

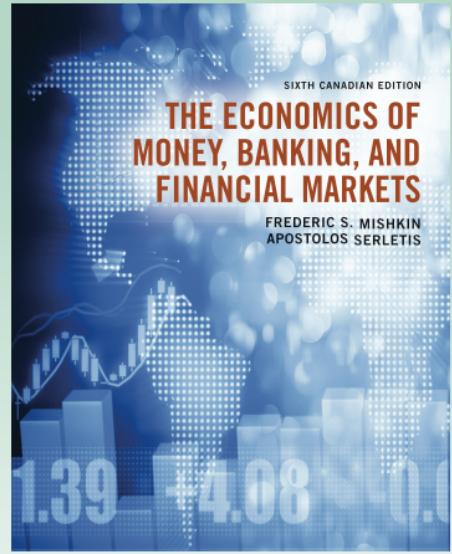
Mishkin/Serletis

# The Economics of Money, Banking, and Financial Markets

Sixth Canadian Edition

## Chapter 3

# What Is Money?



# Learning Objectives

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- Describe what money is
- List and summarize the functions of money
- Identify different types of payment systems
- Compare and contrast the M1 and M2 money supplies

# Meaning of Money

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- **Money:** Anything that is generally accepted in payment for goods or services or in the repayment of debts.
  - **Currency:** *paper money and coins*
- It is a broad notion
- Distinct from:
  - **Wealth:** *total property that stores value*
  - **Income:** *flow of earnings per unit of time*

# Functions of Money: Medium of Exchange

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- **Medium of Exchange:**
  - *Facilitates exchange (lower transaction costs)*
  - *Eliminates need for double coincidence of wants*
  - *Allows for specialization and division of labour*
- An effective medium of exchange must:
  - *be easily standardized*
  - *be widely accepted*
  - *be divisible*
  - *be easy to carry*
  - *not deteriorate quickly*

# Functions of Money: Unit of Account

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- **Unit of Account:**
  - *Units in which value is denominated throughout the economy*
  - *Reduces transaction costs*
- Consider a store with 10 goods 
$$\binom{10}{2} = \frac{10 \times 9}{2} = 45$$
  - *Without a unit of account, we would need to know 45 prices to exchange one good for another*
  - *With a unit of account, we only need 10 prices as everything would be reported in dollars*

# Functions of Money: Store of Value

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- **Store of Value:**
  - *Repository of purchasing power over time*
  - *Other assets also serve this function (stocks, bonds, land, houses, art, jewelry, etc...)*
  - *Money is the most liquid of all assets but does not pay a return, so loses value during inflation*
  - *Money is particularly poor store of value during periods of **hyperinflation** – when inflation exceeds 50% per month*

# Evolution of the Payments System

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- **Payments System:** method of conducting transactions in the economy
- **Commodity Money**
  - *Money made of precious metals (gold, silver)*
  - *Valuable, easily standardized and divisible commodities*
  - *Problem: hard to transport*
- **Fiat Money**
  - *Paper money decreed by governments as legal tender*

# Evolution of the Payments System (cont'd)

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- **Cheques**
  - *An instruction to your bank to transfer money from your account to someone else's account*
  - *Lowers transaction costs, but take times to clear*
- **Electronic Payments**
- **E-Money (electronic money)**
  - *debit cards, smart cards, e-cash*

## FYI Are We Headed for a Cashless Society?

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- Predictions of a cashless society have been around for decades
- E-money might be more convenient and efficient than a payments system based on paper
- Several factors work against the disappearance of the paper system
- The use of e-money will likely still increase in the future
- Bitcoins?

# Measuring Money

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- Bank of Canada's **Monetary Aggregates**
- **M1+** = *currency + chequable deposits*
- **M2** = *currency + bank deposits + fixed-term deposits*
- **M2+** = *M2 + deposits at TMLs and CUCPs*
- **M2++** = *M2+ + certain retail debt instruments*
- **M3** = *M2 + non-personal term deposits + foreign currency bank deposits*

$M_1+$  : currency outside bank  
All chequable deposits at charted banks.  
TMLs, CUCPs

Chequable deposits are an example of demand deposits.  
funds in an account that can be removed without notice.  
and usually pay little or no interest.

$M_2$  : currency outside bank

Personal deposits at charted banks (only)

Non-personal demand and notice deposits.  
fixed-income deposits at charted banks.

Notice deposit: have a notice requirement.  
although banks almost never enforce this clause

Term deposits : pay a market rate of return.  
and have limited liquidity.

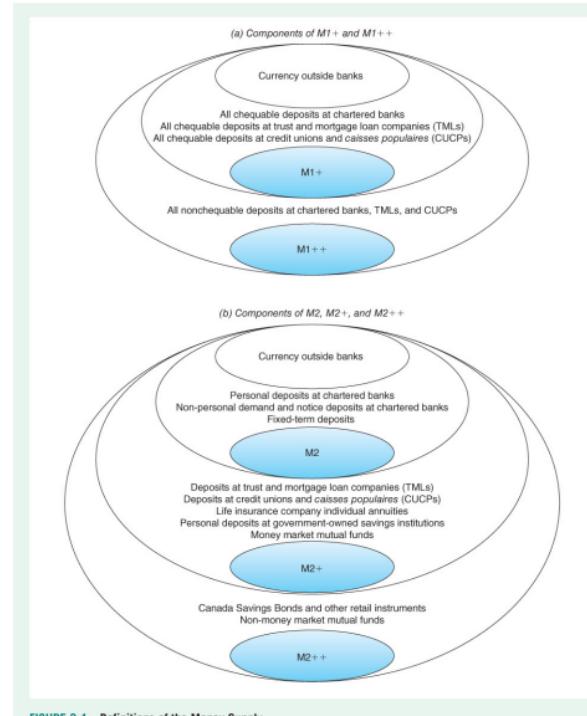
$M_2+$  :  $M_2$  plus deposits at TMLs, CUCPs +  
money mutual funds + individual annuities  
at life insurance companies.

$M_{2+}$  :  $M_2$  plus Canada saving bonds, other retail debt instruments, non-money market mutual fund.

$M_3$  :  $M_2$  plus non-personal term deposits at chartered banks + foreign currency deposits of Canadian residents at chartered banks.

Non-personal term deposits - deposits held by provincial and municipal governments, corporations, and institutions, and also include deposits held by one bank with another known as interbank deposits.

# Measures of Monetary Aggregates



# Measures of Monetary Aggregates

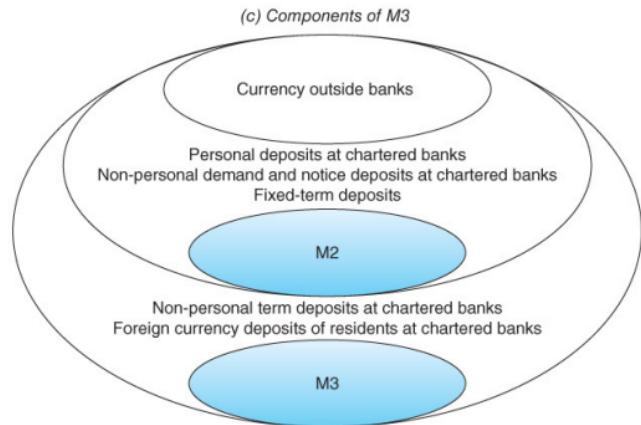


FIGURE 3-1 (continued)

# Measures of Monetary Aggregates

TABLE 3-1

Measures of Monetary Aggregates and Their Components

Asset	M1+	M1++	M2	M2+	M2++	M3
Currency outside banks	✓	✓	✓	✓	✓	✓
Personal deposits at chartered banks		✓	✓	✓	✓	✓
Non-personal demand and notice deposits at chartered banks		✓	✓	✓	✓	✓
Fixed-term deposits		✓	✓	✓	✓	✓
Deposits at trust and mortgage loan companies (TMLs)			✓	✓		
Deposits at credit unions and <i>caisses populaires</i> (CUCPs)			✓	✓		
Life insurance company individual annuities			✓	✓		
Personal deposits at government-owned savings institutions			✓	✓		
Money market mutual funds			✓	✓		
Canada Savings Bonds and other retail instruments				✓		
Non-money market mutual funds				✓		
All chequable deposits at chartered banks, TMLs, and CUCPs	✓	✓				
All nonchequable deposits at chartered banks, TMLs, and CUCPs			✓			
Non-personal term deposits at chartered banks					✓	
Foreign currency deposits of residents at chartered banks					✓	

Note Monetary aggregates exclude interbank deposits and include continuity adjustments. In January 2007, the monetary aggregates were redefined to reflect (i) the elimination of demand deposits and (ii) the inclusion of private-sector float.

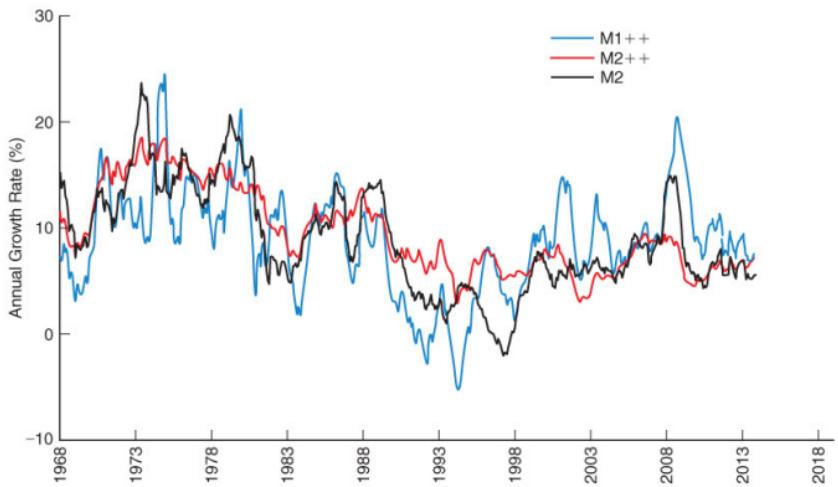
# Growth Rates of Monetary Aggregates

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- Does it matter which measure of money is considered?
- Aggregates can move in different directions in the short run
- Conclusion: the choice of monetary aggregate is important for policymakers

Yes. It can matter which aggregate we choose.  
The growth rates are synchronous to a large extent but there are some discrepancies. These differences could lead to policy and prediction errors.

# Growth Rates of M2, M1++, M2++



**FIGURE 3-2 Growth Rates of M2, M1++, and M2++, 1969–2014**

Timing of the rise and fall of growth rates is roughly similar. There are, however, periods when they move in opposite directions, providing conflicting recommendations about the course of monetary policy.

Source: Statistics Canada CANSIM Series V41552796, V37152, V41552801.

## FYI: Where Are All the Dollars?

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- There is almost \$2000 of currency held per person in Canada and over \$4000 of U.S. currency per person in the United States
  - *Do you know anyone who carries \$2000 in their pocket?*
- Where are all these dollars and who is holding them?
  - *Criminals*
  - *Foreigners (especially for U.S. dollars)*

# Money as a Weighted Aggregate

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- The Bank of Canada's money supply measures are "simple-sum" indices, the index

$$M = x_1 + x_2 + \dots + x_n ,$$

were  $x_j$  is one of the  $n$  monetary components of the monetary aggregate  $M$

- Weighted monetary aggregates seem to predict inflation and the business cycle somewhat better than the conventional measures

# How Reliable are the Money Data?

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- Revisions are issued because:
  - *Small depository institutions report infrequently*
  - *Adjustments must be made for seasonal variation*
- We probably should not pay much attention to short-run movements in the money supply numbers but should be concerned only with longer-run movements

