SHOULD CENTRAL BANKS OFFER AN ACCOUNT-BASED DIGITAL CURRENCY TO THE GENERAL PUBLIC?

Paolo Fegatelli*  
*Paolo.Fegatelli@bcl.lu

Motivation & Contribution

Following the rise of Fintech, DLT and private virtual currencies, the possibility of issuing a central bank digital currency (CBDC) is now being examined by many central banks. However, the rationales are often unclear.

- What do we mean by CBDC?
- What are the objectives?
- Is there a real need or demand?
- What are the ‘desirable’ characteristics of a CBDC?
- Based on the previous answers, how would CBDC fit into central banks’ frameworks?
- What are the implications for financial stability, monetary policy, payment systems?

This study:
- Reviews the most recent literature and initiatives (several proposals)
- Defines what type of CBDC would be feasible: account-based vs value-based
- Starting from a systematic, pragmatic assessment of the rationales by which a CBDC might be desirable
- Reviews pros and cons of different solutions, also w.r.t. their broad impact on other areas
- Objective: Define desirable design for a CBDC issued on a large scale (if considered suitable), taking into account multiple central bank policy constraints and the risk of systemic disruptions

Feasible types of CBDC: Technology and the anonymity issue

Four distinct types of central-bank electronic money are possible:

1. Universal access and account-based: e.g. deposited currency accounts (Tobin, 1985’-87);
2. Universal access and value-based: i.e. retail monies using DLT (cryptocurrencies);
3. Limited access and account-based: e.g. current central-bank reserves;
4. Limited access and value-based: e.g. wholesale central-bank cryptocurrencies.

At present, most central banks worldwide only offer (iii), limiting access to MP counterparties only.

Should a CB issue fully anonymous (DLT-based) electronic money to the public at large without limits?
No, for several reasons (Berentsen and Schär, 2018; Riksbank, 2018; Lagarde, 2018):
1) Reputational risk linked to possible illegal actions by private individuals;
2) High operational risk related to relying on a very young and relatively untested technology;
3) AML/KYC regulations (in the EU-5th EU AMI Directive [2018/843], EU Reg. 2015/847);
4) In the euro area: ECB policy of neutrality w.r.t. different payment instruments

Universal central bank reserves - Advantages

Rationale #1: To improve payment system security and efficiency
- For retail & large-value payments, also cross-border
- Could directly lever existing RTGS infrastructures (TIPS)
- An efficient, real-time, integrated and riskless payment & settlement system in central bank money, for the whole EA

Rationale #2: To adapt to change
- Decline in cash + Wide adoption of VCs + Increasing digitalization
- CB to preserve its institutional role and fully accomplish its mission

Universal central bank reserves - Financial stability issues

Rationale #4: To improve financial stability
- Reduced distortions from deposit insurance
- Lower concentration of liquidity & credit risk
- Reduced proycyclicality of inside money
- Smaller risk of bank runs
- N.B.: Imposing some form of narrow banking

Problems with strict narrow banking:
- Based on implausible / unrealistic assumptions
- High risk of systemic disruptions → Risks increase!

Solution #1: Chicago-Plan style

Solution #2: Volgograd

CRITICISMS:
- Need to enlarge the MP
- Multiple equilibria since interest-bearing UCBR could be a close substitute for both bank deposits and physical cash
- CB needs to lend or invest in assets yielding at least the interest paid on UCBR

Boundary problem: UCBR interest rate, \( R' \), constrained below the min b/n policy rate if \( [R'] > 0 \) & zero:

Our working assumption: CB wishes to issue a CBDC in the form of UCBR

Problems with mild narrow banking:
- Crowding out comm. bank deposits
- Digital runs from banks still possible

Solution #3: Tobin 2.0

CB to support residual bank funding
- CB as ‘insured deposits’ to coexist with other types of bank deposits
- In the euro area, no need to introduce any new monetary policy instruments, but...
- ...may require perpetuating the use of certain unconventional tools and MP implementation procedures

Universal central bank reserves - Monetary policy issues

Rationale #5: Monetary policy
- Curb virtual currencies (VCS) challenge to central bank’s control on monetary conditions
- Widen the range of MP tools, by facilitating the implementation of unconventional monetary policies:
- E.g. relax the ELB constraint on nominal rates

CRITICISMS:
- Need to enlarge the MP toolkit not established
- Responsiveness of deposit rates to changes of negative CBDC rates unclear a priori
- ELB constraint cannot be eliminated, due to competition from VCs and private monies (in addition to other official currencies)

Our working assumption: CB wishes to issue a CBDC in the form of UCBR

Problem: How to integrate UCBR in current monetary policy frameworks

Assume \( 3 \) CB principles:
1. CB implements monetary policy via interest rate channel and bank lending channel
2. CB neutrality with regard to different payment instruments
(i.e., no push to use UCBR)
3. CB independence (fin. & political)

Interest paid on UCBR:
- Multiple equilibria since interest-bearing UCBR would be a close substitute for both bank deposits and physical cash
- CB needs to lend or invest in assets yielding at least the interest paid on UCBR

Boundary problem: UCBR interest rate, \( R' \), constrained below the min b/n policy rate if \( [R'] > 0 \) & zero:

This (slightly) negative interest rate could be charged to CBDC/UCBR holders as a variable deposit fee, based on the average amounts held in UCBR accounts
- Justified by direct/indirect operat. costs
- Similar to current practice by some commercial banks

UCBR nominal interest rate always at zero, account fees anchored to main policy rate
- For significantly positive policy rates, funds could switch between CBDC/UCBR and bank deposits (but CB could reactivate res. req.)

Conclusion

Main findings:
- Not all that is technically possible is desirable
- Previous arguments for CBDC neglect Tobin’s idea...
- ...as well as important central bank policy principles and constraints
- View from different perspectives is crucial
- Decision and design depend critically on economic rationales
- Wide issuance probably only viable through an account-based CBDC...
- ...but this would imply risks for financial stability and monetary policy
- Under certain conditions, UCBR could be the least ‘disruptive’ CBDC...

UCBR (Tobin 2.0): Summary view
- Account-based CBDC
- Non-interest-bearing, but variable deposit fee
- UCBR as ‘guaranteed deposits’ to coexist with other types of bank dep’s
- UCBR access via private banks / depositories (MP counterparties)
- UCBR accounts integrated in CB’s RTGS system (TIPS)
- In the EU, no need to introduce any new monetary policy instruments, but the use of certain unconventional tools and MP implementation procedures may need to continue: this might prove controversial