

# Broadening narrow money

## Monetary policy with a central bank digital currency

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implementation and central bank balance sheets  
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<sup>1</sup>Disclaimer: The views expressed in this presentation are those of the author(s), and not necessarily those of the Bank of England or its committees.





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- ▶ A slow move towards consensus
  - ▶ Bech and Garratt (2017) look at cryptocurrencies
  - ▶ Bjerg (2017) offers consistent taxonomy, but stricter, requiring universal accessibility

Table : Characteristics of CBDC and other money-esque assets

	CBDC	Reserves	Central Bank Notes	Deposits	Bitcoin	Ether
Liability of the central bank	✓	✓	✓	x	x	x
Electronic	✓	✓	x	✓	✓	✓
Trades at par with other liabilities	?	✓	✓	✓	x	x
Universally accessible	?	x	✓	✓	✓	✓
Cryptocurrency	?	x	x	x	✓	✓
Interest bearing	?	?	x	✓	x	x
Token or account based	?	A	T	A	T	A



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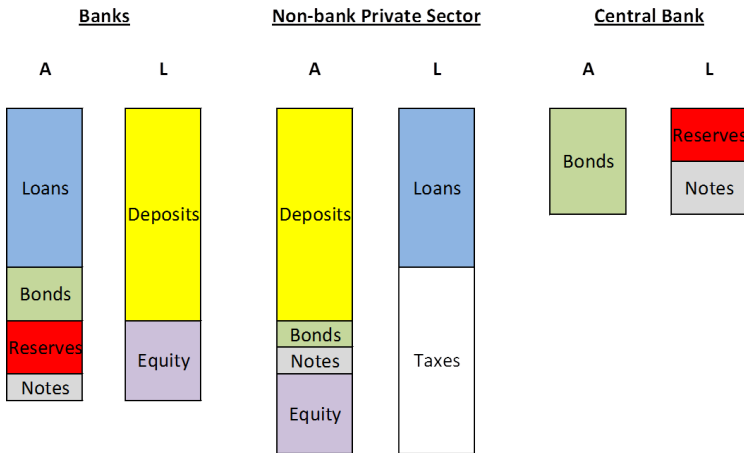
- ▶ CBDC already sits at the heart of monetary policy: reserves
- ▶ Highlights a mild misnomer, but an important one
  - ▶ More accurately, central bank digital money
  - ▶ Better reflected in terminology of the ECB: digital base money
  - ▶ Same convention used by others (He et al, 2017)



- ▶ Main focus is on...
  - ▶ Universally accessible
  - ▶ Account based
  - ▶ Interest-bearing
    - ▶ Used for mon. pol
  - ▶ Agnostic on the tech
  
- ▶ Later in the paper we also consider...
  - ▶ Non-interest bearing CBDC: e-cash
    - ▶ More for payments systems motivations
  - ▶ Differentiated rates of interest
    - ▶ Differentiated by user type
    - ▶ Close to analogous to multiple CBDCs coexisting
    - ▶ Reserves and CBDC as in Barrdear and Kumhof (2016)



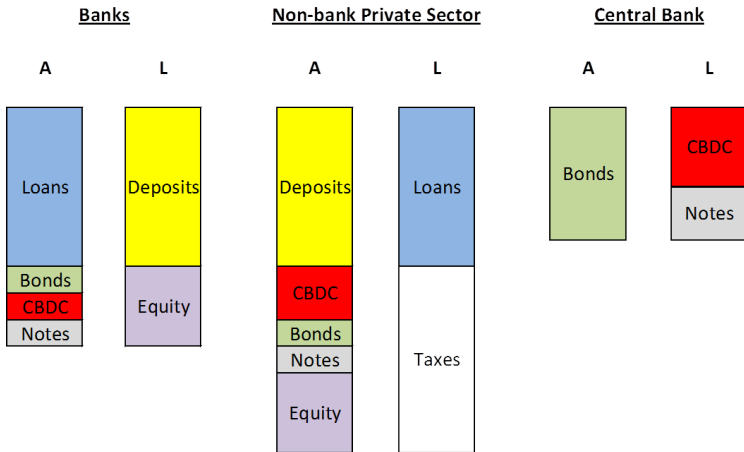
# Balance sheets before universally accessible CBDC





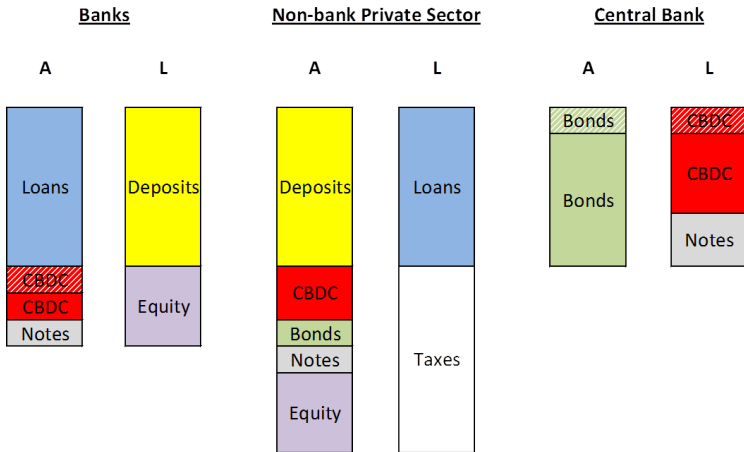


# Balance sheets after universally accessible CBDC



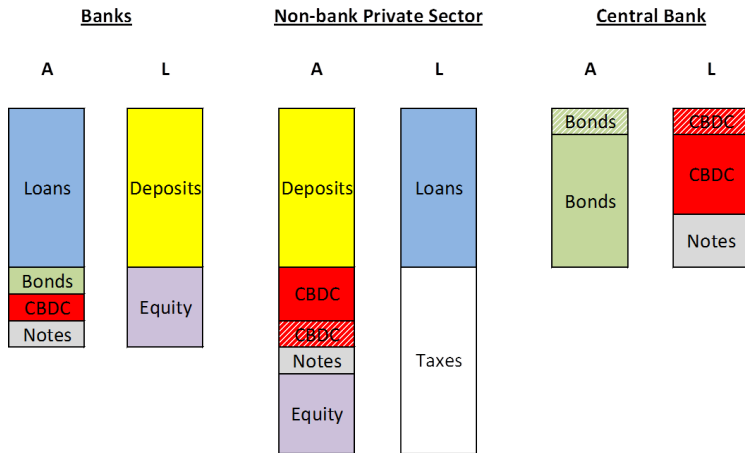


# Altering the aggregate quantity of CBDC



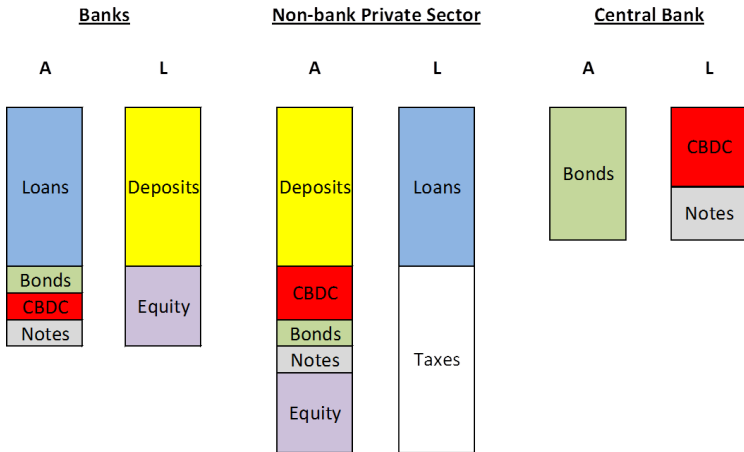


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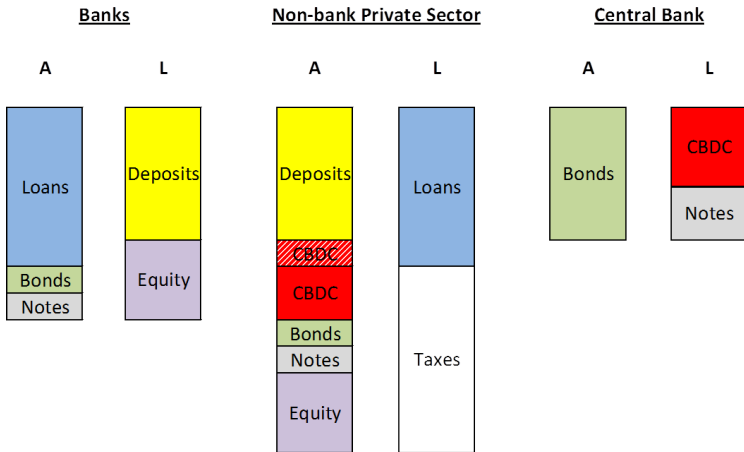


# Exchanging CBDC and bank deposits

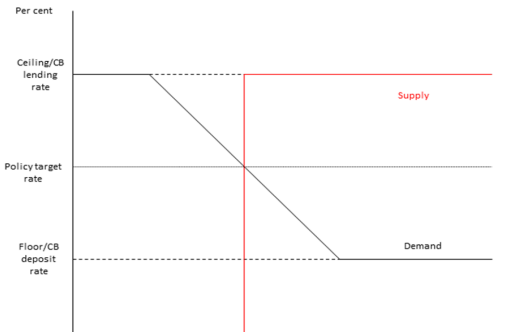




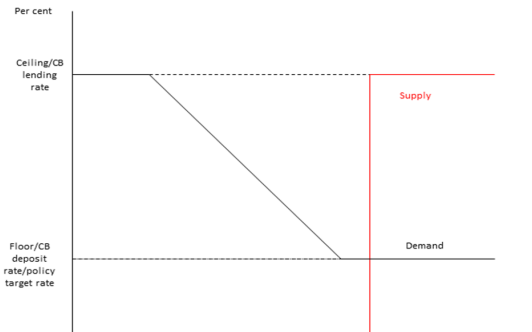
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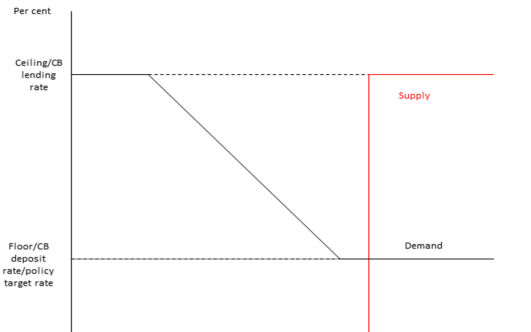
# The overnight market



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- ▶ The concept of the central bank money market would change
- ▶ The interest rate on CBDC balances would become the floor on a much wider range of rates, including bank deposits



# The term structure

- ▶ The rate on CBDC would become the benchmark rate in the economy
  - ▶ Expectations of its future path would influence the term structure
  - ▶ As would a whole range of premia
- ▶ This would give rise to a structure of rates above the CBDC rate

## Pass-through to other rates

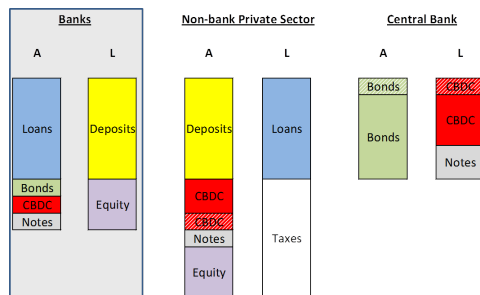
- ▶ The alternative option for depositors to hold money balances may increase pass-through to deposit rates
- ▶ Effect on speed of pass-through is ambiguous
  - ▶ Depends on the reaction of banking sector
- ▶ Increased competition for credit provision could increase pass-through to lending rates
- ▶ These are some of the most pressing empirical questions to be answered!

## Pass-through to the real economy

- ▶ Many channels of MTM affected by the increased pass-through in Stage 2
- ▶ For some, it is hard to make an argument for predictable change beyond this
  - ▶ RIR channel: depends on intertemporal preferences
  - ▶ Cash-flow depends on MPC
- ▶ Signalling and confidence may be affected if CBDC increases or lowers credibility
- ▶ The most affected will be channels through the banking sector

## QE with a CBDC

- ▶ No longer need to push liquidity into the banking sector



- ▶ A theoretical chance it could strengthen portfolio rebalancing
  - ▶ Likely to be small, but most acute when deposits contain risk

# E-cash

- ▶ Objective is providing secure, efficient payments service
- ▶ Not a monetary policy instrument
  - ▶ Fixed (zero) interest rate
  - ▶ Supplied perfectly elastically to meet demand
- ▶ Could dampen impact of monetary policy changes
  - ▶ Change in policy changes relative return on CBDC and deposits
  - ▶ Drives flows in and out of the banking sector in a manner offsetting policy objective
- ▶ Would still require reserves to conduct mon. pol

## Differentiated rates

- ▶ Pay a different rate of return on CBDC depending on account holder type
  - ▶ MFIs vs rest
- ▶ Could allow a policy lever
  - ▶ Influence the cost of holding liquid assets for banks
- ▶ Analogous to reserves and CBDC coexisting under sensible assumptions
  - ▶ MFIs can hold both assets
  - ▶ Same functionality and regulatory status
  - ▶ Can be converted at parity
  - ▶ Banks will hold only the one that pays the highest interest rate

## Conclusions

- ▶ CBDC can be thought of as electronic narrow money
- ▶ A universally accessible CBDC, employed as a policy instrument, would not impair the implementation of monetary policy
- ▶ There remain many uncertainties
  - ▶ Technology
  - ▶ Reaction of the banking sector
- ▶ Any monetary benefits must be weighed against the impact on other elements
  - ▶ We do not account for steady state changes, or the transition
  - ▶ Financial stability risks?
  - ▶ Payments system benefits?