
E-krona, Money and Trust Among Strangers

Stockholm School of Economics, 27 April 2018, Stockholm

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The views expressed are those of the presenter and do not necessarily represent the views of De Nederlandsche Bank or the ESCB.

Introductory Remarks

- Money and payments are absolutely essential. But “payment economics” is complicated because of the interactions of a set of interdependent bilateral relationships. I look from a more “industrial organization” viewpoint.
- Cash is declining (but not everywhere..!), e-commerce on the rise, technological change faster than ever. Time for CBDC, but what about design and adoption?
- Design is important. Various issues play a role: financial stability, legal tender, usage and acceptance, network effects, value vs account-based, some unpleasant exchange rate arithmetic

Monetary and financial stability

- Central banks care for monetary and financial stability
- CBDC may improve monetary policy framework and implementation to support the goal of price stability
- What about financial stability? Access to safe asset issued by central bank (CB) may undermine stable funding for banks.
- In bad times people would seek “safe haven” of CB by shifting deposits and run away from commercial banks causing further instability
- However, this “outside option” may also discipline banks by reducing risky lending. Can we get rid of DGS..?

Legal tender of cash and CBDC

- Cash declines and retail starts refusing cash at the point of sale
- In the Netherlands, supermarket chain Marqt allows only cards. Is that legal..?
- Legal tender is a complex issue across different jurisdictions. Effectively, it points to a “bargaining problem” between consumer and retailer.

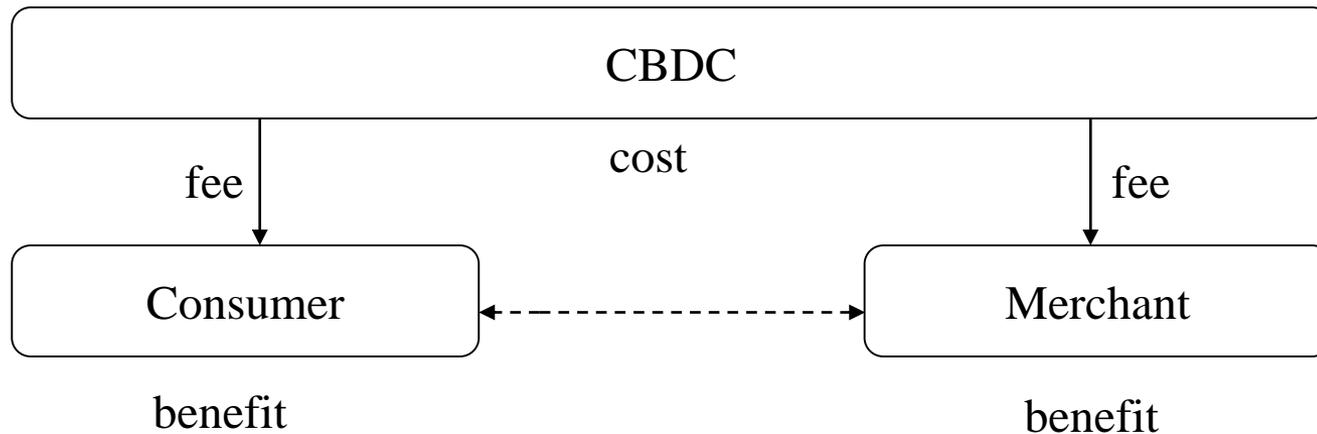


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- According to the EC and ECB:
 - mandatory acceptance (unless explicitly agreed otherwise)
 - legally recognized repayment of debt
 - at face value, no additional fees or cost
 - How is it “solved” in the Netherlands: clarity and transparency. E.g. using signs/stickers at the entrance/checkout or via websites. Consumers and retailers “agree”.
 - CBDC may impact the notion of legal tender. In a dual system with both physical cash and CBDC, is a retailer “forced” to accept both..?

Usage and adoption

- Retail cost of accepting cash is not zero! In NL in 2014, cost of cash for retailers estimated at 536 mln euro...
- If CBDC is cheaper to accept than cash, retailers may want to steer consumers to using CBDC (killer app via the phone?)
- If CBDC is more expensive to accept, why would retailers want to adopt it?
- In a “two-sided” payment market, preferences, costs and fees, network effects, competition with other payment instruments determine total demand for this (new) payment service.

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- Not clear whether all merchants would accept CBDC...



- ...unless (heavily) subsidized. Banks will not be happy
- Will CBDC run using private (bank) payment infrastructure to verify, process, clear and settle payments?

Value or account based CBDC

- Design of CBDC: account or value (or token) based
- In consumer surveys, many people attach value to anonymity and privacy of cash
- Should CBDC resemble “true” digital cash with anonymity..? (Bitcoin comes close but not fully...)
- This would probably call for a value/token based system based on distributed ledger technology (DLT)
- Many CBs have pointed to the potential benefits of DLT but also stress the (current) shortcomings

Some other issues

- In a dual system, how do you maintain an exchange at par between the Krona and the E-Krona when preferences over usage differ?
- Indeterminacy: nominal exchange rates between two perfectly substitutable “fiat” (i.e. inherently worthless) currencies is indeterminate (Kareken & Wallace, 1981)
- Not only privacy but also safety issues. Counterfeiting versus cybercrime. Data protection and fraud prevention (and its cost) become increasingly more important
- Why the “CB” in CBDC? It leaves large footprint of CBs. Could DC be privately issued? Initial volatility and speculation may be “growing pains”: they may decrease when DC usage increases

Tack!