Discussion of:

Central Bank Digital Currencies – Design Principles and Balance Sheet Implications

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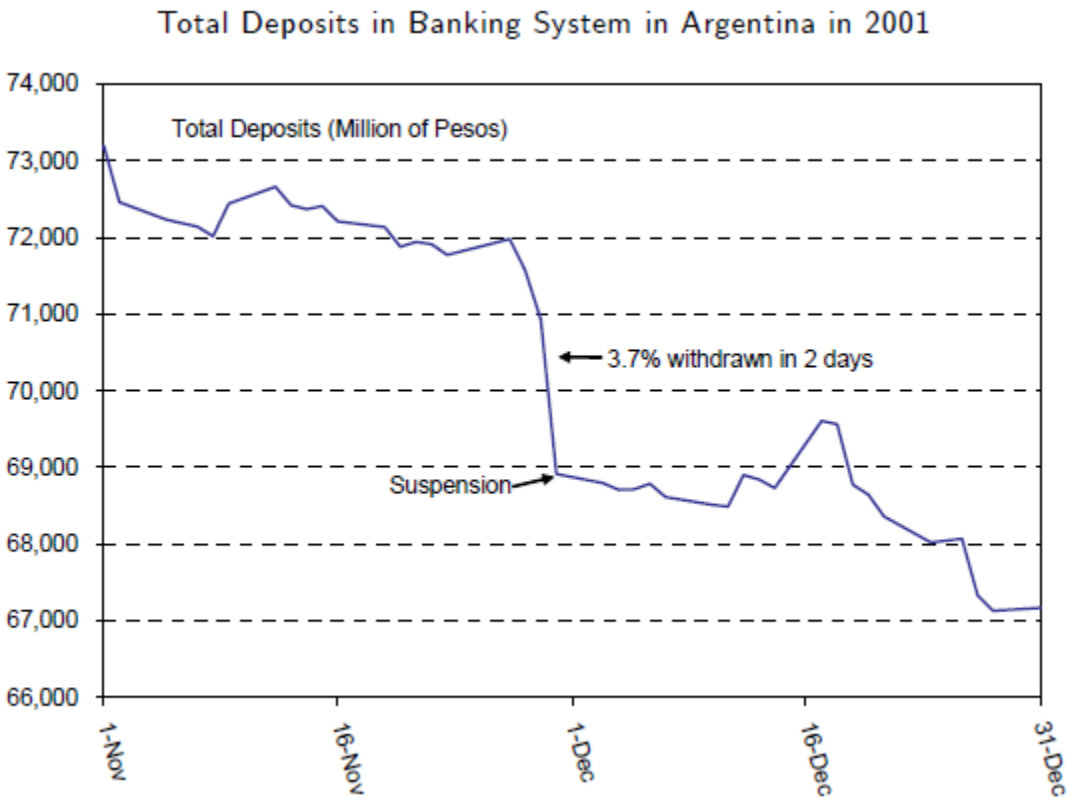
- Paper discusses two big concerns about CBDC:
  - would it crowd out bank deposits, private sector credit?
  - would in make runs on commercial banks more likely?
- Argues that both these concerns can be overcome …
- … if the CBDC design is chosen appropriately
- Arrive at four core principles. CBDC should:
  i. pay an adjustable interest rate
  ii. not be directly convertible with reserves
  iii. have no guaranteed convertibility from bank deposits
  iv. only be created by issue against eligible securities

System-wide runs

- Define a *run on the banking system* to be:
  - a rapid decrease in total bank deposits
  - examples: Argentina in 2001-2, Cyprus in 2013



Mechanics

Q: How, exactly, do total bank deposits decrease?

- that is, what are the mechanics of a system-wide run?

- One way: depositors withdraw currency
  - when my bank gives me currency, its deposits and assets both ↓
- This is the only way for total bank deposits to decline quickly
  - with some caveats (we'll come back to this)
- If I use my bank deposit to buy some asset …
  - … the seller of the asset ends up holding a bank deposit
- If I transfer my money to a foreign bank …
  - … this involves an exchange of domestic/foreign deposits …
  - … and someone is on the other side of that exchange

- If system-wide bank runs are a shift from deposits to currency
  - at the margin, depositors are choosing which to hold
- One factor working in favor of financial stability …
- … is that holding large amounts of currency is not so attractive

The concern:

- Holding large amounts of CBDC might be easy, attractive
- Depositors will be more likely (or quicker) to withdraw

⇨ CBDC may make the banking system more susceptible to a system-wide run

However

- This paper argues: the problem need not arise
- To see why, let's review why a run into currency is possible
  1. Bank depositors are generally guaranteed the right to convert deposits into currency
  2. Banks can convert reserves into currency
  3. When reserves decrease, CB tends to lend to banks (LoLR)
- Ask: do these same steps permit a run into CBDC?
  - paper says: answer depends on design choices

A default design

- One common way to think of CBDC: reserve accounts for all
- How would I run into CBDC?
  - ask my bank to transfer funds (reserves) into my CBDC account
  - or withdraw currency and then deposit it in my CBDC account
- Either way, effect is the same as a run into currency
- Implicit: reserves, currency and CBDC are *convertible*

An alternative design

- CBDC accounts are operated separately from reserves
- To fund your account, you bring Treasury bills to the CB
  - receive a deposit equal to the market value of the T-bills
- This is the only way to fund your account
  - cannot deposit currency or wire funds in from a bank deposit
- To "convert" a bank deposit to CBDC, you would either
  - use the deposit to buy T-bills, take them to CB, or …
  - use the deposit to buy existing CBDC balances for someone
  - in practice, your bank could handle the details for you
- You can then transact using CBDC … in a closed system

- Now suppose depositors want to run into CBDC
  - can use deposits to buy CBDC → no decrease in deposits
  - can use deposits to buy T-bills and increase total CBDC

    → no decrease in deposits
- Can see the importance of the core principles:

  ii. CBDC should not be directly convertible with reserves

  iii. and have no guaranteed convertibility from bank deposits
- Result: depositors cannot "run into CBDC"
  - at least not in the same sense they run into currency
- Perhaps we *can* have CBDC without increasing the risk of a system-wide bank run

Questions

1) Of babies and bath water

- To what extent do these design features reduce the usefulness of a CBDC in normal times?
  - authors claim “not at all”, but … are we sure about that?
- Parity of CBDC and other forms of money is not guaranteed
  - values should be kept even by arbitrage
  - but … the same is true of the fed funds and repo rates
  - would have to expect some deviations from parity in practice
- Observation: there was *strong* resistance to floating NAV for money market mutual funds
  - claim that a share price of ≈ $1 is substantially less valuable to users than a share price fixed at $1
- In other words: how strong is the use case for *this* CBDC?

2) Why don't we do this with currency?

- Seems perfectly feasible to do so
  - depositors cannot withdraw currency, banks cannot convert reserves into currency
  - but deposits can be traded for currency in a market
- In fact, this approach is used in times of crisis
  - bank suspensions, *el corralito* in Argentina
- Do we allow convertibility of deposits to currency just for historical reasons?
  - if so, should we consider eliminating it as well?
- Or are there legitimate concerns about breaking the "uniformity of money"?
  - if so, do these concerns apply to CBDC?

3) Credibility and time consistency (I)

- Suppose a run starts → large demand for T-bills, CBDC
- Interest rate on T-bills falls, could go fairly negative
  - CBDC rate must be ≤ T-bill rate
- Proposal here: let the CBDC rate be (very) negative
  - Bordo-Levin (yesterday) also proposed to prevent runs this way

Q: Is this policy really credible?

- Bordo-Levin: "digital cash should serve as a secure store of value"
- in the moment when people most need a secure store of value …
- you are going to tell them the interest rate on it is -10% ?

- I am not so sure

4) Credibility and time consistency (II)

- Going back to runs into currency:
  - if depositors are shifting to foreign banks, this will tend to depreciate the exchange rate
  - if the central bank acts to support the exchange rate …
    - … by selling foreign currency deposits
  - this action will cause a decrease in domestic bank deposits
  - this was a big part of the story in Argentina
- In other words, depositors' desire to shift out of deposits …
  - will cause (potentially large) changes in relative prices
  - central bank (and govt) reaction to these changes may undermine the original design features

Q: How can we bring these issues into the analysis?

Conclusion

- An interesting (and thought-provoking) paper
- Authors propose a CBDC design that is fundamentally from what I (and others?) have (implicitly) had in mind
  - this design seems worth studying in detail
- The mechanics seem sound, but …
- We need to think carefully about:
  - how valuable this type of CBDC would be
  - how policy reactions to a crisis may interact with (or undermine) the design features