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Global Stablecoins: Monetary Policy Implementation Considerations from the U.S. Perspective

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Global Stablecoins: Monetary Policy Implementation Considerations from the U.S. Perspective

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Introduction

This note explores the potential effects of the widespread adoption of a global stablecoin (GSC) on key aggregate financial sector balance sheets in the United States.[2,3] To do this, we map out cash flows of GSC transactions among financial sector entities using a stylized set of 't-accounts'. By analyzing these individual transactions, we infer aggregate and compositional effects on U.S. commercial banking sector and Federal Reserve balance sheets. Through this lens, we also consider how these balance sheet changes could affect monetary policy implementation, the demand for central bank reserves, and the market for U.S. dollar safe assets.

The scenarios developed in this paper have a strict set of constraining assumptions that simplifies the analysis, but also abstracts the analytic outputs from a real-world scenario.[4] Most importantly, we assume that the United States is the only country in the world, by restricting the demand for GSC to only U.S. customers and requiring that the GSC be backed solely by U.S. dollar assets. This allows us to explore some key financial sector implications of a GSC before introducing more complicated scenarios that include cross-border flows.[5] In a forthcoming companion FEDS Note piece, we plan to relax these assumptions and explore the international dimensions of GSC adoption through a similar analytical lens. Other key assumptions in this analysis include that all GSC outstanding is 100 percent backed by safe assets, and the GSC instrument is non-remunerated.

Within the confines of these assumptions, we have mapped out three scenarios that vary the funding source for the GSC and the investment target of GSC proceeds (i.e. the type of assets backing the GSC). Across our scenarios, the impact of on the size and composition of aggregate U.S. commercial bank balance sheets is highly dependent on the specific scenario, highlighting the variety of possible outcomes from widespread adoption of a GSC. One trend that is consistent in all the scenarios is a likely shift in deposits away from smaller banks. Potential changes in the demand for currency and reserves in our scenarios could also result in some minor changes to the size and composition of the Federal Reserve balance sheet. Notably, the changes to these financial sector balance sheets within our scenarios do not reduce the role of banks within the financial sector, nor the ability of the Federal Reserve to implement monetary policy.

There is a range of related questions as to whether a GSC could actually achieve widespread use and

[1] The views expressed in this paper are those of the authors, and do not necessarily represent those of Federal Reserve Board of Governors or anyone in the Federal Reserve System.

[2] For a background discussion of the basics of GSCs, please refer to the G7 report 'Investigating the Impact of Global Stablecoins' (2019). Annex A contains details and schematics relating to typical GSC 'ecosystems', including key entities and their functions.

[3] Additional GSC background reference material can also be found in the FSB report 'Regulation, Supervision and Oversight of "Global Stablecoin" Arrangements' (2020). Section 1 and Annex 1 contain discussions of GSC characteristics and operating models.

[4] Under the auspices of Adrian and Griffoli's (2019) taxonomy of digital money, our assumptions most closely resemble what they characterize as "I-money", which is delineated by its decentralized architecture and variable value redemption (in the same broad spirit as a money market fund).

[5] The findings we discuss in this piece are intended to establish a foundation and framework for future research, and we do not mean to represent them as a comprehensive assessment that addresses all possible risk channels relevant to monetary policy. Financial stability considerations, for example, are not captured in this exercise and would need to be investigated in future work.

what the demand factors would be, but these are not the focus of our note. The demand factors could have important implications not just for speed of adoption, but also for the volatility of demand and aggregate GSC balances outstanding.

The subsequent sections of this note will discuss the existing literature on the topic, the methodology we have employed to investigate it, the important assumptions and limitations we have placed on the analysis, a discussion of the 'baseline' scenario that has anchored our investigation, and the key findings that have emerged. We then explore a handful of deviations from the 'baseline' scenario that we have considered, any important changes in outcomes that we believe would result, and some broader conclusions for monetary policy implementation that we have drawn from the exercise.

Literature Overview

There has been increasing focus over the last several years from the academic, think tank, and official sector communities on investigating the implications of technological innovation in the financial sector on commercial banks and central bank policy. On the earlier end of the most recent generation of work on this topic, Woodford (2000) explored the broad question of whether central banks might face implementation challenges as their economies and payments ecosystems became increasingly digitalized.

More recently, research in this space has sharpened in focus against a backdrop of accelerating development of digital currencies. Adrian and Griffoli (2019) have proposed a "taxonomy" for thinking about the various types of digital money that may gain prominence in coming years, while Prasad (2018) and Brunnermeier et al. (2019) have outlined some of the conceptual pathways through which digital currency entrants could challenge fiat incumbents from a monetary sovereignty perspective. In addition, on the more tailored subject of stablecoins in particular, Adachi et al. (2020) and the ECB Crypto-Assets Task Force (2020) have contemplated the policy risk factors and potential scale of take-up that could be associated with GSCs, utilizing scenario-based approaches.

With this context in mind, we hope that this piece can contribute to advancing this body of work by analyzing at a finer level of granularity the financial flows that could be associated with widespread GSC adoption under different configurations, and by establishing a broader analytical framework through which more complex future investigations can be conducted. We have drawn inspiration for this approach from the 'flow-of-funds' methodology used by the BIS in their March 2018 report on central bank digital currencies (BIS, 2018).

Methodology and Key Assumptions

While research efforts in the stablecoin realm have become more tailored and detailed in the last several years as mentioned above, modeling widespread GSC adoption scenarios is still a fairly speculative exercise and does not readily lend itself to empirical analysis, given the lack of real world examples.[6,7] As an alternative, we created a simplified financial sector through a set of constraining assumptions and have mapped out individual GSC transactions. This method outlines the important

[6] Eichengreen (2019) has expressed skepticism on cost grounds that the kind of fully collateralized stablecoin arrangement we have outlined would be scalable. He notes that in this kind of setup, all funding from customers would likely be tied up in short-term, low-yielding assets in primarily advanced economy jurisdictions, in contrast to the more profitable fractional banking model where a portion of deposit funding can be deployed into higher-yielding (but less liquid) loans and investments.

[7] European Central Bank staff (Adachi et al., 2020) have estimated that large-scale GSC adoption, assuming its use as both a 'medium of exchange' and a 'store of value' and drawing on money market fund corollaries in the Chinese market, could be as large as approximately $3 trillion.

financial interactions that would occur among key counterparties in the GSC user community, GSC network, traditional banking system, and Federal Reserve, across three different scenarios.[8] To do this, we utilized a stylized set of 't-accounts' to more concretely indicate how the balance sheets of the various stakeholders would interact as a result of the adoption scenarios (Annex 1). The movement of cash flows between 't-accounts' illustrates first-round effects only, but we consider it a helpful starting point to consider how aggregate balance sheets may be affected over time. The key assumptions in our analysis include:

- **Customer domicile:** all customers demanding GSC are U.S.-based.
- **Single-currency constraint:** the GSC is backed by only U.S. dollar assets.
- **GSC backing/collateralization:** all GSC in circulation at any given time is 100 percent backed by fiat assets held by the GSC Reserve.
- **GSC financial intermediation:** Authorized Resellers/Wallet Providers on the GSC network do not engage in financial intermediation.
- **GSC remuneration:** the GSC is non-interest bearing.
- **Wallet providers:** only Authorized Resellers/Wallet Providers, which are outside the traditional banking system, can provide retail GSC deposits.
- **Custodian vs. non-custodian banks:** the GSC Administrator maintains a contractual relationship with a subset of banks, with whom the GSC Reserve is able to place institutional deposits or hold U.S. Treasury securities in custody.

'Baseline' Scenario Discussion

To provide a foundational anchor for the analysis, we constructed a simple 'baseline' scenario upon which various iterations and extensions could be built. Further to the above assumptions, the additional components of the baseline parameters are summarized below:

Baseline Scenario Parameters

- **Customer funding instrument:** Bank deposits
- **Customer bank type:** Non-custodian (United States)
- **Custodian bank domicile:** Domestic (United States)
- **GSC Reserve asset:** Bank deposits at custodian

With the scenario parameters defined, we then mapped a series of transactions (reflected in the 't-accounts' detailed in Annex 1) to outline how a customer would purchase a GSC balance with bank deposits, how this purchase would flow through the financial system, and how it would influence the balance sheets of the intermediaries involved.

The chain of transactions that underlies this scenario can be broken into three stages, which have been numbered below to match the 't-accounts' in Annex 1. An accompanying visual representation is also included immediately below (Figure 1).

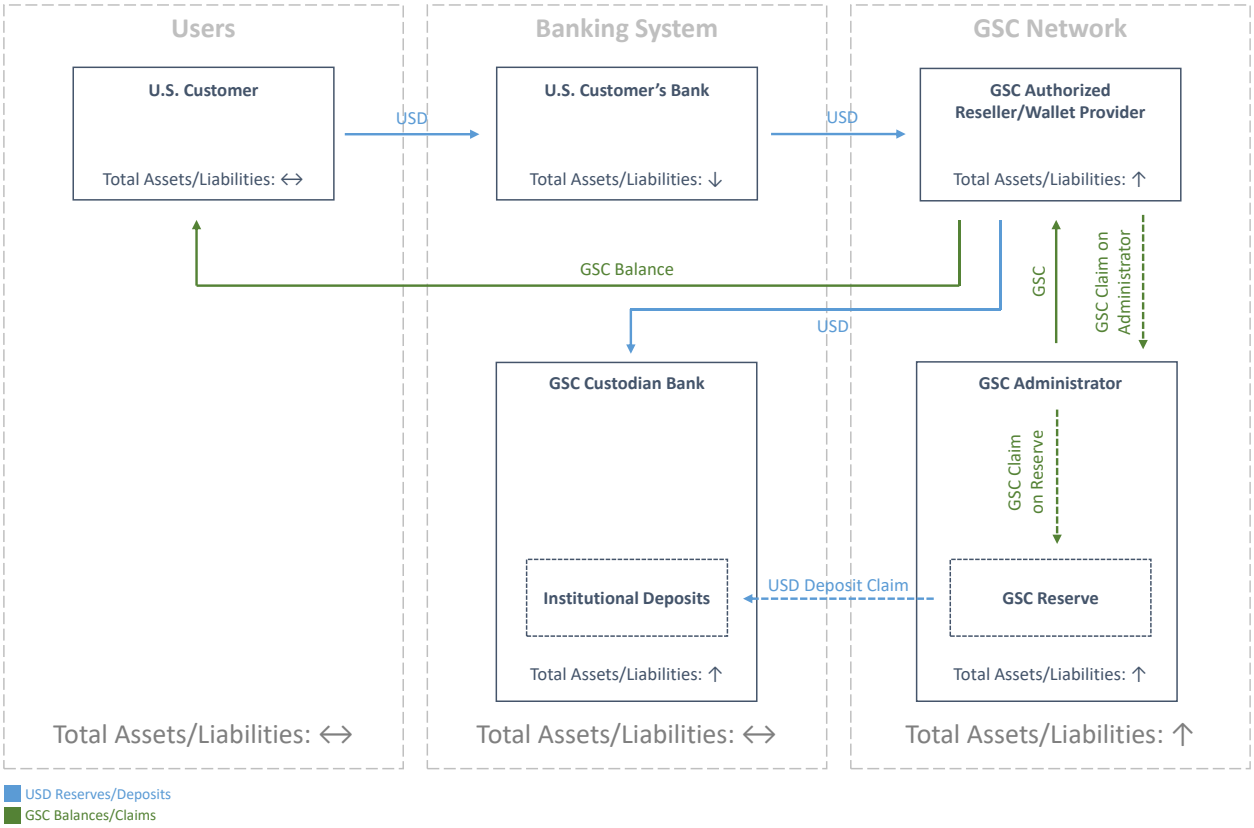
1. The customer draws down a portion of their U.S. dollar deposit balance at their (non-custodian) bank in exchange for a GSC balance, which is held with an Authorized Reseller/Wallet Provider outside of the banking system.
2. The Authorized Reseller/Wallet Provider instructs the GSC Administrator to mint new GSC for the customer in exchange for their U.S. dollar proceeds, and credits the customer's wallet with the

[8] Please see Annex 2 for a glossary of additional GSC terminology.

newly created GSC balance.

3. The GSC Reserve places the U.S. dollar proceeds received from the customer with a custodian bank as an institutional deposit.

Figure 1. GSC Adoption Flow Diagram ('Baseline' Scenario 1)



Key 'Baseline' Scenario Findings

The key outcomes in this 'baseline' analysis are framed in terms of potential effects on the aggregate balance sheets of the U.S. commercial banking sector and the Federal Reserve. We find that the Federal Reserve's balance sheet is unchanged in terms of both size and composition. The U.S. commercial banking system is also unchanged in size, but could see a compositional shift in deposits to those banks acting as custodians for the GSC network, at the expense of non-custodians. Non-custodians could react by increasing deposit interest rates or attracting other types of funding, or alternatively shrinking the overall size of their balance sheets.

Similarly, custodians could adjust by reducing deposit interest rates, shedding more expensive funding sources, or increasing their overall size. These effects could result in greater profitability of larger banks at the expense of smaller banks, or a diminished share of smaller banks as a percentage of assets in the banking sector. If the latter were to occur, this could result in a greater share of central bank reserves held by larger banks to reflect this shift.

Scenario Extensions

The second stage of our analysis involved simulating two deviations from the baseline scenario by changing various parameter components, and observing how the resulting transaction flows would drive

changes in outcomes compared to the baseline scenario. The two parameter components we chose to explore are discussed immediately below, and are accompanied by a graphical summary of the corresponding changes in first-round outcomes (Figure 2).

Additional Scenarios and Key Results

Scenario 2: Customer funding instrument. In Scenario 2, we adjust the funding source with which customers fund their GSC purchase from deposits to currency. This setup reduces currency in circulation and mechanically increases reserves, so it has a compositional effect on the Federal Reserve's balance sheet, whereas the 'baseline' did not.

The use of currency to purchase GSC also could result in an expansion of U.S. bank balance sheets, whereas the 'baseline' did not. This is because the customer's provision of currency to their bank in exchange for GSC creates a new deposit at the custodian bank, in contrast to the 'baseline' where an existing deposit was re-allocated from a non-custodian to a custodian. The custodian may choose to reduce other types of funding or reduce deposit interest rates instead of growing their balance sheet.

Scenario 3: GSC Reserve asset. In Scenario 3, we adjust the type of safe asset in which the GSC Reserve invests on behalf of its customers: short-term U.S. Treasury securities (rather than bank deposits). Similar to our baseline scenario, we find that the Federal Reserve's balance sheet is unchanged in terms of both size and composition. When customers pay for the GSC with bank deposits and the GSC Reserve invests in U.S. Treasury securities that are purchased from a non-bank financial institution (NBFI) such as an asset manager, the first-round effect is that the 'deposit' shifts from the GSC customer's bank to the NBFI's bank, and the Treasury security shifts from the NBFI to the GSC Reserve. Assuming that the NBFI's bank is larger in size on average than the GSC customer's bank, the trend of deposit funding moving from smaller to larger banks is similar to, though likely less pronounced than, Scenario 1.

As these transactions accumulate over a longer time period and at a larger scale, the broader effect is likely to be a shift in demand within the asset class of U.S. dollar safe assets, from retail bank deposits to U.S. Treasury securities. Unlike Scenario 1, in which demand shifted from retail deposits to institutional deposits, Scenario 3 is likely net negative for overall bank deposit demand and possibly for banking sector profitability, with a greater impact on small banks.

Figure 2. Scenario Summary Table (First-Round Effects)

		Scenarios		
		Scenario 1 ('Baseline')	**Scenario 2**	**Scenario 3**
Key Outcomes	*US Banks Balance Sheet*	↔	↑	↔
	US CB Balance Sheet	↔	↔	↔
	USD Reserves	↔	↑	↔
Scenario Parameters	*Customer Domicile*	US	US	US
	Customer Funding Currency	USD	USD	USD
	Customer Funding Instrument	Deposits	Currency	Deposits
	GSC Reserve Currency	USD	USD	USD
	GSC Reserve Asset	Deposits	Deposits	USTs
	UST Seller	-	-	NBFIs

Results Discussion

U.S. Commercial Banking Sector Balance Sheet

In the three scenarios outlined in this note, the impact of widespread GSC adoption on the aggregate size of U.S. commercial bank balance sheets is highly scenario-dependent. In the context of our strict set of assumptions, widespread adoption of GSC is more likely to be redistribute U.S. dollar liquidity (i.e., reserves and deposits) across the U.S. banking system, rather than materially change the size of the banking sector. This is an important result to bear in mind, because the GSC public discourse to date has featured some concerns that a GSC could diminish the role of banks in the financial system and drain fiat deposits from the banking system. Our assumption of 1-for-1 backing of all outstanding GSC by U.S. dollar assets in these scenarios implies that fiat liquidity withdrawn from banks by GSC customers should mostly be 'recycled' back into the U.S. financial system.

While U.S. commercial bank balance sheets would be largely unchanged from an aggregate level perspective, there could be important potential distributional implications within those top-lines for the banking system. Two of our scenarios (#1 and #3) underline the possibility that larger banks may end up in a more advantageous funding position than smaller banks, in terms of retaining or indeed attracting deposits. The GSC's re-allocation of fiat liquidity could be destabilizing for smaller banks, as they might be more reliant on deposit funding and thus forced to take action if that funding were withdrawn. This could mean having to shrink their balance sheets, source riskier wholesale funding to replace lost deposits, or raise their lending rates to re-expand net interest margins. Distributional effects on smaller banks would be driven in part by which types of customers (geographically, demographically) have the highest demand for the GSC, and what their existing (pre-GSC) banking relationships are. Additionally, the pace of GSC adoption is an important dimension that would affect the ability of non-custodian banks to weather the transition.

In the United States, the financial risks involved with holding the kind of GSC envisaged in this note would likely be greater than a traditional bank deposit for a retail investor. A GSC would likely not offer the deposit insurance that is widely available to customers in the fiat domain, and similar to a money fund, a GSC investor would have to take into account any risk associated with the assets backing the GSC.

The non-zero risk associated with holding the GSC would distinguish it from a central bank digital currency (CBDC), and make it less attractive as a store of value or as a destination for safe haven inflows during a crisis. In fact, one could imagine the opposite effect during a crisis, whereby retail investors quickly exchange GSC for the greater perceived safety of insured retail deposits or currency, resulting in a chain of effects on aggregate financial sector balance sheets that is a mirror image of those described in this note. In this speculative scenario, custodian banks would potentially face some liquidity management challenges, if institutional deposits from the GSC Reserve were to contract sharply.

Federal Reserve Balance Sheet and Demand for Reserves

In the scenarios presented, the effects on the Federal Reserve's balance sheet are generally modest. There are no aggregate or compositional changes in the Federal Reserve balance sheet in Scenarios 1 and 3, whereas in Scenario 2 there is a decrease in currency in circulation and a corresponding increase the supply of reserves. In Scenario 2, if the Federal Reserve chose to maintain a stable level of aggregate reserves amidst the decrease in currency in circulation, for example for the purposes of monetary policy implementation, this could result in a decrease in the overall size of the Federal Reserve balance sheet.

These scenarios could also result in a change in the distribution of, or demand for, reserves. In all three scenarios, if the increase in the supply of institutional deposits at larger banks resulted in these banks increasing in size relative to smaller banks, we would expect to see a shift in the distribution of reserves towards those larger banks. If the institutional deposits from the GSC Reserve proved to be more volatile than other types of deposits, or if banks had incomplete information as to how these deposits might respond in a crisis situation, custodians would likely have to hold a larger amount high quality liquid assets (HQLA) against this type of deposit, which could increase the overall demand for reserves across the system. Recall that in most of our scenarios, the increase in institutional deposits from the GSC Reserve is at the expense of an aggregate decrease in retail deposits (which are typically thought of as a more stable funding source).[9]

The Federal Reserve could be prompted to adjust the supply of reserves in response to an increase in demand, resulting in a larger overall Federal Reserve balance sheet. However, the types of shifts in the Federal Reserve balance sheet and demand for reserves described here would likely be of a magnitude that falls within the range of variation that has been observed in recent years from other exogenous phenomena (such as volatility in the Treasury General Account), and would therefore be unlikely to result in significant monetary policy implementation challenges.

A decreased demand for currency as outlined in Scenario 2 would also, all else equal, reduce Federal Reserve seigniorage and accordingly the payments that Reserve Banks remit to the U.S. Treasury.

[9] In this note, we do not consider scenarios in which a GSC is backed directly with 100% central bank reserves, which has been coined by Adrian and Griffoli (2019) as a "synthetic CBDC". This type of structure could involve a materially different set of implications for the central bank's implementation of monetary policy, as well as a likely reduction in the risk to investors associated with holding the GSC.

Asset Markets

Given the constraints we have applied in our scenarios, the demand for U.S. dollar safe assets (bank deposits, U.S. Treasury securities, etc.) should remain roughly unchanged in aggregate. The key result from the scenarios in this area is that an increase in demand for one type of U.S. dollar safe asset is counterbalanced by a decrease in another, with some reshuffling in who holds those assets. As such, within the scenarios outlined, GSC adoption could exert pressure on prices and interest rates in specific asset markets, but would not drive a uniform, broad-based change in prices and interest rates across all U.S. dollar safe asset markets (as might occur, for example, with demand for a U.S. dollar-backed GSC from investors abroad).

Conclusion

To conclude, the GSC adoption scenarios we have chosen to explore in this piece broadly point to modest implications for U.S. monetary policy implementation, as aggregate balance sheet changes are primarily distributional in nature (rather than top-line levels) and the magnitude of potential systemic reserve demand effects are expected to fall within recently observed ranges. We note, however, that a real-world GSC adoption scenario would likely deviate from the constraints we have applied in this exercise. Therefore, we would suggest that these results are most useful in identifying a set of relatively restrictive conditions under which the monetary policy implementation effects are generally benign, and in establishing an analytical foundation for more nuanced explorations of this topic in the future.

Beyond the proximate results of our scenarios, this exercise has underscored to us the broad spectrum of economic and financial questions that a widely adopted GSC could raise, and the importance of systematically investigating those topics in an organized and thoughtful way. Because we have tightly constrained this first batch of scenarios to domestic adoption only (among other assumptions), an important piece of follow-up work that we hope to pursue is exploring a relaxation of the various constraints we have chosen here and how outcomes might change as a result. In a forthcoming companion FEDS Note piece, we plan to explore the international dimensions of GSC adoption through a similar analytical lens, including allowing foreign demand for a U.S. dollar-backed GSC, as well as a GSC denominated in other currencies.

Exploring what the demand drivers for a GSC are, such as for transaction purposes or as a store of value, is also important to understand the potential volatility of aggregate GSC balances outstanding, and how that volatility could be transmitted through the channels we have outlined in this note. Relaxing our assumptions to allow the GSC to pay an interest rate or not be fully backed by U.S. dollar safe assets would be helpful in exploring possible demand factors.

There is a range of additional permutations that would be worthwhile to investigate as well, such as applying our analytic framework to: multiple competing GSCs with different characteristics; widespread adoption of central bank digital currencies (CBDC) or multiple CBDCs; and a world where both multiple GSCs and CBDCs with different characteristics interact with each other.

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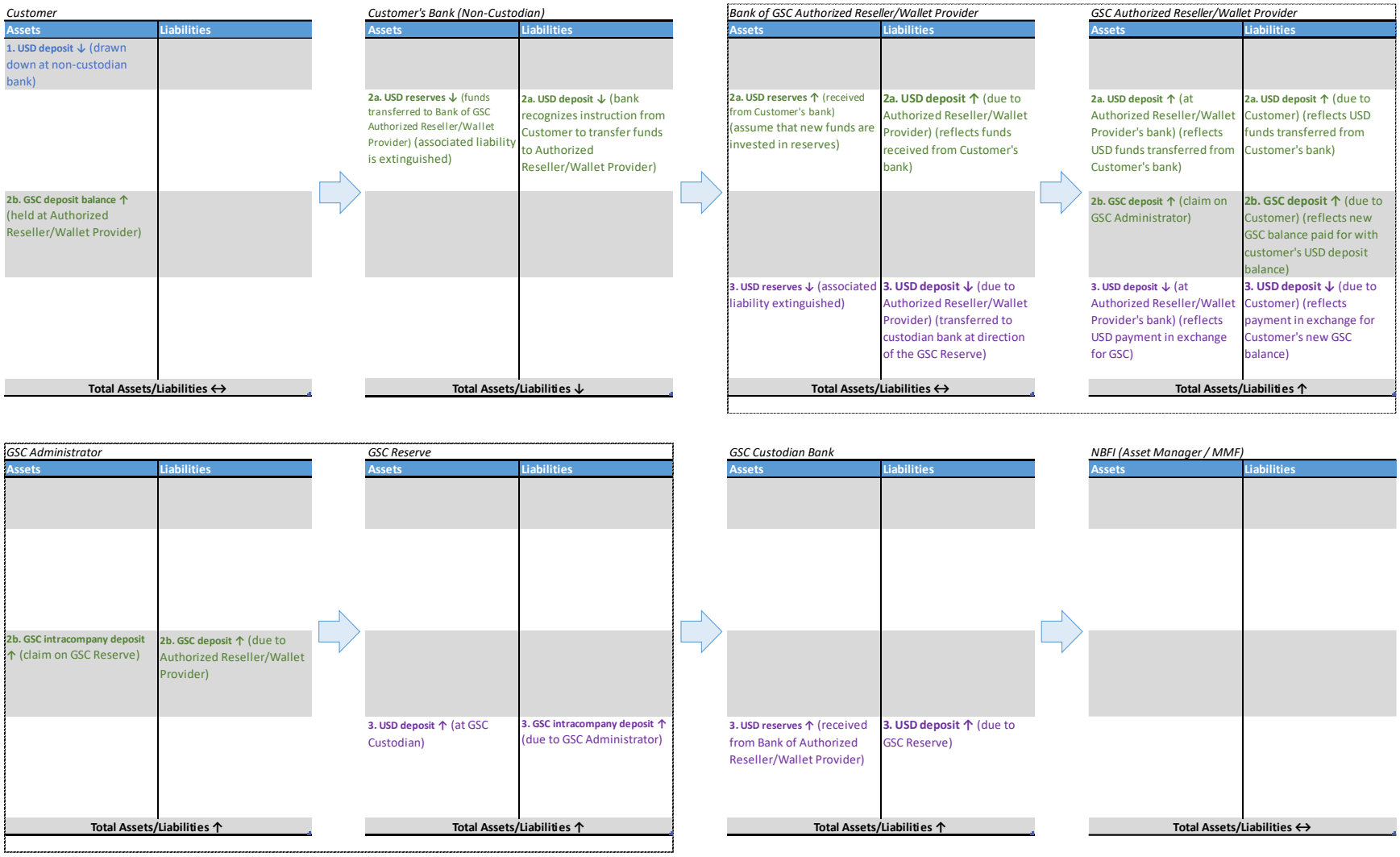
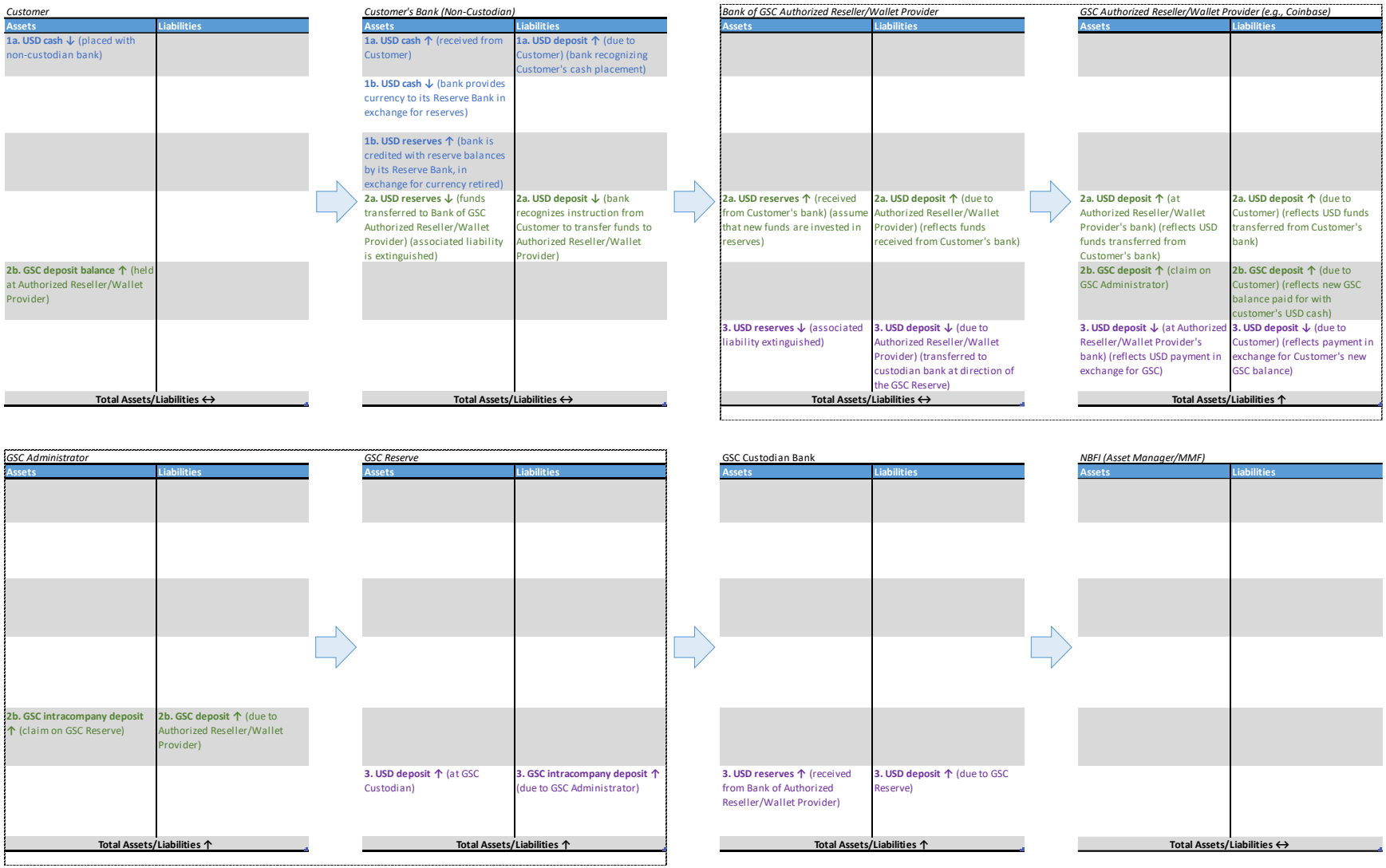
Annex 1: T-Accounts

Scenario 1 ('Baseline')



Scenario 2


Customer
Assets
Liabilities
1a. USD cash ↓ (placed with non-custodian bank)
2b. GSC deposit balance ↑ (held at Authorized Reseller/Wallet Provider)
Total Assets/Liabilities ↔
Customer's Bank (Non-Custodian)
Assets
Liabilities
1a. USD cash ↑ (received from Customer)
1a. USD deposit ↑ (due to Customer) (bank recognizing Customer's cash placement)
1b. USD cash ↓ (bank provides currency to its Reserve Bank in exchange for reserves)
1b. USD reserves ↑ (bank is credited with reserve balances by its Reserve Bank, in exchange for currency retired)
2a. USD reserves ↓ (funds transferred to Bank of GSC Authorized Reseller/Wallet Provider) (associated liability is extinguished)
2a. USD deposit ↓ (bank recognizes instruction from Customer to transfer funds to Authorized Reseller/Wallet Provider)
Total Assets/Liabilities ↔
Bank of GSC Authorized Reseller/Wallet Provider
Assets
Liabilities
2a. USD reserves ↑ (received from Customer's bank) (assume that new funds are invested in reserves)
2a. USD deposit ↑ (due to Authorized Reseller/Wallet Provider) (reflects funds received from Customer's bank)
3. USD reserves ↓ (associated liability extinguished)
3. USD deposit ↓ (due to Authorized Reseller/Wallet Provider) (transferred to custodian bank at direction of the GSC Reserve)
Total Assets/Liabilities ↔
GSC Authorized Reseller/Wallet Provider (e.g., Coinbase)
Assets
Liabilities
2a. USD deposit ↑ (at Authorized Reseller/Wallet Provider's bank) (reflects USD funds transferred from Customer's bank)
2a. USD deposit ↑ (due to Customer) (reflects USD funds transferred from Customer's bank)
2b. GSC deposit ↑ (claim on GSC Administrator)
2b. GSC deposit ↑ (due to Customer) (reflects new GSC balance paid for with customer's USD cash)
3. USD deposit ↓ (at Authorized Reseller/Wallet Provider's bank) (reflects USD payment in exchange for GSC)
3. USD deposit ↓ (due to Customer) (reflects payment in exchange for Customer's new GSC balance)
Total Assets/Liabilities ↑
GSC Administrator
Assets
Liabilities
2b. GSC intracompany deposit ↑ (claim on GSC Reserve)
2b. GSC deposit ↑ (due to Authorized Reseller/Wallet Provider)
Total Assets/Liabilities ↑
GSC Reserve
Assets
Liabilities
3. USD deposit ↑ (at GSC Custodian)
3. GSC intracompany deposit ↑ (due to GSC Administrator)
Total Assets/Liabilities ↑
GSC Custodian Bank
Assets
Liabilities
3. USD reserves ↑ (received from Bank of Authorized Reseller/Wallet Provider)
3. USD deposit ↑ (due to GSC Reserve)
Total Assets/Liabilities ↑
NBFI (Asset Manager/MMF)
Assets
Liabilities
Total Assets/Liabilities ↔

Scenario 3


Customer
Assets
Liabilities
1. USD deposit ↓ (drawn down at Non-Custodian Bank)
2b. GSC deposit balance ↑ (held at Authorized Reseller/Wallet Provider)
Total Assets/Liabilities ↔
Customer's Bank (Non-Custodian)
Assets
Liabilities
2a. USD reserves ↓ (funds transferred to Bank of GSC Authorized Reseller/Wallet Provider) (associated liability is extinguished)
2a. USD deposit ↓ (bank recognizes instruction from Customer to transfer funds to Wallet Provider)
Total Assets/Liabilities ↓
Bank of GSC Authorized Reseller/Wallet Provider
Assets
Liabilities
2a. USD reserves ↑ (received from Customer's bank) (assume that new funds are invested in reserves)
2a. USD deposit ↑ (due to Authorized Reseller/Wallet Provider) (reflects funds received from Customer's bank)
3a. USD reserves ↓ (transferred to NBFI's account at the custodian bank in exchange for USTs purchased, at direction of the GSC Reserve)
3a. USD deposit ↓ (due to Authorized Reseller/Wallet Provider) (liability associated with reserve transfer extinguished)
Total Assets/Liabilities ↔
GSC Authorized Reseller/Wallet Provider
Assets
Liabilities
2a. USD deposit ↑ (at Authorized Reseller/Wallet Provider's bank) (reflects USD funds transferred from Customer's bank)
2a. USD deposit ↑ (due to Customer) (reflects USD funds transferred from Customer's bank)
2b. GSC deposit ↑ (claim on GSC Administrator)
2b. GSC deposit ↑ (due to Customer) (reflects new GSC balance paid for with customer's USD deposit balance)
3a. USD deposit ↓ (at Authorized Reseller/Wallet Provider's bank) (reflects USD payment in exchange for GSC)
3a. USD deposit ↓ (due to Customer) (reflects payment in exchange for Customer's new GSC balance)
Total Assets/Liabilities ↑
GSC Administrator
Assets
Liabilities
2b. GSC intracompany deposit ↑ (claim on GSC Reserve)
2b. GSC deposit ↑ (due to Authorized Reseller/Wallet Provider)
Total Assets/Liabilities ↑
GSC Reserve
Assets
Liabilities
3b. USD Treasury securities ↑ (purchased from NBFI, held with Custodian)
3b. GSC intracompany deposit ↑ (due to GSC Administrator)
Total Assets/Liabilities ↑
GSC Custodian/NBFI Bank
Assets
Liabilities
3a. USD reserves ↑ (received from Bank of Authorized Reseller/Wallet Provider)
3a. USD deposits ↑ (due to NBFI, reflecting proceeds of UST sale to GSC Reserve)
3b. Held in Custody: USTs ↔ (on behalf of GSC Reserve) (off-balance sheet for the Custodian Bank)
Total Assets/Liabilities ↑
NBFI (Asset Manager / MMF)
Assets
Liabilities
3b. USD Treasury securities ↓ (sold to GSC Reserve)
3c. USD deposit ↑ (held at Custodian Bank) (reflects proceeds of UST sale to GSC Reserve)
Total Assets/Liabilities ↔

Annex 2: Additional Scenario Terminology

- **Authorized Resellers/Wallet Providers**
  - **Authorized Resellers:** this is a special type of intermediary in the GSC ecosystem (designated by the GSC Administrator). They act as the market makers between the fiat currency space (U.S. dollars) and the GSC, and are the only entities with the ability to compel the minting or burning of GSC on-demand by the GSC Administrator (providing/receiving customers' fiat liquidity in exchange, respectively).
  - **Wallet Providers:** this class of entity in the GSC ecosystem reflects those intermediaries who hold GSC balances in digital form on behalf of customers (outside of the traditional banking system). This means that in some scenarios, some banks will shrink from a balance sheet perspective because the fiat deposit funding provided to them by their customers is withdrawn to purchase GSC.
  - Note: we have combined these two entity types into a single category for the purposes of the 't-account' analysis detailed in the body of the note, as the transactional linkages between them do not provide any additional insight into the workings or results of the scenarios.
- **GSC Administrator:** this is the central governing entity of the GSC network, which is responsible for minting/burning coins, providing an investment mandate to the GSC Reserve, and supervising other entities in the ecosystem, among other responsibilities.
- **GSC Reserve:** this entity is akin to an asset manager, which invests and monitors the fiat liquidity provided by GSC customers with custodian banks (held in the form of either deposits or U.S. Treasury securities in our scenarios), on behalf of the GSC Administrator.

Annex 3: References

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