Pluralism, Financial Stability and the Monetary System

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Disclaimer

The views expressed herein are those of the author and should not be attributed to the Bank of England.

Plan of this talk:

1. Pluralism - Some General Thoughts
2. Pluralism - Some Specific Examples
3. Regulating the Existing Monetary System
4. Reforming the Monetary System: CBDC
5. Reforming the Monetary System: Chicago Plan
6. Conclusions

1 Pluralism - Some General Thoughts

- These are personal thoughts.
- They necessarily come from a limited and special viewpoint.
- Question: What has changed in the way Economics is taught and practised?
  - Answer: Quite a bit at the margins.
  - Almost nothing at the commanding heights (top departments/journals).
  - But the commanding heights get almost all the attention and rewards.

- Positive changes at the margins:
  - ESRC-NIESR's "Rebuilding Macroeconomics" is deliberately fostering interdisciplinary and outside-the-box academic research.
  - The Bank of England is deliberately fostering interdisciplinary and outside-the-box policy and academic research.
  - But in this the Bank of England is pretty alone among central banks.
  - And it remains to be seen whether non-mainstream academic research will have a mainstream impact.

- Interdisciplinary and outside-the-box research:
  - As I said, it is happening, and more of it is happening.
  - But it is still a huge career risk to do this: Salary, reputation, influence.
  - Main reason:
    * For career/success economists are mainly accountable to each other.
    * We are not accountable to the public.
    * In a profession that has such influence on society, is this right?
    * No. We need a reorientation towards the "public purpose".
    * But we are not going to do this ourselves: It's professionally too risky.
    * Plus: If it's professionally too risky to be interesting, most people who are interesting will choose not to be in the profession.
    * So someone needs to force us to reorient towards the "public purpose".
    * But whether that someone is likely to appear is a question of power relations in society, a very "interdisciplinary" subject.

2 Pluralism - Some Specific Examples

- Why interdisciplinary and outside-the-box research?
  - To better manage the big problems of the present.
  - To better anticipate/prevent the even bigger problems of the future.
- I will illustrate the problems using:
  - Examples of interdisciplinary/outside-the-box research that we should have but (almost) don't.
  - Examples of how we should have, or should now, think ahead but (almost) don't.

2.1 Interdisciplinary Research - Examples

1. Law and Economics - What is Money?

   - Money is not money because private agents decide that it is.
   - You can say that in your textbook, where often agents pay each other in physical resources, but that does not make it so.
   - Money is money because the Law says that it is.
   - So why don't we learn from lawyers to help us decide between state and market theories of money.
   - I am currently doing joint research with legal scholars on that question.

2. Physics and Economics - What is the Role of Energy?

- The role of energy in aggregate production is completely downplayed in neoclassical production theory.
- In fact, traditional economic production functions are far more useful for accounting than for usefully representing production technologies.
- This can be fixed with improved neoclassical production functions that take energy more seriously.
- Or perhaps even better are thermodynamic theories of production from physics, which have a key role for energy.
- I am currently engaged in joint research on neoclassical production functions with an enhanced role for energy.

3. Geology and Economics - What Happened to Limits to Growth?
   - The Club of Rome predicted a crisis turning point around 40+ years after its publication.
   - In other words, now.
   - Economics has consistently misrepresented this as a history of failed predictions. Why?
   - Club of Rome predictions emphasize two key problems, pollution and resource shortages.
   - Economics is now coming around on pollution (after a long delay), but not on resource shortages. Why?
   - Is it because it's clearly wrong, or because it's professionally too risky? It's clearly the latter. Many geologists see problems ahead.
   - But if there is a non-negligible probability that resource shortages are real, this is a huge problem.
   - I repeat: What about the "public purpose"?

2.2 Thinking Ahead but Outside the Box - Examples

1. The Past - Financial Liberalization and Financial Fragility:

   - I hardly need to say it: **Wasn't it pretty obvious that the GFC would happen?**
   - There were a few who did, but almost all of them were not mainstream.
   - Interdisciplinary: Would historians have done better?
   - Outside-the-box: Would economists with different incentives have done better?
   - This failure has been extremely costly, and still is.

2. The Present - Income Inequality and Social Unrest:

   - **Wasn't it pretty obvious that inequality would cause unrest?**
   - Perhaps to sociologists, historians or Marxists.
   - But not to neoclassical economists.
   - Isn't this the kind of problem anticipation that society needs from social scientists?
   - This failure is already very costly, and could become much more so.

3. The Future - Limits to Growth and Economic Calamity:
   - **Isn't it pretty obvious that resource shortages will cause problems?**
   - We are now talking about opinion, because this is about the future.
   - In my opinion the answer is yes.
   - The only question is when, and when is measured in years, not decades.
   - Many (but of course not all) natural scientists would agree.
   - But not neoclassical economists.
   - At the very least there should be an honest scientific debate.
   - Because if we miss this one, it will be the mother of all failures.
   - And for society, it will be the mother of all problems.

3 Regulating the Existing Monetary System

3.1 Introduction

- My topic today: "Financial Stability and the Monetary System".
- If you want financial stability you first need to understand what you are trying to stabilize.
- In other words, you need to understand how banks interact with the rest of the economy.
- That is where problems start in neoclassical economics, as I will explain.
- This is fundamental for any of the topics that arise with "financial stability":
  1. How to regulate the existing monetary system.
  2. Whether to introduce central bank digital currency alongside banks.
  3. Whether to reform banking itself through full reserve banking.

3.2 Banking Models in Economics

- Problem: Recent work uses **intermediation of loanable funds (ILF)** models.
  - Banks are intermediaries b/w savers and borrowers of physical resources:
    - Nonfinancial models.
    - Banks = intertemporal commodity traders.
    - Money = commodity money.
  - This theory misrepresents how credit is created in the real world.

- Solution: Use **financing through money creation (FMC)** models.
  - Banks are intermediaries between spenders and spenders of money:
    - Financial models.
    - Banks = creators and intermediaries of money.
    - Money = ledger entry money.
  - This theory is consistent with the actual credit creation process.

3.3 Banks are not Intermediaries of Loanable Funds

- The Loanable Funds Model - Postulated Credit Process

  Intermediation = Trading of Physical Resources

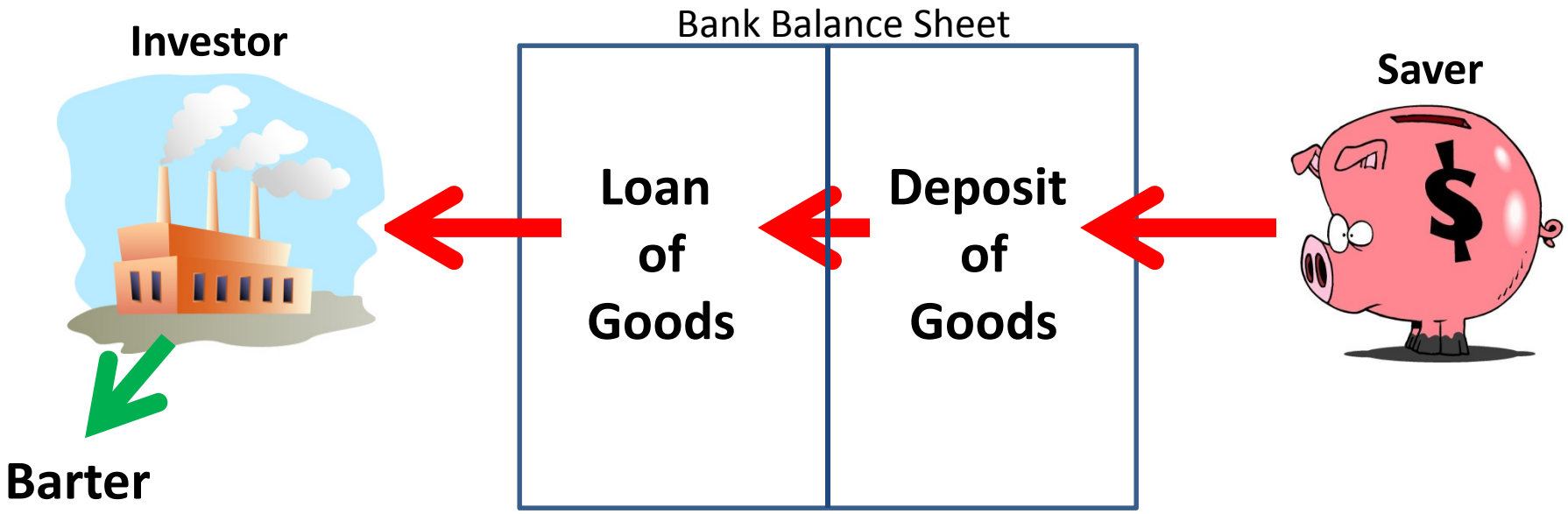
  - Banks collect a deposit of commodities or capital from a saver.
  - Banks lend those existing commodities to *another agent*, the borrower.

- The Financing Model – Actual Credit Process

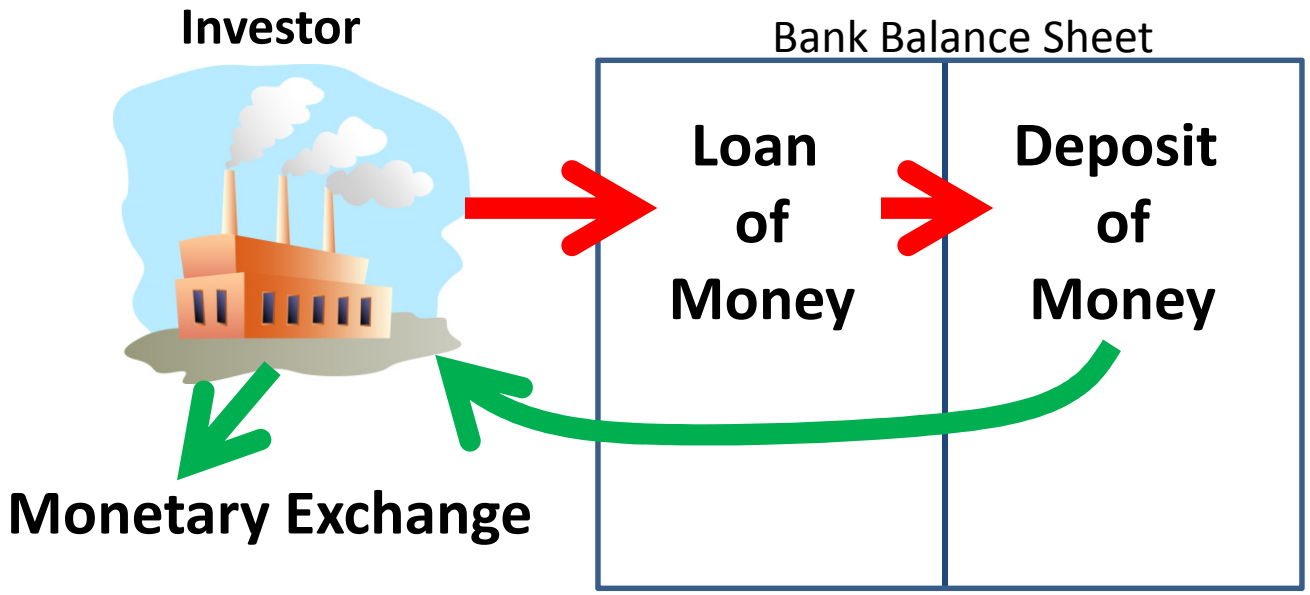
  Financing = Digital Creation of Monetary Purchasing Power

  - Banks make a loan of money to agent X.
  - Banks credit new money to the deposit account of *the same agent* X.

Intermediation of Loanable Funds Model



Financing Through Money Creation Model



3.3.1 Why Must ILF Deposit-Taking Be a Nonfinancial Transaction?

- All financial transactions are variants of check or cash deposits.
- Let's study a check deposit:
  - Households A and B bank with banks A and B.
  - B writes a check to A, A deposits in bank A.
  - Check only has value *because the deposit already exists* - in bank B.
  - This moves an existing deposit, it does not create a new one.
  - Also, bank A acquires reserves, not loanable funds.
  - The same logic applies to any deposits of private financial instruments.
- New deposits in ILF models therefore do not represent financial transactions.
- Look at ILF budget constraints: They represent commodity accumulation.

3.3.2 How Is FMC Deposit-Creation a Financial Transaction?

- Loans are simultaneous ledger additions to assets and liabilities.
- These 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 are unique in their ability to do this.
- Why? Because they are perceived to be safe.
- Why? Mostly because of public support.

3.4 FMC Theoretical Models - The Essence

Exposition based on Jakab and Kumhof (2019).

1. Bank Assets: The Provision of Credit.
   - Bernanke, Gertler and Gilchrist (1999).
   - **There are no loanable funds:**
     - Funds first exist in the mind of the banker.
     - They then materialize (digitally) along with the loan.
2. Bank Liabilities: Households Demand Bank Deposits.
   - Schmitt-Grohe and Uribe (2004).
   - **Banks do <u>not</u> collect <u>new</u> deposits from non-banks:**
     - They create new deposits for non-banks.
     - They collect existing deposits from each other.

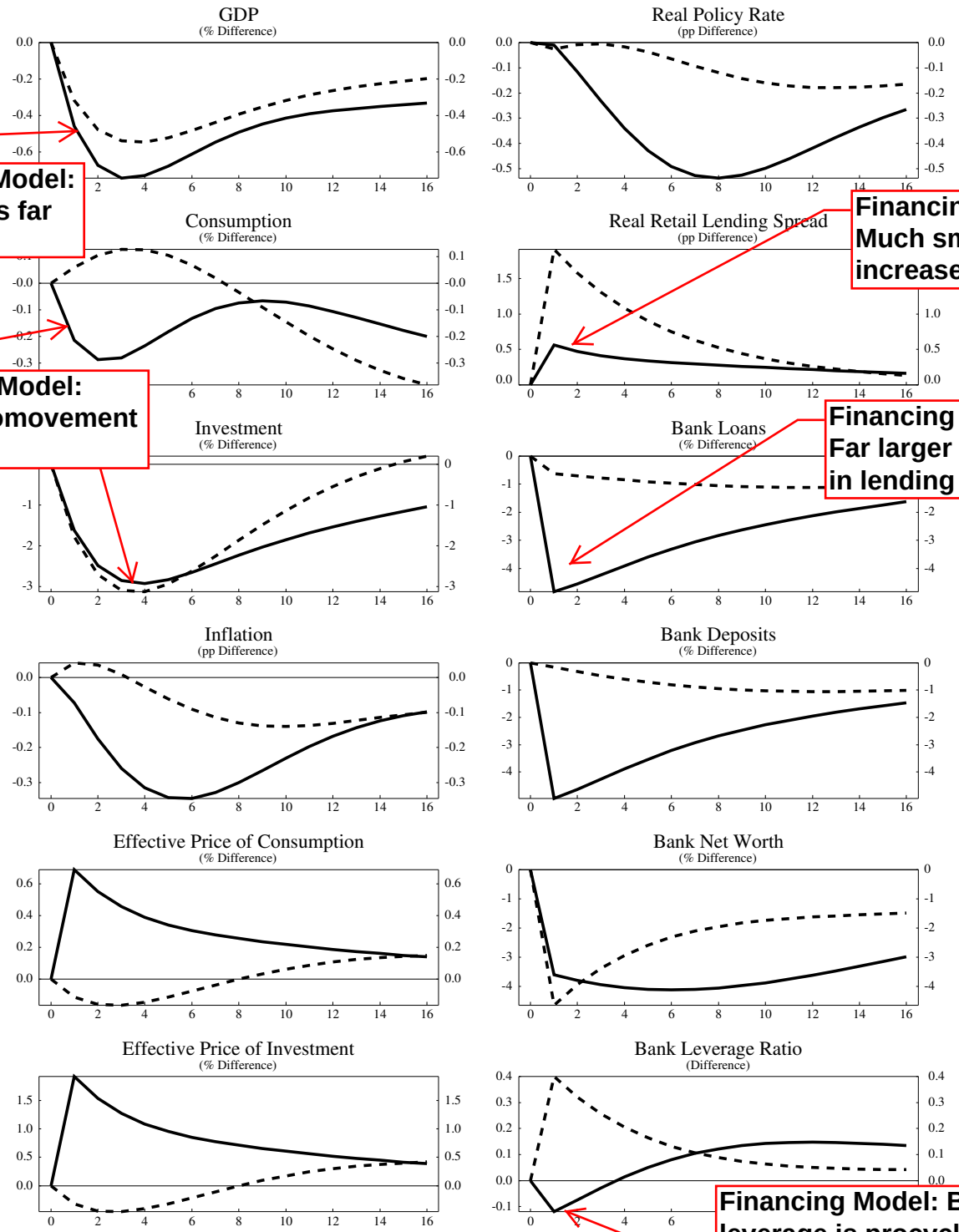
3.5 Implication for Agents' Spending Power

- Conventional models:
  - Spending is constrained by a *budget constraint*.
  - Spending is limited by **income**.

- Kumhof and Wang (2018):
  - Spending is constrained by a *deposits-in-advance constraint*.
  - Spending is limited by **income plus net new credit**.
  - Credit $\neq$ transfer of real resources from other agents (loanable funds).
  - Credit $=$ ex nihilo creation of money.
  - Our model shares this property with many Post-Keynesian models.
  - It implies that credit plays a much more important role.

3.6 The Macro-Dynamic Implications Are Very Large

Credit Crash due to Higher Borrower Riskiness



Financing Model: GDP drop is far larger

Financing Model: Much smaller increase in spreads

Financing Model: Positive comovement of C and I

Financing Model: Far larger contraction in lending

Financing Model: Bank leverage is procyclical as lending contraction dominates net worth reduction

- - - = ILF Model, —— = FMC Model

3.7 Conclusions

- A realistic model of the financial system is critical for a good macro model.
- A key aspect of that realism is to use FMC rather than ILF banks.
- Key aspects of FMC versus ILF banks:
  1. Very different impulse responses, for both financial and real variables.
  2. ILF models are completely unable to account for aggregate banking system balance sheet data.
- This is critical if you want to keep the existing system but regulate it better:
  - You need to be able to account for aggregate banking system data.
  - You need to be able to simulate how banks are actually going to respond to regulation.

4 Reforming the Monetary System: CBDC

4.1 Introduction

- The emergence of the distributed ledger technology (DLT) and of Bitcoin was a watershed moment in the history of 'e-monies'.

- It may, for the first time, be **technically feasible** for central banks to offer universal access to their balance sheet.
  - Existing centralized RTGS systems: Not robust for universal access.
  - New decentralized DLT systems: Can potentially solve this problem.

- Question: Is universal access **economically desirable**?

4.2 What is a Central-Bank Digital Currency (CBDC)?

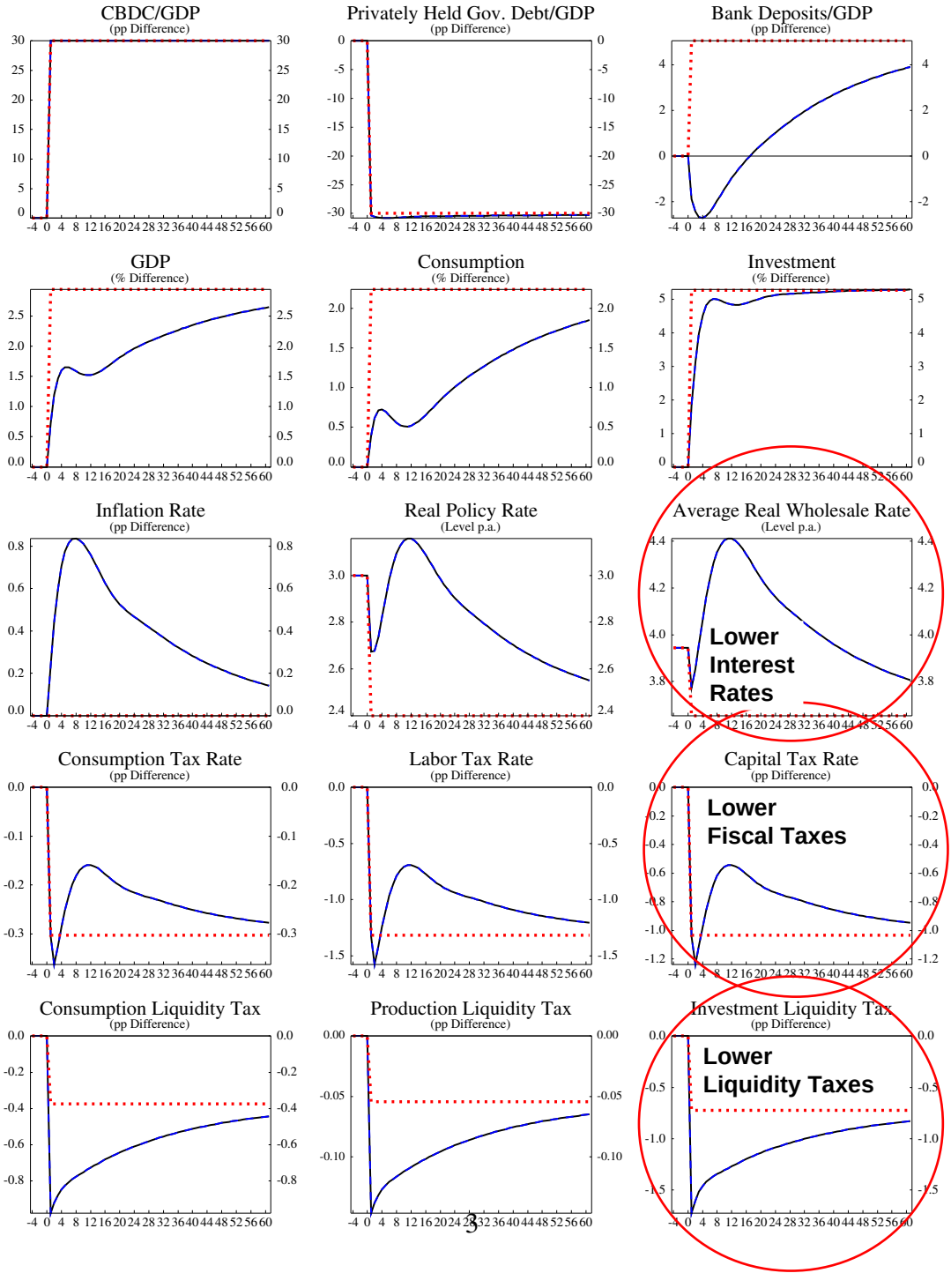
- **Access to the central bank's balance sheet.**
- **Availability:** 24/7.
- **Universal:** Banks, firms and households.
- **Electronic:** For resiliency reasons, probably using DLT.
- **National-currency denominated:** 1:1 exchange rate.
- **Issued only through spending or against eligible assets:** Government bonds.
- **Interest-bearing:**
  - To equate demand and supply at 1:1 exchange rate.
  - Second tool of countercyclical monetary policy.
- **Coexisting with the present banking system.**

4.3 The Model

- The monetary aspects:
  - FMC: Banks issue deposits.
  - CBDC: Central bank issues digital money.
  - Deposits and CBDC jointly serve as medium of exchange.

- Government policies:
  - Fiscal policy.
  - Traditional monetary policy.
  - CBDC monetary policy: Two alternatives
    * Fix quantity of CBDC, let its interest rate adjust.
    * Fix the interest rate on CBDC, let its quantity adjust.

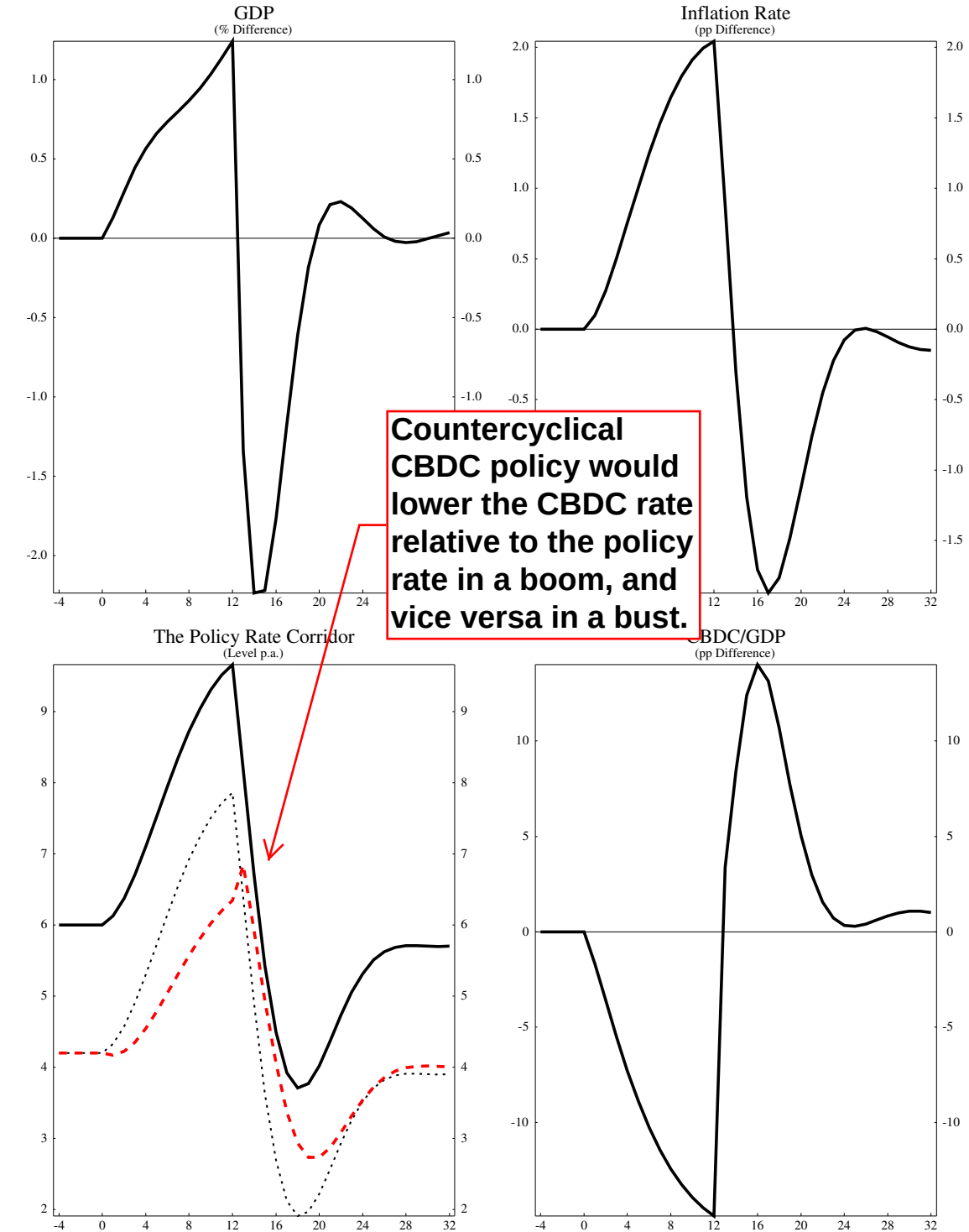
4.4 Steady State Effects of the Transition to CBDC



Transition to Steady State with CBDC

solid line = actual transition ; dotted line = change in long-run steady state

4.5 Countercyclical CBDC Rules

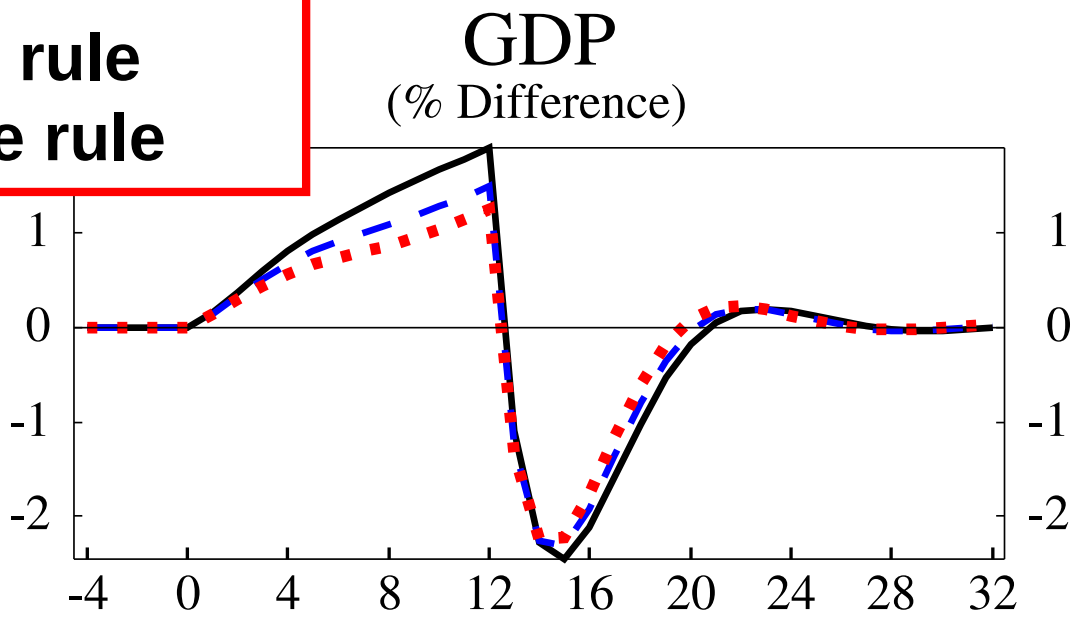


Credit Cycle Shock - Price Rule - Policy Rate Corridor

Bottom Left: Nominal Policy and CBDC Rates

Solid Line = Policy Rate, Dotted Line = Policy Rate minus Fixed Spread, Dashed Line = CBDC Rate

- Solid line = fixed rule
- Dashed line = c'cyclical rule
- Dotted line = aggressive rule



4.6 Financial Stability: Design Principles

1. **CBDC pays an adjustable interest rate:**
   - To clear the CBDC market.
   - As countercyclical tool.

2. **CBDC and reserves are distinct, and not convertible into each other:**
   - To keep control of the quantity of reserves and the policy rate.
   - This also prevents deposits-to-CBDC runs through the back door.

3. **No on-demand convertibility of bank deposits into CBDC:**
   - Convertibility at commercial banks requires CB support.
   - It thus requires convertibility at the CB.
   - This is a guarantee of unlimited and unsecured LoLR.
   - It opens the door wide to system-wide bank runs.
   - Without convertibility an aggregate run from deposits is impossible.

4. **CB only issues CBDC against eligible securities:**
   - Principally government securities.
   - This is standard practice for issuance of government money today.

4.7 Conclusions

- CBDC has significant benefits $\Longrightarrow$ further research is worthwhile.

1. Steady state efficiency gains.

2. Business cycle stability gains.

3. Financial stability gains if properly designed.

- Critical issue: Design of a smooth transition.

5 Reforming the Monetary System: Chicago Plan

- 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.

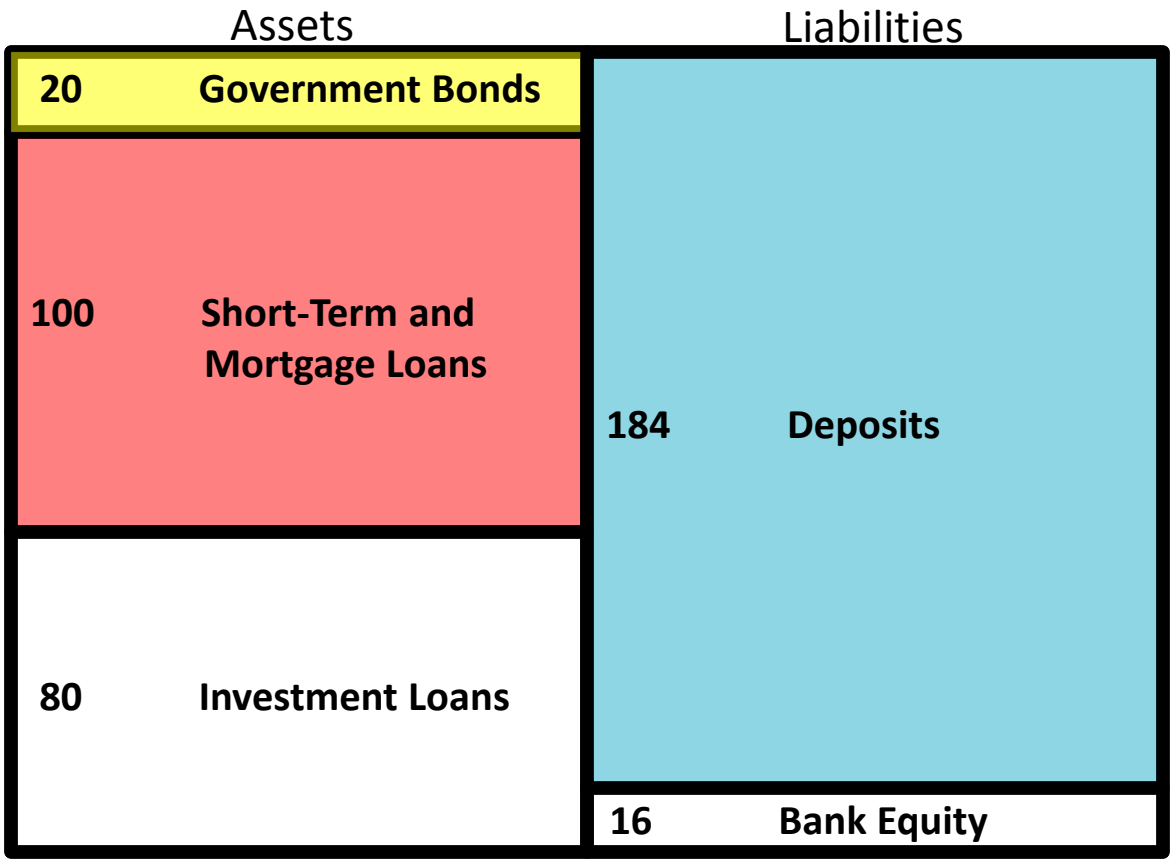
- Their support of the Chicago Plan was fundamentally due to the above understanding about the nature of banks and money.

5.1 The Six Advantages of the Chicago Plan

Advantage 1: Dramatic Reduction of the (Net) Public Debt

Advantage 2: Dramatic Reduction of Private Debts

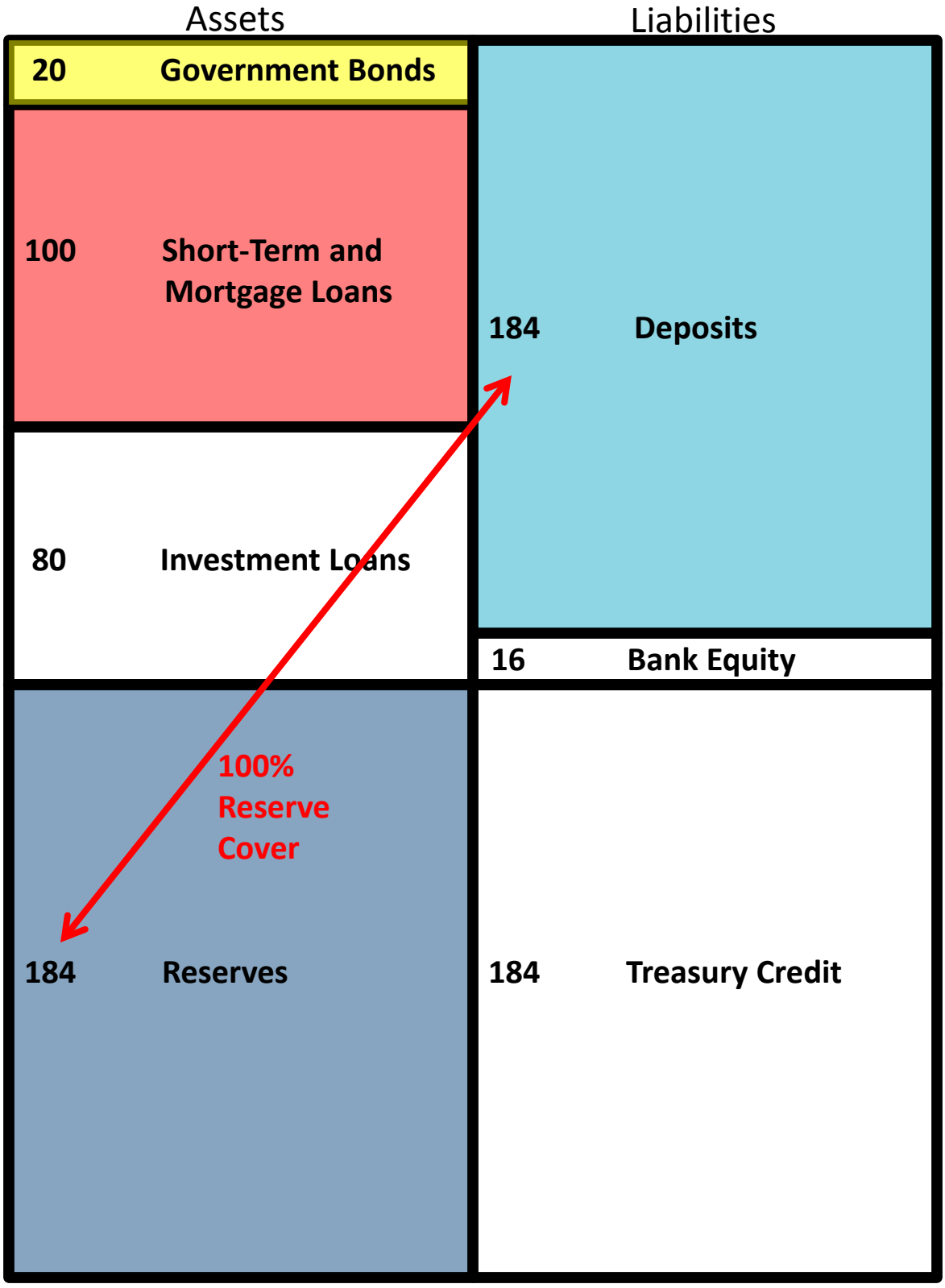
Current Banking System Balance Sheet



All numbers are in percent of U.S. GDP

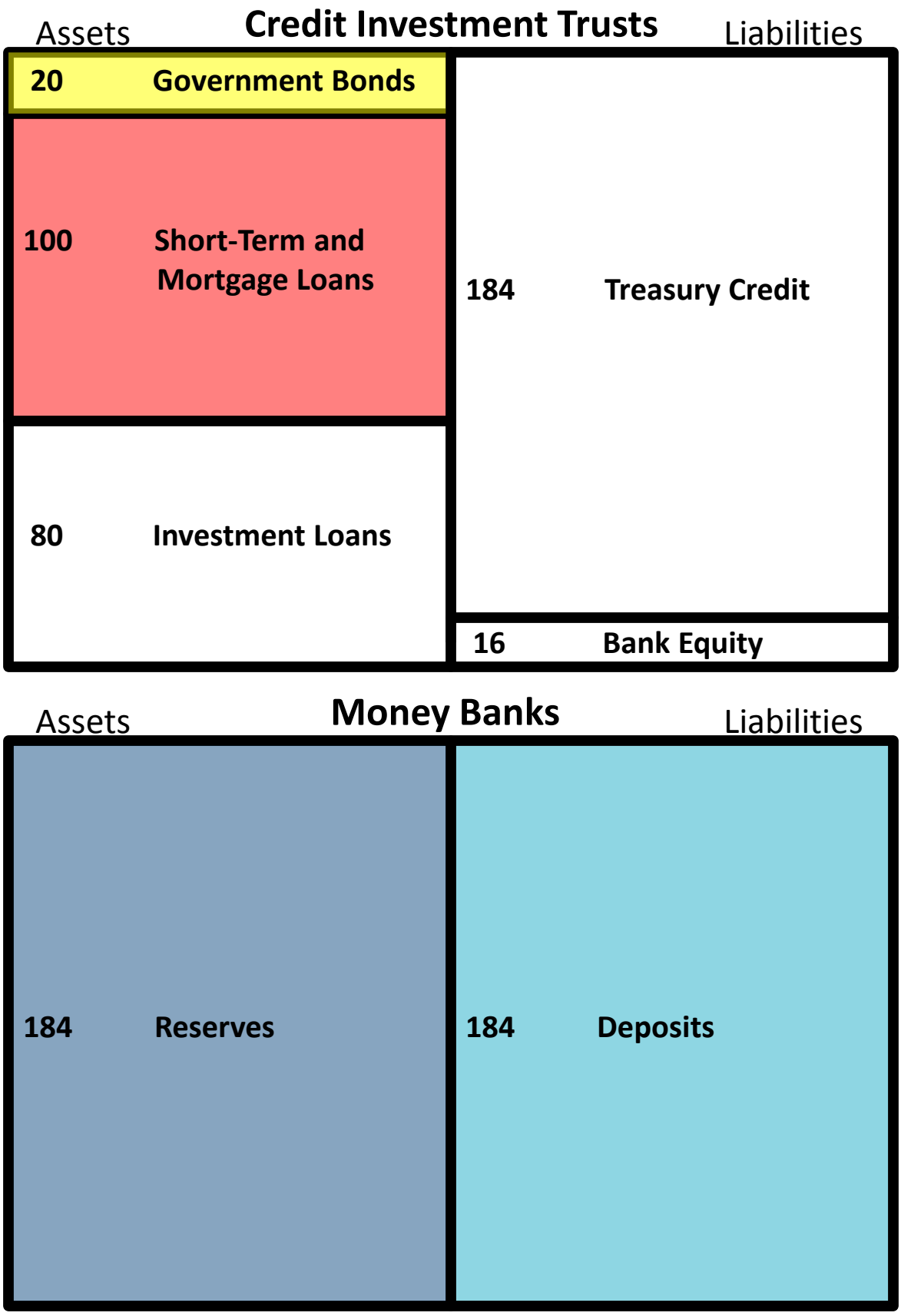
Transition to Chicago Plan Step 1

Banks purchase 100% reserve cover against treasury credit IOU



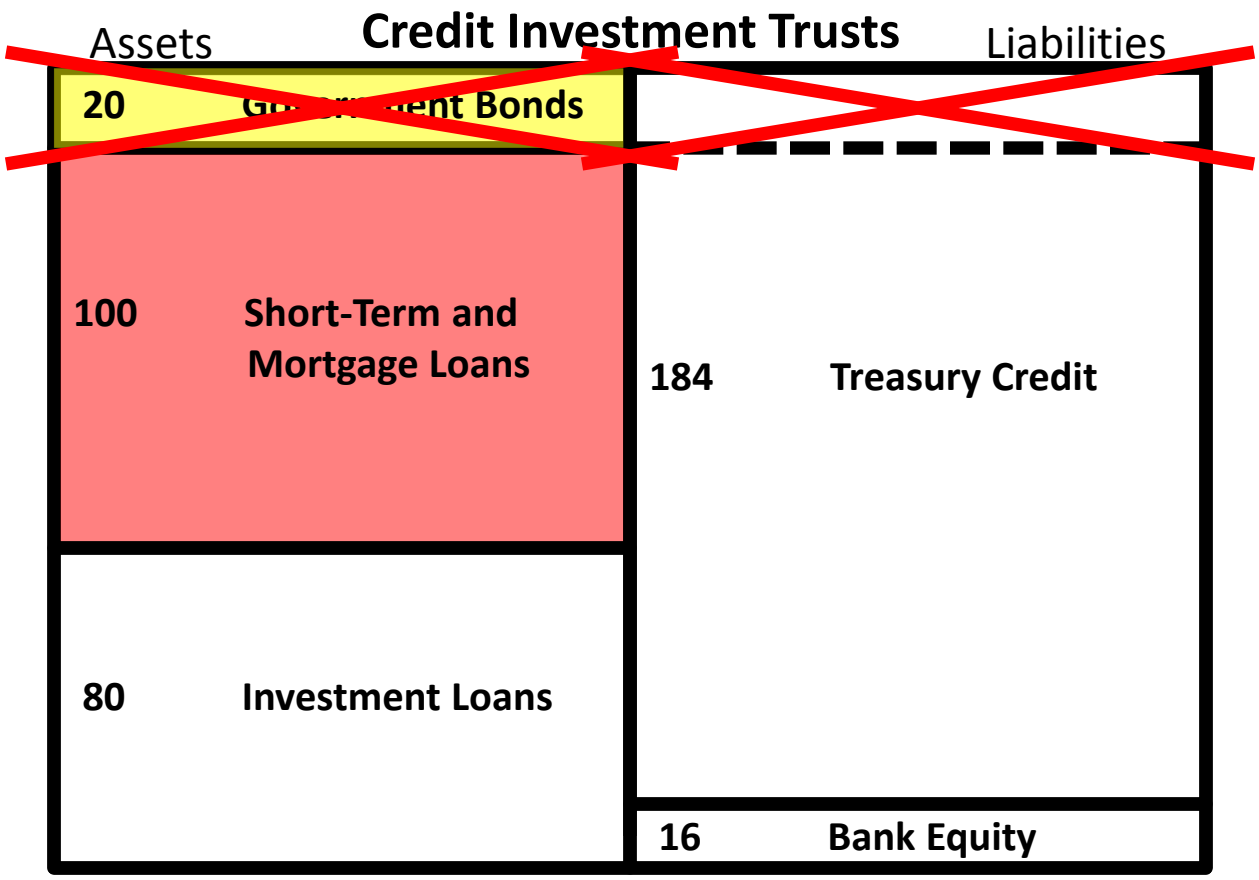
Transition to Chicago Plan Step 2

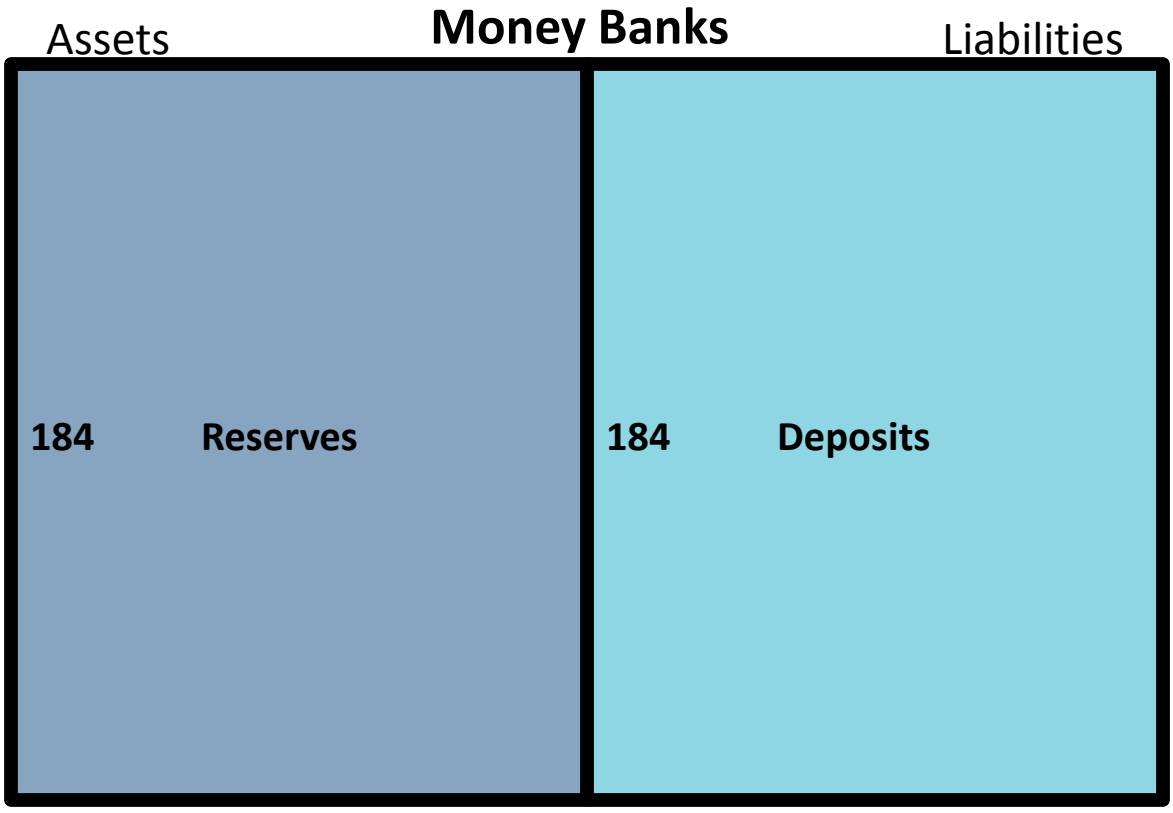
Banks are split into money banks and credit investment trusts



Transition to Chicago Plan Step 3

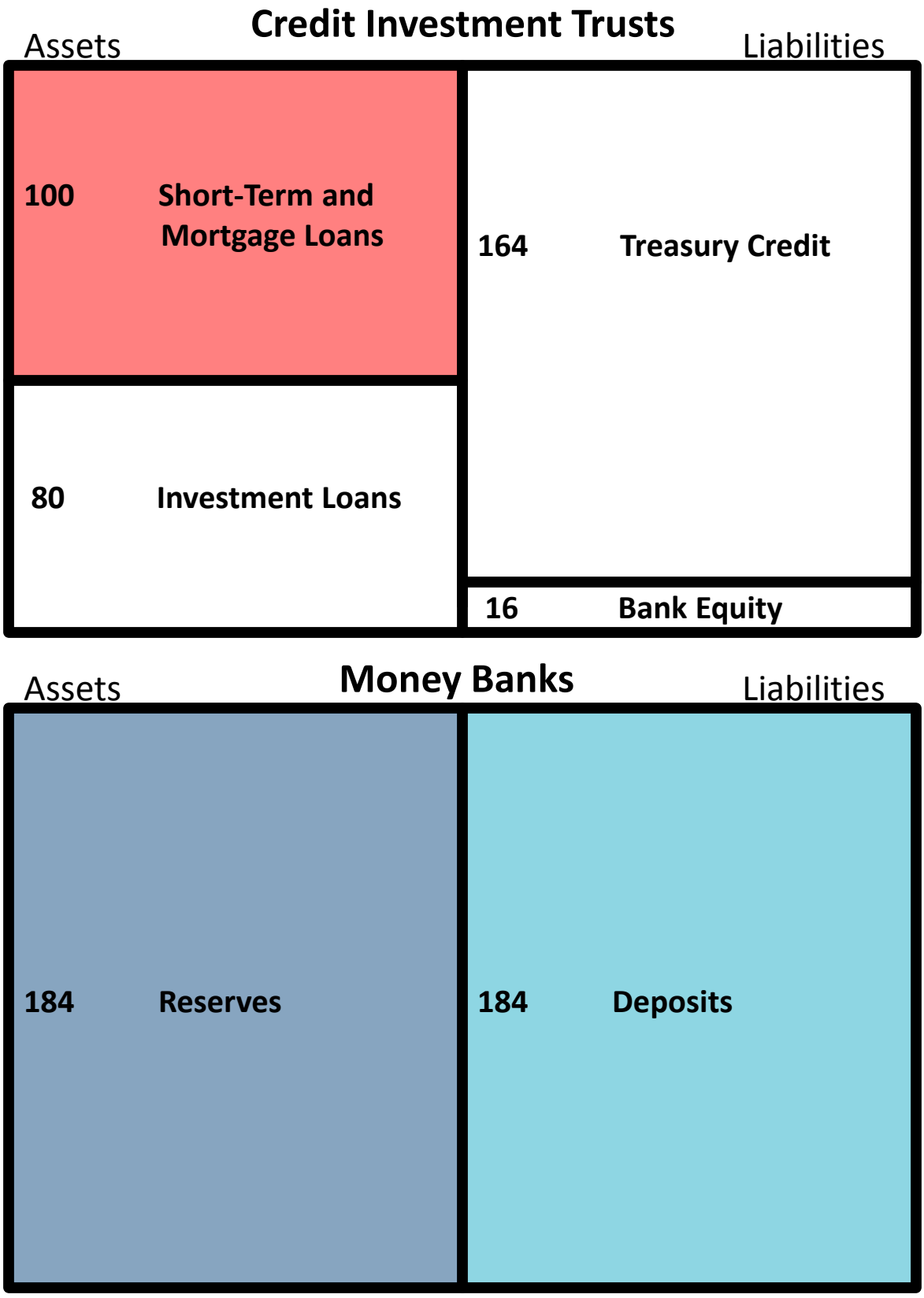
Bank-held government bonds are cancelled against treasury credit





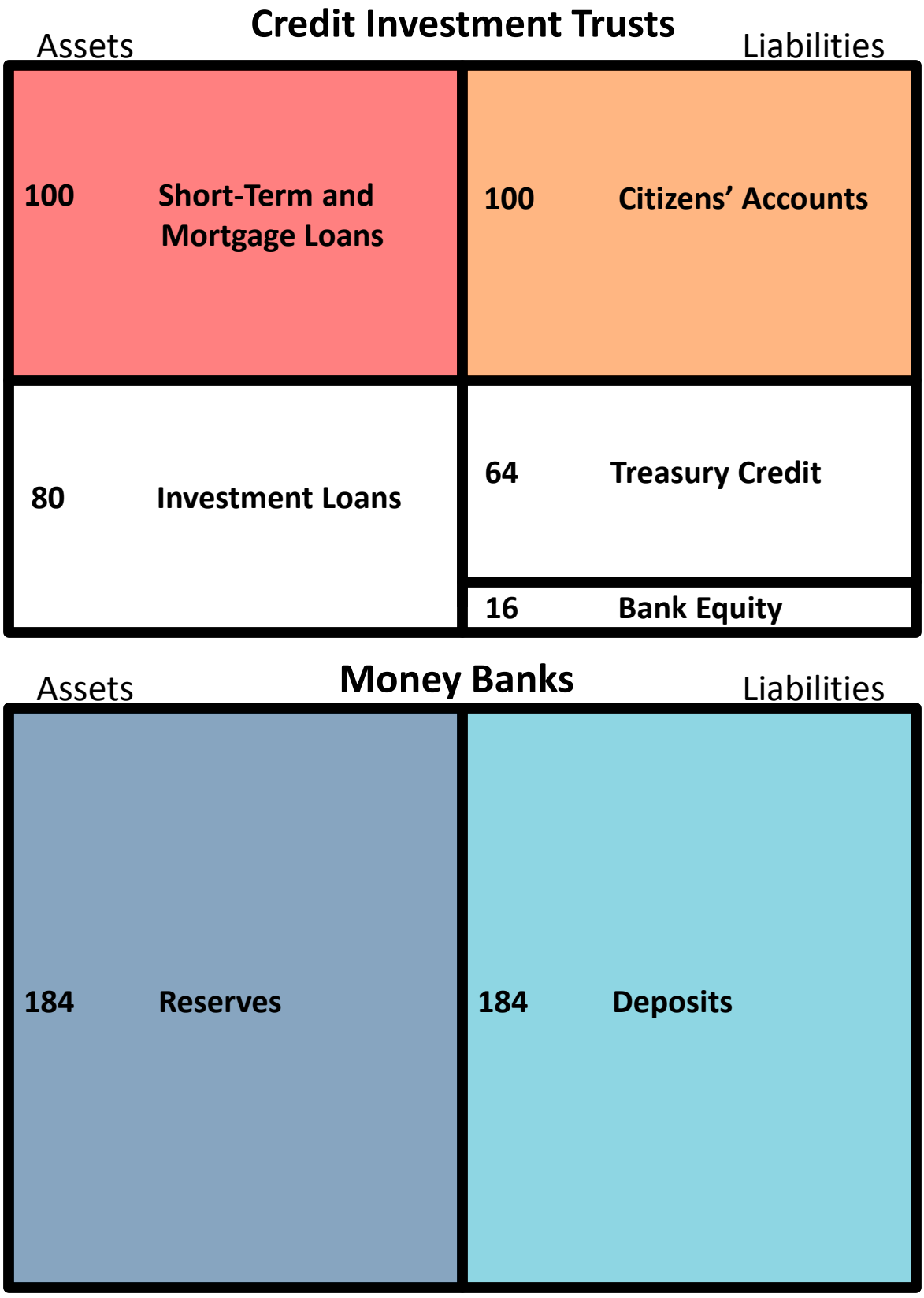
Transition to Chicago Plan Step 3 - completed

Bank-held government bonds are cancelled against treasury credit



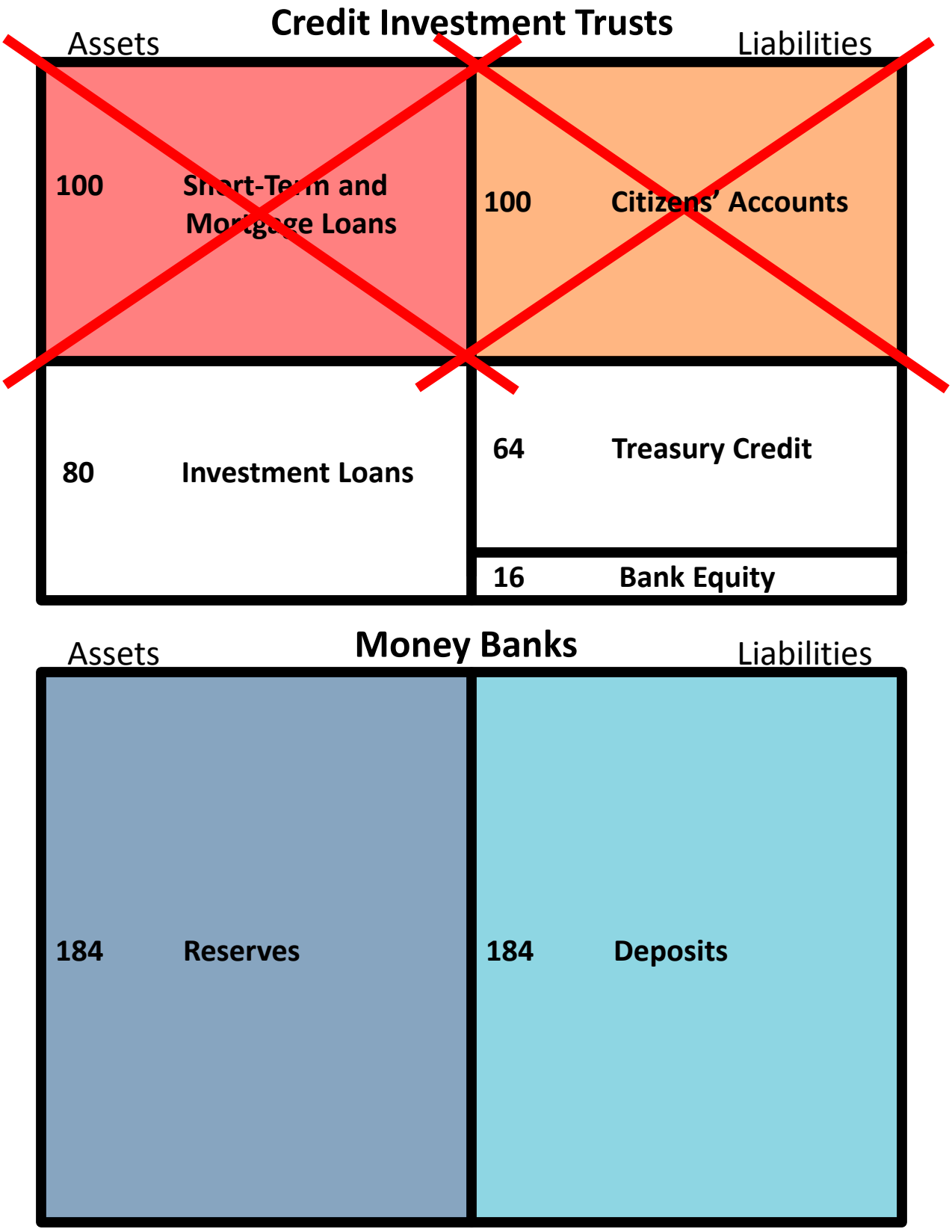
Transition to Chicago Plan Step 4

Part of treasury credit is distributed as a citizens' dividend



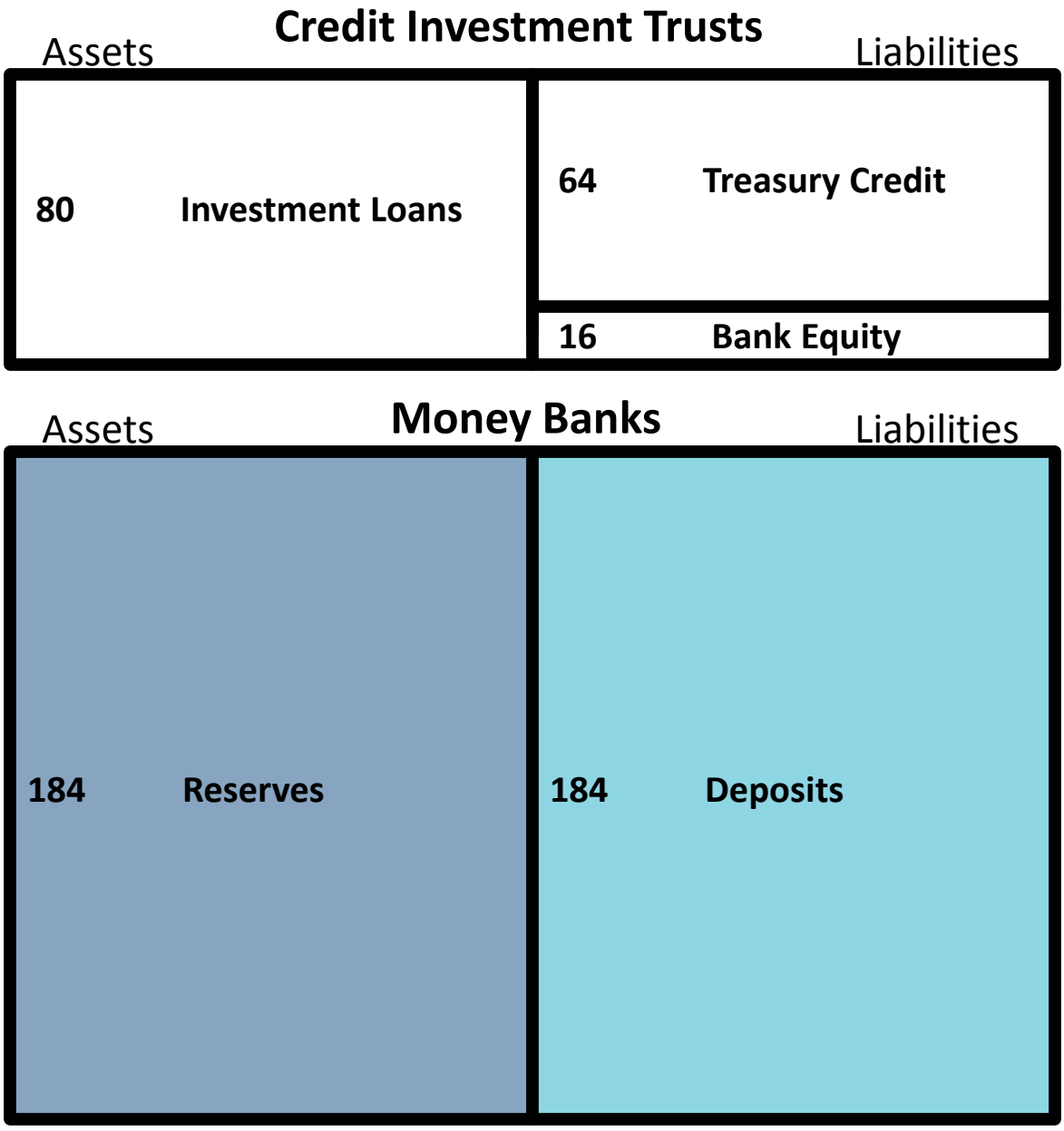
Transition to Chicago Plan Step 5

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

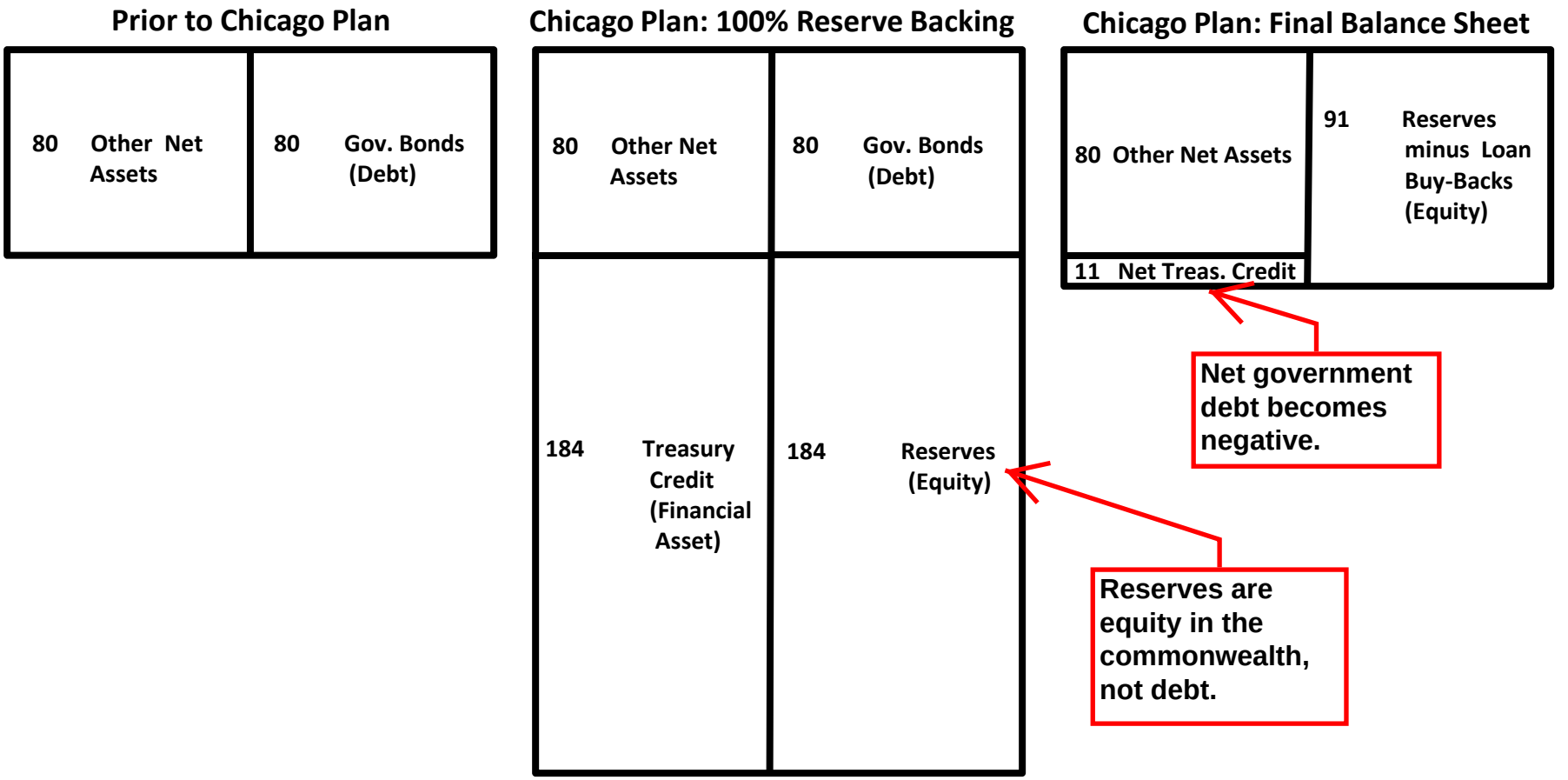


Transition to Chicago Plan Step 5 - completed

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



Changes in Government Balance Sheet in Transition Period



Advantage 3: Complete Elimination of Bank Runs
Advantage 4: Large Output Gains (similar reasons as CBDC)
Advantage 5: Elimination of Liquidity Traps
Advantage 6: 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.

6 Conclusions

- The theme of this conference remains highly topical and policy-relevant.

- Interdisciplinary and outside-the-box research is more critical than ever:
  - To help deal with urgent current problems.
  - To anticipate even more urgent future problems.

- Economics is trying, but in my view not enough.

- I have illustrated this with the example of financial stability:
  - We need to be open-minded enough to admit that our currently dominant model of banking may be misspecified.
  - I find that central banks are far more open-minded than academia.
  - Perhaps because central banks need to deal with practical problems.
  - This is a big problem:
    * We may be making mistakes when addressing current problems.
    * We may be missing solutions that would address future problems.