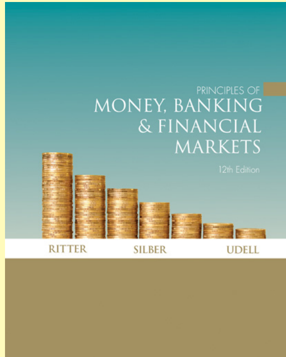
Chapter 2

The Role of Money in the Macroeconomy



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Learning Objectives

- Understand the role of money in an economy
- Comprehend the different measurements of money used in the United States
- See how the money supply drives inflation and economic expansion

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Introduction

- **Recurrent theme**—What is the proper amount of money for the economy?
- Sir William Petty (1623–87) wrote in 1651
- "To which I say that there is a certain measure and proportion of money requisite to drive the trade of a nation, more or less than which would prejudice the same"
  - Too much money will lead to inflation
  - Too little money will result in an inefficient economy

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Introducing Money

- **Uses of Money**
  - Medium of exchange—means of payment
  - A store of wealth—retains its value over time
  - Standard of value—unit of account used to compare prices and relative values
- **Liquid Asset**
  - Something that can be turned into a generally acceptable medium of exchange, **without loss of value**
  - Liquidity is a continuum from very liquid to illiquid
  - Currency and checking accounts are most liquid assets

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Primary Definition of Money (M1)

- Currency outside banks plus checking accounts (demand deposits)
- Currency held by banks is **not** part of money supply
- Checking accounts are **not** legal tender, but commonly accepted as payment
- Other definitions of money (**M2**) start with M1 and add progressively less liquid financial assets
- Refer to following page for basic composition of the money supply (M1 and M2)
- **Most economists prefer the narrow definition of money supply (M1) since it is generally acceptable as a means of payment**

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Composition of the Money Supply

- M1
  - Currency outside banks
  - Checkable deposits (demand deposits)
- M2
  - Small-denomination time deposits (CD's)
  - Money market deposits
  - Savings deposits
  - Retail money market mutual funds

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Who Determines Our Money Supply?

- Gold does **not** determine the money supply—this link was abolished in 1968
- **Central Bank (Federal Reserve System)[Fed]** does not deal directly with the public (banker's bank) and is responsible for execution of national monetary policy
  - Created by Congress in 1913
  - **Twelve district Federal Reserve Banks** scattered throughout the country
  - **Board of Governors** located in Washington, D.C.

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Who Determines Our Money Supply? (Cont.)

- Fed influences the **total** money supply, but not the fraction of money between currency and demand deposits which is determined by **public preferences**
- Fed implements monetary policy by altering the money supply and influencing bank behavior

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The Importance of Money: Money Versus Barter

- **Barter**—direct exchange of goods/services for other goods/services
  - Very inefficient and limited economy
  - No medium of exchange or unit of account
  - Requires **double coincidence of wants**—"I have something you want and you have something I want"
  - Items must have approximate equal value
  - Need to determine the "exchange rate" between different goods/services

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The Importance of Money: Money Versus Barter (Cont.)

- **Money**
  - Any commodity accepted as medium of exchange can be used as money (commodity money)
  - **Certainty of exchange**
  - Frees people from need to barter
  - Makes exchange more efficient
  - Permits specialization of labor—sell one's labor to the market in exchange for money to purchase goods/services

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The Importance of Money: Money Versus Barter (Cont.)

- **Money (Cont.)**
  - Prices, expressed in money terms, permit comparison of values between different goods
  - Must retain its value—**the value of money varies inversely with the price level (inflation)**
  - Rely on the Fed to control the supply of money to preserve the value of money
  - If money breaks down as a store of value (**hyperinflation**), economy resorts to barter

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The Importance of Money Financial Institutions and Markets

- **For an economy to grow, it must forgo present consumption (save) and invest in new capital assets**
- Money contributes to economic development and growth by stimulating **savings and investing**
- Money separates the act of saving from investing

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The Importance of Money Financial Institutions and Markets (Cont.)

- Savers receive interest payments and investors expect to earn a return over the cost of borrowing
- Financial institutions and markets act as **intermediaries** between savers and borrowers

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Money, The Economy, and Inflation

- Money has value because people believe it will be accepted as a means of payment, as a store of value, and as a standard of value
- **Bank Reserves and the Money Supply**
  - Demand deposits (money) are created when banks extend loans through the issuance of credit
  - Banks are required by the Fed to hold reserves in the form of vault cash or on deposit with the Fed against checking account liabilities (demand deposits).
  - Current the reserve requirement is approximately 10% of demand deposits

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Money, The Economy, and Inflation (Cont.)

- **Bank Reserves and the Money Supply (Cont.)**
  - Banks create money by making loans with excess reserves, those above the Fed's required level of reserves
  - Through manipulation of excess reserves, Fed influences the **federal funds rate** (rate banks charge for overnight loans), bank lending, and, therefore creation of money

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Money, The Economy, and Inflation (Cont.)

- **How Large Should the Money Supply Be?**
  - Purchase goods/services economy can produce, at **current prices**
  - Generate level of spending on **Gross Domestic Product (GDP)** that produces high employment and stable prices
  - **Monetary Policy** is used as a **countercyclical** tool—vary the money supply to influence economic activity

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Money, The Economy, and Inflation (Cont.)

- Increases in money supply alters public's liquidity and influences spending through portfolio adjustment
  - **Direct Impact**—excess liquidity is spent on goods/services
  - **Indirect Impact**—purchase financial assets which lowers interest rates which stimulates business investment and consumer spending
  - However, changes in liquidity may alter demand for money and not influence GDP—people hoard the additional money
  - Public's reaction to changes in liquidity is not consistent, so Fed cannot always judge impact of a change in money supply

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Money, The Economy, and Inflation (Cont.)

- **Velocity: The missing Link**
  - When the Fed increases the money supply, recipients of this additional liquidity ***probably*** will spend some on GDP
  - However, it is possible the public will choose to hold onto the additional liquidity (hoarding of money)
  - Over time there will be a multiple increase in spending

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Money, The Economy, and Inflation (Cont.)

- **Velocity: The missing Link (Cont.)**
  - **Velocity of money**
    - **M x V = GDP, where M is money supply and V represents velocity**
    - The number of times the money supply turns over in a period of time to support spending on output
    - Technically, velocity is determined by dividing the cumulative increase in GDP by the initial increase in the money supply
    - The Fed has **no** control over the velocity of money since this is dependent on behavior of the public
  - Ultimately, the Fed needs to be concerned whether the additional spending which results from increased money supply will result in higher production or higher prices

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Money, The Economy, and Inflation (Cont.)

- **Money and Inflation**
  - **Inflation**—Persistent rise of prices
  - **Hyperinflation**—Prices rising at a fast and furious pace
  - **Deflation**—Falling prices, usually during severe recessions or depressions
  - Inflation reduces the **real purchasing power** of the currency—can buy fewer goods/services with the same nominal amount of money

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Money, The Economy, and Inflation (Cont.)

- Economists generally agree that, in the long-run, inflation is a monetary phenomenon—can occur only with a persistent increase in money supply
- Increase in money supply is a ***necessary*** condition for persistent inflation, but it is probably not a ***sufficient*** condition
  - **Case 1**—Economy in a recession. Expanding money supply may lead to more employment and higher output
  - **Case 2**—Economy near full employment/output. Expanding money supply can lead to higher output/employment, **but** also higher prices
  - **Case 3**—Economy producing at maximum. Expanding money supply will most likely lead to increasing inflation.

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TABLE 2.1 Two Definitions of the Money Supply (February 14, 2008)

M1	Currency outside banks ($758 billion), plus demand deposits at banks ($292 billion), plus other checkable deposits at banks and at all thrift institutions ($308 billion), plus travelers' checks ($6 billion)	$1,364 billion
M2	Adds to M1 small-denomination time deposits ($1,225 billion), plus money market deposit accounts and savings deposits at all depository institutions ($3,903 billion), plus retail money market mutual funds shares ($1,006 billion)	$7,498 billion

Note: Money market mutual funds, money market deposit accounts, repurchase agreements, and Eurodollars are all explained and discussed in subsequent chapters.

Source: Federal Reserve Release H.6.

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