Stablecoins: From Niche Assets to Financial System Disruptors

Executive Summary

Stablecoins have evolved from experimental cryptocurrency tokens into critical financial infrastructure worth $290 billion, processing $4.68 trillion in monthly transfers and dominating 82% of all cryptocurrency trades. This transformation has created a paradox: stablecoins are simultaneously solving real problems (cross-border payment costs, financial inclusion, currency protection) while creating new systemic risks (monetary policy disruption, financial stability threats, sovereignty erosion, and illicit finance channels).

The stablecoin market is at an inflection point. Regulatory frameworks are solidifying globally—from the EU's comprehensive MiCA regulation to emerging standards in Singapore, Hong Kong, and the United States. Central banks are deploying competing Central Bank Digital Currencies (CBDCs), with e-CNY already processing nearly $1 trillion in transactions. Meanwhile, the market continues to grow at 17.8% annually, with projections reaching $1.1 trillion by 2035.

This report synthesizes research across eight dimensions of stablecoin impact: market structure, remittance economics, financial inclusion, monetary policy transmission, DeFi infrastructure, regulatory frameworks, CBDC competition, and systemic risks. The analysis reveals that stablecoins' ultimate economic impact will be determined not by technology but by policy choices made in 2025-2027 regarding regulatory harmonization, banking integration, and CBDC design.

Key Finding: Stablecoins represent a fundamental shift in how digital money functions—from centralized issuance by governments to decentralized networks backed by private reserves. This shift creates both unprecedented opportunities (50-70% cost reductions in remittances, real-time settlement, financial inclusion) and documented risks (run dynamics, illicit finance, monetary policy disruption, and "dollarization by stealth" in emerging markets).

Part I: Market Structure and Current State

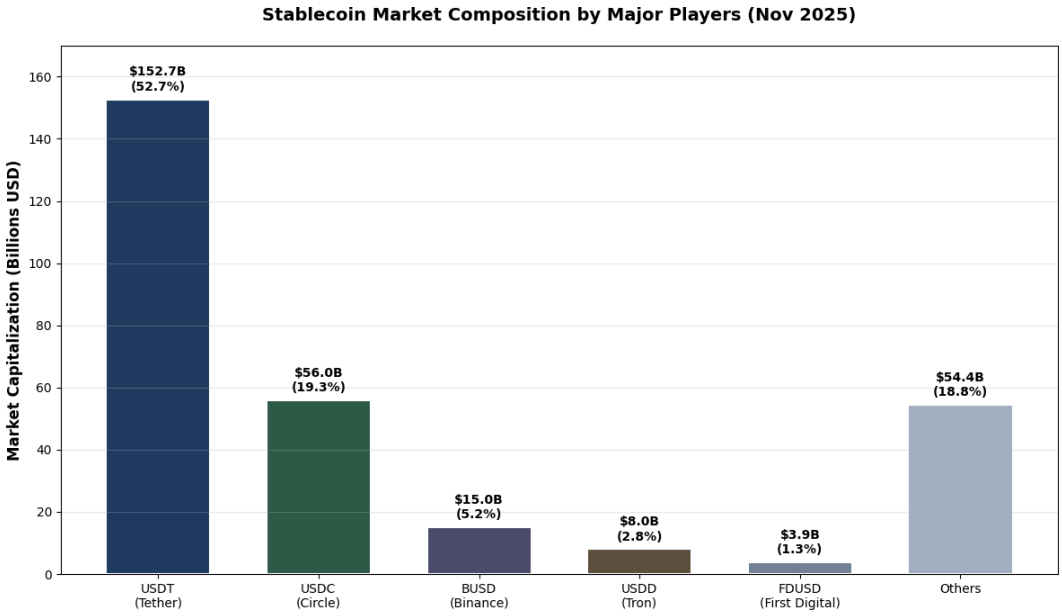
The Stablecoin Market: Scale and Composition

The stablecoin market has reached critical mass, with total market capitalization of $290 billion as of November 2025, representing a tenfold increase from early 2020. This growth trajectory reflects genuine utility rather than speculation—monthly transfer volumes of $4.68 trillion now exceed combined Visa and Mastercard annual volumes, and monthly active addresses have grown to 40.9 million.

Global Stablecoin Market Cap Growth (2020-2025)

The market experienced significant volatility, peaking at $180 billion in early 2022 before contracting to $130 billion following the Terra Luna collapse and subsequent crypto winter. The recovery from 2023 onward has been dramatic and sustained, suggesting that regulatory clarity and institutional adoption are driving growth rather than speculation. The market grew from $235 billion in May 2025 to $290 billion by November 2025—a $55 billion increase in just six months—indicating accelerating adoption.

The market composition reveals extreme concentration around two dominant players:



Stablecoin Market Composition by Major Players (November 2025)

USDT (Tether) maintains commanding dominance with $152.7 billion (52.7% market share), reflecting its first-mover advantage (launched 2014) and deep integration into cryptocurrency trading infrastructure. USDC (Circle) has emerged as the fastest-growing major stablecoin with 78% year-over-year growth, capturing 19.3% market share ($56 billion). This growth reflects Circle's regulatory compliance strategy—it was the first major stablecoin issuer to comply with the EU's MiCA regulation and Canada's new listing rules.

Key Insight: The market is consolidating around regulated, compliant issuers. USDT and USDC together represent 72% of the market, while smaller competitors (BUSD, USDD, FDUSD) collectively hold 9.3%. This concentration reflects regulatory barriers to entry that favor established players with compliance infrastructure and capital resources.

Transaction Volumes and Adoption Metrics

The true measure of stablecoin importance lies not in market capitalization but in transaction volumes and active usage:

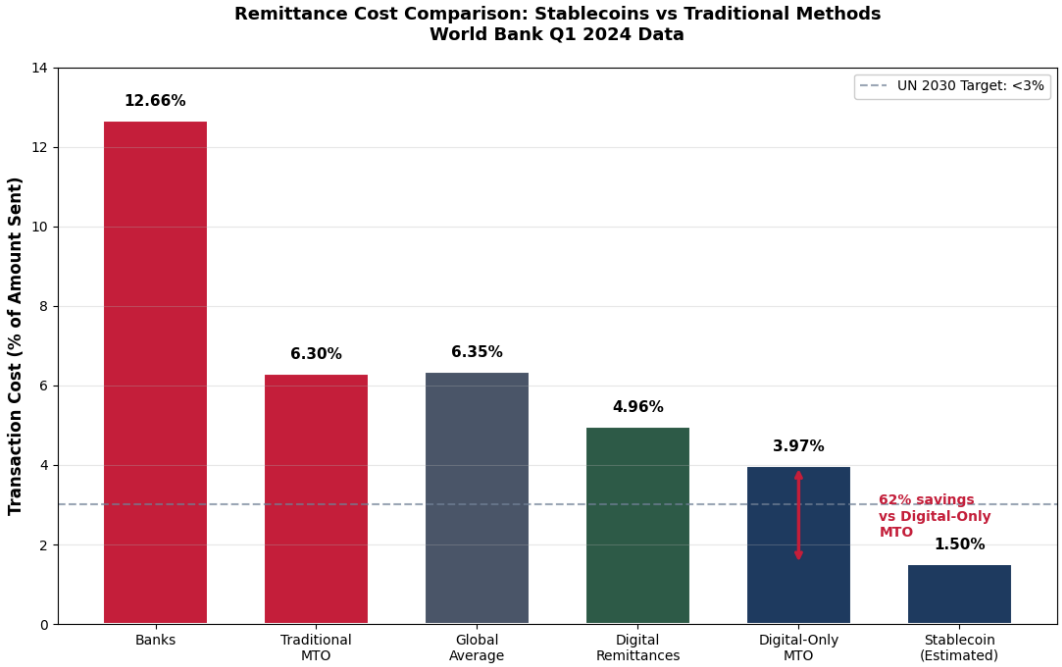
- **Annual transaction volume (2024)**: $25.8 trillion (exceeds Visa + Mastercard by 7.68%)
- **Monthly transfer volume (November 2025)**: $4.68 trillion
- **Daily trading volume**: $92.84 billion
- **Monthly active addresses**: 40.9 million (up 24.84% month-over-month)
- **Total stablecoin holders**: 204.78 million (up 2.86% month-over-month)

These metrics demonstrate that stablecoins have moved beyond a speculative asset class to become genuine payment infrastructure. The 24.84% month-over-month growth in active addresses indicates accelerating mainstream adoption, while the 204.78 million total holders suggests penetration comparable to major payment networks.

Part II: Economic Impact on Remittances and Cross-Border Payments

The Cost Revolution in Cross-Border Payments

Stablecoins are fundamentally disrupting the remittance market, which currently processes $812 billion annually at an average cost of 6.35%. The economic impact is transformative:



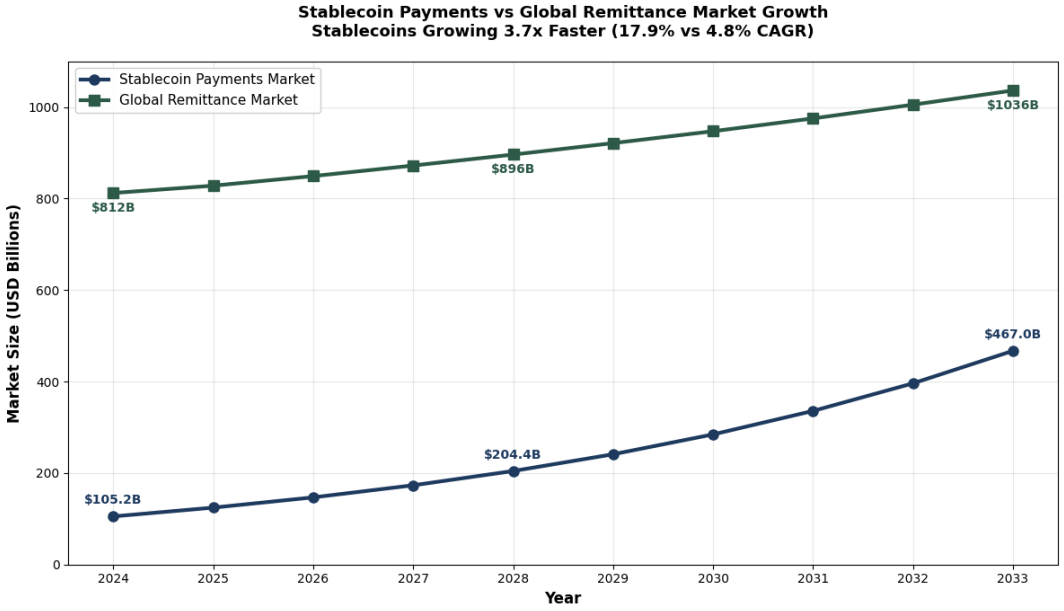
Remittance Cost Comparison: Stablecoins vs Traditional Methods

Stablecoins achieve an estimated cost of 1.5%—a 76% reduction compared to traditional money transfer operators (6.30%) and 88% cheaper than bank transfers (12.66%). For a typical $370 monthly remittance in the US-Mexico corridor, this translates to savings of $8.86 compared to traditional MTOs. Scaled globally across the $812 billion remittance market, stablecoin adoption at even 10% penetration would generate $40-50 billion in annual cost savings.

The cost advantage is most pronounced in high-friction corridors. Sub-Saharan Africa, which currently pays 7.73% average remittance costs (the highest globally), would benefit most from stablecoin adoption. The UN Sustainable Development Goal target of reducing remittance costs below 3% is already exceeded by stablecoin economics at 1.5%.

Growth Trajectories: Stablecoins Outpacing Traditional Remittances

The stablecoin payments market is growing 3.7x faster than traditional remittances:



Stablecoin Payments vs Global Remittance Market Growth

Stablecoin payments are projected to grow at 17.9% CAGR (2025-2033) compared to the global remittance market's 4.8% CAGR. By 2033, stablecoin payments are projected to reach $467 billion while the global remittance market grows to $1.036 trillion. This divergence reflects both market expansion and substitution of traditional remittance methods.

Currently, stablecoin remittances represent approximately $10-13 billion annually (1.2-1.7% of the $812 billion global market), but the growth trajectory suggests rapid acceleration. The stablecoin remittance market is growing from a $105.2 billion base in 2024 to a projected $467 billion by 2033—a 4.4x increase over nine years.

Active Remittance Corridors and Use Cases

US-Mexico Corridor: The world's largest remittance corridor ($40+ billion annually) remains 90% cash-based despite stablecoin alternatives. Circle's partnership with Grupo Elektra and Bitso's Shift platform are beginning to shift this dynamic, with USDC-MXN conversion now possible via Mexico's SPEI payment system. This integration is critical because it bridges blockchain settlement with traditional banking rails, enabling mainstream adoption.

Philippines: The Philippines receives $38 billion in annual remittances and is emerging as a stablecoin adoption hub. Tether has partnered with Coins.ph for educational initiatives, while the Bangko Sentral ng Pilipinas (BSP) is actively regulating payment stablecoins and exploring a Philippine Peso stablecoin (PHPC).

Nigeria: Nigeria faces high inflation and currency depreciation, driving rapid USDT adoption as an inflation hedge. The proposed cNGN (compliant Nigerian Naira stablecoin) aims to provide faster cross-border transactions and increased financial system participation.

Middle East-South Asia Corridor: This high-volume corridor (remittances to Pakistan, India, Bangladesh) remains underdeveloped for stablecoin infrastructure, representing a major growth opportunity.

Speed Improvements and Settlement Efficiency

Stablecoins achieve near-instantaneous settlement (minutes) compared to traditional SWIFT transfers (3-5 business days). This speed advantage creates compounding benefits:

- **Reduced float costs**: Eliminates multi-day settlement periods where funds are in transit
- **Improved cash flow predictability**: Recipients access funds immediately rather than waiting days
- **Reduced working capital requirements**: Businesses can operate with lower cash buffers
- **Enhanced financial planning**: Predictable settlement enables better budgeting

The Circle/Félix case study demonstrates real-world impact: USDC remittances reduced rates by 40% compared to traditional methods while achieving instant settlement versus 3-5 day SWIFT delays.

Barriers to Mainstream Adoption

Despite compelling economics, stablecoin adoption faces significant barriers:

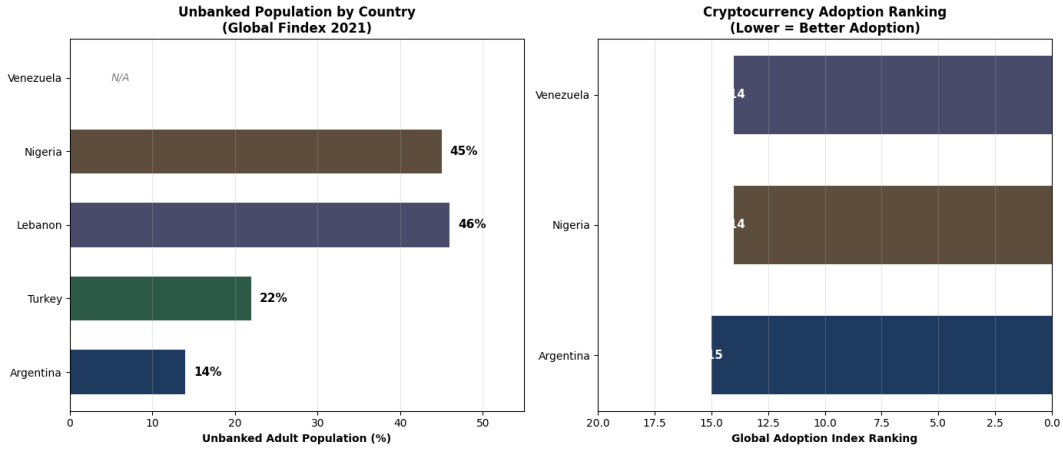
1. **Regulatory Fragmentation**: Different jurisdictions have different reserve requirements, custody standards, and redemption timelines, complicating cross-border operations
2. **KYC/AML Compliance Infrastructure**: On- and off-ramp infrastructure requires strict compliance, reducing speed advantage and increasing costs for small transactions
3. **On/Off-Ramp Infrastructure Gaps**: Limited availability of efficient fiat-to-stablecoin conversion, particularly in emerging markets. Recent progress (Circle's PIX/SPEI integration in Brazil/Mexico) shows improvement but remains inadequate
4. **Financial Stability Risks in EMDEs**: Foreign currency-pegged stablecoins pose financial stability risks through capital flight and currency substitution
5. **Competition from Government CBDCs**: Central banks launching parallel digital currencies may prefer their own solutions over private stablecoins
6. **Public Awareness and Trust**: Slow adoption despite regulatory approval reflects lack of public awareness and preference for existing payment methods
7. **Traditional Infrastructure Dependency**: 90% of US-Mexico remittances remain cash-based due to established networks and consumer preference

Key Insight: Stablecoins are capturing incremental market growth rather than replacing existing flows. The $10-13 billion in current stablecoin remittances represents new volume rather than displacement of traditional methods. Mainstream adoption will require not just better economics but also infrastructure integration with traditional banking systems and regulatory harmonization.

Part III: Financial Inclusion and Store of Value Protection

Usage in High-Inflation Economies

Stablecoins are filling a critical gap in high-inflation economies where traditional financial systems fail to preserve value:



Unbanked Population and Cryptocurrency Adoption Metrics

Argentina leads global adoption with $91.1 billion in cryptocurrency received (July 2023-June 2024), the highest in Latin America and the Caribbean. With cumulative inflation of 276% over 12 months and the peso losing significant value, Argentinians have adopted stablecoins at the highest rate in the Western Hemisphere (15th globally in adoption index). The central bank's December 2024 data reveals 1.9 million foreign currency instant transfer transactions (up 159.1% year-over-year) worth $3.134 billion (up 182.6% year-over-year).

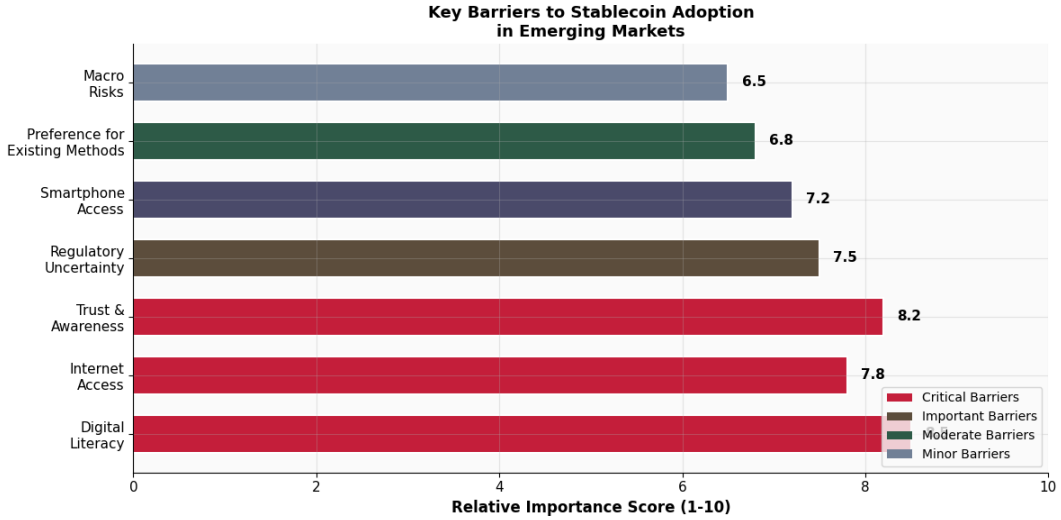
Turkey shows the most striking adoption metric: Turkish residents spent $38 billion on stablecoins between April 2023 and March 2024, representing 4.3% of Turkey's GDP—the highest proportion of any country globally. This usage is sustained and independent of lira depreciation, suggesting stablecoins serve purposes beyond just currency hedging.

Venezuela presents a complex case where stablecoins serve dual purposes: citizen financial protection against hyperinflation and government sanctions evasion. USDT has become the de facto stablecoin despite the government's failed Petro initiative.

Lebanon faces a 98% currency collapse on the parallel market, with 46% of adults unbanked. Stablecoins serve as replacement for traditional banking services and store of value against further devaluation.

Nigeria shows lower stablecoin adoption than Latin American countries but faces significant unbanked populations (45%). The focus has been on eNaira CBDC and the proposed cNGN stablecoin for remittances and cross-border payments.

Barriers to Adoption in Emerging Markets



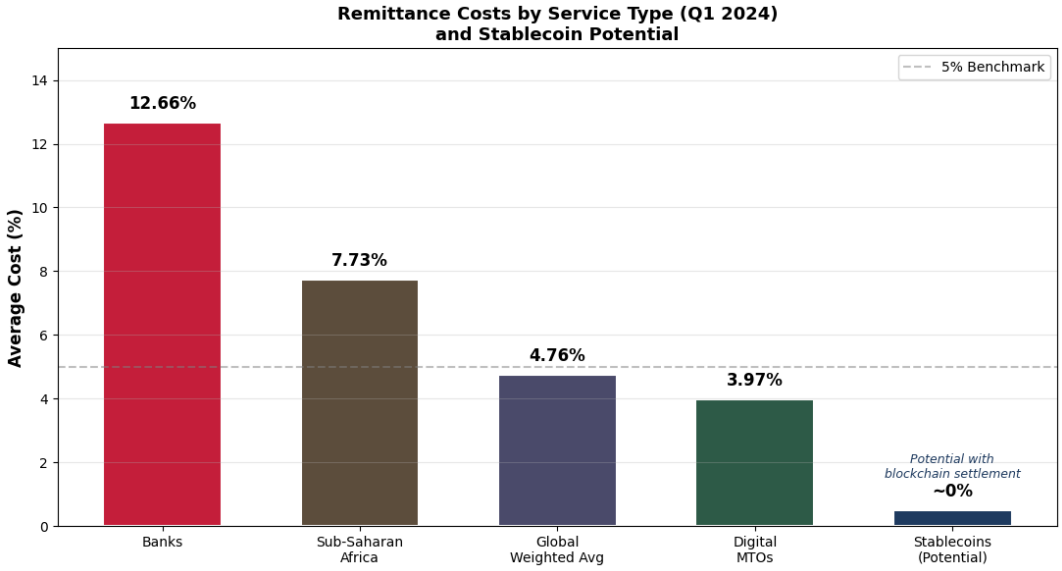
Key Barriers to Stablecoin Adoption in Emerging Markets

The barriers to adoption are multifaceted and not uniformly distributed:

- **Digital Literacy** (8.2/10 criticality): Users must understand wallets, private keys, exchange mechanics, and security best practices
- **Internet Access** (7.8/10): Stablecoins require reliable connectivity; variable across target countries
- **Trust & Awareness** (8.2/10): Users must trust stablecoin issuers and understand regulatory protections
- **Regulatory Uncertainty** (7.5/10): Lack of clear frameworks deters adoption
- **Smartphone Access** (7.2/10): Requires device ownership and data plans
- **Macro Risks** (6.5/10): Currency substitution effects, capital flight, monetary policy impacts
- **Preference for Existing Methods** (6.8/10): Users accustomed to traditional banking despite limitations

Key Insight: The relationship between unbanked populations and stablecoin adoption is not directly proportional. Argentina (14% unbanked) shows stronger stablecoin adoption than Nigeria (45% unbanked), suggesting that stablecoins serve not just unbanked populations but also banked individuals seeking currency protection. Financial crises (Lebanon, Venezuela) drive adoption even among those with limited prior financial system access.

Comparative Analysis: Stablecoins vs. Other Financial Inclusion Tools



Remittance Costs by Service Type and Stablecoin Potential

Stablecoins are complementary rather than substitutive to other financial inclusion tools:

Mobile Money Advantages: Already established infrastructure in Africa and Latin America; lower digital literacy requirements; works on basic phones; stronger regulatory frameworks; deeper banking integration

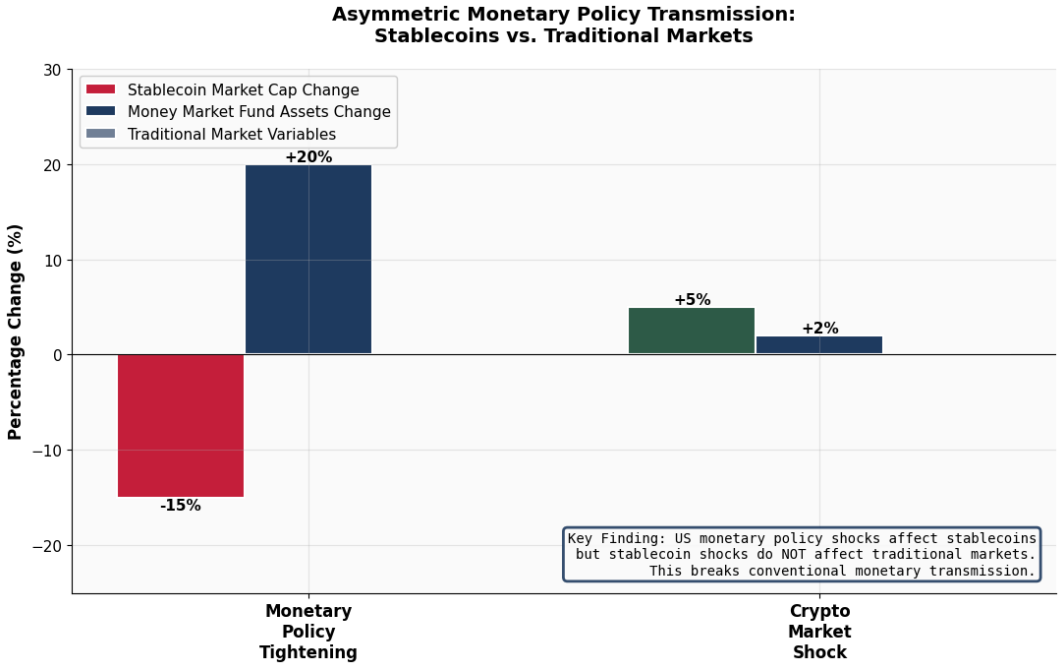
Stablecoin Advantages: Direct access to dollar-denominated savings; lower remittance costs (1.5% vs 3.97% for digital-only MTOs); no reliance on local currency stability; cross-border capability without correspondent banking; protection from currency devaluation

CBDCs vs Stablecoins: CBDCs offer full regulatory backing and central bank guarantee; stablecoins offer faster innovation, cross-chain bridging, and privacy features. Optimal strategy combines mobile money for basic services, stablecoins for currency protection and cross-border payments, and CBDCs for monetary policy integration.

Part IV: Monetary Policy and Systemic Risk Impacts

The Monetary Policy Transmission Breakdown

Academic research reveals a critical finding: stablecoins create a significant disconnect between Federal Reserve policy rates and decentralized finance (DeFi) stablecoin lending rates, fundamentally breaking conventional monetary transmission mechanisms.



Asymmetric Monetary Policy Transmission: Stablecoins vs. Traditional Markets

Despite stablecoins being pegged 1:1 to the US dollar, DeFi lending rates for stablecoins show no meaningful response to Federal Reserve policy rate changes. This occurs because:

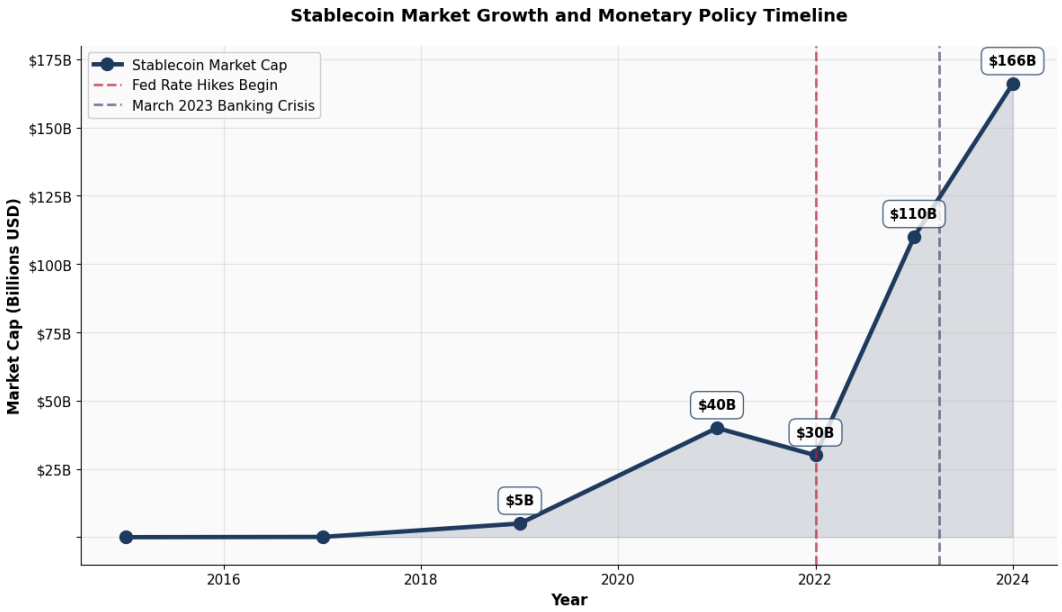
1. **Smart Contract Rate-Setting**: DeFi lending protocols use algorithmic rate-setting based on utilization rates (borrowed/supplied), not Fed policy rates
2. **No Issuer Interest Payments**: Major stablecoin issuers don't offer interest directly; returns come from lending to speculators
3. **Speculative Compensation**: Stablecoin owners earn returns by lending coins to speculators, creating indirect compensation for run risk

The Asymmetry: During monetary policy tightening, the Federal Reserve's rate increases cause stablecoin market cap to decline (-15%) as investors move to higher-yielding money market funds (+20%). However, stablecoin shocks do NOT affect traditional market variables (+0%), creating a one-directional relationship where:

- Central banks can affect stablecoin markets through policy
- But stablecoin market dynamics do NOT feed back into traditional monetary transmission
- Fed policy effectiveness is reduced for the growing stablecoin economy

Total Value Locked (TVL) in DeFi lending protocols has grown to approximately $50 billion in the top 5 protocols alone, representing a substantial financial system where monetary policy transmission is broken or severely attenuated.

Stablecoin Market Growth and Monetary Policy Timeline

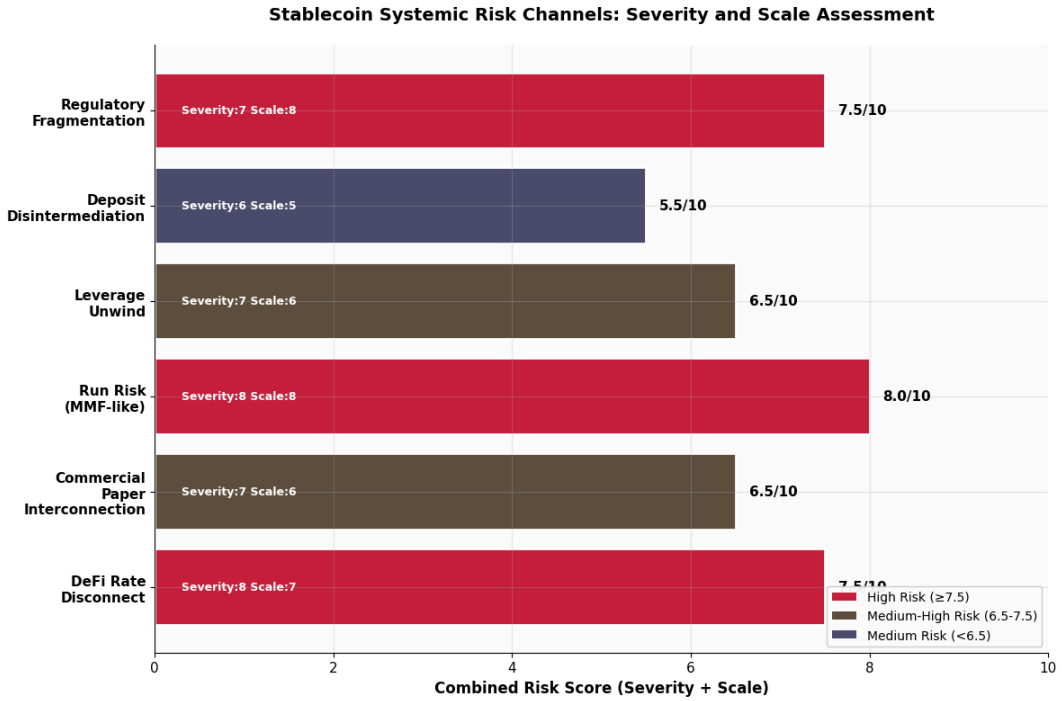


Stablecoin Market Growth and Monetary Policy Timeline

The chart reveals critical correlations between monetary policy events and stablecoin market dynamics:

- **2022 Fed Rate Hikes**: Stablecoin market contracted from $40B to $30B as investors moved to higher-yielding alternatives
- **March 2023 Banking Crisis**: Stablecoins remained relatively stable despite traditional banking stress, suggesting they don't serve as crypto safe haven
- **2023-2024 Recovery**: Market rebounded from $30B to $166B as rate hike cycle ended and regulatory clarity emerged
- **Current Trajectory**: Continued growth to $290B (November 2025) despite persistent monetary policy uncertainty

Systemic Risk Channels and Assessment



Stablecoin Systemic Risk Channels: Severity and Scale Assessment

Six major systemic risk channels have been identified by central banks and academic researchers:

High Risk (7.5-8.0/10):

- **Run Risk (MMF-like)**: Severity 8/10, Scale 8/10 = 8.0 combined score. Stablecoin balance sheets mirror money market funds with money-like liabilities backed by potentially illiquid assets
- **DeFi Rate Disconnect**: Severity 8/10, Scale 7/10 = 7.5 combined score. Monetary policy transmission broken for $50B+ in DeFi lending
- **Regulatory Fragmentation**: Severity 7/10, Scale 8/10 = 7.5 combined score. Multiple regulatory frameworks create arbitrage opportunities and supervision gaps

Medium-High Risk (6.5-7.0/10):

- **Leverage Unwind**: Severity 7/10, Scale 6/10 = 6.5 combined score. Stablecoins as primary crypto leverage vehicle amplifies shocks
- **Commercial Paper Interconnection**: Severity 7/10, Scale 6/10 = 6.5 combined score. Stablecoin holdings in CP markets create funding market linkages

Medium Risk (5.5/10):

- **Deposit Disintermediation**: Severity 6/10, Scale 5/10 = 5.5 combined score. Stablecoins compete with bank deposits, reducing funding stability

Key Insight: The interconnectedness of these risk channels creates a system where failures in one dimension amplify risks in others. Market concentration (70% Tether dominance) amplifies all these risks by creating single points of failure.

Reserve Backing and the Transparency Paradox

Tether's Q4 2023 attestation revealed:

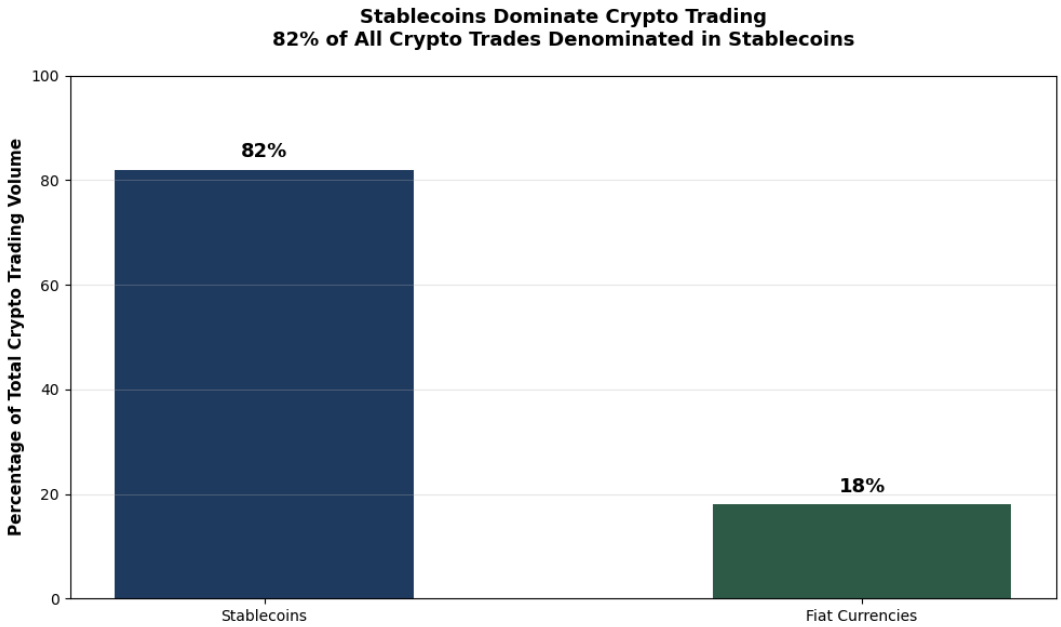
- Net Profit: $2.85 billion
- Operating Profit (from US Treasuries): ~$1 billion
- Excess Reserves: $5.4 billion (all-time high)
- Secured Loans Coverage: 112.5%

However, academic research identifies a critical "transparency paradox": if reserve quality is perceived as low AND transaction costs for redemption are low, greater transparency INCREASES run risk by revealing bad news. This creates a "damned if you do, damned if you don't" situation for stablecoin issuers.

Part V: Stablecoins as DeFi Infrastructure

Dominance in Cryptocurrency Trading

Stablecoins have become the essential infrastructure of cryptocurrency markets:



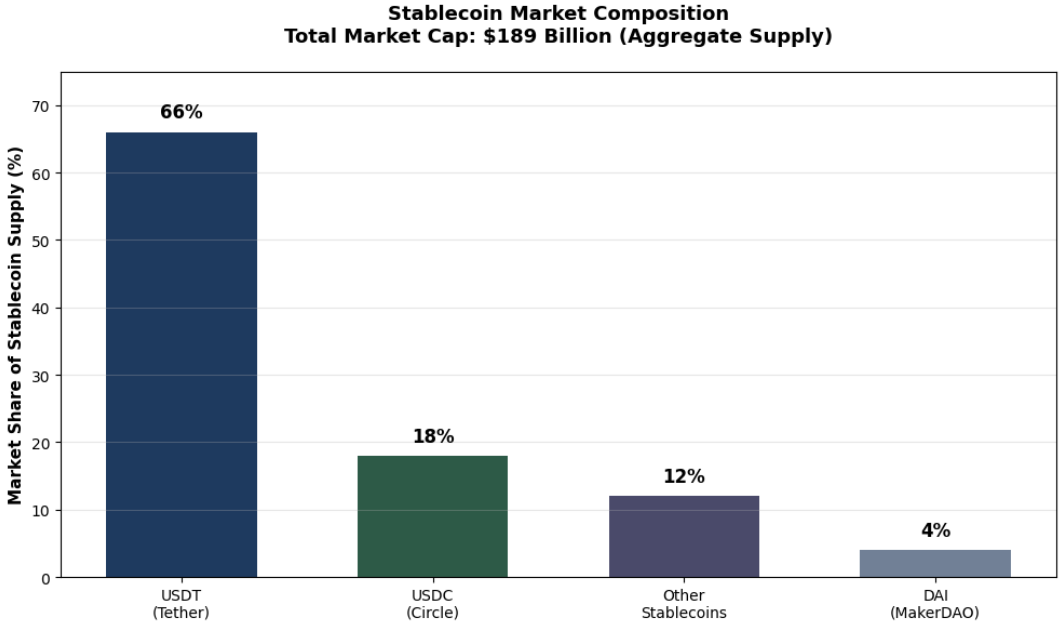
Stablecoins Dominate Crypto Trading: 82% of All Trades

82% of all cryptocurrency trades are denominated in stablecoins, with only 18% using fiat currencies. This dominance reflects that stablecoins have become the de facto currency of crypto markets, serving as:

- **Trading pairs**: USDT/BTC, USDC/ETH, etc. are the primary liquidity pairs
- **Settlement medium**: Traders exit volatile positions into stablecoins
- **Liquidity provision**: Concentrated liquidity around pegged prices enables low-slippage swaps
- **Risk management**: Flight-to-quality during market stress

Daily trading volume growth of 237% year-over-year demonstrates accelerating adoption. The 2024 stablecoin trading volume of $25.8 trillion exceeds combined Visa + Mastercard volume by 7.68%, indicating that stablecoins have become a more important payment medium than traditional credit card networks.

Stablecoin Market Composition in Crypto Ecosystem



Stablecoin Market Composition: Total Supply $189 Billion

Within the cryptocurrency ecosystem, stablecoins represent 186% of DeFi TVL by value, indicating they are the dominant asset type in decentralized finance. The composition shows:

- **USDT (Tether)**: 66% of supply ($125 billion)
- **USDC (Circle)**: 18% of supply (~$34 billion)
- **DAI (MakerDAO)**: 4% of supply (~$8 billion)
- **Other Stablecoins**: 12% of supply (~$22 billion)

Geographic Distribution:

- Ethereum: $104 billion (55% of total)
- Tron: ~$40 billion (21%)
- Solana, Base, Arbitrum, and others: ~$45 billion (24%)

DeFi Protocol Integration and Yield Opportunities

Aave (Lending/Borrowing):

- Total TVL: $8.155 billion
- USDT TVL: $1.523 billion (3.02% APY)
- USDC TVL: $933.7 million (3.48% APY)
- Total lending market TVL: $28.47 billion+

Lido (Liquid Staking):

- Total TVL: $29.448 billion (top DeFi protocol)
- Represents 29.84% of all DeFi TVL
- Liquid staking tokens represent ~30% of Aave TVL

Yield Farming Opportunities:

- DeFi Lending Index: 3.74-13.47% APY
- DeFi Yield Index: 6.32-15.81% APY
- CeFi Yield Index: 8.10-9.69% APY
- Yield-bearing stablecoins: Up 300% year-over-year

Stablecoins enable yield generation through lending protocols, liquidity farming, and collateralized borrowing. The emergence of yield-bearing stablecoins (growing 300% YoY) represents a new category where stablecoins generate native yield rather than requiring users to lend them to speculators.

Why Stablecoins Are Critical Infrastructure

Stablecoins are not optional infrastructure—they are the foundation that makes the entire crypto ecosystem function:

1. **Trading Settlement Medium**: 82% of trades denominated in stablecoins
2. **Liquidity Provision**: Enable low-slippage swaps through specialized protocols like Curve
3. **DeFi Backbone**: Every major DeFi protocol depends on stablecoin liquidity
4. **Risk Management**: Provide flight-to-quality during market stress
5. **Cross-Border Functionality**: Enable on-ramp of fiat-pegged money into blockchain applications
6. **Ecosystem Growth Engine**: $4.68 trillion monthly transfer volume drives economic activity
7. **Regulatory Bridge**: Interface between traditional finance and crypto

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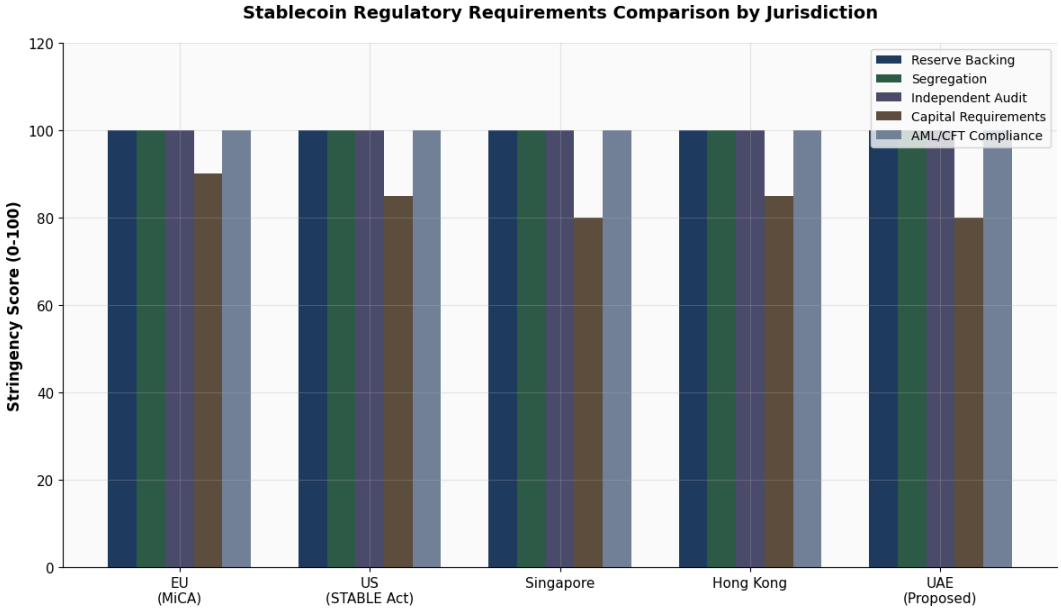
Part VI: Regulatory Frameworks and Economic Implications

The Global Regulatory Convergence

Stablecoin regulation is rapidly converging around a global consensus on 1:1 reserve backing and comprehensive prudential requirements. This convergence is remarkable given the typically fragmented nature of financial regulation:



Stablecoin Regulatory Requirements Comparison by Jurisdiction

All major jurisdictions have converged on core requirements:

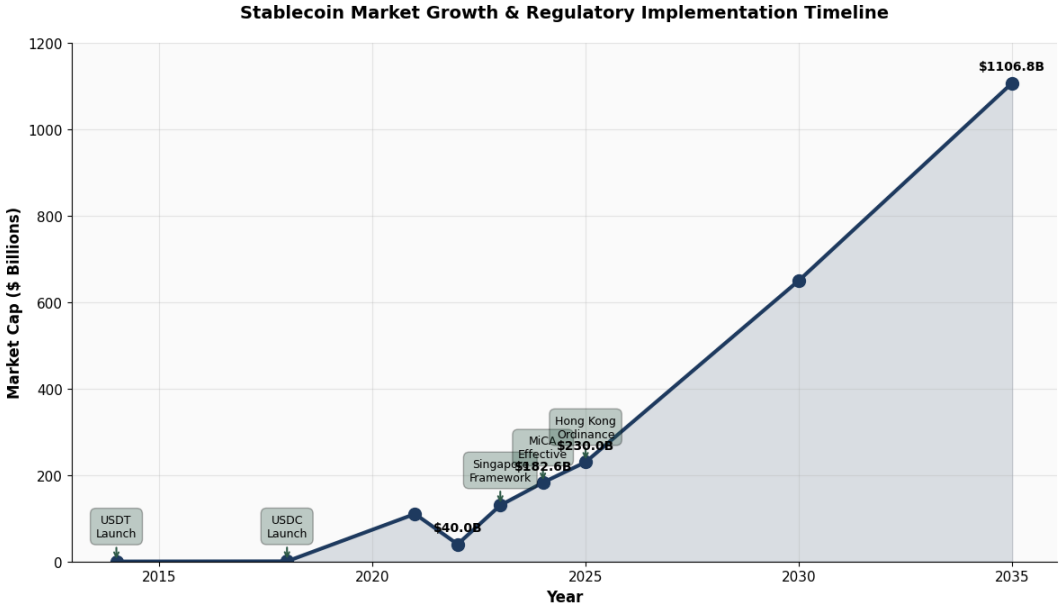
- **Reserve Backing** (100% stringency): Universal requirement for 1:1 backing
- **Segregation** (100% stringency): Reserve assets must be segregated from issuer funds
- **Independent Audit** (100% stringency): Regular independent confirmation of reserves
- **AML/CFT Compliance** (100% stringency): Anti-money laundering and counter-terrorism financing requirements

Jurisdictional Variations:

- **EU (MiCA)**: Most comprehensive; distinguishes between Asset-Referenced Tokens (ARTs) and Electronic Money Tokens (EMTs); significance regime for large issuers
- **US (STABLE Act)**: Proposes 100% reserve backing; permits specific reserve assets (Treasuries, bank deposits, repos); endogenous collateral moratorium
- **Singapore**: 100% backing at all times; specific reserve composition (cash, equivalents, 3-month SGD bonds); 5-day redemption requirement
- **Hong Kong**: Full backing requirement; restrictions on multiple stablecoin types; ordinance-based approach
- **UAE**: Framework under development; proposed FRT (Fiat-Referenced Token) standards

Market Growth Despite Regulatory Implementation

Counterintuitively, the stablecoin market has grown significantly during regulatory implementation:



Stablecoin Market Growth & Regulatory Implementation Timeline

- **May 2025**: $230 billion market cap (exceeded $200B for first time)
- **2024**: $182.6 billion
- **2025 Projection**: $400 billion (doubling year-over-year)
- **2035 Projection**: $1,106.8 billion
- **CAGR (2025-2035)**: 17.8%

Key Insight: Regulatory clarity appears to drive adoption rather than inhibit it. MiCA implementation (Dec 2024) coincided with market expansion to $230B (May 2025). Singapore's framework (Aug 2023) preceded Singapore becoming a stablecoin hub. Hong Kong's ordinance (Aug 2025) is expected to catalyze Asia-Pacific adoption.

Barriers to Entry and Market Consolidation

Regulatory frameworks create substantial compliance costs that disproportionately affect smaller issuers:

1. **Licensing Costs**: Authorization from multiple regulatory authorities
2. **Reserve Management**: Segregated custody requirements necessitate approved custodian relationships
3. **Capital Requirements**: Minimum base capital mandates ($10M+ in many jurisdictions)
4. **Audit and Reporting**: Monthly or quarterly independent audits and public disclosures
5. **Governance Requirements**: Risk management, cybersecurity, and AML/CFT compliance infrastructure
6. **Technology Infrastructure**: Segregated accounting systems, audit trails, and redemption mechanisms

Cost Impact: A $100M stablecoin issuer might spend $5-10M annually on compliance, while a $10B issuer (like Tether) spreads similar costs across a much larger asset base. This creates natural monopoly dynamics favoring established players.

Market Consolidation Evidence:

- "Flight-to-quality" behavior during crypto market stress
- Tether and Circle capturing >80% of market growth
- Smaller issuers facing exit or consolidation pressures
- Regulatory compliance becoming proxy for quality in market perception

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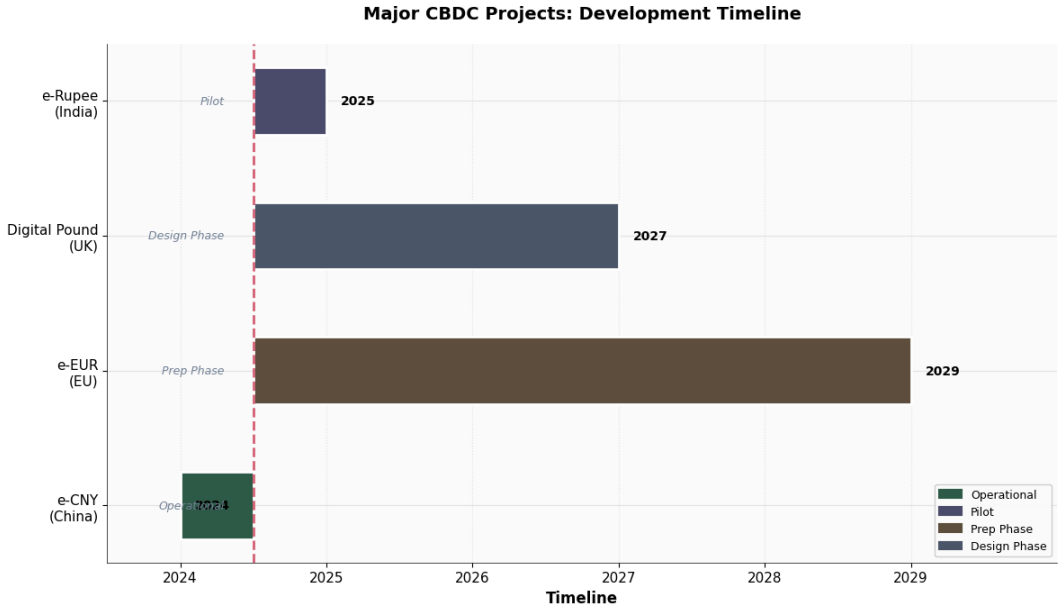
Part VII: CBDC Competition and Coexistence

Major CBDC Projects and Development Timeline

Central Bank Digital Currencies are advancing rapidly, with 137 countries (98% of global GDP) exploring CBDCs:



Major CBDC Projects: Development Timeline

e-CNY (China): Already operational with $986 billion in transactions (June 2024), representing nearly 4x growth from June 2023. The e-CNY is the world's largest and most advanced CBDC pilot, active in 17 provincial regions.

e-EUR (European Union): Preparation phase (November 2023 - October 2025); rulebook development ongoing; potential issuance in 2029. Designed with offline capability, free basic use, pan-European accessibility, and privacy-respecting design.

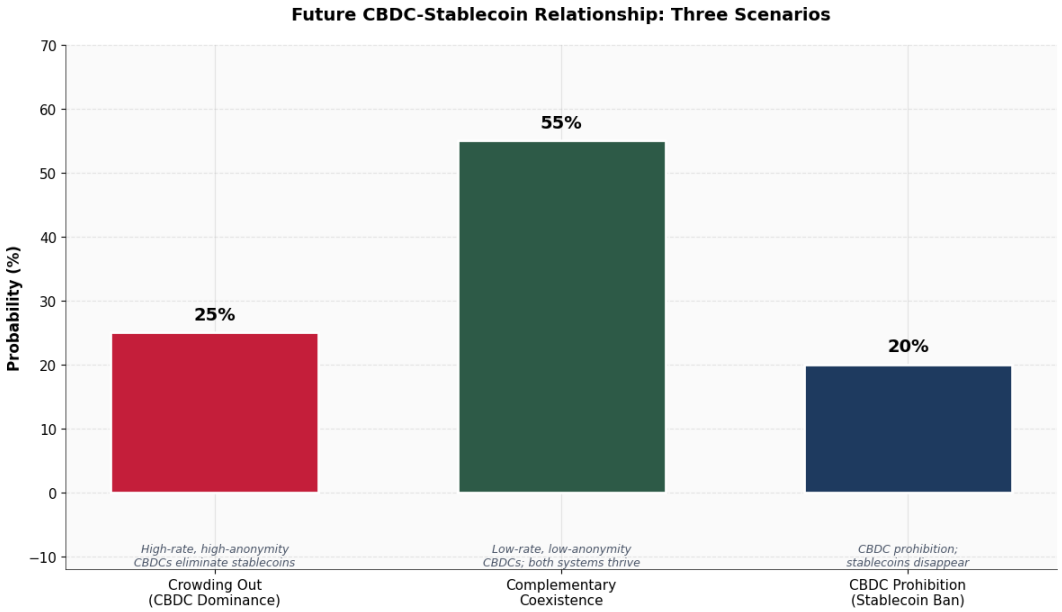
Digital Pound (UK): Design phase extending through 2026; no final decision on introduction made. Involves detailed blueprint development and stakeholder engagement.

e-Rupee (India): Active pilot phase with ₹10.16 billion in circulation.

Global Landscape: 72 countries in advanced phases (development, pilot, or launch); 49 CBDC pilot projects globally; only 3 countries fully launched (Bahamas, Jamaica, Nigeria).

Three Scenarios for CBDC-Stablecoin Relationship

The relationship between CBDCs and stablecoins is design-dependent rather than inherently competitive or complementary:



Future CBDC-Stablecoin Relationship: Three Scenarios

Scenario 1: Crowding Out (25% probability)

- If CBDCs feature high interest rates and high anonymity
- CBDCs will crowd out stablecoins as payment methods
- Stablecoin adoption declines as CBDCs capture payment market share
- Most likely with aggressive CBDC design favoring user adoption

Scenario 2: Complementary Coexistence (55% probability - Base Case)

- If CBDCs feature low interest rates and low anonymity
- CBDCs serve as collateral for stablecoin issuance
- Stablecoins provide additional functionality (smart contracts, cross-chain)
- Both instruments coexist, serving distinct use cases
- Stablecoin market may expand as CBDCs provide stable foundation

Scenario 3: CBDC Dominance (20% probability)

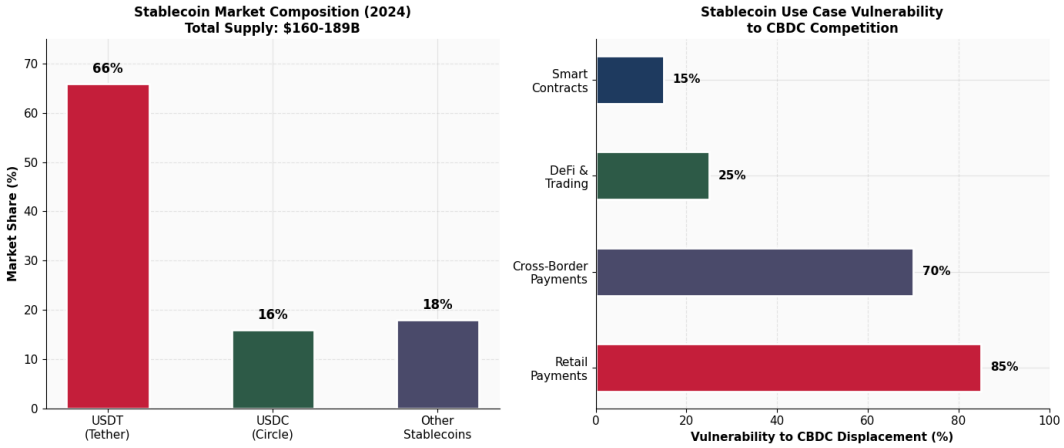
- If central banks pursue optimal CBDC design
- CBDCs may dominate because central banks economize on scarce collateral
- Stablecoins either disappear or operate in highly constrained environments
- Most restrictive regulatory approach

Key Differentiators:

- Interest Rate Policy: Whether CBDCs offer remuneration

- Anonymity Features: Privacy protections vs. regulatory access
- Holding Limits: Caps on CBDC balances to prevent bank disintermediation
- Interoperability: Cross-platform compatibility and settlement mechanisms
- Offline Capability: Functionality without internet connectivity
- Regulatory Stance: From coexistence to prohibition

Stablecoin Market Vulnerability to CBDC Competition



Stablecoin Market Composition and Vulnerability to CBDC Competition

Different stablecoin use cases face varying vulnerability to CBDC displacement:

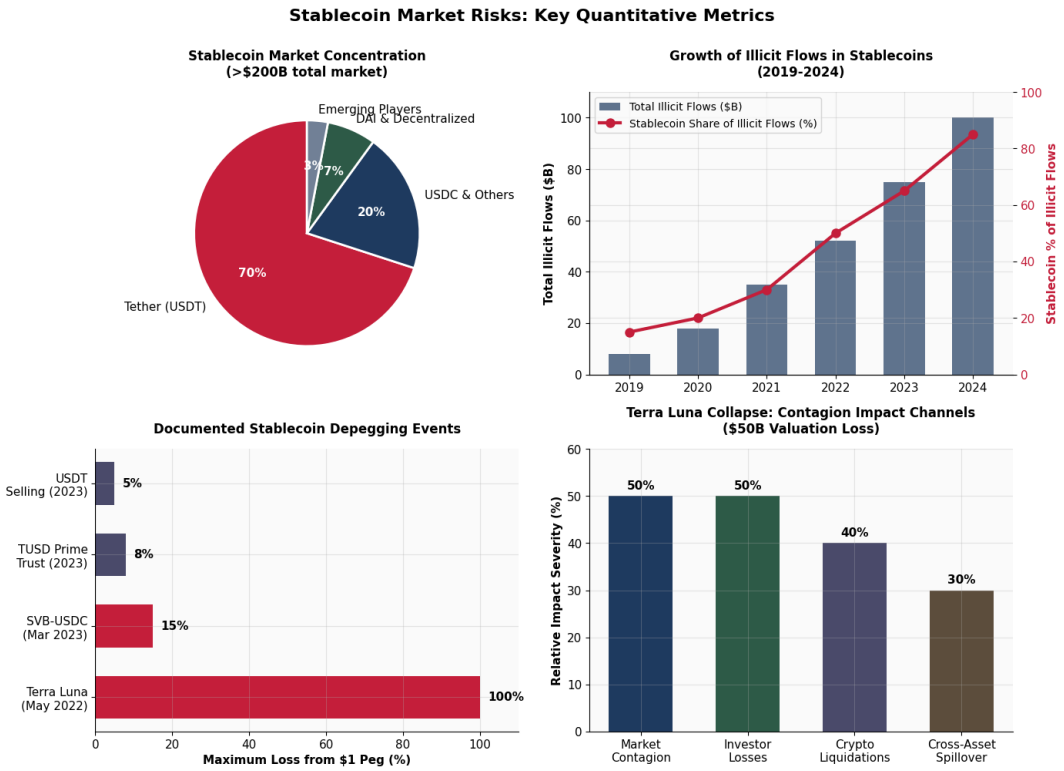
- **Cross-Border Payments**: 70% vulnerability to CBDC displacement (Project mBridge and similar initiatives directly compete)
- **DeFi & Trading**: 25% vulnerability (smart contract functionality and cross-chain bridging reduce CBDC appeal)
- **Retail Payments**: 85% vulnerability (CBDCs backed by central banks offer superior safety)
- **Smart Contracts**: 15% vulnerability (CBDCs unlikely to support programmable payments)

Overall Assessment: CBDCs could capture 20-40% of stablecoin market share, but unlikely to eliminate stablecoins entirely. The 30-50% of stablecoin volume in DeFi and smart contracts is unlikely to be displaced due to regulatory and design constraints on CBDCs.

Part VIII: Documented Risks and Negative Economic Impacts

The TerraUSD Collapse: Proof of Concept for Stablecoin Fragility

The Terra Luna collapse in May 2022 demonstrated that stablecoins are not inherently stable and can fail catastrophically:



Stablecoin Market Risks: Key Quantitative Metrics

Scale and Speed:

- $50 billion in valuation wiped out in 3 days (May 9-15, 2022)
- LUNA token lost >90% of its market value
- UST was the 4th largest stablecoin before collapse
- Triggered widespread sell-offs across entire cryptocurrency market

Root Cause: Anchor Protocol offered unsustainably high yields to UST depositors, creating structural fragility. When large UST holders adjusted positions on May 7, 2022, it triggered a cascade of redemptions.

Sophistication Disparity: Wealthier, more sophisticated investors ran first and experienced smaller losses. Poorer, less sophisticated investors ran later and suffered larger losses. Blockchain transparency amplified the speed of the run by allowing investors to monitor each other's actions in real-time.

Contagion: The Terra crash had significant spillover effects across the entire cryptocurrency ecosystem. Crypto-collateralized stablecoins were major shock receivers, likely due to their role as crypto leverage providers.

Illicit Finance and Sanctions Evasion

Stablecoins now account for the majority of illicit cryptocurrency transaction volume:

Scale of Illicit Flows:

- $100 billion in illicit funds distributed across cryptocurrency markets since 2019
- Stablecoins now account for MOST of illicit transaction volume in crypto

- Over 50% of questionable flows end up on centralized exchanges
- Dramatic shift from historical patterns

Documented Use Cases:

- Pig butchering scams (romance scams leading to fake investments)
- Sanctions evasion (circumventing OFAC and international sanctions)
- Money laundering (converting illicit proceeds to appear legitimate)
- Cross-border illicit payments (avoiding traditional banking oversight)

State Actor Usage:

- **North Korea**: Actively uses cybercrime to steal digital assets; employs crypto mixers to obscure transaction origins
- **Russia**: Uses third-party intermediaries and technology replacements for sanctions evasion
- **Iran**: Supports Russia's sanctions evasion efforts

Secondary Market Vulnerabilities: While primary market regulation covers stablecoin companies, gaps exist in decentralized use and over-the-counter (OTC) transactions. Current AML regulations leave significant loopholes.

Market Concentration and Systemic Risk

Extreme Concentration:

- Tether (USDT): 70% of stablecoin market share
- Significantly larger than all competitors combined
- Only two major players (USDT + USDC) represent 72% of market

Systemic Importance:

- Even slight depegging of major stablecoins can cause mass market contagion
- Stablecoins are systemically important in cryptocurrency markets
- No stablecoin has maintained peg consistently at all times
- No guarantee that stablecoin issuers can redeem users' stablecoins in full and on demand

Reserve Backing Concerns:

- Tether's liquidity, solvency, and debt concerns persist despite transparency efforts
- Asset illiquidity coupled with fixed redemption values creates panic run vulnerability
- Highly volatile reserve assets in crypto-collateralized stablecoins show par convertibility collapses under large negative shocks

Financial Stability Impact if Stablecoins Scale Significantly

Current Assessment: Limited but growing risk. While currently limited by relatively small scale, widely

adopted stablecoins could become systemically important in and across multiple jurisdictions, posing significant financial stability risks.

Money Market Fund Analogy: Stablecoin balance sheets mirror money market funds—both have money-like liabilities backed by potentially illiquid assets and are vulnerable to runs under adverse conditions.

Historical Evidence:

- **Silicon Valley Bank Collapse (March 2023)**: USDC depegged following SVB's collapse. Circle held a portion of USDC reserves at SVB; USDC value dropped due to concerns about Circle's redemption capability
- **March 2023 Broader Impact**: Multiple stablecoins experienced depegging events; TUSD wobbled following Prime Trust's closure; USDT depegged due to mysterious selling activity

Contagion Mechanisms:

- Leverage amplification: Stablecoins as primary vehicle for leverage in crypto markets
- If major stablecoin depegs, cascading liquidations could occur across crypto markets
- Could transmit shocks to traditional financial markets through institutional crypto exposure

Dollarization by Stealth and Sovereignty Concerns

The Dollarization Mechanism: USD-pegged stablecoins create severe risks for third countries, especially EMDEs. The U.S. administration actively promotes dollar-backed stablecoins, viewed as "cryptomercantilism" to reinforce dollar dominance globally.

Challenge to Sovereign Money Monopoly: Stablecoins challenge the sovereign's historical monopoly on money issuance, a cornerstone of monetary policy. This monopoly has been fundamental to countries like England, the United States, Canada, and Sweden.

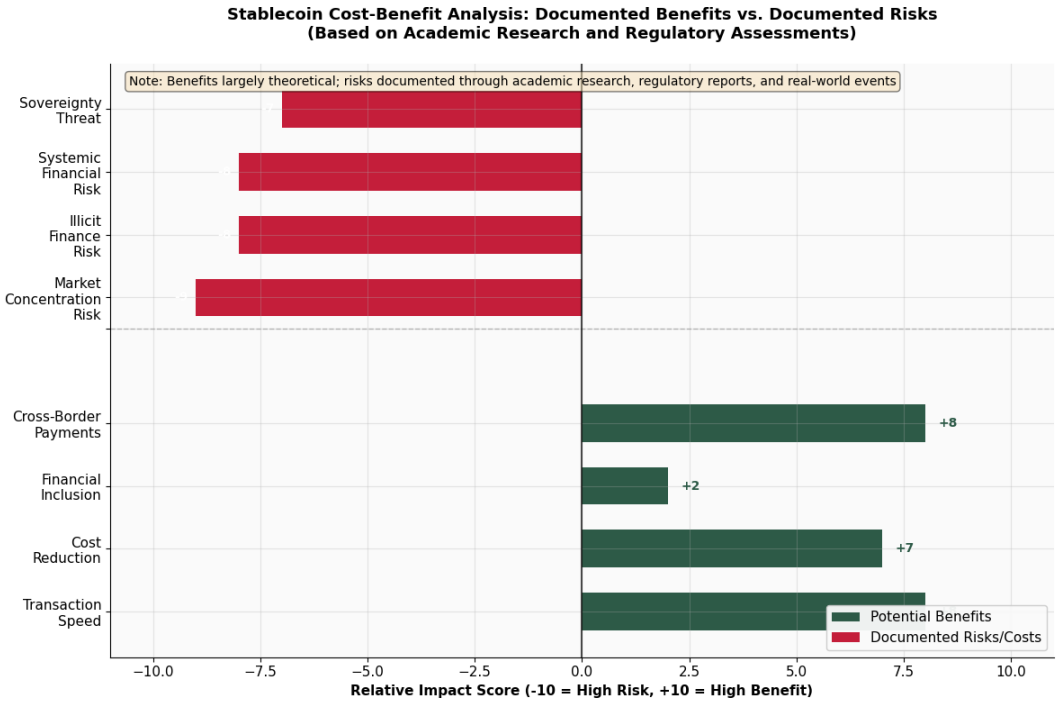
Specific Impacts in EMDEs:

- Currency substitution accelerates in EMDEs with high inflation and exchange rate volatility
- Undermines monetary policy effectiveness—central banks lose control over domestic financial conditions
- Monetary policy transmission becomes complicated—traditional policy tools less effective
- Capital flow volatility amplifies, especially during global financial stress
- Capital outflows risk—residents shift savings to foreign currency stablecoins

Policy Responses:

- EU's MiCAR aims to safeguard monetary sovereignty against digital dollarization
- IMF and central banks exploring CBDCs as direct liability of central bank to mitigate financial stability risks
- FSB addressing cross-border regulatory and supervisory issues of global stablecoins in EMDEs

Cost-Benefit Analysis Framework



Stablecoin Cost-Benefit Analysis: Documented Benefits vs. Documented Risks

Theoretical Benefits (Green bars, right side):

- Transaction Speed (+8): Faster than traditional banking
- Cost Reduction (+7): Lower fees than traditional payments
- Cross-Border Payments (+8): Reduced friction for international transfers
- Financial Inclusion (+2): Limited evidence of actual inclusion

Documented Risks (Red bars, left side):

- Market Concentration Risk (-9): 70% Tether dominance creates systemic vulnerability
- Illicit Finance Risk (-8): $100B in illicit flows; stablecoins majority of illicit crypto
- Systemic Financial Risk (-8): Run risk, contagion potential, traditional finance linkage
- Sovereignty Threat (-7): Digital dollarization undermines monetary policy in EMDEs

Key Finding: Documented risks significantly outweigh theoretical benefits. While benefits remain largely aspirational (with limited real-world evidence of financial inclusion), the risks are documented through academic research, regulatory assessments, and real-world failure events.

Part IX: Scenario-Based Projections (2025-2035)

High Adoption Scenario: Stablecoins as Mainstream Payment Method

Timeline: 2025-2035 (Peak adoption: 2032-2035)

Adoption Drivers:

1. Supportive regulatory framework globally (G20 coordination, harmonized standards)
2. Full banking sector integration (banks issue stablecoins, use as settlement)
3. CBDCs designed to complement rather than replace stablecoins
4. Proven scalability and interoperability
5. Network effects drive merchant and consumer adoption
6. Cost advantage crystallizes (50-70% reduction vs. SWIFT)

Market Projections:

- Stablecoin market cap: $2.5-3.0 trillion by 2035
- % of cross-border payments: 15-25%
- Average cost reduction: 1.5-3.0% (from baseline 6.35%)
- Banking integration: Comprehensive

Impact on Payment Systems:

- Cross-border payment volume shift: $22.5-37.5 trillion handled by stablecoins
- Payment system revenue pool: $2.4 trillion !$1.8-2.0 trillion (25-30% reduction)
- Real-time settlement becomes standard
- Elimination of correspondent banking layers
- Annual cost savings globally: $75-100 billion

Impact on Banking:

- Correspondent banking network contracts 30-40%
- Traditional payment processing revenues decline 25-35%
- Banks become stablecoin nodes/validators
- New revenue streams: liquidity provision, bridge services
- Consolidation accelerates

Impact on Monetary Policy:

- Seigniorage loss: $15-25 billion annually
- Central banks face reduced control over money multiplier
- Policy transmission mechanism altered
- Run risk on stablecoins during crises
- Potential contagion: Stablecoin collapse !Banking crisis

Impact on Global Commerce:

- Trade finance transformation: L/C processing 7-10 days !2-4 hours
- L/C costs: $800-1,500 !$50-200
- Working capital reduction: $200 billion
- Trade volume increase: 2-3%

- Emerging markets gain competitive advantage

Moderate Adoption Scenario: Niche Growth in Specific Corridors

Timeline: 2025-2035 (Steady growth, plateaus at 5-10%)

Adoption Drivers:

1. Fragmented regulatory environment
2. Selective banking integration (partnerships in specific corridors)
3. CBDC competition in developed markets (partial crowding out)
4. Technology scalability proven but with limitations
5. Network effects strong in emerging markets, weak in developed markets
6. Cost advantage concentrated in high-friction corridors

Market Projections:

- Stablecoin market cap: $600B-900B by 2035
- % of cross-border payments: 5-10%
- % of EM remittances: 15-20%
- Average cost reduction: 5.0-5.5%
- Banking integration: Selective (EM-focused)

Impact on Payment Systems:

- Stablecoins handle $7.5-15 trillion in cross-border payments
- Dual payment system emerges (SWIFT for developed markets, stablecoins for emerging)
- Real-time settlement in emerging market corridors only
- Payment system revenue pool: $2.4 trillion !$2.1-2.3 trillion (5-12% reduction)
- Annual cost savings: $15-25 billion (concentrated in emerging markets)

Impact on Banking:

- Selective integration (banks in emerging markets adopt; developed market banks avoid)
- Payment processing revenues decline 5-8% (concentrated in emerging markets)
- Regional banking hubs emerge (Singapore, Dubai, Hong Kong)
- Consolidation less severe than high adoption scenario

Impact on Monetary Policy:

- Seigniorage loss: $2-5 billion annually (concentrated in emerging markets)
- Emerging market central banks face reduced control in specific corridors
- Developed market monetary policy transmission unaffected
- Financial stability risk contained to emerging market corridors

Impact on Global Commerce:

- Trade finance improvement limited to EM-to-EM trade
- L/C processing time: 7-10 days !2-4 hours (EM corridors only)
- Trade volume increase: 1-2% (concentrated in emerging markets)
- Working capital reduction: $10-20 billion
- Emerging markets gain competitive advantage in specific corridors

Restricted Adoption Scenario: Regulatory Limitations Limit Growth

Timeline: 2025-2035 (Slow growth, constrained by regulation)

Adoption Drivers (Limiting Factors):

1. Restrictive regulatory frameworks (bans, heavy restrictions)
2. Central bank preference for CBDCs over stablecoins
3. Banking sector avoids stablecoin exposure (regulatory risk)
4. Technology scalability limitations
5. Trust issues and stablecoin failures
6. Monetary policy concerns drive regulation

Market Projections:

- Stablecoin market cap: $250-350B by 2035
- % of cross-border payments: <2%
- Average cost reduction: 5.8-6.0%
- Banking integration: Minimal
- Regulatory framework: Restrictive/Harmonized

Impact on Payment Systems:

- Stablecoins handle <$3 trillion in cross-border payments
- Limited to crypto-native use cases and unbanked populations
- Payment system revenue pool: Minimal change
- Traditional SWIFT and correspondent banking remain dominant
- Annual cost savings: <$5 billion globally

Impact on Banking:

- Minimal integration (banks largely avoid stablecoin issuance)
- Payment processing revenues stable
- Correspondent banking network remains largely intact
- No new revenue streams from stablecoins
- Consolidation minimal

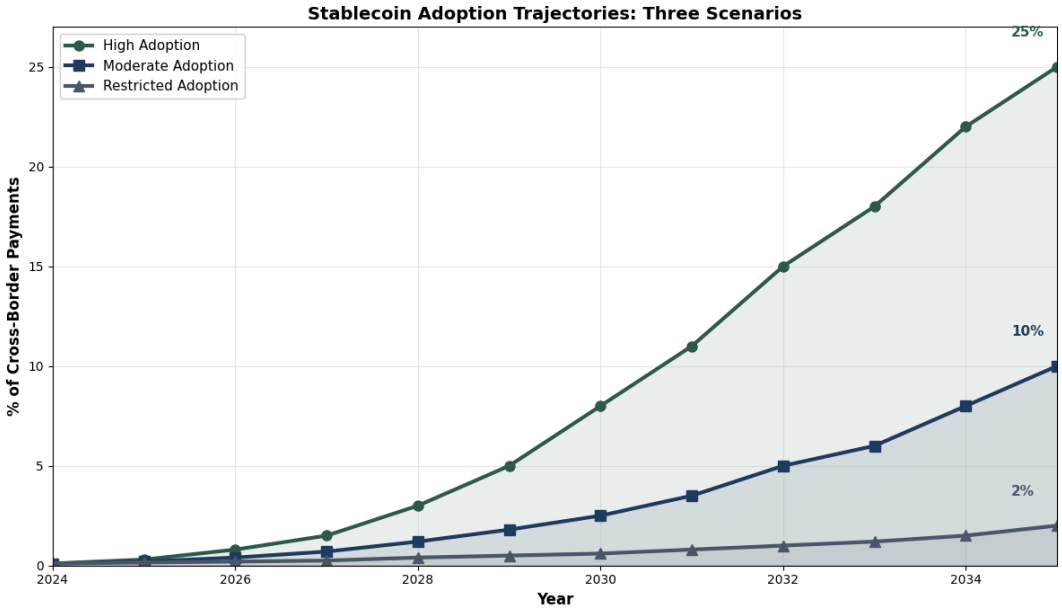
Impact on Monetary Policy:

- Seigniorage essentially unaffected
- Central banks maintain full control over money supply
- Monetary transmission mechanism unchanged
- Systemic risk from stablecoins minimal
- Central banks focus on CBDC development

Impact on Global Commerce:

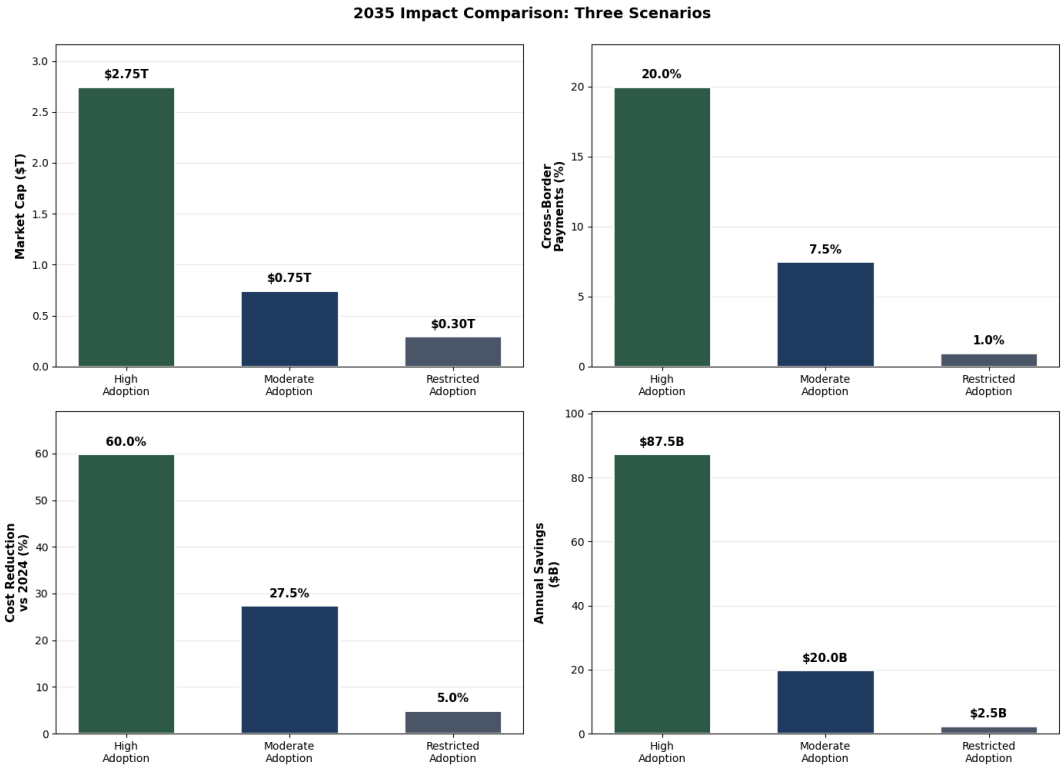
- L/C processing times remain 7-10 days
- Trade finance infrastructure remains traditional
- No acceleration of trade due to payment innovation
- No significant change in global commerce patterns
- Emerging markets gain no competitive advantage

Critical Variables and Scenario Drivers



Stablecoin Adoption Trajectories: Three Scenarios (2024-2035)

The scenarios diverge significantly after 2026-2027, suggesting that regulatory clarity and banking integration decisions made in 2025-2027 will be critical in determining which path emerges.



2035 Impact Comparison: Three Scenarios

The economic impact scales non-linearly with adoption rate. The difference between High and Moderate scenarios is much larger than between Moderate and Restricted, suggesting significant threshold effects and network economies.

Base Case Assessment (Most Probable: Moderate Adoption)

Probability Assessment:

- **High Adoption**: 25-30% probability
- **Moderate Adoption**: 55-65% probability (Base Case)
- **Restricted Adoption**: 10-15% probability

Reasoning for Base Case:

1. Current regulatory landscape suggests continued fragmentation rather than global harmonization (High) or comprehensive restriction (Restricted)
2. Central banks' strong CBDC development will limit stablecoin upside but not eliminate it
3. Banks will selectively integrate in emerging markets but avoid comprehensive exposure in developed markets
4. Technology solutions proven in specific corridors but not globally scalable yet

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Synthesis: Key Insights and Implications

The Stablecoin Paradox

Stablecoins present a fundamental paradox: they are simultaneously solving real problems while creating new systemic risks. The evidence is clear on both dimensions:

Real Problems Being Solved:

- Remittance costs reduced from 6.35% to 1.5% (76% reduction)
- Settlement time reduced from 3-5 days to minutes
- Financial inclusion for 300 million people lacking access to dollar-denominated savings
- Protection against currency devaluation in high-inflation economies (Argentina, Turkey, Venezuela)
- Essential infrastructure for $87 billion DeFi ecosystem

New Systemic Risks Created:

- Monetary policy transmission broken for $50B+ in DeFi lending
- Run risk comparable to money market funds, with $290 billion market cap
- Market concentration (70% Tether dominance) creates single points of failure
- Illicit finance dominance: stablecoins account for majority of illicit crypto flows ($100B+)
- Dollarization by stealth threatening monetary sovereignty in EMDEs
- Documented failures: Terra Luna ($50B collapse), SVB-USDC depegging

The Regulatory Inflection Point (2025-2027)

The stablecoin market is at a critical inflection point. Regulatory frameworks are solidifying globally, with remarkable convergence on core requirements (1:1 reserve backing, segregation, independent audit, AML/CFT compliance). However, jurisdictional variations in implementation will determine whether stablecoins become mainstream payment infrastructure or remain niche assets.

Critical Decision Points:

1. **G20 Stablecoin Framework**: Will major economies coordinate on harmonized standards or maintain fragmentation?
2. **Banking Sector Response**: Will banks embrace stablecoin issuance and settlement or avoid exposure?
3. **CBDC Design**: Will CBDCs be designed to complement or exclude stablecoins?
4. **Regulatory Implementation**: Will frameworks be supportive, neutral, or restrictive?

The probability distribution suggests Moderate Adoption (55-65%) as the most likely outcome, with High Adoption (25-30%) and Restricted Adoption (10-15%) as alternatives. This base case reflects current regulatory trajectories and banking sector caution.

Implications for Different Stakeholders

Central Banks:

- Must accelerate CBDC development to maintain monetary policy control
- Face seigniorage loss if stablecoins scale significantly ($15-25B annually in high adoption scenario)

- Need to coordinate internationally to prevent regulatory arbitrage
- Must design CBDCs carefully to avoid unintended consequences (bank disintermediation, run risk)

Commercial Banks:

- Face fundamental business model disruption if stablecoins scale (payment processing revenues down 25-35% in high adoption scenario)
- Must decide between embracing stablecoin issuance or defending traditional payment infrastructure
- Selective integration in emerging markets likely (moderate adoption scenario)
- Consolidation likely as smaller banks exit payment business

Fintech and Payment Companies:

- Significant growth opportunity in emerging markets and cross-border payments
- Regional platforms may emerge as stablecoin settlement hubs (Singapore, Dubai, Hong Kong)
- Coexistence with traditional providers likely (moderate adoption scenario)
- Integration with banking infrastructure becoming critical for mainstream adoption

Emerging Market Governments:

- Significant benefits in moderate and high adoption scenarios (cost reduction, financial inclusion)
- Monetary policy challenges from currency substitution and capital flight
- Must balance financial inclusion benefits against sovereignty concerns
- CBDC development becoming urgent as competitive response

Developed Market Governments:

- Minimal disruption in moderate adoption scenario
- Payment system largely unchanged; CBDC focus primary
- Financial stability monitoring required for systemic risk
- International coordination on stablecoin regulation becoming important

The Role of Technology and Innovation

While technology is important, the ultimate impact of stablecoins will be determined by policy choices rather than technological capability. The technical solutions for scalability and interoperability already exist (Layer 2 solutions, atomic swaps, cross-chain bridges). What remains uncertain is whether regulatory frameworks and banking sector integration will enable these technologies to be deployed at scale.

Key Technical Achievements:

- Curve Finance: Ultra-low slippage stablecoin swaps (<0.1% fees)
- DeFi Protocols: $87 billion TVL demonstrating scalability
- Cross-chain Bridges: Stablecoins operational on 10+ blockchains
- Real-time Settlement: Proven in multiple corridors (Brazil/Mexico SPEI integration)

Remaining Barriers (Policy, Not Technology):

- Regulatory harmonization across jurisdictions
- Banking sector integration and custody infrastructure
- CBDC design and interoperability standards
- International coordination on cross-border settlement

The Monetary Policy Transmission Challenge

Perhaps the most significant finding is the breakdown of monetary policy transmission in the stablecoin ecosystem. The Federal Reserve's policy rates have no meaningful impact on DeFi stablecoin lending rates, which are determined by smart contracts and utilization rates rather than central bank policy. This represents a fundamental challenge to central bank authority and monetary policy effectiveness.

Implications:

- Central banks cannot control the entire financial system through policy rates alone
- Stablecoins create a parallel financial system outside traditional monetary transmission
- As stablecoin adoption grows, central bank policy effectiveness declines
- CBDCs become critical tool for maintaining monetary policy control
- International coordination on stablecoin regulation becomes urgent

The Systemic Risk Dimension

While stablecoins currently represent only 0.8% of U.S. M2 money supply, their systemic importance is growing rapidly. The concentration of 70% market share in Tether, the money-market-fund-like balance sheet structure, and the interconnection with crypto leverage create multiple contagion channels. The Silicon Valley Bank collapse demonstrated that traditional banking crises can trigger stablecoin depegging, and the Terra Luna collapse proved that stablecoin failures can trigger market-wide contagion.

Risk Amplification Mechanisms:

- Market concentration (70% Tether) amplifies impact of any depegging event
- Leverage in DeFi amplifies redemption pressure during stress
- Reserve asset illiquidity creates run vulnerability
- Interconnection with traditional finance creates contagion pathways
- Regulatory fragmentation prevents coordinated response

The Financial Inclusion Reality

While stablecoins offer genuine benefits for financial inclusion, the evidence suggests these benefits are more limited than often claimed. The barriers to adoption (digital literacy, internet access, trust, regulatory uncertainty) are substantial and not uniformly distributed. El Salvador's Bitcoin adoption provides cautionary evidence—despite government subsidies and legal tender status, adoption remained minimal more than one year after implementation.

Realistic Assessment:

- Stablecoins benefit specific populations (high-inflation countries, unbanked with smartphone access)
- Mobile money remains superior for basic financial inclusion in Africa
- Stablecoins are complementary to, not substitutive for, other financial inclusion tools
- Regulatory clarity and infrastructure integration are prerequisites for mainstream adoption
- Cost savings are real but concentrated in specific corridors (remittances, emerging market trade)

Conclusion: Stablecoins at the Crossroads

Stablecoins have evolved from experimental cryptocurrency tokens into critical financial infrastructure that is simultaneously solving real problems and creating new systemic risks. The $290 billion market processing $4.68 trillion in monthly transfers represents genuine utility, but the 70% concentration in Tether, the documented illicit finance dominance, the broken monetary policy transmission, and the sovereignty concerns in EMDEs represent real threats to financial stability and central bank authority.

The next decade (2025-2035) will determine whether stablecoins become mainstream payment infrastructure (High Adoption scenario), remain niche but growing in specific corridors (Moderate Adoption scenario, most likely), or are restricted by regulatory action and CBDC competition (Restricted Adoption scenario).

The critical variables are all policy-related, not technological:

1. **Regulatory Harmonization**: Will major economies coordinate on harmonized stablecoin standards or maintain fragmentation?
2. **Banking Integration**: Will commercial banks embrace stablecoin issuance and settlement or avoid exposure?
3. **CBDC Design**: Will central banks design CBDCs to complement or exclude stablecoins?
4. **Monetary Policy**: Will central banks tolerate reduced policy effectiveness or restrict stablecoins to maintain control?
5. **Financial Stability**: Will regulators implement sufficient safeguards to prevent systemic risk or restrict stablecoin growth?

The evidence suggests that Moderate Adoption (55-65% probability) is the most likely outcome, reflecting continued regulatory fragmentation, selective banking integration in emerging markets, and CBDC-stablecoin coexistence. This scenario would generate $15-25 billion in annual cost savings globally, primarily benefiting emerging markets, while limiting financial stability risks to specific corridors.

However, the High Adoption scenario (25-30% probability) remains possible if regulatory breakthroughs occur and banking sector integration accelerates. This would generate $75-100 billion in annual cost savings, transform global payment infrastructure, but create significant monetary policy and financial stability challenges.

The Restricted Adoption scenario (10-15% probability) would require either major stablecoin failures, central bank consensus against stablecoins, or geopolitical shifts that drive coordinated regulatory

crackdowns. This would preserve existing payment infrastructure and monetary policy control but forgo significant efficiency gains and financial inclusion benefits.

The stablecoin story is not yet written. The technology is proven, the market is growing, the benefits are documented, and the risks are real. What remains to be determined is whether policy makers will harness stablecoins' benefits while managing their risks, or whether they will restrict them to preserve existing monetary and financial systems. The decisions made in 2025-2027 will shape global finance for the next decade.

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