Introduction to Stablecoins

Financial Intermediation Research Lab (FiLab)

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FiLab: A research and teaching hub studying money and banking in the era of digitization

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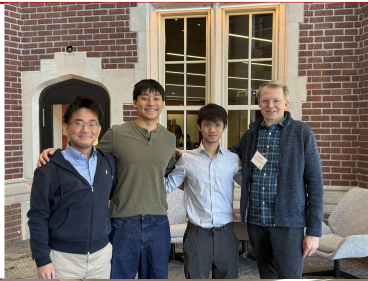
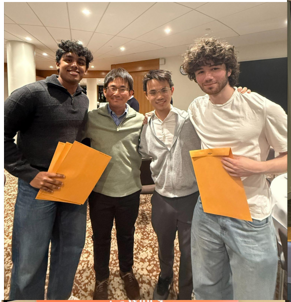


Theme for AY 2025-26: “Stablecoins”

- Fall 2025: Reading policy and academic papers, proposing research questions
- Spring 2026: Advancing individual research projects, including three senior theses



Our activities

- Weekly group meetings and individual advising
- Conference presentations @ Grinnell College
- Guest lecture and research discussions with Fed economists

What is a stablecoin?

A (private) digital dollar

=$1

Fiat-backed

Usually pegged to the US Dollar

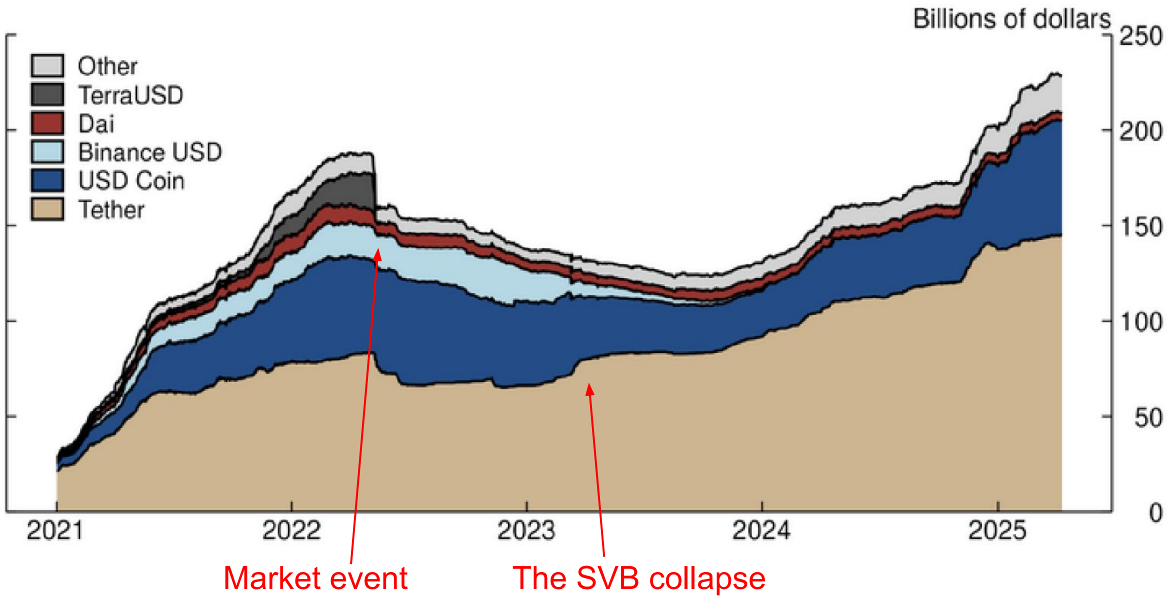
A digital token on the blockchain:

- Shared digital ledger that records transactions
  - Transparent, hard to alter, and verifiable by anyone
  - Buyers and sellers can trade assets directly (decentralized)
- Fast (24/7), low cost, and transparent transactions
  - "Off-chain" assets have to go through traditional clearing processes
  - payment and settlement infrastructure

Market Growth

The stablecoin market emerged in 2014

- **Demand for a stable store of value on-chain**



Expansion of use cases

- Crypto market growth
- Payment efficiency: fast, low-cost, 24/7 global transfers

Today: $317B

>50% growth since early 2025

Structure (Two Tiered System)

The Issuers issue and redeem tokens (e.g. Circle-USDC Tether-USDT)

Institutional Clients (Authorized Participants) buy and redeem tokens directly from the issuer

The Secondary Market: Where **retail investors** trade tokens without direct redemption rights

The Issuer's Balance Sheet

Highly liquid, safe assets:

- Hold mostly highly liquid, safe assets (cash, bank deposits, MMFs, T-bills)

Liabilities (Stablecoins):

- Paying 0% interest to token holders

Net Equity:

- Issuers pay "marketing fees" to institutional clients (e.g. Coinbase), who pass returns to retail investors

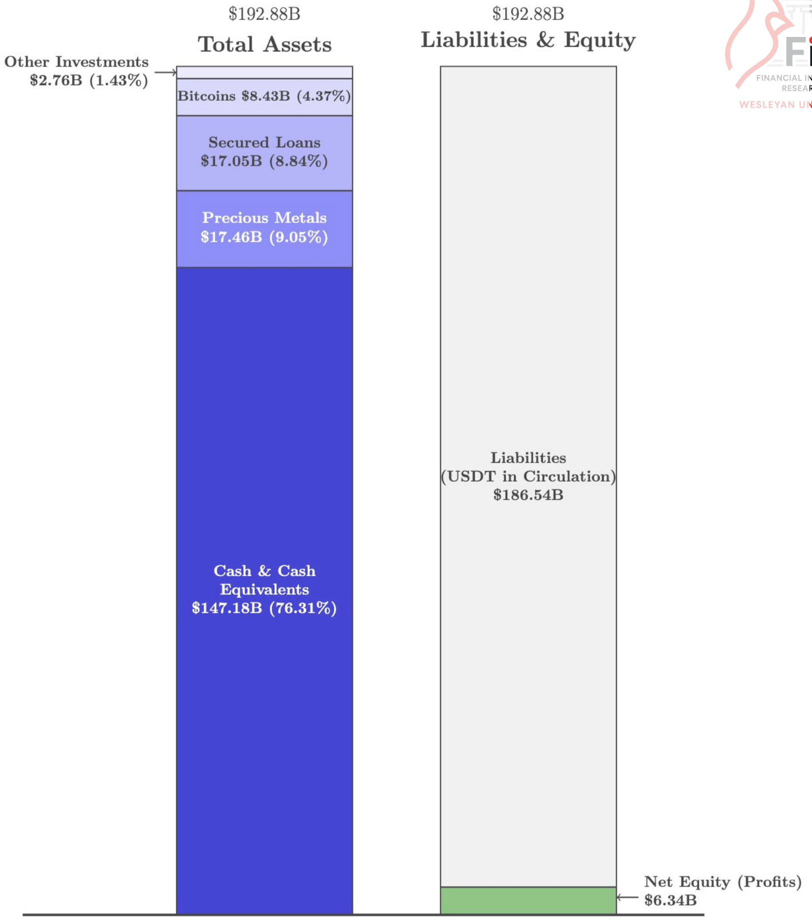


Figure 1: Breakdown of Tether(USDT) Balance Sheet (in Billions USD)

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Evolution of Policy Landscape

- More stablecoin oversight as adoption grew
- **TRUST Act:** Initial regulation in 2022 ⇒ Safer reserves, audits required
  - However, limited enforcement

- **GENIUS Act:** July 2025 ⇒ Formalized framework of stablecoins:

Mandated **1:1 backing** with safe, liquid assets

Only **approved issuers**

Greater transparency and regular audits

No yield/interest paid to holders

Issuer Implications

USDT: Less Transparent, forced to adapt

USDC: Already compliant, gained credibility

Benefits

Comparisons: Speed and Cost

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Sending $500...

Domestic Transfer | **International Transfer**

ACH transfer (Wells Fargo)	Venmo/Zelle	Stablecoins (USDC)	Wire transfer (Wells Fargo)	Paypal
1–3 business days	Instant	Instant	1-5 business days	Instant
no fee for standard transfers	no fee for standard transfers	Gas fees $9.60 - $17.60 + 0.02% - 0.05%	Up front fee: $25 (digital) 2% mark-up FX	International Fee 5% Fixed fees $0.41
$0 loss	$0 loss	≈ $9.70 - $17.85	≈ $34.50 loss	≈ $25.41 loss

Why Businesses Are Exploring Stablecoins

Reasons for businesses to use stablecoins:

- Faster access to funds ⇒ improves liquidity and efficiency
- Lower fees on cross-border payments
- Reduced exposure to exchange rate volatility

Example: Crypto.com + Visa cross-border settlement using USDC

- **Speed of transaction:** 8 days to 4 days
- **FX fees reduced** by 0.20% to 0.30%

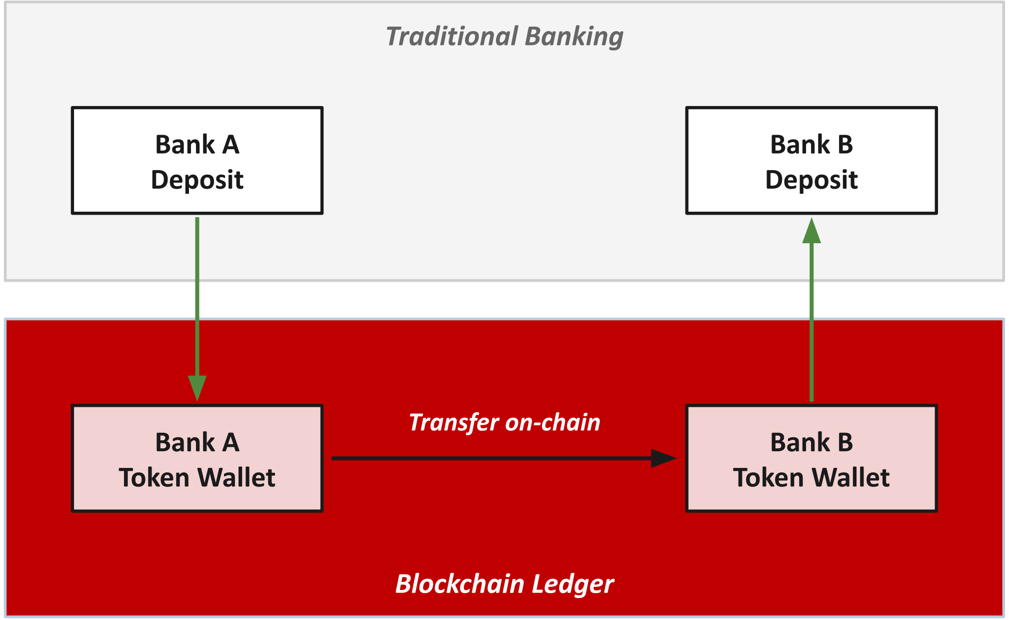
Industry estimate:

- Currency volatility caused **$1.2 trillion in GDP losses** across 17 developing economies (1992–2022)

(BVNK/Cebr report, 2024)

Stablecoins in Banking

- Tokenization
  - Banks issue digital tokens on a blockchain that represents real-world assets
  - Many pilot programs have already started (JP Morgan, Cari, Citi)
- Tokenized Deposits
  - 1-to-1 backed tokens that represent a user's deposit
  - They stay on a bank's balance sheet



Tokenized Deposits: Benefits

Always-On Settlement	Programable
24/7 instant transfers and “atomic settlement”	Payments can be automatically triggered or scheduled

Regulated Protections	Token/Fiat Conversion
Eligible for FDIC deposit insurance up to statutory limits	On-demand conversion between tokens and fiat through direct bank connections

Tokenization gives banks the ability to compete with stablecoin providers

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Case Study: Real-World Business Application

USDC Payments in Shopify

A crypto exchange's partnership with **Shopify**, an eccommerce platform that enables businesses to manage an online store without coding skills

History of Shopify-Stablecoin Compatibility	
Pre-2025:	Shopify long allowed **3rd-party developers** like Crypto.com and Strike to create plugins for merchants to accept crypto
Since June 2025:	Shopify **formally partnered** with Coinbase and Stripe, allowing merchants the choice to accept USDC natively on Shopify sites

Hypothetical Example of FiLab Inc.

Example Company: FiLab Inc.

Revenue from Shopify Sales: $100k

# of Transactions: 1000

→ *Assume all transactions are $100*

Share of International Transactions: 10%

% of Sales Disputed: 1%

% of Chargeback Disputes Lost: 50%

No USDC: Only Credit Card

Card Processing Fee
2% × 100K = **-$2000** ★

Per-Sale Flat Fee
$0.30 × 1000 = **-$300** ★

International Surcharge
1.5% × 10K = **-$150** ★

Chargeback Dispute Fees
10 × $15 = **-$150** ★

Chargeback Losses
(0.5 × (10)) × 100 = **-$500** ★

PCI Compliance
-$20 ★

Shopify Hosting Fee
2% × 100K = **-$2000**

Total Loss: $3120

★ **Indicates a cost mitigated by stablecoins**

Merchant Decison: Accept USDC? (FiLab Inc. Example Con't…)

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Reminder: **Credit Card Loss = $3120** and fees depend on **both revenue and # of transactions**

Option 1: Merchants collect the USDC from Shopify in fiat

Stripe/Coinbase converts the USDC to USD
Shopify guarantees **no off-ramp fee**

Shopify delivers revenue within usual "Payments Payout" schedule (**2 days**)
Regular Shopify Hosting Fee
2% of Revenue = **-$2000**

Coinbase Rebate
0.5% × 100K = **+$500**

Net Loss: $1500

Option 2: USDC transfers directly to merchant's crypto wallet

USDC instantly transfers across Coinbase's own network from customer's wallet to merchant's wallet (**instant**)
Regular Shopify Hosting Fee
2% of Revenue = **-$2000**

Coinbase Rebate
0.5% × 100K = **+$500**

Net Loss: $1500

Pros and Cons for the Merchant and Customer

Merchant	Customer
• **Faster settlement** (Option 2) • **No additional cross-border fees** • **Expanded market:** *Stablecoin payers 2x as likely to be first-time customers* • **0.5% rebate** on sales paid in USDC from Coinbase • **Chargeback risks eliminated** • Fees are independent from number of transactions	• **No gas or FX fees** • **Accessible to the unbanked** • Potential cashback from Coinbase (value-capped)
• Exposed to **USDC risks** (legislation changes, Coinbase/Stripe stability)	• **Forfeit payment dispute rights** • **Must have a crypto wallet** and previously on-ramped USDC

Concerns:
Financial Risk & Disintermediation

Are Stablecoins 'risky'?

- Stablecoins seem safe
  - 1 token is pegged to $1, backed by liquid, safe assets

Q. Are stablecoins prone to any liquidity or solvency issues?

⇒ An interesting example: the 2023 banking turmoil

Circle (issuer of USDC) held bank deposits at the Silicon Valley Bank (SVB)

SVB faced a bank run → Circle's deposits at SVB ($3.3B) at risk → Loss of confidence: USDC "depegged", dropped to $0.88

USDC restored its peg only after the FDIC guaranteed all SVB deposits

Financial Risks

Retail Users: Depeg

Retail Panic Selling on Secondary Market

↓

Supply Surge → Price Falls

↓

Sell below $1 or hold and risk further losses

No direction redemption access

Institutional Users: Run

Solvency

Losses in Assets

↓

$1 Redemption Fails

Liquidity

Large Redemptions

↓

Issuer may impose gates/delays/fees

↓

Limited access to cash

System-wide Spillover

Strong links to traditional finance (banks, MMFs) could allow stablecoin stress to spill over into the broader financial system

Issuer Behavior	Market Spillover
• **Opaque portfolios** at some issuers (e.g., USDT) • **Moral hazard:** weaker regulation may incentivize riskier portfolios to raise yield	• **Asset concentration** in T-bills, bank deposits, MMFs • A **run** on stablecoins ⇒ **sudden sale** of safe assets ⇒ stress **on Treasury markets** and bank deposits

Disintermediation: a shift away from banks?

Concern:

Stablecoins substitute for bank deposits

REUTERS

US banks may lose $500 billion to stablecoins by 2028, Standard Chartered warns

Deposits decline

Banks have less to lend out

A Fed economist estimates **$65 billion to $1.26 trillion in lending contraction** *(FEDS Note, 2025)*

Industry estimates up to **$850 billion in community-bank lending wiped out** *(Independent Community Bankers of America, 2025)*

A policy response

GENIUS Act (2025)

- "Yield ban": Issuers cannot pay interest to holders
  - **to mitigate deposit substitution** by limiting the attractiveness of stablecoins

Profit-sharing

- Issuers offer profit-sharing instead of interest
  - Economically equivalent to interest

Banking industry pushes to ban all forms of returns

⟹ Q. Should stablecoin issuers be allowed to share profits?

Another view: Stablecoins may enhance competition

Banking sector lacks competition
⇒ low deposit rates

Stablecoins complement competition
⇒ Banks raise deposit rates to compete
⇒ New depositors **replace** outflows
⇒ **Net deposit flows may be positive**

Andolfatto (2021EJ) & Chiu et al (2023 JPE)

<u>CEA's quantitative model:</u>
Eliminating stablecoin yield

- **only** +$2.1B in bank lending (**0.02%** of total bank loans)
- **−$800M in welfare**

Council of Economic Advisors (April, 2026)

RESEARCH

Effects of Stablecoin Yield Prohibition on Bank Lending

The White House | April 8, 2026

Takeaway: Stablecoins in the U.S. Economy

Stablecoins are a new form of digital money

⇒ reshaping banking and payments in the digital era

⇒ calling for further research and policy design

Where do they add value in the U.S. economy?

- **Domestic retail payments:** Zelle and Venmo already provide fast transfers. Welfare gains might be limited.
- **Cross-border payments:** Currently expensive. Gov. Waller and others argue that stablecoins likely offer strong efficiency gains.
- **Geopolitics:** Gov. Miran and others argue dollar-backed stablecoins compete with China's digital yuan and defend the dollar dominance.

Thank You!

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