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Recent Changes and the Future of the U.S. Financial System

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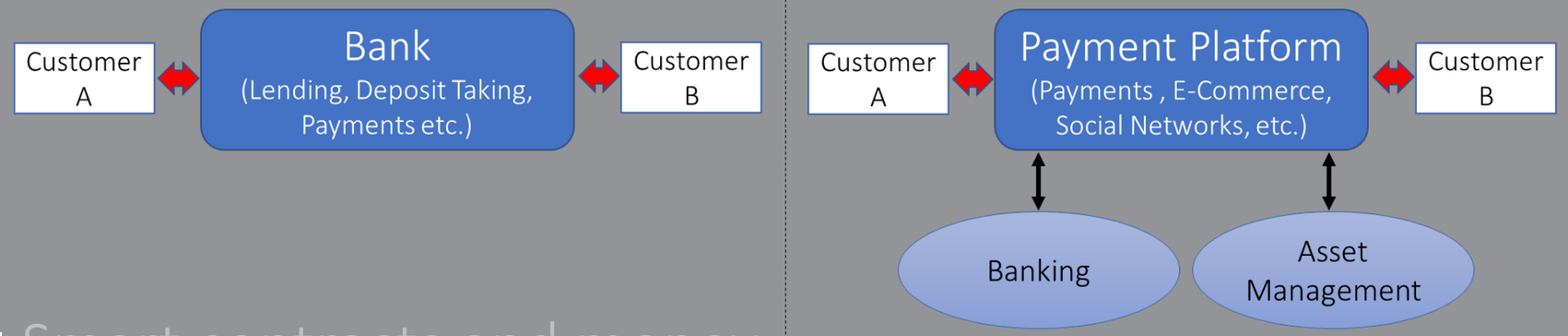
Tech Trends that Impacts Money

- Smart phone — M-Pesa
- DLT (Blockchains) — Bitcoin
- Token (vs account-based)
- Big data, AI, deep learning, → inverse selection
- Digital platforms/ecosystems – Alipay, WechatPay



- Smart contracts and money
- Internet of things: payments from machine to machine
- Micropayments

Tech Trends: Big Data, AI, Machine/Deep Learning

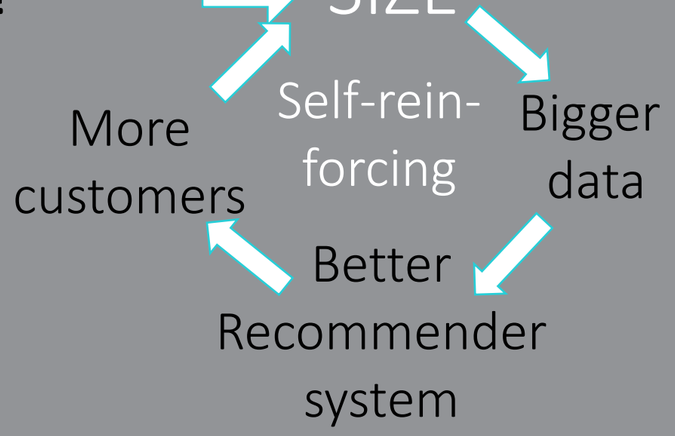
- Economies of Scope
  - Unstructured data, textual data
  - Social media data
  - Payment system data
  - Diversity

"Bigger is better"

→ PLATFORMS
(transforms IO of finance)

Scale
- Diminishing returns to scale?

→ SIZE



- ~~Adverse~~ Inverse Selection

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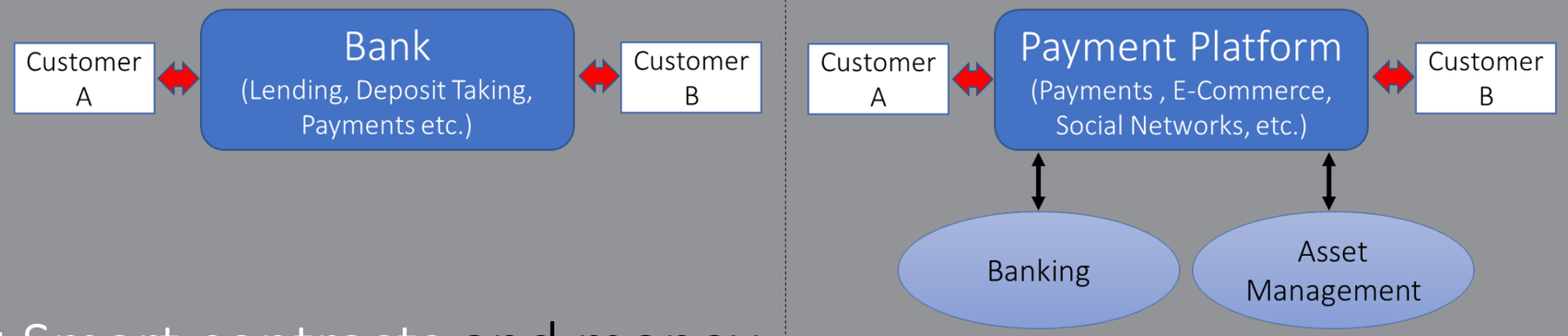

- Smart contracts and money
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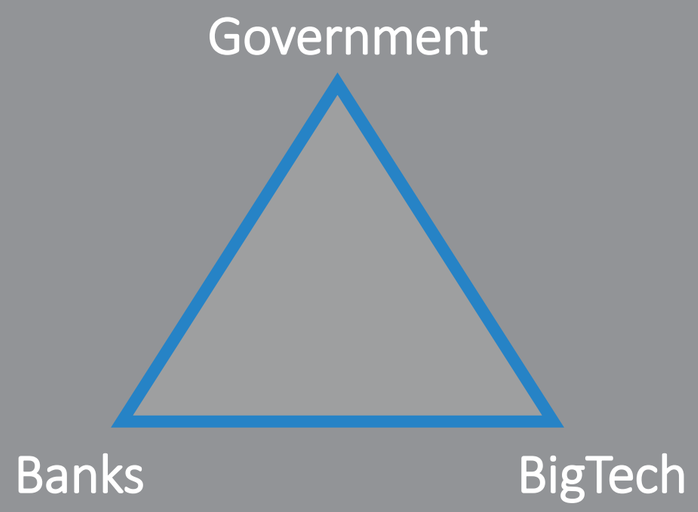
Public Private Partnership

- Current arrangement: 2 tier system
  - Government outside-money/unit of account/settlement among banks
  - Private banks inside money

- Future arrangement

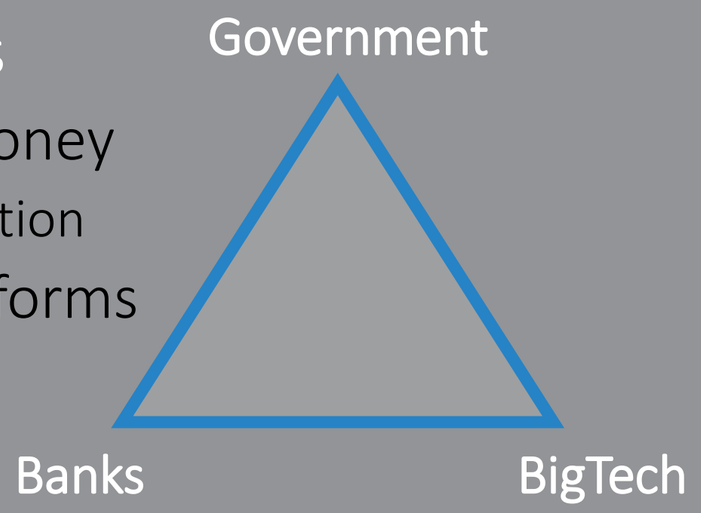


  - Example: India Stack, PBC imposing narrow bank model

Public Private Partnership

- Risk of disintermediation (esp. runs in crisis times)?
  - Why not run in a safe private bank?
  - Equivalence result: (Brunnermeier-Niepelt 2019)
    - CB by stepping in the middle grants deposit insurance (to retail depositors)
    - Bank customer instructs bank to transfer his deposits to CB
      - CB accepts and hence extends a loan to private bank
      - CB rejects: no run possible

- Regulate Platform Tokens
  1. Competition to public money
     - Digital dollarization/diemization
  2. Competition among platforms
     - interoperability (like EPI),
     - convertibility,
     - narrow banks approach



Poll Questions

1. The financial crisis: Has the problem been solved?
   a. Yes
   b. No

2. Are there fundamental changes currently going on in the financial system?
   a. Yes
   b. No

3. Can stable coins be successful as privately-produced money?
   a. Yes
   b. No

Recent Changes and the Future of the U.S. Financial System

Gary Gorton, Yale and NBER

Yale SCHOOL OF MANAGEMENT

Three Questions

- The Financial Crisis—Has the problem been solved?
- Are there fundamental changes currently going on in the financial system?
- Can stablecoins be successful as privately-produced money?
- The Fundamental Theorem of Bank Regulation

Financial Crisis—Has the problem been solved?

- No.
- A financial crisis is always about short-term debt. Repo in the last crisis.
- Inherent in market economies.

New Rules and Regulations—Partial List

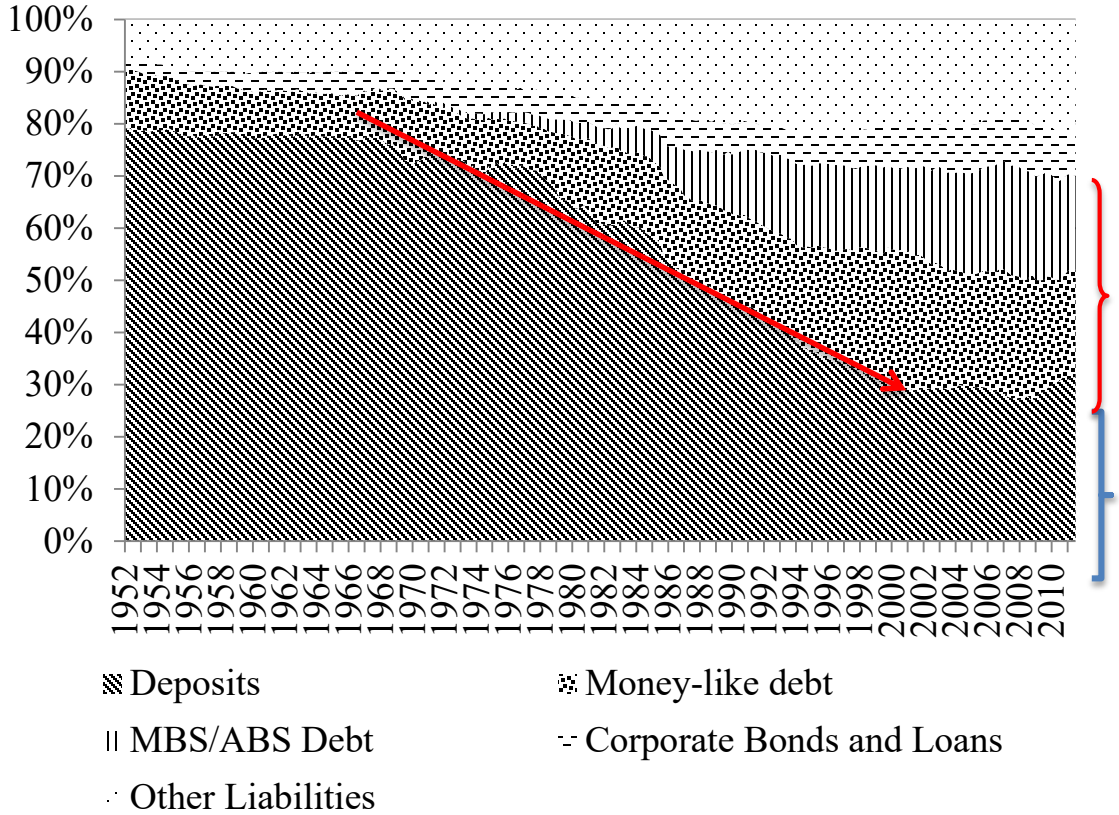
- More bank capital
- Total loss absorbing capacity
- Leverage restrictions
- Enhanced prudential standards
- Volker rule
- Swaps pushout rule
- Living wills
- Orderly liquidation authority
- Etc. etc. etc.

- Stress tests
- Compensation regulation
- SIFI, G-SIFI designation
- G-SIFI surcharge
- Liquidity coverage ratio
- Net stable funding ratio
- Bail-in
- MMF reforms
- Etc. etc. etc.
- **LCR**

Privately-Produced Safe Debt as % of Total Privately-Produced Safe Debt

Blue=traditional banking **Red=shadow banking**

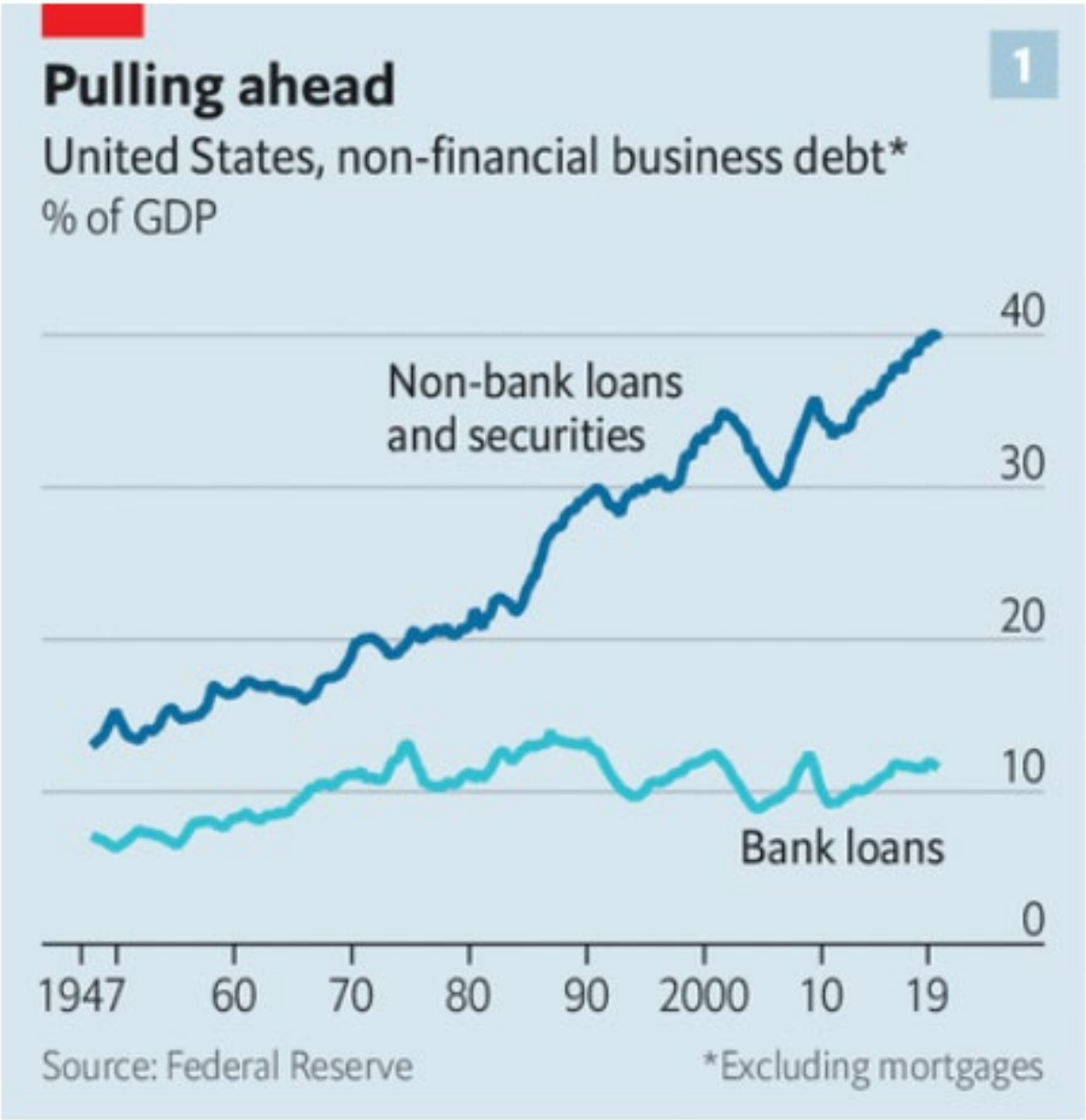
Shadow
Banking
Not identified



Source: Gorton, Lewellen, Metrick (2012)

Fundamental changes going on? Loans and Mortgages

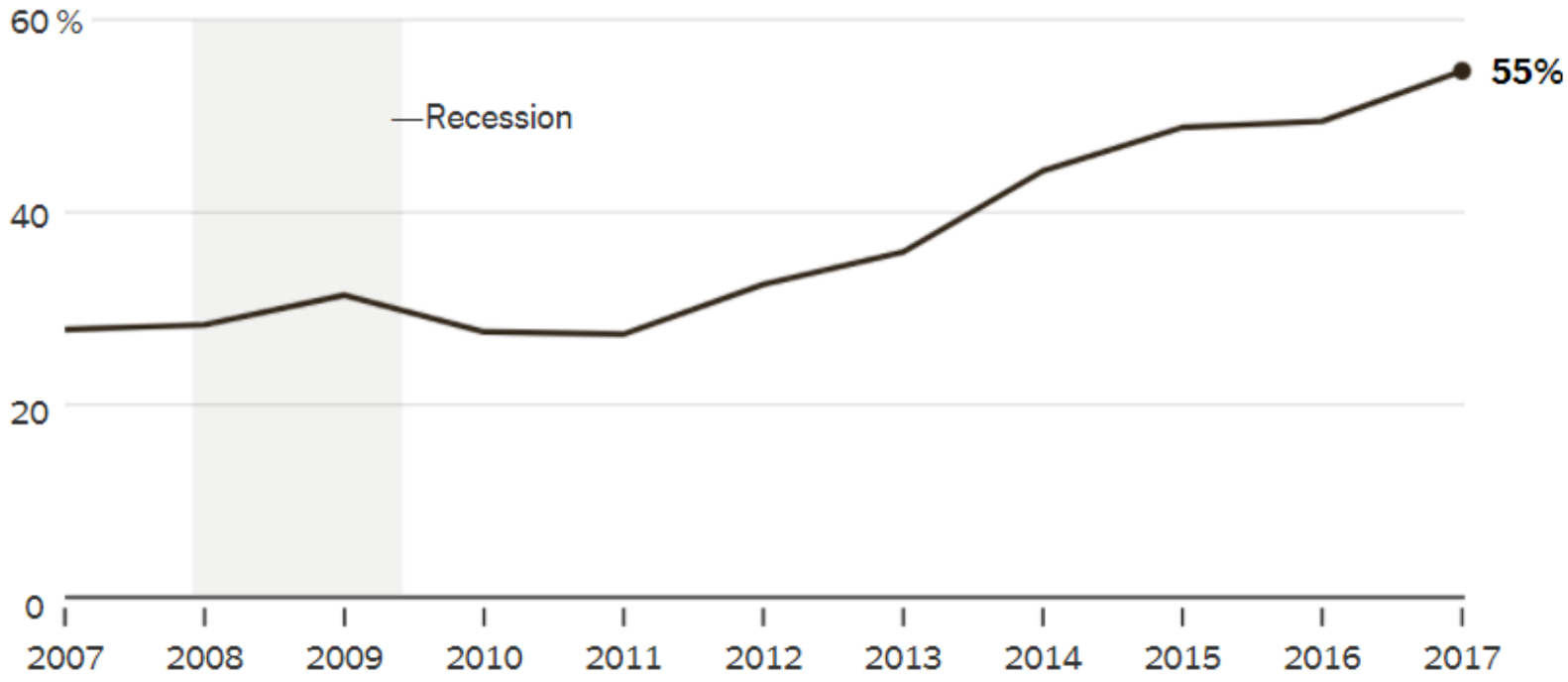
- Yes, "banking" is moving out of the regulated sector:
  - 50% of business loans originated outside the U.S. banking system
  - 50% of home mortgages originated outside the banking system



Yal

The Economist

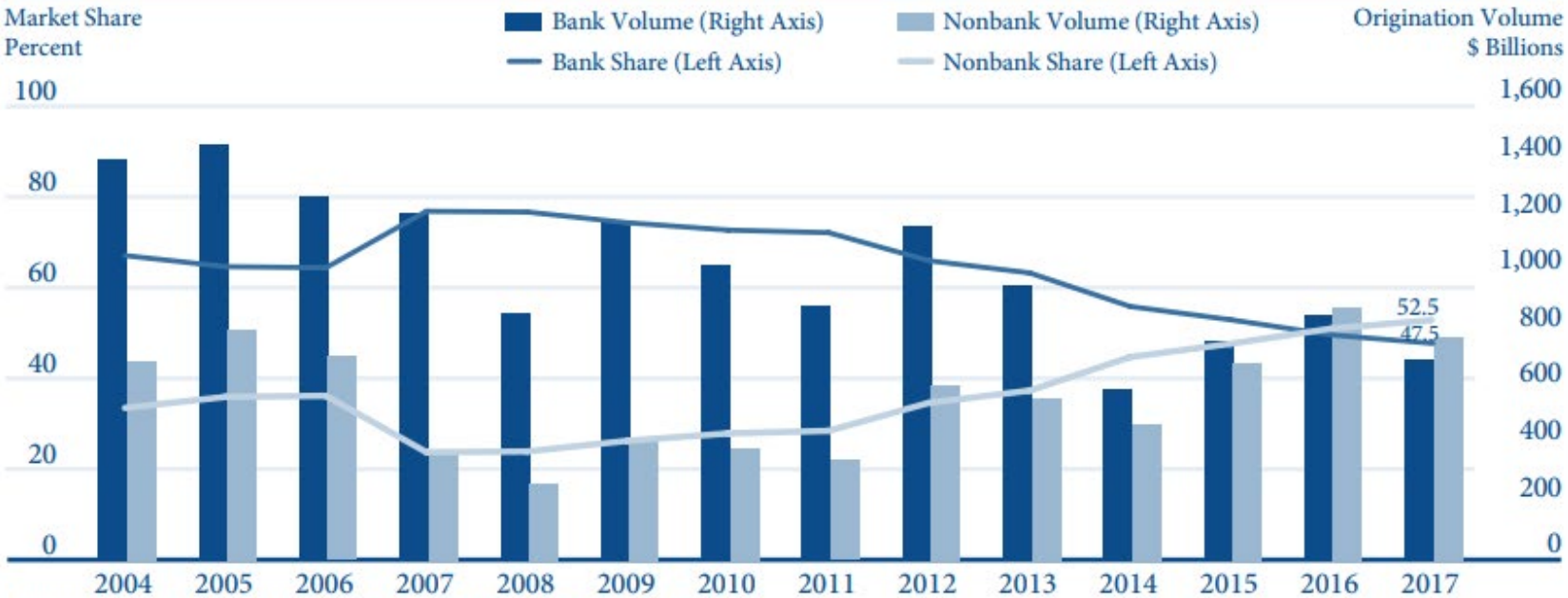
Non-bank lenders' share of the U.S. mortgage market



By The New York Times | Source: G. Buchak, G. Matvos, T. Piskorski and A. Seru. (2018) Fintech, Regulatory Arbitrage and the Rise of Shadow Banks, Journal of Financial Economics

Chart 2

Nonbanks Increased Mortgage Originations After the Financial Crisis



Source: FDIC analysis of Home Mortgage Disclosure Act data.
Notes: Nonbanks include all Department of Housing and Urban Development reporters. Banks include banks, credit unions, and their affiliates. Data are limited to single-family residential mortgage originations, defined as first-lien purchase or refinance loans secured by an owner-occupied, 1–4 family unit, site-built property.

Where is the banking system now? Liquidity Creation

- Wholesale
  - Post-crisis leverage, and liquidity rules have significantly increased the costs of repo, reducing the dealers' appetite for repos.
  - *Sponsored repo* is a transaction in which a dealer bank sponsors non-dealer counterparties onto Fixed Income Clearing Corporation's (FICC) cleared repo platform – a system that matches and nets repo trades in U.S. government debt.

Liquidity Creation cont.

- FHLBs short-term debt issuance is huge.

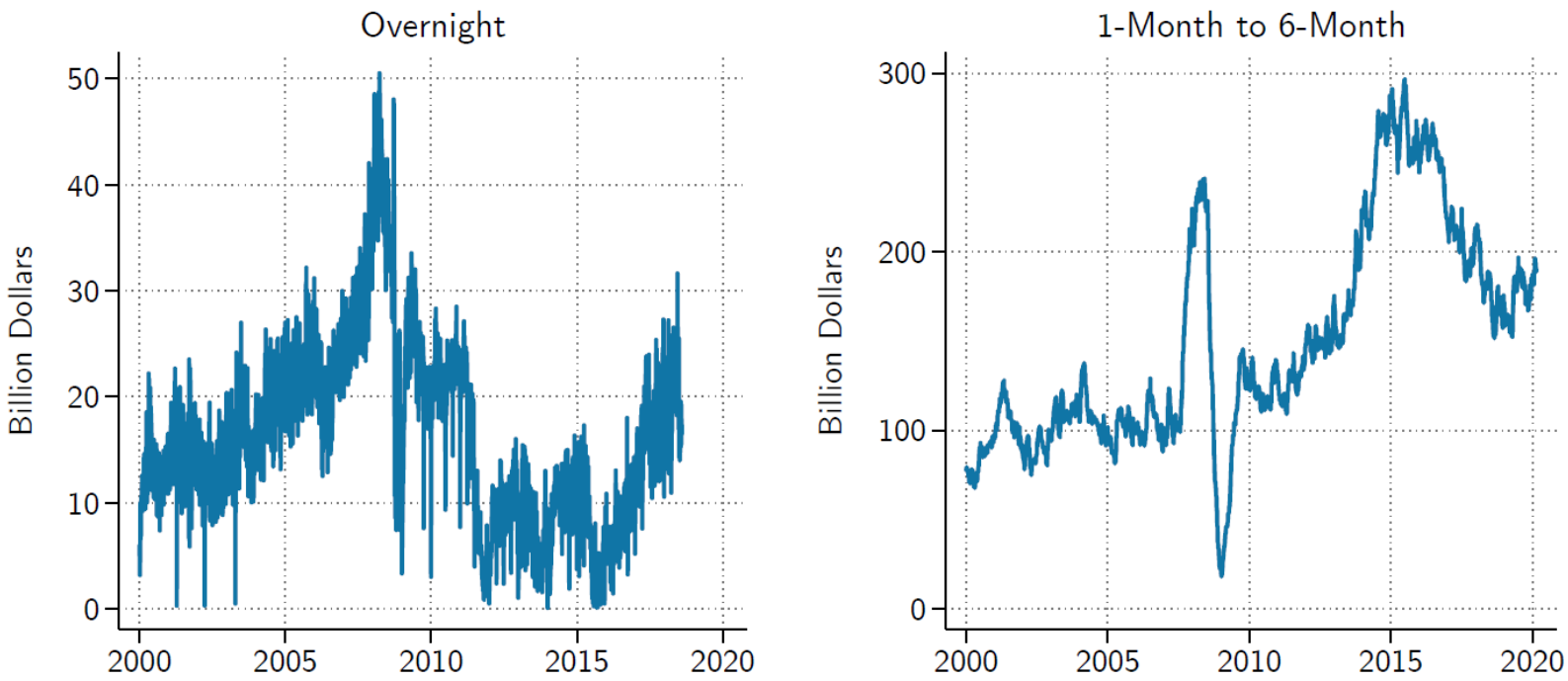
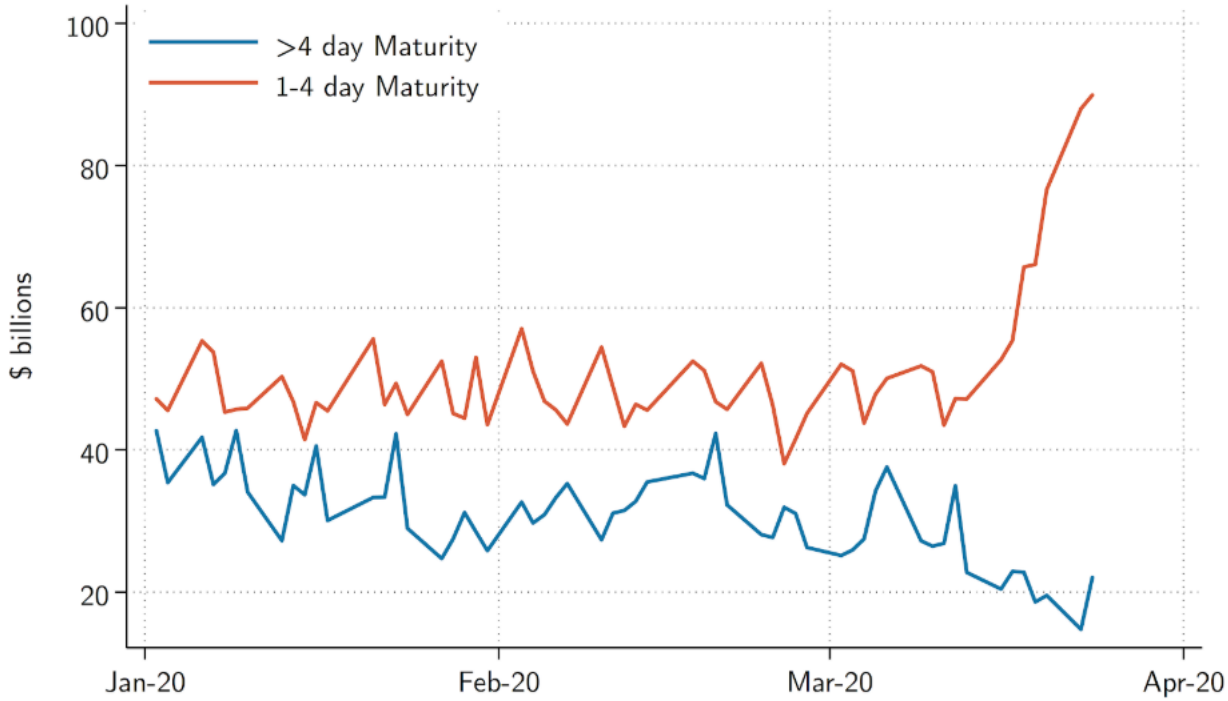


Figure 1: FHLB Auctioned Discount Notes Outstanding. Source: FHLB Office of Finance

Ross (2020)

Figure 3: Total Commercial Paper Issuance



Liquidity Creation: Retail

- Variable Denomination Floating Rate Demand Notes
  - No maturity, but redeemable on demand
  - Limitations on how much a person can buy (deposit)
  - Not transferable
  - Interest rate set by committee

Example Issuers

Financial Issuers

- Toyota
- Mercedes-Benz
- GM Financial

Non-Financial Issuers

- Caterpillar
- Duke Energy
- Dominion Energy
- John Deere

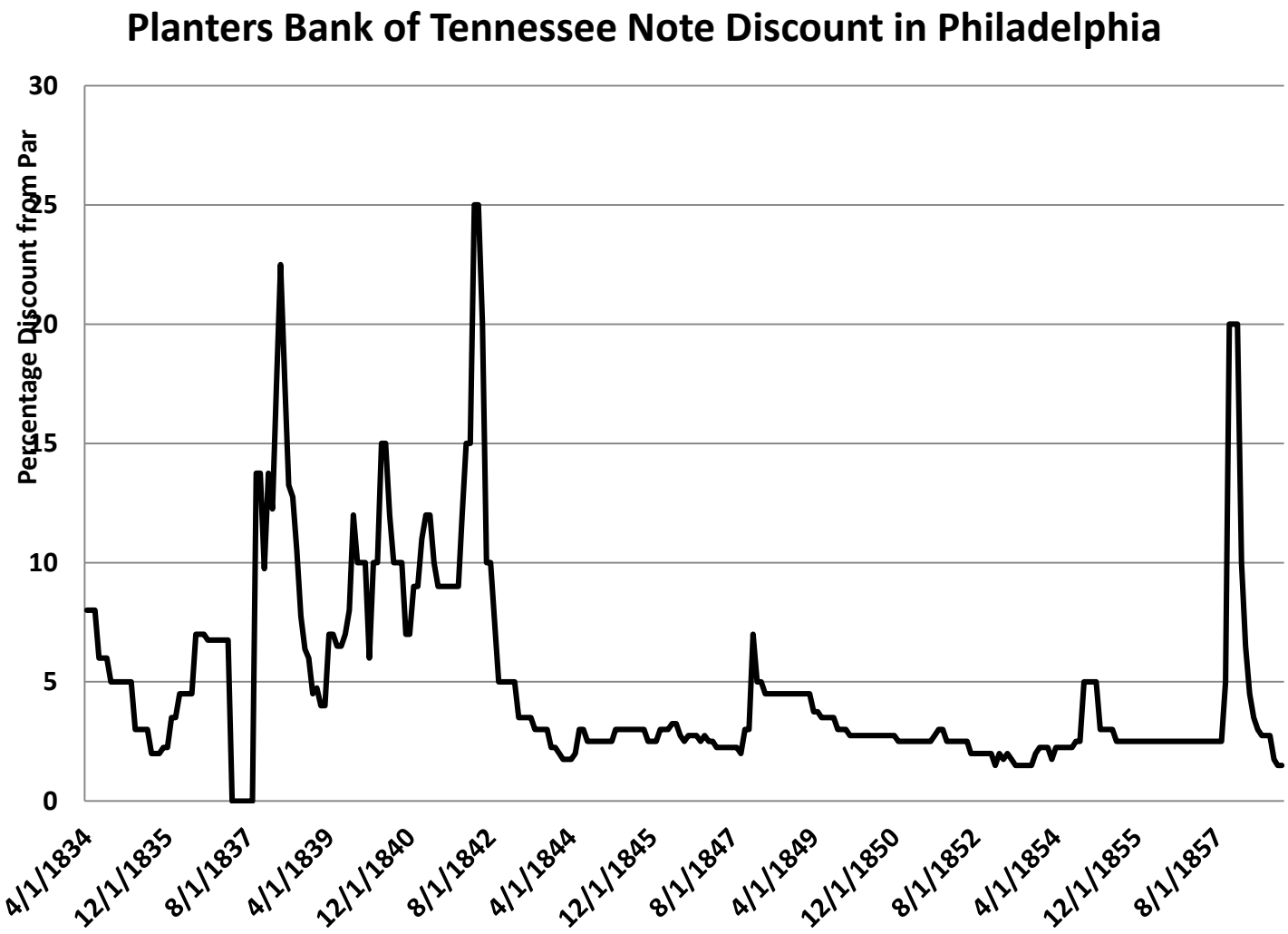
Disintermediation by Stablecoins?

- Stablecoins are money.
  - One-to-one ratio with cash, so reserves are held
  - Redeemable at any time
  - Transferable
  - Do not pay interest
  - Convenience yield?

- Basically→ Unregulated Free Banking

Have Stablecoins Been Successful?

- Success = price stays at one. Accepted no questions asked (info-insensitive).


Planters Bank of Tennessee Note Discount in Philadelphia
Percentage Discount from Par
30
25
20
15
10
5
0
4/1/1834
12/1/1835
8/1/1837
4/1/1839
12/1/1840
8/1/1842
4/1/1844
12/1/1845
8/1/1847
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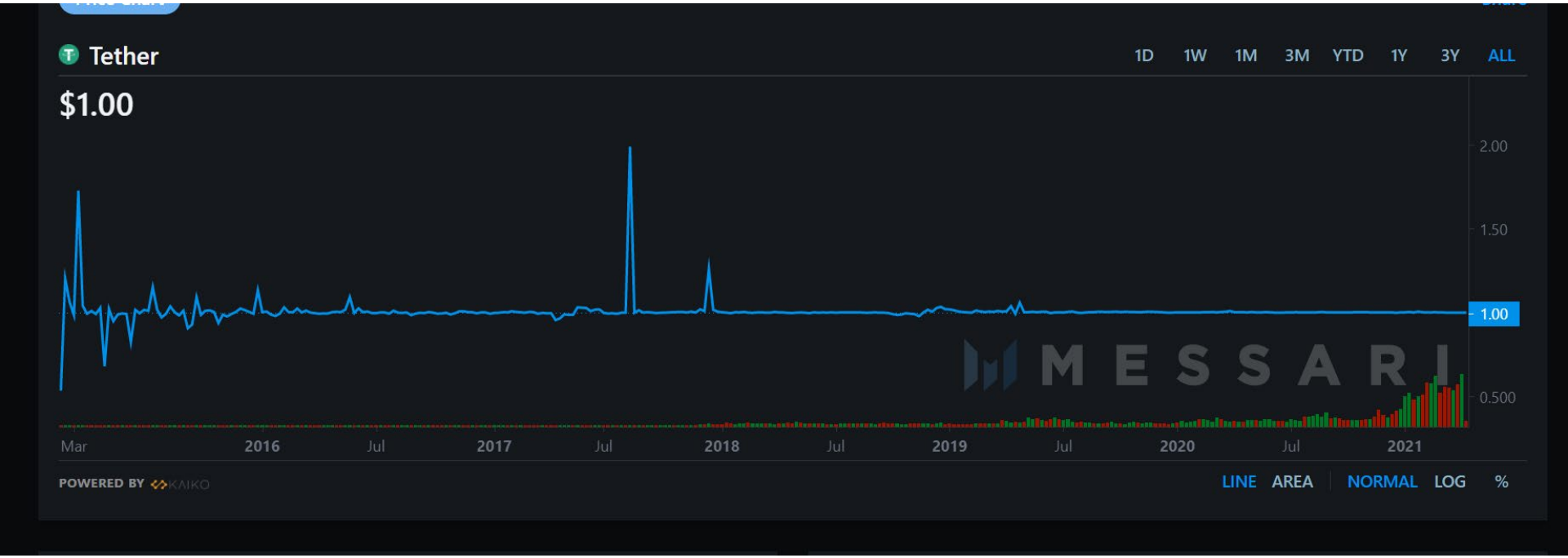
4/1/1854
12/1/1855
8/1/1857


Tether
1D 1W 1M 3M YTD 1Y 3Y ALL
$1.00
2.00
1.50
1.00
0.500
MESSARI
Mar 2016 Jul 2017 Jul 2018 Jul 2019 Jul 2020 Jul 2021
POWERED BY KAIKO
LINE AREA NORMAL LOG %

Tether Backing

Every Tether token is always 100% backed by our reserves, which include traditional currency and cash equivalents and, from time to time, may include other assets and receivables from loans made by Tether to third parties, which may include affiliated entities (collectively, “reserves”). Every Tether token is also 1-to-1 pegged to the dollar, so 1 USD₮ Token is always valued by Tether at 1 USD.

Is the Backing Credible?

Tether had been at the center of speculation for years that the coin, used to facilitate trades in the crypto market, wasn't backed one-to-one with dollars as claimed. In February, the companies agreed to provide quarterly reports to New York as part of a settlement over allegations that it hid the loss of funds and lied about reserves.

The assurance, provided by Cayman Islands-based Moore Cayman, is not part of the reporting requirement to New York. The assurance is not an audit.

Bloomberg


USD Coin
$1.00
1D 1W 1M 3M YTD 1Y 3Y ALL
1.04
1.03
1.02
1.01
1.00
0.990
Oct 2019 Apr Jul Oct 2020 Apr Jul Oct 2021 Apr
MESSARI
POWERED BY KAIKO
LINE AREA NORMAL LOG %

Is the Backing Credible?

Every month, the US dollar reserves for USDC are attested to by top 5 accounting services firm, Grant Thornton LLP. We publish those reports so that you can be confident that USDC is always 100% redeemable for dollars.

Hmmm . . .

- Are stablecoin issuers banks? Yes, they issue deposits. (Federal law basically says that only "banks" can have "deposit" liabilities. But it then defines "deposit" as a liability <u>of a bank</u>. So, it's circular.)

- To be widely adopted, there must be a convenience yield since stablecoins do not pay interest.

Possible Sources of Convenience Yield

- Trading cross-border
- Payments
- Remittances
- Payrolls

Hmm . . .

- Issuers will be tempted to go longer on the asset side.

- Free banking never worked in the past, even in cases where the government required backing.

Challenges

- The transformation of the financial system takes time - - decades.

- For regulators, the challenges are:
  - Follow the transformation, even though it is not in their job description.
  - How to regulate transnational technologies.

The Fundamental Theorem of Bank Regulation

- Bank regulators can only decide one thing: the location of the banking system.