

Economics and the Libra Reserve

Note to readers: This information is content from White Paper v2.0.*

When the Libra Association released its ideas for the operations of the Libra Reserve, the document was intended to be a proof of concept rather than a finished roadmap for the project. Since June 2019, we have met with many different organizations, regulators, policymakers, and academics to understand key concerns and integrate actionable improvements into the economic design of the Libra network. These consultations and meetings around the world have been invaluable in informing our direction. In particular, the Association greatly appreciates the thorough and thoughtful research the G7 working group completed on stablecoins [1]. The concerns raised in the report helped highlight immediate questions to be answered, as well as longer-term challenges that may emerge.

A key concern that was shared was the potential for the multi-currency Libra Coin (\approx LBR) to interfere with monetary sovereignty and monetary policy if the network reaches significant scale in a country (i.e., \approx LBR becomes a substitute for domestic currency). While we believe this is unlikely because \approx LBR introduces foreign exchange exposure for coin holders in domestic transactions and the use of \approx LBR may be subject to restrictions, such as foreign exchange controls, we take this concern seriously.

The Libra network is designed to be a globally accessible and low-cost payment system — a complement to, not a replacement for, domestic currencies. The stabilization of currencies and value preservation are key efforts that are properly within the exclusive remit of the public sector. Therefore, we are augmenting the Libra network by including single-currency stablecoins (e.g., \approx USD, \approx EUR, \approx GBP, etc.) and planning to increase the number of single-currency stablecoins over time. These will enable a range of domestic use cases by giving people and businesses the ability to transact in a stablecoin denominated in their own currency. Each single-currency stablecoin will be supported by a Reserve of cash or cash-equivalents and very short-term government securities denominated in that currency and issued by the home country of that currency. Single-currency stablecoins will only be minted and burned in response to market demand for that coin. Because of the 1:1 backing of each coin, this approach would not result in new net money creation.

We believe this approach can lower costs and enable new functionality while giving maximum flexibility and control to central banks for how the Libra payment system is used in their countries.

Initially, the Association expects to offer a small number of single-currency stablecoins based on the presence of highly liquid and safe government securities markets in the relevant currencies. We hope to work with regulators, central banks, and financial institutions around the world to expand the number of single-currency stablecoins available on the Libra network over time and to explore the technical, operational, and legal requirements to access direct custody with them. In particular, if adoption in a region without a single-currency stablecoin on the network generates concerns about currency substitution, then the Association could work with the relevant central bank and regulators to make a stablecoin available on the Libra network. The Association welcomes feedback on how it can help support local monetary and macroprudential policies.

For countries that do not have a single-currency stablecoin on the Libra network, we believe \approx LBR is a neutral and low-volatility alternative that could ensure users in such regions can benefit from accessing the network and increased financial inclusion. In this context, \approx LBR could operate as a settlement coin in cross-border transactions, and people and businesses could convert the \approx LBR they receive into local currency to spend on goods and services through third-party financial service providers. For example, consider a Libra user in the US wanting to send money to their family in another country. The sender in the US would likely use \approx USD as their default Libra Coin to make the transfer. If the receiver lives in a region with

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a different single-currency stablecoin on the Libra network, the sender could transfer that single-currency stablecoin or the receiver could convert \approx USD to that single-currency stablecoin or local currency through a third-party financial service provider, providing a convenient and simple option for the receiver to access and use the funds. If a single-currency stablecoin is not available, the transfer could be made in \approx LBR. The receiver could convert \approx LBR into their local currency through a third-party financial service provider to buy goods and services in that currency. The Libra network would not itself provide for, record, or settle conversions between Libra Coins and fiat currency or other digital assets; instead, as noted, any such exchange functionality would be conducted by third-party financial service providers. Regardless of the region, we expect to require all Virtual Asset Service Providers (VASPs), such as currency exchanges that have addresses on the Libra Blockchain to hold and transfer Libra Coins, to fully comply with all applicable foreign exchange limitations and capital controls in order to mitigate currency substitution risk.

Moreover, our hope is that as central banks develop central bank digital currencies (CBDCs), these CBDCs could be directly integrated with the Libra network, removing the need for Libra Networks to manage the associated Reserves, thus reducing credit and custody risk. As an example, if a central bank develops a digital representation of the US dollar, euro, or British pound, the Association could replace the applicable single-currency stablecoin with the CBDC.

Single-currency stablecoins simplify the design of \approx LBR. \approx LBR can be implemented as a smart contract that aggregates single-currency stablecoins using fixed nominal weights (e.g., \approx USD 0.50, \approx EUR 0.18, \approx GBP 0.11, etc.). This approach to the \approx LBR design is similar to what is used by the International Monetary Fund (IMF) in the Special Drawing Rights (SDR). Because \approx LBR is composed of fixed amounts of single-currency stablecoins that are supported by the network, \approx LBR is fully backed by the Reserve assets backing each single-currency stablecoin.

To limit concerns about the Association updating the \approx LBR weights unilaterally, the Association would welcome the oversight and control over the basket composition (both currencies included and their respective weights) by a group of regulators and central banks or an international organization (e.g., IMF) under the guidance of the Association's main supervisory authority, the Swiss Financial Market Supervisory Authority (FINMA).

Single-currency stablecoins, however, may add complexity for wallets, exchanges, and merchant solution providers. For example, exchanges will need to maintain sufficient liquidity across multiple digital assets rather than just one. Wallets will need to handle cross-currency use cases, such as sending remittances, even though we expect people will default to the single-currency stablecoin for their domestic currency (where available), to another single-currency stablecoin (e.g., \approx USD, \approx EUR, \approx GDP, etc.), or to \approx LBR.

The Libra network is intended to support global, cross-border exchanges by extending the functionality of fiat currencies, which are appropriately under the governance and control of central banks. Under this new approach, we seek to reduce concerns around monetary sovereignty and help usher in more accessible payments and financial products for people and businesses around the world.

1 The Libra Reserve and Protections

A key objective of the Libra network's economic design is building trust in an efficient payment method. Each stablecoin on the Libra network will be fully backed by a Reserve of high-quality liquid assets and supported by a competitive network of resellers and exchanges buying and selling each coin. That means that Libra Coin holders should have a high degree of assurance they can convert their Libra Coins into local currency.

1.1 The importance of full backing and risk mitigation

In the first Libra white paper, the Association committed to full backing, recognizing its importance for people and businesses using the network. In September 2019, the Association announced its intention to file for a payment system license with FINMA, which is expected to specify the continued full backing of each Libra Coin as a condition of the license.

Full backing means that the Reserve will hold, in cash or cash equivalents and very short-term government securities, an amount at least equal to the face value of each Libra Coin in circulation. This is different from banks, which only hold a fractional reserve of cash and other liquid assets (e.g., 10 percent) to back their deposit liabilities, with the rest of their assets consisting of loans and other illiquid assets (also known as fractional reserve banking). Full backing by liquid assets is important for discouraging runs and stabilizing the payment system. Combined with a commitment to transparency and auditability, we believe that the full backing of each Libra Coin will help ensure that people and businesses have confidence that their Libra Coins can be converted into local currency.

The Reserve will mint and burn each single-currency stablecoin (e.g., \approx USD, \approx EUR, \approx GBP, etc.) in response to market demand. Additionally, a smart contract will combine these specific single-currency stablecoins into \approx LBR based on specified fixed nominal weights. Since \approx LBR is not a peg to a single currency, as the value of each currency moves, the value of one \approx LBR in any local currency may fluctuate. The Association would welcome the oversight and control over \approx LBR by a group of regulators and central banks or an international organization (e.g., IMF) under the guidance of the Association's main supervisory authority, FINMA, which could oversee and control the weights and components to minimize volatility.

The structure of the Reserve is intentionally designed to mitigate threats and minimize risks. In order to keep Libra Networks solvent and the Libra payment system functioning smoothly over time, the Reserve will rely on only high-quality liquid assets or assets that can rapidly be converted into high-quality liquid assets. In particular, we will require the Reserve to consist of at least 80 percent very short-term (up to three months' remaining maturity) government securities issued by sovereigns that have very low credit risk (e.g., Moody's A+ rating from S&P and A1 from Moody's, or higher) and whose securities trade in highly liquid secondary markets. The remaining 20 percent will be held in cash, with overnight sweeps into money market funds that invest in short-term (up to one year's remaining maturity) government securities with the same risk and liquidity profiles. To address currency risk, the currency composition of assets comprising the Reserve will match the composition of outstanding single-currency stablecoins (including the single-currency stablecoins that comprise the outstanding \approx LBR). This mandate — which is expected to be reflected in Libra's FINMA payment system license — will help mitigate interest rate, liquidity, and credit risks.

However, even with these high-quality liquid assets, Libra Networks could incur losses (e.g., arising from rapid changes in interest rates) or find it more difficult to liquidate assets in extreme economic conditions. To help consumers remain protected, the Reserve will be further endowed with a capital buffer. With input from regulators, the Association is developing a regulatory capital framework to ensure it maintains an appropriately sized, loss-absorbing capital buffer. For instance, this capital buffer will protect against potential losses from credit, market, and operational risks of the Libra payment system. Operational risks include external or internal fraud, business disruptions, and system and control failures.

The administration of the Reserve will be transparent to the public. The Reserve will be audited on a regular basis by independent auditors. The results of those audits will be made publicly available to demonstrate that all Libra Coins in circulation are fully backed by matching assets comprising the Reserve. The Association will publish on its website on a daily basis the then-current composition of the Reserve and the then-current market value of the assets.

Over time, our hope is that the Association will be able to collaborate with central banks on issues such as direct custody of cash or cash equivalents and very short-term government securities or the integration of the Libra payment system with CBDCs. This would reduce credit and custody risk, streamline the operations of the Reserve, and provide additional comfort to Libra Coin holders.

If Libra Networks faces negative yields in the custody of any of its very short-term government securities or cash or cash equivalents, it will have to cover these costs through its other revenue streams (e.g., transaction and other fees). Positive interest on the Reserve's assets, if available, will be used to cover the costs of the system, ensure low transaction fees, augment the required capital buffer, and support growth and adoption. The rules for allocating interest on the Reserve will be set in advance and overseen by the Association. Libra Coin holders will not receive a return from the Reserve.

1.2 Custody and Designated Dealers

The assets comprising the Reserve will be held by a geographically distributed network of well-capitalized custodian banks to provide both security and decentralization of the assets. We expect that these institutions will already have a number of risk mitigation practices in place. The Association proposes to put additional measures in place with these custodians that are designed to ensure that Reserve assets cannot be used for lending, pledging or repledging, or otherwise be removed, even temporarily, from the Reserve’s account or encumbered to secure an obligation of a custodian unrelated to the custody services provided to Libra Networks.

Libra Networks will not directly interface with consumers, but will instead partner with a select number of Designated Dealers to extend liquidity to consumer-facing products, such as wallets and exchanges. These Designated Dealers will commit to making markets within tight spreads and will be able to accommodate high volumes of trading. If extreme circumstances occur and Designated Dealers no longer make markets in Libra Coins, Libra Networks will call on a pre-existing arrangement with a third-party administrator or dealer to assist, in an administrative capacity, in burning Libra Coins for end users and liquidating assets comprising the Reserve to make payment as appropriate. These emergency operations will always be implemented under the guidance of the relevant regulators.

1.3 Emergency operations

The Association is focused on implementing a system that mitigates risk, includes appropriate loss- absorbing capital buffers, and facilitates ongoing and comprehensive supervision. Nevertheless, we are mindful of the need to plan for stress scenarios that could result in a run or otherwise threaten the viability of the Libra payment system – even though the occurrence of those stress scenarios and the possibility of the Libra payment system becoming non-viable is highly unlikely. In the context of a recovery and resolution plan, the Association is considering whether to provide for two key components that could be implemented in severe stress scenarios in the unlikely case that the Libra network is unable to convert the very short-term government securities in the Reserve into cash fast enough to satisfy all requests to burn Libra Coins without incurring fire-sale losses:

- Redemption stays, which would delay Libra Coin redemptions and allow for additional time to liquidate the Reserve’s assets during a window of time without incurring large fire-sale losses.
- Early redemption haircuts, which would impose a fee for instant redemptions and require coin holders to internalize their negative externality (i.e., fire-sale losses) in a run.

The goal of both these measures would be to slow the speed of a run on the Reserve.

Finally, even if the Association or the Libra network fails altogether, we still plan to protect Libra Coin holders to the best of our ability. First, because the Reserve will consist primarily of very short-term government securities, which will self-liquidate on a continuous basis, the Reserve can generate a lot of cash very quickly to use in burning Libra Coins. Second, if the self-liquidation of these securities does not generate enough cash fast enough to satisfy all demands to burn Libra Coins, Libra Networks should be able to sell large amounts of these securities at only a small discount to face value. Third, if the sale of these securities would result in fire-sale losses, Libra Networks would have the option to temporarily suspend redemptions and liquidate its remaining assets over a window of time deemed sufficient to minimize market impact. If Designated Dealers are operating, they would be expected to receive, on behalf of consumers, funds in exchange for Libra Coins based on the liquidation of a portion of the Reserve’s balance. If no Designated Dealers are operating, the Association will rely on a third-party administrator to assist these operations. The Association will work with regulators to develop a mechanism to return funds in the Reserve to end users in the event that neither Designated Dealers nor the standby third-party administrator or dealer are operating.

The full backing of each coin is an essential component of the overall Libra payment system. We take threats to the Reserve very seriously, but we are confident the approaches described above will protect our users against a wide range of risks, however unlikely they may be.

References

- [1] G7 Working Group on Stablecoins. Investigating the impact of global stablecoins. <https://www.bis.org/cpmi/publ/d187.pdf>, 2019.