

Online annex for BIS Bulletin no 125: “Stablecoins renumeration on centralised exchanges”

Graph 2.A illustrates the reserve-sharing arrangement between Circle and Coinbase. Under this arrangement, income from US dollar Coin (USDC) reserve assets is first reduced by operating expenses, such as external management fees, to obtain a “payment base”, from which Circle retains a small issuer amount. In addition, Circle and Coinbase each receive a share of the payment base in proportion to the USDC held in their respective custodial products or managed wallet services (ie Income layer 1 in the graph). Finally, after payments to other approved USDC ecosystem participants, Coinbase and Circle each receive roughly 40% of the residual (ie Income layer 2).

The estimates for the illustration in Graph 2.A are obtained from Coinbase’s quarterly reports and Circle’s Form S-1 Registration Statement.

Coinbase’s quarterly reports for Q1 and Q2 of 2025 disclose stablecoin revenue separately for “On Coinbase” and “Off Coinbase” USDC. These amounts are aggregated across the two quarters to obtain Coinbase’s six-month revenue from layer 1 (dark red bar) and layer 2 (light red bar).

Circle’s Form S-1 Registration Statement reports the custody shares of Coinbase and Circle as of 30 June 2025. Together with the amount behind the dark red bar, these shares imply the amount in the layer 1 income pool (size of the left bar), Circle’s layer 1 revenue (dark blue bar) and, as a residual, the layer 2 reserve income pool (grey bar).

Finally, it is necessary to allocate the layer 2 income pool. Since the revenue-sharing arrangement allocates equal layer 2 revenues to Circle and Coinbase and the latter amount is already known (light red), so is the former (light blue). The layer 2 residual is paid to other approved participants (grey bar).

Graph 2.B: Coinbase’s quarterly reports disclose the total USDC revenue (the size of the bars). For 2025, they also disclose the split (dark vs light red bars). For earlier years, Q2 and Q4 splits are estimated from the semi-annual USDC custody shares of Coinbase s_{CB} and Circle s_C , as reported in Circle’s Form S-1. Based on the revenue-sharing arrangement, the on Coinbase portion (dark red) reflects Coinbase’s custody share s_{CB} . The off Coinbase portion (light red) reflects Coinbase’s 50% share of the layer 2 income pool after subtracting the Coinbase and Circle shares in the layer 1 income, ie $\frac{(1-s_{CB}-s_C)}{2}$. Thus, the estimated split is proportional to s_{CB} vs $\frac{(1-s_{CB}-s_C)}{2}$. This estimation omits the payments to other approved participants on the assumption that they were small before Coinbase’s arrangement with Binance in 2025. The amounts for Q1 and Q3 of 2024 are interpolated.

Quarterly USDC reward payouts (black dots) are estimated in two steps. First, quarterly customer USDC holdings on Coinbase are calculated as the total USDC on Coinbase minus Coinbase’s own USDC holdings, the latter proxied by USDC assets reported in Coinbase’s quarterly balance sheets. Second, quarterly payouts are estimated by applying the annualised USDC holding yield to quarterly customer holdings and dividing the result by four.

Graph 4: The underlying exercise identifies the main drivers of stablecoin holding rates on Binance. Following Adams et al (2024), it uses a sign-restricted structural vector autoregression (SVAR), estimated separately for USDC and USDT. For each stablecoin, we first estimate a weekly vector autoregression (VAR)

in reduced form using three endogenous variables: (i) the change in the Binance holding yield; (ii) the change in the US two-year Treasury yield; and (iii) the log return on Bitcoin. These capture, respectively, the stablecoin yield, the benchmark yield and the level of crypto market activity.

To identify the underlying shocks, the exercise generates structural decompositions by applying random rotations of the Cholesky decomposition of the residual covariance matrix from the reduced-form VAR. Each candidate decomposition is consistent with the reduced-form VAR but gives a different interpretation of the underlying structural shocks.

We focus on two decompositions, satisfying economically motivated sign restrictions. Specifically, the simultaneous rise in Treasury yields, rise in stablecoin holding yields and decline in Bitcoin returns identify a positive “monetary policy shock”, ie tighter monetary conditions. The simultaneous rise in Bitcoin returns and stablecoin holding yields identifies a “crypto demand shock”, corresponding to stronger demand for stablecoins in trading, leverage and collateral use. Other configurations of the three variables identify a third shock, capturing residual influences.

Among the admissible decompositions, the benchmark structural decomposition is selected using the median target approach of Fry and Pagan (2011). The structural moving average representation implied by the SVAR is then used to quantify the relative importance of different shocks. This then allows us to express the weekly change in the stablecoin holding yield as the sum of contributions from the monetary policy shock, the crypto demand shock and the residual shock. These contributions are then accumulated over time to obtain the cumulative decomposition reported in Graph 4.

References

Adams, A, M Ibert and G Liao (2024): “What drives crypto asset prices?”, *SSRN Working Paper*.

Fry, R and A Pagan (2011): “Sign restrictions in structural vector autoregressions: a critical review”, *Journal of Economic Literature*, vol 49, no 4.