

Strategic Diversification to reduce Dollar Concentration Risk

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INTRODUCTION

The US Dollar is the dominant currency in global finance and is of immense importance to American allies in the middle east who conduct majority of their trade transactions in dollars. In November 2023, Saudi Arabia signed a large Bilateral Currency Swap (BCS) agreement with China. While this might be seen this as a risky upheaval to the prevailing regime, the financial markets perceived this positively when measured using Sovereign Credit Default Swaps (CDS). This study reveals that five days before the deal was even official, Saudi CDS premiums decreased by 6%, a massive shift compared to historical norms. The results are also significant statistically when compared against the control (Australia). This shows that currency diversification isn't just about technicalities; it enables tail-risk reduction

FREEZING OF RUSSIA'S FOREIGN RESERVES REVEALED THE WEAPONIZATION OF TRADITIONAL SAFE HAVEN ASSETS

Dutch institutional portfolios, similar to their European peers, remain structurally concentrated in U.S. assets because of reasons such as their perceived safety, liquidity and superior returns profile. However, recent geopolitical developments such as tariff conflicts, wars and growing fiscal pressures in the United States raise the possibility of a tail risk event originating from USA. Therefore, Dutch asset allocators, should start thinking on mechanisms to ensure the resilience of their portfolios to geopolitical shocks coming from traditionally “safe” American assets.

This article examines how the market responds to strategic diversification away from exclusive reliance on U.S. assets. Using an event-study framework, this paper shows that markets reward signals of cautious diversification. The implication for European investors is that gradual currency and reserve diversification may improve risk-adjusted portfolio resilience.

First this article examines the evolution of bilateral currency swaps and their primary role in monetary infrastructure. Second, the choice to compare Saudi Arabia's 2023 RMB swap with Australia's 2012 agreement is motivated. Third, the econometric techniques to perform this analysis is presented. Fourth, the results showing the positive market perception of Saudi CDS

spreads is demonstrated. Finally, the policy implications of this research specifically in the context of Europe's strategic exposure to a dollar-centric financial system is discussed.

THE EVOLUTION OF CURRENCY SWAPS

A bilateral currency swap (BCS) is an agreement between two central banks to exchange usually its domestic currency, for a certain amount of foreign currency at predetermined rates and terms. A BCS's primary function is to facilitate trade settlement efficiently by enabling importers and exporters to settle transactions in local currencies rather than dollars. It can have other functions also like signalling strategic partnerships or providing emergency liquidity. In fact BCS proliferated following the 2008 Great Financial Crisis (GFC), when the Federal Reserve deployed them to alleviate global dollar shortages. Central banks now use swaps for diverse objectives: reserve accumulation, trade settlement, corporate lending, and geopolitical influence. China has been particularly active, establishing over 40 RMB swap lines totalling 4 trillion RMB since 2009 – embedding them in continuous bilateral relationships (especially with indebted nations) rather than reserving them for crises (Zhitao, Wenjie, & Cheung, 2016) (Steil, 2024).

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This question is addressed through an event study analysis of sovereign credit default swap (CDS) responses to bilateral RMB swap announcements, focusing on Saudi Arabia's November 2023 agreement with China as treatment and Australia's March 2012 agreement as control.

RETHINKING DOLLAR DEPENDENCE

Economist Barry Eichengreen (2025) argues that the proliferation of a reserve currency rest on two attributes. The Mercury attribute underscores pecuniary matters like economic strength, deep financial markets, strong rule of law. While the Mars attribute underscores geopolitical matters like security provisions, alliances and military might. The dollar historically offered both Mercury and Mars attributes, commanding a premium based on both economic fundamentals and geopolitical security provisions. Eichengreen demonstrates in his research that countries such as Germany, Japan, Korea, Saudi Arabia, and Taiwan hold disproportionate amounts of dollar reserves, consistent with a geopolitical alignment effect, in addition to economic fundamentals.

Donald Trump's more confrontational stance toward his European partners in his second term has weakened the dollar's Mars premium since the Europeans can no longer rely on the US as a reliable military ally (Cassidy, 2026). Furthermore, mounting U.S. fiscal pressures – most notably rising public debt and heightened policy volatility – have raised questions about the durability of the dollar's traditional safe-haven status (Ertz, 2025). At the same time, the perceived erosion of the long-term service benefits offered by U.S. Treasuries, combined with an investor rotation into gold as an alternative reserve asset, has further undermined the status of the dollar as a safe asset after the tariff shock of April 2025 (Acharya & Laarits, 2026).

Although no full dollar alternative exists, concentration in dollar-denominated assets entails growing risk. For European institutions, whose reserve management has historically been anchored by reciprocal trade flows and defence cooperation with the US, the current U.S. policy environment makes the need for greater reserve diversification imperative. A prudent approach for European policymakers should be to adopt a more diversified approach in the choice of reserve currency grounded in pecuniary matters (Mercury attributes) rather than one based purely on geopolitical alignment (Mars attributes). Bilateral currency swaps, particularly with economically significant non-dollar partners, represent one mechanism for building such diversification without abandoning core alliances.

SCOPE

- The research exclusively considers the initial signing of bilateral RMB swap agreements and excludes subsequent renewals, as these are largely anticipated by markets and therefore unlikely to convey new information.
- Time period is restricted to a short-horizon to exclude longer-term institutional or macroeconomic adjustments that evolve gradually and are not suited to event-study identification.

CASE STUDIES

This article examines whether RMB bilateral swap announcements reduce perceived sovereign credit risk, as measured by credit default swap (CDS) spreads. This article focusses on two cases: Saudi Arabia's RMB swap announcement in 2023, and Australia's RMB swap agreement in 2012. In this study, Saudi Arabia features as the treatment group while Australia serves as the historical control.

The choice of Saudi Arabia is two-fold, it is a major US geopolitical ally with its currency pegged to the dollar hence it sits very well in the Mars thesis. Secondly, while there have been other large economies that have signed BCS agreements with China, the agreement valued at RMB 50 billion is the largest in the past decade.

The choice of Australia as a control variable is motivated due to the following similarities to Saudi Arabia:

1. Economic profile: Both Australia and Saudi Arabia are wealthy, commodity exporting economies
2. Geopolitical profile: Both Australia and Saudi Arabia are major US allies and have deep defence cooperation agreements with the USA via the ANZUS treaty and US-Saudi Strategic Defence Agreement respectively
3. China profile: For both Australia and Saudi Arabia, the top trading partner is China, with major commodity exports consisting of iron ore and oil, respectively (Australian Government Dept of Foreign Affairs and Trade, n.d.) (Xinhua, 2025)

SAME SWAP STRUCTURE, A DIFFERENT GEOPOLITICAL WORLD

The key difference is temporal: Australia's 2012 agreement occurred before the overt weaponization of dollar-based financial infrastructure, while Saudi's 2023 agreement came in an era of heightened currency geopolitics. This temporal separation enables an empirical assessment of whether markets price currency swaps primarily for their operational liquidity provision or is there an element of geopolitical hedging also present?

CAVEAT

With a sample size of two, this study does not aim to establish generalisability *i.e.*, all RMB swap announcements with China systematically reduce CDS spreads across all sovereigns. The motive is to prioritise causal identification in the Saudi case. Following the logic of event study methodology (Huntington-Klein, 2021), I am attempting to identify the specific tail-risk insurance mechanism and establish whether it operates causally by demonstrating its presence in a high-exposure case and its absence in a low-exposure counterfactual. By benchmarking against a structurally similar but temporally distant sovereign,

the two-case comparison isolates contextual variation while holding core characteristics constant.

CONTRIBUTION

Existing work on China's RMB bilateral swap agreements largely focuses on the determinants of such agreements. In contrast, this paper investigates the market-pricing consequences of a specific announcement using daily sovereign CDS spreads and segmented regression to estimate the causal impact on perceived sovereign risk. Therefore, this paper specifically answers how financial markets revise perceived sovereign credit risk around the announcement, controlling for global risk factors.

MARKETS MOVED EARLIER AND REWARDED STRATEGIC OPTIONALITY

The contribution of this article is threefold. Firstly, an event-study framework is used to discover information endogenously. Secondly, a control is used to test whether the observed effects reflect a generic policy channel or context-specific signalling. Finally, the empirical findings are connected to a broader argument about Europe's strategic position in an evolving multi-polar world under the backdrop of an increasingly unstable dollar-centric system.

DATA

This paper uses freely accessible datasets with variables commonly used in the sovereign risk literature. The dependent variable is 10-year sovereign CDS spreads for Saudi Arabia and Australia and the control variables are:

- VIX index (global risk appetite proxy)
- US 10-year Treasury yield (benchmark risk-free rate)
- Brent crude oil prices (Saudi Arabia's primary export commodity)
- Iron ore prices (Australia's primary export commodity)

METHODOLOGY

TREATMENT VS CONTROL

For this research, the treatment case is RMB swap agreement with China (announced November 20, 2023). Where the goal is to test if markets perceive dollar diversification as destabilizing leading to rise in CDS spreads. Conversely, the CDS spreads should fall if markets perceive dollar diversification as a stabilizing factor.

Given their similar profile, Australia's RMB swap agreement with China (announced 22 March 2012) forms as the control. The paper incorporates a control to determine the strength of the causal inference and credibility of the Saudi Arabia findings.

Specifically, the usage of control attempts to evaluate competing hypotheses such as:

- Any currency swap reduces CDS spreads regardless of the (geopolitical) context
- Any deepening ties with China reduce CDS spreads
- The results are explained by random noise or specification errors.

EVENT STUDY WITH ENDOGENOUS DISCOVERY

The research performs a traditional event study however instead of assuming orderly behaviour by the markets on the date of announcement, the methodology also allows for information arrival within a symmetric window of five working days around the date of announcement to determine when abnormal returns are statistically maximized. An observation window of ± 5 trading days is robust to capture information leakage before the formal announcement and also gives time to the market to assess implications of politically complex events.

This is done for both countries and the presence of a statistically significant date is necessary to determine whether a BCS agreement has an effect on abnormal returns. Moreover, if a statistically significant date is not present, further analysis cannot be conducted as it implies the BCS mechanism is insufficient to reduce risk perception by market participants.

ESTIMATING NORMAL RELATIONSHIP

As is traditional in econometric studies, estimation data is used from 1 year before the event to 30 days before the event, to estimate normal relationship between CDS spreads and fundamental risk drivers. The equation capturing the relationship can be written as:

$$\Delta CDS_t = \alpha + \beta_1 \Delta US10Y_t + \beta_2 \Delta \log(VIX_t) + \beta_3 \Delta \log(Commodity)_t + \epsilon_t$$

In the equation above:

- Where Δ means the daily lagged difference change. The one-day lag helps to incorporate belief revisions
- VIX has been log transformed to demonstrate proportional changes in uncertainty. Moreover, log transformation helps to account for the high skew in VIX data
- Similar to VIX, commodity prices exhibit large price swings, logging helps to compress the scale of these swings, leading to more stable variance
 - For Saudi Arabia, the commodity is Brent crude oil prices
 - And for Australia, the commodity is iron ore prices

ABNORMAL RETURNS (AR)

Sovereign CDS spreads typically incorporate structural credit information within several days of disclosure. Therefore, abnormal returns are computed over an observation window spanning ± 5 trading days around the announced event. And, abnormal returns calculated on this window, can be defined as the difference between the actual ΔCDS and the predicted values (obtained from the pre-event estimation model as the counterfactual baseline).

$$AR_t = \Delta CDS_t - \widehat{\Delta CDS}_t$$

Thereafter, for each day in the observation window these abnormal returns are standardized and tested using t-test at a 5% significance level. If a date with statistically significant abnormal return is found, then it is identified as the true event date.

RIGOR OF THE METHODOLOGY

A two-stage analysis from calculating abnormal returns around an event to determining if beliefs follow a new trajectory confirms both immediate shock and persistent repricing. Additionally, both analyses were tested for heteroskedasticity and autocorrelation. Finally, the usage of a control (Australia) helps to isolate geopolitical effects from generic swap agreement effects.

RESULTS

SAUDI ARABIA

Estimating Normal Relationship

The regression model finds that a 1% increase in Brent crude oil prices is associated with a 10.99 basis point decrease in Saudi CDS spreads, meaning that rising oil prices make Saudi Arabia appear financially safer to investors. This result is economically significant and statistically robust. By contrast, the model finds no meaningful relationship between Saudi credit risk and movements in U.S. 10-Year Treasury yields or changes in global market volatility. Although, the model suggests that Saudi sovereign risk is primarily driven by oil market dynamics, both Treasury yields and the VIX are retained to account for broader global financial conditions.

This can be represented in an equation as:

$$\Delta CDS_t = 0.065 - 0.46\Delta US10Y_t + 1.02\Delta \log(VIX)_t - 10.99\Delta \log(Brent)_t + \epsilon$$

Abnormal Returns

An analysis of the highest abnormal returns values for the observation window reveals a statistically significant market reaction occurred on November 15th (as seen in Figure 1), three trading days prior to the public announcement. On this date, Saudi 10-year CDS spreads experienced an abnormal decline of 5.95 bps ($t = 4.05, p < 0.001$), representing a highly significant repricing of sovereign risk even compared to the date of official announcement date.

Consistent with the endogenous event discovery approach, the statistically significant market reaction of November 15, 2023 will be used for next steps.

AUSTRALIA'S 2012 SWAP GENERATED NO CDS RESPONSE, CONFIRMING MARKETS DISCRIMINATE ON FACTORS MORE THAN THE GENERIC SWAP MECHANICS

Furthermore, when measured using cumulative abnormal returns, the evidence suggests that the market reaction unfolded gradually over several days, likely reflecting anticipation and the slow incorporation of information rather than an immediate repricing on the announcement day.

Figure 1
Early Market Repricing (15 Nov) Prior to Public Announcement (Nov 20)

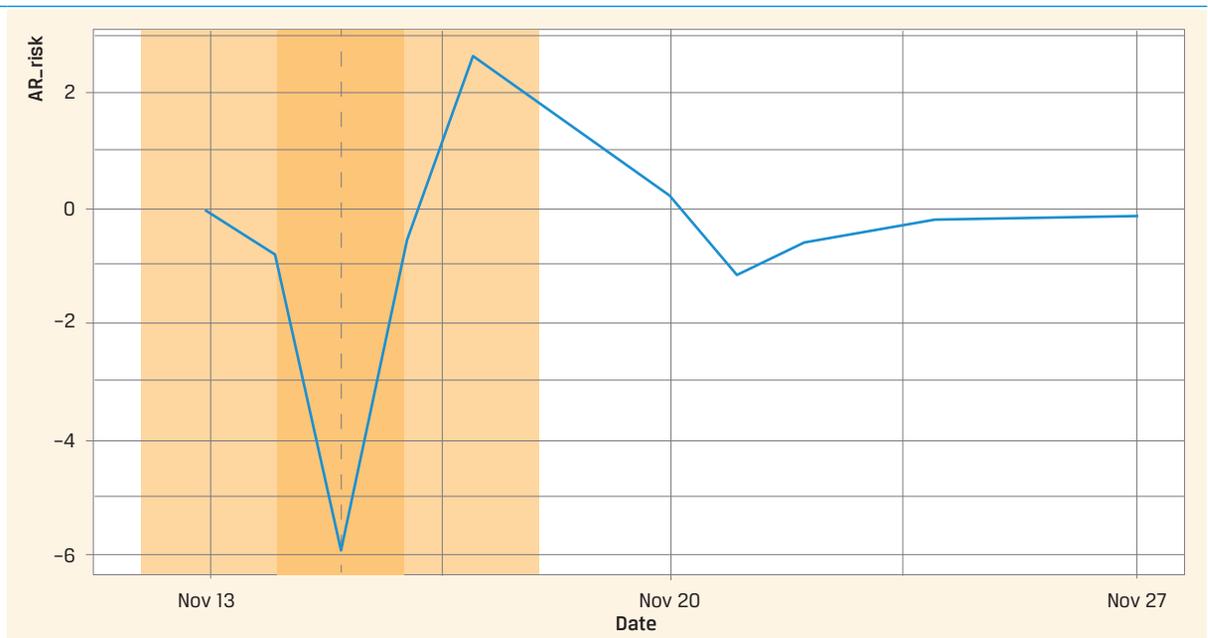
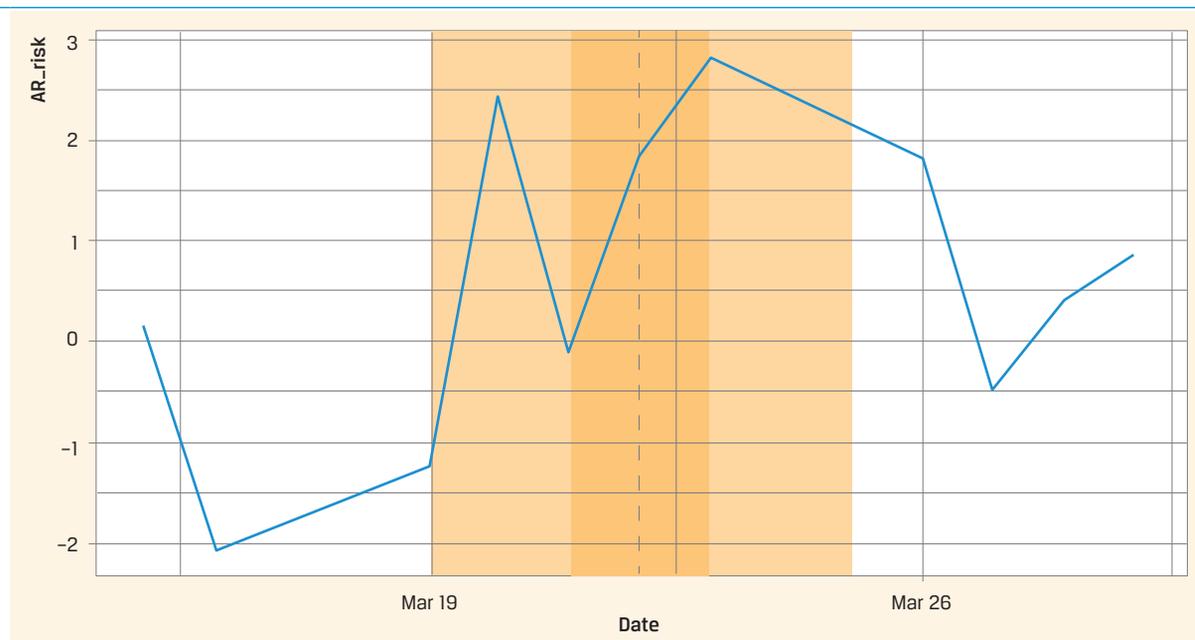


Figure 2
Absence of impact
on CDS spreads for
Australia



AUSTRALIA

Estimating Normal Relationship

The regression model suggests that a 1% increase in the VIX is associated with a 1.17 basis point increase in CDS spreads while a 1% increase in iron ore prices is associated with a 39.06 basis point decrease in CDS spreads. Indicating that stronger commodity prices significantly improve perceptions of Australia’s creditworthiness. This can be represented using the following regression equation:

$$\Delta CDS_t = 0.094 - 0.35\Delta US10Y_t - 1.17\Delta \log(VIX)_t - 39.06\Delta \log(Iron)_t + \varepsilon_t$$

ABNORMAL RETURNS

An inspection of abnormal CDS returns for Australia within the ±5-day window around the swap announcement date (as seen in Figure 2) reveals no statistically significant market reaction on any trading day. The absence of a detectable market reaction supports the use of Australia as a control case, suggesting that RMB swap announcements do not mechanically reduce sovereign risk and that markets differentiate responses based on country-specific context.

COMPARATIVE INTERPRETATION

Figure 3 illustrates how market perceptions changed around the announcement of the RMB swap agreement, Segmented regression technique is used to detect whether a structural break occurs in the trend of CDS spreads around the event date. The regression results with and without controls both show that the swap agreement coincided with an improvement in Saudi Arabia’s perceived credit risk

Amid the current geopolitical paradigm, the Saudi-Australia comparison offers a fundamental insight: markets price

optionality and tail risk alongside operational practicalities.

The divergent CDS responses to structurally similar RMB swap agreements leading to a significant repricing for Saudi Arabia in 2023, while no detectable effect for Australia in 2012, highlight shifts in the perception of market participants.

The swap’s nominal size was immaterial; markets rewarded the diversification signal. Given, CDS spreads price tail risk and not averages even marginal hedges against the tail risk of dollar weaponization is valuable for geopolitically exposed states. Furthermore, the emergence of the effect five days before announcement confirms investor’s strategic interpretation, viewing it as far more than routine liquidity provision.

MECHANISM IN SAUDI ARABIA

As a geopolitically exposed sovereign, Saudi Arabia faces pressures from rival powers which could politicize its transaction pathways. The monetary environment of 2023 bore little resemblance to the multilateral framework. The freezing of Russia’s reserve assets by G7 nations as a consequence of the Ukraine war, transformed sovereign asset holdings from technocratic instruments into geopolitical liabilities. Sanctions demonstrated swift coordination capacity and extraterritorial reach. Concurrently, US fiscal credibility weakened: debt ratios exceeded 120% of GDP, debt ceiling confrontations became routine, and political polarization intensified. Together, these developments eroded America’s unchallenged financial dominance and heightened the appeal of strategic diversification. Finally, for Saudi Arabia, Biden administration’s initially strained diplomatic relationship with the Saudi Crown Prince might have contributed to the shift in strategic orientation (Holland, Yaakoubi, Dahan, & Renshaw, 2022).

AUSTRALIA'S COUNTERFACTUAL

Australia's 2012 RMB swap serves as a clean control, sharing key traits. Both Saudi and Australia are commodity exporters, and both have a tricky relationship with their primary trade partners America and China respectively. However, the absence of any abnormal shift for Australian spreads can primarily be explained due to the zeitgeist of 2012 which was a world of US led multilateralism and where currency diversification served a purely technocratic function without any geopolitical connotations.

ALTHOUGH DOLLAR CONCENTRATION IS RISKY, DIVERSIFICATION RISKS POLITICAL BACKLASH

However, in 2017 during his first term, Donald Trump began a retreat from multilateralism by making open and unprecedented condemnations of Russia and China in his National Security Strategy. Wherein, he described China as a strategic competitor instead of a trading partner marking a clear departure from the diplomatic tone utilized by his predecessors. Furthermore, he also targeted Russia for its destabilising activities (Sevastopulo, 2017). The next presidency of Joe Biden continued on a similar antagonistic path towards China (BBC, 2021), leading to the emergence of bi-polar US-China world order.

In this charged political climate dollar diversification served as insurance whereas for Australia it served merely a technocratic function. Therefore, the markets ignored the BCS announcement for Australia in 2012, while they rewarded the BCS announcement for Saudi Arabia in 2023.

CONCLUSION

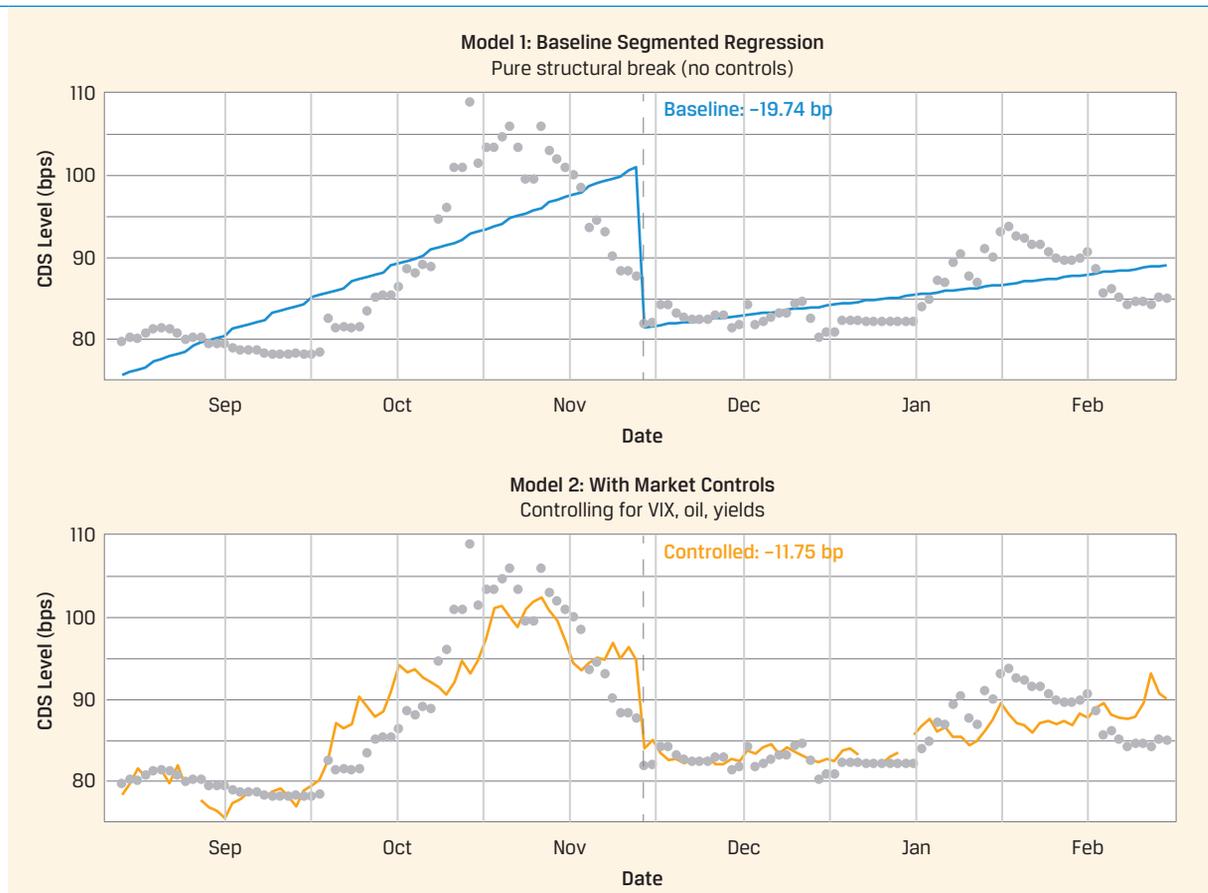
This research shows that RMB swap announcements matter for sovereign risk only when they present a credible geopolitical hedge. Saudi Arabia's 2023 experience demonstrates that markets can and do price monetary diversification under conditions of heightened geopolitical uncertainty. Australia's 2012 non-reaction confirms that such effects are not automatic.

For investors, the key implication is clear: sovereign CDS pricing and risk perception presently embed both fiscal and policy credibility. Additionally, given the influence of tail risks in credit pricing, strategic flexibility is rewarded as risk mitigation delivering tangible payoffs.

POLICY IMPLICATIONS

For European policymakers and asset allocators, the implications of the transatlantic geopolitical alignment have become a strategic liability. The liability is especially precarious given America's debt ceiling brinkmanship and erosion of multilateral commitments creating market and political risk to the dollar. This calls for diversification as means for prudent insurance and not abandonment of the transatlantic relationship. As Eichengreen (2025) notes, in a Mars-driven world of conflict, a shift towards

Figure 3 Segmented Regression Results with and without control variables



resilience driven by pecuniary motives (Mercury hypothesis) is inevitable.

However, considering the depth and entrenchment of dollar-denominated capital markets diversification is difficult. Additionally, the renminbi alternative presents equally severe constraints. On one hand Renminbi settlement remains marginal on the other China's capital account restrictions, opaque policymaking, and authoritarian governance model fundamentally conflict with European institutional values and legal traditions. Furthermore, the underlying motivation for Beijing's currency swaps reflects strategic opportunism rather than rules-based reciprocity. This is evidenced by South Korea bypassing its Chiang Mai swap line with China during the 2008 crisis, opting instead for the unconditional \$16.4 billion Fed facility despite acute dollar shortages (Menon & Hill, 2012).

If the neither of the world's two largest economies fail to provide the role of a reserve currency then this gap creates opportunities for a coalition of middle powers committed to similar democratic values to build a reserve currency network as suggested by Mark Carney (Carney, 2026).

FURTHER RESEARCH

Future research should extend the analysis to additional RMB swap announcements by other sovereigns since Trump's first term, examining whether similar CDS responses emerge across cases.

DATA AND METHODOLOGY AVAILABILITY

The source code for the model, together with detailed documentation, is available at: <https://github.com/bhatt-keshav/MisalignedCapital>

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Notes

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