

# The Chicago Plan Revisited

Michael Kumhof, Bank of England

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# Disclaimer

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# Introduction

- My theme: Fundamental reform options for the monetary/banking system.
- In this context, the last 10 years have a lot in common with the 1930s:
  - Aftermath of a severe financial and real crisis.
  - Implementation of massive legal and regulatory changes.
- But there are also significant differences to the 1930s:
  - The technical complexity of recent changes has been much greater.
  - But the constraints they imposed on banks have been much weaker.
  - And the debate about the fundamental purpose and design of the financial system has been (in my opinion) much shallower.

- I will ask two questions:
  1. Can we learn something from the 1930s debate?
  2. Do we have options today that did not exist in the 1930s?
- The answer to both questions will be yes.
- Plan of today's talk:
  1. **The Nature of the Financial System**
  2. **The Chicago Plan (CP): Full Sovereign Money**
  3. **Central Bank Digital Currencies (CBDC): Partially Sovereign Money**

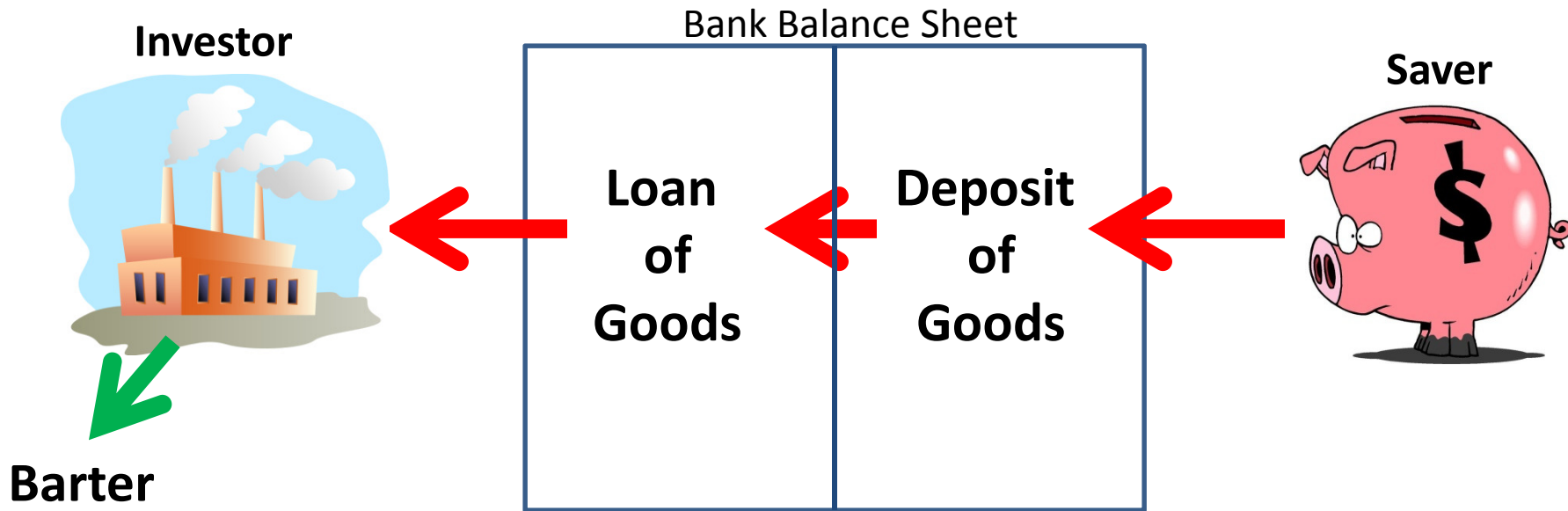
# 1 The Nature of the Financial System

- **Question:** What conceptual framework informs our thinking about banking?
- **Significance:** Understanding of banking is critical for the design of reforms.

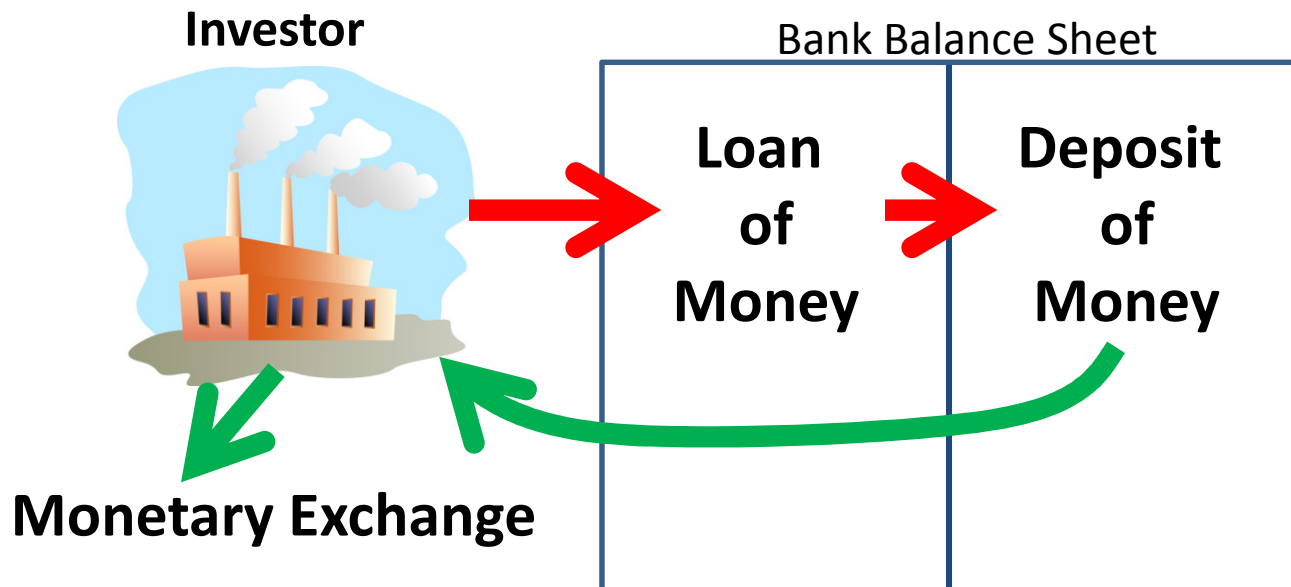
## 1.1 Banks Are Not Intermediaries of Loanable Funds

- Problem: Recent work uses intermediation of loanable funds (ILF) models.
  - Banks are intermediaries between savers and borrowers of physical resources (commodities and/or capital):
    - \* Physical resources  $\implies$  nonfinancial models.
    - \* Banks as intertemporal commodity traders.
  - This theory misrepresents how credit is created in the real world.
- Solution: Use financing through money creation (FMC) models.
  - Banks are creators of ledger-entry money and intermediaries between different spenders of this money:
    - \* Ledger-entry money  $\implies$  financial models.
    - \* Banks as creators and intermediaries of money.
  - This theory is consistent with the actual credit creation process.
  - It is fully consistent with recent publications by major CBs.

## Intermediation of Loanable Funds Model



## Financing Through Money Creation Model



## 1.2 ILF Deposits: Physical Resource Accumulation

- Terminology:
  - $inc_t/exp_t$  = physical income/expenditure (resources, not funds).
  - $d_t/l_t$  = deposits/loans.
  - Superscripts  $s/b$  = savers/borrowers.

- Saver budget constraint – resource accumulation:

$$\Delta d_t = inc_t^s - exp_t^s$$

Can only increase deposits by accumulating physical resources.

- Borrower budget constraint:

$$-\Delta l_t = inc_t^b - exp_t^b$$

- Problems:

1. Facts: Banks simply are not intertemporal commodity traders.
2. Data: Savings accumulation is far smoother than changes in deposits.



## 1.3 FMC Deposits: Ledger Entries

- Saver/borrower budget constraint - ledger entries:

$$\Delta d_t - \Delta \ell_t = inc_t^{rep} - exp_t^{rep}$$

**Can only increase deposits by taking out new loans.**

- Ledger additions involve no intermediation.
- Loan = right of bank to receive future installments from X.
- Deposit = obligation of bank to deliver current funds to X.
- Magic of banking: The obligation itself **is** current funds = money.
- Banks create their own funding in the act of lending:
  - **There are no loanable funds.**
  - **Banks do not collect new funds from non-banks.**
  - **They create new funds for non-banks.**
  - **These (financial) funds add to the economy's (financial) funds.**

## 1.4 Key Differences in the Properties of ILF and FMC Models

- ILF Model:
  - Deposits come from a physical process of saving resources.
  - This process is (with curvature in preferences) *slow* and *continuous*.
  - Implication: Bank balance sheets change only gradually.
- FMC Model:
  - Deposits are created on a computer as book entries.
  - This process can be *instantaneous* and *discontinuous*.
  - This means that lending booms or crashes can happen extremely fast.
- **Key: The Link Between FMC and Monetary Reform Proposals**
  - **It was the FMC understanding of banks, above all, that motivated the monetary reformers of the 1930s and 1940s.**
  - **This included the top thinkers: Fisher, Knight, Simons, Friedman, etc.**

## 2 The Chicago Plan: Full Sovereign Money

- The Chicago Plan:
  - Separation of the monetary and credit functions of banking.
  - Deposits must be backed 100% by reserves of public money.
  - Credit cannot be financed by creation, ex nihilo, of bank deposits.
- It was supported in the 1930s by Irving Fisher, Henry Simons, Frank Knight, many others, and after WWII by Milton Friedman.
- Basically, by the founders of the Chicago School.
- They saw control of finance as a precondition for laissez-faire in industry.
- Their support of the Chicago Plan was fundamentally due to the above understanding about the nature of banks and money.

## 2.1 The Six Advantages of the Chicago Plan

### 2.1.1 Advantage 1: Much Better Control of Credit Cycles

- Money creation privilege of banks can be a major source of credit cycles:
  - Credit decision can be funded 100% in house, through money creation.
  - Government guarantees: Banks and depositors pay less attention to risk.
- Under the Chicago Plan the money creation privilege is removed:
  - Intermediary banks must first persuade investors to make a cash deposit.
  - This risky deposit has (needs) no government guarantee of any kind.
  - Investors will therefore be more cautious.
- This makes credit-driven business cycles less likely.
- But of course it does not rule them out completely.

## 2.1.2 Advantage 2: Elimination of Bank Runs

- Money is completely safe because its value no longer depends on:
  - The *quantity* of private debts.
  - The *performance* of private debts.
- Run on the credit system?
  - *Payments system* would remain 100% safe.
  - Credit problems could be dealt with separately from payments system.

### 2.1.3 Advantage 3: Elimination of Liquidity Traps

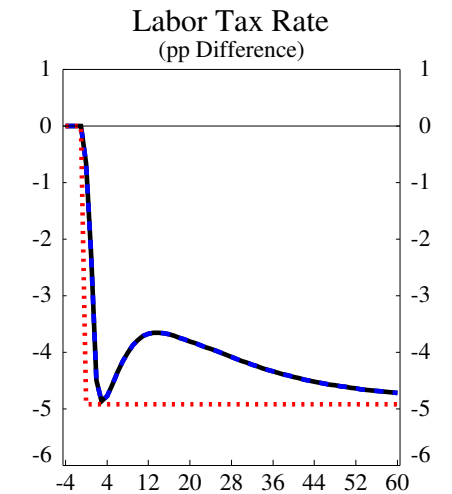
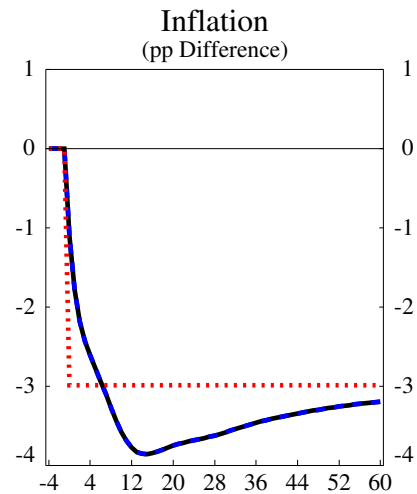
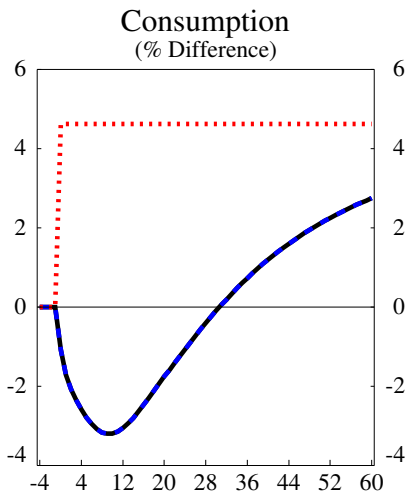
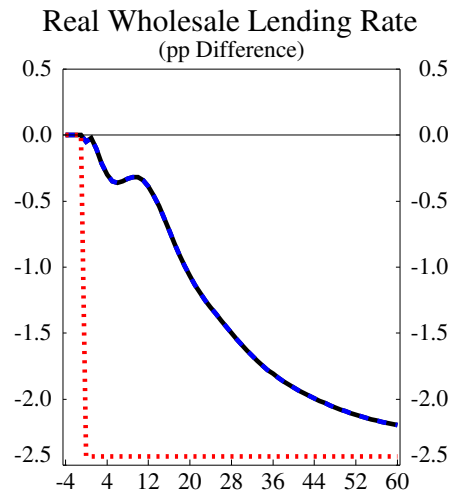
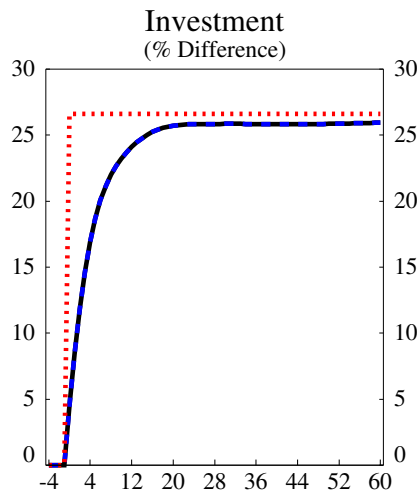
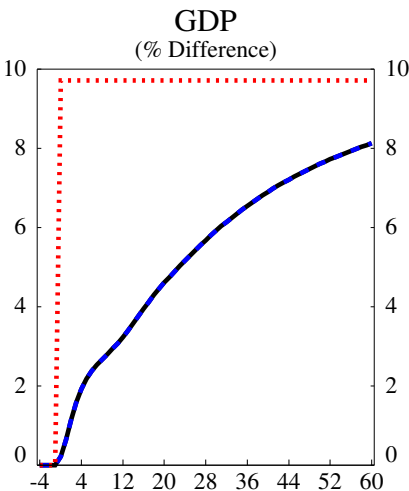
- Definition of liquidity trap: Central bank loses its ability to stimulate the economy by increasing the money supply (or lowering the interest rate).
- Under today's system:
  - Central bank only controls narrow money.
  - Increasing broad money is like pushing on a string.
- Under the Chicago Plan:
  - Central bank directly controls broad money.
  - Increasing broad money is like pulling on a string.

#### 2.1.4 Advantage 4: Large Output Gains:

1. Lower interest rates: Due to *lower debt levels*.
2. Lower tax rates: Due to non-inflationary *fiscal revenue from money creation*.
3. More abundant liquidity: Due to getting *closer to the Friedman rule*.

# Main Macroeconomic Variables

— = Transition to Chicago Plan, .... = Final Values after Transition





**2.1.5 Advantage 5: Dramatic Reduction of the (Net) Public Debt**

**2.1.6 Advantage 6: Dramatic Reduction of Private Debts**

# Current Banking System Balance Sheet

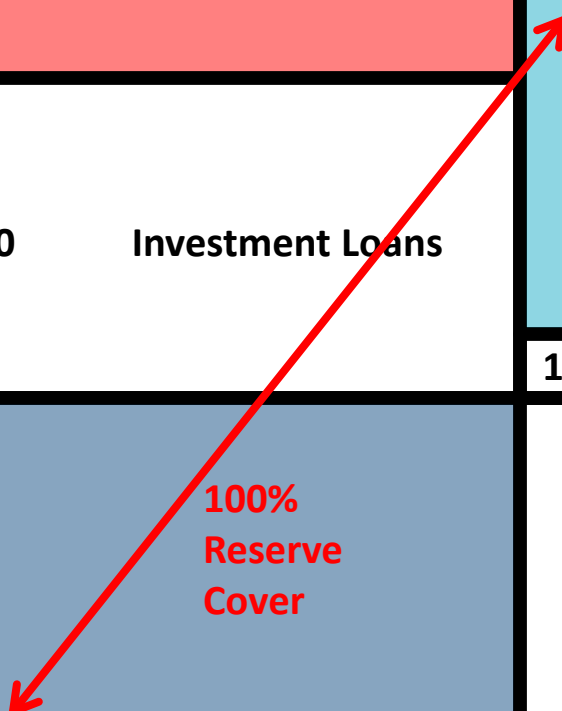
Assets		Liabilities	
20	Government Bonds		
100	Short-Term and Mortgage Loans	184	Deposits
80	Investment Loans		
		16	Bank Equity

**All numbers are in percent of U.S. GDP**

# Transition to Chicago Plan Step 1

Banks purchase 100% reserve cover against treasury credit IOU

Assets		Liabilities	
20	Government Bonds		
100	Short-Term and Mortgage Loans	184	Deposits
80	Investment Loans		
		16	Bank Equity
184	Reserves	184	Treasury Credit



100% Reserve Cover

# Transition to Chicago Plan Step 2

Banks are split into money banks and credit investment trusts

Assets	Credit Investment Trusts	Liabilities
20 Government Bonds	184 Treasury Credit	184 Treasury Credit
100 Short-Term and Mortgage Loans		
80 Investment Loans		
	16 Bank Equity	

Assets	Money Banks	Liabilities
184 Reserves	184 Deposits	

# Transition to Chicago Plan Step 3

Bank-held government bonds are cancelled against treasury credit

Assets	Credit Investment Trusts	Liabilities
<del>20</del> Government Bonds	<del>20</del>	<del>20</del>
100 Short-Term and Mortgage Loans		184 Treasury Credit
80 Investment Loans		
		16 Bank Equity

Assets	Money Banks	Liabilities
184 Reserves		184 Deposits

# Transition to Chicago Plan Step 3 - completed

Bank-held government bonds are cancelled against treasury credit

Credit Investment Trusts	
Assets	Liabilities
100 Short-Term and Mortgage Loans	164 Treasury Credit
80 Investment Loans	
	16 Bank Equity

Money Banks	
Assets	Liabilities
184 Reserves	184 Deposits

# Transition to Chicago Plan Step 4

Part of treasury credit is distributed as a citizens' dividend

Assets		Credit Investment Trusts		Liabilities	
100	Short-Term and Mortgage Loans	100	Citizens' Accounts		
80	Investment Loans	64	Treasury Credit		
		16	Bank Equity		

Assets		Money Banks		Liabilities	
184	Reserves	184	Deposits		

# Transition to Chicago Plan Step 5

Mandatory first use of citizens' dividend is repayment of any debts

Credit Investment Trusts	
Assets	Liabilities
100 Short-Term and Mortgage Loans	100 Citizens' Accounts
80 Investment Loans	64 Treasury Credit
	16 Bank Equity

Money Banks	
Assets	Liabilities
184 Reserves	184 Deposits



# Transition to Chicago Plan Step 5 - completed

Mandatory first use of citizens' dividend is repayment of any debts

Assets		Credit Investment Trusts		Liabilities	
80	Investment Loans	64	Treasury Credit		
		16	Bank Equity		

Assets		Money Banks		Liabilities	
184	Reserves	184	Deposits		

# Changes in Government Balance Sheet in Transition Period

## Prior to Chicago Plan

80	Other Net Assets	80	Gov. Bonds (Debt)
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## Chicago Plan: 100% Reserve Backing

80	Other Net Assets	80	Gov. Bonds (Debt)
184	Treasury Credit (Financial Asset)	184	Reserves (Equity)

## Chicago Plan: Final Balance Sheet

80	Other Net Assets	91	Reserves minus Loan Buy-Backs (Equity)
11	Net Treas. Credit		

Net government debt becomes negative.

Reserves are equity in the commonwealth, not debt.

## 2.2 (Non-)Problems with the Chicago Plan

### 2.2.1 (Non-)Problem 1: Too Much Money

- **Idea:** Public money creation becomes excessive and leads to inflation.
- **Counterargument:** No reason to expect inflation, for three sets of reasons:
  1. Monetary Theory
  2. Institutional Arrangements for Money Issuance
  3. Monetary History

## 1. Monetary Theory

- Inflation is determined by the relative quantities of
  - goods and
  - money in private hands.
- CP: Quantity of money in private hands remains unchanged.
- The nature of money changes, not its quantity.

## 2. Institutional Arrangements

- Proposal: Turn money issuance over to a fourth power of government.
- Constitutional independence similar to US Supreme Court.
- Insulates money issuance from pressures coming from both:
  - Government.
  - Private interests.

## 2.2.2 (Non-)Problem 2: Too Little Money

- **Idea:** Small businesses will be starved of credit and money.
- **Counterargument:** This is a question of price. What does the model say?

### 1. Implications of much lower debt levels:

- Public debt  $\downarrow \Rightarrow$  leverage  $\downarrow \Rightarrow$  **risk-free rate**  $\downarrow \Rightarrow$  cheaper borrowing.
- Private debt  $\downarrow \Rightarrow$  leverage  $\downarrow \Rightarrow$  **spreads**  $\downarrow \Rightarrow$  cheaper borrowing.
- Private cheap deposits  $\downarrow \Rightarrow$  **lending rates**  $\uparrow \Rightarrow$  more expensive borrowing.
- Our paper: Net effect is cheaper borrowing.
- Average firm is less likely to have to **be** in debt to obtain cash.

### 2. If borrowers need to borrow:

- There would be a **huge** interbank market.
- Small variations in **velocity** could accommodate additional loan demand.

### 2.2.3 (Non-)Problem 3: Maturity Transformation

- **Idea:** System is unable to offer desired maturity profiles.
- **Counterargument:** Maturity transformation is not an end in itself  
The point is maturity, not transformation!
- Maturity transformation accomplishes two objectives:
  1. Provides desired maturity profiles:
    - Short-term liquid assets for savers.
    - Longer-term illiquid liabilities for borrowers.
  2. May reduce borrowing costs (not necessarily if banks have market power).
- The Chicago Plan not only accomplishes both objectives, it does better:
  1. Desired maturity profiles are available without maturity transformation.
  2. Borrowing costs are lower due to the large debt-to-equity swap.

## 2.2.4 (Non-)Problem 4: Money Substitutes

- **Idea:** Public monetary control impossible due to money substitutes.
- **Counterargument:** There are many reasonable countermeasures:
  1. Only public money accepted by government: Private money less viable.
  2. No deposit insurance for private liabilities: The essence of money is trust!
  3. No tax advantages for borrowing + tax advantages for equity financing.
  4. Maturity mismatch regulations.
  5. Legal incentives to pay in public money.
  6. Legal prohibition on paying in private money.

## 2.3 A Real Problem: Transition Risks

- Transitioning to the Chicago Plan:
  - Would eventually have large benefits as outlined above.
  - But the transition would be complex and needs extremely careful design:
    - \* Hardware, software, communication protocols.
    - \* Security features.
    - \* Legal aspects.
    - \* Incentive structures and economics.
- It would therefore be nice if we could take intermediate steps.
- Central-bank-issued digital currencies could be that intermediate step.
- There is fast increasing interest in CBDC among central banks.



### 3 Central Bank Digital Currencies: Sovereign Money Alongside Commercial Bank Money

- Distributed ledger technology (DLT) was a key innovation.
- Universal access to CB balance sheet may now be technically feasible.
  - Existing centralized RTGS systems: Not robust.
  - New decentralized DLT systems: Potentially robust.
- Universal access models:
  - Chicago Plan: Central bank money = only money.
  - CBDC: Central bank money + private bank money.
    - \* Similar (but smaller) benefits.
    - \* A much less radical departure from current banking practices.

## 4 Conclusions

1. What can we learn from the 1930s debate?
  - About the nature of the financial system:
    - Banks have the privilege of being able to create money to fund loans.
    - This implies that bank balance sheets can change size very quickly.
    - This makes discontinuing that privilege a legitimate part of the debate.
  - About monetary and financial reform:
    - The Chicago Plan calls for the end of the money creation privilege.
    - It has maximal benefits, but also requires the most radical transition.
2. Do we have new reform options today that did not exist in the 1930s?
  - New technologies make sovereign money much more practically feasible.
  - Sovereign money proposals include both CP and CBDC.
  - CBDC is actually on the research agenda of several central banks now.