UOB

Digital Assets

Future of Stablecoins

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CONTENT

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1 What are stablecoins?

According to the Basel Committee on Banking Supervision, a stablecoin is a cryptoasset that aims to maintain a stable value relative to a specified asset, or a pool or basket of assets. This is unlike cryptocurrencies, such as Bitcoin and Ethereum, which exhibit volatile value fluctuations.

They typically achieve this stability through two key commitments: first, issuers commit to minting and repurchasing coins at a fixed value, often tied to a reference currency like USD; second, they maintain reserves of assets to ensure the redemption of these stablecoins at par value. These reserve assets must remain highly liquid and resilient to losses during market crises.

2 What are the benefits of using stablecoins?

Stablecoins offer the transparency, security, and privacy of cryptocurrencies without the price unpredictability. Unlike fiat currencies controlled by central banks, stablecoins are managed by private entities or Decentralized Autonomous Organizations (DAOs).

Stablecoins bridge the gap between fiat and cryptocurrencies, providing a secure and reliable store of value, offering a stable means of value transfer on blockchain networks and enabling users to conduct peer-to-peer transactions at a predictable price.

3 What are the mechanisms used to maintain the stable value of a stablecoin?

To achieve the value stability, stablecoins employ various pegging mechanisms, each with its own characteristics and use cases.

Traditional Collateral (Off-Chain)	Crypto Collateral (On-Chain)
◢ Stablecoins, like Tether (USDT), USDC, and the Gemini Dollar (GUSD), are backed 1:1 by fiat currency, such as the U.S. dollar, which is held in reserve with a central issuer or financial institution. ◢ The key principle here is that for every $1 of fiat currency in reserve, there is 1 stablecoin in circulation, ensuring a direct peg to the reference currency. ◢ The collateral is held off-chain, typically in a bank account, and must match the number of stablecoins in circulation to maintain the peg.	◢ Crypto-collateralized stablecoins, like DAI, use cryptocurrencies as collateral, and this process is managed on-chain via smart contracts. ◢ Over-collateralization is a common feature to mitigate price volatility in the collateral asset. For example, to obtain $1,000 worth of DAI, you may need to deposit $2,000 worth of Ethereum (ETH), maintaining a 200% collateralization ratio.

Source: UOB Blockchain & Digital Assets

Algorithmic Stablecoins	Commodity-Backed Stablecoins
◢ Algorithmic stablecoins, like DefiDollar (DUSD) and Ampleforth (AMPL), do not rely on fiat or cryptocurrency collateral. Instead, they use specialized algorithms and smart contracts to regulate the token supply. ◢ These algorithms dynamically adjust the circulating supply based on market conditions. For instance, if the token's price falls below the desired peg, the supply decreases. Conversely, if the price exceeds the peg, more tokens are introduced to reduce the price.	◢ Commodity-backed stablecoins, exemplified by Tether Gold (XAUT) and Paxos Gold (PAXG), use physical assets like precious metals (e.g., gold) or commodities (e.g., oil) as collateral. ◢ Each token of these stablecoins represents a fraction of the underlying commodity's value. However, it's crucial to note that these commodities can still fluctuate in price, potentially affecting the stablecoin's value.

Source: UOB Blockchain & Digital Assets

Each stablecoin type has distinct advantages and drawbacks. Traditional collateral stablecoins offer direct fiat currency equivalence but rely on central issuers and off-chain reserves, which may raise concerns about transparency. Crypto-collateralized stablecoins provide decentralization but require over-collateralization and are subject to volatility in the underlying assets. Algorithmic stablecoins offer decentralization and automation but are complex and may require active governance. Commodity-backed stablecoins enable exposure to physical assets but carry the risk of commodity price fluctuations.

4 What are the main use cases of stablecoins?

The main use cases of stablecoins are:

Digital Asset Markets (On and Off-Ramp)

Stablecoins serve as essential tools in the world of digital asset trading. They function as on-ramps, allowing users to convert fiat currency into a stable digital asset quickly. Conversely, they act as off-ramps, enabling traders to easily move their gains from digital assets back into a stable form.

Payments

Stablecoins offer a practical solution for various payment applications, including online purchases, cross-border remittances, and peer-to-peer transfers. Users can send and receive stablecoins with the assurance that their value will remain relatively constant, reducing the currency risk often associated with cryptocurrencies like Bitcoin.

Corporate Transfers

Stablecoins streamline financial operations within businesses, particularly for multinational corporations. They provide a cost-effective and rapid means for intercompany fund transfers across borders.

Decentralized Finance (DeFi)

Stablecoins are fundamental to the explosive growth of DeFi applications. They serve as the backbone for lending, borrowing, yield farming, and decentralized trading protocols. Users can collateralize their assets in stablecoins, enabling them to access loans or participate in liquidity pools while mitigating the price volatility risks inherent in other cryptocurrencies. Stablecoins facilitate a wide array of DeFi services, democratizing access to financial services globally.

Delivery versus Payment (DvP)

Stablecoins have a number of use cases for DvP transactions. DvP transactions are those in which the delivery of an asset is conditional upon the payment of the asset.

One common approach is to use a smart contract to escrow the stablecoins and the digital asset being traded. Once both parties have deposited their respective assets into the escrow, the smart contract will automatically release them to the other party once the agreed conditions are met. Once both parties have deposited their respective assets into the escrow and the agreed conditions are met, the smart contract will automatically release them to the other party.

Here are some specific use cases for stablecoins in DvP transactions:

- Securities trading: Stablecoins can be used to facilitate the settlement of securities trades by using a stablecoin as the payment currency for the trade. Once the trade is settled, the seller will deliver the securities to the buyer and the buyer will release the stablecoins to the seller.
- Trade finance: Stablecoins can be used to facilitate trade finance transactions. For example, a buyer can use a stablecoin to pay for goods from a seller in another country. The seller will then deliver the goods to the buyer and the buyer will release the stablecoins to the seller.
- Real estate: Stablecoins can be used to facilitate the purchase of real estate. For example, a buyer can use a stablecoin to pay for a house. The seller will then transfer the ownership of the house to the buyer and the buyer will release the stablecoins to the seller.

5 What are the key risks faced by stablecoins?

The key risks faced by stablecoins are:

01 Peg Maintenance

The ability of stablecoins to maintain their peg is contingent on prudent management of reserve assets. These assets, which back the stablecoin's value, must be held securely and in a manner that reflects the number of stablecoins in circulation. Failures in proper reserve asset management can result in instability and value discrepancies.

02 Lack of Transparency

While some stablecoins undergo full public audits, others rely on independent attestation, where third-party auditors review the reserve holdings and attest to their accuracy. The lack of comprehensive audits can introduce uncertainty regarding the true financial health of stablecoin issuers.

03 Conflict of Business Interest

Stablecoin issuers may face conflicts of business interest between maintaining the peg and pursuing profit. Striking the right balance between profitability and peg stability is a challenge, and conflicts of interest may lead to decisions that prioritize one over the other, potentially impacting the stablecoin's reliability.

04 Commingling of Assets

Commingling of customer assets with issuer's operational funds can expose reserve assets to business risks and compromise the stability of the stablecoin.

05 Delay in Redemption

Stablecoin users rely on the ability to redeem their stablecoins for the underlying assets, such as fiat currency. Delays or difficulties in the redemption process can erode confidence in the stablecoin's stability and liquidity.

In essence, the risks associated with stablecoins are closely tied to elements such as reserve asset management, minimum base capital requirements, independent attestation, managing conflicts of business interest, and timely redemption processes.

6 What are the key regulatory developments for stablecoins?

The stablecoin regulatory developments in Singapore, United States, European Union, Japan, United Kingdom, and Hong Kong are as follow:

Singapore

Singapore has a relatively comprehensive regulatory framework for stablecoins.

The Monetary Authority of Singapore (MAS) has issued regulations for single currency stablecoins (SCS) pegged to the Singapore Dollar or any G10 currency. These regulations require SCS issuers to maintain adequate reserve assets to guarantee stability, meet minimum capital and liquid asset requirements, redeem SCS at par within five business days of a redemption request, and provide appropriate disclosures to users.

United States

The US is still in the process of developing a regulatory framework for stablecoins.

In June 2022, Senators Kirsten Gillibrand and Cynthia Lummis introduced the bipartisan Responsible Financial Innovation Act, which would create a new licensing regime for stablecoin issuers and impose a number of requirements on them, including maintaining full reserves of high-quality liquid assets backing their stablecoins, subjecting themselves to regular audits, and ensuring that their stablecoins are not used for illegal activities. The bill has not yet passed into law, but it is a sign of the growing momentum for stablecoin regulation in the US.

United Kingdom

The UK Financial Conduct Authority (FCA) has issued guidance on the regulation of stablecoins, but there is no specific regulatory framework for these digital assets in place. The FCA has stated that stablecoins may be subject to regulation as securities, e-money, or electronic transferable financial instruments.

European Union

The EU is developing a regulatory framework for stablecoins. The Markets in Crypto-Assets (MiCA) Regulation, which is expected to take effect in mid-2024, will impose a number of requirements on stablecoin issuers, including:

- Maintaining adequate reserves of high-quality liquid assets backing their stablecoins,
- Subjecting themselves to regular audits, and
- Ensuring that their stablecoins are not used for illegal activities.

Japan

Japan has a relatively permissive regulatory framework for stablecoins. The Financial Services Agency (FSA) has classified stablecoins as "payment-type crypto assets" and has issued guidelines for their issuance and use. The FSA requires stablecoin issuers to maintain adequate reserves of high-quality liquid assets backing their stablecoins, but it does not require them to obtain a license.

Hong Kong

The Hong Kong Monetary Authority (HKMA) has taken a proactive stance on regulating stablecoins, recognizing their potential benefits while also acknowledging the risks they pose. The HKMA has stated that it intends to regulate stablecoins in a risk-based and agile manner, and it has proposed a number of regulatory measures, including:

- Requiring stablecoin issuers to be licensed and to maintain adequate reserves
- Implementing measures to prevent money laundering and terrorist financing
- Conducting ongoing monitoring and supervision of stablecoin issuers and markets

Regulated stablecoins are likely to be seen as more trustworthy and reliable than unregulated stablecoins. This is because regulated stablecoins are subject to stricter oversight and compliance requirements. For example, regulated stablecoins are more likely to be used for sensitive use cases, such as businesses making large value payments. On the other hand, unregulated stablecoins, unburdened by regulation, are more likely to be used by individuals for innovative use cases, such as micropayments and in-game purchases.

7 What are the key elements of the MAS stablecoin regulatory framework?

Regulatory Approach

Maintain high degree of value stability for Single Currency Stablecoin (SCS) issued in Singapore

Regulatory Approach

- Will include only SCS pegged to the Singapore dollar or G10 currencies that are issued in Singapore.
- Other types of stablecoins will be subject to the existing digital payment token (DPT) regulatory regime.
- A new regulated activity of "Stablecoin Issuance Service" will be introduced under the Payment Services Act.
- Non-bank SCS issuers with SCS in circulation not exceeding S$5 million will not be subject to the requirements under SCS framework.
- Tokenised bank liabilities will be excluded from the scope of the SCS framework.
- MAS will retain flexibility to consider certain tokens as stablecoins under the SCS framework, should a bank SCS issuer design such tokens to meet standards that are deemed equivalent under the framework.
- MAS will be adopting the label "MAS-regulated stablecoin" for all SCS that will fall under the SCS framework.

Prudential Requirements

Prudential requirements to ensure stability and timely redemption of SCS to Fiat

Reserve Asset Requirements

- SCS issuers to maintain a portfolio of reserve assets with very low risk and maintain a robust and resilient risk management policy for its reserve assets.
- SCS issuers to hold the reserve assets of the SCS in segregated accounts, separate from its own assets which are not reserves.
- SCS issuers to independently attest the reserve assets on a monthly basis.
- SCS issuers to maintain a base capital that is higher of S$1 million or 50% of annual operating expenses.
- On solvency, the amount assessed to achieve recovery or an orderly wind-down of an SCS issuer will be subject to independent audits on at least an annual basis.
- On business restrictions, SCS issuers are not allowed to take on other business offerings such as lending services, dealing or fund management services, which carry significant risks.

Timely Redemption of SCS to Fiat

- SCS issuers to return the par value of SCS to holders within five business days.

SCS Issued in Multiple Jurisdictions

- MAS will not allow multi-jurisdictional issuance and will require SCS issuers to issue solely out of Singapore.

Others

Requirements imposed on intermediaries treating SCS as a digital payment token DPT

Requirements Imposed on SCS Intermediaries

- SCS would be treated as DPTs and intermediaries offering SCS-related services would be regulated under the PS Act.
- DPT service providers will be required to transmit MAS-regulated SCS from a payer to payee within three business days.
- SCS intermediaries would be required to segregate customers' MAS-regulated SCS from the intermediaries' own assets. SCS intermediaries will be allowed to commingle an individual customer's MAS-regulated SCS and/or DPT with that of other customers in an aggregated pool, while keeping this pool separate from the intermediary's own assets.

Systemic Stablecoin Arrangements

- MAS will regulate and protect the smooth functioning of systemic stablecoin arrangements by designating them under the PS Act and the Payment and Settlement Systems (Finality and Netting) Act 2002 ("FNA").

Deposit Insurance

- MAS-regulated SCS are not deposits and will not qualify as insured deposits as set out in the First Schedule of the Deposit Insurance and Policy Owners' Protection Schemes Act. As such, they will not be covered under the Deposit Insurance Scheme.

Source: UOB Blockchain & Digital Assets

8 What currencies are likely to be pegged when the MAS stablecoin regulatory framework comes into effect in Singapore?

The top 4 G10 fiat currencies by turnover in Year 2022 were USD, EUR, JPY, GBP. Based on industry sources, the USD is the most popular fiat currency used for stablecoin pegging, accounting for over 70% of the total market capitalization. The European Union, Japan, and United Kingdom are rapidly moving towards regulatory clarity for stablecoins. As such, the stablecoins issued in Singapore are likely to be pegged to USD or SGD at the start.

9 Who are the industry players who could potentially be interested in issuing or using "MAS regulated stablecoin"?

There could potentially be a number of industry players who may want to capitalize on the regulatory clarity provided by the MAS stablecoin framework to advance their business interests.

Industry Player	Purpose
Stablecoins issuers	To **issue** stablecoin with "MAS regulated" tag to enhance the reliability appeal and offer it to other industry players to facilitate use cases related to Payments, Corporate Transfers, DeFi (Decentralized Finance), DvP (Delivery versus Payment).
Fintech Payments companies	To **issue and use** "MAS regulated stablecoin" to offer a cheaper and more reliable option for cross-border payments.
Payment Card Services / Gateway	To **issue** cryptocurrency card in "MAS regulated stablecoin" to position it as a cheaper and more reliable card option.
E-Commerce	To **use** "MAS regulated stablecoin" as a cheaper option for domestic/ cross-border payments for e-commerce purchases.
Technology / Social Media	To **use** "MAS regulated stablecoin" for domestic and cross-border payments on the social platform without incurring high transfer fees.
Commercial banks	To **issue and use** "MAS regulated stablecoin" as a cheaper and option for cross-border payments. However, these banks, being already regulated, do have another option of using tokenized bank deposits for the same use case. For example, JP Morgan and Citi are offering a suite of blockchain-based solutions for their institutional clients.

Source: UOB Blockchain & Digital Assets

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