



Basel Committee on Banking and Supervision
Bank of International Settlements
Centralbahnplatz 2
4051 Basel
Switzerland

30 September 2022

RE: Second consultation on the prudential treatment of cryptoasset exposures

Dear Members of the Basel Committee on Banking and Supervision (BCBS),

Circle Internet Financial LLC (“Circle”) appreciates the opportunity to comment on the Committee’s proposal for the prudential treatment of cryptoasset exposures.

Since Circle’s founding, it has prioritised responsible financial services innovation and constructive engagement with regulators and public authorities around the world. Circle has a keen interest in the development of a transparent and well-regulated digital assets ecosystem that facilitates capital formation, maintains fair, orderly, and efficient transactions, and protects consumers and the financial system at large. The partnership between the public and private sector is critical in developing technology-neutral, principled, activity-based regulation. Circle commends the Committee for continuing to engage with the industry. Though Circle is not a bank, its payment stablecoin USD Coin (“USDC”) is a central component of the cryptoasset ecosystem, and Circle provides a critical touchpoint between banking and cryptoassets.

About Circle

Circle is a global financial technology firm that provides internet-native payments and treasury infrastructure. Circle has developed foundational technology centred on payments and banking in the age of digital assets and the internet.

Circle is the sole issuer of USDC, a U.S. dollar-backed digital currency. With around \$50 billion of USDC in circulation as of 30 September 2022, and issuance on nine blockchains, USDC is one of the largest stablecoins measured by market cap globally. USDC has been integrated as a settlement option in leading merchant and credit card networks, supports cross-border remittances, and is deployed as a payment option by e-commerce platforms. A full description of Circle’s activities, including discussion of its operational risk management practices, audited financial statements, and filings with the U.S. Securities and Exchange Commission (SEC), can be found on its website.¹

¹ Circle, *Investor Relations*, <https://investor.circle.com/overview/default.aspx>.

USDC is fully-reserved, and Circle is regulated in the United States. As of August 31, 2022, USDC reserves were approximately 80% short-dated U.S. Treasuries (of less than 90 day maturity) and 20% cash deposits, with assets custodied at leading U.S. financial institutions.² Circle issues and redeems USDC only to institutional customers through Circle Accounts. All Circle Account holders must pass rigorous Know-Your-Business examination upon sign up. The terms of use and legal rights available to USDC holders are available on Circle's website.³

Tokenised cash stablecoins as Group 1a digital assets

Circle supports the Committee's use of a classification structure and the focus on a risk-based stratification of cryptoassets. However, broadly categorising all "stablecoins" as Group 1b, defined as "cryptoassets with effective stabilisation mechanisms," would introduce confusions that run contrary to the risk-based approach adopted by the Committee. Recognizing that the term "stablecoin" has become generic, Circle believes there is sufficient differentiation within the tokenized traditional asset category to merit a more nuanced treatment of high-quality, fully reserve-backed stablecoins. Fundamentally, not all stablecoins are alike and some convey inherently less risk than others. In particular, "tokenised cash," or a stablecoin fully reserved by cash and cash equivalents and operating at a high standard, has reserve holdings that are safer than tokenised deposits, which the BCBS classifies as Group 1a. Conversely, some tokens are "stablecoins" in name only while they may not meet all of the conditions of the Group 1 classification.

Replacing the loosely defined term "stablecoin" with a more detailed description of assets intended to maintain stable value relative to a traditional asset would reduce confusion in the implementation of [SCO60] and provide banks and supervisors more predictability in evaluating digital assets in Group 1. Indeed, the BCBS itself recognizes a distinction among "stablecoins," writing in footnote [SCO60.9]-2 that "in certain jurisdictions bank-issued tokenised payment assets that are backed by the general assets of the bank and not by a pool of reserve assets may be referred to as stablecoins... [and] may be included in group 1a provided they meet all the requisite conditions..." Circle encourages the Committee to further consider modifying the framework of classification to distinguish tokenised traditional assets (i.e. tokenised cash and tokenised deposits) from tokens that are reserved by higher risk traditional assets and Group 2 cryptoassets or are "stabilised" by any type of "algorithmic" mechanism that is endogenously collateralized. Exhibit 1 below, reproduced from Liao (2022),⁴ references different categories of stablecoins based on their reserve backing (or lack thereof).

² Grant Thornton LLP, *Report of Independent Certified Public Accountants*, 23 September 2022, https://www.centre.io/hubfs/USDC%202022_Circle%20Examination%20Report%20August%202022.pdf?hslang=en.

³ See Circle, *USDC Terms*, last updated 10 June 2022, <https://www.circle.com/en/legal/usdc-terms>.

⁴ Gordon Liao, *Macprudential Considerations for Tokenized Cash*, 23 September 2022, <https://ssrn.com/abstract=4228268>.

| Type | Description | Examples |
|---|--|---|
| Tokenized cash | Tokens fully-reserved with cash & cash equivalent instruments (e.g. T-bills and other level 1 HQLA with less than 90 days of maturity) | USD Coin (USDC), Binance USD (BUSD), Paxos Dollar (USDP). |
| Tokenized deposits | Tokens representing fractional-reserved bank deposits | JPM Coin, Avit |
| Other fiat-asset backed | Tokens reserved with fiat assets of varying credit qualities and liquidity. | Tether (USDT) |
| Crypto-(over)collateralized | Reserves are over collateralized with crypto asset and/or tokenized fiat assets that do not self-reference to the stablecoin in supply determination. | Dai, Fei |
| Algorithmic/ endogenously collateralized | Stablecoins that are fully or partially backed by a second more volatile reference coin. The supply of the reference coin is pragmatically determined based on the primary coin. | Terra, Iron, Basis, FRAX |

Exhibit 1: Types of stablecoins

Payment stablecoins that are predominantly backed by tokenised cash and cash equivalents, such as short-term government obligations of the highest quality and liquidity, should be considered “tokenised cash.” Tokenised cash carries lower market risk, lower credit risk, and higher liquidity relative to “tokenised deposits.” Tokenised cash likewise does not inherently involve additional counterparty credit risk when the reserves are wholly held in segregated accounts and designated for the benefit of tokenised cash holders, as is the case for Circle’s USDC. With a proper resolution and recovery framework, tokenised cash can allow users to have the same level of legal rights as ownership of the underlying traditional assets.

Circle believes that BCBS should consider clarifying the classification conditions for group 1a digital assets to incorporate properly designed and regulated tokenised cash payment stablecoins that are issued by banks and non-banks alike.

Classification condition 1

As a tokenised traditional asset, certain tokenised cash and cash equivalents would qualify as Group 1a assets under the requirements of classification condition 1. Specifically, tokenised cash such as USDC poses the same level of credit and market risk as the underlying cash equivalent holdings. USDC holders also have the ability to redeem their tokenised cash from Circle after satisfying proper account verification requirements, and non-Circle USDC holders should have the ability to redeem their tokenised cash from their exchange or from Circle after opening an account and satisfying proper account verification requirements. They are exposed to the same risk profile as the cash and high quality liquid assets (HQLA) that Circle holds with its custodians.

While Circle broadly agrees that tokenised traditional assets should carry a similar risk profile as the underlying traditional asset being tokenised, the requirements of [SCO60.10] may not accord with existing banking practices because claims on banks, either tokenized or directly as traditional deposits, introduce additional credit risk in addition to those of the underlying reserve assets, e.g. bank loans and bank asset holdings backing the claims. Non-bank issuers of payment stablecoins face the same problem with this additional credit risk requirement, just like banks do. The conditions set out in [SCO60.10] should be modified to permit structures where the issuer fully segregates reserve assets from its operating assets, as is the case for Circle. Coupled with a proper recovery and resolution framework, such a structure would ensure the continued ownership of the underlying traditional asset by the token holders in the event of an issuer default. Supplementing [SCO60.10] in this way would synthesise the BCBS' goal of minimising risk for Group 1a assets with the practical reality of any type of intermediation, either by banks or non-banks.

USDC is structured to ensure holders of USDC have assurances and rights that minimise risk to the level prescribed by the BCBS for Group 1a assets. U.S. money transmitter licences, under which Circle is currently regulated, mandate that Circle maintains legal title to the USDC reserves but does not have an equitable interest in those reserves, unlike a bank or an unregulated financial institution. USDC reserves are assets that belong to USDC holders, not Circle, and they are wholly held in segregated accounts designated for the benefit of USDC holders. Circle is not allowed to use the USDC reserves for any other purpose. Circle cannot fractionalize or lend out the reserves, cannot borrow against them, and cannot use them to cover the firm's operating costs - by law.

Additionally, as part of its risk management framework, Circle maintains a wind-down plan reviewed by senior management and its Board of Directors. Should it become necessary, Circle can cease its activities in an orderly manner while mitigating any external harm to its customers, counterparties, and the financial system. The wind-down plan in its current form ensures timely decisions related to the highly unlikely event of insolvency proceedings. The plan also specifies the financial and non-financial resources required for the orderly wind-down of Circle products and the return of all customer funds. Ensuring that tokenised cash issuers have similar policies should be a key part of classification condition 1.

Today, cash tokens such as USDC are significantly safer than other stablecoin designs, including tokenised deposit structures that the BCBS already recognizes as generally suitable for Group 1a. As stated above, USDC reserves are entirely composed of cash and cash equivalents, with short-term U.S. Treasuries making up around 80% of the reserves and deposits at banks accounting for the remainder. Tokenised cash such as USDC provides much higher liquidity than tokenised deposits. Exhibit 2, below, shows the comparison between the liquidity ratio of USDC under different assumptions relative to the average of the eight U.S. Global Systemically Important Banks (GSIBs).

| Assumption | Run rate | Liquidity ratio |
|---|-----------------|------------------------|
| Non-operational deposit run rate under Basel LCR | -40.0% | 196% |
| Observed 30-day worst run rate with inflows capped at 75% of outflows | -9.2% | 850% |
| Observed 30-day worst run rate with 0% inflow | -36.9% | 212% |
| U.S. GSIBs' LCR average 2022Q2 | | 118% |

Exhibit 2: Liquidity ratios of USDC under varying assumptions and that of U.S. GSIBs

Notes: This table presents the liquidity ratio of USDC calculated under different assumptions of run rates as of 5 August 2022. The calculation is based on the USDC reserve as of 5 August 2022 and is broadly reflective of the general reserve mix of 80% Treasuries and 20% bank deposits. The total circulation of USDC was \$54.29 billion, and the amount of HQLA consisting of Treasuries with less than 90 days of remaining maturity was \$42.47 billion. The outflow is calculated as the run rate multiplied by the amount of USDC in circulation. Liquidity ratio is calculated as the ratio of HQLA to outflow. The last row provides the liquidity coverage ratio of the eight U.S. GSIBs based on their 2022Q2 public disclosures as a comparison. For details on methodology, see Liao (2022).

The difference between tokenised cash and other stablecoin models is evident in the market behaviour and revealed preference of users. The market capitalizations of tokenised cash tend to be least correlated with crypto asset prices relative to other stablecoins. Exhibit 3 shows the correlation of Ether (log) returns and changes in the market capitalization of stablecoins. USDC notably has little correlation (-6%) with Ether followed by BUSD with the next lowest correlation (17%). USDT and Dai both had much higher correlation with Ether, at 33% and 52% respectively. This low correlation suggests the lack of direct relationship between digital assets that are

speculative and tokenized cash stablecoins used for payments.

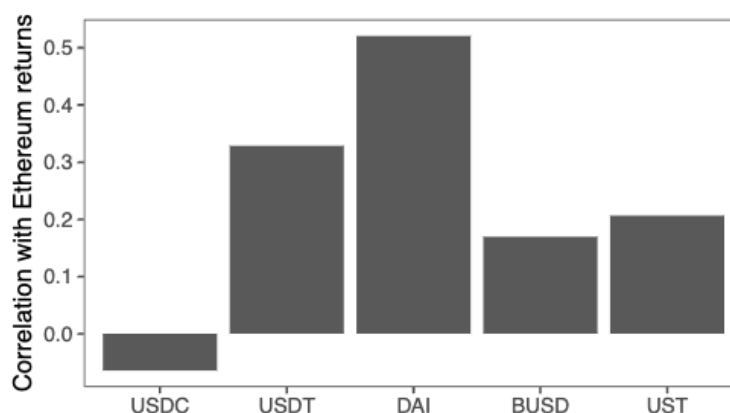


Exhibit 3: Correlation between market capitalization of major stablecoins and Ether

Notes: This figure shows the correlation between 10-day log returns of Ether and 10-day log changes in the market caps of the five major stablecoins. The sample period is from January 2021 to August 2022.

Classification condition 2

Circle agrees that classification condition 2 highlights important elements of settlement assurance that should be clearly defined for any tokenised cash instrument. In general, tokenised cash stablecoins circulating on permissionless blockchains settle on a public, verifiable ledger that is secured by cryptography. Maintenance of the record is upheld by thousands of independent node operators that provide verification of ownership in accordance with published rules. Issuers of tokenised cash generally publish clear terms of use that detail the precise rights of holders, governing legal jurisdictions, and issuer obligations.⁵

We encourage the Committee to consider a minor clarification to [SCO60.19] that would help banks more easily comply with the requirements of the chapter. The BCBS should clarify that industry standards for probabilistic blockchain settlement constitute final settlement for the purposes of this chapter. As described above, tokenised cash settles on blockchains that are secured by cryptography. Quick settlement on public blockchains improves liquidity and reduces credit risk, leading to lower systemic risk overall. Even in the worst case scenario, probabilistic blockchain settlement almost always finalizes within 24 hours - still a significant improvement over traditional systems. Circle recommends BCBS to clarify that the mathematical assurance provided by probabilistic settlement is compatible with the requirements of [SCO60.19] - [SCO60.20].

⁵ See, e.g., Circle, *supra* note 3.

Such a clarification would be compatible with the guidance published in the recent CPMI-IOSCO Report on the Application of the Principles for Financial Market Infrastructures to stablecoin arrangements, which calls for settlement finality to be a “legally defined moment.” Cryptographic systems, like those on which USDC run, provide clear, irrevocable and unconditional finality for transactions that are processed on the blockchain. And ultimately, settlement finality is a legal concept in addition to a technical one. Legal clarity on the moment of settlement finality on public blockchains will help banks and supervisors reduce systemic risk.

Classification condition 3

Circle is broadly supportive of BCBS’ effort to mitigate against technological risks at the blockchain level and foster transparency and traceability for the purpose of fulfilling Anti-Money Laundering/Countering the Financing of Terrorism (AML/CFT) obligations. Circle takes both technology risk and AML/CFT requirements seriously. The choice of blockchain deployment for USDC undergoes a rigorous process of technical risk assessment. Circle’s partnership with blockchain data analytics firms has also facilitated its strict adherence to AML/CFT rules.

The open, permissionless structure of public blockchains means that transactions made in tokenised cash are currently more traceable than transactions made in the banking system. This has already led to benefit in the countering of illicit finance as blockchain forensics and analysis companies assist businesses and governments in preventing illicit finance. Likewise, blockchains that are natively digital, open, and auditable empower anyone in the world to investigate suspicious activity and publish findings for open review. Multiple law enforcement actions have cited public research from social media as the original tip leading to official investigation.⁶

As the Committee finalises this chapter, Circle notes that some tokenised cash issuers currently offer their token on multiple blockchains. For example, Circle issues USDC on nine blockchains. Circle recommends BCBS to distinguish among the same stablecoin deployed on different chains and permit classification specific to the asset-blockchain pair. Specifically, the deployment of tokenized cash on certain blockchains that may not meet the conditions in [SCO60.21] should not prevent the qualification of the same tokenized cash on blockchains that do satisfactorily meet the requirements in this section.

Classification condition 4

Circle strongly believes that both the cryptoasset ecosystem and traditional financial system would benefit from rigorous supervision and regulation. However, in light of the lack of regulatory clarity, the Committee should understand that effective risk management standards may be the

⁶ See, e.g., US Attorney for the Southern District of New York, *Three Charged In First Ever Cryptocurrency Insider Trading Tipping Scheme*, 21 July 2022, <https://www.justice.gov/usao-sdny/pr/three-charged-first-ever-cryptocurrency-insider-trading-tipping-scheme> and Aislinn Keely, *Former head of product for OpenSea indicted after insider trading scandal*, The Block, Jun. 1, 2022, <https://www.theblock.co/linked/149685/former-head-of-product-for-opensea-indicted-after-insider-trading-scandal>.

most practical alternative if various national regulators refrain from establishing regulatory frameworks.

Circle agrees that the risk management undertaken by entities involved in the redemption, transfer, and custody of cryptoassets is a relevant consideration for bank risk. As the cryptoasset ecosystem is evolving, so too is the market for firms providing high-quality services. Firms that are already in-market continue to seek regulatory clarity and supervision and, in the absence of a complete legal framework, have undertaken steps to voluntarily disclose risk management and business practices. For example, in July of 2021, Circle announced its intention to become a public company.⁷ It did so in part to hold itself to the higher standard of public disclosure and review required from a U.S.-traded public company subject to quarterly reporting to the U.S. SEC. Circle also maintains a robust Enterprise Risk Management program that ensures it will always be able to meet redemptions of any size at any time. A selection of Circle's risk management practices is included as Appendix A.

In other areas, however, regulatory clarity still has not arrived. For example, in 2020, the U.S. Office of the Comptroller of the Currency (OCC) published an interpretive letter stating its view that banks could custody cryptoassets for customers. However, in 2021, the OCC clarified that banks must seek a non-objection from the OCC prior to custodying cryptoassets for customers. Although bank custody of cryptoassets would be a welcome service, it is not widely offered in the U.S. today. Simultaneously, despite pledges by U.S. prudential regulators to "provide greater clarity on whether certain activities related to cryptoassets conducted by banking organisations are legally permissible," they have yet to do so.⁸ This uncertainty comes despite numerous financial institution appeals to regulators for clarity. While some progress is being made (e.g., the development of this guidance), we encourage the BCBS to consider that in the absence of regulatory clarity, the most practical outcome may be for banks to work with issuers, custody providers, and service providers that use industry best practices.

The add-on for infrastructure risk should be quantitatively derived

Circle broadly agrees with the BCBS that the underlying technological infrastructure presents risks, but it suggests that any add-on for infrastructure risk must be quantifiably derived. The use of public distributed ledgers can reduce settlement risks and intermediation risks in the current banking system. As noted in a recent BIS report, close to \$9 trillion of foreign exchange transactions a day are not cleared through a Payment vs Payment (PvP) settlement system.⁹ In comparison, one-hundred percent of settlements on blockchain adhere to PvP principles. The ability to programmatically support real-time liquidation and margin calls on protocol-based

⁷ Circle, *Circle To Become a Public Company*, 8 July 2021, <https://www.circle.com/blog/circle-to-become-a-public-company>.

⁸ See *Joint Statement on Crypto-Asset Policy Sprint Initiative and Next Steps*, 23 November 2021, <https://www.occ.gov/news-issuances/news-releases/2021/nr-ia-2021-120a.pdf>.

⁹ Morten Bech and Henry Holden, *FX Settlement Risk Remains Significant*, BIS Quarterly Review, 8 December 2019, https://www.bis.org/publ/qtrpdf/r_qt1912x.htm.

platforms also strengthens the ability of the financial system to perform necessary intermediation activities, particularly in balance sheet-intensive areas such as repo and short-term funding markets that have seen recent strains. Properly weighing the benefits against the risks is needed to decide on any risk-weighted assets add-ons or reductions as a result of using blockchain technologies. We encourage the Committee to compare the historical performance of technological infrastructure used to settle digital assets with that of traditional assets. Federal Reserve settlement systems failed as recently as February 2021.¹⁰ Banks and their supervisors should compare the past performance of distributed networks to derive a quantitative add-on or discount for infrastructure risk specific to the particular asset and blockchain.¹¹

Finally, the Committee, banks, and supervisory authorities should retain flexibility in adjusting the infrastructure risk add-on as blockchain technologies mature. Blockchain technology is evolving rapidly, and performance improvements arrive quickly. Simultaneously, development of blockchains is done in the open, often open source, with extensive public developer dialogue. The work of the Committee should encourage responsible innovation of the financial sector by supporting an upgradable framework for infrastructure risk that co-evolves with the technology.

Pass-through treatments for LCR and NSFR should apply to qualified payment stablecoins

The Committee states that for the Liquidity Cover Ratio (LCR) and Net Stable Funding Ratio (NSFR), “cryptoasset exposures... should generally follow a treatment that is consistent with existing approaches for traditional exposures with economically equivalent risks.” [SCO60.106]. As a tokenised version of U.S. Treasuries and cash deposits, tokenised cash stablecoins should retain the pass-through properties of HQLA.

The HQLA portion of assets reserving tokenised cash is less risky than the deposits that reserve tokenised cash. The Committee should provide clarity for banks on how they should calculate the liquidity risk of such pass-through instruments. The most transparent tokenised cash stablecoins publish monthly attestations by a certified public accountant that verify the composition of the stablecoin’s fiat reserve. Supervisors assessing the liquidity risk of a specific tokenised cash stablecoin could use the attested-to proportion of HQLA backing a tokenised cash stablecoin to compute the pass-through stock of HQLA.

¹⁰ Ann Saphir, *Fedwire resumes operations after hourslong disruption*, Reuters, 24 February 2021, <https://www.reuters.com/article/us-usa-fed-fedwire/fedwire-resumes-operations-after-hourslong-disruption-idUSKBN2AO211>.

¹¹ Crucially, because permissionless blockchains are readable by the public for their entire history, it will likely be *easier* to assess the reliability of blockchain infrastructure than it will be to assess the reliability of traditional settlement infrastructure. Performance of the Ethereum blockchain, for example, is readily monitorable from a mobile phone and through analytic software. This makes supervision and risk monitoring much easier than with traditional systems, which often have non-public monitoring systems, if any exist at all.

For example, as of 31 August 2022, USDC was reserved by approximately 83% short-term U.S. Treasuries.¹² If a bank held USDC on its balance sheet, it should have been able to count 83% of the stock of USDC held as HQLA, with 17% of the stock of USDC counted as a Group 1a tokenised claim on bank deposits as described in [SCO60.112]. This treatment would accord with the Committee's high-level declaration that the treatment of tokenised traditional assets should receive treatment consistent with traditional assets with economically equivalent risks.¹³

Conclusion

We appreciate the Committee's time and attention to compiling clear and comprehensive guidance regarding the treatment of cryptoassets for the purposes of bank capital requirements. The chapter makes a number of critical delineations in treatment of cryptoassets that will bolster the strength and transparency of the financial sector. As the Committee finalises these definitions, Circle believes the Committee could best achieve its aims by clearly delineating tokenised cash payment stablecoins as a tokenised representation of cash and cash equivalents. Tokenised cash such as Circle's USDC is as safe or safer than tokenised deposits, which generally appear to qualify as Group 1a assets. This merits affirmation and clarification by the Committee. Ultimately, we believe this will help banks reduce their risk as well as the various types of settlement and intermediation risks in the financial system today.

Circle appreciates your time and consideration and welcomes the opportunity for further engagement.

Dante Disparte

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Gordon Liao

Chief Economist

Zach Wong

Senior Analyst

¹² Grant Thornton LLP, *supra* note 2.

¹³ This recommendation does not preclude the application of any additional risks that may be present, if any [SCO60.106].

Appendix A: Circle's Risk Management

To address and minimise risks related to systemic digital asset settlement failure involved in USDC issuance and redemption, Circle has incorporated the following mitigants into its Risk Management Programme:

- **Matched Issuance vs. Deposits** - An Engineering team member reviews the system configuration to make sure the USDC are issued on the correct blockchain and the amount of USDC issued matches customer USD deposits on a 1:1 ratio. Any discrepancies are investigated and resolved.
- **Issuance/Redemption Reconciliation & Attestation** - Monthly, a Chartered, Certified Accountant equivalent prepares the reconciliation by comparing the USDC issuing and redemption activities on all USDC approved blockchains where USDC is available against the customer reserves. An accounting manager or above reviews and approves the reconciliation. Any issues noted are further investigated and resolved. This reconciliation is attested to by an independent public accounting firm and published publicly on a monthly basis. On a weekly basis, Circle publishes unaudited information to its website regarding prior week issuances and redemptions, as well as the total size and composition of the USDC reserve vs. tokens outstanding.
- **Liquidity Ladder Review** - Circle's Treasury holds reserves in cash deposits at high quality financial institutions and short-duration US Government Treasuries that enables the timely transfer of fiat funds to ensure ample liquidity is available to satisfy USDC redemptions (including in a stressed environment). The reserve liquidity ladder defines the preferred order of liquidation based on the specific institutional capabilities and is reviewed weekly.
- **Liquidity Requirement Monitoring** - The USDC reserve settlement bank balances are monitored via real time alerts by the Treasury team. Funds are transferred as needed to ensure target balances are available at settlement banks. On a daily basis the reserve balance is directly compared to USDC issued to ensure the fiat balances meet or exceed the balance of USDC issued.
- **Financial Reporting System Review** - Monthly, Circle's Accounting department reviews journal entries and supporting documentation uploaded into Circle's internal system and approves the journal entries prior to formal general ledger posting. The Accounting team investigates and resolves any exceptions identified.

Circle's Key Risk Controls with its Reserve Management activities mitigates liquidity and reserve concentration risk by continuing to diversify the banks in which reserves are held and has mitigants in place to address immediate simultaneous customer withdrawals:

Key Risks and Controls/Mitigations: Reserve Management

