

Learning 2 Reading

Learning Resource

Financial Markets and System: Why It Matters

Why learn about financial markets?



All of the words in the word-cloud image, shown, refer to the same thing: money.

Have you heard the saying “Money makes the world go around”? In many ways money drives almost all of our endeavors. Consider why you are here taking this course. You are obtaining knowledge in order to get a better job, to obtain a degree or other credential, or to be more informed in your daily life so that you can support yourself and provide for those you love. Even if you are interested in charitable endeavors to improve the human condition, such efforts to support a cause will require money—even indirectly. Understanding how money functions—the different forms it takes and where it goes—is the first step in being able to comprehend our financial system.

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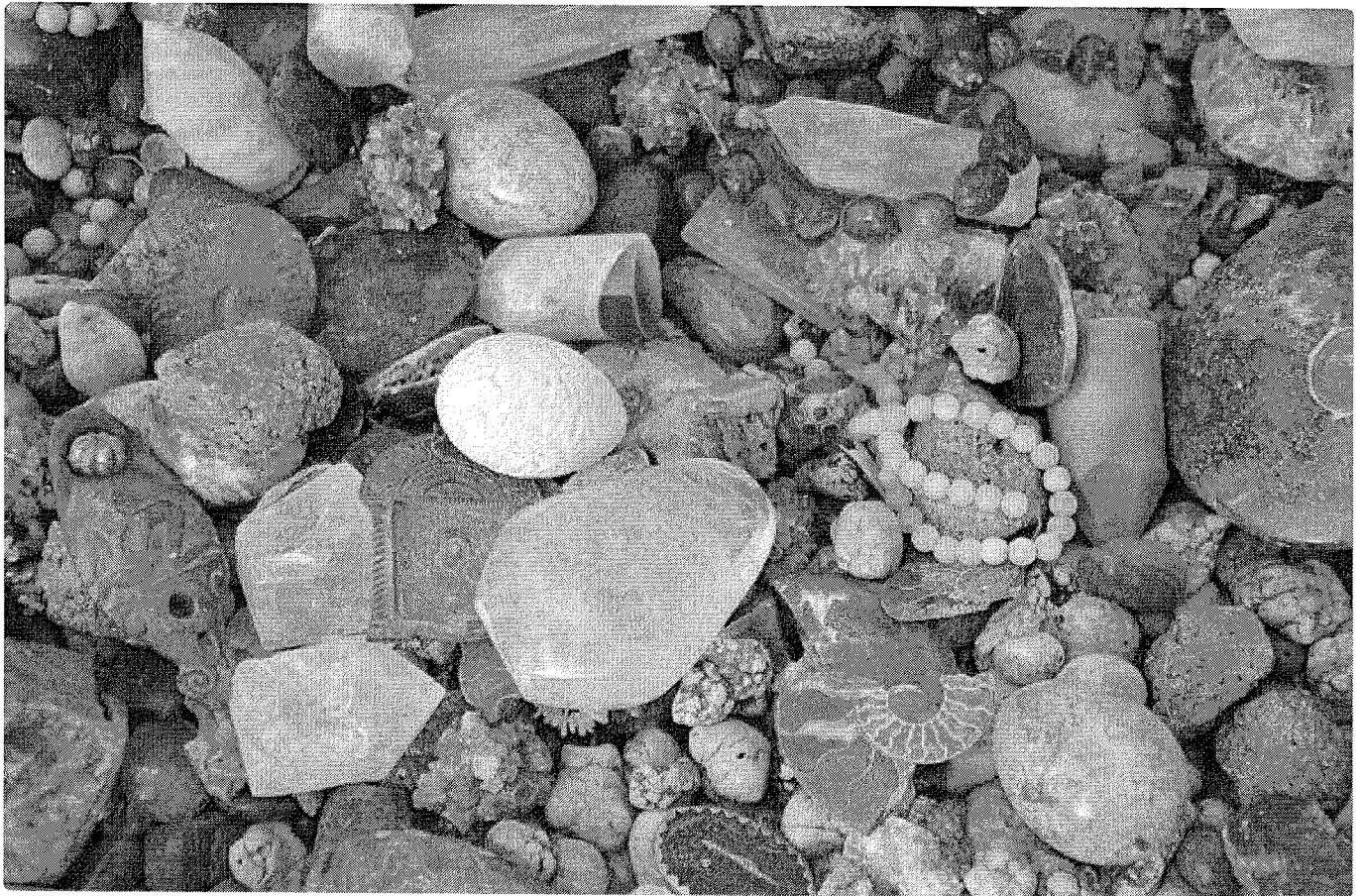
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Learning Resource

Money

What you'll learn to do: Explain what money is and what makes it useful

When we think of money, the paper bills in our wallet or the coins that are in our pockets come to mind. But money is much more than that, and how we define money determines where and how we use it to obtain the goods and services that businesses offer the consumer. In this section we'll look at what money is, why it's useful, and what may be the future of money.



Semiprecious Stones

Learning Outcomes

- Explain the three key functions of money
- Discuss the advantages of using money versus barter
- Differentiate between commodity money, fiat money, and virtual currency

What Is Money?

Money is really anything that people use to pay for goods and services and to pay people for their work. Historically, money has taken different forms in different cultures—everything from salt, stones, and beads to gold, silver, and copper coins and, more recently, virtual currency has been used. Regardless of the form it takes, money needs to be widely accepted by both buyers and sellers in order to be useful.

Barter and the Double Coincidence of Wants

To understand the usefulness of money, we must consider what the world would be like without money. How would people exchange goods and services? Economies without money typically engage in the barter system. **Barter**—literally trading one good or service for another—is highly inefficient for trying to coordinate the trades in a modern advanced economy. In an economy without money, an exchange between two people would involve a double coincidence of wants, a situation in which two people each want some good or service that the other person can provide. For example, if a hairstylist wants a pair of shoes, she must find a shoemaker who has a pair of shoes in the correct size and who is willing to exchange the shoes for a certain number of hairdos. Such a trade is likely to be difficult to arrange. Think about the complexity of such trades in a modern economy, with its extensive division of labor that involves thousands upon thousands of different jobs and goods.

Another problem with the barter system is that it doesn't allow people to easily enter into future contracts for the purchase of many goods and services. For example, if the goods are perishable, it may be difficult to exchange them for other goods in the future. Imagine a farmer wanting to buy a tractor in six months using a fresh crop of strawberries. Also, while the barter system might work all right in small economies, it will keep those economies from growing. The time that individuals might otherwise spend producing goods and services and enjoying leisure time is spent bartering.

Functions of Money

Money solves the problems created by the barter system. First, money serves as a **medium of exchange**, which means that money acts as an intermediary between the buyer and the seller. Instead of exchanging hairdos for shoes, the hairstylist now exchanges hairdos for money. This money is then used to buy shoes. To serve as a medium of exchange, money must be very widely accepted as a method of payment in the markets for goods, labor, and financial capital.

In addition, money needs to have the following properties:

1. It must be divisible—that is, easily divided into usable quantities or fractions. A \$5 bill, for example, is equal to five \$1 bills. If something costs \$3, you don't have to tear up a \$5 bill; you can pay with three \$1 bills.
2. It must be portable—easy to carry; it can't be too heavy or bulky.
3. It must be durable. It can't fall apart or wear out after a few uses.
4. It must be difficult to counterfeit. It won't have much value if people can make their own.

Second, money must serve as a **store of value**. Consider the barter between the hairstylist and shoemaker again. The shoemaker risks having his shoes go out of style, especially if he keeps them in a warehouse for future use—their value will decrease with each season. Shoes are not a good store of value. Holding money is a much easier way of storing value. You know that you don't need to spend it immediately, because it will still hold its value the next day or the next year. This function of money doesn't require that money is a perfect store of value. In an economy with inflation, money loses some buying power each year, but it remains money.

Third, money serves as a **unit of account**, which means that it's the ruler by which other values are measured. For example, a hairstylist may charge \$30 to style someone's hair. That \$30 can buy two shirts (but probably not a pair of shoes). Money acts as a common denominator, an accounting method that simplifies thinking about trade-offs.

So money serves all of these functions—it's a medium of exchange, store of value, and unit of account.



Ancient Greek Coinage

An electrum coin from Lydia, 6th century BCE

Source: Uninscribed electrum coin from Lydia, 6th century BCE.

Commodity Versus Fiat Money

Commodity money consists of objects that have value in themselves as well as value in their use as money. Gold, for example, has been used throughout the ages as money, although today it is not used as money, but rather is valued for its other attributes. Gold is a good conductor of electricity and is used in the electronics and aerospace industries. Gold is also used in the manufacturing of energy efficient reflective glass for skyscrapers and is used in the medical industry as well. Of course, gold also has value because of its beauty and malleability in the creation of jewelry.

As commodity money, gold has historically served its purpose as a medium of exchange, a store of value, and as a unit of account. Commodity-backed currencies are dollar bills or other currencies with values backed up by gold or another commodity held at a bank. During much of its history, the money supply in the United States was backed by gold and silver. Interestingly, antique dollars dated as late as 1957 have “Silver Certificate” printed above the portrait of George Washington, as shown below. This meant that the holder could take the bill to the appropriate bank and exchange it for a dollar’s worth of silver.



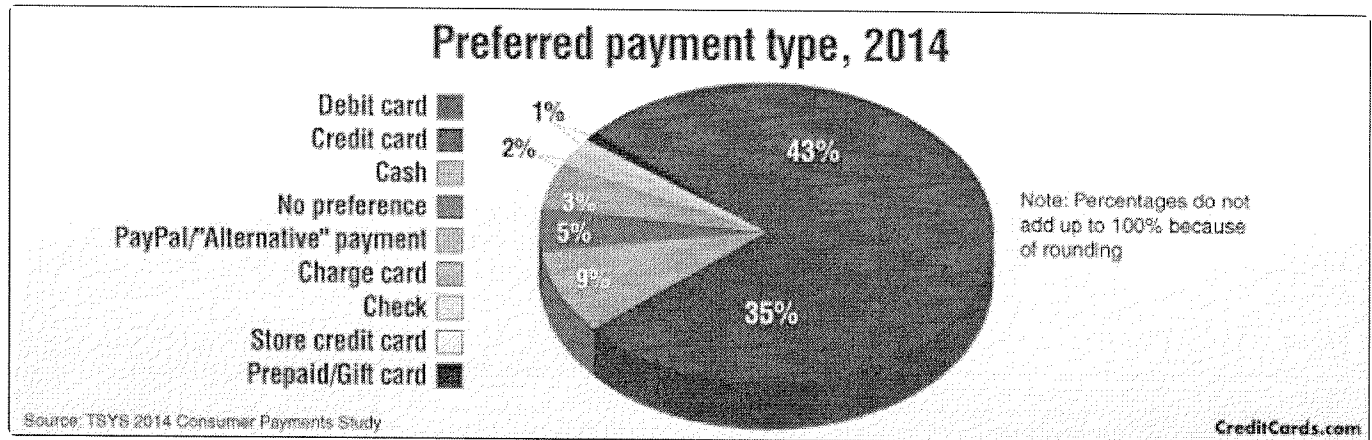
Modern US Bill and a Silver Certificate

Until 1958, silver certificates were commodity-backed money—backed by silver, as indicated by the words “Silver Certificate” printed on the bill. Today, US bills are backed by the Federal Reserve, but as fiat money.

As economies grew and became more global in nature, the use of commodity monies became more cumbersome. Countries moved toward the use of fiat money. **Fiat money** is legal tender whose value is backed by the government that issued it. The United States’ paper money—like the dollar bill, for instance—carries this statement: “This note is legal tender for all debts, public and private.” In other words, by government decree, if you owe a debt, then legally speaking, you can pay that debt with the US currency, even though it’s not backed by a commodity. The only backing of our money is widespread faith and trust that the currency has value—and nothing more.

Alternatives to Traditional Currency

Whoever said that “cash is king” hasn’t been paying attention to how consumers choose to pay for their purchases, particularly in developed economies. Take a look at the following chart:



Is a cashless future in the cards? A 2013 MasterCard report found that, in 2011, cashless payments made up 66 percent of global spending. Consumers in Belgium, France, and Canada used cash the least in 2011, as cashless payments made up 93 percent, 92 percent, and 90 percent of payments respectively. In the United States, 80 percent of payments were cashless in 2011.

Consumers expect to make fewer cash payments in the future, while also cutting back on credit- and debit-card use in favor of other forms of payments. In an Accenture survey, 66 percent of North Americans said they used cash daily or weekly in 2014 while only 54 percent expected to do so by 2020.

Money is an abstraction built on trust. As such, alternatives to the most tangible form of money—currency or cash—and its replacement with cashless payments have become possible. In this emerging landscape, no transaction requires money in the form of notes and coins, and value can be exchanged through the transfer of information between transacting parties. There have been multiple waves of such alternatives.

Established alternatives to cash include checks, credit cards, debit cards, and prepaid debit cards. More innovative options have sprung up that not only threaten to imperil the ubiquity of cash but also upend the traditional payment ecosystem. These include smartphone-enabled credit-card acquirers, such as Square, and Automated Clearing House (ACH) acquirers, such as PayPal and Dwolla. And then there are even more ambitious alternatives to cash, such as Bitcoin, a web-based cryptocurrency.

Unlike traditional money, such alternatives do not derive their value from government fiat (i.e., the government has not established their legitimacy or value). Each of these alternatives has an evolved network within which it is uniformly accepted as a means of payment; the more established alternatives, of course, have the widest networks (Chakravorti & Mazzotta, 2013).

We will examine this trend further in the next readings.

Bitcoin



Various Forms of Bitcoin

Today, there are more than 1,000 digital currencies in existence. Entering the marketplace is undertaken by so many due to the low cost of entry and the profit opportunity. In 2014, the European Banking Authority defined **virtual currency** as “a digital representation of value that is neither issued by a central bank nor a public authority, nor necessarily attached to a fiat currency, but is accepted by natural or legal persons as a means of payment and can be transferred, stored, or traded electronically.” The first and most widely known instance of such digital, virtual, or cryptocurrency is Bitcoin.

Bitcoin Background

Bitcoin, a peer-to-peer digital currency or cryptocurrency, operates without the involvement of traditional financial institutions, and it provides a direct digital alternative to physical currencies. Bitcoin transactions take place online directly between the buyer and seller, with each transaction having a unique encryption. Transactions are recorded on a decentralized

public ledger available for network users to verify valid transactions. Special users on the network (“miners”) oversee this verification process. After verifying a block of transactions, miners are paid with 25 newly generated Bitcoins, and the transactions are processed and approved; this is how the total number of Bitcoins grows. The current estimated number in circulation as of July 2018 is more than 17 million, with the maximum set at 21 million. The approximate total market value is \$49 billion (Gromek, 2018).

Governments worldwide generally do not yet see it and other digital currencies as a destabilizing “threat,” and some scholars have argued that it may best be seen as a speculative investment. Bitcoin has certainly had its ups and downs: For example, in 2015 it was valued at \$177 on January 14, rising to \$296 on March 11, then falling back to \$242 on April 1. The currency has also had a long run of troubles with hackers and fraud, most spectacularly in 2014 when the exchange Mt. Gox declared bankruptcy after Bitcoins worth \$460 million at the time were apparently stolen. Bitcoin’s decentralized model and degree of anonymity have also raised concerns over its use in illegal money transfers, fueling potential illicit commerce across the “dark Web” and on sites such as Silk Road.

The organization Bitcoin.org, meanwhile, touts the currency’s potential for opening up a “whole new platform for innovation”:

<https://youtu.be/Gc2en3nHxA4> (<https://youtu.be/Gc2en3nHxA4>)

Advantages and Disadvantages

A 2015 Congressional Research Service (CRS) report, “Bitcoin: Questions, Answers and Analysis of Legal Issues,” explores the following technical, functional, and legal issues associated with Bitcoin—and, by extension, all virtual currencies.

Bitcoin advantages:

- Lower transaction costs: Because Bitcoin operates without a third-party intermediary, merchants are able to avoid the fees traditionally charged by payment systems such as credit cards.
- The possibility of increased privacy: Bitcoin provides a heightened degree of privacy for purchases and transactions, though by the system’s nature, a complete list of all transactions is forever recorded to each user’s encrypted identity.
- Protection from inflation: Since Bitcoin’s circulation is not linked to currency or government regulation, it is not subject to standard inflation. However, it more than makes up for this in volatility.

Bitcoin disadvantages:

- Severe price volatility: The value of a Bitcoin is determined by supply and demand and, as a result, can fluctuate rapidly. The value was as high as \$1,100 in December 2013, then hit a low of \$177 in January 2015. This extreme fluctuation is more characteristic of a commodity than a currency.
- Not legal tender: Debtors are not required to accept it, and without any formal backing other than the computer program to which it is linked, Bitcoin can be seen as an “unattractive vehicle” for holding and accumulating wealth.
- Uncertain security against theft and fraud: While the counterfeiting of Bitcoins is allegedly impossible, the system has at times found itself vulnerable to large security breaches and cyberattacks. In 2015, Bitstamp, a large European Bitcoin exchange, lost 19,000 Bitcoins (valued at about \$5 million) in a digital security breach. This followed the massive problems with Mt. Gox in 2014 and the collapse of other exchanges in 2011.
- Vulnerability of Bitcoin “wallets”: Purchased or mined Bitcoins are stored in a digital wallet on the user’s computer or mobile device, and digital keys can be lost, damaged, or stolen. Paper or offline storage is an option, but it’s not always practiced.

Federal banking regulators have yet to issue guidance or regulations governing how banks are to deal with Bitcoins. In a February 2014 statement, then Federal Reserve chair Janet Yellen said: “Bitcoin is a payment innovation that’s taking place outside the banking industry. . . . There’s no intersection at all, in any way, between Bitcoin and banks that the Federal Reserve has the ability to supervise and regulate.” Some state financial authorities have taken steps to devise regulations, with New York’s Department of Financial Services (NYDFS) in the lead.

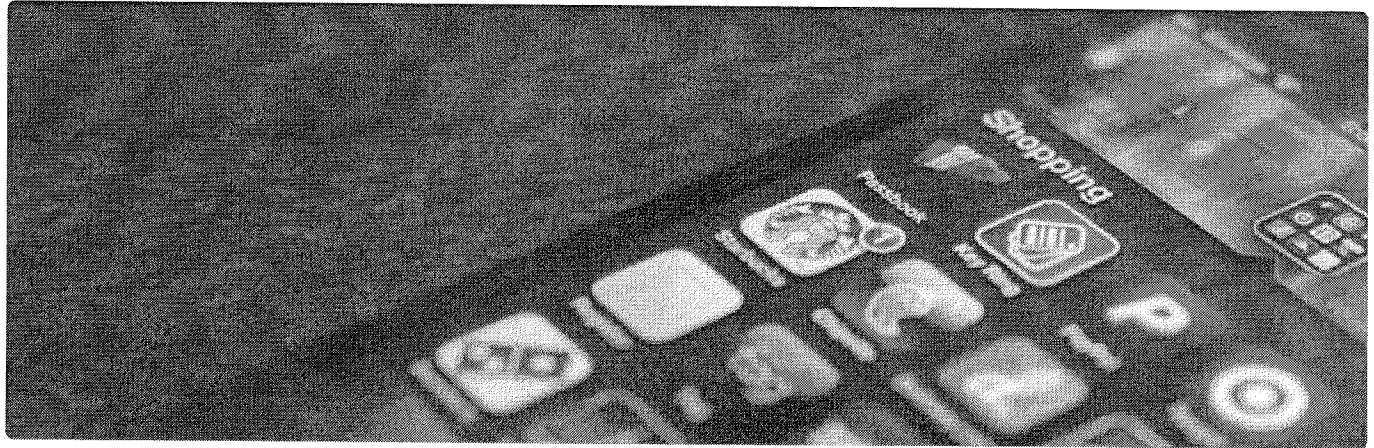
The responsibility to oversee digital currency falls upon Congress. The tax code lacks clarity on how such currency should be treated: Is it digital currency, property, barter, or foreign currency? Early concerns have focused more on tackling consumer-protection issues than tax ambiguities, and as a result, the Consumer Financial Protection Bureau has become involved regarding questions related to Bitcoin.

The following video explains further some of the gray areas in which this virtual currency is operating.

<https://youtu.be/kqTJU7XNxwk> (<https://youtu.be/kqTJU7XNxwk>)

Whether it’s Bitcoin or another cryptocurrency, the fact that more of these unregulated digital currencies have emerged is just one more indication that consumers may be breaking off their long-standing love affair with traditional cash.

Mobile Commerce and Mobile Payment Systems



Smartphone Shopping Apps

Mobile Commerce

The term **mobile commerce** was first coined in 1997 by Kevin Duffey at the launch of the Global Mobile Commerce Forum to mean “the delivery of electronic commerce capabilities directly into the consumer’s hand, anywhere, via wireless technology.” Many think of mobile commerce as “a retail outlet in your customer’s pocket.”

Mobile Payment

A **mobile payment** is made when a consumer uses a mobile device, in lieu of cash, check, or credit card, to pay electronically for goods and services, in-person and online. Also referred to as mobile money, mobile money transfer, and mobile wallet, mobile payment operates under financial regulation.

The use of mobile payment has grown globally. The mobile payment market for goods and services, excluding contactless Near Field Communication (NFC) transactions and money transfers, exceeded \$300 billion globally in 2013. Investment on mobile money services will result in revenue share of mobile money reaching up to 9 percent by 2018. Asia and Africa will observe significant growth for mobile money, with technological innovation and focus on interoperability emerging as prominent trends by 2018 ("Mobile Payment," n.d.).

In developing countries, mobile payment solutions have been deployed as a means of extending financial services to communities known as the “unbanked” or “underbanked,” which are estimated to represent as much as 50 percent of the world’s adult population, according to Financial Access’ 2009 Report “Half the World is Unbanked.”

Forms of Mobile Payment

Apple Pay is a mobile payment service that digitizes and replaces the credit or debit magnetic stripe card transaction at credit card terminals. Apple devices wirelessly communicate with point-of-sale systems using an NFC antenna, a “dedicated chip that stores encrypted payment information” (known as the Secure Element), and Apple’s Touch ID and Wallet (formerly Passbook). Individuals can use Apple Pay in person, online and with compatible apps.

The service keeps customer payment information private from the retailer, and creates a “dynamic security code [. . .] generated for each transaction.” Apple added that they would not track usage, which would stay between the customers, the vendors, and the banks. Users can also remotely halt the service on a lost phone via the Find My iPhone service.

<https://youtu.be/3n1c73Etquo> (<https://youtu.be/3n1c73Etquo>)

Google Pay Send (formerly **Google Wallet**), through which individuals can send and receive money via a mobile device or computer, is a peer-to-peer payment service. **Google Pay**, which includes the functions of **Google Pay Send** and **Android Pay** (similar to Apple Pay) is a mobile payment system developed by Google that allows its users to store debit cards, credit cards, loyalty cards, and gift cards among other things, as well as redeem sales promotions on their mobile phone using NFC.

Where this technology will lead the world economy and what its impact on the existing monetary system will be remain to be seen, but we are certain it will continue to evolve rapidly!

Check Your Knowledge

Answer the following questions to see how well you understand the topics covered in this section. This short quiz does not count toward your grade in the class, and you can retake it as many times as you wish.

Use this quiz to decide whether to study the section further or move on.

Choose the **BEST** answer.

Question 1

Robin Hood took gold coins from the wealthy and gave them to the poor. Robin Hood was using:

- ☐ commodity money
- ☐ virtual money
- ☐ fiat money

Question 2

As a business owner you decide to hire a new employee named Maria. You decided to pay Maria \$15.00 an hour for her work. At the end of the week Maria receives a paycheck for \$600. The \$600 Maria received is _____.

- ☐ an example of goods and services.
- ☐ the same as gold.
- ☐ a measurement of her work's value to the company.

Question 3

You need to have your gutters cleaned in the spring but have no ladder and are really afraid of heights. Buddy lives down the street and owns a roofing business. You contact Buddy and ask him if he will come clean out your gutters and in exchange you will make him a wreath he can hang on his door at the holidays. He agrees to the exchange of these two assets. What type of system have you used in this transaction?

- ☐ a mixed system, because he can sell your wreath for cash but you can't clean your gutters
- ☐ a monetary system because each thing has value



a barter system because each person gets something of value

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Learning Resource

Banks

What you'll learn to do: Explain the role of banks in the US monetary system

In this section you'll learn how banks serve as intermediaries for the flow of money between lenders and borrowers. You'll also learn about the system in which banks operate: the Federal Reserve System.



Learning Outcomes

- Explain the difference between M1 and M2 money supply and how they are measured
- Describe how banks act as intermediaries between savers and borrowers

- Summarize the structure and key functions of the Federal Reserve
- Explain how the Federal Reserve System implements monetary policy

Measuring and Tracking the Money Supply

Now that you have a good understanding of money, what qualifies as money, and how money facilitates exchanges between buyers and sellers, we need to look at how money evolves from a medium of exchange to a system. There was a time in the United States when there was no monetary system, and buyers and sellers who traveled from state to state had to carry multiple currencies. The Confederate States of America dollar was issued by the then newly formed Confederacy just before the outbreak of the American Civil War. It wasn't backed by hard assets (i.e., commodities), but simply by a promise to pay the bearer after the war, on the prospect of Southern victory and independence ("Confederate States Dollar," n.d.). Alabama, Arkansas, Florida, Georgia, Louisiana, Mississippi, South Carolina, Tennessee, Texas, and Virginia each printed and circulated currency that had value only within the state. It was not until 1863 when President Lincoln signed the National Banking Act that the federal dollar was established as the sole currency in the United States.

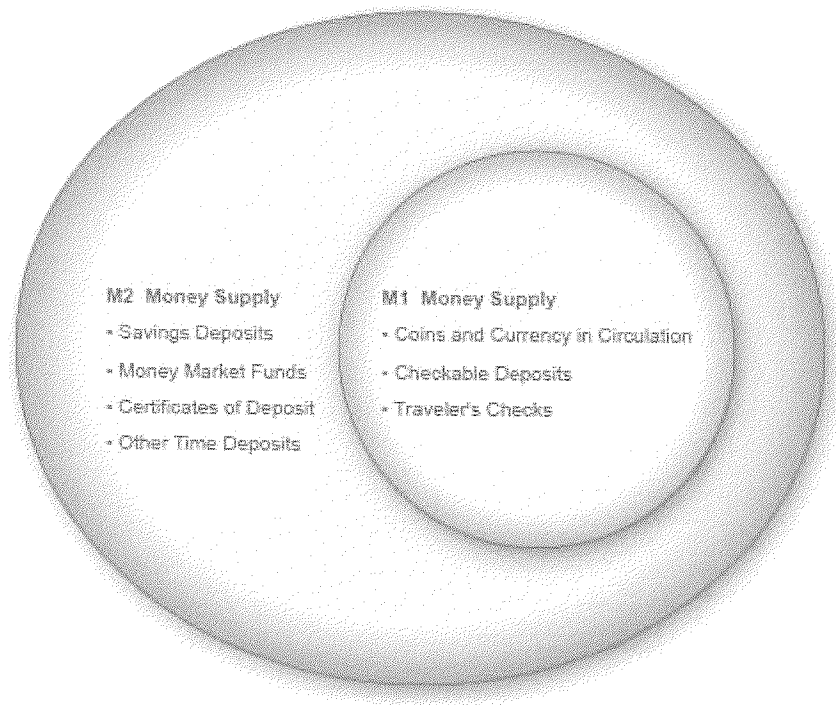
What about other kinds of currency? Cash in your wallet certainly serves as money, but how about checks or credit cards? Are they money, too? Rather than trying to determine a single way of measuring money, economists offer broader definitions of money based on liquidity. **Liquidity** refers to how quickly a financial asset can be used to buy a good or service. For example, cash is very liquid. Your \$10 bill can easily be used to buy a hamburger at lunchtime. However, \$10 that you have in your savings account is not so easy to use. You must go to the bank or ATM machine and withdraw that cash to buy your lunch. Thus, \$10 in your savings account is less liquid.

The **Federal Reserve Bank**, which is the central bank of the United States, is a bank regulator. It's responsible for monetary policy, and it defines money according to its liquidity. You will learn more about the **Federal Reserve System** in the next section. There are two definitions of money: M1 and M2 money supply. **M1 money supply** includes those monies that are very liquid, such as cash, checkable (demand) deposits, and traveler's checks. **M2 money supply** is less liquid in nature and includes M1 monies plus savings and time deposits, certificates of deposits, and money market funds.

M1 money supply includes **coins and currency in circulation**—the coins and bills that circulate in an economy and are not held by the US Treasury, at the Federal Reserve Bank, or in bank vaults. Closely related to currency are checkable deposits, also known as **demand deposits**.

These are the amounts held in checking accounts. They are called demand deposits or checkable deposits because the banking institution must give the deposit holder his money “on demand” when a check is written or a debit card is used. These items together—currency, and checking accounts in banks—comprise the money defined as M1, which is measured daily by the Federal Reserve System. Traveler's checks are also included in M1, but have recently decreased in use.

M2 is a broader category of money. It includes everything in M1, but also adds other types of deposits. For example, M2 includes **savings deposits** in banks, which are bank accounts on which you cannot write a check directly, but from which you can easily withdraw the money at an ATM or a bank. Many banks and other financial institutions also offer a chance to invest in **money market funds**, where the deposits of many individual investors are pooled together and invested in a safe way, such as in short-term government bonds. Another portion of M2 are the relatively small (that is, less than about \$100,000) **certificates of deposit (CDs)** or **time deposits**, which are accounts that the depositor has committed to leaving in the bank for a certain period of time, ranging from a few months to a few years, in exchange for a higher interest rate. In short, all these types of M2 are money that you can withdraw and spend, but which require a greater effort to do so than the items in M1. The figure, “The Relationship Between M1 and M2 Money,” below, should help you visualize the relationship between M1 and M2. Note that M1 is included in the M2 calculation.



The Relationship Between M1 and M2 Money

The Federal Reserve System is responsible for tracking the amounts of M1 and M2 and prepares a weekly release of information about the money supply. For example, according to the Federal Reserve Bank's measure of the US money stock, at the end of February 2015, M1 in the United States was \$3 trillion, while M2 was \$11.8 trillion. A breakdown of the portion of each type of money that comprised M1 and M2 in February 2015, as reported by the Federal Reserve Bank, is provided in the table, "M1 and M2 Federal Reserve Statistical Release, Money Stock Measures."

M1 and M2 Federal Reserve Statistical Release, Money Stock Measures

Components of M1 in the US (February 2015, seasonally adjusted)	\$ billions
Currency	\$1,271.8
Traveler's checks	\$2.9
Demand deposits and other checking accounts	\$1,713.
Total M1	\$2,988.2 (or \$3 trillion)
Components of M2 in the U.S. (February 2015, seasonally adjusted)	\$ billions
M1 money supply	\$2,988.2
Savings accounts	\$7,712.1
Time deposits	\$509.2
Individual money market mutual fund balances	\$610.8
Total M2	\$11,820.3 (or \$11.8 trillion)

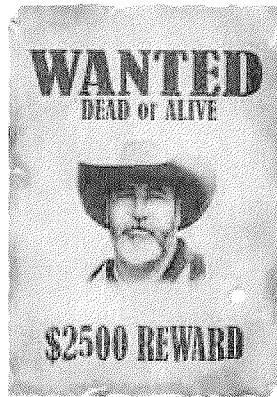
The lines separating M1 and M2 can become a little blurry. Sometimes elements of M1 are not treated alike; for example, some businesses will not accept personal checks for large amounts, but will accept traveler's checks or cash. Changes in banking practices and technology have made the savings accounts in M2 more similar to the checking accounts in M1. For example, some savings accounts will allow depositors to write checks, use ATMs, and pay bills over the internet, which has made it easier to access savings accounts. As with many other economic terms and statistics, the important point is to know the strengths and limitations of the various definitions of money, not to believe that such definitions are as clear-cut to economists as, say, the definition of nitrogen is to chemists.

Where does "plastic money" like debit cards, credit cards, and smart money fit into this picture? A debit card, like a check, is an instruction to the user's bank to transfer money directly and immediately from your bank account to the seller. It is important to note that in our definition of money, it's checkable deposits that are money, not the paper check or the debit card. Although you can make a purchase with a credit card, it is not considered money but rather a short-term loan from the credit card company to you. When you make a purchase with a credit card, the credit card company immediately transfers money from its checking account to the seller, and at the end of the month, the credit card company sends you a bill for what you have charged that month. Until you pay the credit card bill, you have effectively borrowed money from the credit card company. With a smart card, you can store a certain value of money on the card and then use the card to make purchases. Some "smart cards" used for specific purposes, like long-distance phone calls or making purchases at a campus bookstore and cafeteria, are not really all that smart, because they can only be used for certain purchases or in certain places.

In short, credit cards, debit cards, and smart cards are different ways to move money when a purchase is made. But having more credit cards or debit cards does not change the quantity of money in the economy, any more than having more checks printed increases the amount of money in your checking account.

One key message here is that counting and tracking the money in a modern economy doesn't just involve paper bills and coins; instead, money is closely linked to bank accounts. Indeed, the macroeconomic policies concerning money are largely conducted through the banking system. The next section explains how banks function as an intermediary to financial transactions.

Banks as Financial Intermediaries

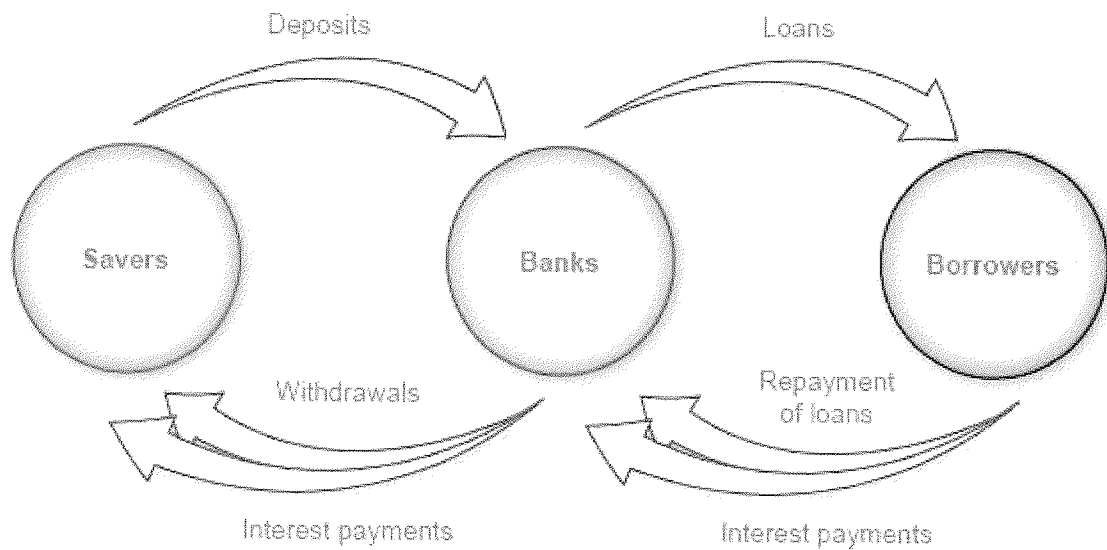


The late bank robber named Willie Sutton was once asked why he robbed banks. He answered: “That’s where the money is.” While this may have been true at one time, from the perspective of modern economists, Sutton is both right and wrong. He is wrong because the overwhelming majority of money in the economy is not in the form of currency sitting in vaults or drawers at banks, waiting for a robber to appear. Most money is in the form of bank accounts, which exist only as electronic records on computers. From a broader perspective, however, the bank robber was more right than he may have known. Banking is intimately interconnected with money and, consequently, with the broader economy.

Banks make it far easier for a complex economy to carry out the extraordinary range of transactions that occur in goods, labor, and financial capital markets. Imagine for a moment what the economy would be like if all payments had to be made in cash. When shopping for a large purchase or going on vacation, you might need to carry hundreds of dollars in a pocket or purse. Even small businesses would need stockpiles of cash to pay workers and to purchase supplies. A bank allows people and businesses to store this money in either a checking account or savings account, for example, and then withdraw this money as needed through the use of a direct withdrawal, writing a check, or using a debit card.

Banks are a critical intermediary in what is called the **payment system**, which helps an economy exchange goods and services for money or other financial assets. Also, people with extra money that they’d like to save can store their money in a bank rather than look for an individual who is willing to borrow it from them and then repay them at a later date. Those who want to borrow money can go directly to a bank rather than trying to find someone to lend them cash. Thus, banks act as financial intermediaries—they bring savers and borrowers together.

An **intermediary** is one who stands between two other parties. Banks are a **financial intermediary**—that is, an institution that operates between a saver who deposits money in a bank and a borrower who receives a loan from that bank. All the funds deposited are mingled in one big pool, which is then loaned out. The figure below illustrates the position of banks as financial intermediaries, with deposits flowing into a bank and loans flowing out.



Banks as Financial Intermediaries

The Federal Reserve System



Marriner S. Eccles Federal Reserve Headquarters, Washington, DC

Some of the most influential decisions regarding monetary policy in the United States are made behind these doors.

An Interlocking System

Money, loans, and banks are all tied together. Money is deposited in bank accounts, which is then loaned to businesses, individuals, and other banks. When the interlocking system of money, loans, and banks works well, economic transactions in goods and labor markets happen smoothly, and savers are connected with borrowers. If the money and banking system does not operate smoothly, the economy can either fall into recession or suffer prolonged inflation.

The government of every country has public policies that support the system of money, loans, and banking. But these policies do not always work perfectly. In this section we will explore how monetary policy works and what may prevent it from working perfectly.

The Federal Reserve Banking System and Central Banks

In making decisions about the money supply—that is, the total amount of monetary assets available in an economy at a specific time—a central bank decides whether to raise or lower interest rates and, in this way, to influence macroeconomic policy, whose goal is low unemployment and low inflation. The central bank is also responsible for regulating all or part of the nation's banking system to protect bank depositors and ensure the health of the bank's finances.

The organization responsible for conducting monetary policy and ensuring that a nation's financial system operates smoothly is called the **central bank**. Most nations have central banks or currency boards. Some prominent central banks around the world include the European Central Bank, the Bank of Japan, and the Bank of England. In the United States, the central bank is called the **Federal Reserve**—often abbreviated as “the Fed.” This section explains the organization of the US Federal Reserve and identifies the major responsibilities of a central bank.

Structure/Organization of the Federal Reserve

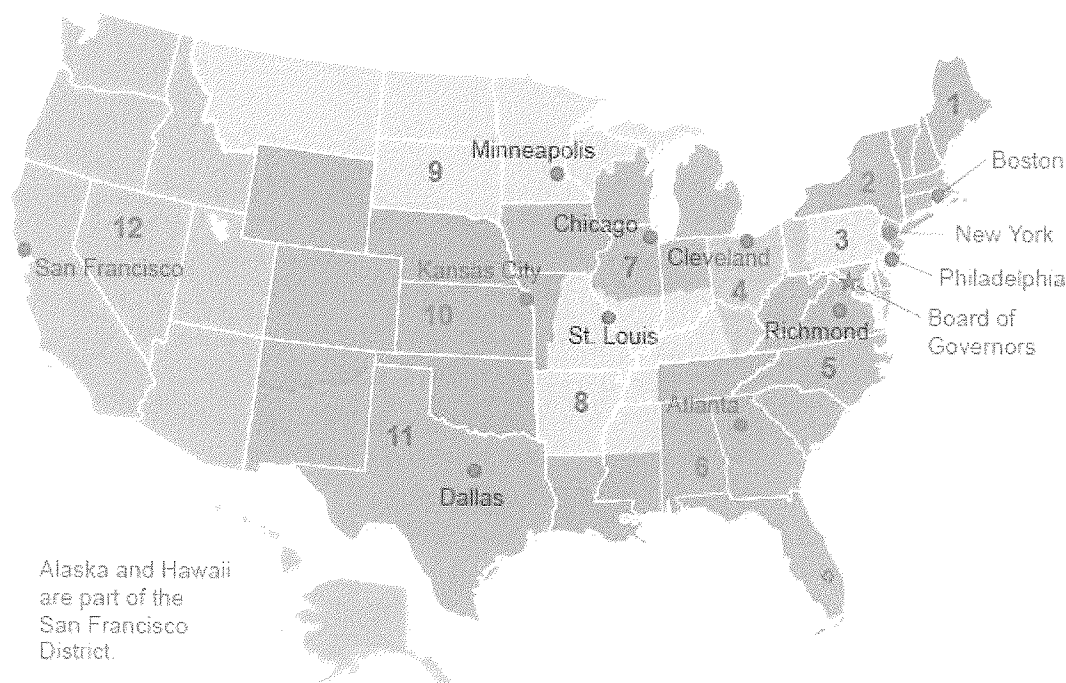
Unlike most central banks, the Federal Reserve is semi-decentralized, mixing government appointees with representation from private-sector banks. At the national level, it is run by a board of governors, consisting of seven members appointed by the president of the United States and confirmed by the Senate. Appointments are for 14-year terms, and they are arranged so that one term expires January 31 of every even-numbered year. The purpose of the long and staggered terms is to insulate the board of governors as much as possible from political pressure, so that policy decisions can be made based only on their economic merits.

In addition, except when filling an unfinished term, each member only serves one term, further insulating decision making from politics. Policy decisions of the Fed do not require congressional approval, and the president cannot ask for the resignation of a Federal Reserve governor as the president can with cabinet positions.

One member of the board of governors is designated as the chair. For example, from 1987 until early 2006, the chair was Alan Greenspan. From 2006 until 2014, Ben Bernanke held the post. Janet Yellen, the first woman to hold the position, was chair from 2014 to 2018; followed by the current chair, Jerome H. Powell.

The Fed chair is first among equals on the board of governors. While he or she has only one vote, the chair controls the agenda and is the public voice of the Fed, so he or she has more power and influence than one might expect.

The Federal Reserve is more than the board of governors. The Fed also includes 12 **regional Federal Reserve banks**, each of which is responsible for supporting the commercial banks and economy generally in its district. The Federal Reserve districts and the cities where their regional headquarters are located are shown in the figure, "The Twelve Federal Reserve Districts." The commercial banks in each district elect a board of directors for each regional Federal Reserve bank, and that board chooses a president for each regional Federal Reserve district. Thus, the Federal Reserve System includes both federally and private-sector-appointed leaders.



The 12 Federal Reserve Districts

Each regional Federal Reserve bank has its own district.

What Does a Central Bank Do?

The Federal Reserve, like most central banks, is designed to perform the following three important functions:

1. To conduct monetary policy
2. To promote stability of the financial system
3. To provide banking services to commercial banks and other depository institutions, and to provide banking services to the federal government

The Federal Reserve provides many of the same services to banks as banks provide to their customers. For example, all commercial banks have an account at the Fed where they deposit reserves, and they can obtain loans from the Fed through the “discount window,” which is discussed below. The Fed is also responsible for check processing. When you write a check to buy groceries, for example, the grocery store deposits the check in its bank account. Then, the physical check (or an image of that actual check) is returned to your bank, after which funds are transferred from your bank account to the account of the grocery store. The Fed is responsible for how these transactions are handled once the check leaves the cash register and is deposited into the store’s bank account. Does that mean that your check to the grocery store goes all the way to Washington, DC? No. Instead the regulations that govern how banks handle checks, deposits, withdrawals are regulated by The Federal Reserve Act. This act is the reason that a bank must start paying you interest on a savings deposit the day it is received. It’s also the reason that if you deposit a large check, your bank may tell you that the funds will not be available for three to five business days.

On a more mundane level, the Federal Reserve ensures that enough currency and coins are circulating through the financial system to meet public demands. For example, each year the Fed increases the amount of currency available in banks around the Christmas shopping season and reduces it again in January.

Finally, the Fed is responsible for assuring that banks are in compliance with a wide variety of consumer protection laws. For example, banks are forbidden from discriminating on the basis of age, race, sex, or marital status. Banks are also required to publicly disclose information about the loans they make for buying houses and how those loans are distributed geographically, as well as by the sex and race of the loan applicants.

How a Central Bank Executes Monetary Policy

The most important function of the Federal Reserve is to conduct the nation's monetary policy. Article I, Section 8, of the US Constitution gives Congress the power “to coin money” and “to regulate the value thereof.” As part of the 1913 legislation that created the Federal Reserve, Congress delegated these powers to the Fed. Monetary policy involves managing interest rates and credit conditions, which influence the level of economic activity, as described in more detail below.

A central bank has the following three traditional tools to implement monetary policy in the economy:

1. Open market operations
2. Change reserve requirements
3. Change the discount rate

In discussing how these three tools work, it is useful to think of the central bank as a “bank for banks”—that is, each private-sector bank has its own account at the central bank. We will discuss each of these monetary policy tools in the sections below.

Open Market Operations

The most commonly used tool of monetary policy in the United States is open market operations. **Open market operations** take place when the central bank sells or buys US Treasury bonds to influence the quantity of bank reserves and the level of interest rates. The specific interest rate targeted in open market operations is the **federal funds rate**. The name is a bit of a misnomer since the federal funds rate is the interest rate charged by commercial banks making overnight loans to other banks. As such, it is a very short-term interest rate, but one that reflects credit conditions in financial markets very well.

The **Federal Open Market Committee (FOMC)** makes the decisions regarding these open market operations. The FOMC is made up of the seven members of the Federal Reserve's board of governors. It also includes five voting members who are drawn, on a rotating basis, from the regional Federal Reserve Banks. The New York district president is a permanent voting member of the FOMC, and the other four spots are filled on a rotating, annual basis, from the other eleven districts. The FOMC typically meets every six weeks, but it can meet more frequently if necessary. The FOMC tries to act by consensus; however, the chairman of the Federal Reserve has traditionally played a very powerful role in defining and shaping that consensus. For the Federal Reserve, and for most central banks, open market operations have, over the last few decades, been the most commonly used tool of monetary policy.

The following video explains how open market operations work.

<https://youtu.be/-KdSYnLuNZk> (<https://youtu.be/-KdSYnLuNZk>)

Is it a sale of bonds by the central bank that increases bank reserves and lowers interest rates, or is it a purchase of bonds by the central bank? The easy way to keep track of this is to treat the central bank as being outside the banking system. When a central bank buys bonds, money is flowing from the central bank to individual banks in the economy, increasing the supply of money in circulation. When a central bank sells bonds, money from individual banks in the economy is flowing into the central bank—reducing the quantity of money in the economy.

Changing Reserve Requirements

A second method of conducting monetary policy is for the central bank to raise or lower the **reserve requirement**, which is the percentage of each bank's deposits that it is legally required to hold either as cash in its vault or on deposit with the central bank. If banks are required to hold a greater amount in reserves, they have less money available to lend. If banks are allowed to hold a smaller amount in reserves, they will have a greater amount of money available to lend.

The following video explains how changing the reserve requirement alters the money supply.

<https://youtu.be/kTVf-NF2v4Q> (<https://youtu.be/kTVf-NF2v4Q>)

In early 2015, the Federal Reserve required banks to hold reserves equal to 0% of the first \$14.5 million in deposits, then to hold reserves equal to 3% of the deposits up to \$103.6 million, and 10% of any amount above \$103.6 million. Small changes in the reserve requirements are made almost every year. For example, the \$103.6 million dividing line is sometimes bumped up or down by a few million dollars. In practice, large changes in reserve requirements are rarely used to execute monetary policy. A sudden demand that all banks increase their reserves would be extremely disruptive and difficult to comply with, while loosening requirements too much would create a danger of banks being unable to meet the demand for withdrawals.

Changing the Discount Rate

The Federal Reserve was founded in the aftermath of the Financial Panic of 1907 when many banks failed as a result of bank runs. As mentioned earlier, since banks make profits by lending out their deposits, no bank can withstand a bank run. As a result of the Panic, the Federal Reserve was founded to be the “lender of last resort.” In the event of a bank run, sound banks could borrow as much cash as they needed from the Fed's discount window to cover the bank

run. The interest rate banks pay for such loans is called the **discount rate**. They are so named because loans are made against the bank's outstanding loans "at a discount" of their face value. Once depositors became convinced that the bank would be able to honor their withdrawals, they no longer had a reason to make a run on the bank. In short, the Federal Reserve was originally intended to provide credit passively, but in the years since its founding, the Fed has taken on a more active role with monetary policy.

So, the third traditional method for conducting monetary policy is to raise or lower the discount rate. If the central bank raises the discount rate, then commercial banks will reduce their borrowing of reserves from the Fed, and instead call in loans to replace those reserves. Since fewer loans are available, the money supply falls and market interest rates rise. If the central bank lowers the discount rate it charges to banks, the process works in reverse.

The following video explains the impact of changes to the Fed's discount rate.

<https://youtu.be/Q01KEwDc1fc> (<https://youtu.be/Q01KEwDc1fc>)

In recent decades, the Federal Reserve has made relatively few discount loans. Before a bank borrows from the Federal Reserve to fill out its required reserves, the bank is expected to first borrow from other available sources, like other banks. This is encouraged by the Fed charging a higher discount rate than the federal funds rate. Given that most banks borrow little at the discount rate, changing the discount rate up or down has little impact on their behavior. More important, the Fed has found from experience that open market operations are a more precise and powerful means of executing any desired monetary policy.

Check Your Knowledge

Answer the following questions to see how well you understand the topics covered in this section. This short quiz does not count toward your grade in the class, and you can retake it as many times as you wish.

Use this quiz to decide whether to study the section further or move on.

Choose the **BEST** answer.

Question 1

If the federal government wanted to find out how much M1 money is in circulation in the United States, it would look at which of the following?

savings accounts

demand deposits and other checking accounts

money market mutual funds

Question 2

The purpose of a financial institution such as a bank or credit union is to -----.

act as an intermediary between savers and borrowers

create financial products

help people to buy and sell stock

Question 3

What government entity is responsible for monitoring the US money supply?

Federal Labor Relations Authority

Federal Trade Commission

Federal Reserve

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Learning Resource

Capital

What you'll learn to do: Describe common ways in which businesses obtain financial capital (money) to fund operations

In this section you will learn about some of the options businesses have to obtain capital, and how they decide which form of capital best meets their needs.



Learning Outcomes

- Distinguish between bonds and bank loans as methods of borrowing
- Identify the differences between private and public companies
- Define “stock”
- Discuss how firms choose between sources of financial capital

Introduction to Financial Markets

In 2006, housing equity in the United States peaked at \$13 trillion. That means that the market prices of homes, less what was still owed on the loans used to buy these houses, equaled \$13 trillion. This was a very good number, since the equity represented the value of the financial asset most US citizens owned.

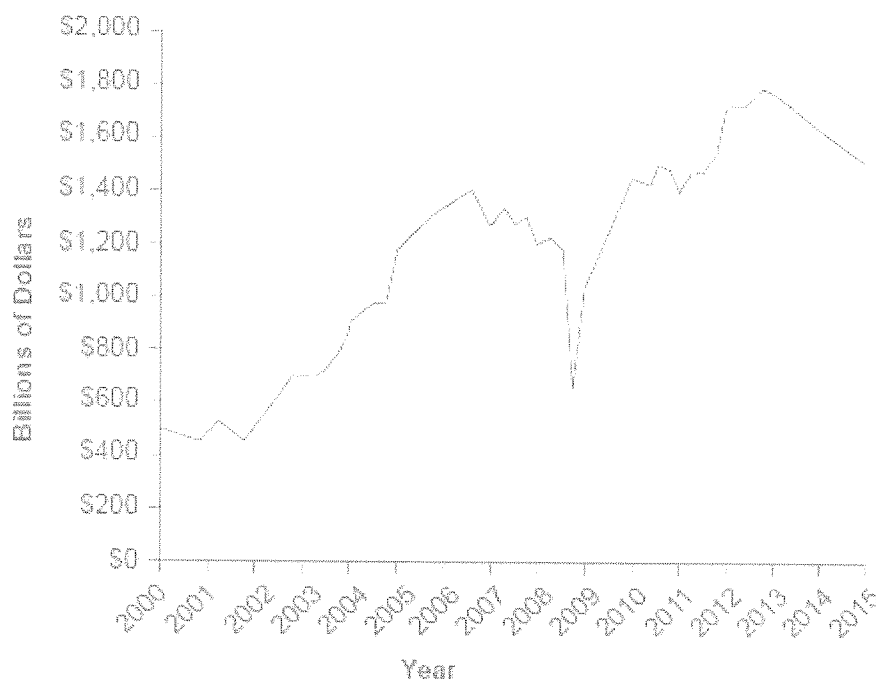
However, by 2008 this number had gone down to \$8.8 trillion, and it declined further still in 2009. Combined with the decline in value of other financial assets held by US citizens, by 2010, US homeowners' wealth had declined by \$14 trillion. This was a staggering loss, and it affected millions of lives: People had to alter their retirement decisions, housing decisions, and other important consumption decisions. Just about every other large economy in the world suffered a decline in the market value of financial assets as a result of the global financial crisis of 2008–2009.

This section will explain why people buy houses (other than as a place to live), why they buy other types of financial assets, and why businesses sell those financial assets in the first place. The section will also give us insight into why financial markets and assets go through boom-and-bust cycles like the one described here.

When a firm needs to buy new equipment or build a new facility, it often must go to the financial market to raise funds. Usually firms will add capacity during an economic expansion when profits are on the rise and consumer demand is high. Business investment is one of the critical ingredients needed to sustain economic growth. Even in the sluggish economy of 2009, US firms invested \$1.4 trillion in new equipment and structures, in the hope that those investments would generate profits in the years ahead.

Between the end of the recession in 2009 through the second quarter 2013, profits for S&P 500 companies grew to 9.7 percent despite the weak economy, with much of the growth driven by cost cutting and reductions in input costs, according to the *Wall Street Journal*. The

figure below shows corporate profits after taxes (adjusted for inventory and capital consumption). Despite the steep decline in quarterly net profit in 2008, profits have recovered and surpassed pre-recession levels.



Corporate Profits After Tax (Adjusted for Inventory and Capital Consumption)

Until 2008, corporate profits after tax had generally continued to increase each year. There was a significant drop in profits during 2008 and into 2009. The profit trend has since continued to increase each year, though at a less steady or consistent rate.

Source: Federal Reserve Economic Data (FRED): <https://research.stlouisfed.org/fred2/series/CPATAX>

Many firms, from huge companies like General Motors to start-up firms writing computer software, do not have the financial resources to make all the investments they want. These firms need financial capital from outside investors, and they are willing to pay interest for the opportunity to get a rate of return on the investment for that financial capital.

On the other side of the financial capital market, suppliers of financial capital, like households, wish to use their savings in a way that will provide a return. Individuals cannot, however, take the few thousand dollars that they save in any given year, write a letter to General Motors or some other firm, and negotiate to invest their money with that firm. Financial capital markets bridge this gap: That is, they find ways to take the inflow of funds from many separate suppliers of financial capital and transform it into the funds desired by demanders of financial capital. Such financial markets include stocks, bonds, bank loans, and other financial investments.

How Businesses Raise Capital



American Stock Exchange Building

Financial Capital

Firms often make decisions that involve spending money in the present and expecting to earn profits in the future. Some examples include when a firm buys a machine that will last 10 years, or builds a new plant that will last for 30 years, or starts a research and development project. They need economic resources—also known as **financial capital**—to do this. Firms can raise the financial capital they need to pay for such projects in four main ways: (1) from early-stage investors, (2) by reinvesting profits, (3) by borrowing through banks or bonds, and (4) by selling stock. As you'll see, each financial option has different implications for the business in terms of operations and profits.

Early-Stage Financial Capital

Firms that are just beginning often have an idea or a prototype for a product or service to sell, but they have few customers, or even no customers at all, and thus are not earning profits. Banks are often unwilling to loan money to start-up businesses because they're seen as too

risky. Such firms face a difficult problem when it comes to raising financial capital: How can a firm that has not yet demonstrated any ability to earn profits pay a rate of return to financial investors?

For many small businesses, the original source of money is the owner of the business. Someone who decides to start a restaurant or a gas station, for instance, might cover the start-up costs by dipping into his or her own bank account or by borrowing money (perhaps using a home as collateral). Alternatively, many cities have a network of well-to-do individuals, known as *angel investors*, who will put their own money into small new companies at an early stage of development in exchange for owning some portion of the firm.

Venture capital firms make financial investments in new companies that are still relatively small, but have substantial growth potential. These firms gather money from a variety of individual or institutional investors, including banks, institutions like college endowments, insurance companies that hold financial reserves, and corporate pension funds. Venture capital firms do more than just supply money to small start-ups. They also provide advice on potential products, customers, and key employees. Typically, a venture capital fund invests in a number of firms, and then investors in that fund receive returns according to how the fund performs as a whole.

The amount of money invested in venture capital fluctuates substantially from year to year. All early-stage investors realize that the majority of small start-up businesses will never hit it big; indeed, many of them will go out of business within a few months or years. They also know that getting in on the ground floor of a few huge successes like a Netflix or an Amazon.com can make up for a lot of failures. Early-stage investors are therefore willing to take large risks in order to be in a position to gain substantial returns on their investment.

Profits as a Source of Financial Capital

If firms are earning profits (their revenues are greater than costs), they can choose to reinvest some of these profits in equipment, structures, and research and development. For many established companies, reinvesting their own profits is one primary source of financial capital. Companies and firms just getting started may have numerous attractive investment opportunities, but few current profits to invest. Even large firms can experience a year or two of earning low profits or even suffering losses, but unless the firm can find a steady and reliable source of financial capital so that it can continue making real investments in tough times, the firm may not survive until better times arrive. Firms often need to find sources of financial capital other than profits.

Borrowing: Banks and Bonds

When a firm has a record of at least earning significant revenues or, better still, of earning profits, the firm can make a credible promise to pay interest, and so it becomes possible for the firm to borrow money. Firms have two main methods of borrowing: banks and bonds.

A **bank loan** for a firm works in much the same way as a loan for an individual who is buying a car or a house. The firm borrows an amount of money and then promises to repay it, including some rate of interest, over a predetermined period of time. If the firm fails to make its loan payments, the bank (or banks) can often take the firm to court and require it to sell its buildings or equipment to make the loan payments.

Another source of financial capital is a bond. A **bond** is a financial contract: A borrower agrees to repay the amount that was borrowed and also a rate of interest over a period of time in the future. A **corporate bond** is issued by firms, but bonds are also issued by various levels of government. For example, a **municipal bond** is issued by cities, a **state bond** by US states, and a **Treasury bond** (T-bond) by the federal government through the US Department of the Treasury. A bond specifies an amount that will be borrowed, the interest rate that will be paid, and the time until repayment.

A large company, for example, might issue bonds for \$10 million; the firm promises to make interest payments at an annual rate of 8 percent (\$800,000 per year), and then, after 10 years, it will repay the \$10 million it originally borrowed. When a firm issues bonds, the total amount that is borrowed is divided up. A firm that seeks to borrow \$50 million by issuing bonds might actually issue 10,000 bonds of \$5,000 each. In this way, an individual investor could, in effect, loan the firm \$5,000, or any multiple of that amount. Anyone who owns a bond and receives the interest payments is called a **bondholder**. If a firm issues bonds and fails to make the promised interest payments, the bondholders can take the firm to court and require it to pay, even if the firm needs to raise the money by selling buildings or equipment. However, there is no guarantee that the firm will have sufficient assets to pay off the bonds. The bondholders may get back only a portion of what they loaned the firm.

Bank borrowing is more customized than issuing bonds, so it often works better for relatively small firms. The bank can get to know the firm extremely well—often because the bank can monitor sales and expenses quite accurately by looking at deposits and withdrawals. Relatively large and well-known firms often issue bonds instead. They use bonds to raise new financial capital that pays for investments, or to raise capital to pay off old bonds, or to buy other firms. However, the idea that banks are usually used for relatively smaller loans and bonds for larger loans is not an ironclad rule: Sometimes groups of banks make large loans, and sometimes relatively small and lesser-known firms issue bonds.

Corporate Stock and Public Companies

A **corporation** is a business that “incorporates”—it is owned by shareholders that have limited liability for the debt of the company, but share in its profits (and losses). Corporations may be private or public and may or may not have stock that is publicly traded. They may raise funds to finance their operations or new investments by raising capital through the sale of stock or the issuance of bonds.

Those who buy the stock become the owners, or shareholders, of the firm. **Stock** represents ownership of a firm; that is, a person who owns 100 percent of a company's stock, by definition, owns the entire company. The stock of a company is divided into shares. Corporate giants like IBM, AT&T, Ford, General Electric, Microsoft, Merck, and Exxon all have millions of shares of stock. In most large and well-known firms, no individual owns a majority of the shares of the stock. Instead, large numbers of shareholders—even those who hold thousands of shares—each have only a small slice of the overall ownership of the firm.

When a company is owned by a large number of shareholders, three important questions emerge:

1. How and when does the company get money from the sale of its stock?
2. What rate of return does the company promise to pay when it sells stock?
3. Who makes decisions in a company owned by a large number of shareholders?

First, a firm receives money from the sale of its stock only when the company sells its own stock to the public (the public includes individuals, mutual funds, insurance companies, and pension funds). A firm's first sale of stock to the public is called an **initial public offering (IPO)**. The IPO is important for two reasons. For one, the IPO, and any stock issued thereafter, such as stock held as treasury stock (shares that a company keeps in its own treasury) or new stock issued later as a secondary offering, provides the funds to repay the early-stage investors, like the angel investors and the venture capital firms. A venture capital firm may have a 40 percent ownership in the firm. When the firm sells stock, the venture capital firm sells its part-ownership of the firm to the public. A second reason for the importance of the IPO is that it provides the established company with financial capital for a substantial expansion of its operations.

However, most of the time when corporate stock is bought and sold, the firm receives no financial return at all. If you buy shares of stock in General Motors, you almost certainly buy them from the current owner of those shares, and General Motors does not receive any of your money. This pattern should not seem particularly odd. After all, if you buy a house, the current owner gets your money, not the original builder of the house. Similarly, when you buy shares of stock, you are buying a small slice of ownership of the firm from the existing owner—and the firm that originally issued the stock is not a part of this transaction.

Second, when a firm decides to issue stock, it must recognize that investors will expect to receive a rate of return. That rate of return can come in two forms. A firm can make a direct payment to its shareholders, called a **dividend**. Alternatively, a financial investor might buy a share of stock in Walmart for \$45 and then later sell that share of stock to someone else for \$60, for a gain of \$15. The increase in the value of the stock (or of any asset) between when it is bought and when it is sold is called a **capital gain**.

Third, who makes the decisions about when a firm will issue stock, or pay dividends, or reinvest profits? To understand the answers to these questions, it is useful to separate firms into two groups: private and public.

A **private company** is owned by the people who run it on a day-to-day basis. A private company can be run by an individual as a **sole proprietorship**, or it can be run by a group, in which case it is a **partnership**. A private company can also be a corporation, but the stock is not sold to the public. Instead, the company's stock is offered, owned, and traded or exchanged privately. A small law firm run by one person, even if it employs other lawyers, would be a sole proprietorship. A larger law firm may be owned jointly by its partners. Most private companies are relatively small, but there are some large private corporations, with tens of billions of dollars in annual sales, that do not have publicly issued stock, such as farm-products dealer Cargill, the Mars candy company, and the Bechtel engineering and construction firm.

When a firm decides to sell stock, which in turn can be bought and sold by financial investors, it is called a **public company**. Shareholders own a public company. Since the shareholders are a very broad group, often consisting of thousands or even millions of investors, the shareholders vote for a board of directors, who in turn hire top executives to run the firm on a day-to-day basis. The more shares of stock a shareholder owns, the more votes that shareholder is entitled to cast for the company's board of directors.

In theory, the board of directors helps to ensure that the firm is run in the interests of the true owners—the shareholders. However, the top executives who run the firm have a strong voice in choosing the candidates who will be on their board of directors. After all, few shareholders are knowledgeable enough or have enough of a personal incentive to spend energy and money nominating alternative members of the board.

How Firms Choose Between Sources of Financial Capital

There are clear patterns in how businesses raise financial capital. These patterns can be explained partly by the fact that buyers and sellers in a market do not both have complete and identical information. Those who are actually running a firm will almost always have more

information about whether the firm is likely to earn profits in the future than outside investors who provide financial capital.

Any young start-up firm is a risk; indeed, some start-up firms are only a little more than an idea on paper. The firm's founders inevitably have better information about how hard they are willing to work, and whether the firm is likely to succeed, than anyone else. When the founders put their own money into the firm, they demonstrate a belief in its prospects. At this early stage, angel investors and venture capitalists try to get all the information they need, partly by getting to know the managers and their business plan personally and by giving them advice.

As a firm becomes at least somewhat established and its strategy appears likely to lead to profits in the near future, knowing the individual managers and their business plans on a personal basis becomes less important, because information has become more widely available regarding the company's products, revenues, costs, and profits. As a result, other outside investors who do not know the managers personally, like bondholders and shareholders, are more willing to provide financial capital to the firm.

At this point, a firm must often choose how to access financial capital. It may choose to borrow from a bank, issue bonds, or issue stock. The great disadvantage of borrowing money from a bank or issuing bonds is that the firm commits to scheduled interest payments, whether or not it has sufficient income. The great advantage of borrowing money is that the firm maintains control of its operations and is not subject to shareholders. Issuing stock involves selling off ownership of the company to the public and becoming responsible to a board of directors and the shareholders.

The benefit of issuing stock is that a small and growing firm increases its visibility in the financial markets and can access large amounts of financial capital for expansion, without worrying about paying this money back. If the firm is successful and profitable, the board of directors will need to decide upon a dividend payout or how to reinvest profits to further grow the company. Issuing and placing stock is expensive, requires the expertise of investment bankers and attorneys, and entails compliance with reporting requirements to shareholders and government agencies, such as the federal Securities and Exchange Commission.

Check Your Knowledge

Answer the following questions to see how well you understand the topics covered in this section. This short quiz does not count toward your grade in the class, and you can retake it as many times as you wish.

Use this quiz to decide whether to study the section further or move on.

Choose the **BEST** answer.

Question 1

What are bonds?

a partial ownership in a company

profit

debt

Question 2

Noah owns a private company. His company _____.

can sell stock on the NYSE

does not offer shares of the company to the public.

must be small

Question 3

Historically many methods and markets were used to raise capital, but the primary methods that have evolved in modern times are the

over-the-counter markets

bond markets and stock markets

land markets and housing markets

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Learning Resource

Putting It Together: Financial Markets and System



Synthesis

Do you think about a dollar bill the same way you did before you completed this chapter? Perhaps you do, but now you should have a better understanding of what that dollar bill represents, how it came into existence, and where its value comes from. Money will always exist in some form, whether it's based on NFC technology in your smartphone or we go back to a barter system where we trade seashells for bread. It will still motivate people to work, study, achieve, and unfortunately, even break the law. But, as you consider everything you have read and heard in this chapter, is it the money itself that is the motivator or the "store of value" that we work to obtain? In fact, you can hold a dollar bill and see it has no intrinsic value. So where is the value in the dollar bill? Is it that our society recognizes it as having value, and business and individuals are willing to "trade" you dollars for shoes, cars, houses, food, and the other things that you need or want in your day-to-day life? Yes, we could go back to trading chickens for shoes, but technology is pushing us further and further away from that model, and as the monetary system evolves, it's unlikely that it will become less complex. That's one big reason you've spent all this time understanding this thing that "makes the world go 'round."

Summary

This chapter covered the financial markets and system. Below is a summary of the topics covered in this chapter.

Money

Money serves three basic functions:

- **Medium of exchange:** Because you can use it to buy the goods and services you want, everyone's willing to trade things for money.
- **Measure of value:** It simplifies the exchange process because it's a means of indicating how much something costs.
- **Store of value:** People are willing to hold on to it because they're confident that it will keep its value over time.

Virtual currencies, such as Bitcoin, are using the traditional concept of "money," but as an alternative to the established Federal Reserve System. Although gaining in popularity, these virtual currencies are unregulated and pose some serious risks to those using this medium of exchange.

Cashless payment systems such as Google Pay Send (formerly Google Wallet), Google Pay (includes the functions of Google Pay Send and Android Pay), and Apple Pay allow consumers to carry their "cash" in their mobile devices. As more retailers move to "tap to pay" or scanning QR codes to complete transactions, the need to carry conventional paper money and coin diminishes. The question raised by this technology is not whether it will lead to a cashless society, but rather which mobile payment service will rise to the top and capture the market.

Role of Banks

- The government uses two measures to track the money supply: **M1** includes the most liquid forms of money, such as cash and checking-account funds. **M2** includes everything in M1 plus near-cash items, such as savings accounts and time deposits below \$100,000.
- Financial institutions serve as financial intermediaries between savers and borrowers and direct the flow of funds between the two groups.
- Financial institutions offer a wide range of services, including checking and savings accounts, ATM services, and credit and debit cards. They also sell securities and provide financial advice.
- A bank holds on to only a fraction of the money that it takes in—an amount called its **reserves**—and lends out the rest to individuals, businesses, and governments. In turn,

borrowers put some of these funds back into the banking system, where they become available to other borrowers. The **money multiplier** effect ensures that the cycle expands the money supply.

- Most large banks are members of the central banking system called the **Federal Reserve System** (commonly known as “the Fed”).
- The Fed’s goals include price stability, sustainable economic growth, and full employment. It uses monetary policy to regulate the money supply and the level of interest rates.
- To achieve these goals, the Fed has three tools:
 - It can raise or lower **reserve requirements**—the percentage of its funds that banks must set aside and can’t lend out;
 - it can raise or lower the **discount rate**—the rate of interest that the Fed charges member banks to borrow “reserve” funds; and
 - it can conduct **open market operations**—buying or selling government securities on the open market.

Financial Markets and Business

The four main ways that businesses raise financial capital are:

- **Early-stage capital:** A business owner uses his/her own money or seeks money from an angel investor or venture capital firm.
- **Profits:** A business's profits are reinvested in equipment, structures, research and development, etc.
- **Bonds:** A way to raise capital through borrowing, bonds are used by corporations and governments. As an investment for the bondholder, they create return through regular, fixed, or floating interest payments on the debt and the repayment of principal at maturity. They are traded on bond exchanges through brokers.
- **Stocks:** A way to raise capital by selling ownership or equity, stock investments create return for shareholders through the distribution of corporate profits as dividends or through gains (losses) in corporate value. They are traded on stock exchanges through member brokers.

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