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Balance Sheet of a  
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Formation of a  
Commercial Bank

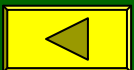
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# CHAPTER 14

## *How Banks and Thrifts Create Money*



# CHAPTER 14

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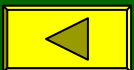
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# BALANCE SHEET OF A COMMERCIAL BANK

**ASSETS = LIABILITIES + NET WORTH**

**The Goldsmiths**

**Fractional Reserve Banking**

**System**

**Money Creation & Reserves**

**Bank Panics & Regulation**

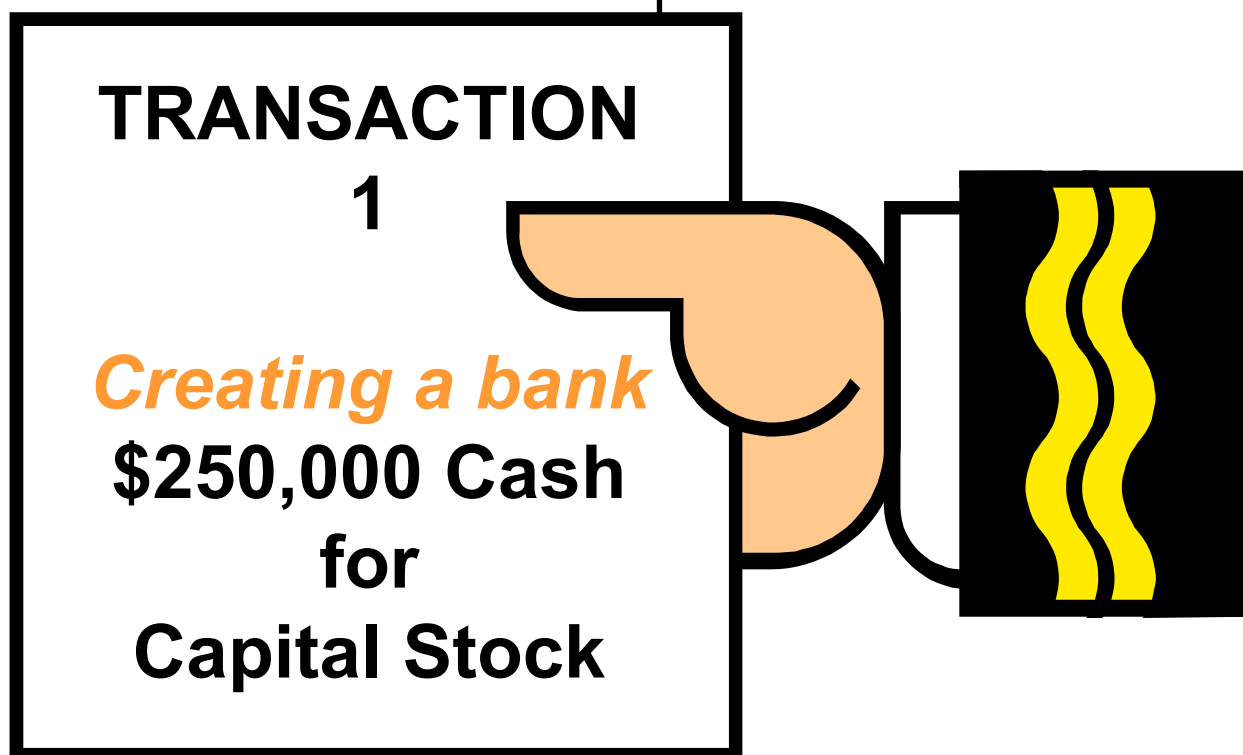


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# FORMATION OF A COMMERCIAL BANK

LIABILITIES AND  
NET WORTH

ASSETS



Balance Sheet of a  
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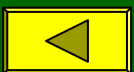
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# FORMATION OF A COMMERCIAL BANK

LIABILITIES AND  
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ASSETS

Cash

\$250,000

Capital Stock

\$250,000



*Deposit Added to Vault Cash*

Balance Sheet of a  
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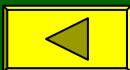
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# CHAPTER 14

# FORMATION OF A COMMERCIAL BANK

## LIABILITIES AND NET WORTH

### ASSETS

Cash \$250,000

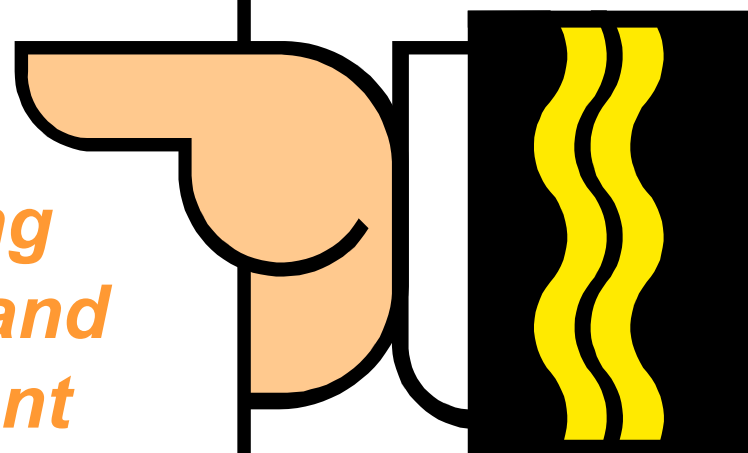
Capital Stock \$250,000

### TRANSACTION

2

*Acquiring Property and Equipment*

\$240,000 Cash



Balance Sheet of a Commercial Bank

Formation of a Commercial Bank

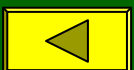
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# CHAPTER 14

# FORMATION OF A COMMERCIAL BANK

## LIABILITIES AND NET WORTH

### ASSETS

Cash	\$ 10,000
Property	240,000

Capital Stock	\$250,000
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Balance Sheet of a  
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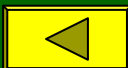
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# FORMATION OF A COMMERCIAL BANK

LIABILITIES AND NET WORTH

ASSETS

Cash \$ 10,000

Capital Stock \$250,000

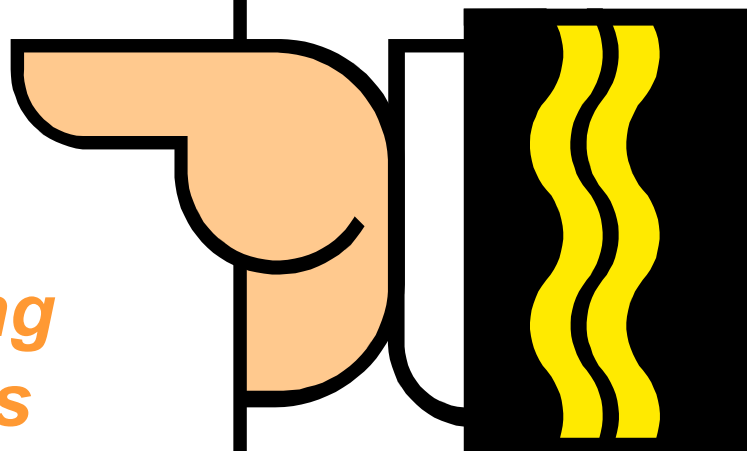
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TRANSACTION

3

*Accepting Deposits*

\$100,000 Cash



Balance Sheet of a Commercial Bank

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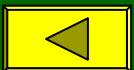
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# FORMATION OF A COMMERCIAL BANK

## LIABILITIES AND NET WORTH

### ASSETS

Cash	\$110,000
Property	240,000

Checkable Deposits	\$100,000
Capital Stock	250,000

Balance Sheet of a  
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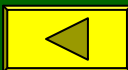
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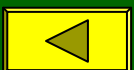
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# FORMATION OF A COMMERCIAL BANK

## ASSETS

Cash  
Property

## LIABILITIES AND NET WORTH

\$100,000  
250,000

**NOTES:**

Bank deposits are subject to a *reserve requirement*.

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

# FORMATION OF A COMMERCIAL BANK

## LIABILITIES AND NET WORTH

### ASSETS

Cash	\$110,000
Property	240,000

Checkable Deposits	\$100,000
Capital Stock	250,000

### *Three Important Issues...*

- 1 - Excess Reserves = Actual Reserves - Required Reserves  
(assume 20% reserve requirement)  
 $\$110,000 - 20,000 = \$90,000$
- 2 - Control
- 3 - Asset and Liability

Balance Sheet of a  
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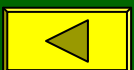
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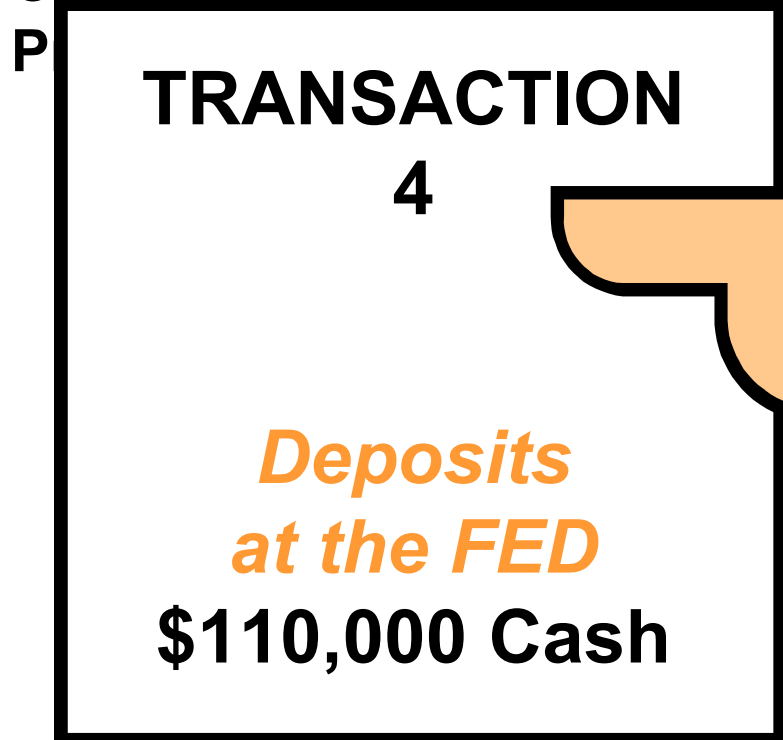
# FORMATION OF A COMMERCIAL BANK

## LIABILITIES AND NET WORTH

## ASSETS

Cash **\$110,000**

Checkable Deposits **\$100,000**  
 Capital Stock **250,000**



Balance Sheet of a Commercial Bank

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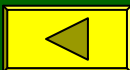
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## LIABILITIES AND NET WORTH

### ASSETS

Cash	\$	0
Reserves	110,000	
Property	240,000	

Checkable Deposits	\$100,000
Capital Stock	250,000

Balance Sheet of a  
Commercial Bank

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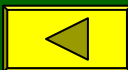
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# FORMATION OF A COMMERCIAL BANK

## LIABILITIES AND NET WORTH

## ASSETS

Cash

\$ 0

Checkable Deposits

\$100,000

Capital Stock

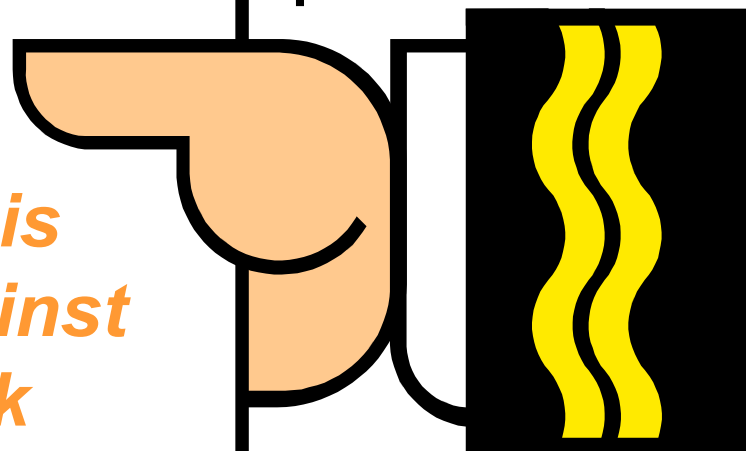
250,000

TRANSACTION

5

*A check is drawn against the bank*

\$50,000



Balance Sheet of a Commercial Bank

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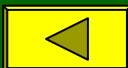
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## LIABILITIES AND NET WORTH

### ASSETS

Cash	\$	0
Reserves		60,000
Property		240,000

Checkable Deposits	\$	50,000
Capital Stock		250,000

Balance Sheet of a  
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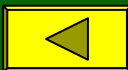
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# FORMATION OF A COMMERCIAL BANK

ASSETS

Cash  
Reserve  
Property

LIABILITIES AND NET WORTH

Stock \$ 50,000  
250,000

## NOTES:

Banks create money by lending excess reserves and destroy it by loan repayment. Purchasing bonds from the public also creates money.

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# FORMATION OF A COMMERCIAL BANK

## LIABILITIES AND NET WORTH

## ASSETS

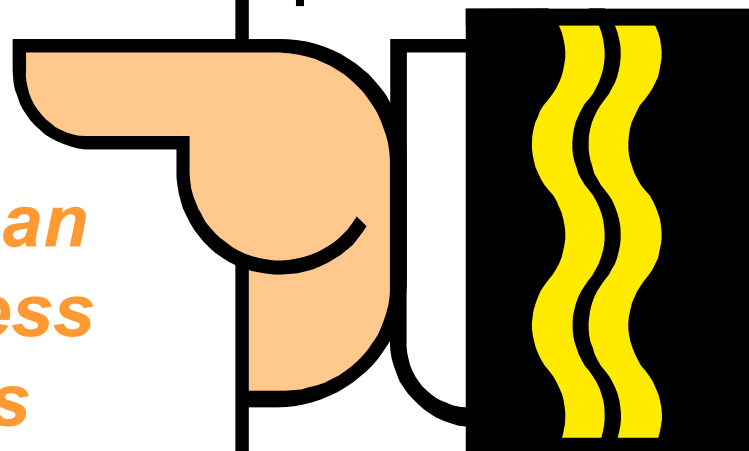
Reserves **\$ 60,000**

Checkable Deposits **\$ 50,000**  
 Capital Stock **250,000**

### TRANSACTION

6

*Make a loan from excess reserves*  
**\$50,000**



Balance Sheet of a Commercial Bank

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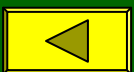
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## FORMATION OF A COMMERCIAL BANK

### LIABILITIES AND NET WORTH

### ASSETS

Reserves	\$ 60,000
Loans	50,000
Property	240,000

Checkable Deposits	\$100,000
Capital Stock	250,000

***Making the loan created money!***

Balance Sheet of a Commercial Bank

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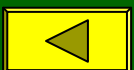
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## FORMATION OF A COMMERCIAL BANK

### LIABILITIES AND NET WORTH

### ASSETS

Reserves	\$ 10,000
Loans	50,000
Property	240,000

Checkable Deposits	\$ 50,000
Capital Stock	250,000

After a check for the \$50,000 is drawn against the bank

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# FORMATION OF A COMMERCIAL BANK

## LIABILITIES AND NET WORTH

### ASSETS

Reserves

\$ 10,000

Checkable

Deposits

\$ 50,000

Capital Stock

250,000

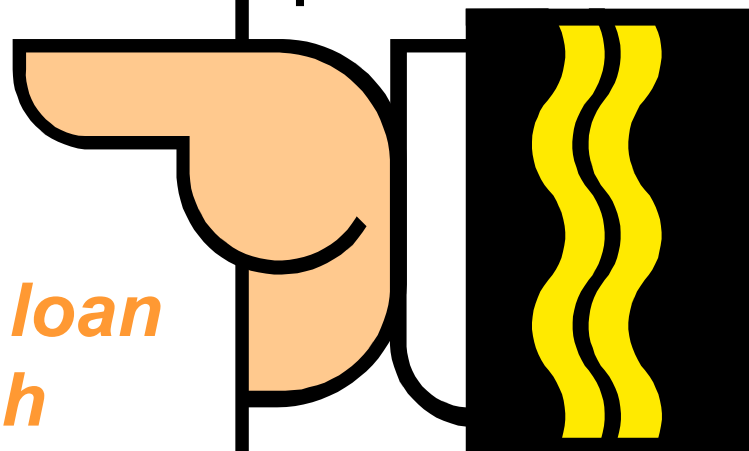
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TRANSACTION

7

*Repaying a loan  
with cash*

\$50,000



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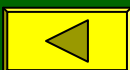
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## LIABILITIES AND NET WORTH

### ASSETS

Reserves	\$ 10,000
Loans	0
Property	240,000

Checkable Deposits	\$ 0
Capital Stock	250,000

***\$50,000 in money supply is destroyed!***

Balance Sheet of a Commercial Bank

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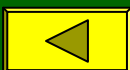
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## LIABILITIES AND NET WORTH

## ASSETS

Reserves \$ 60,000

Checkable Deposits \$100,000  
 Capital Stock 250,000

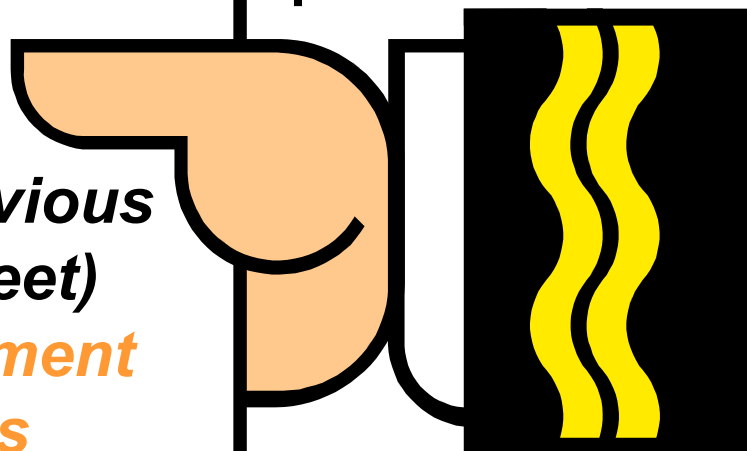
### TRANSACTION

8

*(Assume previous balance sheet)*

*Buy Government Securities*

**\$50,000**



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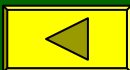
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## LIABILITIES AND NET WORTH

### ASSETS

Reserves	\$ 60,000
Securities	50,000
Property	240,000

Checkable Deposits	\$100,000
Capital Stock	250,000

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**Bankers pursue two conflicting goals:  
Profits and Liquidity**

*Note use of Federal Funds Market...*

*Federal Funds Rate*

# CHAPTER 14

## MULTIPLE DEPOSIT EXPANSION PROCESS

Bank	Acquired reserves and deposits	Required reserves	Excess reserves	Amount bank can lend - New money created
<b>A</b>	<b>\$100.00</b>	<b>\$20.00</b>	<b>\$80.00</b>	<b>\$80.00</b>
<b>B</b>	<b>80.00</b>	<b>16.00</b>	<b>64.00</b>	<b>64.00</b>
<b>C</b>	<b>64.00</b>	<b>12.80</b>	<b>51.20</b>	<b>51.20</b>
<b>D</b>	<b>51.20</b>	<b>10.24</b>	<b>40.96</b>	<b>40.96</b>
<b>E</b>	<b>40.96</b>	<b>8.19</b>	<b>32.77</b>	<b>32.77</b>
<b>F</b>	<b>32.77</b>	<b>6.55</b>	<b>26.22</b>	<b>26.22</b>
<b>G</b>	<b>26.22</b>	<b>5.24</b>	<b>20.98</b>	<b>20.98</b>
<b>H</b>	<b>20.98</b>	<b>4.20</b>	<b>16.78</b>	<b>16.78</b>
<b>I</b>	<b>16.78</b>	<b>3.36</b>	<b>13.42</b>	<b>13.42</b>
<b>J</b>	<b>13.42</b>	<b>2.68</b>	<b>10.74</b>	<b>10.74</b>
<b>K</b>	<b>10.74</b>	<b>2.15</b>	<b>8.59</b>	<b>8.59</b>
<b>L</b>	<b>8.59</b>	<b>1.72</b>	<b>6.87</b>	<b>6.87</b>
<b>M</b>	<b>6.87</b>	<b>1.37</b>	<b>5.50</b>	<b>5.50</b>
<b>N</b>	<b>5.50</b>	<b>1.10</b>	<b>4.40</b>	<b>4.40</b>
<b>Other banks</b>	<b>21.97</b>	<b>4.40</b>	<b>17.57</b>	<b>17.57</b>
<b>Total amount of money created by the banking system</b>				<b>\$400.00</b>

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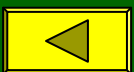
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# CHAPTER 14

## MULTIPLE DEPOSIT EXPANSION PROCESS

Bank	Acquired reserves and deposits	Required reserves	Excess reserves	Amount bank can lend - New money created
A	\$100.00	\$20.00	\$80.00	\$80.00
B	80.00	16.00	64.00	64.00
C	64.00	12.80	51.20	51.20
D	51.20	10.24	40.96	40.96
E	40.96	8.19	32.77	32.77
F	32.77	6.55	26.22	26.22
G	26.22	5.24	20.98	20.98
H	20.98	4.19	16.78	16.78
I	16.78	3.35	13.42	13.42
J	13.42	2.68	10.74	10.74
K	10.74	2.15	8.59	8.59
L	8.59	1.72	6.87	6.87
M	6.87	1.37	5.50	5.50
N	5.50	1.10	4.40	4.40
Other banks	21.97	4.40	17.57	17.57
<b>Total amount of money created by the banking system</b>				<b>\$400.00</b>

**Money destruction works in exactly the same multiple way!**

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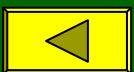
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# CHAPTER 14

# THE MONETARY MULTIPLIER

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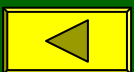
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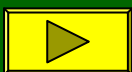
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$$\text{Monetary Multiplier} = \frac{1}{\text{Required reserve ratio}}$$

$$\text{Maximum checkable-deposit expansion} = \text{Excess reserves} \times \text{Monetary Multiplier}$$

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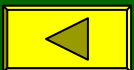
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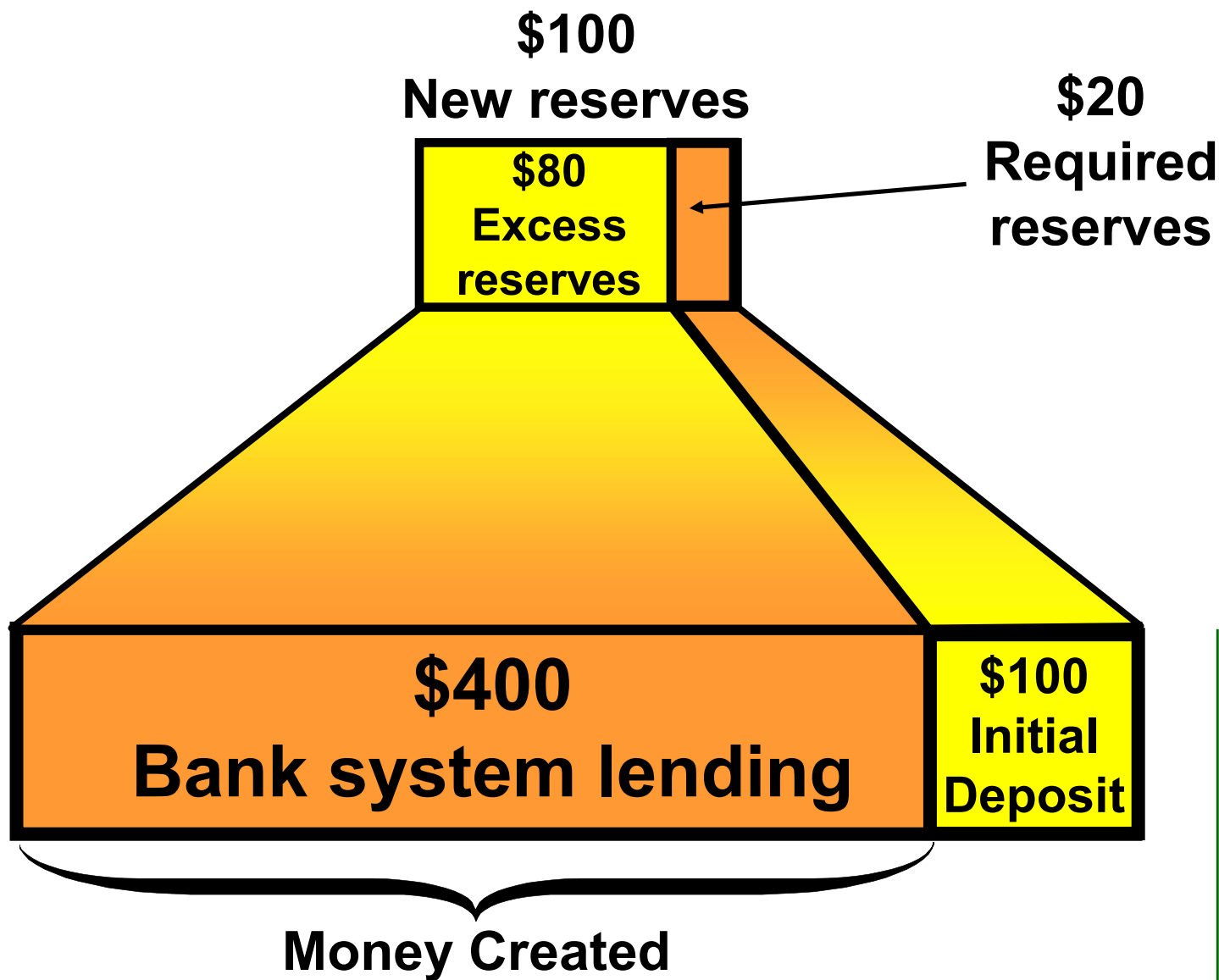
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## OUTCOME OF MONEY EXPANSION



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# OUTCOME OF MONEY EXPANSION

\$100

\$20

Required  
reserves

*Leakages exist...*

*Currency Drains*

*Excess Reserves*

Initial  
Deposit

Money Created

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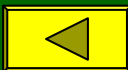
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# CHAPTER 14

Balance Sheet of a  
Commercial Bank

Formation of a  
Commercial Bank

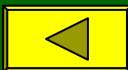
Multiple Deposit  
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# *Need for Monetary Control*

## *Chapter Conclusions*

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balance sheet

fractional reserve system

vault cash

required reserves

reserve ratio

excess reserves

actual reserves

Federal funds rate

monetary multiplier

# CHAPTER 14

Balance Sheet of a  
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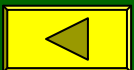
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# Monetary Policy

*Chapter 15*