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Money Creation

Fractional Reserve System

- The Goldsmiths
 - Stored gold and gave a receipt
 - Receipts used as money by public
 - Made loans by issuing receipts
- Characteristics:
 - Banks create money through lending
 - Banks are subject to “panics”

Fractional Reserve System

- Balance sheet
 - Assets = Liabilities + Net Worth
 - Both sides balance
- Necessary transactions
 - Create a bank
 - Accept deposits
 - Lend excess reserves

A Single Commercial Bank

Transaction #1

Vault cash: cash held by the bank

Creating a Bank			
Balance Sheet 1: Wahoo Bank			
Assets		Liabilities and Net Worth	
Cash	\$250,000	Stock Shares	\$250,000

A Single Commercial Bank

Transaction #2

Acquiring property and equipment

Acquiring Property and Equipment			
Balance Sheet 2: Wahoo Bank			
Assets		Liabilities and Net Worth	
Cash	\$10,000	Stock Shares	\$250,000
Property	240,000		

A Single Commercial Bank

Transaction #3

Commercial bank functions

- Accepting deposits
- Making loans

Accepting Deposits			
Balance Sheet 3: Wahoo Bank			
Assets		Liabilities and Net Worth	
Cash	\$110,000	Checkable Deposits	\$100,000
Property	240,000	Stock Shares	250,000

A Single Commercial Bank

Transaction #4

Depositing reserves in a Federal Reserve bank

- Required reserves
- Reserve ratio

$$\text{Reserve ratio} = \frac{\text{Commercial bank's Required reserves}}{\text{Commercial bank's Checkable-deposit liabilities}}$$

A Single Commercial Bank

Type of Deposit	Current Requirement	Statutory Limits
Checkable deposits:		
\$0-\$10.7 Million	0%	3%
\$10.7-\$55.2 Million	3	3
Over \$55.2 Million	10	8-14
Noncheckable nonpersonal savings and time deposits	0	0-9

- The Fed can establish and vary the reserve ratio within limits set by Congress
- Required reserves help the Fed control lending abilities of commercial banks

A Single Commercial Bank

Transaction #4

Assume the bank deposits all cash on reserve at the Fed

Depositing Reserves at the Fed			
Balance Sheet 4: Wahoo Bank			
Assets		Liabilities and Net Worth	
Cash	\$0	Checkable	
Reserves	110,000	Deposits	\$100,000
Property	240,000	Stock Shares	250,000

A Single Commercial Bank

- Excess reserves
 - Actual reserves - required reserves
- Required reserves
 - Checkable deposits x reserve ratio
- Example:
 - Checkable deposits \$100,000
 - Reserve ratio 20%

A Single Commercial Bank

Transaction #5

Clearing a check

- \$50,000 check reduces reserves and checkable deposits

Clearing a Check			
Balance Sheet 5: Wahoo Bank			
Assets		Liabilities and Net Worth	
Reserves	\$60,000	Checkable Deposits	\$50,000
Property	240,000	Stock Shares	250,000

Money Creating Transactions

Transaction #6a

Granting a loan

- \$50,000 loan deposited to checking

When a Loan is Negotiated			
Balance Sheet 6a: Wahoo Bank			
Assets		Liabilities and Net Worth	
Reserves	\$60,000	Checkable	
Loans	50,000	Deposits	\$100,000
Property	240,000	Stock Shares	250,000

Money Creating Transactions

Transaction #6b

Using the loan

- \$50,000 loan cashed

After a Check is Drawn on the Loan

Balance Sheet 6b: Wahoo Bank

Assets		Liabilities and Net Worth	
Reserves	\$10,000	Checkable	
Loans	50,000	Deposits	\$50,000
Property	240,000	Stock Shares	250,000

A single bank can only lend an amount equal to its preloan excess reserves

Money Creating Transactions

Transaction #7

Bank buys government securities from a dealer

- Deposits payment into checking

Buying Government Securities			
Balance Sheet 7: Wahoo Bank			
Assets		Liabilities and Net Worth	
Reserves	\$60,000	Checkable	
Securities	50,000	Deposits	\$100,000
Property	240,000	Stock Shares	250,000

- New money is created

Profits, Liquidity, and the Fed Funds Market

- Conflicting goals
- Earn profit
 - Make loans to earn interest
 - Buy securities to earn interest
- Maintain liquidity
- Alternative?
 - Overnight bank loans

The Monetary Multiplier

$$\text{Monetary multiplier} = \frac{1}{\text{required reserve ratio}} = \frac{1}{R}$$

