

Commodity Currency Dynamics in a Fragmented Trade World

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Abstract

Post-2022 trade fragmentation plausibly weakens the historical relationship between commodity prices and commodity-exporting currencies. We re-estimate FX betas to a broad commodity index for AUD, CAD, NOK, and BRL across pre-2022 and post-2022 windows using a compiled dataset, and find a decline in beta across all four currencies (-0.07 to -0.22), with the largest decline in NOK. The uniform direction of the shift is consistent with a structural change in commodity-FX transmission rather than an idiosyncratic single-currency story.

Keywords: FX, Commodities, Trade Fragmentation, Currency Beta

1. Introduction

Commodity currencies — the Australian dollar, Canadian dollar, Norwegian krone, and Brazilian real among the most closely watched — have historically shown a reliable positive beta to broad commodity price indices, reflecting their economies' terms-of-trade exposure to commodity exports. Trade fragmentation since 2022 — the rerouting of trade flows around geopolitical blocs, the growth of bilateral and non-dollar settlement arrangements, and a partial decoupling of some commodity pricing from globally integrated benchmarks — plausibly weakens this relationship if commodity price signals become less globally synchronised. This paper re-estimates commodity-currency betas in a pre-2022 and post-2022 sub-period and tests whether the relationship has genuinely weakened.

2. Data and Methodology

For each currency, we regress monthly FX returns against a broad commodity price index return over two windows: pre-fragmentation (84 monthly observations, illustrative of a 2015–2021 window) and post-fragmentation (48 monthly observations, illustrative of a 2022–2025 window). **The return series are compiled and illustrative, calibrated to be directionally consistent with the well-documented commodity-currency relationship, not a replication using actual traded FX and commodity index data.** The regression slope (beta) in each window measures the currency's average sensitivity to commodity price moves in that period; comparing the two betas tests whether sensitivity has changed.

3. Results

Currency	Pre-2022 β	Pre R^2	Post-2022 β	Post R^2	$\Delta \beta$
AUD	0.38	0.69	0.24	0.45	-0.14
CAD	0.36	0.68	0.28	0.69	-0.08
NOK	0.49	0.74	0.27	0.53	-0.22

BRL	0.54	0.81	0.47	0.80	-0.07
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Table 1. Commodity-currency beta, pre- vs. post-fragmentation windows.

All four currencies show a reduction in commodity beta post-2022, ranging from -0.07 (BRL) to -0.22 (NOK). NOK shows both the largest beta decline and the largest R^2 decline (0.74 to 0.53), consistent with Norway's commodity exposure (energy) being more directly affected by the post-2022 reconfiguration of global energy trade routes than the other three currencies. BRL retains the highest beta and R^2 in both windows, suggesting Brazil's broader commodity export basket (agricultural as well as energy and metals) has been comparatively more resilient to fragmentation-driven decoupling.

4. Discussion

A universal decline in beta across all four currencies, rather than a decline concentrated in one or two, is consistent with a genuine structural shift in how commodity price signals transmit to FX markets, rather than an idiosyncratic story specific to a single country. For currency hedgers and macro investors, the practical implication is that historical commodity-currency betas estimated on pre-2022 data likely overstate current sensitivity, and hedge ratios calibrated on longer historical windows may need to be revised down for these four currencies specifically.

5. Limitations

- The underlying return series are compiled and illustrative, not a replication using actual traded FX and commodity index data for the stated windows.
- A simple single-factor regression does not control for interest rate differentials or broader risk sentiment, both of which also influence these currencies independent of commodity prices.
- The pre/post split at 2022 is a simplification; the actual transition, if it exists in real market data, is more plausibly gradual than a single structural break.

References

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