

Fiat access, relative pricing, and quote-market recovery

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Fiat access, relative pricing, and quote-market recovery

Highlights

- A bank-rail interruption cuts USD trading before USD books are removed.
- Restoring USD books and bank-deposit access recovers little USD share.
- Targeted USD fee pricing coincides with the largest recovery in USD use.
- Quote-share recovery does not imply recovery in absolute USD activity.

Abstract

We ask whether restoring access to a financial service restores its use, and how relative pricing is associated with the allocation of activity after restoration. The setting is a trading platform that loses its fiat rails, restores them in stages, and reprices the restored service: Binance.US lost its bank-dollar channel in 2023 and rebuilt USD services from 2025, while trading against the tokenized dollar USDT continued throughout. Compared with venues that keep their USD markets, the platform's USD share falls as soon as the bank rail is interrupted and falls further when the quote menu is reorganized around USDT. Restoring the USD books and access to bank deposits reopens the choice but brings back little of the lost USD share. The largest recovery follows a selective fee advantage for USD books, and part of that gain recedes once low fees apply to every pair. Availability restores the option to trade in dollars. Relative pricing aligns most closely with changes in the allocation of trading between USD- and USDT-quoted books. In the final stage, absolute USD activity in the matched markets remains a small fraction of its pre-interruption level.

Keywords: Crypto exchanges; Digital financial services; Fiat access; Relative pricing; Stablecoins

JEL Classification: E42, G14, G21, G23

1. Introduction

Does restoring access to a financial service restore its use, and how is relative pricing associated with the allocation of activity after restoration? Access to a financial product is not the same as its use, and a newly available payment technology can attract little activity while price, convenience, or network frictions remain (Dalton et al., 2024; Higgins, 2024). The pricing of a service channel shapes how activity is allocated across substitutes even when total demand is stable: fees on withdrawals at other banks' automated teller machines (ATMs) move customers between ATM networks (Ardizzi & Cologgi, 2025). Trading activity is equally sensitive to fee schedules and to competition among venues for order flow (Clapham et al., 2021; Galati, 2024). A payment rail may reopen under a narrower eligibility rule, a product may return at a different price, and a trading book may be relisted while liquidity suppliers and customers remain elsewhere. Binance.US went through all three after it lost its bank-dollar channel in 2023 and rebuilt USD services in stages from 2025. The platform restored USD spot books and Automated Clearing House (ACH) deposits and withdrawals, then gave selected USD books a fee advantage, extended low fees across the spot market, and broadened documented wire access. The allocation of trading between USD and USDT books moves at

each stage and does not return smoothly to its earlier level.

The setting is relevant beyond a single crypto exchange. Centralized trading platforms provide a bundle of financial services: execution, custody, account balances, deposits, withdrawals, and transfer across payment networks. A USD quote book connects execution to a bank-funded balance. A USDT quote book connects execution to a token that moves over supported blockchains and between venues, where blockchain settlement latency introduces a distinct friction for cross-venue trading (Hautsch, Scheuch & Voigt, 2024). When the bank channel weakens, the tokenized-dollar book is more than another unit of account. It becomes an alternative transfer and settlement rail. When bank access returns, the question is not only whether the USD product is available. It is whether activity returns to that product, on what scale, and on which relative terms. Binance.US provides a complete, dated sequence of these changes. The US Securities and Exchange Commission (SEC) filed its complaint against Binance entities on 5 June 2023. On 9 June, Binance.US suspended USD deposits and warned of pressure on withdrawals. The focal USD and USDT books kept trading for several weeks, so quote reallocation is observable before product removal closed the USD choice. Most USD books were then withdrawn in steps, and the platform operated mainly as a crypto-only venue. On 19 February 2025, Binance.US began returning ACH services and USD books. By 29 May, it stated that all eligible customers had ACH access. From 10 September, most focal USD books carried Tier 0 pricing while their focal USDT counterparts did not. A platform-wide fee reform followed in April 2026, and official instructions documented broader wire access in June.

We ask two connected questions. First, how did USD use change relative to USDT as bank access and quote-book availability disappeared and returned? Second, which institutional changes line up with the different parts of the recovery path? The first question requires separate measures of allocation and scale. The second requires a formal comparison with venues that retained USD trading, together with a dated record of changes in access and relative price. The data have two layers. Official Binance.US five-minute archives cover matched USD and USDT books for *ADA*, *BTC*, *ETH*, *LTC*, *SOL*, *VET*, and the *MATIC/POL* token lineage. They support platform-level measures of USD share, matched notional, quote-specific notional, and daily book activity. A new balanced panel adds official Bitfinex, Bitstamp, and Coinbase data for *BTC* and *ETH*. The common outcome is daily base-asset volume, so the two quote books share the same physical unit within each venue-asset-day. The panel spans the 2023 disruption block and the 2025-2026 restoration block, and the formal conditional-use sample keeps the common dates on which both quote choices are available in the relevant Binance.US regime. The panel design compares the same asset on the same date across platforms, so persistent differences in quote preference and market-wide news for each asset are held constant. The stage estimates measure how the Binance.US USD share moved relative to the donor venues and relative to a fixed window before the bank-rail interruption. Separate models track total, USD, and USDT activity relative to each venue's own pre-interruption level.

The analysis yields four main results. First, quote activity begins reallocating before the focal USD books are removed. After the bank-rail announcement, but before the quote-menu change, the Binance.US USD-share gap relative to the donor basket falls sharply, and the USDT-menu expansion and broader USD-book removal deepen the gap while the focal BTC and ETH dual

books still trade. Second, operational restoration produces only a partial recovery in use. During the phased ACH and USD-book return, the controlled gap stays far below its pre-interruption benchmark, and broad eligible-customer ACH access narrows the gap modestly even though the focal USD books record activity on essentially every asset-day. Availability reopens the choice but does not by itself reproduce the earlier allocation.

Third, the strongest recovery coincides with a selective relative-price change. The stage that begins with Tier 0 pricing in September 2025 is associated with the largest single improvement in the controlled gap, and a local event comparison points in the same direction from two sides: the `Binance.US-minus-donor` gap improves after the fee change, and the eligible assets gain relative to the focal asset whose USD book is excluded. Over the platform-wide fee reform and the broader-wire stage, part of the advantage recedes, a cumulative decline that is significant although neither step is significant on its own. The sequence is consistent with a service-choice interpretation: once both books are available, their relative transaction price shapes where activity is placed. Fourth, conditional allocation and venue scale carry distinct information. In the final broader-wire stage, the controlled USD-share gap remains well below the benchmark, and total activity remains a small fraction of its pre-disruption level. Activity in the matched markets is far below its level before the disruption, and what remains is allocated differently. The share model conditions on matched activity, and the separate activity models keep a recovering share from being mistaken for recovery in the absolute USD market.

This study makes three contributions. First, the analysis extends the distinction between access and realized use to a platform where availability, product menus, and prices change at high frequency. Prior research documents how bank entry, FinTech lending, and online platforms expand access to finance (Basten & Ongena, 2024; Erel & Liebersohn, 2022; Fonseca & Matray, 2024), and related evidence shows that reducing transaction and monitoring costs can increase the use of existing accounts (Bachas et al., 2021). This study examines a different margin: whether trading activity returns when a previously available funding service is restored and repriced against a tokenized substitute. Second, the evidence brings a dynamic institutional comparison to research on stablecoins and tokenized money, which has concentrated on pegs, currency competition, and funding markets (Barthélemy, Gardin & Nguyen, 2026; Cong & Mayer, 2025; Gorton et al., 2026; Rinaldo, Viswanath-Natraj & Wang, 2026) and on the asset properties of cryptocurrencies (Kang, Ryu & Webb, 2025). Barucci, Giuffra Moncayo and Marazzina (2022) document cross-sectional differences between USD- and USDT-quoted markets, and the present analysis follows that relative use for the same platform-asset pairs through interruption, withdrawal, phased restoration, and repricing. Third, the joint analysis of quote allocation and activity distinguishes the recovery of a trading share from the recovery of the market that generates it. This distinction provides an operational evaluation principle for restored financial services: availability, relative use, and absolute activity should be assessed jointly. The remainder of the article presents the institutional setting, data, empirical design, results, and implications in turn.

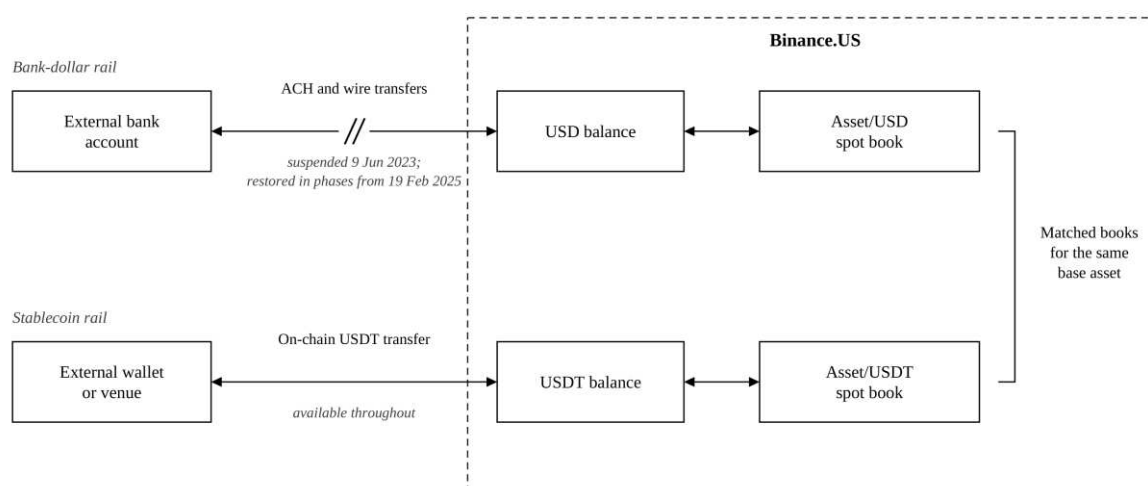
2. Institutional Setting and Economic Perspective

USD and USDT books bundle execution with different funding rails. A spot exchange can offer the same base asset against USD and USDT. USDT usually trades close to one US dollar,

but the services associated with the two quote currencies are not equivalent. A Binance.US USD balance is an internal dollar claim funded and redeemed through the platform's banking arrangements. A USDT balance is an externally issued token that moves over supported blockchains. The USD book bundles execution with the exchange's bank interface, while the USDT book bundles execution with token custody and blockchain transfer. The two books can be close substitutes for trading and imperfect substitutes for funding and withdrawal. Payment instruments with similar transactional uses can remain imperfect substitutes because their attributes and remuneration differ (Son, Bilgin & Ryu, 2022), and institutional differences shape competition between bank-based and token-based services even when both serve the same customers (Son & Ryu, 2024). A customer already holding USD may prefer the USD book when spreads and fees are comparable. A customer moving capital between exchanges may value USDT portability. A market maker may concentrate on the book with the deeper existing order flow or the more attractive fee and rebate schedule. The allocation of volume across the two books reflects these linked service attributes rather than their nominal one-dollar labels alone, as payment flows move between rails on their relative terms (Parlour, Rajan & Zhu, 2022). This framing connects the setting to the economics of financial-service use, in which digital payment alternatives interact with conventional intermediation (Son, Ryu & Webb, 2023). Access is a feasibility condition: without a supported pair or eligible funding rail, some transactions cannot occur. Conditional on access, prices and transaction frictions affect adoption and intensity; the adoption of a banking channel depends jointly on the customer's readiness and the channel's own readiness (Harrison, Onyia & Tagg, 2014), and survey evidence relates consumers' stated intention to use a central bank digital currency to their trust in the central bank, and the amounts they say they would deposit to the interest rate offered (Bijlsma et al., 2024). When one rail is disrupted, activity shifts toward the available substitute, and part of that shift can outlast the disruption (Chodorow-Reich et al., 2020). On crypto exchanges, fee changes alter volume, trade counts, spreads, and depth (Brauneis et al., 2022). The Binance.US sequence combines these margins in a single platform.

Figure 1 summarizes the two funding routes. Bank access connects an external bank account to an internal USD balance and the asset/USD book. Blockchain transfer connects an external wallet or venue to a USDT balance and the asset/USDT book. The 2023 interruption changed the first route while the token route remained available. The later pricing reforms changed the relative trading cost after both books returned.

Figure 1. USD and stablecoin access to Binance.US spot books



Notes. The upper path links a bank account to a Binance.US USD balance and the asset/USD book through ACH or wire services, and the lower path links a blockchain wallet or external venue to a Binance.US USDT balance and the asset/USDT book through on-chain transfer. The interruption marker denotes the 2023 disruption of the bank USD rail and its staged return during 2025 to 2026. The diagram illustrates the two funding routes, not all possible balance-conversion paths.

The 2023 interruption began with the bank rail and ended with the withdrawal of the USD books. The 30-day benchmark runs from 10 May through 8 June 2023. It is a pre-bank-rail benchmark, not a pre-regulatory one: the SEC complaint arrived on 5 June,¹ and several product changes occurred during the final benchmark days. The benchmark nevertheless captures the last continuous 30-day allocation before Binance.US suspended USD deposits on 9 June. The 9 June announcement stated that banking partners were preparing to pause fiat withdrawal channels and that USD deposits would be suspended.² Public updates later described withdrawal delays and continued processing. Because the announcement arrived at 02:33 UTC and its production cutoff is not public, the clean post-announcement stage begins on 10 June. The seven focal assets retained both USD and USDT books through 13 July. This interval supplies an observed matched quote choice, but it contains an additional menu change and is split into two stages.

Product reorganization followed. On 27 June, Binance.US added eleven USDT markets and

¹ SEC, Press Release No. 2023-101, SEC files 13 charges against Binance entities and founder Changpeng Zhao, 5 June 2023, <https://www.sec.gov/newsroom/press-releases/2023-101>. The dismissal is SEC, Litigation Release No. 26316, SEC v. Binance Holdings Limited et al., No. 1:23-cv-01599 (D.D.C.), joint stipulation of dismissal with prejudice, 29 May 2025, <https://www.sec.gov/enforcement-litigation/litigation-releases/lr-26316>.

² Binance.US, notice on the suspension of USD deposits, 9 June 2023, <https://x.com/BinanceUS/status/1666996908651323393>; Binance.US provides update on USD withdrawals and trading offerings, 22 June 2023, archived at https://web.archive.org/web/20230623203835id_/https://support.binance.us/hc/en-us/articles/15507453489943; the removal of the remaining focal USD books on 14 July 2023 is documented in support article 9843567, <https://support.binance.us/en/articles/9843567>.

removed most USD markets one hour later. The remaining focal USD books were removed on 14 July. The platform still offered USDT/USD and allowed some uses of existing USD balances, so “crypto-only” describes the operating model rather than the literal absence of every USD function. For the conditional-use regression, the key distinction is simpler: after 13 July, the focal matched USD-versus-USDT choice no longer existed and is not treated as observed preference.

Restoration came in phases, followed by selective pricing and broader access. Binance.US announced the phased return of USD services at 15:00 UTC on 19 February 2025. ACH deposits and withdrawals began returning to eligible customers, and ten USD books were initially restored.³ All seven focal USD books were active by 21 February, and the published USD menu exceeded 50 pairs in March. On 29 May, Binance.US announced completion of the phased rollout to all eligible customers. The SEC dismissal was filed the same day, so the broad-ACH stage reflects a changed regulatory environment.

The relative trading-price environment changed on 10 September 2025. Binance.US assigned 0% maker and 0.01% taker pricing to 23 Tier 0 pairs.⁴ The list included BTC/USD, ETH/USD, SOL/USD, ADA/USD, VET/USD, and POL/USD, with BTC/USD replacing BTC/USDC in the Tier 0 list on that date. None of the corresponding focal USDT books appeared on the Tier 0 list, and LTC/USD was not included. An addendum to the same notice states that, as of 2 December 2025 at 23:30 EST, Tier 0 pricing applied only to the listed pairs. The list is identical to the September list, so the documented Tier 0 eligibility distinction between the six focal USD books and their USDT counterparts is maintained in the targeted-pricing classification until the April 2026 reform. The retail referral program also relaunched on 10 September 2025. The fee schedule creates a sharp, economically interpretable relative-price breakpoint, with LTC serving as an internal comparison. The breakpoint concerns posted trading fees, which need not move spreads or slippage one for one (Galati, 2024), so the analysis treats it as a change in the posted fee differential rather than in total trading cost.

On 22 April 2026, Binance.US expanded low fees to all Advanced Spot pairs, with 0% maker and taker fees of 0.02% or less.⁵ This reform reduced the selectivity of the September USD advantage, and Tier 0 pricing was retained only on a few pairs such as BNB/USD. Official help-page records document broader general-customer domestic-wire instructions in June 2026. Institutional clients had earlier wire access, so the June node marks broader documented availability rather than the first wire transaction on the platform. Figure 2 summarizes the complete stage coding, dated boundary events, and sources.

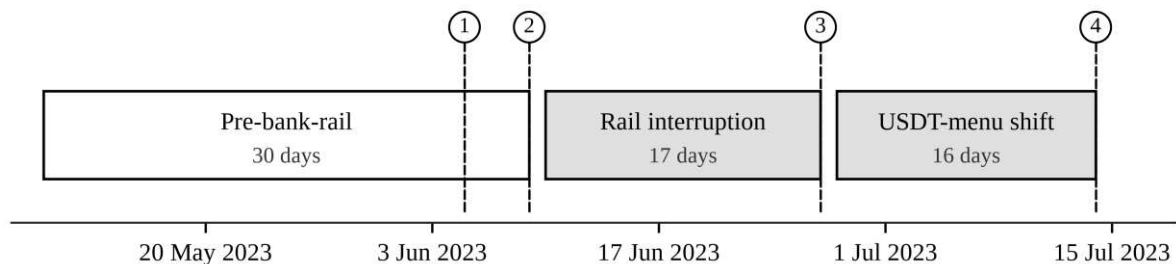
Figure 2. Institutional stages, clean daily coding, and dated boundary events

³ Binance.US, USD services return to Binance.US, 19 February 2025, <https://blog.binance.us/usd-services-return/>; Binance.US resumes USD services: A 2025 guide, support article 10582064, 29 May 2025, <https://support.binance.us/en/articles/10582064>.

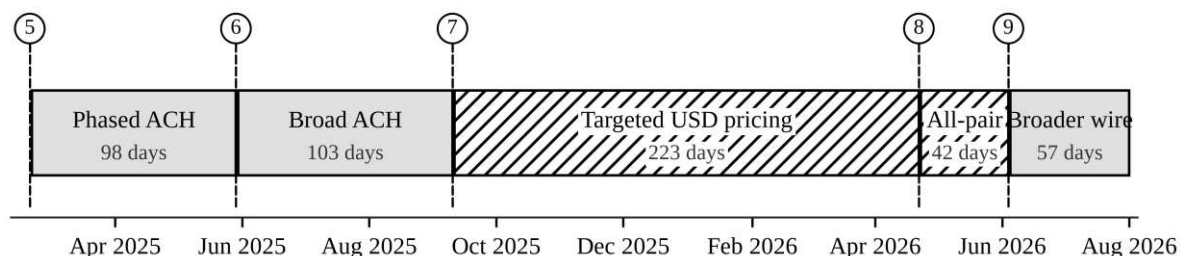
⁴ Binance.US, The Binance.US fee schedule is leveling up, 10 September 2025, with an addendum effective 2 December 2025, <https://blog.binance.us/zero-fee-trading-staking/>.

⁵ Binance.US, Zero-fee trading on all Advanced Spot pairs, 22 April 2026, <https://blog.binance.us/zero-fee-trading/>; How to deposit and withdraw via wire, support article 10658835, <https://support.binance.us/en/articles/10658835>.

Panel A. 2023: bank-rail interruption and USD-book withdrawal



Panel B. 2025 to 2026: phased restoration, selective pricing, and broader access



Notes. The horizontal axis is the calendar date; Panel A covers 2023, and Panel B covers 2025 to 2026 on different horizontal scales. Each bar is a clean stage, with its name and number of clean days printed inside, and its width is proportional to that number. An unfilled bar is the benchmark allocation, grey shading marks an availability or product-menu regime, and diagonal hatching marks a relative-price regime. The two blocks are separated by 587 calendar days (14 July 2023 to 19 February 2025) excluded from the conditional-use analysis, and the raw multi-venue panel has a separate 488-day gap from 1 September 2023 to 31 December 2024. Numbered circles mark dated events: 1, 5 June 2023, SEC complaint filed, inside the benchmark window; 2, 9 June 2023, USD deposits suspended; 3, 27 June 2023, eleven USDT markets added and most USD markets removed; 4, 14 July 2023, remaining focal USD books removed; 5, 19 February 2025, phased return of USD services; 6, 29 May 2025, rollout to all eligible customers and SEC dismissal; 7, 10 September 2025, Tier 0 pricing on 23 pairs; 8, 22 April 2026, low fees on all Advanced Spot pairs; 9, 4 June 2026, broader domestic-wire instructions. Except for event 1, these announcement dates contain intraday changes and are omitted from the clean stage windows, and event 3 is also excluded from the formal panel because the official Bitfinex daily endpoint disagrees with its hourly candles on that date. Sources are the official announcements cited in Section 2.

The setting yields predictions about USD use. Let the relative attractiveness of the USD book for venue v , asset a , and date t depend on availability, the USD-minus-USDT transaction-price difference, relative transfer convenience, and relative market quality. Availability first determines whether a meaningful USD share can be observed. Conditional on both books being open, a lower USD fee should increase the USD share, all else equal. Broader bank access should support USD use, but its effect can be smaller when users, liquidity suppliers, or platform scale have changed. The institutional sequence yields three predictions. First, the 2023 bank-rail interruption should reduce USD use while both books remain active. Second, restoring books and ACH access should increase USD use relative to the crypto-only state, but need not restore the pre-interruption allocation. Third, the targeted September 2025 USD fee advantage should increase USD use relative to external venues and relative to the ineligible *LTC* comparison. If relative price is important, the subsequent platform-wide fee reform should

weaken, rather than extend, the selective-USD improvement.

3. Data and Measurement

The first layer uses Binance.US’s official monthly five-minute kline archive.⁶ The focal assets are *ADA*, *BTC*, *ETH*, *LTC*, *SOL*, *VET*, and *MATIC/POL*. MATIC observations in 2023 are linked to POL only after the verified token migration, so no MATIC and POL values are double-counted. For each asset and quote book, the archive provides base volume, quote volume, trade count, and the time grid. Source files and their integrity records are preserved in the replication archive. USD quote volume is already in dollars. USDT quote volume is converted using the daily median Bitstamp USDT/USD rate. The conversion changes the USD share only trivially because USDT remains close to one dollar during the sample, but it ensures that seven-asset notional levels share a common unit. The matched total is the sum of USD notional and converted-USDT notional.

The seven-asset sample defines eight clean regimes. The pre-bank-rail benchmark is 10 May-8 June 2023. The bank-rail interruption before the menu change runs from 10 to 26 June. The post-menu stage runs from 28 June to 13 July, after the USDT expansion and broader USD-book removals but while the focal dual books still trade. The phased restoration stage is 20 February to 28 May 2025. Broad eligible-account ACH runs from 30 May-9 September 2025. Targeted USD pricing runs from 11 September 2025-21 April 2026. All-pair low-fee pricing runs from 23 April to 3 June 2026. Broader wire availability runs from 5 June to 31 July 2026. Mixed announcement dates are omitted from stage averages. For each stage, we calculate the pooled USD quote share, the equal-weight asset share, mean daily matched notional, and three fixed-baseline retention rates. Table 1 reports the pooled share and the retention rates, and the replication package contains the remaining measures. Total retention divides stage mean daily matched notional by the 2023 mean. USD and USDT retention apply the same calculation to each quote side. A book-activity indicator equals one when the archive records positive volume for that asset-quote-day. It measures observed use on the day, not order-book quality or execution cost.

The formal panel adds public official data from Bitfinex, Bitstamp, and Coinbase. BTC and ETH form the balanced core because both quote books are available on all four venues during the clean conditional-use stages. The acquisition grid additionally includes dates on which the focal Binance.US USD books are absent. The external endpoints report base-asset volume. For a given asset, one BTC or one ETH is the same unit across the USD and USDT books, so no stablecoin conversion or candle-price approximation is required. The acquired panel covers 10 May-31 August 2023 and 1 January 2025-31 July 2026. It contains 11,056 venue-asset-quote-days and 5,528 venue-asset-days. The full grid is balanced across four venues, two assets, and

⁶ Binance.US public data archive, monthly spot klines, https://data.binance.us/public_data/spot/monthly/klines/. External data are the Bitfinex REST public candles endpoint, <https://docs.bitfinex.com/reference/rest-public-candles>; the Bitstamp HTTP API, <https://www.bitstamp.net/api/>; and the Coinbase Exchange API, Get product candles, <https://docs.cdp.coinbase.com/api-reference/exchange-api/rest-api/products/get-product-candles>. The USD and USDC unification at Coinbase is described at <https://help.coinbase.com/en/exchange/crypto-transfers/usd-usdc>.

two quotes, with no unresolved source gap, duplicate key, negative volume, or invalid volume. The replication archive preserves the underlying source records and their documentation.

Daily endpoint volumes are checked against hourly builds. Coinbase and Bitstamp reconcile exactly, and Bitfinex reconciles on every date except 27 June 2023, when its official daily endpoint disagrees with the sum of its hourly candles for three focal pairs. That date is excluded from every venue in the formal panel. The donor venues represent alternative quote-market environments rather than former Binance.US customers. Bitstamp and Coinbase are strongly USD-oriented, whereas Bitfinex supports a more active USDT ecosystem and has historical institutional links to Tether. Including all three produces a deliberately broad donor basket. Results are reported for the two fiat-oriented venues and for each donor separately. Coinbase unifies aspects of USD and USDC settlement for USD-labeled books, so it benchmarks a USD-labeled quote allocation rather than a purely bank-funded balance.

Quote allocation and scale are measured separately. For venue v , asset a , and date t , the primary outcome is the USD share of common base-asset volume:

$$S_{v,a,t} = \frac{BV_{v,a,t}^{USD}}{BV_{v,a,t}^{USD} + BV_{v,a,t}^{USDT}}, \quad (1)$$

where S is the USD share of matched base-asset volume, BV is base volume, v indexes venues, a indexes base assets, and t indexes UTC dates.

The share is defined when matched USD-plus-USDT volume is positive. A zero on one available side gives a valid boundary value of zero or one. A date when the Binance.US USD book is absent does not reveal conditional preference and is excluded from the main use regression. This distinction keeps choice-set restoration separate from choice conditional on availability. Quote currency identifies the market in which trading occurs, not the source of each trader’s funds or the route of subsequent settlement. The share absorbs daily platform scale by construction. We add three activity outcomes to preserve the scale information: total matched base volume, USD base volume, and USDT base volume. Each is divided by its venue-asset mean in the pre-bank-rail benchmark and logged. All observations in the conditional-use stages are positive. The resulting estimates measure activity changes relative to each venue’s own baseline and relative to the same asset on donor venues. The seven-asset notional measures and the four-venue base-volume measures serve different purposes. Quote notional gives an economically intuitive dollar scale within Binance.US. Base volume supplies an exact common cross-platform unit for the controlled allocation model. Both preserve the same USD-versus-USDT ordering.

4. Empirical Design

The stage model is the main specification. The formal unit is venue-asset-day. Let BUS_v equal one for Binance.US and let $R_{r,t}$ indicate regime r . The share specification is:

$$S_{v,a,t} = \alpha_{v,a} + \lambda_{a,t} + \sum_{r \in \mathcal{R} \setminus \{\text{pre}\}} \beta_r BUS_v R_{r,t} + \varepsilon_{v,a,t}, \quad (2)$$

where BUS equals one for Binance.US, R identifies a clean institutional regime r other than the pre-bank-rail benchmark, α is a venue-asset effect, λ is an asset-date effect, β is the controlled change in the USD-share gap, $\mathcal{R}$ is the set of clean institutional stages, pre denotes the pre-bank-rail benchmark, and ε is the disturbance.

Venue-asset effects absorb persistent differences in each platform’s quote allocation. Asset-date effects absorb BTC - or ETH -specific market conditions on every day. The omitted regime is the 10 May-8 June 2023 pre-bank-rail benchmark. Each β_r is the change in Binance.US’s USD-share gap relative to the donor venues and relative to that benchmark. The balanced design has a transparent equivalent representation. For each date, we calculate the average across BTC and ETH of Binance.US’s USD share minus the equal-weight mean of Bitfinex, Bitstamp, and Coinbase. Regressing this daily gap on the regime indicators produces the same coefficients as the two-way within estimator. Inference uses a 14-lag Newey-West covariance on the daily gap. Calendar-time inference is preferable to treating four venues as a large cluster sample. A fractional-logit model uses the same fixed effects and stages as a nonlinear check for the bounded share. Its coefficients are reported as relative changes in USD/USDT odds. The linear share model remains primary because its coefficients and adjacent-stage differences are directly interpretable in percentage points.

Three activity models preserve the scale information. For k equal to total, USD, or USDT activity, define normalized log volume as follows:

$$L_{v,a,t}^k = \ln(V_{v,a,t}^k / V_{v,a}^{k,pre}), \quad (3)$$

where k denotes total, USD, or USDT base volume and $\bar{V}$ is the venue-asset mean in the 10 May-8 June 2023 benchmark.

We estimate each outcome with the same venue-asset and asset-date fixed effects as equation (2). Exponentiating each stage coefficient gives a relative activity ratio, and $100[\exp(\beta) - 1]$ expresses the corresponding percentage change in Binance.US activity relative to donors and to the venue-asset’s own benchmark. These controlled log-volume changes are distinct from the arithmetic notional-retention measures reported in Table 1. They show whether an apparent allocation recovery occurred on a market of comparable size and do not enter the share model.

Two further comparisons address successive stages and the September price event. The main stage coefficients share one benchmark. We report four adjacent differences: phased to broad ACH, broad ACH to targeted USD pricing, targeted USD pricing to all-pair pricing, and all-pair pricing to broader wire availability. We also report the cumulative difference between the targeted USD-pricing and broader-wire stages. The differences show which institutional transition contributes most to the non-monotonic path. The 10 September 2025 fee event receives a focused analysis. First, we compare the daily Binance.US-minus-donor gap in symmetric 30-, 60-, and 90-day windows around the event, excluding the event date. Simple pre/post changes are accompanied by specifications with a running-day trend, a post indicator, and a post-event slope change. Second, within Binance.US we compare the equal-weight USD share of the six Tier 0-eligible focal assets with LTC , whose USD book was not included. The cross-venue comparison removes market-wide BTC and ETH quote shifts, and the internal comparison uses the published fee eligibility rule. The September comparison is informative

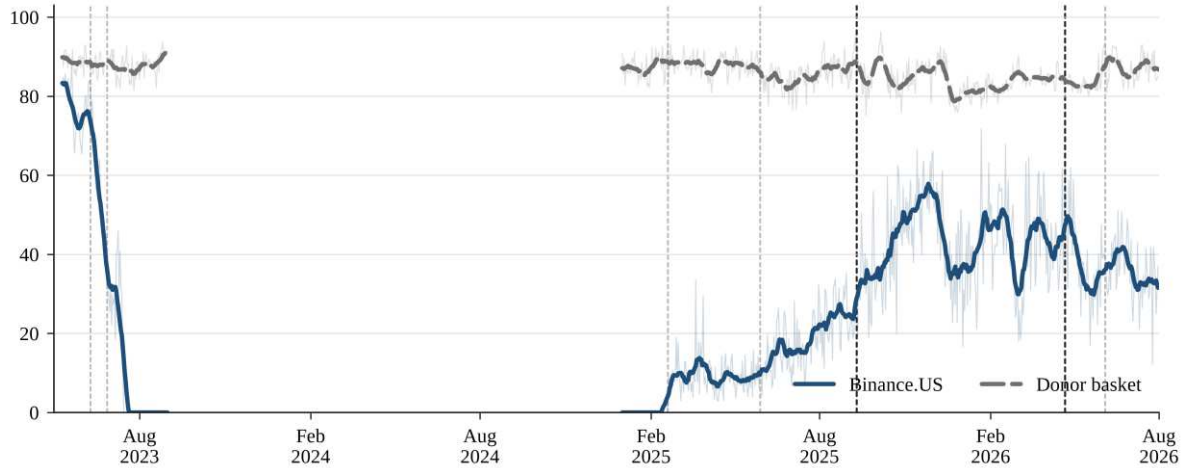
because the cross-venue and eligibility contrasts point in the same direction. The referral relaunch on the same day means the September stage bundles the fee advantage with a retail promotion.

5. Results

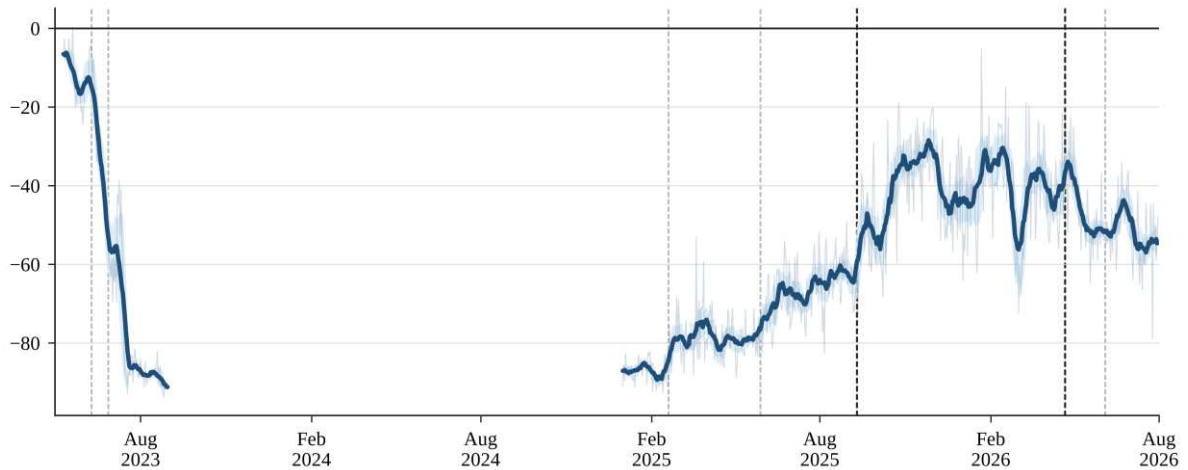
We first trace quote allocation over the institutional lifecycle. Figure 3 places the institutional sequence on a common calendar. Panel A overlays the daily *BTC/ETH* mean USD shares and centred 14-day means for Binance.US and the equal-weight donor basket. Panel B plots the Binance.US-minus-donor gap with a pointwise 95% interval around its centred local mean. The 2023 path records the extensive-margin zero after the focal USD books disappear, whereas the controlled coefficients in Figure 4 require an observed matched quote choice. The 488-day interval without panel observations is left blank. The gap widens during the 2023 rail and menu stages, narrows through 2025, and turns after the later pricing and funding changes.

Figure 3. Quote-market allocation over the institutional lifecycle

Panel A. USD quote allocation



Panel B. Binance.US minus donor basket



Notes. The horizontal axis is the calendar date. USD shares use base volume and equally weight BTC and ETH. Panel A shows Binance.US and the equally weighted Bitfinex, Bitstamp, and Coinbase basket in percent, and Panel B shows their difference in percentage points. Light lines are daily observations and dark lines are centred 14-day means. The band in Panel B is a

pointwise 95% interval for the local mean using calendar-aware Newey-West covariance with three daily lags. The Binance.US raw series records zero after focal USD-book removal, and those dates are excluded from the conditional-use regressions. Lines do not bridge the data gap. Vertical dashed lines mark, from left to right, the 9 June 2023 deposit suspension, the 27 June 2023 menu shift, the 19 February 2025 phased return, the 29 May 2025 broad ACH rollout, the 10 September 2025 targeted pricing, the 22 April 2026 all-pair pricing, and the 4 June 2026 wire instructions, with the two pricing events drawn in a darker line.

Table 1 reports the seven-asset lifecycle in stage averages. Before the interruption, the seven assets allocate roughly four-fifths of matched notional to USD, and the equal-weight share, available in the replication package, is close to the pooled share, so the pattern is not a BTC-only one. The bank-rail interruption cuts the USD share while both focal books stay active on every asset-day, and the 27 June menu reorganization cuts it again, with most of the further contraction on the USD side. Quote allocation therefore shifts before the focal USD books are removed. On another exchange, FTX, trading likewise continues after customer funds are stranded (Galati, Webb & Webb, 2025). The 2025 phased return reopens the USD choice on a much smaller platform at a share far below the benchmark, and broad ACH eligibility raises it only modestly. Among the restoration stages, the pooled USD share is highest during targeted USD pricing, when the USD books carry a fee advantage that their USDT counterparts do not. Even then, USDT activity retains several times more of its baseline than USD activity, in line with the documented preference of platform traders for a dollar token they can move between venues without a bank (Jin, Li & Xue, 2023). The share falls back under platform-wide fees and again in the broader-wire stage, although the USD books are active on almost every asset-day. The lifecycle separates three margins: quote allocation moves before the focal pairs are removed, positive daily activity returns more fully than volume, and the restoration-stage USD share is highest while selected USD books hold a relative fee advantage.

Table 1. Seven-asset quote use and activity retention

	Days	USD share	Total retained	USD retained	USDT retained
Pre-bank-rail	30	77.9	100.0	100.0	100.0
Rail interruption	17	61.4	21.5	16.9	37.5
USDT-menu shift	16	28.7	11.9	4.4	38.4
Phased ACH return	98	10.3	3.3	0.4	13.2
Broad ACH	103	17.0	4.8	1.0	18.0
Targeted USD pricing	223	39.7	7.2	3.7	19.7
All-pair fees	42	34.8	5.2	2.3	15.4
Broader wire	57	31.5	6.0	2.4	18.6

Notes. The sample comprises ADA, BTC, ETH, LTC, MATIC/POL, SOL, and VET on Binance.US. Rows are the eight clean stages in institutional order, from the 10 May to 8 June 2023 pre-bank-rail benchmark to the broader-wire stage, with boundaries defined in Section 3. *Days* is the number of clean dates in the stage. *USD share* is USD notional divided by combined USD and converted-USDT notional, pooled across assets and clean days within each stage, in percent, with USDT notional converted at the daily median Bitstamp USDT/USD rate. *Total retained*, *USD retained*, and *USDT retained* equal mean daily stage notional divided by the corresponding benchmark mean, multiplied by 100.

Table 2 reports the four-venue stage estimates and the activity results, and Figure 4 plots the controlled USD-share coefficients and the changes between successive restoration stages. Relative to the donor venues and to the pre-interruption benchmark, the bank-rail interruption lowers the Binance.US USD-share gap significantly while the focal dual books still trade, and the USDT-menu stage more than doubles the loss. The 2025 phased return records the largest deficit. Broad eligible-account ACH narrows the gap, but the improvement is modest. Targeted USD pricing narrows the gap by more than twice as much as ACH eligibility, the largest single improvement in the sequence. Splitting the stage around the December addendum yields a small and statistically insignificant difference between the two sub-stage means (0.2 percentage points; $p = 0.96$), and the broad recovery-and-retreat pattern remains. The gap then widens over the all-pair pricing and broader-wire stages. Neither step is significant on its own, but the cumulative decline from targeted USD pricing to the broader-wire stage is (Table 2, Panel B, column (5)), and the gap remains below the targeted-pricing-stage mean in the broader-wire stage. The retreat concerns the aggregate BTC/ETH share gap rather than every eligible asset, since the ADA and VET shares keep rising (Table A2), and USD activity relative to donors improves slightly over the same stages (Table 2, column (3)). The pattern is consistent with fee-sensitive order flow, in which volume moves toward the book whose relative price improves (Brauneis et al., 2022). The controls absorb BTC- and ETH-specific market conditions on each date and time-invariant venue-asset differences. The donor shares remain high while Binance.US follows a non-monotonic path. Appendix Figure A1 disaggregates the raw paths by venue and asset, Appendix Figure A2 reports the controlled coefficients under alternative donor definitions, and Appendix Figure A4 shows the full gap path under alternative smoothing windows.

Table 2. Controlled quote-use and activity differences
Panel A. Stage differences relative to the pre-bank-rail benchmark

	(1) USD share (pp)	(2) Total activity (log points)	(3) USD activity (log points)	(4) USDT activity (log points)
Rail interruption	-18.2*** (-3.21)	-2.02*** (-10.44)	-2.31*** (-8.33)	-1.44*** (-8.42)
USDT-menu shift	-44.3*** (-12.86)	-2.47*** (-30.36)	-3.37*** (-29.46)	-1.40*** (-8.52)
Phased ACH return	-67.1*** (-29.39)	-4.78*** (-41.46)	-7.11*** (-48.05)	-2.66*** (-15.91)
Broad ACH	-55.0*** (-21.77)	-4.58*** (-45.49)	-6.09*** (-47.22)	-2.66*** (-14.78)
Targeted USD pricing	-29.5*** (-10.39)	-4.36*** (-36.05)	-4.92*** (-37.86)	-2.51*** (-11.54)
All-pair pricing	-34.4*** (-8.65)	-3.85*** (-23.98)	-4.56*** (-52.37)	-1.85*** (-7.40)
Broader wire	-40.0*** (-13.78)	-3.62*** (-34.36)	-4.48*** (-58.17)	-1.47*** (-4.85)
Venue-asset FE	Yes	Yes	Yes	Yes
Asset-date FE	Yes	Yes	Yes	Yes

	(1) USD share (pp)	(2) Total activity (log points)	(3) USD activity (log points)	(4) USDT activity (log points)
Common dates	586	586	586	586
Obs	4,688	4,688	4,688	4,688

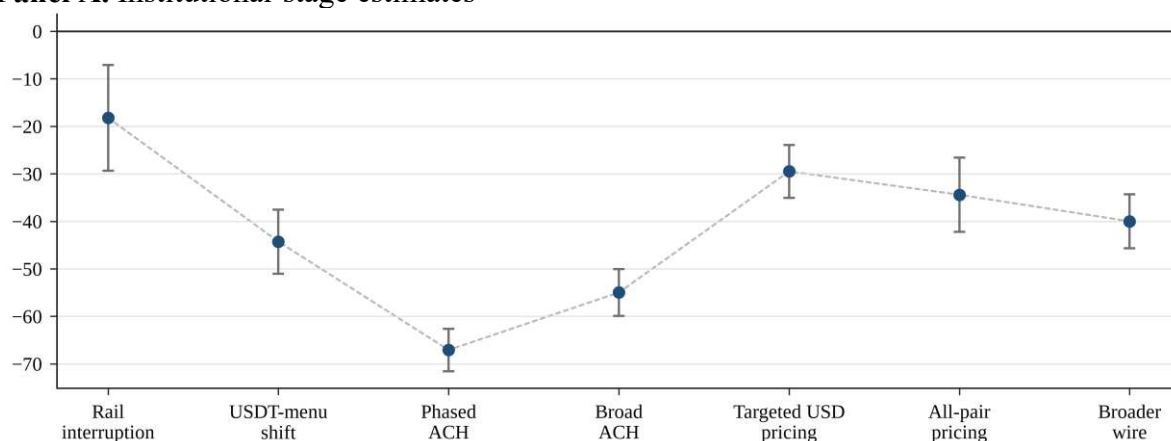
Panel B. Adjacent-stage differences and cumulative retreat

	(1) Phased ACH → Broad ACH	(2) Broad ACH → Targeted USD All-pair	(3) Targeted USD All-pair → Broader wire	(4) All-pair → Broader wire	(5) Targeted USD → Broader wire
Change in gap (pp)	12.1*** (8.52)	25.5*** (11.52)	-4.9 (-1.30)	-5.6 (-1.47)	-10.5*** (-3.99)

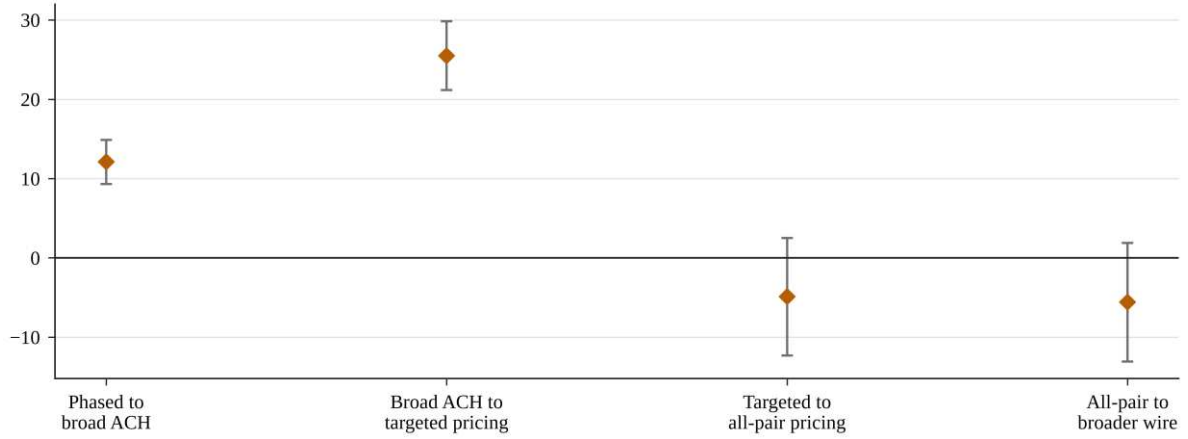
Notes. The balanced panel contains BTC and ETH on Binance.US, Bitfinex, Bitstamp, and Coinbase, and the donor basket equally weights the latter three venues. Rows in Panel A are the clean stages after the 10 May to 8 June 2023 benchmark, and the columns of Panel B are the contrasts between adjacent restoration stages and the cumulative contrast. *USD share* is USD base volume divided by combined USD and USDT base volume, and the activity outcomes are the natural logarithms of total, USD, and USDT base volume normalized by each venue-asset's benchmark mean. Panel A reports changes in the Binance.US-minus-donor gap relative to the benchmark, in percentage points for the share and in log points for activity. Panel B reports later-minus-earlier differences in the share gap, in percentage points, for adjacent stages in columns (1) to (4) and for the cumulative change from targeted USD pricing to broader wire in column (5). All models include venue-asset and asset-date fixed effects (*Venue-asset FE* and *Asset-date FE*). *Common dates* and *Obs* count dates and venue-asset-days. Parentheses contain *t* statistics using calendar-aware Bartlett Newey-West standard errors with 14 daily lags. *** denotes significance at 1%.

Figure 4. Controlled USD-share gaps across institutional stages

Panel A. Institutional-stage estimates



Panel B. Changes between successive restoration stages



Notes. In Panel A, the horizontal axis lists the clean stages of Table 2 in institutional order, and in Panel B it lists the transitions between adjacent restoration stages. The vertical axis in both panels is a change in the Binance.US-minus-donor USD-share gap in percentage points, measured from the 10 May to 8 June 2023 benchmark in Panel A and from the preceding stage in Panel B, for BTC and ETH with Bitfinex, Bitstamp, and Coinbase as donors. Points are estimates and whiskers are 95% intervals using Bartlett Newey-West weights through 14 calendar days. The models absorb venue-asset and asset-date effects.

The September 2025 fee change provides a dated relative-price event. Table 3 reports the 30-, 60-, and 90-day comparisons around 10 September 2025, and Figure 5 shows the daily paths in event time. The unadjusted Binance.US-minus-donor gap improves in all three windows. The within-platform eligibility contrast is positive in each window, but its 60-day estimate is significant only at the 10% level. Trend-adjusted level shifts are sensitive to the window and comparison group. Venues compete for order flow on fees (Budish, Lee & Shim, 2024). The two comparisons are consistent with a role for the targeted fee advantage, but they neither establish a uniform instantaneous discontinuity nor isolate pricing from coincident promotions and asset-specific developments. The ± 90 -day window extends to 9 December 2025 and spans the 2 December addendum to the fee notice, which left the Tier 0 status of the focal pairs unchanged (Section 2).

Table 3. September 2025 targeted USD-pricing comparisons

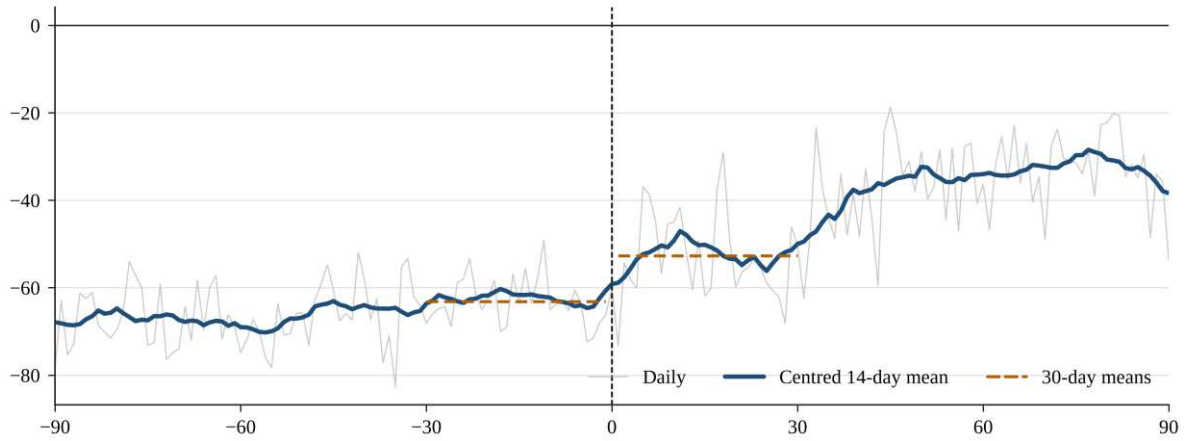
	(1) ± 30 days	(2) ± 60 days	(3) ± 90 days
Panel A. Binance.US minus donor basket			
Post	10.5*** (5.18)	19.7*** (5.07)	24.5*** (6.81)
Post, trend-adjusted	14.0*** (4.43)	3.8 (0.86)	7.7** (2.37)
Panel B. Tier 0-eligible assets minus LTC			
Post	7.6*** (2.76)	4.3* (1.86)	9.7*** (3.10)
Post, trend-adjusted	6.1 (1.45)	9.8*** (2.60)	0.7 (0.18)
Obs	60	120	180

Notes. Columns (1) to (3) use symmetric windows of 30, 60, and 90 days on each side of 10

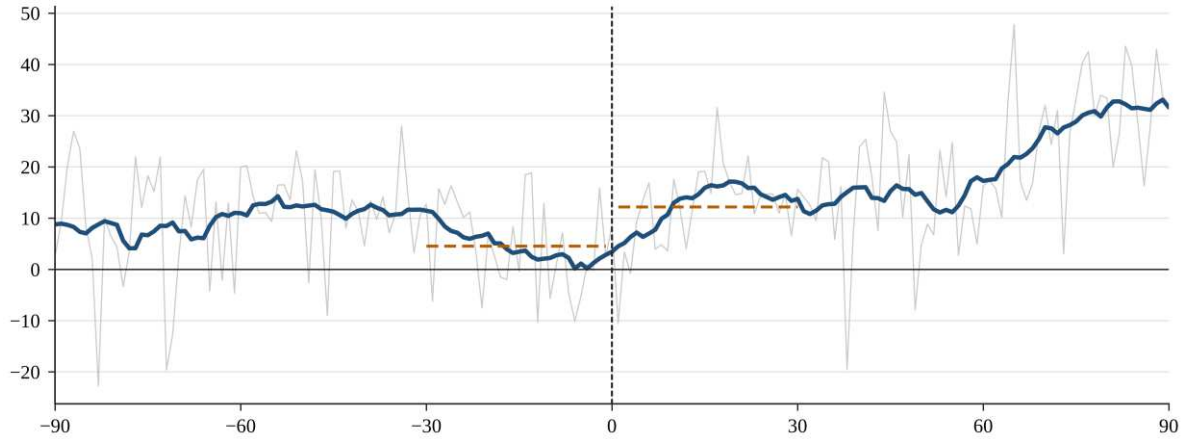
September 2025, excluding the event date. Panel A uses the equal-weight BTC/ETH mean of the Binance.US-minus-donor base-volume USD-share gap, with donors equally weighting Bitfinex, Bitstamp, and Coinbase. Panel B subtracts LTC's converted quote-notional USD share from the equal-weight mean for ADA, BTC, ETH, MATIC/POL, SOL, and VET within Binance.US, with USDT notional converted at the daily median Bitstamp USDT/USD rate. *Post* is the post-minus-pre mean difference in percentage points, and *Post, trend-adjusted* is the post-indicator coefficient allowing separate linear time trends before and after the event. *Obs* counts daily observations. Parentheses contain *t*-statistics using calendar-aware Bartlett Newey-West standard errors with 14 daily lags. *, **, and *** denote significance at 10%, 5%, and 1%.

Figure 5. Quote allocation around the September 2025 targeted USD-pricing change

Panel A. Binance.US minus donor basket



Panel B. Eligible assets minus LTC within Binance.US



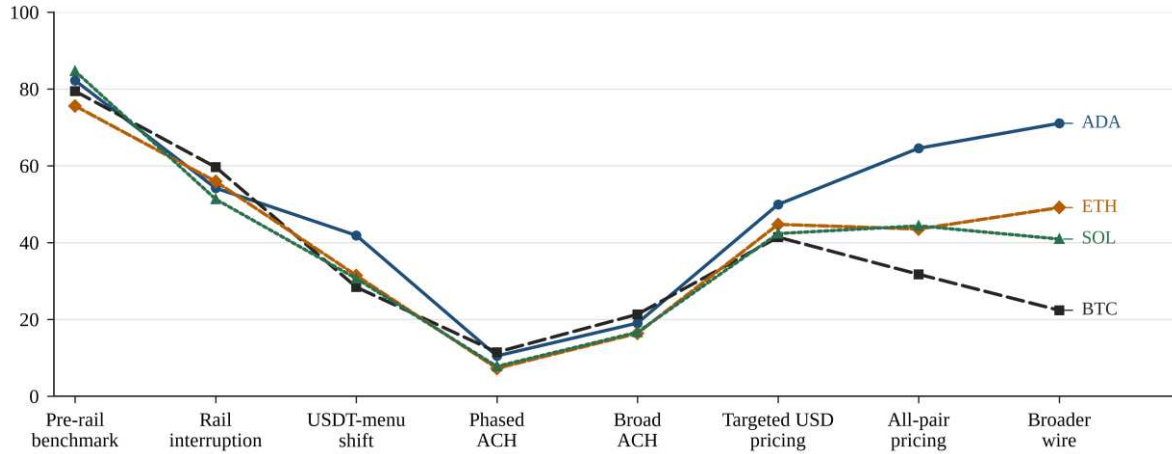
Notes. The horizontal axis is event time in days relative to 10 September 2025, and the vertical axis is a USD-share difference in percentage points. The two panels use the share definitions and comparison groups of Table 3: Panel A is Binance.US minus the equal-weight donor basket and Panel B is the Tier 0-eligible focal assets minus LTC within Binance.US. Light lines are daily observations, dark lines are centred 14-day means, and dashed segments are the means for days -30 to -1 and +1 to +30.

The stage pattern survives alternative donor definitions, whereas the individual assets recover along different paths. Figure 6 plots the asset-level paths to show whether the lifecycle pattern spans the seven focal assets and how their later paths differ. The common stage ordering

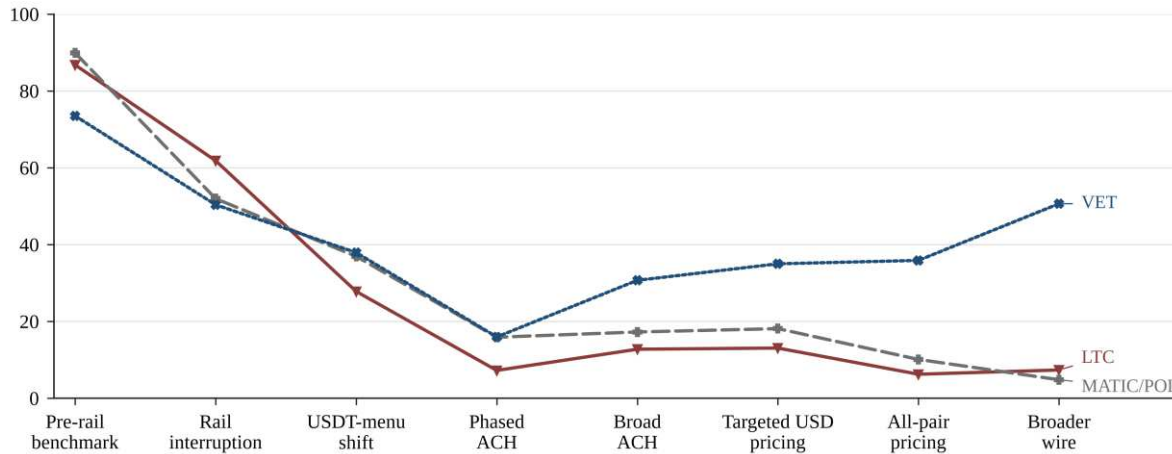
makes the broad decline and the dispersion in recovery visible on one scale. The donor results do not depend on one control venue. Using only Bitstamp and Coinbase makes the negative restoration gaps larger because both venues remain heavily USD-oriented. Using Bitfinex alone makes them smaller because Bitfinex sustains more USDT activity. Every donor definition preserves the sequence: a large deficit during phased restoration, partial recovery under broad ACH, the greatest improvement under targeted USD pricing, and retreat after platform-wide fees. Each single-donor estimate remains negative in every restoration stage.

Figure 6. Asset-level USD-share trajectories across institutional stages

Panel A. ADA, BTC, ETH, and SOL



Panel B. LTC, MATIC/POL, and VET



Notes. The horizontal axis lists the stages in institutional order, so spacing is categorical rather than elapsed time, and the vertical axis is the within-stage mean of each asset's daily USD quote-notional share on Binance.US, in percent and equally weighted across clean dates. USDT notional is converted at the daily median Bitstamp USDT/USD rate. MATIC observations in 2023 are linked to POL after migration.

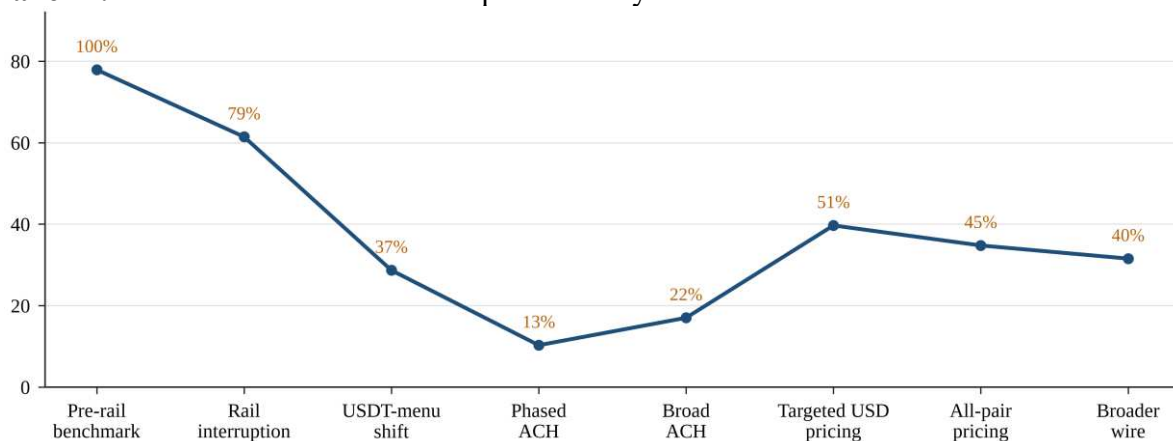
Asset-level Binance.US shares show a common decline and different later paths. In the broader-wire stage, the mean USD share ranges from 4.8% for MATIC/POL and 7.3% for LTC to 71.0% for ADA, with BTC at 22.4%, ETH at 49.1%, SOL at 40.9%, and VET at 50.6%, whereas before the rail interruption the asset-stage means range from 73.5% to 89.9% (Table A2). The dispersion leaves room for differences in liquidity supply, customer composition, and

external trading opportunities; account-level evidence from options markets shows how much trading styles and outcomes differ across investor groups (Hu et al., 2024), so aggregate quote shares should not be read as the preferences of a fixed investor population. Appendix Figure A3 shows that fractional-logit point estimates preserve the direction and ordering of the linear share results. The percentage-point model remains the main specification because it maps directly into the recovery margins and adjacent-stage changes.

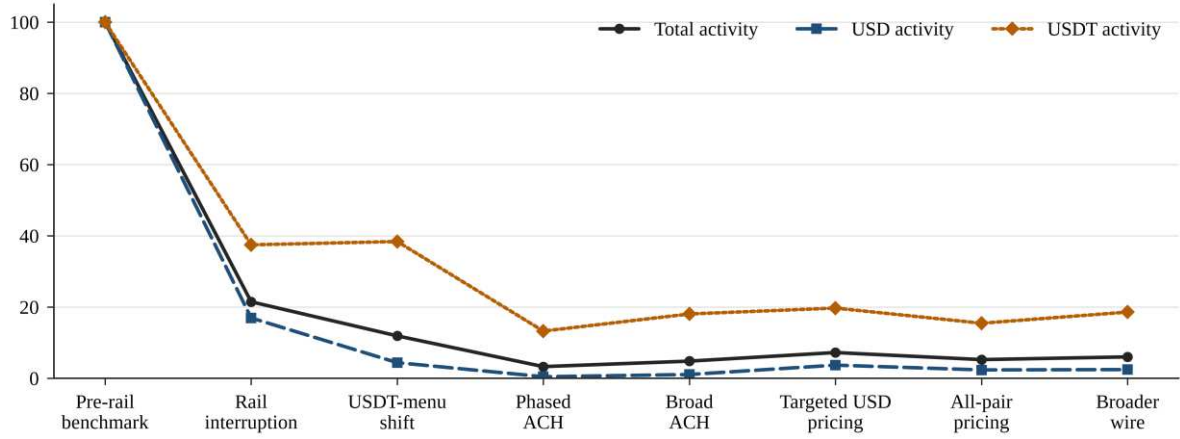
Platform scale and quote-side survival complete the results. Figure 7 separates allocation from levels, and throughout this discussion, activity and retention refer to the matched markets in the sample, not to every trading pair on Binance.US. The final-stage USD share describes how the remaining Binance.US activity is allocated, but absolute USD notional is a small fraction of its pre-rail value and total activity retains only a few percent of its benchmark. The matched markets are smaller, and their remaining activity is allocated differently. The activity columns in Table 2 tell the same story with controls. Relative total BTC/ETH activity falls steeply during the rail interruption and again after the menu shift, with the USD side losing more than the USDT side in both exit stages. Relative activity is lower still during the restoration stages. By the broader-wire stage, total and USD activity remain far below benchmark, while USDT activity has recovered a larger part of its own baseline, although it too remains well below it. The asymmetry is consistent with the portability of a tokenized rail whose supply and transfer do not depend on the platform’s bank partners (Lyons & Viswanath-Natraj, 2023), although the data do not separate portability from changes in customer composition or market-maker relocation.

Figure 7. Quote allocation and market scale across institutional stages

Panel A. Allocation within observed quote activity



Panel B. Market scale relative to the 2023 benchmark



Notes. The figure uses the seven-asset Binance.US sample of Table 1, and the horizontal axis lists its stages in institutional order. In Panel A, the vertical axis is the pooled USD share in percent, and the labels express each share as a percentage of the pre-bank-rail share. Panel B plots three series, mean daily total, USD, and converted-USDT notional, and divides each by its own mean in the 10 May to 8 June 2023 benchmark, in percent. USDT notional is converted at the daily median Bitstamp USDT/USD rate.

6. Implications for Financial-Service Restoration

Availability is a choice-set measure. The Binance.US sequence distinguishes three questions that are often collapsed: whether the service is available, whether it is used relative to an alternative, and how much absolute activity has returned. Pair relisting and eligible-account ACH answer the first question, USD share answers the second, and total and quote-specific volume answer the third. In the broad-ACH stage, the seven focal USD books are active on every asset-day while their share of matched activity stays low. Daily activity establishes that the books are not dormant listings, but it does not establish that use has returned to its previous allocation. In the final stage, the books are active on almost every asset-day while absolute USD activity remains a small fraction of the benchmark. A platform can complete an operational rollout without reproducing the demand, liquidity supply, or scale associated with the former service. This distinction extends the access-use literature to market infrastructure. A bank branch, account, payment card, or digital interface creates an option. The economic value of the option depends on eligibility, price, convenience, trust, and complementary infrastructure such as connectivity and payment technology (D’Andrea & Limodio, 2024), and a shock that pushes users onto an alternative can leave them there after the shock fades (Crouzet, Gupta & Mezzanotti, 2023). On an exchange, the same logic applies to a quote book and its funding rail.

Relative prices organize the recovery path. Restoring a funding channel and restoring the market that previously used it are distinct outcomes. In the Table 1 aggregates, USD activity retention equals total activity retention multiplied by the ratio of the current USD share to the benchmark share. In the final stage, USD accounts for 31.5% of matched notional, about two-fifths of its benchmark share, while total activity retains 6.0% of its benchmark, so absolute USD activity retains about 2.4% of its pre-interruption level. A recovery in quote share can therefore coexist with a persistent shortfall in absolute activity, and the recovery concerns

allocation within a substantially smaller venue, not the reconstitution of the former USD market. The largest improvement in relative USD use coincides with targeted pricing, whereas operational access alone leaves a substantial gap. This is a comparison of the size of the observed recovery at each stage rather than a causal ranking of fees over access, because the stages differ in timing, length, market composition, and coincident events. Bank access is necessary for direct bank-funded deposits and withdrawals, whereas USD-quoted trading can continue while USD books remain listed and balances can be obtained within the platform. Once both books are available, relative price helps determine which of them attracts activity, as fee changes on crypto venues alter volume and market quality (Brauneis et al., 2022; Galati, 2024). Stablecoin portability supplies the alternative. USDT can be transferred on supported blockchains and traded on centralized and decentralized venues, and its portability provides a functioning alternative to a restored bank-linked quote market. Liquidity provision on decentralized exchanges follows its own incentives (Capponi & Jia, 2025), and on-chain transfer costs depend on network congestion and on competition for confirmation rather than on a bank (Kim, Ryu & Webb, 2023; Sokolov, 2021). A reopened USD book therefore competes not with an empty outside option, but with a functioning quote and transfer network. Differences in regulation between deposits and money market funds sponsored by banks have similarly changed which close substitutes are supplied and used (Jacewitz et al., 2025).

The results suggest a practical restoration dashboard. The matched-market comparison implies an evaluation principle for platforms and regulators: a restoration notice should be followed by a small set of complementary measures, with volume retention anchored to a common pre-event benchmark, in the same way that inclusion research separates access from use (Rusu & Roman, 2026). The first is coverage: which customers, states, account types, and products are eligible. The second is price: deposit and withdrawal charges, trading fees, limits, and liquidity incentives. The third is use: transaction frequency, value, and the allocation across substitute rails. The fourth is scale: current activity relative to a pre-event benchmark. Market-quality measures such as spreads, depth, slippage, execution rates, and transfer times form a separate layer when order-book and service-performance data are available. Reporting only the share would hide the contraction, reporting only total volume would hide the different survival of USD and USDT, and reporting only the pair list would hide both (Figure 7). The framework applies beyond crypto exchanges. Any platform that restores a payment channel, account feature, card network, lending product, or trading venue after interruption faces the same measurement problem, and research on financial services increasingly evaluates products and delivery channels as service designs rather than as fixed offerings (Tuyon et al., 2023).

7. Conclusion

Binance.US's USD-market recovery is incomplete and non-monotonic. USD trading reallocates toward USDT before the focal USD books are withdrawn, and the return of those books and of ACH access is followed by only partial recovery in relative use. The targeted pricing change coincides with the largest improvement, and part of that gain recedes cumulatively once low fees become platform-wide, although the comparisons do not isolate fees from other contemporaneous changes. By the final stage, USD accounts for about a third of matched notional but retains only a few percent of its pre-interruption activity, so operational

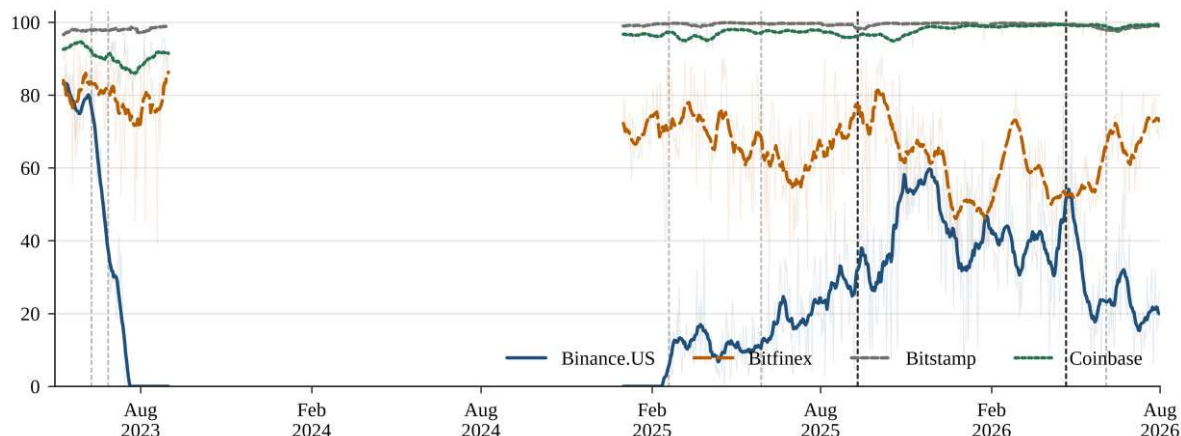
restoration does not establish that the former market scale has returned, and a restoration notice has to be read alongside measures of coverage, price, use, and scale. The five-minute archive records volume rather than quoted spreads or depth, and the customers and liquidity suppliers of 2025-2026 need not be those of 2023, so extending the comparison to order-book data and to other platforms that restore a payment rail is a natural next step.

Online Appendix

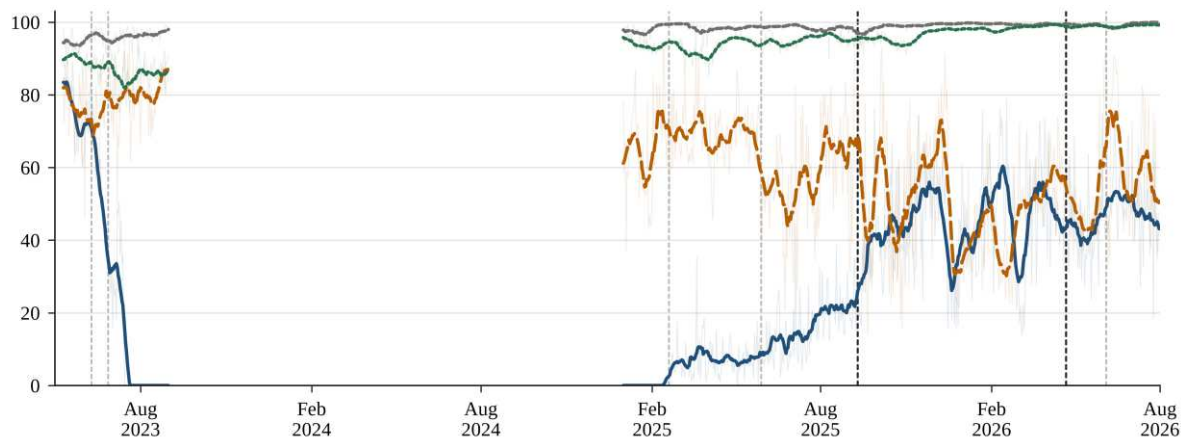
Figure A1 reports *BTC* and *ETH* USD shares separately for Binance.US, Bitfinex, Bitstamp, and Coinbase. The daily observations and centred 14-day means show the individual venue paths behind the donor-basket average used in the main analysis.

Figure A1. Raw *BTC* and *ETH* USD-share paths across venues

Panel A. BTC



Panel B. ETH



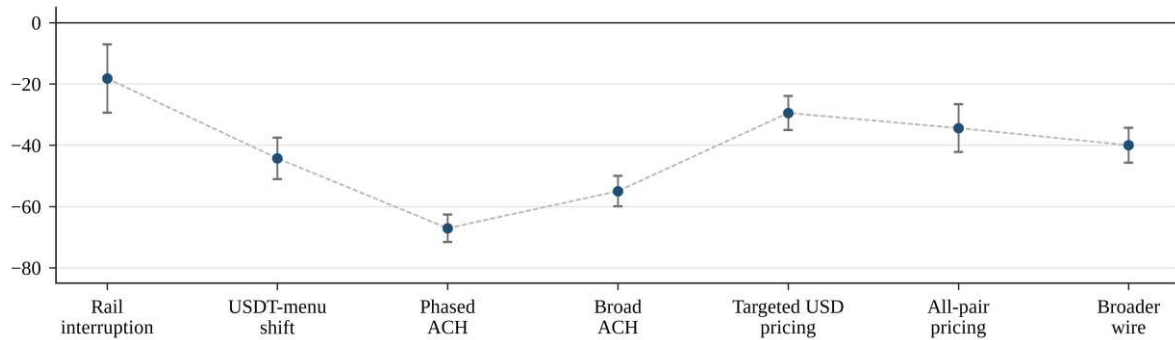
Notes. The horizontal axis is the calendar date and the vertical axis is the USD share, USD base volume divided by combined USD and USDT base volume, in percent, for Binance.US, Bitfinex, Bitstamp, and Coinbase. Light lines are daily observations and thicker lines are centred 14-day means. Lines are not joined across the interval without panel observations. Vertical dashed lines mark the dated events listed in the notes to Figure 3.

Figure A2 plots the stage coefficients for the all-venue donor basket, the fiat-oriented Bitstamp-Coinbase basket, and each donor venue separately. Table A1 reports the corresponding estimates. Donor composition changes the level of the gap but preserves the

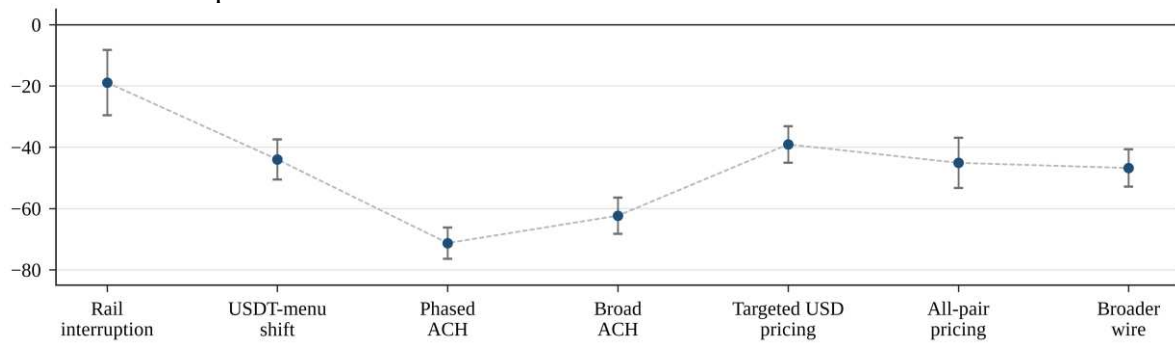
institutional ordering.

Figure A2. Donor-specific controlled USD-share gaps

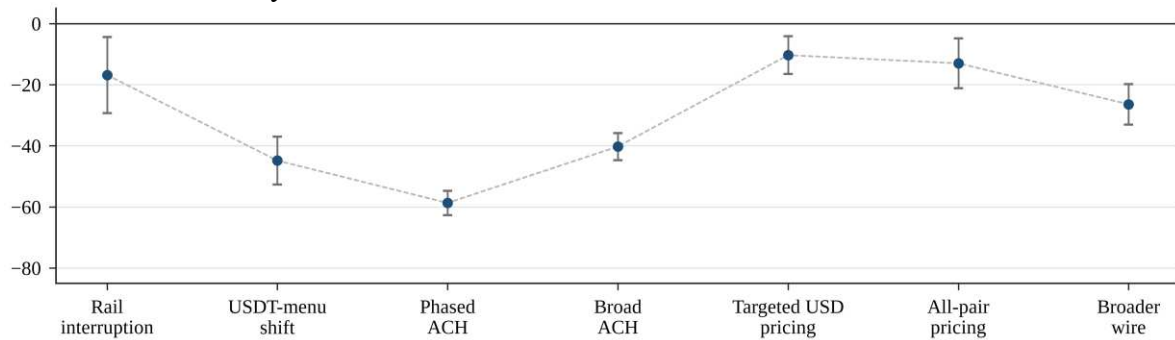
Panel A. All three donors



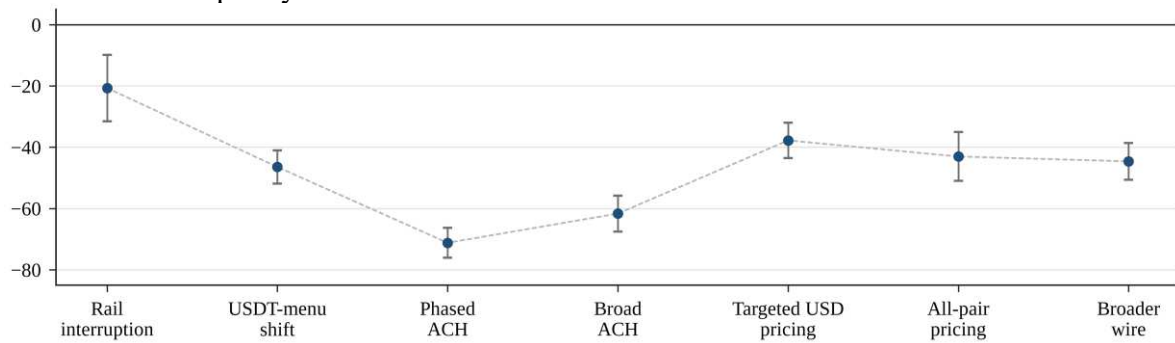
Panel B. Bitstamp and Coinbase



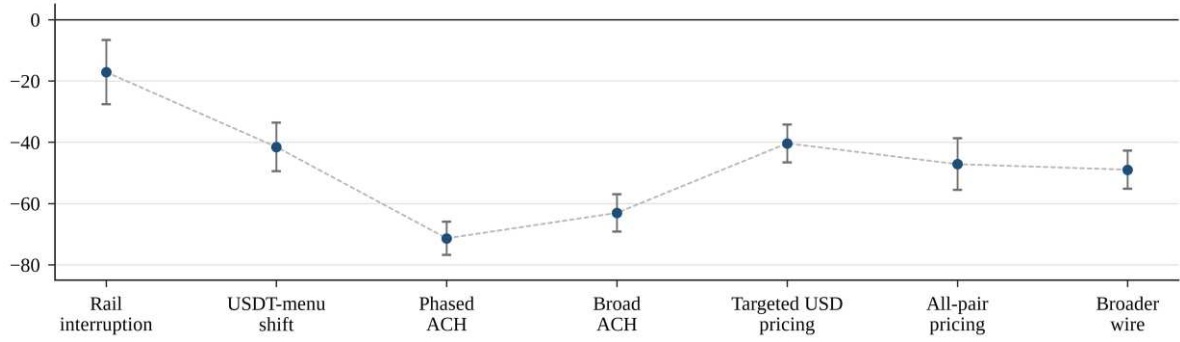
Panel C. Bitfinex only



Panel D. Bitstamp only



Panel E. Coinbase only



Notes. The horizontal axis lists the stages after the 10 May to 8 June 2023 benchmark in institutional order, and the vertical axis is the change in the Binance.US-minus-donor USD-share gap from that benchmark in percentage points. Panel A uses Bitfinex, Bitstamp, and Coinbase, Panel B uses Bitstamp and Coinbase, and Panels C to E use each donor separately. Points are stage estimates and whiskers are 95% intervals using calendar-aware Newey-West covariance with 14 daily lags.

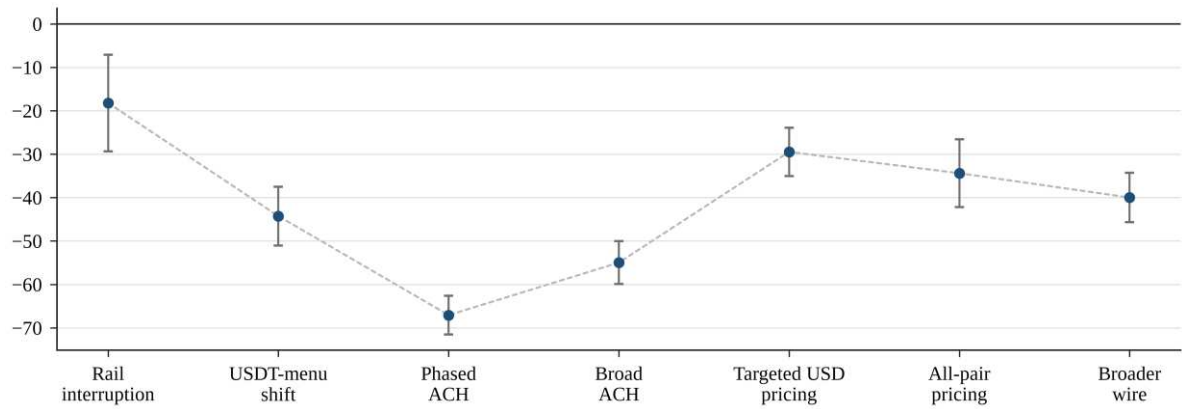
Table A1. Donor sensitivity of controlled USD-share gaps

	(1)	(2)	(3)	(4)	(5)
	All three	Fiat basket	Bitfinex	Bitstamp	Coinbase
Phased ACH return	-67.1	-71.3	-58.7	-71.2	-71.4
Broad ACH	-55.0	-62.4	-40.2	-61.7	-63.1
Targeted USD pricing	-29.5	-39.1	-10.3	-37.8	-40.4
All-pair pricing	-34.4	-45.1	-13.0	-43.0	-47.2
Broader wire	-40.0	-46.8	-26.4	-44.6	-49.0
Venue-asset FE	Yes	Yes	Yes	Yes	Yes
Asset-date FE	Yes	Yes	Yes	Yes	Yes

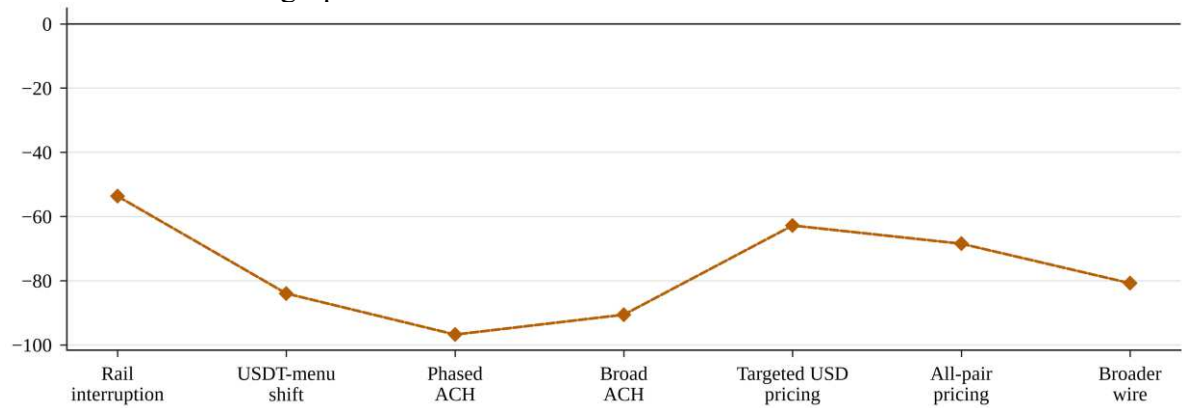
Notes. Entries are changes in the Binance.US-minus-donor USD-share gap relative to the 10 May to 8 June 2023 benchmark, in percentage points, for the restoration stages listed in the rows. Column (1) uses the equal-weight Bitfinex, Bitstamp, and Coinbase basket, column (2) excludes Bitfinex, and columns (3) to (5) use each donor venue separately. All columns use the same balanced BTC/ETH dates and include *Venue-asset FE* and *Asset-date FE*, with calendar-aware Newey-West covariance using 14 daily lags.

Figure A3 compares the linear percentage-point estimates with conditional fractional-logit point estimates using the same venue-asset and asset-date effects. Both specifications preserve the direction and stage ordering of the main results.

Figure A3. Functional-form comparison of controlled stage estimates
Panel A. Linear share model



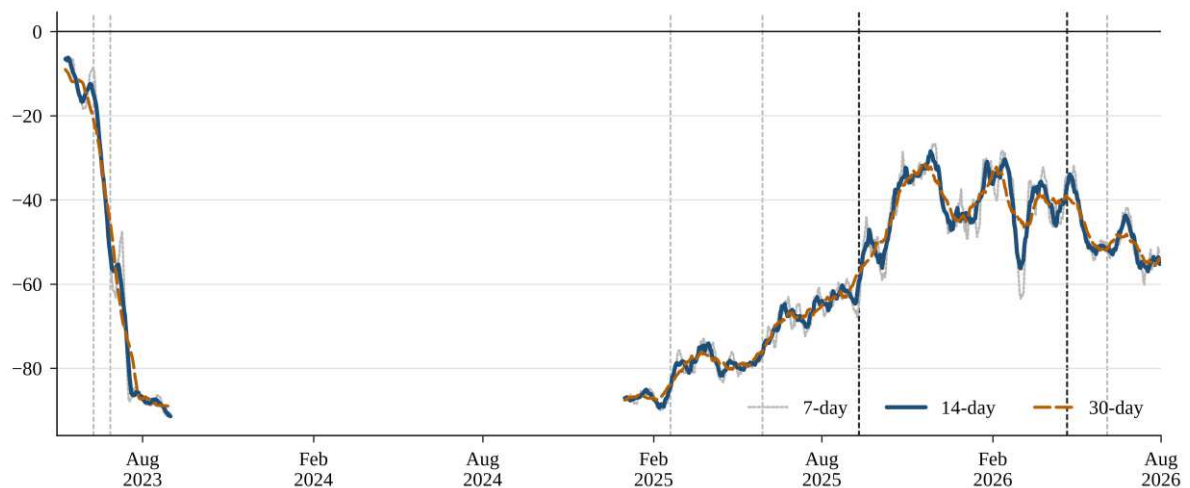
Panel B. Fractional-logit point estimates



Notes. The horizontal axis lists the stages after the benchmark in institutional order. In Panel A the vertical axis is the linear-share estimate in percentage points with 95% calendar-aware Newey-West intervals. In Panel B the vertical axis is $100[\exp(\beta) - 1]$, the fractional-logit point estimate expressed as the percentage change in the relative USD/USDT odds. Both use the pre-bank-rail stage as the benchmark.

Figure A4 plots the full Binance.US-minus-donor path using centred 7-, 14-, and 30-day means. The 2023 and 2025-2026 observation blocks remain discontinuous under every window.

Figure A4. Sensitivity of the Binance.US-minus-donor USD-share gap to smoothing windows



Notes. The horizontal axis is the calendar date and the vertical axis is the Binance.US-minus-

donor USD-share gap in percentage points, with the donor the equal-weight Bitfinex, Bitstamp, and Coinbase basket. Lines are centred 7-, 14-, and 30-day means of the raw daily gap, each calculated within the 2023 and 2025 to 2026 panel blocks, which are not joined. Vertical dashed lines mark the dated events listed in the notes to Figure 3.

Table A2 reports the exact mean USD share for each of the seven assets in every clean institutional stage.

Table A2. Asset-level mean USD quote shares by stage

Panel A. 2023 exit stages

	Pre-bank-rail	Rail interruption	USDT-menu shift
<i>ADA</i>	82.2	54.2	41.9
<i>BTC</i>	79.4	59.6	28.4
<i>ETH</i>	75.6	55.9	31.4
<i>LTC</i>	86.8	61.8	27.8
<i>MATIC/POL</i>	89.9	51.9	36.9
<i>SOL</i>	84.6	51.3	30.6
<i>VET</i>	73.5	50.4	37.9

Panel B. Restoration stages

	Phased ACH	Broad ACH	Targeted USD	All-pair	Wire
<i>ADA</i>	10.5	19.0	49.9	64.5	71.0
<i>BTC</i>	11.5	21.3	41.4	31.7	22.4
<i>ETH</i>	7.2	16.4	44.7	43.5	49.1
<i>LTC</i>	7.2	12.7	13.0	6.2	7.3
<i>MATIC/POL</i>	15.9	17.2	18.1	10.1	4.8
<i>SOL</i>	7.7	16.7	42.3	44.3	40.9
<i>VET</i>	15.9	30.7	35.0	35.9	50.6

Notes. Rows are the seven focal assets. Entries are within-stage means of each asset's daily USD quote-notional share on Binance.US, in percent and equally weighted across clean dates, with USDT notional converted at the daily median Bitstamp USDT/USD rate. MATIC observations in 2023 are linked to POL after migration. All listed assets except LTC belong to the focal Tier 0-eligible group.

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