

Risk Generation Mechanisms and Regulatory Governance of U.S. Treasury-Pegged Stablecoins: A Perspective on the Interplay of U.S. Treasury Derivative Mechanisms

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Abstract

Treasury-pegged stablecoins allocate a significant portion of their reserve assets to short-term U.S. Treasury bonds, deeply linking the stablecoin's credit foundation to the Treasury bond derivation mechanism. Analysis grounded in monetary creation theory and shadow banking theory reveals that Treasury-pegged stablecoins are exposed to Treasury interest rate risk and credit risk on the asset side, while on the liability side, they create vulnerabilities to digital bank runs through maturity mismatches and instant redemption commitments. Risks propagate sequentially along the “asset side → liability side → market side” chain and are amplified bidirectionally between the stablecoin and Treasury markets via reserve effects and run effects. The three-tiered inter-linked pathway of “reserve anchoring - cross-border circulation - derivative expansion” constitutes the structural foundation for cross-border risk transmission and gives rise to four types of money laundering risks: information arbitrage, dual concealment, derivative acceleration, and regulatory arbitrage. Global regulation exhibits a divergence into three paradigms: “dollar-centric”, “risk-tiered”, and “licensed access”. Regulatory fragmentation and asymmetries in technological capabilities constitute the core governance dilemma. A systemic governance framework centered on the “functional-penetrative” approach—integrating a classified regulatory system, technological synergy between Hong Kong and Shenzhen, and coordination with international standards—represents a viable path to prevent cross-border risk transmission and safeguard monetary sovereignty.

Keywords

USD-Pegged Stablecoins, Monetary Creation, Money Laundering Risks,

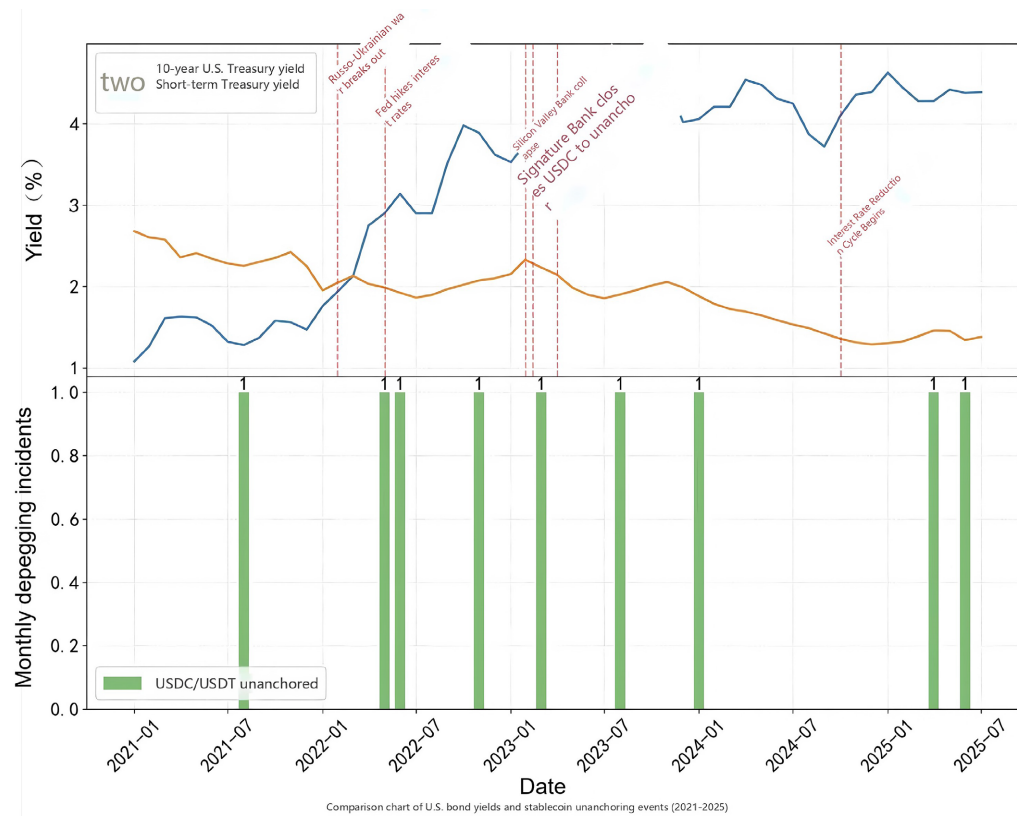
1. Introduction

1.1. Research Background and Problem Statement

The global digital economy has entered a period of profound transformation, with the financial system undergoing a “chain-based” migration from traditional account-based systems to distributed ledger systems. As a core tool linking fiat currencies and crypto assets, the market size of stablecoins continues to expand. To CoinGecko statistics, by the end of 2025, the total global supply of stablecoins had surpassed \$300 billion. Among these, U.S. Treasury-pegged stablecoins, represented by USDT and USDC, hold an absolute dominant position, with the two combined accounting for over 86% of the market share, forming a near-monopoly market structure. Unlike the early simple model of pegging to a single dollar cash reserve, current mainstream stablecoins have allocated a large portion of their reserve assets to short-term U.S. Treasury bonds and repurchase agreements, establishing a complete closed-loop system of “stablecoin issuance - U.S. Treasury investment - dollar liquidity derivation” (Gorton & Zhang, 2021). Standard Chartered Bank forecasts that the global stablecoin supply is expected to exceed \$2 trillion by 2028, at which point it will account for 9% of the U.S. M2 money supply, exerting a more profound structural impact on dollar creation and global liquidity allocation.

Figure 1 plots the synchronized trend of U.S. Treasury yields and stablecoin decoupling episodes over 2021-2025. The timing of monthly de-pegging incidents is closely aligned with swings in Treasury interest rates, with underlying information sourced from mainstream crypto data websites and institutional official announcements.

The essence of this closed-loop system is that stablecoin issuers use private credit to create “on-chain dollars” with monetary functions, and through reserve asset allocation, deeply embed themselves in the U.S. Treasury market, making the credit foundation of stablecoins highly coupled with that of U.S. Treasuries. The U.S. “GENIUS Act” of 2025 legally reinforced this linkage, explicitly requiring that Treasury bills maturing within 93 days constitute no less than 70% of compliant stablecoin reserves, thereby institutionalizing the expansion of stablecoins alongside the financing of the U.S. fiscal deficit. Against this backdrop, stablecoins are no longer merely a medium of exchange in the crypto asset market; they have become a new vehicle for extending the hegemony of the U.S. dollar into the digital realm (Zhang, 2025). However, returns and risks coexist: the U.S. national debt has surpassed \$36 trillion, and the federal deficit for the first half of fiscal year 2025 reached \$1.3 trillion, the second-highest on record; simultaneously, Treasury yield volatility has intensified, the global trend of de-dollarization has accelerated, and fluctuations in the U.S. dollar exchange rate have increased.



Data Source: 1) Historical data on stablecoin fluctuations published by Coin Gecko

<https://www.coingecko.com/en/coins/tether>;

2) Report from Circle's official website <https://www.circle.com/en/usdc>;

3) PAnews Professional Author <https://www.panewslab.com/zh/articles/e28bb7ec-b1b4-4d2c-b766-fece2efc9abe>;

4) CoinTribune Official News <https://www.cointribune.com/en/crypto-general-panic-following-the-usdc-de-peg-by-circle/>;

5) Foresight News Roundup <https://a.foresightnews.pro/article/detail/86243>.

Figure 1. Comparison of U.S. treasury yields and stablecoin decoupling events.

These factors collectively point to a core question: When the credit foundation of stablecoins is deeply tied to the U.S. Treasury-derived mechanism, how will volatility in the U.S. Treasury market be transmitted to the stablecoin market? And how will the inherent risks of stablecoins, in turn, impact the U.S. Treasury market and the U.S. dollar liquidity system?

Academic research on stablecoins has yielded significant findings. Regarding operational models, early studies focused on taxonomic categorization, classifying stablecoins into three types: fiat-collateralized, crypto-asset-collateralized, and algorithmic (Financial Stability Board, 2023). Regarding risk identification, Gorton & Zhang (2021) analogized stablecoins to private currencies from the “wildcat banking” era, noting that they face run vulnerabilities similar to those of the free banking era; Ma et al. (2025) constructed a theoretical model of stablecoin runs, revealing the critical impact of arbitrageur centralization on price stability. Regarding macroeconomic impacts, Adrian et al. (2022) analyzed the potential dis-

ruption of stablecoins to monetary policy transmission, while the BIS focused on the correlation risks between cryptoassets and the traditional financial system ([Bank for International Settlements, 2023](#)). However, existing research suffers from two notable shortcomings: first, it largely focuses on the micro-level risks of stablecoins themselves, lacking a systematic analysis that places them within the macro-financial framework of the U.S. Treasury-derived mechanism; second, they have failed to fully reveal the bidirectional risk linkage between stablecoins and the U.S. Treasury-backed mechanism—that is, stablecoins not only passively absorb spillovers from U.S. Treasury market volatility, but their own market behavior may also exert a feedback effect on the U.S. Treasury market, leading to risk accumulation and a vicious cycle. The existence of these research gaps means that our understanding of the risk generation mechanisms, cross-border transmission channels, and effective regulatory frameworks for U.S. Treasury-pegged stablecoins remains inadequate, necessitating further in-depth exploration.

1.2. Theoretical Foundation: Money Creation Theory and the U.S. Treasury-Backed Mechanism

This paper is grounded in the theory of money creation within the modern credit money system. In the era of credit money, the broad money supply is not determined unilaterally by the central bank, but is endogenously created by commercial banks through credit expansion, collateralized financing, and other activities. The scale of this money creation depends not only on the base money (MB) and the statutory reserve ratio, but is also constrained by the availability of high-quality collateral, i.e., $MS = m \times MB$, where the money multiplier m is closely related to the quality, scale, and liquidity of the collateral. As a core credit instrument possessing the dual attributes of both a “government debt instrument” and “collateral for money creation,” U.S. Treasuries play an irreplaceable role in the U.S. dollar creation system.

The core logic of the U.S. Treasury bond derivation mechanism can be understood at three levels. First, at the level of base money supply, the U.S. Treasury issues Treasury bonds to provide collateral for the Federal Reserve’s open market operations. The Federal Reserve purchases these bonds through repurchase agreements or direct purchases, injecting reserves into the banking system and thereby completing the supply of base money. This process forms a transmission chain of “T-bond issuance—Fed bond purchases—reserve creation,” making U.S. Treasuries the core operational asset on the central bank’s balance sheet ([Chaboud et al., 2025](#)). Second, at the level of broad money creation, commercial banks that have obtained reserves use U.S. Treasuries as eligible collateral to engage in inter-bank lending, repo financing, and credit guarantees, thereby reducing external financing premiums and supporting a larger-scale process of loan-to-deposit creation, which amplifies the supply of broad money. The scale and liquidity of U.S. Treasuries thus directly determine the efficiency and multiplier effect of dollar creation. Third, at the level of global liquidity transmission, central banks and financial institutions worldwide use U.S. Treasuries as a vehicle to access liquidity in the off-

shore dollar repo market, transmitting U.S. dollar base money globally to support cross-border credit and the creation of broad dollar money in offshore markets.

More crucially, the U.S. Treasury bond creation mechanism exhibits a “self-reinforcing” dynamic. An expansion in U.S. Treasury issuance injects more high-quality collateral into the financial system, easing credit creation constraints on commercial banks, driving the expansion of broad U.S. dollars, and stimulating economic activity; conversely, the abundance of dollar liquidity boosts global market demand for U.S. Treasuries, depressing yields and stabilizing their collateral value, thereby further amplifying the money creation multiplier. This creates a positive feedback loop: “U.S. Treasury issuance → abundant collateral → credit expansion → increased liquidity → rising demand for U.S. Treasuries → further amplification of the multiplier”. This cycle represents both the structural advantage of the U.S. Treasury system in dominating the global liquidity landscape and the root of its inherent vulnerability—once the credit base is disrupted, the cycle will rapidly reverse, triggering collateral haircuts and a sudden contraction in credit (Chaboud et al., 2025).

When stablecoins are incorporated into this theoretical framework, the logic of their interconnection with the U.S. Treasury-based money creation mechanism becomes clear. Stablecoin issuers allocate the U.S. dollar funds they raise to short-term U.S. Treasuries, effectively assuming the liquidity transformation and maturity mismatch functions of shadow banking (Gorton & Zhang, 2021). This behavior makes stablecoins a structural source of demand in the U.S. Treasury market, while simultaneously introducing the credit risk, interest rate risk, and liquidity risk inherent in the U.S. Treasury-based money creation mechanism into the stablecoin system. Based on this theoretical framework, this paper systematically analyzes the risk generation mechanisms, cross-border transmission channels, and regulatory governance strategies of US Treasury-pegged stablecoins.

1.3. Research Approach and Marginal Contribution

The research approach of this paper unfolds in a logical progression: “theoretical foundation—risk mechanism analysis—transmission pathway identification—regulatory effectiveness assessment—policy framework construction.” Specifically: First, building on monetary creation theory, we distill the core logic of the U.S. Treasury-backed mechanism to lay the theoretical foundation for subsequent analysis; Second, we analyze the risk formation mechanisms of U.S. Treasury-pegged stablecoins from three dimensions: the asset side, the liability side, and the market side; third, following the three-tiered interconnected pathway of “reserve pegging—cross-border circulation—derivative expansion,” we identify the chain of cross-border risk transmission and money laundering risk points; building on this, we evaluate the differences in the effectiveness of various regulatory models through a multidimensional comparison of U.S. and Chinese regulatory frameworks; finally, grounded in China’s financial security and monetary sovereignty imperatives, we propose targeted and feasible recommendations for regulatory optimization.

Compared to existing research, this paper makes innovative contributions in both theoretical research and risk management. In terms of theoretical contributions, this paper overcomes the limitations of previous studies that relied on a single theoretical framework. It integrates monetary creation theory, shadow banking theory, and the underlying operational mechanisms of stablecoins to innovatively construct an integrated analytical framework of “U.S. Treasury-derived—stablecoin-pegged—risk linkage.” At the same time, it systematically clarifies for the first time the complete mechanism through which fluctuations in the U.S. Treasury market are progressively transmitted to the stablecoin system via a triangular chain of “asset side → liability side → market side,” profoundly revealing the decisive influence of U.S. Treasuries—as the core safe-haven reserve asset for stablecoins—on their value fluctuations. It elucidates the intrinsic mechanism of bidirectional risk amplification between stablecoins and the U.S. Treasury market, involving both reserve-boosting effects and run-induced shock effects. This addresses the shortcomings in existing research regarding the fragmented and underdeveloped frameworks for understanding the risk transmission logic between the two, thereby enriching the theoretical framework for risk linkage between stablecoins and sovereign bond markets. In terms of governance contributions, this paper focuses on the core challenge of cross-border risk prevention and control for stablecoins. Grounded in the three-tiered interconnected transmission pathway of “reserve anchoring—cross-border circulation—derivative expansion,” it systematically classifies cross-border money laundering risks associated with stablecoins into four distinct categories: information arbitrage, dual concealment, derivative acceleration, and judicial arbitrage. It also conducts an in-depth analysis of the common characteristics and underlying evolutionary patterns of these various cross-border money laundering risks. Simultaneously, through a multidimensional comparison of the effectiveness of regulatory models in China and the United States, the paper precisely identifies the strengths and weaknesses of different regulatory systems. Grounded in China’s core imperatives of financial security and monetary sovereignty, it formulates targeted and actionable regulatory optimization strategies. This provides important practical guidance and governance support for China to establish a routine, precise governance system tailored to cross-border stablecoin risks, thereby preventing the spillover of cross-border financial and money laundering risks.

2. Operational Mechanisms and Risk Formation

Mechanisms of U.S. Treasury-Pegged Stablecoins

2.1. Operational Mechanism of U.S. Treasury-Pegged Stablecoins

The core operational mechanism of U.S. Treasury-pegged stablecoins can be summarized as follows: the issuer aggregates user funds by accepting fiat currency (primarily U.S. dollars) in exchange for stablecoins. Subsequently, the vast majority of the raised funds is allocated to U.S. Treasury bonds and related short-term assets, which serve as the value anchor for the stablecoin while generating interest income

from the reserve assets. Taking USDC and USDT—which hold the largest market shares—as examples, according to reserve asset disclosure reports submitted by Circle to the U.S. Securities and Exchange Commission (SEC), U.S. Treasuries and repurchase agreements accounted for 65% of USDC’s reserve assets in the first quarter of 2024 (Circle Internet Financial, 2024); Tether’s holdings of U.S. Treasuries during the same period had also risen to approximately 40%, with the remainder of the reserves distributed across assets such as cash and commercial paper. In 2025, the U.S. “GENIUS Act” further institutionalized this allocation model through legislation, requiring that Treasury bills maturing within 93 days constitute no less than 70% of compliant stablecoin reserves. Consequently, U.S. Treasury-pegged stablecoins have established a closed-loop operational cycle: “user funding → issuer bond purchases → token circulation → demand for U.S. Treasuries.”

From an economic substance perspective, U.S. Treasury-pegged stablecoins are not merely innovations in payment tools, but rather a new form of the traditional shadow banking system operating within a blockchain technology environment. Gorton & Zhang (2021) analogize stablecoins to private money from the era of free banking in the United States, noting that their essence lies in institutions that create private credit through “liquidity transformation”. Similar to money market funds, stablecoin issuers raise capital by issuing liquid liabilities (stablecoins) with a promise of immediate redemption, and invest these funds in safe assets such as short-term U.S. Treasuries, creating a maturity mismatch between the asset and liability sides (Financial Stability Board, 2023). This operational model endows stablecoin issuers with three core economic functions: First, liquidity creation, which involves transforming illiquid U.S. Treasury assets into payment instruments that can circulate freely within the crypto ecosystem; Second, credit intermediation, whereby they assume the credit risk of U.S. Treasuries on their own balance sheets and provide holders with near-risk-free payment services; third, cross-border transmission, which involves spreading U.S. dollar liquidity to global regions beyond the reach of the traditional banking system through peer-to-peer transaction networks that do not require bank accounts.

Clarifying this operational logic and economic substance is a necessary prerequisite for understanding the mechanisms by which risks arise. It is precisely because stablecoin issuers are deeply embedded in the U.S. Treasury market and perform the liquidity transformation functions of shadow banking that volatility in the U.S. Treasury market is transmitted to the stablecoin system through the asset side; and it is precisely because stablecoins possess the credit-creation characteristics of private money that risks on their liability side generate spillover effects on the broader U.S. dollar liquidity system.

Figure 2 depicts dynamic shifts in the reserve composition of Tether and Circle. Visible changes in the share of Treasury holdings and alternative reserve assets visually verify how fluctuations in U.S. bond yields alter stablecoins’ asset portfolios, consistent with the “asset-liability-market” risk transmission logic elaborated in this subsection.

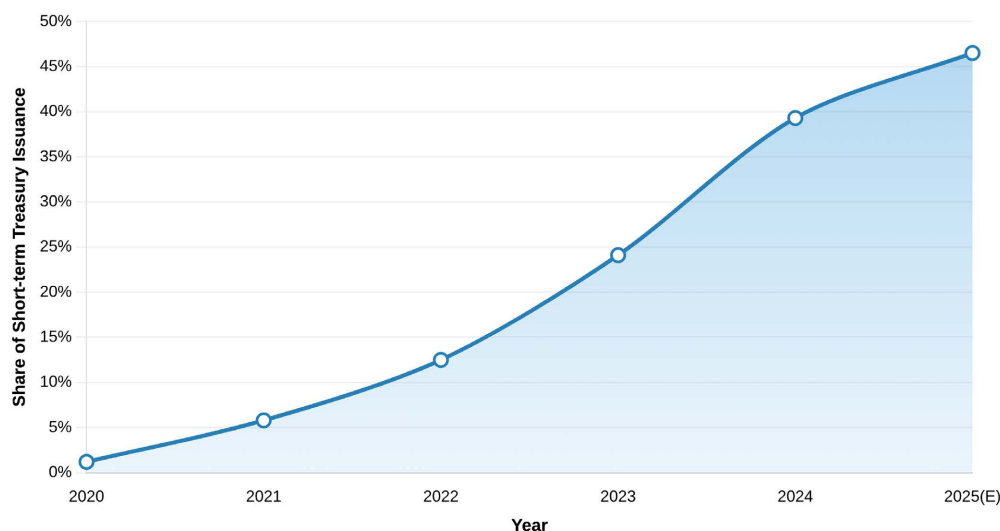


Figure 2. Changes in the composition of tether and circle’s reserve assets.

2.2. Risk Transmission Mechanism of Treasury-Pegged Stablecoins

The risk formation mechanism of U.S. Treasury-pegged stablecoins exhibits a clear transmission chain: “asset side → liability side → market side.” These three stages progress sequentially and reinforce one another, constituting a complete pathway for the accumulation and eruption of risk.

1) Asset Side: Introduction of Risks from U.S. Treasury Market Volatility

Stablecoin issuers allocate a significant portion of their reserve assets to U.S. Treasuries, exposing their balance sheets directly to interest rate risk in the U.S. Treasury market. U.S. Treasury yields and bond prices move in opposite directions: when the Federal Reserve raises interest rates or the market anticipates tightening, U.S. Treasury yields rise, causing the prices of existing U.S. Treasuries to fall, and the reserve assets held by issuers face mark-to-market losses. The stablecoin run model constructed by [Ma et al. \(2025\)](#) indicates that issuers hold reserve assets that are not fully liquid; when faced with massive redemptions, they are forced to liquidate these assets at a discount. Let ϕ denote the discount rate, meaning that each unit of assets can only be liquidated for $(1 - \phi)$ dollars; when the redemption ratio λ exceeds $(1 - \phi)$, the issuer becomes insolvent. This theoretical analysis was validated in practice during the Federal Reserve’s 2022 rate-hiking cycle: soaring U.S. Treasury yields caused a sharp decline in the prices of existing Treasury holdings, resulting in massive unrealized losses on the balance sheets of stablecoin issuers holding large quantities of medium- and long-term Treasuries. Although issuers can use the amortized cost method to smooth book values, as [Adrian et al. \(2022\)](#) point out, this accounting treatment merely masks the problem rather than eliminating the risk—once the market questions the quality of their reserve assets, information asymmetry will rapidly trigger a credit crisis.

Furthermore, risk exposure on the asset side exhibits characteristics of concentration. Research by [Zhang Jun \(2025\)](#) shows that in 2024, USD-pegged stable-

coins accounted for 39.3% of new issuance in short-term U.S. Treasury bonds, making them the third-largest buyer of U.S. Treasuries. Such high concentration implies that when the stablecoin industry as a whole faces redemption pressure, concentrated selling by issuers could inflict significant procyclical shocks on the U.S. Treasury market, which in turn would further exacerbate losses on the asset side.

2) Liability Side: The Self-Reinforcing Nature of Digital Runs

Once the market detects a decline in asset value, it triggers a “digital run” on the liability side. Compared to traditional bank runs, digital runs on stablecoins spread faster and are more destructive. In a bank run, depositors must wait in line to withdraw funds and are constrained by business hours and withdrawal limits; in the stablecoin system, holders can instantly redeem their holdings on-chain at any time and from any location. The transparency of blockchain actually exacerbates panic in this context—once market doubts arise regarding an issuer’s reserve adequacy or on-chain fund flows, information can spread to global holders within minutes via social media and on-chain monitoring tools, triggering massive concentrated redemptions. The model by [Ma et al. \(2025\)](#) further reveals that the stablecoin market exhibits a unique “two-tier market structure”: a small number of arbitrageurs handle direct exchanges with issuers in the primary market, while the vast majority of ordinary holders trade exclusively in the secondary market. This implies that when secondary market prices trade at a discount, arbitrageurs will redeem in large volumes to capture the spread, accelerating the depletion of reserve assets. If, at this point, the asset side is already facing impairment pressure due to falling U.S. Treasury prices, the redemption surge on the liability side will trap the issuer in a vicious cycle of “asset discount → accelerated redemptions → forced selling → further asset discount.” This feedback mechanism has historical precedents in money market fund runs ([Bank for International Settlements, 2023](#)), and the digital nature of stablecoins makes this vulnerability even more pronounced.

3) Market Side: Collapse of Confidence and Price De-pegging

The dual squeeze on both the asset and liability sides ultimately manifests in the market as price de-pegging. When the market raises fundamental doubts about an issuer’s solvency, the market price of the stablecoin will fall below par value, resulting in “de-pegging.” From this point onward, micro-level risks evolve into systemic events: de-pegging not only causes direct losses to holders but also transmits shocks to decentralized finance (DeFi) protocols, crypto exchanges, and even traditional financial institutions through the widespread use of stablecoins within the crypto ecosystem—as trading pairs, collateral, and settlement tools. During the 2023 Silicon Valley Bank crisis, USDC faced a liquidity crisis due to holding \$3.3 billion in deposits at Silicon Valley Bank, causing it to temporarily de-peg to \$0.87. This triggered a short-term sell-off of approximately \$12 billion in related U.S. Treasury products, leading to increased volatility in U.S. Treasury secondary market yields ([Bank for International Settlements, 2023](#)). This case fully demon-

strates the actual trajectory of the “asset side → liability side → market side” transmission chain and confirms that the risks associated with U.S. Treasury-pegged stablecoins are not merely theoretical constructs, but rather systemic risk hazards with real-world urgency.

2.3. The Risk Amplification Effect in the US Treasury-Stablecoin Linkage

If the aforementioned “asset side → liability side → market side” transmission chain were to occur solely within a single stablecoin issuer, the resulting impact would remain manageable. However, the unique feature of U.S. Treasury-pegged stablecoins lies in the fact that risk generation is not unidirectional or linear; rather, through the two-way interaction of the “reserve effect” and the “run effect,” it creates risk amplification and a feedback loop between the U.S. Treasury market and the stablecoin market.

The reserve effect refers to the structural impact on the U.S. Treasury market resulting from stablecoin issuers’ continuous accumulation of U.S. Treasuries. Empirical research indicates that inflows of stablecoin funds depress short-term U.S. Treasury yields, while outflows cause yields to rise, with the outflow effect being two to three times greater than the inflow effect (Zhang, 2025). In other words, the impact of stablecoin funds on the U.S. Treasury market exhibits significant asymmetry: During stable market periods, the continuous injection of stablecoin funds provides stable demand support for U.S. Treasuries, helping to lower U.S. fiscal financing costs; however, during periods of market stress, collective redemptions and asset sales by stablecoins amplify volatility in the U.S. Treasury market, creating a negative feedback loop: “stablecoin redemptions → U.S. Treasury sales → rising yields → falling U.S. Treasury prices → depreciation of stablecoin reserves → increased redemption pressure.”

The run effect reinforces this risk feedback loop from another direction. When the U.S. Treasury market itself experiences volatility due to Fed policy adjustments, worsening fiscal deficits, or global de-dollarization trends, the value of the reserve assets held by stablecoin issuers becomes unstable. This triggers doubts among holders regarding the stablecoins’ solvency, leading to a digital run; in turn, the forced selling resulting from the run exacerbates the supply-demand imbalance in the U.S. Treasury market. This two-way risk transmission implies that stablecoins are no longer merely passive recipients of U.S. Treasury market volatility but may also act as “accelerators” that actively amplify such volatility. Research by Adrian et al. (2022) on the relationship between stablecoins and monetary policy transmission also indirectly supports this assessment: Stablecoin asset allocation behavior may interfere with the efficiency of price signal transmission in the Federal Reserve’s open market operations, thereby increasing the uncertainty of monetary policy regulation.

It can be seen that the risk generation mechanism of Treasury-pegged stablecoins can be summarized as follows: credit risk, interest rate risk, and liquidity

risk in the Treasury market are introduced into the stablecoin system through the asset side, amplified by the digital run mechanism on the liability side, and ultimately result in price de-pegging in the market, which then spills over into the crypto ecosystem and the traditional financial system; simultaneously, the market behavior of stablecoins exerts a reverse impact on the U.S. Treasury market through reserve effects and run effects, creating cross-market and cross-system risk linkages and cyclical amplification. The establishment of this mechanism lays a theoretical foundation for identifying cross-border risk transmission pathways and constructing an effective regulatory framework.

3. Cross-Border Risk Transmission Pathways and the Generation of Money Laundering Risks

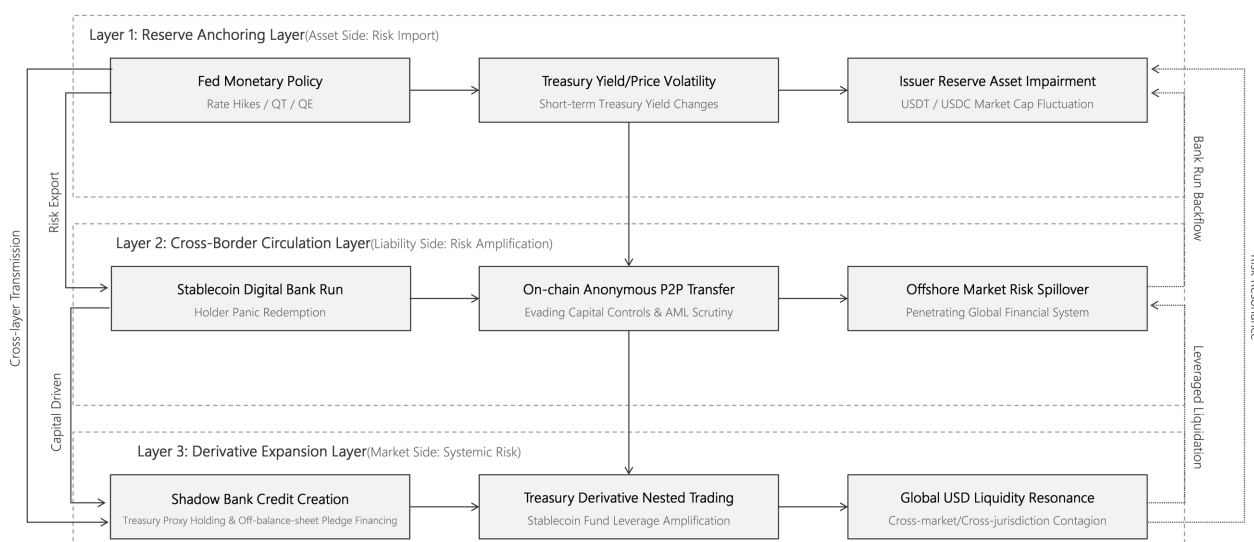
The transmission chain from the asset side → liability side → market side reveals the micro-level mechanism of risk generation in U.S. Treasury-pegged stablecoins, but its analytical scope remains limited to the direct interaction between the stablecoin system and the U.S. Treasury market. When stablecoins transcend the boundaries of a single jurisdiction through decentralized ledgers and anonymous account systems, the aforementioned micro-transmission chain acquires a cross-border dimension: after volatility in the U.S. Treasury market is introduced into the stablecoin system via reserve asset channels, it no longer operates solely within the closed loop between issuers and holders, but rather spreads to offshore markets by leveraging the convenience of cross-border stablecoin circulation, resulting in cross-market risk contagion; At the same time, as structural buyers in the U.S. Treasury market, the redemption pressures and asset sales by stablecoin issuers are transmitted in reverse through channels such as U.S. Treasury custody and derivatives trading back into the global U.S. dollar liquidity system.

3.1. The Three-Tier Interconnected Pathway: “Reserve Anchoring—Cross-Border Circulation—Derivative Expansion”

As outlined in **Figure 3**, the overall risk spillover of Treasury-linked stablecoins follows a three-layer interconnected transmission framework structured as “Reserve Anchoring—Cross-Border Circulation—Derivative Expansion”. This schematic clarifies how U.S. monetary shocks sequentially propagate from the reserve asset layer to cross-border off-chain circulation and eventually amplify systemic risks via shadow banking and derivatives expansion.

The risk linkage between stablecoins and the U.S. Treasury-derived mechanism is not a one-dimensional linear relationship, but rather a three-tiered linkage pathway: “reserve anchoring—cross-border circulation—derivative expansion.”

First Layer: Reserve Anchoring. Stablecoin issuers allocate the raised U.S. dollar funds on a large scale to U.S. Treasury bonds and repurchase agreements, making U.S. Treasuries the core asset backing for the stablecoin’s value anchor. This allocation model has evolved from an early commercial choice into an institutional arrangement: The 2025 GENIUS Act explicitly requires that high-quality



Source: Based on Mayer Brown (2026). OCC proposes comprehensive rulemaking to implement the GENIUS Act [EB/OL]. Federal Reserve (2025). Banks in the age of stablecoins: Some possible implications for deposits, credit, and financial intermediation [EB/OL]. Financial Action Task Force (2022). Targeted update on implementation of the FATF standards on virtual assets and virtual asset service providers [R]. Paris: FATF, 2022. Bank for International Settlements (2024). OTC derivatives statistics at end-2023 [R]. Data compiled.

Figure 3. The three-tier interconnected pathway of “Reserve Anchoring—Cross-Border Circulation—Derivative Expansion”.

liquid assets in compliant stablecoin reserves maintain a minimum 1:1 ratio, with short-term U.S. Treasuries designated as core eligible assets (Mayer Brown, 2026). In terms of actual allocations, as of June 30, 2025, U.S. Treasuries and repurchase agreements accounted for approximately 75% of Tether’s reserves and approximately 84% of Circle’s reserves during the same period (Federal Reserve, 2025). Standard Chartered Bank forecasts that the expansion of total stablecoin market capitalization by 2028 will generate approximately \$0.8 to \$1 trillion in new demand for short-term U.S. Treasuries. The reserve anchoring layer thus constitutes a “hard link” between the stablecoin system and the U.S. Treasury-derived system, through which the following three types of risks are introduced into the stablecoin system:

First, interest rate risk. U.S. Treasury yields and bond prices move in opposite directions. When the Federal Reserve raises interest rates or market interest rate expectations rise, the market value of existing U.S. Treasuries declines, and the reserve assets held by issuers face unrealized losses. Although short-term Treasury bonds have a lower duration and are less price-sensitive than medium- and long-term varieties, they cannot be ignored during aggressive rate-hiking cycles—during the period when the Federal Reserve raised rates by 425 basis points in 2022, the yield on 2-year Treasury bonds rose from 0.73% to 4.41% with short-term Treasury prices falling by over 5%. For stablecoin issuers holding hundreds of billions of dollars in these securities, the absolute amount of market value erosion remains substantial. Interest rate risk constitutes the most fundamental and frequent source of shocks to the reserve anchoring layer.

Second, market liquidity risk. When the stablecoin industry faces concentrated redemption pressure, issuers must liquidate large volumes of short-term Treasury bonds in a short period. However, the depth of the U.S. Treasury market is not infinite—particularly during periods of overall market stress, when bid-ask spreads for short-term Treasury bonds may widen significantly. Issuers are then forced to sell at a discount below the mid-price, incurring liquidation losses. The stablecoin run model constructed by Ma et al. (2025) indicates that issuers hold non-fully liquid reserve assets. Let φ denote the discount rate; for each unit of assets liquidated, only $(1 - \varphi)$ dollars can be obtained. When the redemption ratio λ exceeds $(1 - \varphi)$, the issuer becomes insolvent. The core of market liquidity risk lies in its ability to transform paper losses caused by interest rate risk into actual capital losses, serving as the direct mechanism triggering insolvency.

Third, credit/default risk. Short-term U.S. Treasury bonds are backed by U.S. sovereign credit and are traditionally regarded as “risk-free assets,” but this assumption is not absolute. During the 2023 U.S. debt ceiling standoff, CDS spreads on short-term U.S. Treasuries rose to over 200 basis points at one point, as the market briefly priced in the possibility of a U.S. technical default. If the U.S. sovereign credit rating is downgraded or fiscal discipline continues to deteriorate, credit spreads on short-term U.S. Treasuries will widen, directly impairing the fair value of reserve assets. Furthermore, since stablecoin issuers indirectly hold U.S. Treasuries through custodial arrangements with primary dealers, the default risk of these custodians constitutes an additional dimension of credit risk.

When comparing these three types of risks, interest rate risk is the most critical factor for short-term Treasury reserves. The reasons are as follows: although short-term U.S. Treasuries have a short duration, the scale of holdings by stablecoin issuers is enormous—as of 2025, the stablecoin industry held 39.3% of new short-term Treasury issuance (Zhang, 2025)—and the marginal impact of interest rate changes on the market value of reserves is amplified by the massive base; market liquidity risk is essentially a secondary effect of interest rate risk and is only triggered when rising interest rates coincide with concentrated redemptions; While credit/default risks carry severe consequences, their probability of occurrence is extremely low, classifying them as tail risks. Therefore, interest rate risk is the most common and core risk driver in the reserve anchoring layer, market liquidity risk acts as its transmission amplifier, and credit/default risk represents a systemic shock under extreme scenarios. At the same time, the stablecoin industry’s concentrated holdings of short-term Treasury bonds mean that its own redemption pressure could, in turn, impact the supply-demand dynamics of the U.S. Treasury market.

Second Layer: Cross-Border Circulation Layer. By virtue of their decentralized, bank-account-free peer-to-peer transaction characteristics, stablecoins inherently possess the ability to transcend the regulatory boundaries of traditional cross-border capital flows. After completing fund transfers via stablecoins, offshore institutions can access the U.S. Treasury nominee and derivatives trading markets,

thereby circumventing foreign exchange controls and anti-money laundering (AML) scrutiny inherent in traditional cross-border capital flows. According to research by the [Financial Action Task Force \(FATF\) \(2022\)](#), stablecoin funds account for 30% of money laundering cases involving U.S. Treasury nominee accounts, and the higher the level of nominee layering, the more difficult it is to trace the funds. The cross-border circulation layer transforms stablecoins from mere payment tools within the crypto ecosystem into cross-border channels connecting “domestic capital pools—offshore stablecoin platforms—the secondary market for U.S. Treasuries,” thereby expanding the transmission of risks—originally confined to a single market—into cross-jurisdictional risk propagation.

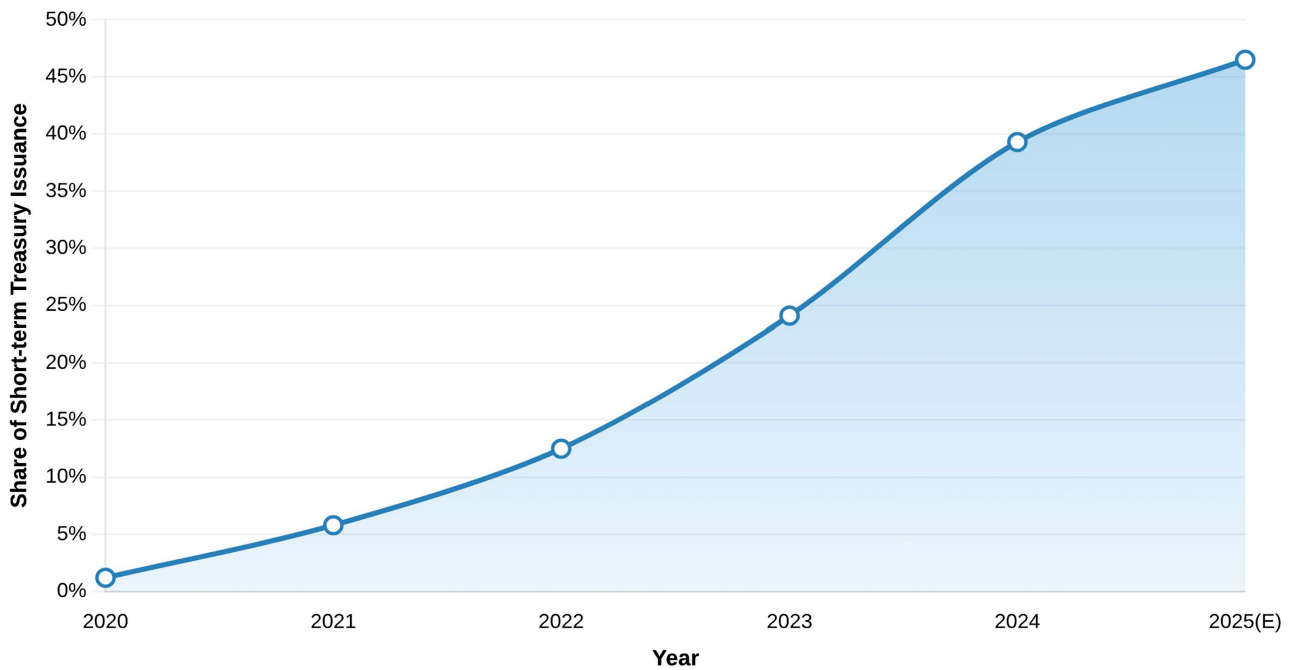
Third Layer: Derivative Expansion Layer. The incremental capital brought by stablecoins has driven the expansion of the U.S. Treasury securities custody business. Primary dealers provide off-balance-sheet custody services to stablecoin issuers, further amplifying the credit creation effect of U.S. Treasuries. At the same time, stablecoin funds participating in U.S. Treasury derivatives trading have increased the overall leverage level in the derivatives market. According to statistics from the Bank for International Settlements (BIS), as of the end of 2023, stablecoin-related funds accounted for 12% of the over-the-counter (OTC) trading volume in U.S. Treasury derivatives ([Bank for International Settlements, 2024](#)). This expansion of credit creation implies that stablecoins are no longer merely passive investors in the U.S. Treasury market; rather, through their participation in credit creation and derivatives trading, they have become active participants and amplifiers of the U.S. Treasury credit creation mechanism. The convergence of these three interconnected pathways has elevated risk transmission from micro-level asset-liability interconnections to macro-level systemic risk resonance.

As quantified in [Figure 4](#), the proportion of U.S. short-term Treasury securities held by stablecoin issuers has climbed continuously from 2020 to the projected 2025, which numerically corroborates the expanding role of stablecoins as important holders in the U.S. Treasury market and verifies their growing influence on domestic Treasury credit creation.

3.2. Analysis of the Transmission Chain from Federal Reserve Policy to the Stablecoin Market

Within the transmission network formed by the aforementioned three-tier inter-linked pathways, adjustments to the Federal Reserve’s monetary policy serve as the most significant source of external shocks. Their transmission to the stablecoin market follows the chain: “policy adjustment → changes in U.S. Treasury yields → fluctuations in reserve values → shifts in market confidence and liquidity,” with each step exhibiting distinct cross-border transmission characteristics.

Step 1: Federal Reserve policy adjustments drive fluctuations in U.S. Treasury yields. By adjusting the federal funds rate and implementing quantitative easing or balance sheet reduction operations, the Federal Reserve directly influences yield levels in the U.S. Treasury market. Interest rate hikes typically push up short-term



Sources: President’s Working Group on Financial Markets (2021), Federal Deposit Insurance Corporation, Office of the Comptroller of the Currency. Interagency Report on Stablecoins [R]. Washington, D.C.: President’s Working Group on Financial Markets, 2021. Circle Internet Financial (2024). USDC reserve assets disclosure report, Q1 2024 [EB/OL].

Figure 4. Stablecoin holdings of U.S. treasury bonds as a percentage of U.S. short-term treasury issuance (2020-2025).

U.S. Treasury yields, while quantitative tightening raises money market rates by reducing the supply of reserves. Since the reserve assets held by stablecoin issuers consist primarily of short-term U.S. Treasuries, changes in Federal Reserve policy directly affect the pricing benchmarks for their asset side.

Step 2: Fluctuations in U.S. Treasury yields are transmitted to the value of stablecoin reserve assets. U.S. Treasury yields and bond prices move in opposite directions; rising yields cause the prices of existing U.S. Treasuries to fall, resulting in mark-to-market losses for the reserve assets held by stablecoin issuers. This transmission mechanism was demonstrated in practice during the Federal Reserve’s aggressive rate-hiking cycle in 2022. More critically, the asset allocation of stablecoin issuers exhibits a high degree of homogeneity—the majority of issuers concentrate their holdings in short-term U.S. Treasuries. This makes the entire industry susceptible to convergent shocks from fluctuations in U.S. Treasury yields, leaving little room for risk diversification.

Step 3: Fluctuations in the value of reserve assets undermine confidence in the stablecoin market. When rising U.S. Treasury yields erode the net value of reserve assets, and issuers fail to provide adequate disclosure, market participants may question the stablecoin’s ability to maintain full pegging. The “two-tier market structure” of the stablecoin market amplifies this effect: upon detecting a decline in reserve value, arbitrageurs rush to redeem their holdings in the primary market to hedge against risk, while panic selling by ordinary holders in the secondary market further depresses stablecoin prices (Ma et al., 2025).

Step 4: A collapse in confidence triggers a cross-border liquidity crisis. This echoes the “digital run” mechanism analyzed in Part 2, but the cross-border dimension must be emphasized here. Holders of decentralized stablecoins are spread across the globe, and panic spreads instantaneously across borders via on-chain data and social networks. Once a run is triggered, issuers are forced to sell U.S. Treasuries at a discount to meet redemption demands, and this selling further depresses U.S. Treasury prices, creating a cross-border negative feedback loop: “falling U.S. Treasury prices → shrinking reserves → increased redemption pressure → further selling”. Given the global nature of the U.S. Treasury market, the impact of this cycle is not confined to the United States but spreads to the global financial system through offshore dollar repo markets and cross-border U.S. Treasury holding channels—it has been demonstrated that European financial institutions’ holdings of U.S. Treasuries significantly affect the transmission efficiency of global dollar liquidity, and the cross-border nature of stablecoins makes this transmission even more rapid and complex.

3.3. Generation and Classification of Money Laundering Risks under Interconnected Effects

The three-tier interconnection between stablecoins and the U.S. Treasury debt issuance mechanism not only amplifies inherent financial risks but also gives rise to new money laundering channels with independent operational logic. Such risks are not merely a simple superposition of the individual flaws of the two mechanisms, but rather a product of qualitative change resulting from their deep coupling: the opacity of reserve assets creates opportunities for information arbitrage, the anonymity of cross-border circulation facilitates identity concealment, and the leverage effect of credit-driven expansion significantly shortens the money laundering cycle. From the interactive structure of this linkage mechanism, the following four categories of money laundering risks can be identified, each with distinct conditions for emergence and transmission logic.

First, arbitrage-based money laundering triggered by information asymmetry regarding reserves. When stablecoin issuers fail to fully disclose the details of their U.S. Treasury reserve holdings, maturity structure, and valuation methods, the information asymmetry resulting from “over-issuance” or “misappropriation of reserves” serves as the trigger for this type of risk. Money launderers exploit price discrepancies created by reserve opacity to conduct arbitrage transactions by manipulating the spread between the stablecoin and the underlying U.S. Treasuries, thereby mixing illicit funds into normal transaction flows to complete their transfer and laundering. In a 2023 incident involving reserve fraud at a leading stablecoin, the implicated institution fabricated the scale of its U.S. Treasury holdings, obscuring the flow of over \$5 billion in cross-border laundered funds (U.S. Securities and Exchange Commission, 2023). Due to the lack of reserve transparency, regulators find it difficult to verify in real time whether stablecoins are fully backed. Traditional “Suspicious Transaction Reporting” systems are unable to effectively identify illicit funds mixed into arbitrage transactions, resulting in sys-

temic blind spots in anti-money laundering monitoring.

Second, identity-concealing money laundering resulting from the combination of cross-border anonymity and nominee arrangements. The emergence of such risks relies on a dual regulatory disconnect between anonymous wallets and offshore shell companies acting as nominees—on-chain wallets do not require customer identification, and offshore nominee arrangements do not require piercing the beneficial owner. The two fall under different regulatory jurisdictions and are not interconnected. Money launderers first transfer funds across borders via anonymous stablecoin accounts, then use the multi-layered nominee structure of U.S. Treasury bonds to further conceal the actual controllers, forming a complete concealment chain of “anonymous transfer—shell company nominee holding—concealment of U.S. Treasury bond holdings”. Research by the Financial Action Task Force (FATF) indicates that stablecoin funds account for 30% of money laundering cases involving U.S. Treasury bond nominee arrangements, and the higher the level of nominee holding, the greater the difficulty in tracing the funds (Financial Action Task Force, 2022). This dual concealment mechanism renders traditional “Know Your Customer” (KYC) and “Suspicious Transaction Reporting” (STR) systems ineffective in identifying beneficial owners. Regulatory actions within a single jurisdiction are also unable to trace funds across chains and jurisdictions, presenting the most intractable operational challenge currently facing anti-money laundering (AML) regulation.

Third, accelerated money laundering driven by the combination of collateralized financing and highly leveraged derivatives. The trigger conditions are: high-liquidity collateralized financing using stablecoins and highly leveraged trading of U.S. Treasury derivatives are both readily accessible, and compliance review standards for derivatives trading are significantly lower than those for the spot market. Money launderers use illicitly sourced stablecoins as collateral to obtain financing, then use complex transactions in U.S. Treasury derivatives to superficially legitimize the funds, forming an “collateralization—financing—derivatives hedging” acceleration chain. A report by the U.S. Financial Crimes Enforcement Network (FinCEN) notes that this model shortens the money laundering cycle by more than 50% compared to traditional methods (U.S. Commodity Futures Trading Commission, 2023). The multi-layered nested structure of derivatives makes it difficult to trace the flow of funds, and the boundary between compliant and non-compliant transactions is becoming increasingly blurred. Even if regulators identify abnormal trading patterns, it is difficult to isolate the exact path of illicit funds within the complex nested structure, leading to prominent issues such as difficulties in evidence collection and low efficiency in asset recovery.

Fourth, money laundering through regulatory arbitrage arising from differences in regulatory standards. This risk stems from significant disparities among jurisdictions in the regulation of stablecoin issuance, circulation, and offshore U.S. Treasury trading, particularly as offshore financial centers have yet to establish a statutory regulatory framework for decentralized stablecoins. Money launderers

link the offshore circulation of stablecoins with offshore U.S. Treasury trading, selecting jurisdictions with the most lenient regulations as transit hubs to construct an arbitrage chain of “offshore circulation—offshore trading—compliant outbound capital transfers,” thereby circumventing anti-money laundering scrutiny and capital controls. The “low-hanging fruit effect” created by regulatory fragmentation dilutes the regulatory effectiveness of individual nations through cross-border capital transfers. The FATF assessment report indicates that currently only a few jurisdictions have established comprehensive regulatory frameworks covering the issuance, circulation, and reserve management of stablecoins (Financial Action Task Force, 2022), resulting in significant coordination barriers for international anti-money laundering cooperation. Consequently, unilateral regulatory efforts by any single jurisdiction risk being effectively rendered ineffective due to the instantaneous cross-border movement of funds.

4. International Comparison of Regulatory Practices and Assessment of Effectiveness

The preceding analysis demonstrates that the risk generation and cross-border transmission of U.S. Treasury-pegged stablecoins make them complex nodes connecting the U.S. Treasury market, the global dollar liquidity system, and illicit capital flows. In response to this new form of risk, major global economies and international organizations have gradually developed differentiated regulatory approaches. The United States has established a two-tier regulatory system through the GENIUS Act; the European Union has constructed a classification-based regulatory framework via MiCA; Hong Kong, China, has established a licensing regime under the Stablecoin Regulation; while the FATF and FSB are promoting international coordination from the dual dimensions of anti-money laundering compliance and systemic risk prevention (Tan, 2026). An international comparison of regulatory practices must focus on three core areas—issuance management, reserve management, and circulation and settlement—to systematically compare the regulatory characteristics of different models at key operational junctures, thereby evaluating their regulatory effectiveness from multiple dimensions.

As summarized in Table 1, core regulatory provisions governing stablecoin issuance, reserve management and circulation differ noticeably across the U.S. GENIUS Act, the EU MiCA framework and Hong Kong’s stablecoin regulatory rules. The table systematically sorts out differentiated licensing criteria, qualification thresholds and supervisory arrangements among three representative jurisdictions, laying a clear foundation for the subsequent cross-jurisdictional regulatory effectiveness comparison.

4.1. Comparison of Rules across Typical Regulatory Models

The above rules reflect the differences among three regulatory paradigms. **The U.S. Model—Dollar-Centric and Innovation-Friendly:** Limiting reserve assets to high-quality, U.S. dollar-denominated assets both reinforces the dollar’s

Table 1. Comparison of core rules across major global stablecoin regulatory models.

Area	United States (GENIUS Act)	EU (MiCA)	Hong Kong, China (Stablecoin Regulation)
Issuance Management	Restricted to “payment stablecoins” pegged to a single fiat currency; issuance permitted only by non-bank entities (NBEs) and subsidiaries of deposit-taking institutions (IDIs); no explicit minimum paid-in capital requirement, with a focus on compliance reviews	Distinguishes between Electronic Money Tokens (EMT, pegged to a single fiat currency) and Asset-Referenced Tokens (ART, pegged to multiple assets); EMT issuers must be electronic money institutions or credit institutions, while ART issuers must meet capital and governance requirements	Focuses on fiat-pegged stablecoins; requires issuers to be licensed institutions with paid-up capital of no less than HK\$25 million and a physical presence in Hong Kong; exercises jurisdiction over offshore stablecoins pegged to the Hong Kong dollar or marketed to the Hong Kong public
Reserve Management	Reserve assets are limited to high-quality U.S. dollar assets such as cash, short-term U.S. Treasury bonds, and repurchase agreements; requires a 1:1 peg, with regular audits and disclosures; no mandatory designation of a custodian, but asset segregation is required	100% collateralization with highly liquid assets; high-risk investments are prohibited; daily reconciliation, independent audits, and mandatory public disclosure	Reserve assets are limited to high-quality assets such as cash and short-term Treasury bonds, and must be held in custody by a licensed Hong Kong bank; monthly disclosure of audit reports to ensure that reserves match the amount in circulation
Circulation and Settlement	Decentralized regulation between the federal and state levels; trading platforms are required to fully verify user identities; an anti-money laundering/counter-terrorist financing framework led by FinCEN, integrated with the OFAC sanctions list; long-arm jurisdiction applied to stablecoins serving U.S. users from overseas	Co-regulation by the EU and member states, implementing a “passport system” (a single authorization valid across the entire EU); equivalence-based access for stablecoins from third countries; requiring platforms to establish independent anti-money laundering/counter-terrorist financing compliance departments	Centralized supervision by the Hong Kong Monetary Authority; implementation of tiered identity verification and deployment of smart monitoring to report suspicious transactions; mandatory licensing for relevant stablecoins issued overseas, and implementation of the “Travel Rule”

Source: Compiled by the author based on Tan (2026), Mayer Brown (2026), and Sullivan & Cromwell LLP (2026).

anchoring role in the global stablecoin system and encourages fintech innovation through flexible entry thresholds; simultaneously, it extends regulatory authority

overseas via the “long-arm jurisdiction” principle, effectively safeguarding the dollar’s dominance in the global payment network. **The EU Model—Risk Tiering and Union-Wide Coordination:** By applying differentiated prudential requirements to stablecoins of varying risk levels through EMT/ART classifications, and leveraging the “passporting system” to achieve uniform regulatory standards and cross-border coordination within the Single Market, this model prevents external risks from entering the eurozone financial system. **Hong Kong Model—Licensed Access and Geographical Risk Isolation:** Qualified issuers are screened through high paid-in capital thresholds and local entity requirements; reserve assets are mandatorily held in custody by locally licensed banks; risk isolation is achieved through “geographical anchoring plus institutional backing,” thereby safeguarding the stability of the Hong Kong dollar.

Although these three models follow different paths, they share three common trends: all focus on fiat-pegged stablecoins and generally exclude algorithmic stablecoins to avoid the risks associated with unclear legal status; all require reserve assets to be highly liquid and mandate information disclosure; and all emphasize cross-border regulatory coordination and anti-money laundering compliance.

4.2. Differentiated Assessment of Regulatory Effectiveness

The differences in rules across various stages of the operational mechanisms of major regulatory models not only reflect their differing priorities regarding the protection of monetary sovereignty and the prevention and control of financial risks, but also collectively point to the core dilemma currently facing global stablecoin governance: the asymmetry of technical capabilities and the fragmentation of international regulation.

First, technological capabilities determine the effectiveness of penetrative supervision. Regarding on-chain transaction tracking and fund tracing, the United States has established a three-pronged monitoring system comprising “regulatory agencies + specialized blockchain analysis firms + issuer disclosures.” On-chain tracking conducted by the U.S. Commodity Futures Trading Commission (CFTC) in collaboration with organizations such as Chainalysis has enabled it to achieve a fund recovery rate of over 50% in certain cases ([U.S. Commodity Futures Trading Commission, 2023](#)). In contrast, China still relies on traditional anti-money laundering data systems for on-chain transaction monitoring, and its ability to identify new fund transfer models—such as peer-to-peer transactions between decentralized wallets and cross-chain bridge transfers—remains inadequate. The FATF has explicitly emphasized that countries should establish technical expertise, including blockchain analysis, to address the anonymity challenges posed by stablecoins ([Financial Action Task Force, 2025](#)).

Second, regulatory fragmentation creates opportunities for cross-border regulatory arbitrage. Although the FATF and the FSB have promoted the harmonization of global regulatory standards, differences among jurisdictions regarding the definition of regulatory scope, the setting of entry thresholds, and reserve asset

requirements still provide money launderers with opportunities for regulatory arbitrage. The FATF's assessment report notes that currently only a few jurisdictions have established dedicated regulatory frameworks covering all participants in the stablecoin ecosystem; this fragmented state further complicates cross-border regulatory coordination. Money launderers can position stablecoin activities in offshore financial centers with lax regulations and exploit differences in national regulatory standards to freely transfer illicit funds between "prohibited zones" and "compliant zones."

As demonstrated in **Table 2**, notable gaps exist between China and the United States in the anti-money laundering (AML) regulatory performance targeting stablecoins across multiple measurable indicators. In terms of compliance cost ratio, illicit fund retrieval efficiency, on-chain surveillance capacity and cross-border regulatory coordination, the U.S. stablecoin-focused regulatory framework outperforms China's channel-blocking-oriented supervision model on most quantitative metrics.

Table 2. Comparison of anti-money laundering regulatory effectiveness related to stablecoins in China and the U.S.

Indicator Dimensions	United States (Stablecoin-Led Regulation)	China (Blocking Stablecoin Channels)
Percentage of Fines/ Compliance Expenditures	15% - 18%	5% - 6.5%
Fund Recovery Rate	53.9% - 69.2%	24% - 26.25%
Stablecoin on-chain monitoring capabilities	Strong (in collaboration with blockchain institutions)	Weak (Lack of on-chain data channels)
Cross-border collaboration efficiency	High (average investigation period: 6 months)	Low (average investigation period: 12 months)

Source: Stablecoin holdings as a percentage of U.S. short-term Treasury issuance: [President's Working Group \(2021\)](#), [Circle \(2024\)](#); Stablecoins account for 30% of money laundering cases involving Treasury bond nominee accounts: [FATF \(2022\)](#); Stablecoin-related funds account for 12% of the OTC market for U.S. Treasury derivatives: [BIS \(2024\)](#); Anti-money laundering asset recovery rates and monitoring efficiency in China and the U.S.: [FinCEN](#), [CFTC](#), [FATF](#), and internal assessments by the People's Bank of China.

5. Research Limitations

This paper primarily relies on theoretical frameworks and institutional analysis and has the following limitations:

- 1) The study centers on conceptual models and the deduction of transmission mechanisms; it does not use econometric models to quantitatively estimate the causal effects and impact intensity of each transmission pathway.
- 2) The data relies heavily on issuers' publicly disclosed reserves, policy documents, and market statistics; some micro-level transaction data is unavailable, making it difficult to accurately estimate undisclosed reserves.
- 3) No heterogeneity analysis was conducted on the risk differences among dif-

ferent issuers (e.g., USDT, USDC).

4) There is a lack of stress test simulations regarding the time lags, spillover magnitudes, and tail risk scenarios associated with cross-border transmission.

Future research could combine on-chain data with high-frequency government bond data to conduct empirical tests, thereby enhancing the precision of conclusions and the value of policy recommendations.

6. Conclusions and Policy Implications

6.1. Key Findings

Based on the theory of money creation, this paper places U.S. Treasury-pegged stablecoins within a unified analytical framework of “U.S. Treasury-derived - stablecoin-pegged - risk linkage,” systematically analyzing their risk generation mechanisms, cross-border transmission pathways, and regulatory governance logic. The study yields the following core conclusions.

First, the economic essence of U.S. Treasury-pegged stablecoins is a new form of the shadow banking system operating within a blockchain environment, and the root cause of their risk lies in the deep coupling between their liquidity conversion function and the mechanism for deriving value from U.S. Treasuries. By allocating a large portion of their reserve assets to short-term U.S. Treasuries, stablecoin issuers are directly exposed to interest rate and credit risks in the U.S. Treasury market on the asset side, while on the liability side, they engage in maturity mismatch through liquidity liabilities backed by immediate redemption commitments (Gorton & Zhang, 2021). This operational model causes risk generation in stablecoins to follow a progressive transmission chain from “asset side → liability side → market side”: fluctuations in U.S. Treasury yields are introduced into the stablecoin system via the depreciation of reserve assets, triggering panic redemptions in the digital environment at a speed far exceeding that of traditional bank runs, and ultimately leading to price de-pegging in the market and spillover effects into the crypto ecosystem and the traditional financial system (Ma et al., 2025). The sell-off of U.S. Treasuries triggered by the USDC de-pegging during the 2023 Silicon Valley Bank crisis has fully validated the reality of this transmission chain (Bank for International Settlements, 2023).

Second, a three-tiered interlinked pathway exists between stablecoins and the U.S. Treasury derivative mechanism—namely, “reserve anchoring - cross-border circulation - derivative expansion”—which constitutes the structural foundation for cross-border risk transmission and the generation of money laundering risks. The reserve anchoring layer serves as the entry point for risk; the cross-border circulation layer spreads risk to offshore markets by leveraging the anonymity and peer-to-peer transaction characteristics of stablecoins; and the derivative expansion layer amplifies credit leverage through U.S. Treasury custody and derivatives trading. Adjustments to the Federal Reserve’s monetary policy are transmitted to the stablecoin market along this three-tier pathway, forming a complete transmission chain: “policy adjustment → changes in U.S. Treasury yields → fluctuations in

reserve value → collapse of market confidence → cross-border liquidity crisis”, thereby creating cross-market and cross-jurisdictional risk resonance. Concurrently, this three-tier interplay gives rise to four categories of money laundering risks: information-arbitrage-based money laundering exploiting opaque reserve assets; dual-overlay money laundering combining anonymous transactions with the concealment of identities through U.S. Treasury holdings; the money laundering acceleration effect stemming from leveraged trading and nested derivatives; and regulatory arbitrage-based money laundering resulting from fragmented oversight.

Third, global stablecoin regulation exhibits a divergence of paradigms, having crystallized into three typical regulatory models: “dollar-centric and innovation-friendly” (U.S.), “risk-tiered and alliance-coordinated” (EU), and “licensed access and regional risk isolation” (Hong Kong, China) (Tan, 2026). The significant differences among these three paradigms in terms of entry barriers, reserve asset requirements, and the allocation of cross-border regulatory authority provide money launderers with opportunities for cross-border regulatory arbitrage. The *Financial Stability Board’s Peer Review Report (2025)* also notes significant gaps and inconsistencies among jurisdictions in implementing stablecoin regulatory recommendations. A quantitative comparison of regulatory effectiveness between China and the United States further demonstrates that the asymmetry in on-chain penetration monitoring capabilities is a key technical bottleneck constraining the improvement of regulatory effectiveness, while the fragmentation of regulatory standards leaves the regulatory efforts of a single jurisdiction vulnerable to being undermined by cross-border arbitrage activities.

6.2. Policy Implications

The risks associated with U.S. Treasury-pegged stablecoins have transcended the scope of individual markets or institutions, becoming a new systemic challenge for global financial governance. As a major player in digital finance and a sovereign nation in monetary affairs, China must not only guard against the importation of cross-border risks but also take the initiative in establishing a global governance framework for stablecoins. This paper proposes targeted regulatory optimization recommendations across three dimensions, constructing a systematic governance pathway centered on the dual-dimensional concept of “function-penetration” and integrating “institutional framework, technological empowerment, and international coordination”.

First, establish a tiered and categorized regulatory framework based on the “function-penetration” approach. The aforementioned comparison of regulatory effectiveness between China and the United States has clearly demonstrated that a single-channel blocking model has significant limitations in terms of fund recovery rates and the efficiency of cross-border investigations. Drawing on the logic of categorized and tiered regulation under the EU’s MiCA and the experience of Hong Kong’s licensing and market access system, it is recommended to

transition the regulatory philosophy from “blanket blocking” to “categorized regulation”. In terms of functional regulation, based on the principle of “same business, same risk, same regulation,” the entire process of issuance, reserves, circulation, and settlement of U.S. Treasury-pegged stablecoins should be subject to regulatory standards consistent with those of similar financial businesses. Issuers of U.S. Treasury-pegged stablecoins should be explicitly included within the scope of financial institutions subject to anti-money laundering (AML) obligations, and core AML obligations such as customer due diligence (CDD) and reporting of large and suspicious transactions should be imposed (Financial Action Task Force, 2025). In terms of penetrative supervision, adhering to the principle of “substance over form,” the authorities will draw on the practical experience of the United States in collaboration with blockchain analysis firms such as Chainalysis to establish cooperative mechanisms with on-chain data analysis institutions, thereby enhancing the ability to accurately identify and dynamically monitor transactions linked to stablecoins and U.S. Treasury-derived businesses. In February 2026, the People’s Bank of China and seven other departments jointly issued the “Notice on Further Preventing and Addressing Risks Related to Virtual Currencies and Other Matters”, which for the first time incorporated stablecoins and the tokenization of real-world assets (RWAs) into a unified regulatory framework, providing a crucial policy foundation for the aforementioned institutional development. It is recommended that, building on this foundation, a closed-loop regulatory system be established encompassing “issuer access - segregation of reserve assets - end-to-end risk monitoring” (China Financial Information Network, 2026).

Second, strengthen regulatory coordination on stablecoin technology through “Hong Kong-Shenzhen collaboration and a dual-track approach.” The aforementioned analysis indicates that on-chain penetration monitoring capabilities are the core determinant of regulatory effectiveness. Currently, China relies on traditional anti-money laundering (AML) data systems for tracing on-chain transactions, resulting in insufficient capacity to identify new fund transfer models such as peer-to-peer transactions between decentralized wallets and cross-chain bridge transfers. To address money laundering risks, it is recommended to establish a “Hong Kong-Shenzhen On-Chain Data Collaborative Analysis Platform” based on the licensed access system and centralized regulatory framework established under Hong Kong’s Stablecoin Ordinance. This platform should integrate blockchain analysis tools and artificial intelligence technology to enable visual tracking of the entire stablecoin lifecycle—from issuance and circulation to redemption and derivatives trading. The focus should be on developing specialized monitoring models to address information arbitrage-based money laundering, double concealment-based money laundering, and derivatives-accelerated money laundering patterns arising from the three-tier interlinked pathways, thereby enhancing the efficiency of penetrating identification of cross-chain anonymous transactions and complex nested operations. At the same time, we will achieve interconnectivity between the anti-money laundering data systems of Hong Kong and Shenzhen, establish a joint as-

assessment and rapid response mechanism for cross-border abnormal capital flows, and provide a technical barrier to prevent the cross-border transmission of risks associated with U.S. Treasury-pegged stablecoins.

Third, actively participate in the formulation of global stablecoin regulatory rules and promote the establishment of a coordinated and unified international governance framework. Comparisons of regulatory paradigms and the results of the FSB peer review jointly indicate that significant differences among jurisdictions in the regulatory rules governing stablecoin issuance, reserve management, and circulation and settlement are creating de facto regulatory arbitrage opportunities; regulatory efforts in any single jurisdiction may be undermined by cross-border arbitrage activities. China should proactively participate in the formulation of global stablecoin governance rules. Relying on international financial organizations such as the Financial Action Task Force (FATF) and the Bank for International Settlements (BIS), China should promote the establishment of globally unified regulatory standards for U.S. Treasury-pegged stablecoins, focusing on reaching international consensus on core rules such as transparency in U.S. Treasury holdings, data sharing for cross-border transaction monitoring (the “Travel Rule” advocated by the FATF), and segregated custody of reserve assets (Financial Action Task Force, 2022). Under prudent and controllable conditions, small-scale pilot collaborations could be explored in the Shanghai Pilot Free Trade Zone and Hong Kong regarding the alignment of cross-border stablecoin regulatory standards and data sharing, providing a reference for accumulating practical experience. At the same time, leveraging existing cooperative platforms such as the “Multilateral Central Bank Digital Currency Bridge” (mBridge), feasible pathways should be explored to reduce reliance on U.S. dollar-pegged stablecoins in cross-border payment scenarios using the digital yuan, thereby contributing a “Chinese solution” to global stablecoin governance.

Note

The data in this article was sourced from the official websites of stablecoin issuers and official disclosures by the Federal Reserve, with full consideration given to the authority of the data sources and the comprehensiveness of the data content.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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