CHAPTER FOUR

The Truth Behind Money Creation

BIS

Bank Reserve Requirements

Business of Banking

Kinds of Money

Money Supply (M1)

Fractional Reserve Banking

Credit Creation Theory of Money

Money Creation Restrictions

Role of the Central Bank

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Bank for International Settlements (BIS)

The BIS provides oversight and regulation, which is vital due to the influence of the banking system on the economy in large countries.

- Created in 1930 to advise and regulate economic matters
- Allows nations to discuss and coordinate to ensure the health of the global economy

Bank Regulation
The laws and rules that govern the way the banks operate.

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Bank Reserve Requirements

The bank supports financial transactions.

- Provides the method for transactions to occur by way of checks or electronic fund transfers

Transactions depend on the bank making the correct accounting entries when funds are deducted from one account and transferred to another account.

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Bank Reserve Requirements

Bank Reserves
The cash that banks have in their vaults, plus the balances in their account at the central bank.

Reserve Requirement
Directs the commercial banking system to maintain a certain percentage of deposits in cash.

- Reserves are roughly equivalent to 10% of total deposits that are cash on hand and deposits at the Fed
- Reserves were originally created to prevent a run on the bank
- Reserves primarily serve to ensure ample cash is available to support daily bank operations

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The Business of Banking

The bank serves three primary functions:

1. **The bank acts as a depository.**
   - Accepts deposits from customers for safe keeping
   - Provides cash back to customers upon demand
   - Enables easy transactions for goods and services by swiping cards, writing checks, and entering payment information into computers

2. **Banks supply credit to customers.**
   - Banks lend funds to those seeking to borrow and profits from the interest and fees that are associated with the loans

3. **Banks help manage risks.**
   - Problem of asymmetric information

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The Business of Banking

Asymmetric Information
The situation where two parties to a transaction have different pieces of information available.

- *Adverse selection may occur.*
  Where two parties prior to a transaction observe different information about a quality of the product or service

- *Moral hazard may occur.*
  Where one party to a transaction operates in a manner that is counter to what the other party would desire after the transaction occurs

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Two Kinds of Money

Base Money

- The total amount of bank notes and coins

  $B = C+R$ (B = Base, C = Currency in circulation, R = Bank reserves)

Bank Money

- The money created inside the private sector
- Exists in the form of credit which is issued when banks make loans

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Money Supply (M1)

Money supply
The sum of currency in circulation and bank deposits.

M1 refers to the measure of money supply.

M2 refers to the measure of money supply that includes savings and other small-time deposits.

$M = C + D$ (M = money supply, C = currency in circulation, D = demand deposits held by commercial banks)

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Fractional Reserve Banking

Fractional Reserve Banking
The theory of how banks expand money supply by loaning_out a portion of bank reserves.

The commercial bank creates money through the process of making loans from other customers' deposits.

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Changes to Monetary Base and Money Supply

	No. of Banks	Day 1	Day 2	Day 3	Day 4
C	1,000	1,000 – 800 = 200	200 + 600 = 800	200 + 120 = 320	320 + 360 = 680
R	0	800	800 – 600 = 200	200 + 480 = 680	680 – 360 = 320
D	0	800	800	800 + 480 = 1,280	1,280
B = C + R	1,000	1,000	1,000	1,000	1,000
M = C + D	1,000	1,000	1,600	1,600	1,960

The table shows how the monetary base changes starting with no banks, then the OGB bank opens, and the process of two loans being made over four days is described.

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OGB Bank's Balance Sheet

	Assets	Liabilities
Day 1	R 800	D 800
Day 2	R 200 L 600	D 800
Day 3	R 200 + 480 = 680 L 600	D 800 + 480 = 1,280
Day 4	R 680 – 360 = 320 L 600 + 360 = 960	D 1,280

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Money Multiplier
The number that describes how much money is created by banks assuming fractional reserve lending.

The ratio of the money supply to monetary base is M = mB
(M = Money Supply, m = Money multiplier, B = Base)

Fractional Reserve Banking is not an accurate representation of how banks operate money in the modern economy. (contrary to the money multiplier theory)

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Credit Creation Theory of Money

The theory that describes how banks can create money simply by issuing new loans that are not based on customer deposits.

- The bank loans out bank money
- Cash never changes hands during this loan (an electronic fund transfer created with accounting entries)

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How is money created?

1. A customer applies for a loan and meets the banks requirements for approval
2. The bank extends a credit to the customers deposit account and a debit to a loan receivable account
3. A customer new deposit account is created serving as a liability of the bank for the loan
4. When the loan is paid back, the deposit that was created when the loan originated is extinguished - completing the cycle of money creation

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Loan for New Car Purchase

Customer John Doe applies for a loan of $30,000 to purchase a new car. Bank A approves the loan.

	Debits	Credits
ASSETS:		
Loans Receivable	$1,000,000	
Cash / Reserves	$200,000	
TOTAL ASSETS:	$1,200,000	
LIABILITIES & CAPITAL:		
Customer Deposits		$1,050,000
Capital		$150,000
TOTAL LIABILITIES & CAPITAL:		1,200,000

When the loan is made, the transaction will be recorded with the following entry:

	Debits	Credits
Loan Receivable (John Doe)	$30,000	
Deposit Account (John Doe)		$30,000

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Loan for New Car Purchase

Reserves are adequate to meet the 10% requirement both before and after the loan is made. Let's take a look at the bank's summary balance sheet after the loan is made to John Doe.

	Debits	Credits
ASSETS:		
Loans Receivable	$1,030,000	
Cash / Reserves	$200,000	
TOTAL ASSETS:	$1,230,000	
LIABILITIES & CAPITAL:		
Customer Deposits		$1,080,000
Capital		$150,000
TOTAL LIABILITIES & CAPITAL:		1,230,000

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Restrictions on Money Creation

Banks will limit themselves according to profits.
Loans will be made if they are expected to result in profit, but they will not be made if it seems too risky

The behavior of households and businesses will constrain money supply.
The repayment of loans will reduce money supply

Banks must adhere to capital regulations.
Determines how much they may lend relative to their overall capital base

Banks can lend reserves.
Reserves held on deposit at the Fed are liabilities of the central bank

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Role of the Central Bank

The central bank controls the pool of reserve funds.

Reserves are functions of loans.

- The central bank supplies reserves as needed to allow the banking system to meet aggregate reserve requirements

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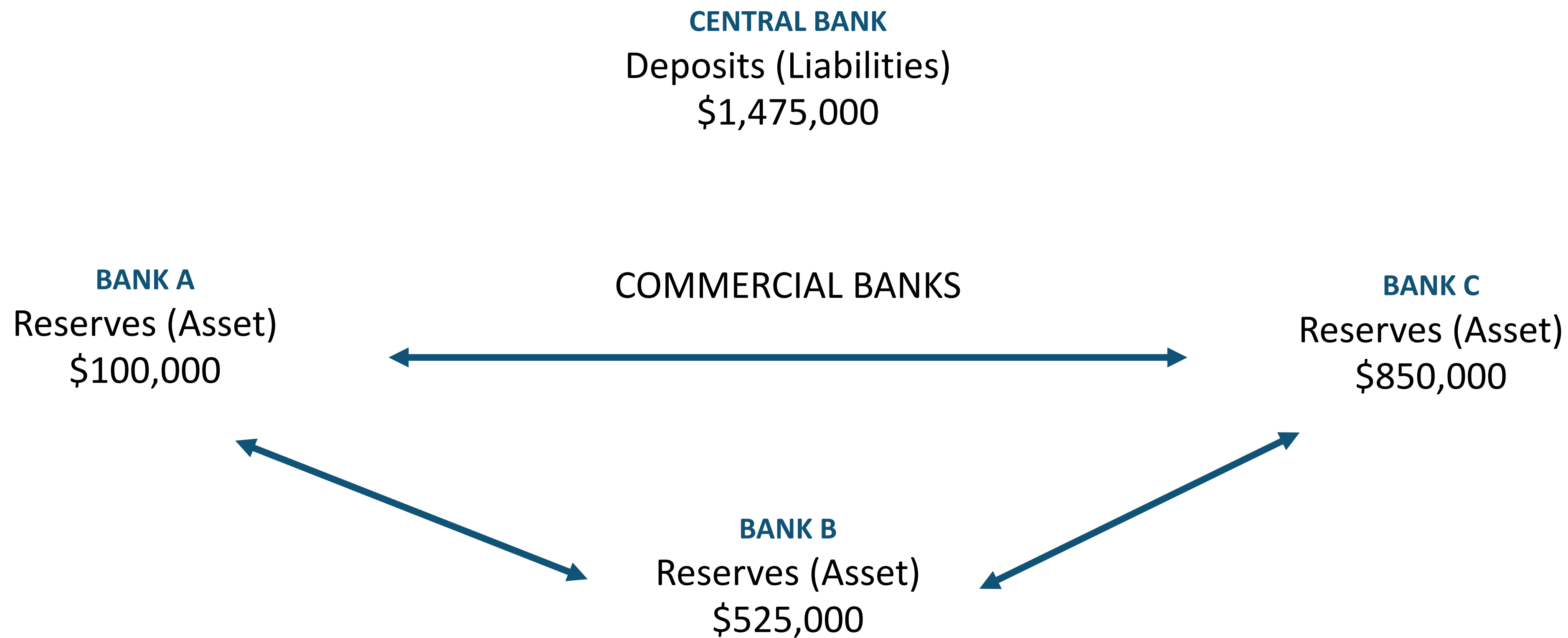
Figure 4.3: A Picture of the Banking System



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Role of the Central Bank

Understanding the central bank's balance sheet:

- The liabilities of the central bank are made up of reserve accounts attributed to individual banks, the government's deposit account, and currency in circulation
- Government bonds make up the asset side of the balance sheet

The FOMC conducts open market operations to expand or contract the reserve pool in circulation.

- Open Market Operations - the process of the central bank expanding or conducting the reserve pool through the purchase and sale of government bonds
- End result of the open market operations - the banking system has a larger pool of reserves; reserves will be shifted around as needed to meet aggregate reserve requirements

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