1. **What Is the Banking Sector?**

The banking sector is a major segment of the U.S. and world economies. While some might define it more broadly, the U.S. [Department of Commerce](https://www.investopedia.com/terms/d/department-of-commerce.asp) considers it a subsector of the larger financial services industry, which also includes subsectors focusing on asset management, insurance, venture capital, and private equity.

The U.S. banking system alone had $23.60 trillion in assets and a net income of $263 billion at the end of 2022.123

The principal economic functions of the banking sector are to take deposits and make loans.4

**How Banking Works**

Holding financial assets is at the core of all banking, and where it began in ancient times—though it has expanded far beyond the days of storing gold coins for wealthy patrons.

At the most basic level, a bank takes deposits from individuals or businesses, with the promise that the money can be withdrawn when the depositor wants it (though sometimes with a penalty for early withdrawal). Depending on the type of account, the bank also may pay interest on the depositor’s money.

The bank then lends the money it has on deposit to other individuals and businesses and receives interest payments from the borrower in return. [Banks make a profit](https://www.investopedia.com/ask/answers/031215/what-average-range-profit-margin-company-financial-services-sector.asp) on the difference between the interest rate that they pay depositors for the use of their money and the higher interest rate that they charge borrowers.

By law, banks cannot lend out all of the money in their possession, but are required by regulators to keep a certain amount of capital in reserve to cover withdrawals and other needs. The rules change from time to time and vary by the size of the bank, but many large U.S. banks recently were required to keep 8% of their capital in reserve.5

In addition to making loans, banks can invest their own money in other kinds of assets, such as government securities.

**How Do Banks Drive the Economy?**

The banking sector is crucial to the modern economy. As the primary supplier of credit, it provides money for people to buy cars and homes and for businesses to buy equipment, expand their operations, and meet their payrolls.

Banks also provide depositors with a safe place to keep their money (particularly since the advent of the [Federal Deposit Insurance Corp. (FDIC)](https://www.investopedia.com/terms/f/fdic.asp), which insures many accounts up to certain limits) as well as to earn some interest on it.

The credit cards, debit cards, and checking accounts that banks make available facilitate all kinds of everyday transactions. They also help drive [ecommerce](https://www.investopedia.com/terms/e/ecommerce.asp), where cash is of little use.

The banking sector is also a major employer. In 2022, for example, FDIC-insured commercial banks alone employed nearly 2 million people in the United States.6

On the negative side, the banking sector also has the capability of doing enormous harm to the economy. In the [subprime mortgage meltdown](https://www.investopedia.com/terms/s/subprime-meltdown.asp) that began in 2007, for example, reckless lending on the part of some banks sent the economy into a tailspin and triggered the [Great Recession](https://www.investopedia.com/terms/g/great-recession.asp) of 2007–2009. Regulatory reforms enacted since that time may help avert a similar crisis in the future.

**How Banks Are Regulated**

Because of the vital role that banks play in the economy, governments around the world have laws in place to try to prevent them from engaging in excessively risky behavior. In the United States, for example, banks are regulated by an assortment of federal and state agencies, depending on the type of bank. The sector also self-regulates through actions of organizations such as the [Financial Services Forum](https://www.investopedia.com/financial-services-forum-7486920) and the Financial Services Roundtable.

The federal regulators include the [Federal Reserve System](https://www.investopedia.com/terms/f/federalreservebank.asp), the [Office of the Comptroller of the Currency](https://www.investopedia.com/terms/o/office-comptroller-currency-occ.asp), and the FDIC. Credit unions, which also may be considered part of the banking sector, are regulated by the [National Credit Union Administration](https://www.investopedia.com/terms/n/ncua.asp).7

State-chartered banks fall under the jurisdiction of state banking regulators and supervisors. Some banks are regulated on both state and federal levels.7

**Major Companies in the Banking Sector**

Banks range dramatically in size, from the small-town corner bank to international behemoths, sometimes referred to “global systemically important banks” or banks considered “[too big to fail](https://www.investopedia.com/terms/t/too-big-to-fail.asp)” because of the havoc that their failure could supposedly cause to the world economy.

In the United States today, the five largest banks are JPMorgan Chase, Bank of America, Wells Fargo, Citibank, and US Bank. All but the last hold assets in excess of $1 trillion.8

Why Are Banks Called Banks?

Some believe the word “bank” comes from *banca*, the Italian word for bench. Merriam-Webster says *banca*also referred to “the benchlike counter at which an early money changer transacted business.”9

What Are the Different Types of Banks?

The common types of banks include central banks, commercial banks, and investment banks. [Central banks](https://www.investopedia.com/terms/c/centralbank.asp) are government institutions, like the U.S. Federal Reserve, whose role is to regulate their nation’s money supply. [Commercial banks](https://www.investopedia.com/terms/c/commercialbank.asp) are what most of us think of as banks, taking in deposits and issuing loans. [Investment banks](https://www.investopedia.com/terms/i/investmentbank.asp) generally work with companies to help them issue stock or find financing. Large banks often have divisions for both commercial and investment banking.

1. **What Are Financial Markets?**

Financial markets refer broadly to any marketplace where securities trading occurs, including the stock market, bond market, forex market, and derivatives market. Financial markets are vital to the smooth operation of capitalist economies.

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**Understanding the Financial Markets**

Financial markets play a vital role in facilitating the smooth operation of [capitalist economies](https://www.investopedia.com/articles/investing/102914/main-characteristics-capitalist-economies.asp) by allocating resources and creating liquidity for businesses and entrepreneurs. The markets make it easy for buyers and sellers to trade their financial holdings.

Financial markets create securities products that provide a return for those with excess funds (investors/lenders) and make these funds available to those needing additional money (borrowers).

The stock market is just one type of financial market. Financial markets are created when people buy and sell financial instruments, including equities, bonds, currencies, and derivatives. Financial markets rely heavily on informational transparency to ensure that the markets set prices that are efficient and appropriate.

Some financial markets are small with little activity, and others, like the [New York Stock Exchange (NYSE)](https://www.investopedia.com/terms/n/nyse.asp), trade trillions of dollars in securities daily. The equities (stock) market is a financial market that enables investors to buy and sell shares of publicly traded companies.

The primary stock market is where new issues of stocks are sold. Any subsequent trading of stocks occurs in the secondary market, where investors buy and sell securities they already own.

Prices of securities traded in the financial markets may not necessarily reflect their intrinsic value.

**Types of Financial Markets**

There are several different types of markets. Each one focuses on the types and classes of instruments available on it.

Stock Markets

Perhaps the most ubiquitous of financial markets are stock markets. These are venues where companies list their shares, which are bought and sold by traders and investors. Stock markets, or equities markets, are used by companies to raise capital and by investors to search for returns.

Stocks may be traded on listed exchanges, such as the New York Stock Exchange (NYSE), [Nasdaq](https://www.investopedia.com/terms/n/nasdaq.asp), or the over-the-counter (OTC) market. Most stock trading is done via regulated exchanges, which plays an important economic role because it is another way for money to flow through the economy.

Typical participants in a stock market include (both retail and institutional) investors, traders, [market makers (MMs)](https://www.investopedia.com/terms/m/marketmaker.asp), and specialists who maintain liquidity and provide two-sided markets. Brokers are third parties that facilitate trades between buyers and sellers but who do not take an actual position in a stock.

Over-the-Counter Markets

An [over-the-counter (OTC)](https://www.investopedia.com/terms/o/otc.asp) market is a decentralized market—meaning it does not have physical locations, and trading is conducted electronically—in which market participants trade securities directly (meaning without a broker).

While OTC markets may handle trading in certain stocks (e.g., smaller or riskier companies that do not meet the listing criteria of exchanges), most stock trading is done via exchanges.

Certain derivatives markets, however, are exclusively OTC, making up an essential segment of the financial markets. Broadly speaking, OTC markets and the transactions that occur in them are far less regulated, less liquid, and more opaque.

Bond Markets

A bond is a security in which an investor loans money for a defined period at a pre-established interest rate. You may think of a bond as an agreement between the lender and borrower containing the loan's details and its payments.

Bonds are issued by corporations as well as by municipalities, states, and sovereign governments to finance projects and operations.

For example, the bond market sells securities such as notes and bills issued by the United States Treasury. The bond market is also called the debt, credit, or fixed-income market.

Money Markets

Typically, the money markets trade in products with highly liquid short-term maturities (less than one year) and are characterized by a high degree of safety and a relatively lower interest return than other markets.

At the wholesale level, the money markets involve large-volume trades between institutions and traders. At the retail level, they include money market mutual funds bought by individual investors and money market accounts opened by bank customers.

Individuals may also invest in the money markets by purchasing short-term [certificates of deposit (CDs)](https://www.investopedia.com/terms/c/certificateofdeposit.asp), [municipal notes](https://www.investopedia.com/terms/m/municipal-note.asp), or U.S. Treasury bills, among other examples.

Derivatives Markets

A derivative is a contract between two or more parties whose value is based on an agreed-upon underlying financial asset (like a security) or set of assets (like an index).

Rather than trading stocks directly, a derivatives market trades in futures and [options](https://www.investopedia.com/terms/o/optionscontract.asp) contracts and other advanced financial products that derive their value from underlying instruments like bonds, commodities, currencies, interest rates, market indexes, and stocks.

Futures markets are where futures contracts are listed and traded. Unlike forwards, which trade OTC, futures markets utilize standardized contract specifications, are well-regulated, and use clearinghouses to settle and confirm trades.

Options markets, such as the [Chicago Board Options Exchange (Cboe)](https://www.investopedia.com/terms/c/cboe.asp), similarly list and regulate options contracts. Both futures and options exchanges may list contracts on various asset classes, such as equities, fixed-income securities, commodities, and so on.

Forex Market

The [forex (foreign exchange) market](https://www.investopedia.com/terms/forex/f/foreign-exchange-markets.asp) is where participants can buy, sell, hedge, and speculate on the exchange rates between [currency pairs](https://www.investopedia.com/terms/forex/f/foreign-currency-pairs.asp). The forex market is the most liquid market in the world, as cash is the most liquid of assets. The currency market handles more than $7.5 trillion in daily transactions, more than the futures and equity markets combined.1

As with the OTC markets, the forex market is also decentralized and consists of a global network of computers and brokers worldwide. The forex market is made up of banks, commercial companies, central banks, investment management firms, hedge funds, and retail forex brokers and investors.

Commodities Markets

Commodities markets are venues where producers and consumers meet to exchange physical commodities such as agricultural products (e.g., corn, livestock, soybeans), energy products (oil, gas, carbon credits), precious metals (gold, silver, platinum), or ["soft" commodities](https://www.investopedia.com/terms/s/softcommodity.asp) (such as cotton, coffee, and sugar). These are known as [spot commodity](https://www.investopedia.com/terms/s/spotcommodity.asp) markets, where physical goods are exchanged for money.

However, the bulk of trading in these commodities takes place on derivatives markets that utilize spot commodities as the underlying assets. Forwards, futures, and options on commodities are exchanged both OTC and on listed exchanges around the world, such as the [Chicago Mercantile Exchange (CME)](https://www.investopedia.com/terms/c/cme.asp) and the [Intercontinental Exchange (ICE)](https://www.investopedia.com/terms/i/intercontinentalexchange.asp).

Cryptocurrency Markets

Thousands of cryptocurrency tokens are available and traded globally across a patchwork of independent online [crypto exchanges](https://www.investopedia.com/terms/b/bitcoin-exchange.asp). These exchanges host digital wallets for traders to swap one cryptocurrency for another or for fiat monies such as dollars or euros.

Because most crypto exchanges are [centralized](https://www.investopedia.com/tech/what-are-centralized-cryptocurrency-exchanges/) platforms, users are susceptible to hacks or fraudulent activity. Decentralized exchanges are also available that operate without any central authority.

These exchanges allow direct peer-to-peer (P2P) trading without an actual exchange authority to facilitate the transactions. Futures and options trading are also available on major cryptocurrencies.

1. **What Is International Finance?**

International finance, sometimes known as international macroeconomics, is the study of monetary interactions between two or more countries, focusing on areas such as foreign direct investment and currency exchange rates.

**Understanding International Finance**

International finance deals with the economic interactions between multiple countries, rather than narrowly focusing on individual markets. International finance research is conducted by large institutions such as the [International Finance Corp.](https://www.investopedia.com/terms/i/international-finance-corporation.asp) (IFC), and the [National Bureau of Economic Research](https://www.investopedia.com/terms/n/nber.asp) (NBER). Furthermore, the U.S. Federal Reserve has a division dedicated to analyzing policies germane to U.S. capital flow, external trade, and the development of global markets.

International finance analyzes the following specific areas of study:

* **The Mundell-Fleming Model**, which studies the interaction between the goods market and the money market, is based on the assumption that price levels of said goods are fixed.
* [**International Fisher Effect**](https://www.investopedia.com/articles/economics/10/international-fisher-effect.asp) is an international finance theory that assumes nominal interest rates mirror fluctuations in the spot exchange rate between nations.
* **The optimum currency area theory** states that certain geographical regions would maximize economic efficiency if the entire area adopted a single currency.
* **Purchasing power parity** is the measurement of prices in different areas using a specific good or a specific set of goods to compare the absolute purchasing power between different currencies.
* **Interest rate parity** describes an equilibrium state in which investors are indifferent to interest rates attached to bank deposits in two separate countries.

**Example of International Institutions of International Finance**

The Bretton Woods System

The [Bretton Woods system](https://www.investopedia.com/terms/b/brettonwoodsagreement.asp) was created at the Bretton Woods conference in 1944, where the 40 participating countries agreed to establish a fixed exchange rate system. The collective goal of this initiative was to standardize international monetary exchanges and policies in a broader effort to create post World War II stability.

The Bretton Woods conference catalyzed the development of international institutions that play a foundational role in the global economy. These include the [International Monetary Fund](https://www.investopedia.com/terms/i/imf.asp) (IMF), a consortium of 189 countries dedicated to creating global monetary cooperation, and the [International Bank for Reconstruction and Development](https://www.investopedia.com/terms/i/international-bank-of-reconstruction-and-development.asp), which later became known as the World Bank.

**Special Considerations**

International trade is arguably the most important influencer of global prosperity and growth. But there are worries related to the fact the United States has shifted from being the largest international creditor, to becoming the world's largest international debtor, absorbing excess amounts of funding from organizations and countries on a global basis. This may affect international finance in unforeseen ways.

1. **Debits and Credits**

**Bank’s Debits and Credits**

When you hear your banker say, “I’ll *credit* your checking account,” it means the transaction will *increase* your checking account balance. Conversely, if your bank *debits* your account (e.g., takes a monthly service charge from your account) your checking account balance decreases.

If you are new to the study of debits and credits in accounting, this may seem puzzling. After all, you learned that *debiting* the [Cash](https://www.accountingcoach.com/terms/C/cash) account in the general ledger increases its balance, yet your bank says it is *crediting* your checking account to increase its balance. Similarly, you learned that *crediting* the Cash account in the general ledger reduces its balance, yet your bank says it is *debiting* your checking account to reduce its balance.

Although the above may seem contradictory, we will illustrate below that a bank’s treatment of debits and credits is indeed consistent with the basic accounting procedure that you learned. Let’s look at three transactions and consider the related journal entries from both the bank’s perspective and the company’s perspective.

**Transaction #1**

Let’s say that your company, Debris Disposal, receives $100 of currency from a customer as a down payment for a future site cleanup service. When the money is received your company makes the following entry:

(Debris Disposal’s journal entry)



Because it has received cash, Debris Disposal increases its Cash account with a debit of $100. The rules of double-entry accounting require Debris Disposal to also enter a credit of $100 into another of its general ledger accounts. Since the company has *not yet earned* the $100, it cannot credit a revenue account. Instead, the liability account Unearned Revenues is credited because Debris Disposal has a liability to do the work or to return the $100. (An alternate title for the Unearned Revenues account is [Customer Deposits](https://www.accountingcoach.com/terms/C/customer-deposits).)

Now let’s say you take that $100 to Trustworthy Bank and deposit it into Debris Disposal’s checking account. Since Trustworthy Bank is receiving cash of $100, the bank debits its general ledger Cash account for $100, thereby increasing the bank’s assets. The rules of double-entry accounting require the bank to also enter a credit of $100 into another of the bank’s general ledger accounts. Because the bank *has not earned* the $100, it cannot credit a revenue account. Instead, the bank credits a liability account such as Customers’ Checking Accounts to reflect the bank’s obligation/liability to return the $100 to Debris Disposal on demand. In general journal format the bank’s entry is:

(Trustworthy Bank’s journal entry)



As the entry shows, the bank’s assets increase by the debit of $100 and the bank’s liabilities increase by the credit of $100. The bank’s detailed records show that Debris Disposal’s checking account is the specific liability that increased.

**Transaction #2**

Let’s say Trustworthy Bank receives a $1,000 wire transfer on your company’s behalf from a person who owes money to Debris Disposal. Two things happen at the bank: (1) The bank receives $1,000, and (2) the bank records its obligation to give the money to Debris Disposal on demand. These two facts are entered into the bank’s general ledger as follows:

(Trustworthy Bank’s journal entry)



The debit increases the bank’s assets by $1,000 and the credit increases the bank’s liabilities by $1,000. The bank’s detailed records show that Debris Disposal’s checking account is the specific liability that increased.

At the same time the $1,000 wire transfer is received at the bank, Debris Disposal makes the following entry into its general ledger:

(Debris Disposal’s journal entry)



As a result of collecting $1,000 from one of its customers, Debris Disposal’s Cash balance increases and its Accounts Receivable balance decreases.

**Transaction #3**

Many banks charge a monthly fee on checking accounts. If Trustworthy Bank decreases Debris Disposal’s checking account balance by $13.00 to pay for the bank’s monthly service charge, this might be itemized on Debris Disposal’s bank statement as a “debit memo.” The entry in the bank’s records will show the bank’s liability being reduced (because the bank owes Debris Disposal $13 less). It also shows that the bank earned revenues of $13 by servicing the checking account.

(Trustworthy Bank’s general ledger)



On your company’s records, the entry will look like this:

(Debris Disposal’s general ledger)



Debris Disposal’s cash is reduced with a credit of $13 and expenses are increased with a debit of $13. (If the amount of the bank’s service charges is not significant a company may debit the charge to [Miscellaneous Expense](https://www.accountingcoach.com/terms/M/miscellaneous-expense).)

[Confused? Send Feedback](https://www.accountingcoach.com/debits-and-credits/explanation/4)

**Bank’s Balance Sheet**

Accounts such as Cash, [Investment Securities](https://www.accountingcoach.com/terms/I/investment-securities), and [Loans Receivable](https://www.accountingcoach.com/terms/L/loans-receivable) are reported as assets on the bank’s balance sheet. Customers’ bank accounts are reported as liabilities and include the balances in its customers’ checking and savings accounts as well as certificates of deposit. In effect, your *bank statement* is just one of thousands of subsidiary records that account for millions of dollars that a bank owes to its depositors.

**Recap**

Here are some of the highlights from this explanation:

* Debit means left.
* Credit means right.
* Every transaction affects two accounts or more.
* At least one account will be debited and at least one account will be credited.
* The total of the amount(s) entered as debits must equal the total of the amount(s) entered as credits.
* When cash is received, debit Cash.
* When cash is paid out, credit Cash.
* To increase an [asset](https://www.accountingcoach.com/terms/A/assets), debit the asset account.
* To increase a [liability](https://www.accountingcoach.com/terms/L/liabilities), credit the liability account.
* To increase [owner’s equity](https://www.accountingcoach.com/terms/O/owners-stockholders-equity), credit an owner’s equity account.
* To increase [revenues](https://www.accountingcoach.com/terms/R/revenues), credit the revenues account
* A credit to a revenue account also causes an increase in owner’s equity
* To increase [expenses](https://www.accountingcoach.com/terms/E/expenses), debit the expense account
* A debit to an expense account also causes a decrease in owner’s equity

Chapters and Articles

You might find these chapters and articles relevant to this topic.

1. [Money and the public purpose](https://www.sciencedirect.com/science/article/pii/B978012819380800004X)

Randall Wray, in [A Great Leap Forward](https://www.sciencedirect.com/book/9780128193808/a-great-leap-forward), 2020

II The role of the government in the monetary system

**a The basics of money creation**

Let us begin to build an understanding of what money really is.

The dominant narrative is that money “greases” the wheels of commerce. Sure, you could run the commercial machine without money, but it runs better with lubricant. In that story, money was created as a medium of exchange: instead of trading your banana for her fish, you agree to use cowry shells to intermediate trade. Over time, money's evolution increased efficiency by selecting in succession unworked precious metals, stamped precious metal coins, precious metal-backed paper money, and, finally, [fiat money](https://www.sciencedirect.com/topics/economics-econometrics-and-finance/fiat-money) comprised of base metal coins, paper notes, and electronic entries.

In this view, money is a “veil” that obscures the simple reality of exchange; in the conventional lexicon, money can be ignored as “neutral”. (That means it does not affect any decisions.) We only worry about money when there is too much of it: Friedman's famous claim is that “inflation is always and everywhere a monetary phenomenon”—too much money causes prices to rise (Friedman, 1991). Hence, all the worry about the Fed's Quantitative Easing, which has quadrupled the “Fed's money” (reserves) and by all rights should have caused massive [inflation](https://www.sciencedirect.com/topics/economics-econometrics-and-finance/inflation). (It did not.)

In this section we will examine a different narrative, drawing on Joseph Schumpeter's notion that the banker is the ephor of capitalism as well on the alternative view of government's money developed by Modern Money Theory (MMT)—a new approach to money that I helped to develop over the past quarter of a century.

Looking at money from the perspective of exchange is highly misleading for developing an understanding of capitalism. In the Robinson Crusoe story, I have got a banana and you have got a fish. But how did we get them? In the real world, bananas and fish have to be produced—production that has to be financed. Production begins with money to purchase inputs (labor, capital, intermediate goods), which creates monetary income used to buy outputs.

As mom insisted, “money doesn't grow on trees”. How did producers get money in the first place? Maybe by selling output? Logically, that is an infinite regress argument—a chicken and egg problem. The first dollar spent (by producer or consumer) had to come from somewhere. It could not have come from another's spending.

There is another problem. Even if we could imagine that humanity inherited “manna from heaven” (Friedman said we can just assume money is dropped into the economy by helicopters) to get the monetary economy going—say, an initial endowment of a million dollars—how do we explain profits, interest, and growth? If I am a producer who inherited $1000 of manna, spending it on inputs, I am not going to be happy if sales are only $1000. I want a return—maybe 20%, so I need $1200. If I am a money lender, I lend $1000 but want $1200, too. And all of us want a growing pie. How can that initial million dollars of manna do double and triple duty so that we all can end up with more of it than we started with? After all, that is what capitalism is all about: start with some quantity of money and end up with more of it. (Marx put it this way: M-C-M′: start with money [M], buy commodities and labor to produce a commodity as output [C], and sell it for more money [M′].)

Here is where Schumpeter's “ephor” comes in. An ephor is “one who oversees”, and Schumpeter applied this term to the banker. We do not need to imagine money as manna, but rather as the creation of purchasing power controlled by the banker. A producer wanting to hire resources submits a prospectus to the banker. While the banker looks at past performance as well as [wealth](https://www.sciencedirect.com/topics/economics-econometrics-and-finance/wealth%22%20%5Co%20%22Learn%20more%20about%20wealth%20from%20ScienceDirect%27s%20AI-generated%20Topic%20Pages) pledged as collateral, most important is the likelihood that the producer's prospects are good—this is called “underwriting”. If so, the ephor advances a loan that allows the production process to get underway. Where did the money come from that the ephor lends? The ephor created it.

More technically, the banker accepts the IOU of the producer and makes payments to resource suppliers (including labor) by crediting their deposit accounts. The producer's IOU is the banker's asset (a loan); the bank's deposits are its liabilities but are the assets of the deposit holders (resource suppliers).This is how “money” really gets into the economy—not via manna from heaven nor Friedman's “helicopter drops” by central bankers.

When depositors spend (perhaps on consumption goods, perhaps to purchase inputs for their own production processes), their accounts are debited, and the accounts of recipients are credited. This goes on until the loans are repaid—in which case the deposits originally created are debited (disappearing from balance sheets). That is, when a bank loan is repaid, the bank's asset (a loan) and its liability (a deposit) are both debited (crossed off the balance sheet). That means a depositor's asset (the deposit) and a borrower's liability (the loan) are also debited. These four keystrokes occur simultaneously, wiping out the money that was created in the initial loan.

Today, most “money” consists of keystroked electronic entries on bank balance sheets. It is created when banks make loans.

Because we live in an economy with many banks, payments often involve at least two banks. Banks clear accounts by debiting claims against one another (if Bank of America has a $100 check drawn on Citibank and Citibank has a $100 check drawn on Bank of America, they can “clear” by cancelling both checks). However, net clearing among banks is usually done on the central bank's balance sheet. Let us see how this works.

In the following diagram, Bank 1 lends to the firm to start the production process. The bank accepts the firm's IOU and credits the firm's deposit account. The firm writes a check to the household to pay wages. The household deposits the check at its bank, Bank 2.



Bank 2 sends the check on to the central bank, which debits Bank 1's reserves and credits Bank 2's reserves. When the household buys output from the firm, it writes a check on its account at Bank 2. The firm deposits the check into its account at Bank 1. Bank 1 sends the check to the central bank, which debits Bank 2's account and credits Bank 1's account. The firm can now use its deposit credit to repay its loan to Bank 1. The deposit created in step one is “destroyed”—wiped clean from the balance sheets—and the firm's loan is simultaneously debited.

This is called a monetary circuit and is based on Schumpeter's view. The initial loan starts the production process, and the bank money created circulates output. The money is “destroyed” at the end of the circuit when the loan is repaid. Note that the bank cannot “run out of money” since it is simply created as a deposit liability as the bank makes a loan. Banks clear with each other using central bank “money” (called reserves). The central bank cannot run out of reserves either because these are simply central bank deposit liabilities—created to allow banks to clear accounts. They are created today by a “keystroke” either when the central bank lends or buys an asset.

Like any banker, the Fed or the Bank of England “keystrokes” money into existence. Central bank money takes the form of reserves or notes, created to make payments for customers (banks or the national treasury) or to make purchases for its own account (typically, buying treasury securities or mortgage-backed securities).

Bank and central bank money creation is limited by rules of thumb, underwriting standards, capital ratios, and other imposed constraints. After abandoning the gold standard, there are no physical limits to money creation. We cannot run out of keystroke entries on bank balance sheets.

This recognition is fundamental to issues surrounding [finance](https://www.sciencedirect.com/topics/economics-econometrics-and-finance/finance). It is also scary for most people—who worry that central banks and private banks would go crazy creating money without limit, causing hyperinflation as in Zimbabwe and the Weimar Republic. However, this really is the way modern money is created in all modern economies—and hyperinflations are exceedingly rare occurrences. In other words, 99.999% of the time, banks and central banks do not create hyperinflations. In truth, our biggest problem has been with private banks financing too much speculation in asset markets, causing bubbles—and not with too much money causing inflation.

So there is some danger involved, but the good thing about Schumpeter's banker ephor is that sufficient finance can always be supplied to fully utilize all available resources to support the capital development of the economy. We can keystroke our way to full employment and rising living standards.

The bad thing about Schumpeter's ephor is that we can create more funding than we can reasonably use. Further, our ephors might make bad choices about which activities ought to get keystroked finance.

It is difficult to find real-world examples of excessive money creation to finance productive uses. Rather, the main problem is that much or even most finance has been created to fuel asset price bubbles. And that includes finance created both by our private banking ephors and in recent years by our central banking ephors.

The biggest challenge facing us today is *not* the lack of finance, but rather how to push finance to promote both the private and the public interest—through the capital development of our country.

It is also important to understand that from the beginning of their creation, central banks have always been involved in government finance. Today, all spending by the national treasury is handled by the national central bank. And all [tax](https://www.sciencedirect.com/topics/economics-econometrics-and-finance/taxation%22%20%5Co%20%22Learn%20more%20about%20tax%20from%20ScienceDirect%27s%20AI-generated%20Topic%20Pages) payments are received by the national central bank. In short, the Fed makes and receives all payments on behalf of the US Treasury.

And remember this: the Fed cannot run out of money. This has implications for government spending that will be important when we turn to our analysis of financing the progressive agenda.

**b Taxes drive the sovereign's currency**

MMT has emphasized that there is a close relation between sovereign power to issue a currency and its power to impose tax liabilities. For shorthand, we say “Taxes Drive Money.” Let us see why.

First let us describe what we mean by currency sovereignty. As you probably know, the US Constitution gives to Congress the sole power to issue a currency. Throughout history and around the world today, most countries issue their own currency. However, MMT distinguishes between countries that promise to convert their currencies on demand at [fixed exchange rates](https://www.sciencedirect.com/topics/economics-econometrics-and-finance/fixed-exchange-rate%22%20%5Co%20%22Learn%20more%20about%20fixed%20exchange%20rates%20from%20ScienceDirect%27s%20AI-generated%20Topic%20Pages) to either precious metals or foreign currencies versus those that do not. The United States—like most developed nations—does not make such a promise, although there was a period in which the dollar was convertible to gold. Some countries today—such as Ecuador—promise to convert their currencies to US dollars. These are often said to have “dollarized”. MMT argues that this can make a big difference and categorizes these “convertible” currencies as not fully sovereign. Nonconvertible currencies are sovereign currencies.

In what follows, when I say “sovereign currency”, “sovereign currency issuer”, or “sovereign government”, I am implicitly speaking only of countries that issue their own “nonconvertible” currencies. We must add caveats for other countries as a convertible currency *can constrain* fiscal and [monetary policy](https://www.sciencedirect.com/topics/economics-econometrics-and-finance/monetary-policy%22%20%5Co%20%22Learn%20more%20about%20monetary%20policy%20from%20ScienceDirect%27s%20AI-generated%20Topic%20Pages) space.

So let us describe how the sovereign currency issuer creates money. The sovereign government chooses a money of account (dollar in the United States), imposes tax liabilities in the money of account, issues currency in the money of account, and accepts its own currency in tax payments. People will accept the currency because they need it to pay [taxes](https://www.sciencedirect.com/topics/economics-econometrics-and-finance/taxation). Logically, if they have to have currency to pay taxes, the government must issue the currency before taxes can be paid.

The upshot is that sovereign governments do not “need” tax revenue in order to spend. As Beardsley Ruml put it, once we abandoned gold, federal taxes became “obsolete” for revenue purposes. This does not mean that taxes are unnecessary for they are critical to creating a demand for the currency. But logically it follows that sovereigns spend first, then collect taxes.

Note that any obligation to pay currency will drive it: it could be fees, fines, tithes, or tribute. If the government imposes these obligations and enforces payment, any of them can “drive” demand for the currency. Further if the government monopolizes an essential commodity—say, the water supply—and will sell it only for its own currency, that can also drive demand for the currency. When you get thirsty enough, you will work for the government's currency to buy the precious water.

MMT argues that it has always been this way—all the way back to the earliest money that we know of, that created in Babylonia.

The fundamental question is this: does the issuer of a money-denominated liability need to obtain some of those liabilities before spending or lending them? I will examine three analogous questions (each of which has the same answer):

1.

Does the government need to receive tax revenue before it can spend?

2.

Does the central bank need to receive reserve deposits before it can lend?

3.

Do private banks need to receive demand deposits before they can lend?

If you have already answered “Of course not!”, you are probably up to speed on this topic. If you answered yes (to one or more) or if you do not have a clue, read on.

As we will see, these are reducible to the question: which comes first, Creation or Redemption?

**1 The nature of money**

What is money? Many think money is a thing—sea shells in the distant past, gold a 100 years ago, or base metal coins or paper today. Some say that we are moving to a “virtual reality” money—with [bitcoin](https://www.sciencedirect.com/topics/economics-econometrics-and-finance/bitcoin) as a new innovation. But actually most money today already is “virtual” in the sense that it is an electronic credit to a balance sheet that is kept on a computer hard drive. And even all the way back to Babylonian times, most money took the form of a written record—chalk on a slate, cuniform writing on a clay tablet, hash marks cut across a wooden tally stick, or penned numbers on a passbook record of a savings account. (When I was a kid, we would take our “passbooks” to the bank and a teller would enter the amount of a deposit and write her initials to verify the updated balance. That was “money”—an initialized entry in my passbook.)

What is the nature of the institution that we call money? What do the things that many people call money have in common? Most economists identify money as something we use in exchange. That might move our understanding forward a bit, but it simply tells us “money is what money does”.

In the *Treatise*, Keynes2 began with the money of account, the unit in which we denominate debts and credits, and, yes, prices. He also says something about the nature of the money of account: he argues that for the past 4000 years, at least, the money of account has been chosen by the state authorities.3 Units of measurement are necessarily social constructions. I can choose my own idiosyncratic measuring units for time, space, and value, but they must be socially sanctioned to become widely adopted. “Money” is a much more difficult concept than “inch” or “meter”. Units to measure length, width, volume, weight are relatively simple and have probably existed for tens of thousands of years.

Money, of course, measures something much more abstract—nominal value—to compare a wide variety of things that share no obvious characteristics. While we will never know for sure, substantial evidence indicates that the creation of money as a measuring unit originated in Babylonian temples for accounting purposes. Only later was this accounting unit applied to measure prices, including obligations to be paid to the authorities (taxes, fees, fines, tribute, tithes), wages to be paid to workers, and prices to be paid in markets.

So, one commonality is that all monies are measured in a money of account. All those things economists declare to be money are denominated in the money of account. What is the nature of those money things? The most obvious shared characteristic of some of them is that they are evidence of debt: coins and treasury or central bank notes are government debts; bank notes or deposits are bank debts; and we can expand our definition of money things to include shares of [money market mutual funds](https://www.sciencedirect.com/topics/economics-econometrics-and-finance/money-market-fund), and so on, which are also debts of their issuers.

If we go back through time, we find wooden tally sticks issued by European monarchs and others as evidence of debt (notches recorded money amounts). We find early American Colonial paper notes denominated in, for example, Virginia pounds. And we find “virtual” electronic entries on bank balance sheets. Clearly it does not matter what material substance is used to record the debt—the tally sticks or paper notes are just tokens, records of the relation between creditor and debtor.

We can call these “monies” (coins, notes, tally sticks, electronic entries) money records. While the technology changes, each of these is a record of a money-denominated debt. Each issuer promises to accept back his/her own money-denominated debt in payment. This has been called “redemption”—a term that likely derives from religious obligations.

The monarch or modern democratic government promises to redeem the tally IOU or paper note IOU, following prescriptions that govern redemption. Let us see what that means.

**2 Modern money**

What we have, then, is a socially created and generally accepted money of account, with debts that are denominated in that money of account. Within a modern nation, socially sanctioned debts are typically denominated in the nation's money of account. In the United States it is the dollar. Some kinds of money-denominated debts “circulate”, used in exchange and other payments (i.e., paying down one's own debts).The best examples are currency (debt of treasury and central bank) and demand deposits (debt of banks). Why do we accept these in payment?

It has long been believed that we accept currency because it is either made of precious metal or redeemable for the same—we accept it for its “thing-ness” either because we can exchange the coin or paper money for precious metal or melt it down to extract the precious metal it is made of. In truth, coined precious metal almost always circulated well beyond the value of embodied metal (at least domestically); and redeemability of currency for gold at a fixed rate has been the exception not the rule throughout history. Hence, most economists recognize that currency is today (and most often was in the past) “fiat”—with little to no intrinsic value and not redeemable for precious metal.

Further, and importantly, law going back to Roman times has typically adopted a “nominalist” perspective: the legal value of coins was determined by nominal value. For example, if one deposited coins with a bank one could expect only to receive on withdrawal currency of the same nominal value. In other words, even if the currency consisted of stamped gold coins, they were still “fiat” in the sense that their legal value would be set nominally—with nominal value of the coins determined by the rulers rather than by the embodied gold. (Old coins did not have a nominal value stamped on them—unlike today's coins—making it easy to “cry down” the value of coins. All it took was an announcement—by the town crier, publicly “crying” down the coin—that a coin's value was being reduced from a shilling to half a shilling. This was an effective way of raising taxes as taxpayers would have to deliver twice as many coins.) Ultimately, the value of the sovereign's money (coins, notes, or sticks) would be determined at the public pay office (where obligations to the authorities would be paid)—a coin's worth is equal to the amount of taxes it pays.

The argument of MMT is that currency will be accepted if there is an enforceable obligation to make payments to its issuer in that same currency. Hence, MMT has adopted the phrase “taxes drive money” in the sense that the state can impose tax liabilities and issue the means of paying those liabilities in the form of its own liabilities.

There is an institution, or a set of institutions, that we can identify as “sovereignty”. As Keynes said, the sovereign has the power to declare what will be the unit of account—the Dollar, the Lira, the Pound, the Yen. The sovereign also has the power to impose fees, fines, and taxes, and to name what it will accept in payment. When the fees, fines, and taxes are paid, the currency is “redeemed”—accepted by the sovereign.

While sovereigns also sometimes agree to “redeem” their currency for precious metal or for foreign currency, that is not necessary. (And, as argued above, a promise to redeem a currency for foreign currency or gold reduces sovereign power by potentially constraining monetary and fiscal policy space.) The agreement to “redeem” currency in payment of taxes, fees, tithes, and fines is sufficient to “drive” the currency—that is, to create a demand for it.

When pondering why anyone would accept a fiat one dollar paper note, many people will conclude “I accept it because I believe someone else will accept it.” I call this the greater fool theory of money: I know the paper money has no intrinsic value and I know I cannot redeem it for gold, but I think there are other people who will accept it. The value of money relies on an infinite regress: Billy Bob takes it because he thinks Buffy Sue will take it.

But in the case of currency, we do not need an infinite regress argument. While it could be true that I am willing to accept the state's IOUs if I know I can dupe some dope, I will definitely accept it if I have a tax liability and know I must pay that liability with the state's currency. This is the sense in which MMT claims “taxes are sufficient to create a demand for the currency”. It is not necessary for everyone to have such an obligation—so long as the [tax base](https://www.sciencedirect.com/topics/economics-econometrics-and-finance/taxation-procedure%22%20%5Co%20%22Learn%20more%20about%20tax%20base%20from%20ScienceDirect%27s%20AI-generated%20Topic%20Pages) is broad, the currency will be widely accepted.

There are other reasons to accept a currency—maybe I can exchange it for gold or foreign currency, maybe I can spend it at the store, maybe I can hold it as a store of value. These supplement taxes—or, better, derive from the obligations that need to be settled using currency (such as taxes, fees, tithes, and fines).

**3 The fundamental “law” of credit: redeemability**

A century ago A. Mitchell Innes posed a fundamental “law” of credit: the issuer of an IOU must accept it back for payment. We can call this the principle of redeemability: the holder of an IOU can present it to the issuer for payment for any debt the holder owes to the IOU's issuer. Note that the holder need not be the person who originally received the IOU—it can be a third party. If that third party owes the issuer, the IOU can be returned to cancel the third party's debt; indeed, the clearing cancels both debts (the issuer's debt and the third party's debt).

If one reasonably expects that she will need to make payments to some entity, she will want to obtain the IOUs of that entity. This goes partway to explaining why the IOUs of nonsovereign issuers can be widely accepted: as Minsky said, part of the reason that bank demand deposits are accepted is because we—at least, a lot of us—have liabilities to the banks, payable in bank deposits.

We repay our loans from banks by writing checks against bank deposits. In modern banking systems that have a central bank to clear accounts among banks at par, one can deliver any bank's deposit IOU to cancel a debt with any other bank. Anyone with a loan from any bank can accept a check drawn on any other bank to “redeem” himself (make a payment on the loan).

Acceptability can be increased by promising to convert on demand one's IOUs to more widely accepted IOUs. The most widely accepted IOUs within a society are those issued by the sovereign (or, at least, by some sovereign—perhaps by a foreign sovereign of a more economically important nation4). In that case, the issuer must either hold or have easy access to the sovereign's IOUs to ensure conversion. Bank “demand” deposits can be converted “on demand” to the government's currency. The central bank stands ready to ensure banks can make this conversion on demand.

We can use the metaphor of a pyramid of liabilities to visualize how liabilities lower in the pyramid leverage those higher in the pyramid, and with the sovereign's liabilities at the apex. Monetary contracts for future delivery of “money” typically designate whose liabilities are acceptable, usually either commercial bank demand deposits or the sovereign's liabilities. As the government's backstop of chartered banks includes both the central bank (lender of last resort) and the treasury (deposit insurance), bank deposits are generally as acceptable as cash. Hence, the need to use sovereign liabilities for settlement has been reduced to clearing among banks, to foreign exchanges, and to illegal activities. For the most part, we use bank liabilities as our primary medium of exchange (to make payments). Liabilities of nonbank [financial institutions](https://www.sciencedirect.com/topics/economics-econometrics-and-finance/financial-institution%22%20%5Co%20%22Learn%20more%20about%20financial%20institutions%20from%20ScienceDirect%27s%20AI-generated%20Topic%20Pages) are lower in the pyramid and may need to be converted to bank liabilities before payments can be made.

In any event, whatever final payment courts of law enforce can be used as final payment. From Roman times, courts have interpreted money contracts in nominal terms as requiring payment in “lawful money” which is always in the form of designated liabilities denominated in an identified money of account.

**4 Redemptionism or creationism?**

We can ponder again the three analogous questions:

1.

Does the government need to receive tax revenue before it can spend?

2.

Does the central bank need to receive reserve deposits before it can lend?

3.

Do private banks need to receive demand deposits before they can lend?

It should be clear now that the answer to each is “No!”. Indeed, the logic must run from CREATION to REDEMPTION. One cannot redeem oneself from sin or debt unless that sin or debt has been created.5

The King issues his tally stick or his stamped coin in payment for your wagon or horse or labor. That puts him in the position of a “sinful” debtor. He redeems himself when he accepts back his own IOU in payment of your tax liability.

The central bank issues its reserve deposit as its debt—normally when it makes a loan to private banks, or when it purchases treasury debts in the open market. (These reserve deposits can always be exchanged on demand for central bank notes—which keeps the central bank indebted.) The central bank redeems itself when it accepts its notes and reserve deposits in payment.

The private bank issues its demand deposit as its debt—normally when it makes a loan to a private firm or household. The bank redeems itself when it accepts a check written on its demand deposit in payment.

Note that we have looked at two sides of one balance sheet (the “money issuer”) in each of these cases, but there is another sinful debtor in every case:

Before the sovereign can issue tallies or coins, he must put taxpayers in debt by imposing a tax obligation payable in his tally stick or coin. This creates a demand for his tally or coin.

When the central bank lends reserves to a private bank, it puts that bank in debt, crediting its account at the central bank with reserves, but the bank simultaneously issues a liability to the central bank.

When the private bank lends demand deposits to the borrower, it credits the deposit account but the borrower becomes a debtor to the bank.

So each “redemption” simultaneously wipes out the sinful debt of both parties. The slate is wiped clean. Hallelujah!

You see, folks, it is all debits and credits. Keystrokes. That record bonds of indebtedness, with both parties united in the awful sinfulness. Until Redemption Day, when the IOUs find their ways back to the issuers.

•

Those who think a sovereign must first get tax revenue before spending;

•

Those who believe a central bank must first obtain reserves before lending them;

•

And those who believe a private bank must first obtain deposits before lending them;

**Have all confused redemption with creation**.

Receipt of taxes, receipt of reserve deposits, and receipt of demand deposits are all Acts of Redemption.

Creation must precede Redemption. Debts must exist before they can be redeemed.

**c Taxes and the public purpose**

We have established that “taxes drive money”. What we mean is that the sovereign government chooses a money of account (dollar in the United States), imposes obligations in that unit (taxes, fees, fines, tithes, tolls, or tribute), and issues the currency that can be used to “redeem” oneself in payments to the government. Currency is like the “Get Out of Jail Free” card in the game of Monopoly—you pay your taxes, fees, or fines using currency.

Taxes create a demand for “that which is necessary to pay taxes” (and other obligations to the state), which allows the government to purchase resources to pursue the public purpose by spending the currency.

In addition to creating a demand for currency, the tax also frees resources from private use so that the government can employ them in public use.

To greatly simplify, money is a measuring unit, originally created by rulers to value the fees, fines, and taxes owed. By putting the subjects or citizens into debt, real resources could be moved to serve the public purpose. Taxes drive money. Viewed from this perspective, money was created to give government command over socially created resources. This is why money is linked to sovereign power—the power to command resources. That power is rarely absolute. It is contested, with other sovereigns and also with domestic creditors.

As discussed, we also know that money's earliest origins are closely linked to debts and recordkeeping, and that many of the words associated with money and debt have religious significance: debt, sin, repayment, redemption, “wiping the slate clean,” and Year of Jubilee. Early records of credits and debits were more akin to modern electronic entries—etched in clay rather than on computer tapes—than to what is erroneously called “commodity money” such as stamped gold coins. And all known early money units had names derived from measures of the principal grain foodstuff—how many bushels of barley equivalent were owed, owned, and paid. All of this is more consistent with the view of money as a unit of account, a representation of social value, and an IOU rather than as a commodity used for exchange (as in the Robinson Crusoe/Friday seashell money story).

For most of humanity today the original sin/debt is to the tax collector because as they say, the only things in life you cannot escape are death and taxes. You can redeem your tax debts by delivering the sovereign's own IOUs in payment. Widespread debts to the sovereign ensure widespread acceptance of the sovereign's own IOUs. This means that many will work for the sovereign or work to produce what the sovereign wants to buy. Even those without tax debts will work for the sovereign's IOUs knowing that others need them.

This is now the most common way that the sovereign government moves resources to the public sector: in recent centuries through taxes, although as we go back in time, other liabilities such as fines, fees, tithes, and tribute were more important.

From this vantage point, taxes do not “pay for” government spending. Indeed, no taxes can be collected until the government has spent. Taxes create a demand for the government's spending and logically precede that spending. The purpose of the tax is to free up resources to pursue the public purpose. But our tax system is already doing a heckuva job creating unemployed resources. If Congress ever got hold of its senses, it would increase spending (or reduce taxes) to employ idle resources. At some point (probably later rather than sooner) we could come up against resource constraints. At that point, we might need to curtail spending and/or raise taxes. This is a topic we will pursue below. But until that point is reached, government can spend more without increasing taxes.

A broad-based tax makes sense if the goal is simply to move resources to the public sector—a [head tax](https://www.sciencedirect.com/topics/economics-econometrics-and-finance/lump-sum-taxation%22%20%5Co%20%22Learn%20more%20about%20head%20tax%20from%20ScienceDirect%27s%20AI-generated%20Topic%20Pages) or income tax that hits everyone will reduce resource use, freeing resources for government purchase. However, we need to also look at issues of fairness and incentives.

For that reason, MMT prefers to tax “bads”, not “goods” where possible. We should not tax low-income families—we want them to have as much net income as possible to finance their purchases of necessities. Nor should we [tax consumption](https://www.sciencedirect.com/topics/economics-econometrics-and-finance/excise-tax%22%20%5Co%20%22Learn%20more%20about%20tax%20consumption%20from%20ScienceDirect%27s%20AI-generated%20Topic%20Pages) of necessities. We should not tax work—work is generally good because it provides society with useful output. Where possible, tax bads, not goods. But if we need to free up resources, tax the incomes or the consumption of those most able to bear the burden of reduction of living standards.

We can use taxes to discourage “sins” (smoking, drinking, gambling, and polluting)—in which case the purpose of the tax is to eliminate “sin” so the optimal sizing of the tax would eliminate sin and hence raise no revenue at all. Even as it raises no revenue, it reduces the “externalities” of sins like pollution and can free up resources formerly devoted to promoting sinful behavior like gambling in fancy casinos.

We can view excessive riches as a sort of “sin” that we want to tax away. Some have argued that high tax rates on high incomes in the early postwar period “worked” by discouraging corporations from paying high incomes to top executives. Exactly! That is how sin taxes are supposed to work. This helped to keep inequality in check. But you do not tax the rich to provide Uncle Sam with revenue—he does not need revenue as he cannot run out of his own money to spend.

I am always surprised when my progressive friends see the “Tobin tax” (financial transactions tax) as a potentially great source of tax revenue to “pay for” all the goodies they would like the government to provide.

No, the purpose of a Tobin tax is to reduce financial turnover and it would have achieved complete success in eliminating the sin of high-speed turnover even as it raised no revenue at all. Ditto the cigarette tax. Ditto the carbon tax. Ditto the wealth tax. Sin taxes should reduce or even eliminate sin, and the more successful they are, the less revenue they raise.

Another aim of taxes is to allocate the costs of specific public programs to the beneficiaries. For example, it is common to tax gasoline so that those who use the nation's highways will pay for their use (tolls on throughways are another way to do this). Note that while many would see these taxes as a means to “pay for” government spending, the real purpose of such a tax is to make those who will use highways think twice about their support for building them. Alternatively, tolls can be used to impose costs directly on drivers. Again, this rations use as those unwilling to pay either find alternative routes or rideshare. For a national government, tolls should not be seen as a revenue source but rather as a way to allocate resources to those willing to pay—if people do not want to pay the tolls, do not devote resources to building new toll roads. (State and local governments are in a different situation, of course. They really do need the revenue as they are not the currency issuer.)

Likewise, the government does not need the revenue from a cigarette tax, but rather wants to raise the cost to those who will commit the “sin” of smoking. Many would say that it is only fair that those who smoke will “pay for” the costs their smoking imposes on society (in terms of hospitalizations for lung cancer, for example). This is not far from the truth—the hope is that the high cost of tobacco will convince more people never to smoke, which thereby reduces the cost to society. The point is to reduce the “waste” of real resources that must be devoted to caring for those who smoke (and those who suffer the effects of secondhand smoke).

In sum, the MMT alternative view is that taxes may serve several purposes, but “raising money” is not one of them. The national government does not need tax revenue to finance spending.

**d The sectoral balance approach**

Credit and debt are two sides of the same coin. Both creditor and debtor are sinful. They balance. Exactly. The balance is ensured by double-entry bookkeeping. Redemption frees both creditor and debtor. It results in a different balance—one without sin. [Bankruptcy](https://www.sciencedirect.com/topics/economics-econometrics-and-finance/bankruptcy%22%20%5Co%20%22Learn%20more%20about%20Bankruptcy%20from%20ScienceDirect%27s%20AI-generated%20Topic%20Pages) also results in balance, but one that maintains the power of creditor over debtor—at least within the limits of law. But the point is, debts and credits are always in balance.

Within the private sector for every private creditor there is a private debtor. We call these “inside debts” because they are “inside” the private sector that includes both households and firms. Generally households taken as a whole are net creditors, although there are obviously many households that are net debtors. The business sector as a whole can be either a net creditor or debtor. But when we add up all private sector units, the debts net to zero. There is balance.

When we include a government sector, its IOUs are balanced by credits held by the nongovernment sector. The nongovernment sector includes the private sector plus the “external” sector—which is the rest of the world. (The external sector includes foreign governments, households, and firms.) The nongovernment sector's net credits are claims on government.

Those balances had to do with debts and credits or financial wealth. These are stocks that can be measured at a point in time. There also is a balance between flows over time—spending and income over the course of a year, for example. If I spend more than my income this year, I am running a deficit—let us say it amounts to $1000 for the year. This means I must have issued debt equal to $1000. Every year that I run another deficit, it adds to my debt. If next year I ran a surplus (spent less than my income—what is normally called saving)—say, equal to $600—then it would reduce my debt by that amount so that it would fall by $600 to just $400. Surpluses reduce debt (or increase net assets).

At the aggregate level, just as credits (assets) and debts (liabilities) must balance so too must deficits and surpluses. If the government sector runs a surplus (tax revenue is greater than spending), then the nongovernment sector must have run a deficit (income less than spending). If government runs a deficit, then the nongovernment sector has a surplus. It balances.

Let me repeat that. The government's deficit means a nongovernment surplus. It balances. There is always financial balance. Imbalance can arise only due to arithmetic errors.

Take a look at the US case. The following graph displays the three sectoral balances6: government (includes federal, state, and local government), domestic private (US households and firms), and capital account (this is the external balance and is positive if the rest of the world taken as a whole spends less than its income).7 If a sector is running a surplus, it is above zero; if it runs a deficit, it is below zero.

Let us take a look at US Sectoral Balances for the government sector (all levels of government), the domestic private sector (households and firms), and the foreign sector (rest of the world combined).8



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What do you see? Balance. A mirror image. In normal times, the private sector surplus (blue) plus the current account deficit (green) equals the government deficit (red). In the abnormal times of private sector deficits (in the mid- to late 1990s), we still saw balance—the government even ran budget surpluses for a few years to maintain the balance.

You will also note that since the administration of Ronald Reagan, the United States has run a current account deficit (capital account surplus) mostly due to a trade deficit in goods. This means that our government budget must run a larger deficit in order for our private sector to run a surplus: the private sector surplus equals the budget deficit minus the current account deficit. Given the current account deficit it is literally impossible for the private sector to avoid a deficit unless the government runs a (relatively large) deficit.9

Take a look at Euroland; what do you see?



Balance. Is it not amazing? Whenever the private sector surplus rises (red), the budget deficit rises (green)—that is, goes more negative; the correlation is near 100%, with the current account acting as the balancing item.

Financial balances balance.

If you take the world as a whole, there is no external sector since we do not trade with Martians (yet). And so the sum of the global government deficits equals the sum of the global private sector surpluses. It balances.

Keep that in mind later when we discuss government finance. The government's deficit is our surplus. The government's debt is our net financial wealth. If you are against government deficits, you are necessarily opposed to private sector surpluses and financial wealth.

1. **Banking Fundamentals**

**What are Banking Fundamentals?**

Banking fundamentals refer to the concepts and principles relating to the practice of banking. Banking is an industry that deals with credit facilities, storage for cash, investments, and other financial transactions. The banking industry is one of the key drivers of most economies because it channels funds to borrowers with productive investments.

[Banks](https://corporatefinanceinstitute.com/topic/career/) perform a myriad of functions, including deposits and withdrawals, currency exchange, forex trading, and wealth management. Also, they act as a link between depositors and borrowers, and they use the funds deposited by their customers to provide credit facilities to people who want to borrow.

Banks make money by charging an interest rate on loans, where they profit by charging a higher interest rate than the interest rate they pay on customer deposits. However, they must comply with the regulations set by the central bank or national government.

**Summary**

* A bank is an institution that accepts customer deposits and offers loans to individuals and corporate clients.
* Banks make money by charging higher interest on loans than the interest they pay on customer deposits.
* In the United States, banks are required to retain 10% of the customer deposits as reserves while using the other 90% to provide loans.

**Banking Fundamentals – How the Banking Industry Works**

In the United States, banks are regulated by the [Federal Reserve](https://corporatefinanceinstitute.com/resources/economics/federal-reserve-the-fed/). Banks must retain at least 10% of each deposit on hand but can lend out the other 90% as loans. The reserve requirement applies to all types of banks that are licensed to operate in the United States, and they can hold the reserve as a deposit in the local Fed bank or as cash in the vault.

The actual reserve requirement is determined by the Federal Reserve Board of Governors. When the Fed reduces the reserve requirement for member banks, it is implementing an expansionary monetary policy, which increases the amount of money in the economy. On the other hand, when it increases the reserve requirement, it is implementing a contractionary monetary policy that reduces liquidity.

All the Fed’s member banks must be insured with the [Federal Deposit Insurance Corporation (FDIC)](https://corporatefinanceinstitute.com/resources/wealth-management/what-is-fdic/). The FDIC was created in 1933 after the Great Depression through the enactment of the Glass-Steagall Act. It came after multiple bank failures that resulted in banking panics, with depositors demanding all their deposits held at the bank.

The FDIC was formed to prevent such occurrences by insuring all deposits that customers keep at the bank. It insures savings accounts, checking accounts, and other deposit accounts. During the [2008 Global Financial Crisis](https://corporatefinanceinstitute.com/resources/economics/2008-2009-global-financial-crisis/), the FDIC raised the deposit limit to $250,000 per account to protect depositors from the crisis.

For a deeper understanding of the banking industry and its workings, see CFI’s [**Introduction to Banking**](https://corporatefinanceinstitute.com/course/introduction-to-banking-course/) course!

**Banking Fundamentals – Types of Bank Accounts**

The common types of bank accounts include:

**1. Savings account**

A savings account is a bank account in which a customer can deposit money that they do not need right away, but that is available for withdrawal whenever needed. The bank loans out the money to borrowers and charges interest on the amount of credit disbursed.

**2. Checking account**

A checking account allows customers to access their deposited funds with ease, and they can use it to make their financial transactions, such as paying bills. A customer can access the funds by writing a check, using a debit card to withdraw money or make payments, or by setting up automatic transfers to another account.

**3. Certificate of deposit**

A certificate of deposit is a bank account that holds a fixed amount of money for a defined period of time, such as six months, one year, two years, etc. It pays a fixed interest rate on the amount held.

**Banking Fundamentals – Types of Banks**

Below are the most common types of banks in the United States:

**1. Commercial banks**

Commercial banks are the most common type of bank. They provide various services such as providing business loans, accepting deposits, and offering basic investment products to both individuals and private businesses.

Commercial banks also offer other financial services such as global trade services, merchant services, insurance products, retirement products, and treasury services. They make money by providing business loans to individual and corporate borrowers and earning interest income from them, and also by charging service fees.

**2. Credit unions**

A credit union is a type of bank that is open to a specific category of people who are eligible for membership. It is member-owned and is operated by the members on the basis of people helping people. Traditionally, credit unions served either residents of a local community, members of a church, employees of a specific company or school, etc.

The ownership structure of credit unions allows them to offer more personalized and lower-cost banking services to their members. Due to their small operating size, credit unions may pay higher interest rates than banks, and customers can build a better relationship with the banking staff. On the downside, the credit unions’ operations are limited, and the customer’s deposits are less accessible.

**3. Investment banks**

Investment banks are banks that provide corporate clients access to the capital markets to raise funds for expansion. They help companies raise funds in the stock market and bond market to finance their expansion, acquisitions, or other financial plans. They also facilitate mergers and acquisitions by identifying viable companies for acquisition that meet the buyer’s criteria.