Stablecoin Stability

Assessment Criteria

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Summary of the Criteria

Lianhe Ratings Global Limited ("Lianhe Global") conducts stablecoin stability assessments by evaluating how effectively a stablecoin maintains its peg to a fiat currency or a basket of currencies. Stablecoins are a type of virtual asset designed to maintain a relatively stable value by pegging to specific assets (e.g. fiat currencies), while leveraging the benefits of blockchain technology. This analytical approach focuses on stablecoins backed by transparent and verifiable collateral structures and generally excludes those whose value relies primarily on the creditworthiness of the issuing entity, as well as algorithmic stablecoins that are either uncollateralized or mainly supported by endogenous collateral.

We apply a framework to assess a stablecoin's ability to maintain its value peg on a scale of 1 (very strong) to 6 (unstable). First, we assess asset quality and adequacy primarily by reviewing credit, liquidity, market, and custody risks as well as the excess reserve and liquidation mechanisms. We then consider five additional areas: legal and regulatory framework, management competence and governance, redemption, technical reliability, and historical performance.

Lianhe Global has developed the assessment framework for stablecoin stability based on our knowledge and experience. The criteria do not represent a comprehensive coverage but only address key factors which we consider are important for accessing a stablecoin's ability in maintaining its value peg. The crypto industry is continuously evolving and the assessment framework or some elements of the criteria may not adequately address the emerging risk characteristics. Lianhe Global continues to look at the crypto industry development and may revise the criteria when we deem it necessary.

Lianhe Global may form our opinion based on limited information or may decide not to conduct a stablecoin stability assessment if we deem the available information insufficient. Also, we may not always be able to identify errors or omissions.

Stablecoin Stability Definition

Stablecoin stability refers to the ability of a stablecoin to consistently maintain its peg to a fiat currency or a basket of currencies. A stablecoin is considered stable when its market price remains close to its intended peg over time, even during periods of market stress. This stability depends on factors such as the quality and liquidity of the assets backing the stablecoin, the robustness of its underlying technology, and the responsiveness of its sponsor or protocol to any disruptions or deviations from the peg.

Stablecoin stability can be rated on a scale from 1 to 6 — where 1 indicates very strong stability with consistent peg maintenance, and 6 represents instability with a lost peg and no credible recovery plan. Intermediate scores reflect varying degrees of deviation magnitude, duration, and the effectiveness of the sponsor's response, with higher scores indicating weaker stability and greater risk of value deviation. These scores reflect Lianhe Global's opinion of the ability of stablecoins to maintain their intended value. They are not credit ratings and should not be interpreted as investment recommendations.

Scale	Definition
1 – Very Strong Stability	The stablecoin consistently maintains its peg with minimal deviation
2 – Strong Stability	Minor and short-lived deviations may occur, but the peg is reliably maintained with effective corrective actions
3 – Moderate Stability	Occasional deviations are observed, possibly due to market or technical factors, but the peg is generally restored in a reasonable timeframe
4 – Weak Stability	Frequent or prolonged deviations occur, and the mechanisms to restore the peg are less reliable or slower to respond
5 – Very Weak Stability	The stablecoin struggles to maintain its peg, with persistent deviations and limited or ineffective sponsor intervention
6 – Unstable	The stablecoin has lost its peg and shows no credible path to recovery

Assessment Framework for Stablecoin Stability

The following diagram shows Lianhe Global's general approach in deriving our opinions of the stability of stablecoins.

The assessment framework for stablecoin stability:
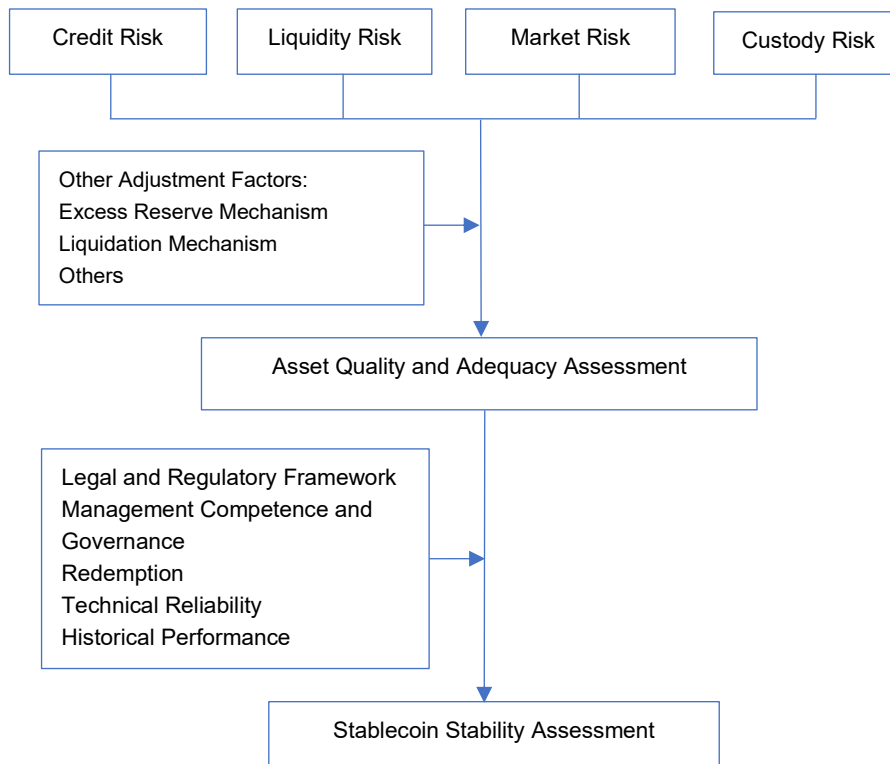
We use a combination of qualitative and quantitative analysis to assess four key factors: credit, liquidity, market and custody risks as well as excess reserve and liquidation mechanisms for asset quality and adequacy of stablecoins. We may incorporate other considerations where applicable.

We then assess five additional factors holistically: legal and regulatory framework, management competence and governance, redemption, technical reliability, and historical performance. We may be more conservative in the stability assessment if we identify weaknesses in these five factors that are not appropriately addressed or mitigated. No downward adjustment may occur if weaknesses in some areas are properly addressed or can be offset by other strengths. Upward adjustments would be less likely as we generally do not consider any strength in these five factors can improve the assessment in asset quality and adequacy.

Asset Quality and Adequacy Assessment

To assess the asset quality and adequacy of a stablecoin, we primarily examine the credit, liquidity, and market risks of the reserve assets. Custody risk is another key consideration as reserve assets should be stored with reliable custodians to minimize the risk of loss or misappropriation. We may also consider other risks that could affect this assessment. For instance, currency risk would be material if the assets are denominated in a currency different from the currency of the peg. The presence of excess reserve assets provides an additional buffer against market shocks or operational disruptions, while a well-developed liquidation mechanism can enhance stability and preserve liquidity and value of reserve assets. Together, these factors form our overall view of whether the stablecoin is adequately backed and resilient even under adverse conditions.

Credit, Liquidity and Market Risks

Lianhe Global assesses the exposure of reserve assets to credit, liquidity and market risks by reviewing the credit quality, nature and characteristics of the assets. High-quality assets typically should be low credit risk and easily tradable to ensure that the stablecoin can meet redemption demands without significant loss in value. Exposure to volatile or illiquid assets increases the risk of reserve impairment, which can undermine the stablecoin's ability to maintain its peg.

When analyzing the credit quality of reserve assets, we mainly look at their international credit ratings. In the absence of public ratings, Lianhe Global may refer to our private ratings or internal assessments in the credit analysis.

Asset quality	Examples of reserve assets
Very high quality	- Sovereign bonds rated at "A+" or above, with maturity less than 90 days and/or with good secondary market liquidity - Cash deposits in institutions rated at "A+" or above - Cash equivalents (such as high-quality money market funds, overnight repos backed by sovereign bonds or institutions rated at "A+" or above)
High quality	- Sovereign bonds rated at "A" category or above, with maturity less than 180 days and/or with good secondary market liquidity - Cash deposits in institutions rated at "A" - Cash equivalents (such as overnight repos backed by sovereign bonds or institutions rated at "A")

Asset quality	Examples of reserve assets
Adequate	Majority of the assets commensurate with a "high-quality" assessment, with a minority of higher-risk assets (such as lower-rated or unrated fixed-income instruments)
Vulnerable	Majority of the assets are higher risk (such as lower-rated or unrated fixed-income instruments)
Weak	Majority of the assets are volatile assets (such as stocks or cryptocurrencies) and/or illiquid assets

Custody Risk

Lianhe Global assesses the creditworthiness and operational reliability of the custodian holding the stablecoin's reserve assets. A custodian with weak financial strength or inadequate operational capabilities/framework, particularly in segregating and safeguarding revere assets, can introduce significant custody risk. This may lead to logistical challenges in accessing or liquidating reserves and undermine market confidence in the stablecoin. As a result, such weaknesses are viewed negatively in the asset quality assessment, unless mitigated by strong legal protections or alternative safeguards.

Other Adjustment Factors

We may improve the asset quality and adequacy assessment by up to two levels if a stablecoin includes a prudent excess reserve mechanism and/or a robust liquidation mechanism that can effectively enhance the stablecoin stability.

Excess Reserve Mechanism

Excess reserves can act as a financial buffer against sudden drops in asset value (e.g. crypto crashes or bond defaults), and ensure sufficient liquidity during mass redemptions. The overcollateralization ratio (the value of excess reserves backing the stablecoin relative to its total supply) is a key indicator in assessing the adequacy of excess reserves.

Liquidation Mechanism

To assess the liquidation mechanism of a stablecoin, we typically examine whether the protocol includes clearly defined triggers for liquidation to preserve the value of reserve assets. An effective mechanism should be able to initiate and complete the liquidation of reserve assets within a short timeframe (e.g. 24 hours) once a predefined liquidation threshold is breached. We also assess whether the level of the liquidation threshold is sufficient to cover a material and sudden drop in asset value. A liquidation mechanism that has operated effectively through periods of market stress may be more likely to succeed.

Legal and Regulatory Framework

In assessing the legal and regulatory framework for stablecoins and their sponsors, we focus on examining whether the framework provides clear protection for reserve assets, such as legal segregation from the sponsor's own assets. This ensures that in the event of the sponsor's bankruptcy, the stablecoin's reserves remain accessible to holders. In addition, an effective legal and regulatory framework would set minimum standards for asset quality, and regularly oversee the sponsor's operations and governance. The regulator should have the authority and capacity to take preventive or corrective actions, such as enforcing

compliance, intervening during crises, or managing systemic risks. Jurisdictions with robust oversight mechanisms and clear legal protection for assets tend to foster greater market confidence and resilience. Conversely, gaps or weaknesses in regulation, specially around asset protection, are viewed negatively unless offset by the sponsor's strong creditworthiness.

Management Competence and Governance

Lianhe Global generally conducts a qualitative assessment of the competence and governance of a sponsor when conducting the stablecoin stability assessment. Competence assessment generally involves evaluating the organization's ability to manage the stablecoin effectively and responsibly. This includes reviewing the sponsor's operational track record, the expertise of its management team, and its capacity to maintain robust systems for issuance, redemption, and reserve management. A sponsor with a strong background in financial services or blockchain technology, supported by experienced professionals and sound operational infrastructure, is more likely to uphold the stability and integrity of the stablecoin.

Governance assessment focuses on the transparency, accountability, and regulatory compliance of the sponsor. Key factors include disclosures regarding reserve holdings and audits, the structure and independence of decision-making bodies, the presence of internal controls to manage risks and conflicts of interest as well as the adherence to legal and regulatory standards, such as licensing and anti-money laundering and combating the financing of terrorism policies. Together, these elements help determine whether the sponsor can sustain trust and stability in the stablecoin ecosystem.

Redemption

We believe that a stablecoin with an effective redemption mechanism helps maintain price stability. A transparent redemption framework, including channels for submitting redemption requests, associated fees, and processing times, provides holders with predictable expectations and reinforces confidence in the stablecoin, thereby reducing sell-off pressure driven by redemption uncertainty. Moreover, an efficient redemption mechanism facilitates price correction when deviations occur in the secondary market. For instance, if the stablecoin trades below its peg in the secondary market, arbitrageurs can buy the token at a discount and redeem it at par in the primary market, capturing a risk-free spread. This arbitrage activity increases demand in the secondary market and reduces circulating supply, helping restore the stablecoin's price to its intended peg.

We generally favor stablecoins that offer reliable and convenient on-demand redemption, as this enhances holders' confidence and supports price stability. However, we also consider the concentration of holders, since a highly concentrated holder base increases the risk of a bank-run-style redemption event. Additionally, we assess the depth of the secondary market, as sufficient liquidity in this market would provide another indirect redemption channel for holders, which may help absorb shocks and maintain the peg.

Technical Reliability

Stablecoins rely on blockchain and smart contract technologies, which may be subject to network outages or security incidents that could impact service continuity and asset safety. When assessing the technical reliability of a stablecoin, we typically refer to independent third-party technical assessments or audits.

We evaluate the technical capabilities of the sponsor, including the experience and expertise of its technical team. We also examine whether the sponsor has established monitoring and anomaly detection systems, along with efficient incident response and recovery mechanisms (e.g. business continuity plan and backup) to promptly address various network failures and security risks. A key consideration is whether the sponsor collaborates with reputable third-party security firms to conduct regular vulnerability scans, system testing and security audits.

We assess the maturity of the underlying blockchain, including its operational history, stability, and any past incidents of network outages or security breaches. We also consider whether the stablecoin's smart contracts have undergone rigorous third-party audits and the responsiveness to identified vulnerabilities.

Historical Performance

For stablecoins with an established operating history, we primarily review their historical price performance, focusing on their ability to maintain a 1:1 peg to the fiat currency and the frequency and duration of any depeg events. Stablecoins that have consistently maintained their peg across various market conditions and cycles demonstrate greater reliability and effectiveness of their peg mechanisms.

Price deviations may arise from factors such as shifts in market sentiment, changes in liquidity, variations in reserve asset quality, technical or governance issues, and significant regulatory changes. Under normal conditions, we use quantitative metrics such as annualized volatility and maximum single-day declines to evaluate price stability. In cases of extreme price deviations, we conduct a comprehensive assessment that combines quantitative analysis, including the frequency, magnitude, and duration of deviations, with qualitative evaluations of the underlying causes, remediation processes, and improvement measures.

For stablecoins with limited or no operating history, such as newly launched stablecoins, Lianhe Global may conduct stablecoin stability assessment based on stated policy guidelines, the sponsor's track record and expertise, and the quality of reserve assets.

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