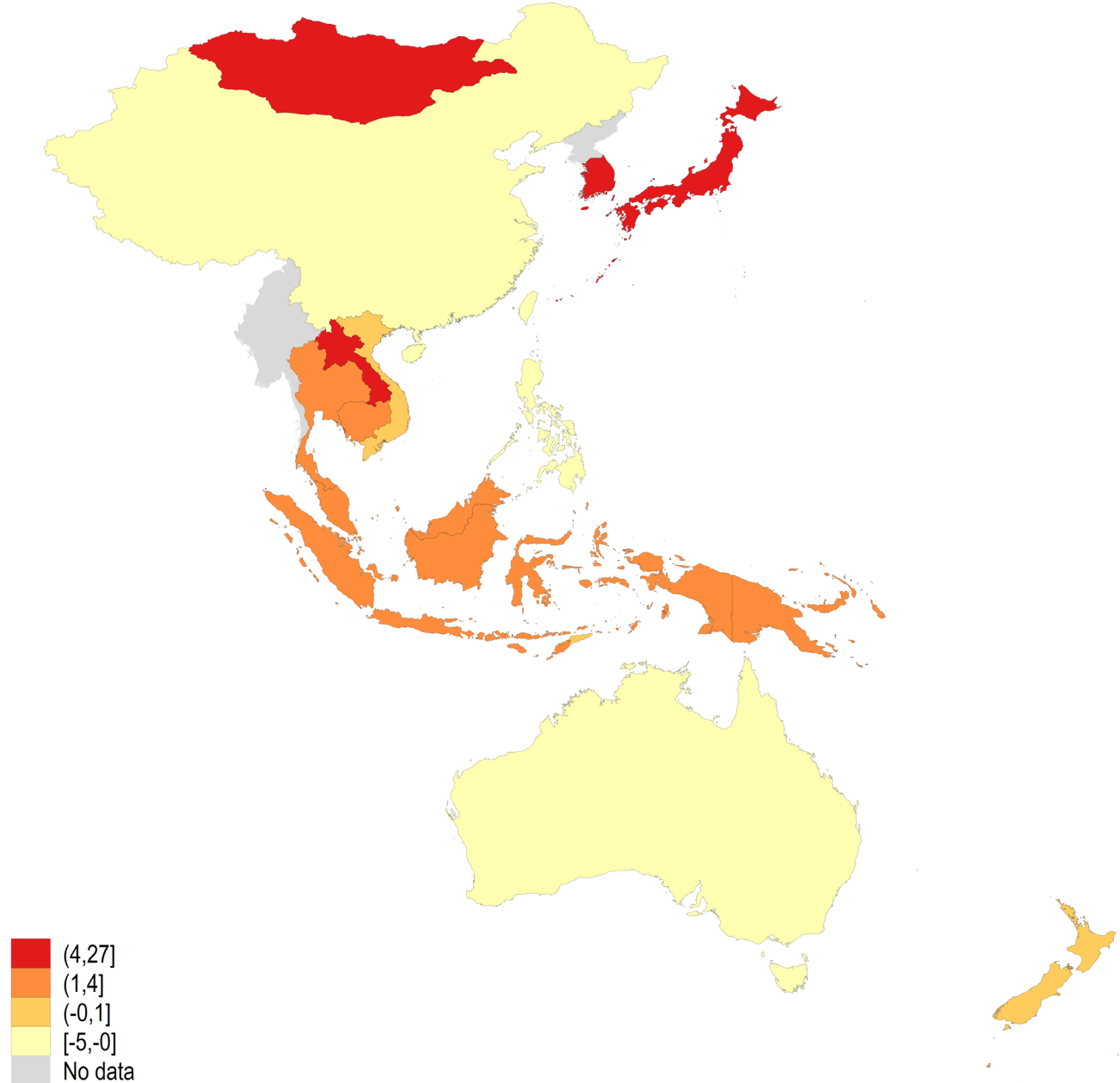
Variation of the Exchange Rate During the Cycle 4



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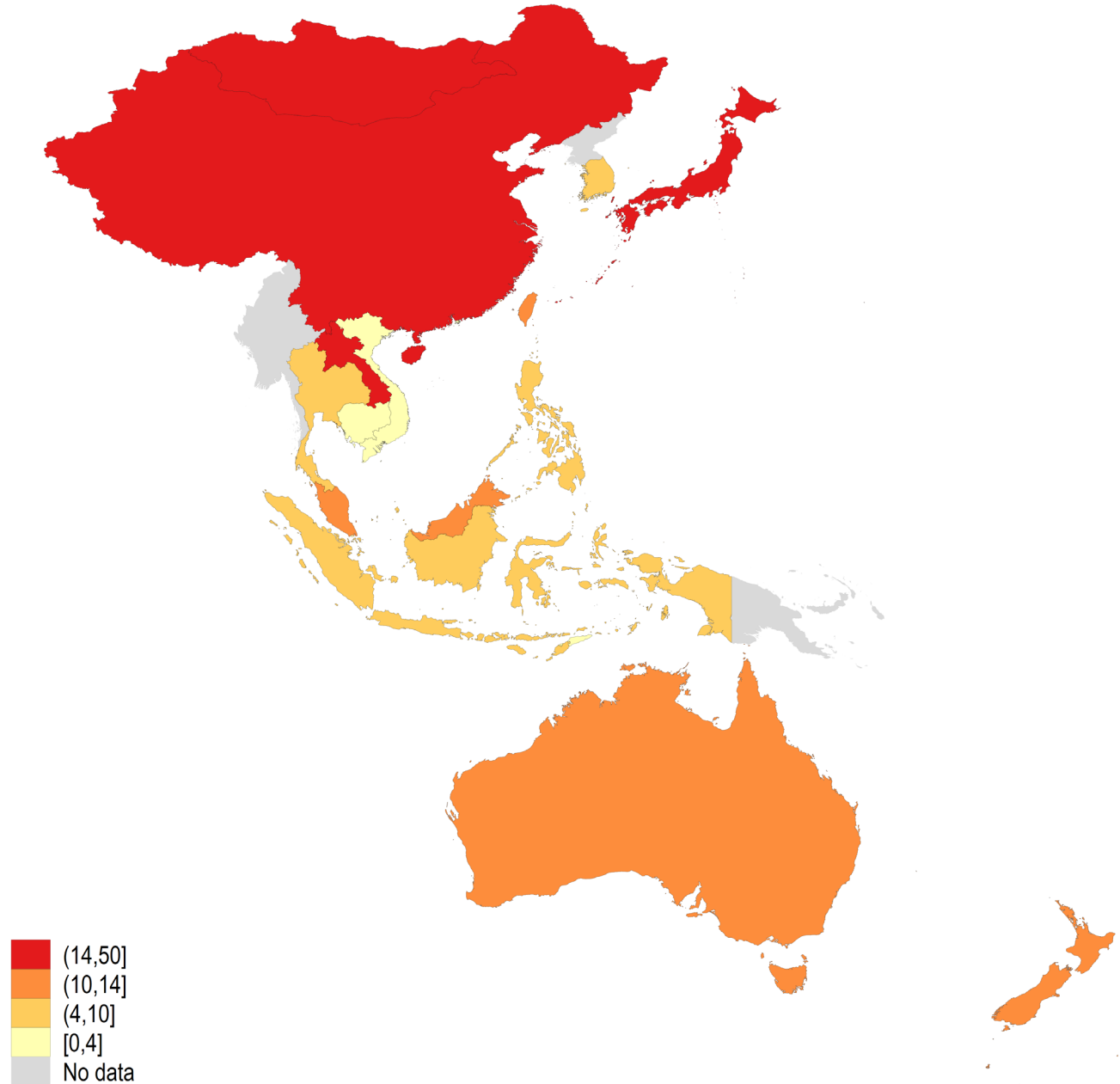
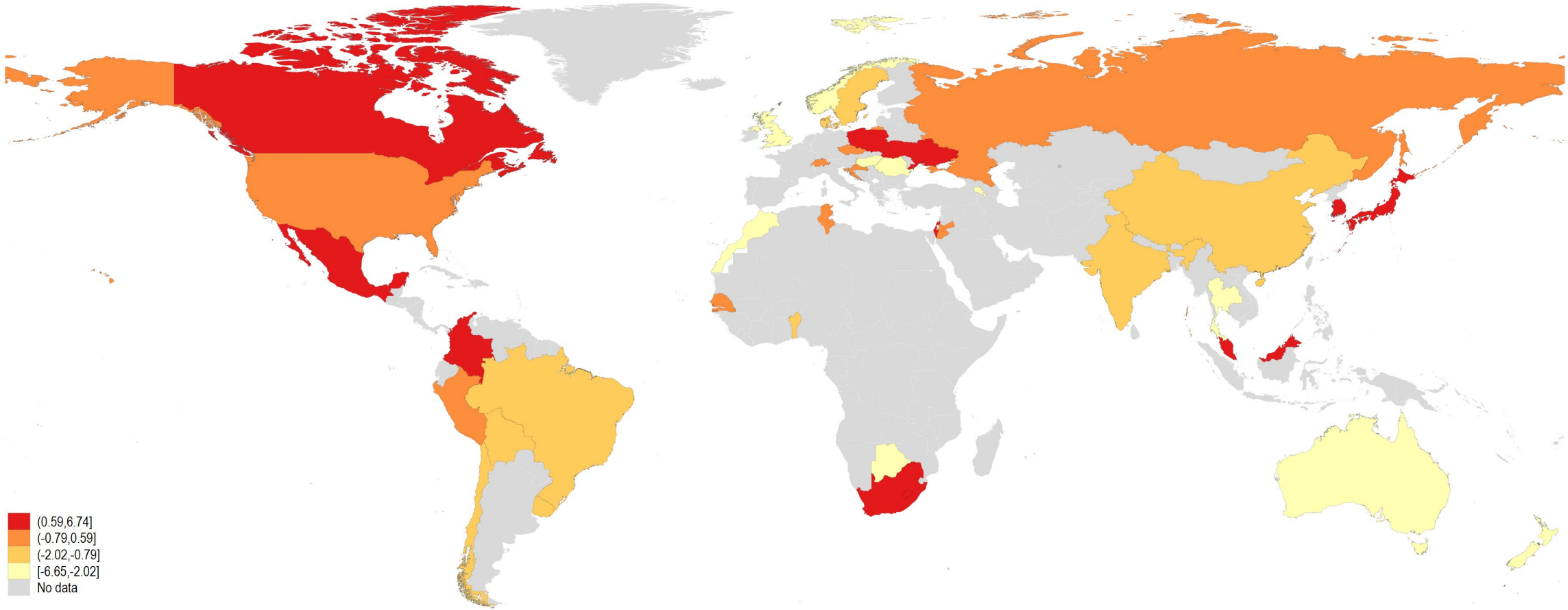
Variation of the Exchange Rate During the Cycle 5



More red colors indicate a stronger depreciation. Exchange rates are windsorized.

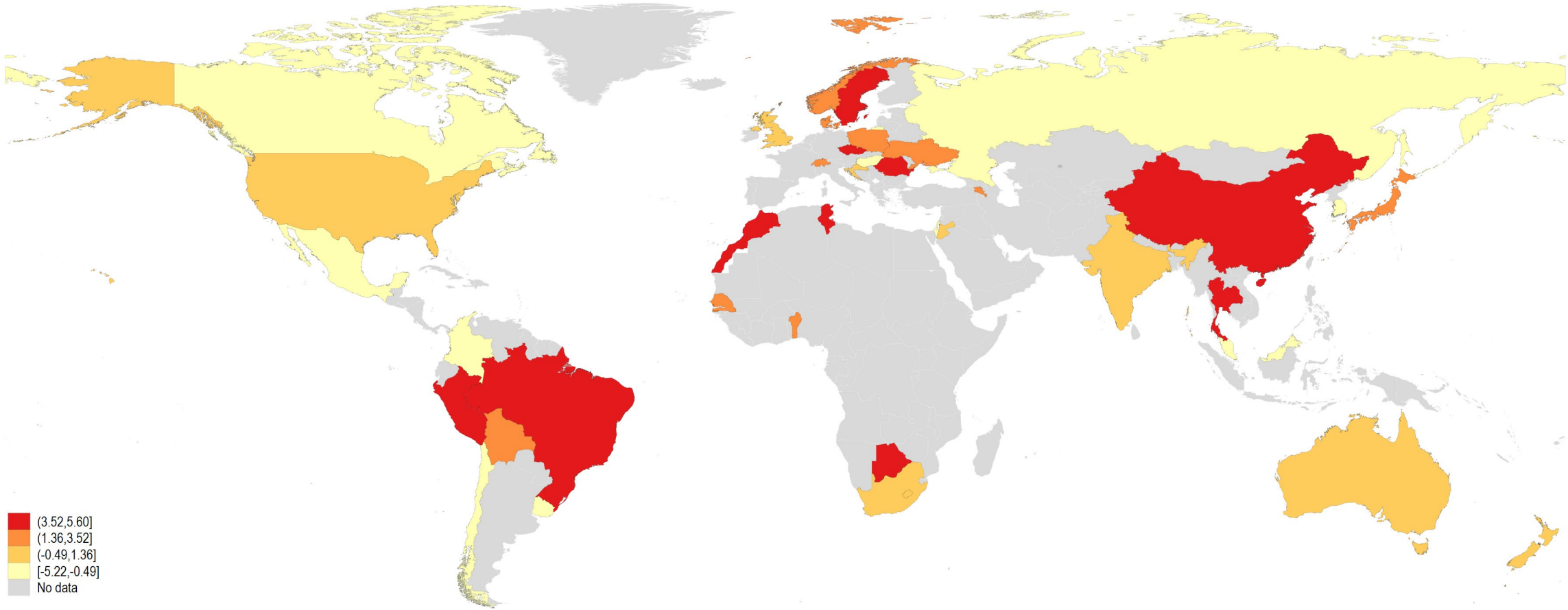
Exchange Rate Market Pressure

Variation of the EMP During the Cycle 1



A more red color indicate a stronger pressures.

Variation of the EMP During the Cycle 2



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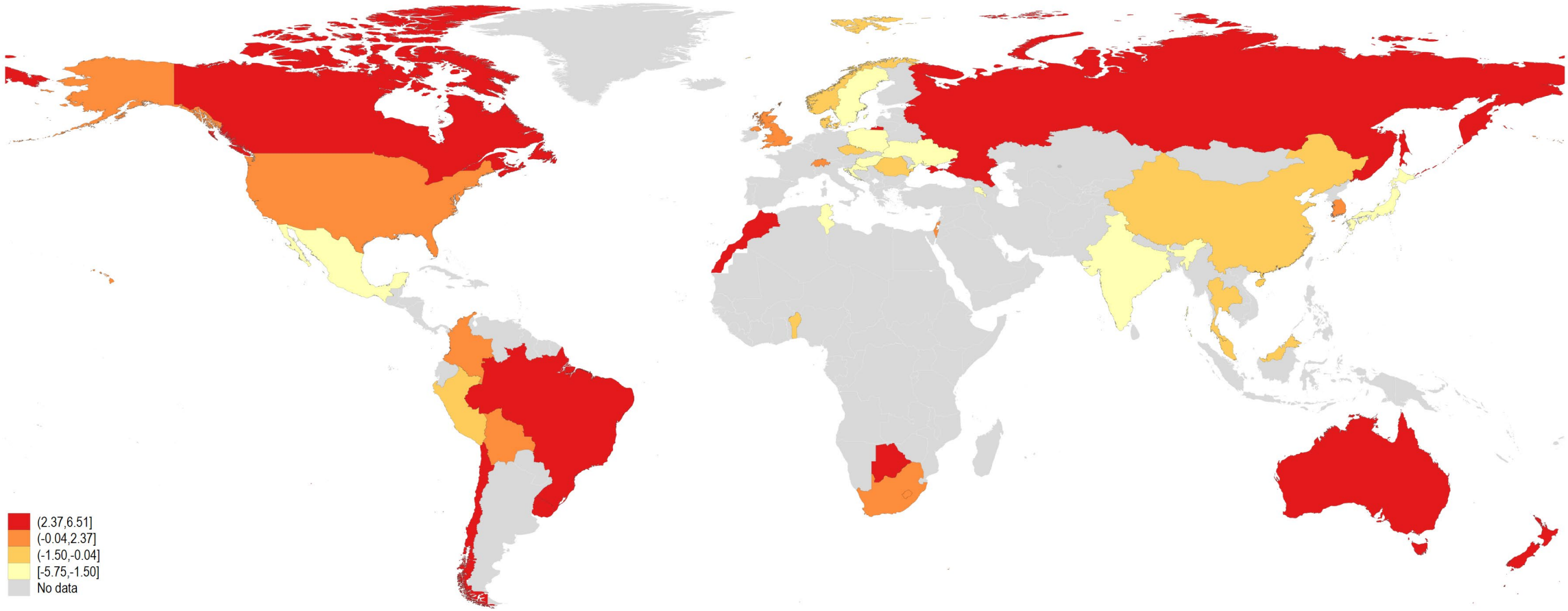
Variation of the EMP During the Cycle 3



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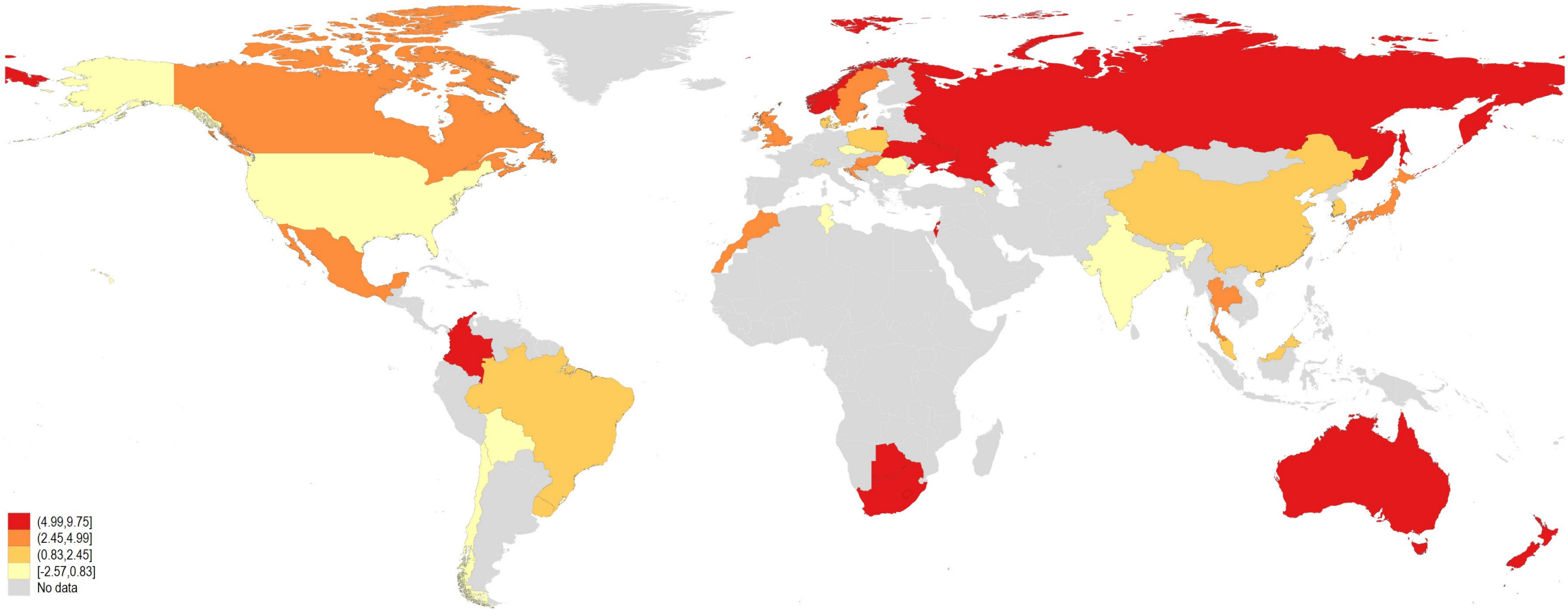
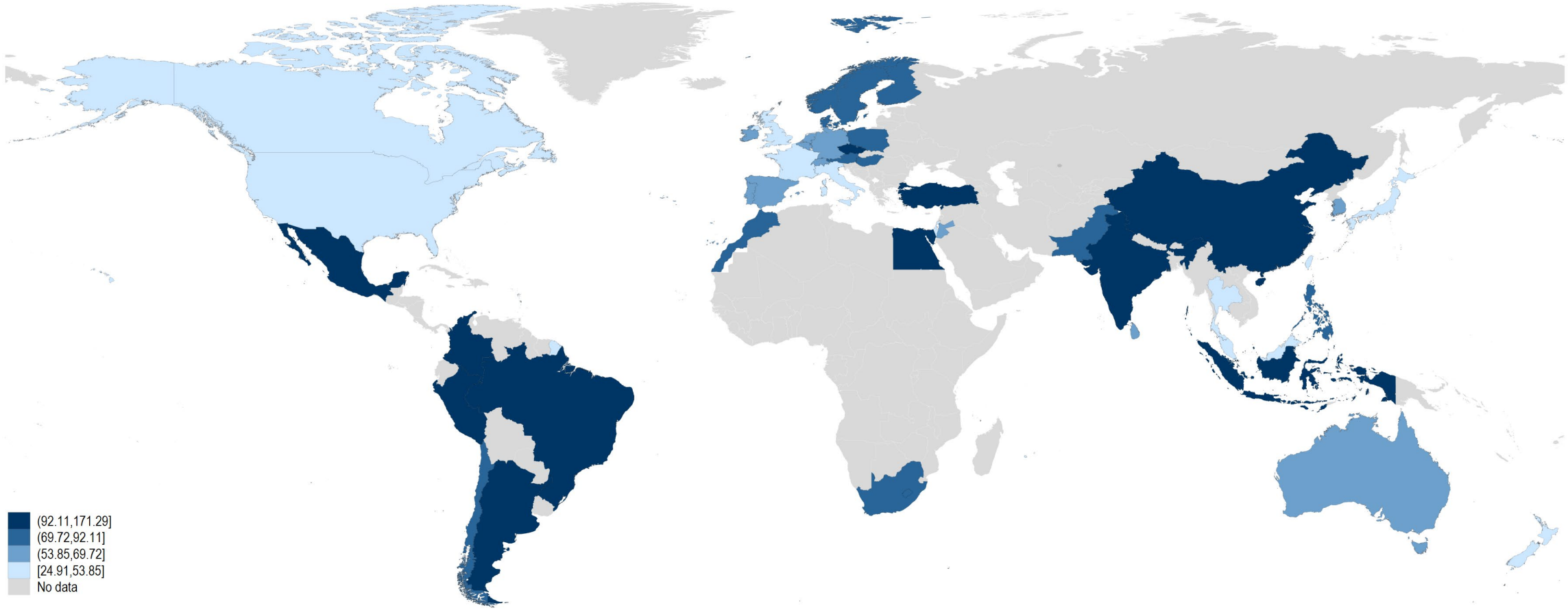
Variation of the EMP During the Cycle 4



A more red color indicate a stronger pressures.

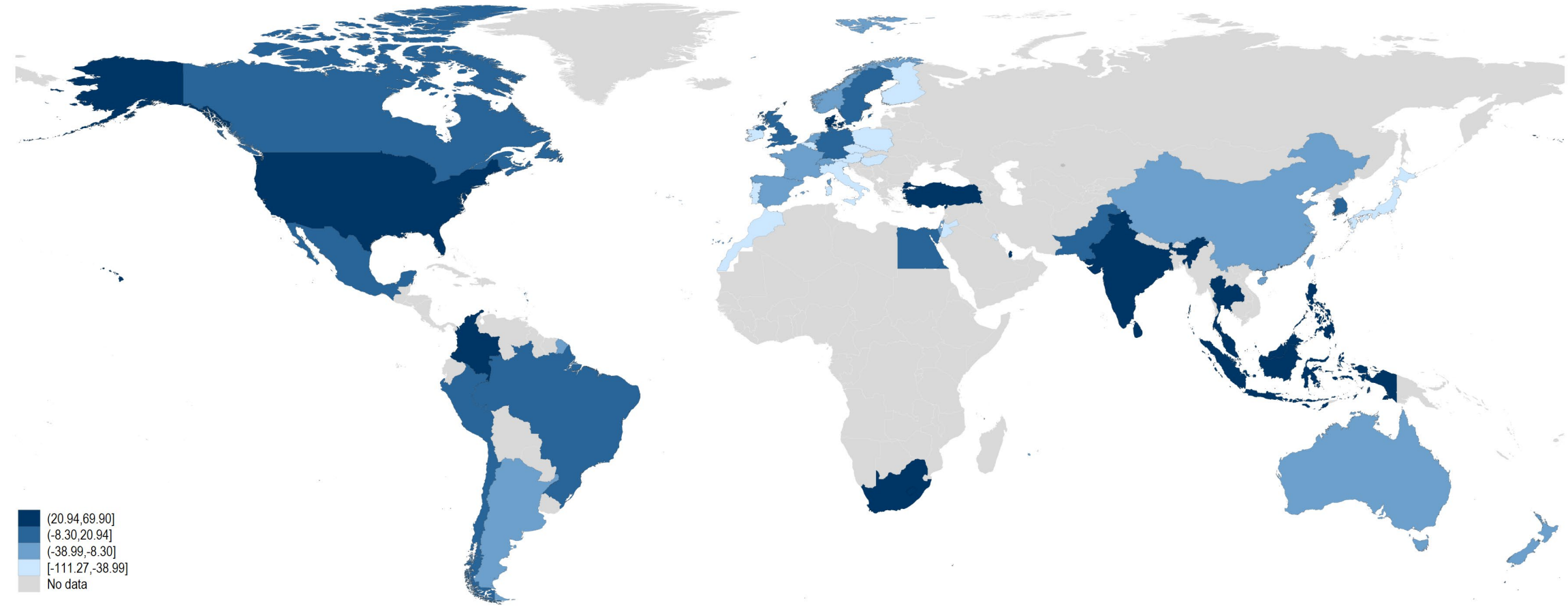
Equity MSCI index

Variation of the Equity MSCI During the Cycle 1



A more blue color indicate a better performance.

Variation of the Equity MSCI During the Cycle 2



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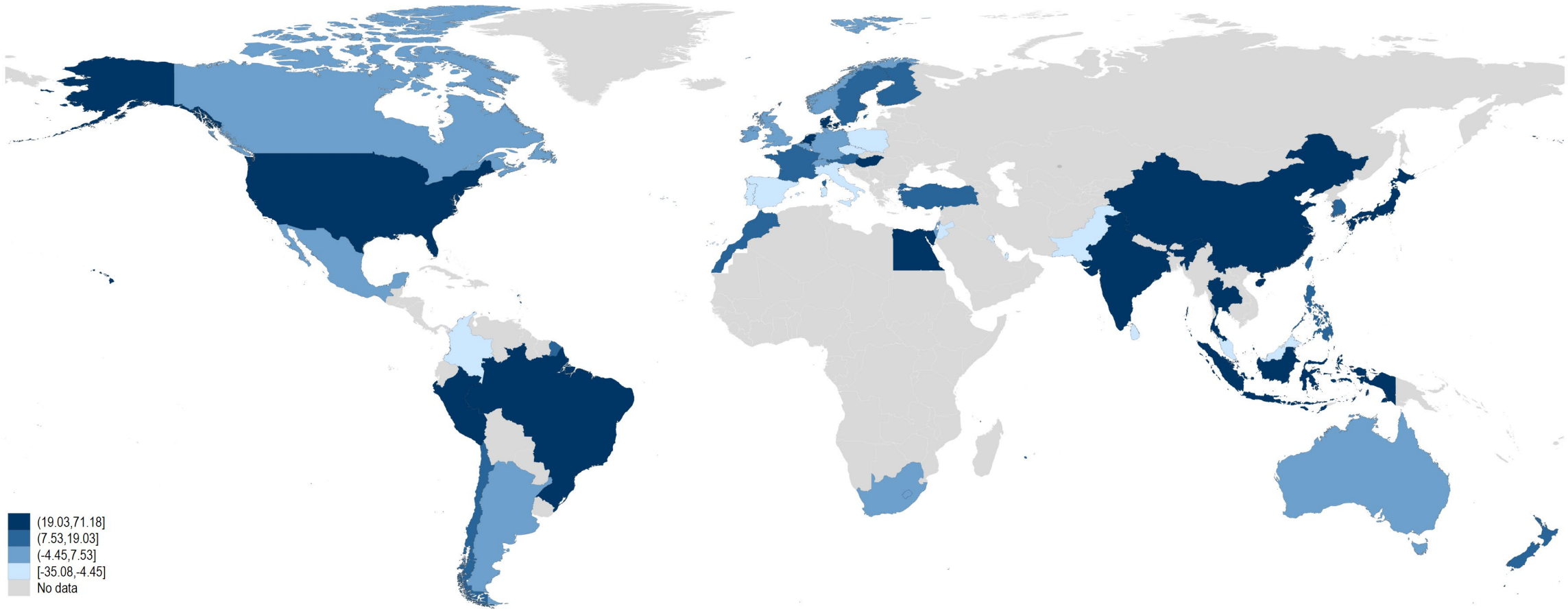
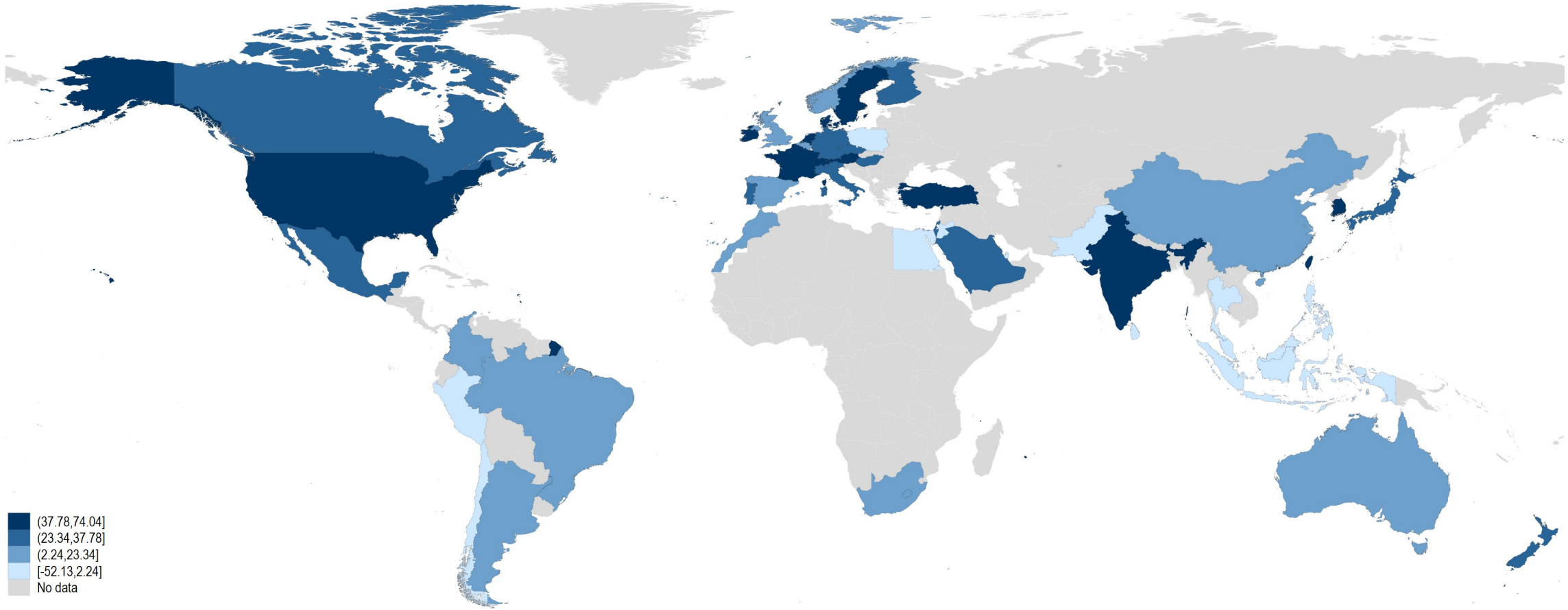
Variation of the Equity MSCI During the Cycle 3



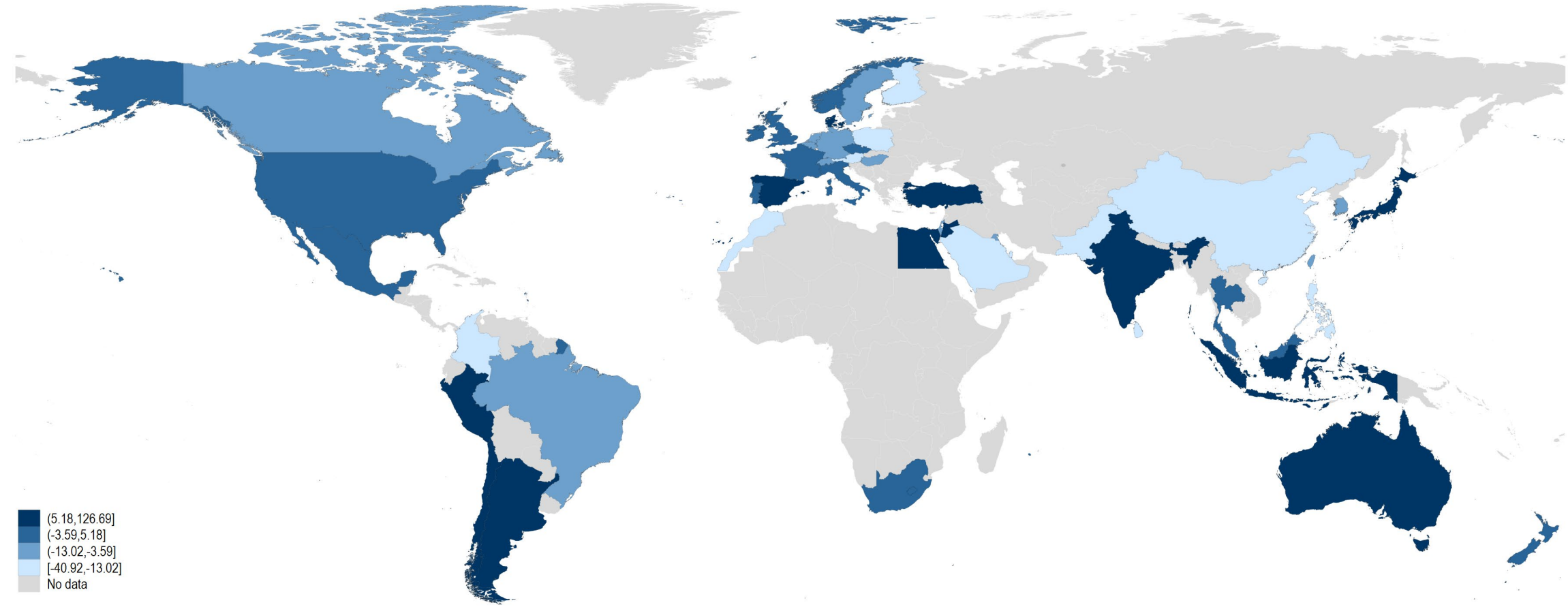
A more blue color indicate a better performance.

Variation of the Equity MSCI During the Cycle 4



A more blue color indicate a better performance.

Variation of the Equity MSCI During the Cycle 5



A more blue color indicate a better performance.