

Money and Banking

Money and Assets

M1

What your textbook says

Currency in circulation

Checkable deposits

Traveler's checks

As of May, 2020

Currency in circulation

Checkable deposits

+ Savings deposits

+ Money-market deposit
accounts

- Traveler's checks

M2

What your textbook says

M1

Savings deposits

Small-denomination (<\$100K)
time deposits

Retail money-market mutual
funds

As of May, 2020

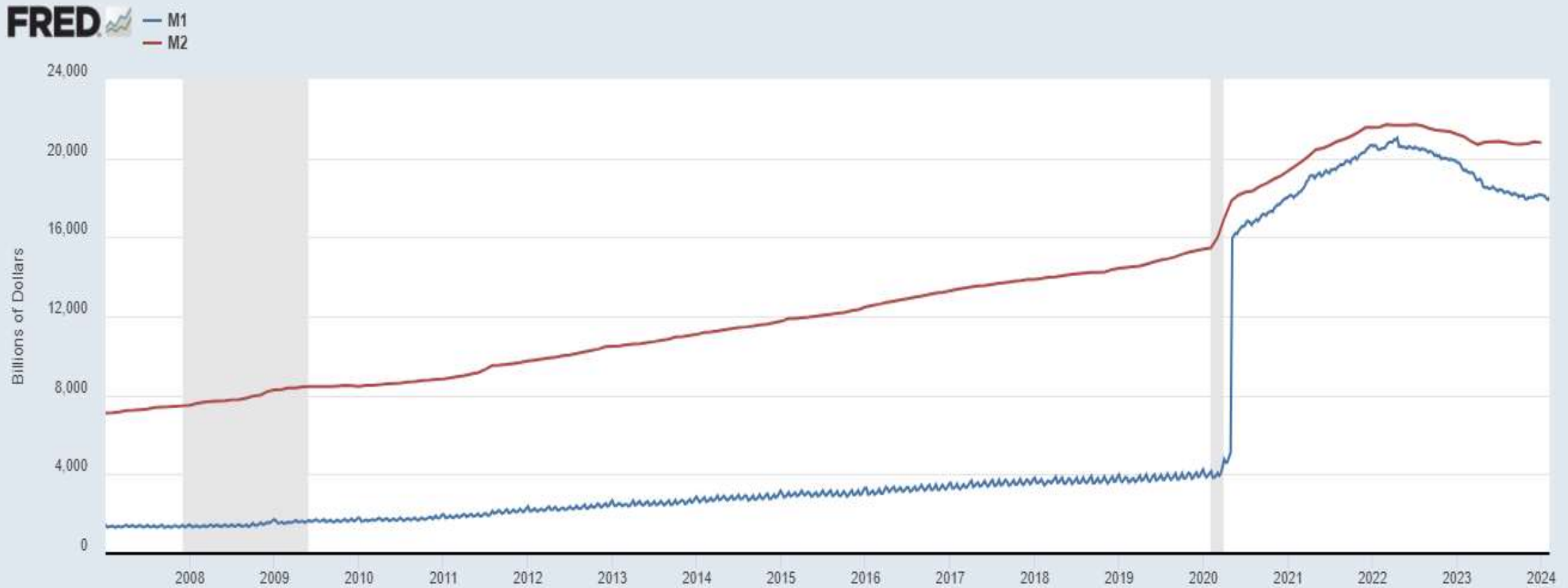
M1

- Savings deposits (moved to
M1)

Small-denomination (<\$100K)
time deposits

Retail money-market mutual
funds

17 years of M1 and M2



Shaded areas indicate U.S. recessions.

Source: Board of Governors of the Federal Reserve System (US)

fred.stlouisfed.org

Financial Intermediaries

Banks offer demand deposits, savings deposits, loans, mortgages, IRAs, CDs, and many other financial services for profit.

Credit Unions offer many of the same services as a bank, but they are generally customer-owned and not-for-profit.

Savings and Loans (S&L) are much rarer than they were in decades past. They, too, resemble banks and credit unions, except they tend to specialize in business loans, mortgages, and high-interest savings.

Financial Intermediaries

Investment management firms (Fidelity, T Rowe Price, et al.) generally work with private individuals to manage private wealth and retirement. They house or work closely with brokerages.

Investment banks (Goldman Sachs and others) work mostly with commercial clients on M&A, IPOs, brokering corporate bonds, and other services. They, too, trade securities.

Financial Assets

An **asset** is some piece of property that has value to its owner. Prospective owners purchase assets in the hope that the asset will appreciate and make the owner wealthier.

Financial assets derive much of their value from being both highly tradeable and easily convertible to money.

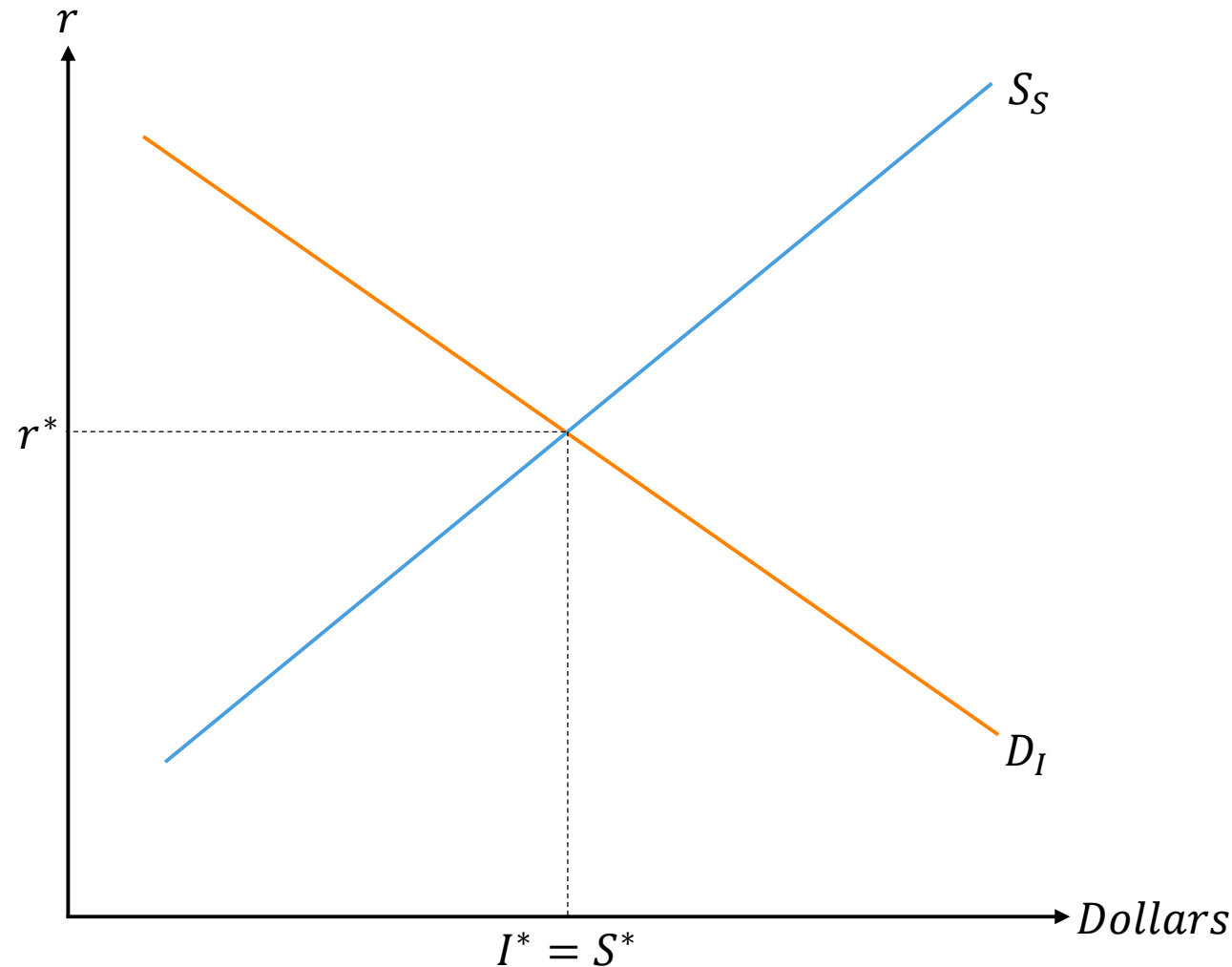
Since there is a time element to the value of an asset, interest rates come into play.

The Market for Loanable Funds

Savers supply funds (S_S).

Investors demand funds (D_I).

The real (adjusted for inflation) interest rate (r) coordinates their plans.



Interest Rates and Loanable Funds

Money, as a medium of exchange and a store of value, is the **quantity** that is exchanged on the loanable funds market (hint: the word ***funds*** is important)

The interest rate is **not** “the price of money.” The interest rate is a relative price between the value of goods in the present and the value of goods in the future. It is more appropriate to say that the interest rate, insofar as it is a price, is “the price of [im]patience.”

Interest Rates

There is interest even in (a) societies without the ability to charge interest—e.g., for religious reasons—and even (b) those societies without money.

Interest rates are positive because people value the present, *ceteris paribus*, more highly than the future. Economists call this a “positive rate of time preference.” Why? Uncertainty, risk, impatience, and **opportunity cost**.

Interest Rates

There are generally two interest rates: a **real interest rate**, and a **nominal rate**.

$$r = i - \pi$$

Where r is the real interest rate, i is the nominal rate, and π is inflation (or, for the future, expected inflation).

The time value of money

The very first thing to remember is the magic of compounding interest. Small changes now—taking on some debt or setting aside some money in an asset—will explode to very large amounts with time.

$$FV = PV(1 + r)^t$$

Spending money now means not saving it. Not saving involves a sacrifice equal to the growth you *could have* realized.

Return on Investment (ROI)

To find ROI, divide the **net earnings** by the initial investment to get a ratio. Then convert that a percentage.

If an initial investment was \$10,000 and it yielded \$130,000,

$$ROI = \frac{\text{Net Earnings}}{\text{Investment}} = \frac{130000 - 10000}{10000} = 1200\%$$

Interest Rates

From the perspective of a **saver**, the **interest rate on savings** compounds to produce the value of an act of saving.

$$FV = PV(1 + r)^t \text{ or } FV = PV * e^{rt}$$

From the perspective of an borrower, profits (ROI), discounted by the time it takes to generate them, has to be **at least as large** as the interest rate to be worth it.

But at what Cost? Risk and Return

As a general principle, higher rates of return (ROI) must be accompanied by some offsetting downside. Most times, this downside is the **risk of loss** on the investment.

If there were no risk associated with higher returns, no one would ever invest in anything but the highest ROI assets. Furthermore, people would not be able to avoid risk by accepting lower ROI assets.