Discussion of
"Will Central Bank Digital Currency Disintermediate Banks"

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CB&DC Virtual Seminar, November 18, 2022

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Central Bank Digital Currency (CBDC)

⇒Replace paper currency with digital currency

What are the advantages?

1. More convenient for payments
2. More secure: cannot be counterfeited, robbed
3. Can be centralized and traceable
   - A disadvantage for underground activities: crime, terrorism
   - Allows for interest on CB currency

Question: What impact would CBDC have on banks?

⇒Paper tackles a very interesting and important question

Centralized or Decentralized?

1. Centralized: Every entity has a digital currency account at the central bank
    - a checking account at the Fed
    - can then pay interest on CBDC

2. Decentralized: central bank verifies digital currency but does not keep track of ownership
    - like current paper currency, treasury bonds, or stocks
    - custodial services can be provided by companies, e.g., like a checking or brokerage account
    - cannot directly pay interest on CBDC since no accounts at the Fed

Minimally Disruptive CBDC

Decentralized → Replace paper currency with equivalent digital currency

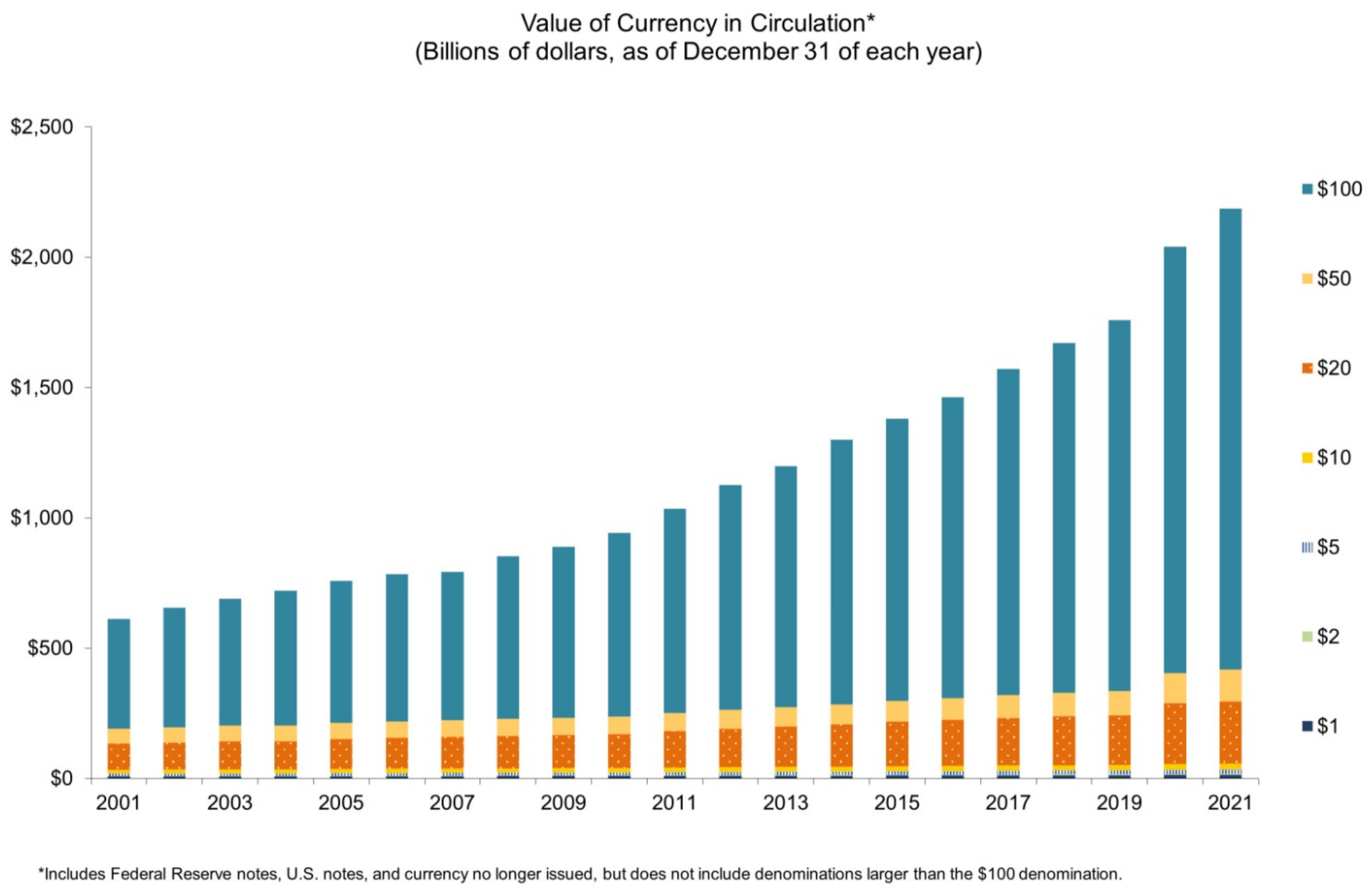
Current value of currency: $2.2T

1. Banks would continue to provide custodial transaction/checking accounts
    - Would not even disintermediate checking accounts

2. No interest on CBDC
    - Like paper currency, CBDC would still be dominated by deposits/bonds when rates are positive
    - Not a substitute for interest-paying accounts/assets

⇒ Minimal change in demand for currency/ CB balance sheet
- More convenient for transactions
- More difficult to counterfeit
- Maybe more difficult to hide/steal (maybe)

Value of Currency in Circulation

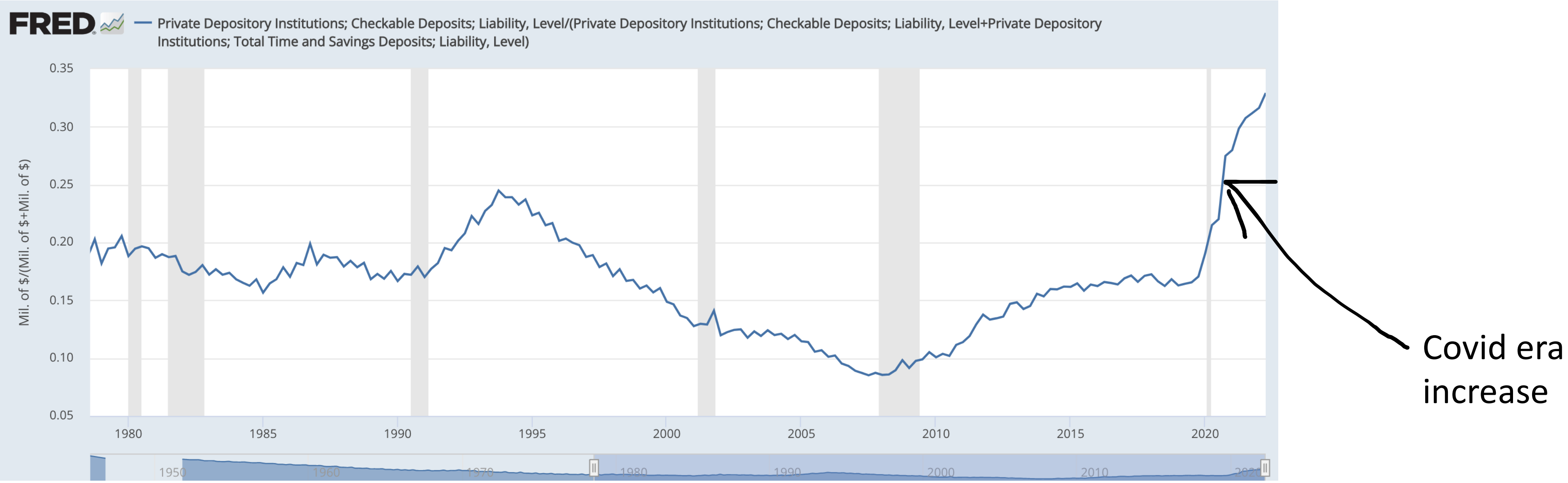


- Most of the value is in $100 bills
- Most of the currency is held abroad

More Disruptive CBDC

Centralized but **non**-interest paying → CB provides transaction accounts

1. Dominates banks' 0-interest checking accounts
   - most bank checking accounts pay very little interest (but could increase a little)
   - checking deposits share is around 15% (see plot)
   - Decreases when interest rates go up; huge increase during covid period (+$3.5T)

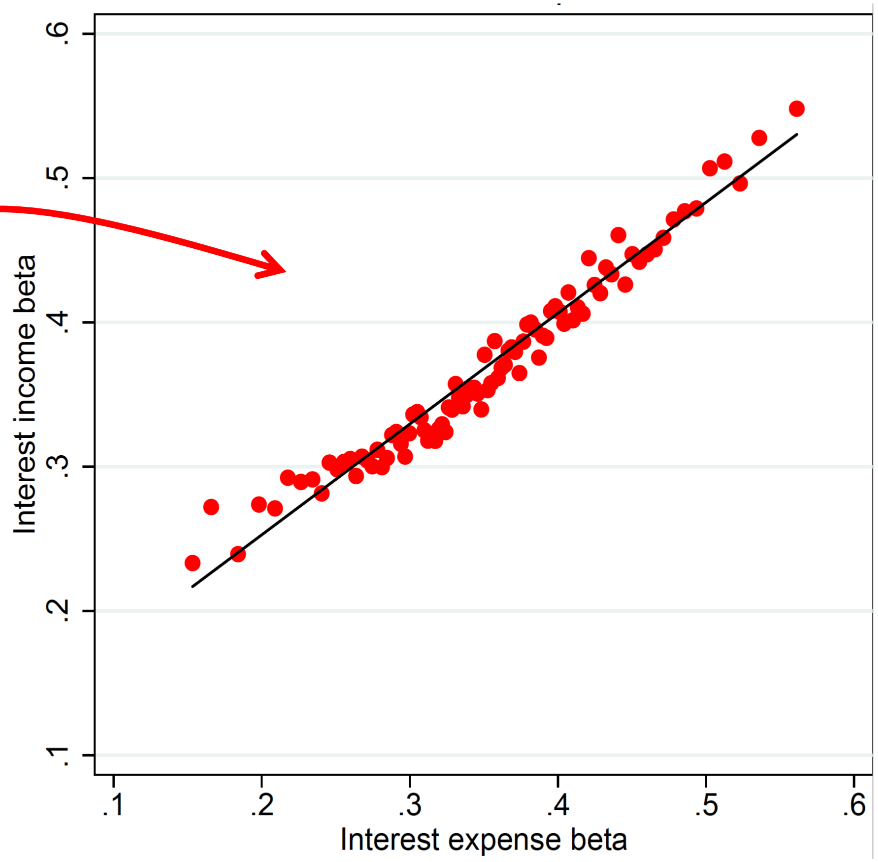


What Should the CB buy in exchange?

1. <u>Least disruptive</u>: Buy what banks finance with checking accounts

⇒Drechsler, Savov, Schnabl (2021): banks match the interest-rate betas of deposits and assets
   - Interest-rate beta = sensitivity of cashflows to Fed funds rate

⇒Checking account rate beta = 0 → use to fund long-term fixed-rate assets (also zero beta)
   - e.g., long-term fixed-rate MBS

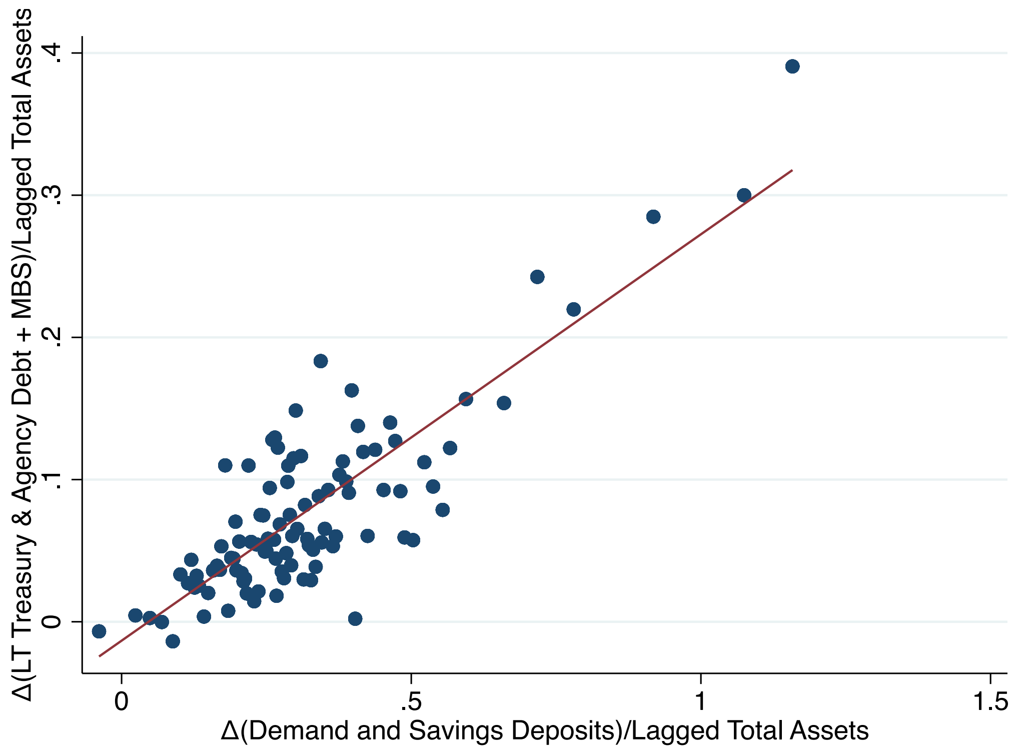


Drechsler, Savov, Schnabl (2021, JF)

Evidence from the Covid Checks

1. Banks invested about 1/3 of covid-era checking account inflows in long-term fixed rate securities (Drechsler and Supera, 2022)

2. Explains banks' large purchases of MBS and treasuries and low MBS spreads



Drechsler and Supera (2022)

Pros and Cons

1. <u>Pro</u>: uniform payment system → easier digital payments
   - Currently largely monopolized by Visa and Mastercard in US: interchange fees are **$138 Billion** per year, banks receive $93.9 Billion (debit/pre-paid cares: $24.3B)
   - Credit card banks earn much higher ROAs/ROEs (Drechsler, Peng, Zhou 2022)

- Is CBDC an anti-trust tool? Shouldn't that be a job for regulators?
   - China has widespread, easy digital payment but no CBDC

1. <u>Con</u>: running a retail bank incurs substantial costs, even just or checking accounts (see e.g., Goldman Sachs's problems building Marcus)
   - ABA estimates servicing cost per checking account of $250-400 per year
   - for compliance, fraud prevention, processing, overhead (branches)
   - a huge step up in administrative complexity for the Fed
2. <u>Con</u>: Fed would own even more of MBS market

Most Disruptive CBDC

CB provides savings accounts paying Fed Funds rate (rate beta =1)

1. Bank savings deposits have rate betas far less than 1 (market power)
2. market power ≠ rents! → banks incur fixed costs of **2-3%** of assets annually to get this market power
   - employees, branches, advertising, …
   - Banks' ROA ≅ 1% (which includes compensation for credit risk)
3. Depositors seem to value the "services" these costs provide
   - they pay for them by via deposit spreads (lower deposit rates)
4. Key question: does CBDC eliminate the need for these services? If not, does CBDC provide an efficiency gain in providing such services?

- Money market funds already pay the FF rate but have not substantially displaced banks: what advantage does CBDC provide for savings accounts?

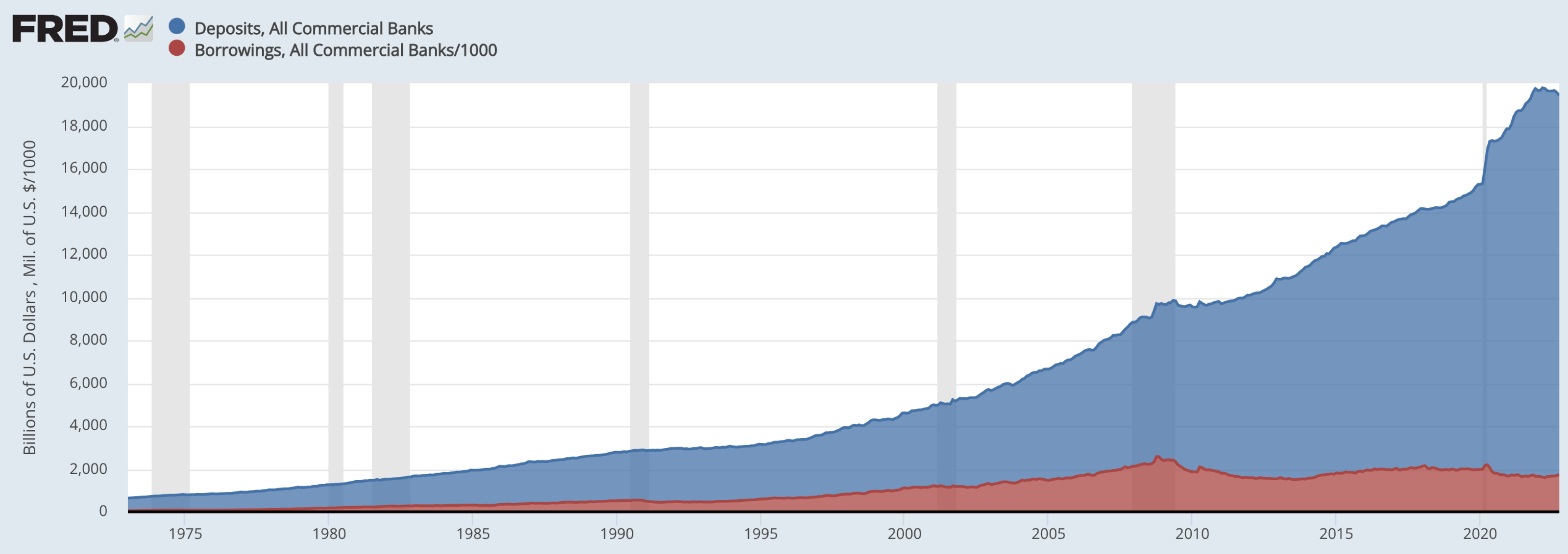
Disintermediation's Effect on Long-Term Credit

1. Drechsler, Savov, Schnabl (2021): Low-rate-beta deposits are banks' ``technology'' for funding long-term fixed-rate lending
   - Low-rate-beta deposits hedge low-rate beta (long-term) assets (e.g., mortgages)
   - banks are lowest cost providers of long-term credit
   - explains why money market funds only buy very short-duration assets

2. If banks lose low-beta funding → long-term credit supply will decrease substantially → term premium will increase
   - bigger version of increase in mortgage rates/spreads in 2022 as banks stopped buying MBS due to loss of low-beta deposits (Drechsler and Supera, 2022)

3. Does this mean we shouldn't have high-interest-paying CBDC?
   - Depends on answer to previous slide: is CBDC an efficient way to provide deposit services?

Wholesale Borrowing Cannot Replace Retail Deposits



1. Banks' business is built on retail deposit funding
2. Stable, low-rate-beta deposits enables them to finance long-term and illiquid assets
3. Wholesale borrowing (red) are high-rate-beta and highly runnable (see e.g., 2008 ABCP conduits)

If You Provide the Liabilities, You Must Buy the Assets

1. The larger the CB's share of deposits, the more of the banking systems' assets it will need to buy

2. CB providing all deposits is similar to nationalizing the banking system

⇒ CB must replace banks' credit pricing/allocation decisions

Conclusion

1. Paper is on an interesting and important topic
2. Paper analyzes the important channels
3. Evolutionary approach: replace only paper currency with decentralized non-interest-paying CBDC
4. Anti-trust and monopoly rents are usually a regulatory problem
   1. Do banks earn rents? I don’t know.
   2. Do VISA and Mastercard earn rents? I think so.
   3. Should payments be cheaper/easier. Certainly.
5. If CB provides the liabilities then it will also have to make the capital allocation decisions