CHAPTER 1

Why Study Money, Banking, and Financial Markets?

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Outline

Reading and companion materials

- Mishkin, *The Economics of Money, Banking, and Financial Markets*, 13th ed.
- This deck: **Chapter 1** — Why Study Money, Banking, and Financial Markets? (plus the appendix on aggregate output, the price level, and the inflation rate).
- Chapter 2 (An Overview of the Financial System) follows in a separate deck for this session.

Learning objectives

By the end of this chapter you should be able to:

1.1 Recognize the importance of financial markets in the economy.

1.2 Describe how financial intermediation and financial innovation affect banking and the economy.

1.3 Identify the basic links among monetary policy, the business cycle, and economic variables.

1.4 Explain the importance of exchange rates in a global economy.

1.5 Explain how the study of money, banking, and financial markets may advance your career.

1.6 Describe how the text approaches the teaching of money, banking, and financial markets.

PART 1

How This Course Works

A motivating question

You hear on the evening news that the Federal Reserve is raising the federal funds rate by half a percentage point.

- What happens to the interest rate on a car loan?
- Does a house become more or less affordable?
- Will it be easier or harder to find a job next year?

These questions connect a single policy decision to interest rates, asset prices, the job market, and your own financial life. This course gives you a framework to answer them — and money, banking, and financial markets sit at the center of that framework.

A big number — what is it?

10,000

Take a guess — 10,000 *what*?

The answer — the hidden human cost of the Great Recession

At least 10,000 additional "economic suicides"

Europe and North America, 2008–2010. Job loss, debt, and foreclosure raised suicide risk in country after country — a single financial shock leaves a measurable body count.

- One recession is not just GDP and unemployment statistics — it is also a *public-health* event.
- Understanding what causes recessions, and how central banks and financial systems can keep them from becoming catastrophic, is not abstract — it has consequences this concrete.

Stuckler, Reeves, Karanikolos, McKee (2014), "Suicide, recession, and unemployment," British Journal of Psychiatry, PMID 24925987.

The "economic way of thinking"

The course is built on a **unifying analytic framework** — a few basic economic principles, not a mass of facts to memorize. The framework keeps your knowledge from becoming obsolete. Building blocks:

- A simplified approach to the *demand for assets*.
- The concept of *equilibrium*.
- Basic *supply and demand* analysis to explain behavior in financial markets.
- The *search for profits*.
- An approach to *financial structure* based on transaction costs and asymmetric information.
- *Aggregate supply and demand* analysis.

Economics pays — evidence from a U.S. admissions rule

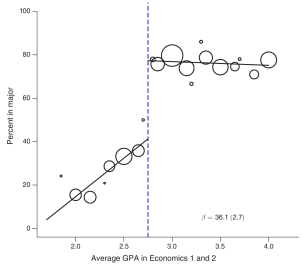
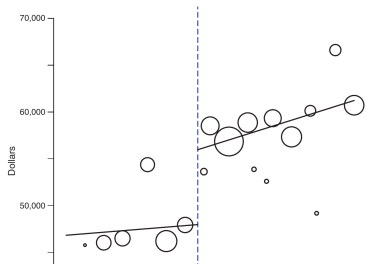


FIGURE 1. THE EFFECT OF THE UCSC ECONOMICS GPA THRESHOLD ON MAJORING IN ECONOMICS

Notes: Each circle represents the percent of economics majors (*y*-axis) among 2008–2012 UCSC students who earned a given *EGPA* in Economics 1 and 2 (*x*-axis). The size of each circle corresponds to the proportion of stu-



- UC Santa Cruz restricts the economics major to students above a 2.8 intro-course GPA. **Left:** major declaration jumps 36 pp at the cutoff. **Right:** early-career wages jump ∼$8,000.
- Instrumental-variable estimate: just clearing the cutoff and majoring in economics raises annual early-career earnings by **$22,000 (+46%)** versus the student's second-choice major — largely by routing graduates into business and finance careers.

Bleemer & Mehta (2022), AEJ: Applied Economics 14(2), 1–22.

Economics courses predict C-suite leadership — Stanford MBAs

	No GPA		With GPA	
	C-Level (1)	log Inc. (2)	C-Level (3)	log Inc. (4)
Economics (# courses)	**.147**	−.005	**.156**	−.008
	(.073)	(.016)	(.073)	(.015)
Finance (# courses)	−.103	**.097**	−.098	**.096**
	(.058)	(.011)	(.058)	(.011)
GPA	—	—	−.300	**.141**
			(.141)	(.035)
Male	1.18	.261	1.21	.245
N	4,884	4,241	4,884	4,241

Cols. 1,3: clustered logit, C-level dummy. Cols. 2,4: log income. Other controls: experience, MBA year, prior jobs. Stanford MBA alumni survey.

Lazear (2012), Labour Economics 19(1), 92–101, Table 5.

- **Each extra economics course** at Stanford GSB raises the probability of reaching a C-suite role by ∼**1 pp** (off a 7% base — a ∼14% relative gain).
- Finance courses are the mirror image: they *lower* C-suite odds (graduates specialise) but raise income ∼10%.
- Together with Bleemer & Mehta: economics training pays in wages *and* routes graduates toward general business leadership.

How we will study the material

- **Simple models.** Each model carefully delineates which variables are held constant; we change one variable at a time and trace the consequences.
- **Case studies and applications.** Real-world episodes and data test whether the theory holds up — economics is not just abstract assumptions.
- **Following the financial news.** You should be able to read and interpret the financial data reported in the press.

The big questions

What is money? How does the financial system channel funds from savers to investors? What do banks do? What is inflation, and what causes it? How does a central bank conduct policy? How are exchange rates determined?

PART 2

Why Study Financial Markets?

Why study financial markets?

Financial markets

Markets in which funds are transferred from people and firms who have an excess of available funds to people and firms who have a need of funds.

- Financial markets (bond, stock, foreign exchange) channel funds from those who lack productive uses to those who have them.
- Well-functioning markets are a key factor behind high economic growth; poorly performing markets are one reason many countries remain desperately poor.
- The 2007–2009 collapse of housing markets — and, more recently, the pandemic — had deep and profound consequences for economic agents around the world.

The bond market and interest rates

- A **security** (financial instrument) is a claim on the issuer's future income or assets.
- A **bond** is a debt security promising periodic payments for a specified period of time.
- The **interest rate** is the cost of borrowing, or the price paid for the rental of funds (e.g. expressed as $ per $100 per year).

Why the bond market matters: it lets corporations and governments borrow to finance activities, and it is where interest rates are determined. Many rates coexist — mortgage rates, car loan rates, Treasury rates.

Interest rates: why they matter, and how they move

Why they matter

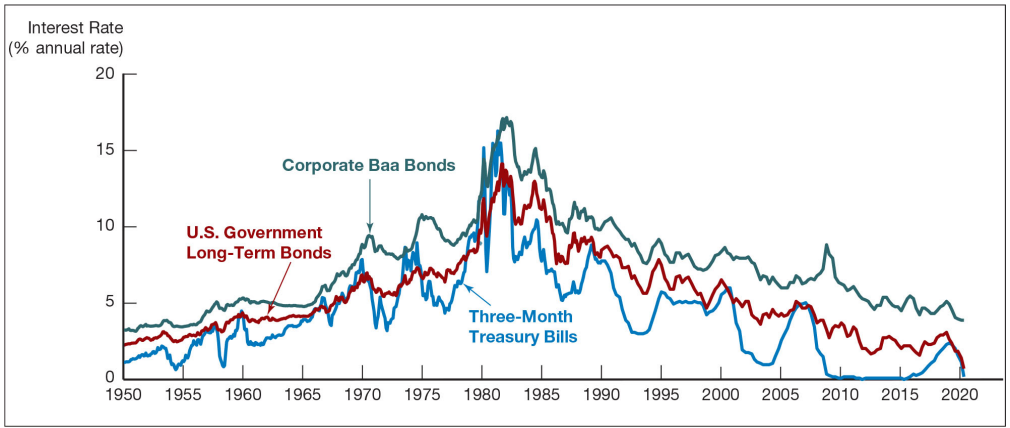
- *Personal:* high rates deter buying a house or car, but reward saving.
- *Aggregate:* affect consumer spending and firms' investment decisions — high rates can lead a firm to postpone building a plant.

How they have moved

- The 3-month Treasury bill rate peaked above 16% in 1981 and fell close to zero after 2008.
- Different rates tend to move together — so we speak of "the" interest rate — but they differ: Baa (medium-quality) corporate bonds carry higher rates than Treasuries, and the spread widens and narrows over time.

See Figure 1 (next slide).

Figure 1 Interest Rates on Selected Bonds, 1950–2020



Mishkin Ch. 1, Figure 1. Source: Federal Reserve Bank of St. Louis (FRED).

The stock market

- A **common stock** represents a share of ownership in a corporation.
- A share of stock is a claim on the *residual* earnings and assets of the corporation.
- Issuing stock to the public is a way for corporations to raise funds to finance activities.
- The stock market is the most widely followed financial market in almost every country that has one — often called simply "the market."

A higher share price lets a firm raise a larger amount of funds, which it can use to buy production facilities and equipment — so the stock market is an important factor in business investment decisions.

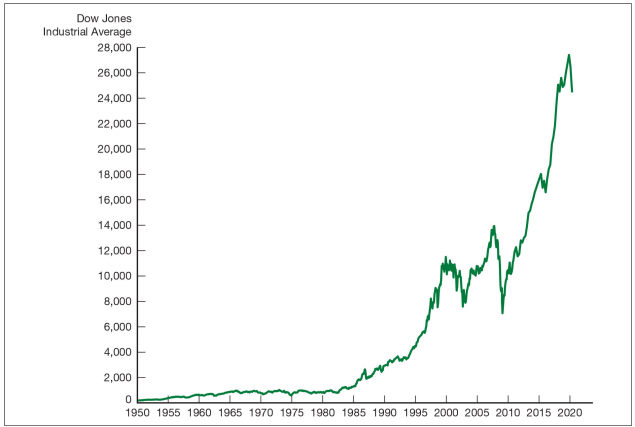
Stock prices are extremely volatile

- After rising through the 1980s, the market had its worst one-day drop in history on **Black Monday**, October 19, 1987 — the Dow fell by 22%.
- A great bull market followed, with the Dow climbing above 11,000 by 2000.
- The high-tech bubble collapsed in 2000; the market fell over 30% by late 2002.
- The Dow rose above 14,000 in 2007, then fell over 50% to below 7,000 in 2009.
- A new bull market then carried the Dow to a long series of record highs.

These swings move households' wealth and willingness to spend, and firms' ability to raise investment funds.

See Figure 2 (next slide).

Figure 2 Stock Prices (Dow Jones Industrial Average), 1950–2020



Mishkin Ch. 1, Figure 2. Source: Federal Reserve Bank of St. Louis (FRED).

PART 3

Why Study Financial Institutions and Banking?

Structure of the financial system; banks

The financial system is complex — banks, insurance companies, mutual funds, finance companies, investment banks — and heavily regulated.

- Most lending is *indirect*: you would not approach IBM's president to offer a loan; you lend through **financial intermediaries**, institutions that borrow funds from savers and make loans to others.
- **Banks** accept deposits and make loans. The term covers commercial banks, savings and loan associations, mutual savings banks, and credit unions.
- Banks are the financial intermediary the average person interacts with most — a loan for a house or car, and checking/savings deposits.
- Other institutions — insurance companies, finance companies, pension funds, mutual funds, investment companies — have been growing in importance.

Financial innovation and financial crises

Financial innovation

- The development of new financial products and services.
- Can be an important force for good — making the financial system more efficient; driven especially by information technology, including **e-finance**, the electronic delivery of financial services.

Financial crises

- Major disruptions in financial markets — sharp declines in asset prices and the failure of many financial and nonfinancial firms.
- Starting August 2007, the U.S. had its worst crisis since the Great Depression: defaults on subprime mortgages led to bank failures and the demise of Bear Stearns and Lehman Brothers.
- The resulting downturn became known as the "Great Recession."

PART 4

Why Study Money and Monetary Policy?

Money and business cycles

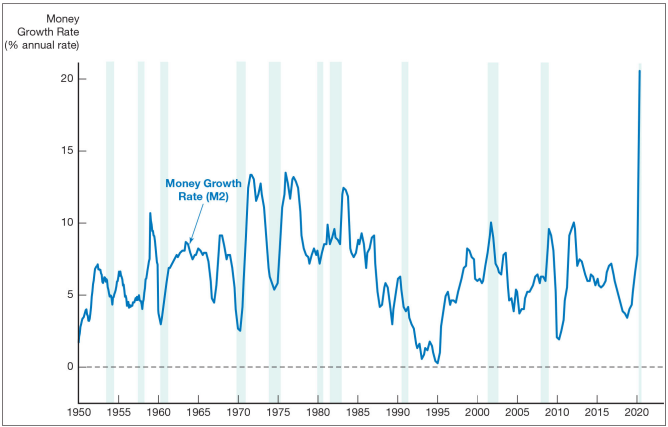
Money (money supply)

Anything that is generally accepted as payment for goods or services or in the repayment of debts.

- **Business cycles**: the upward and downward movement of aggregate output. **Recessions** (and the unemployment they bring) affect all of us.
- In 1981–82 the unemployment rate rose above 10%; it fell to around 4% by 2000; it rose above 10% again after December 2007.
- Evidence: the rate of money growth has declined before almost every recession — money may be a driving force behind cycles.
- But not every decline in money growth is followed by a recession.

See Figure 3 (next slide).

Figure 3 Money Growth (M2) and the Business Cycle, 1950–2020



Mishkin Ch. 1, Figure 3. Shaded areas are recessions. Source: FRED.

Money and inflation

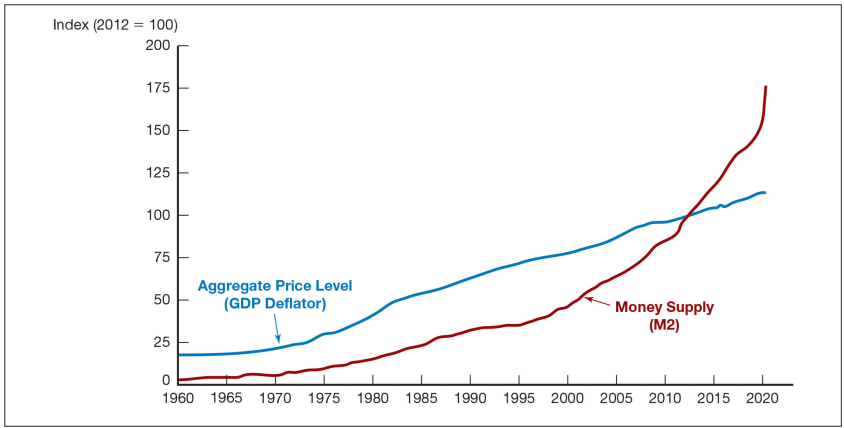
- The **aggregate price level** is the average price of goods and services in the economy. A continual rise in the price level (**inflation**) affects all economic players.
- In the data, the price level and the money supply generally rise together — evidence that sustained money growth drives inflation.
- Across countries, the economies with the highest inflation are also those with the highest money growth.

Friedman's dictum

"Inflation is always and everywhere a monetary phenomenon." — Milton Friedman

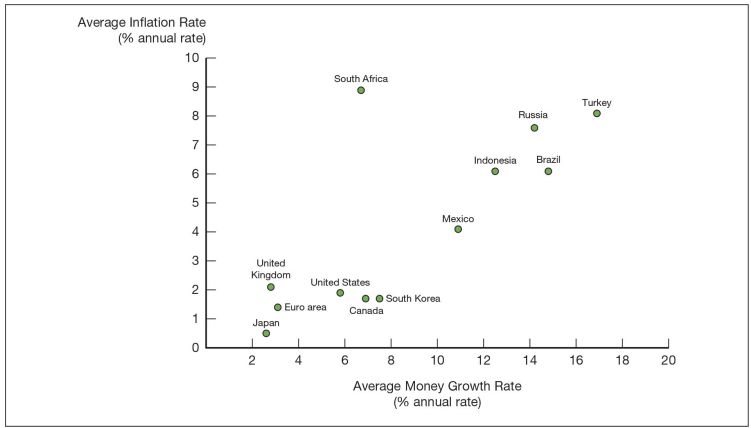
See Figures 4 and 5 (next slides).

Figure 4 Aggregate Price Level and the Money Supply, 1960–2020



Mishkin Ch. 1, Figure 4. Source: Federal Reserve Bank of St. Louis (FRED).

Figure 5 Inflation vs. Money Growth, Selected Countries, 2009–2019



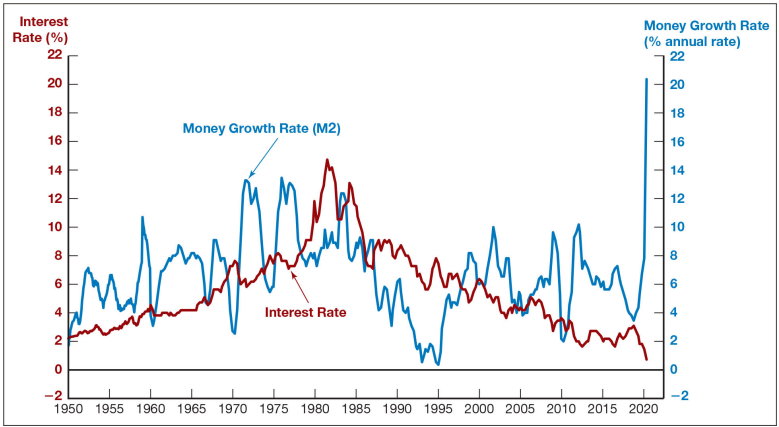
Mishkin Ch. 1, Figure 5. Source: Federal Reserve Bank of St. Louis (FRED).

Money, interest rates, and the conduct of monetary policy

- Interest rates are, in a sense, the price of money. Prior to 1980, the rate of money growth and the long-term Treasury bond rate were closely tied.
- Since then the relationship is less clear — but money growth is still an important determinant of interest rates.
- **Monetary policy** — the management of the money supply and interest rates.
- The **central bank** conducts it; the U.S. central bank is the **Federal Reserve System** ("the Fed").
- **Monetary theory** relates the quantity of money and monetary policy to changes in aggregate economic activity and the price level.

See Figure 6 (next slide).

Figure 6 Money Growth (M2) and Interest Rates, 1950–2020



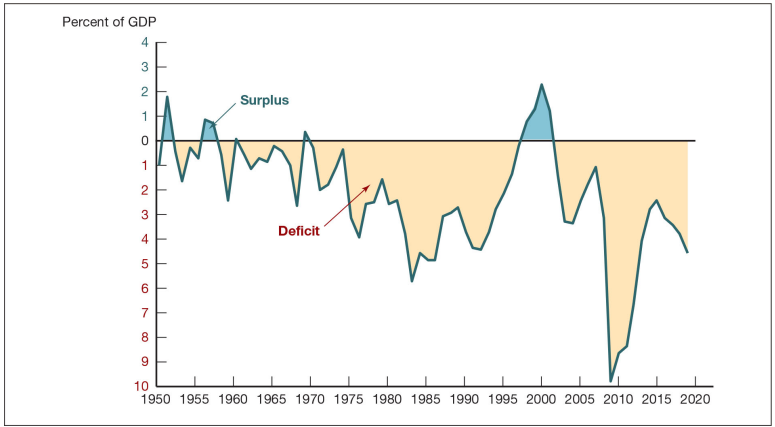
Mishkin Ch. 1, Figure 6 (Long-Term U.S. Treasury Bonds). Source: FRED.

Fiscal policy and monetary policy

- **Fiscal policy** — decisions about government spending and taxation.
- A **budget deficit**: the excess of expenditures over revenues for a particular year.
- A **budget surplus**: the excess of revenues over expenditures for a particular year.
- Any deficit must be financed by borrowing.
- The U.S. deficit peaked near 6% of GDP in 1983, gave way to surpluses from 1999–2001, then swung to large deficits after the 2007–09 crisis.
- Deficits can lead to higher money growth, higher inflation, and higher interest rates — so fiscal and monetary policy interact.

See Figure 7 (next slide).

Figure 7 Government Budget Surplus or Deficit (% of GDP)



Mishkin Ch. 1, Figure 7. Source: Federal Reserve Bank of St. Louis (FRED).

PART 5

Why Study International Finance?

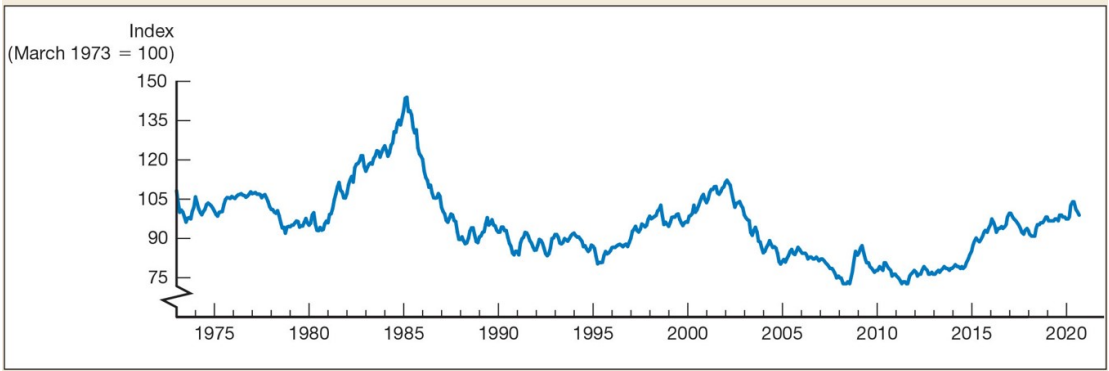
The foreign exchange market

- For funds to move between countries, one currency must be converted into another.
- The **foreign exchange market** is where funds are converted from one currency into another.
- The **foreign exchange rate** is the price of one currency in terms of another; the foreign exchange market determines it.

The U.S. dollar's value has fluctuated substantially: it weakened in the early 1970s, appreciated dramatically from 1980 to early 1985, then declined again, with broad swings since.

See Figure 8 (next slide).

Figure 8 Exchange Rate of the U.S. Dollar, 1973–2020



Mishkin Ch. 1, Figure 8. Source: Federal Reserve Bank of St. Louis (FRED).

The international financial system

Financial markets have become increasingly integrated throughout the world; the international financial system has a tremendous impact on domestic economies. Key questions we will return to:

- How does a country's choice of exchange-rate policy affect its monetary policy?
- How do capital controls affect domestic financial systems — and therefore the performance of the economy?
- What should be the role of international financial institutions such as the IMF?

A *weak* dollar makes foreign goods and travel costlier for Americans but helps U.S. exporters; a *strong* dollar does the reverse.

PART 6

Appendix: Output, Prices, and Inflation

Aggregate output and income

- **Gross domestic product (GDP)** — the market value of all *final* goods and services produced in a country during a year.
  - Excludes goods produced in the past (a resold house, a Rembrandt) and purchases of stocks or bonds.
  - Excludes *intermediate goods* (the sugar in a candy bar) — counting them separately would double-count.
- **Aggregate income** — the total income of the factors of production (land, labor, capital) during the year.
- Because payments for final output flow back to factor owners, aggregate income = aggregate output. If output is $10 trillion, income is $10 trillion.

Real versus nominal magnitudes

- **Nominal GDP**: output valued at *current* prices. If all prices double but production is unchanged, nominal GDP doubles — misleading.
- **Real GDP**: output valued at the *constant* prices of a base year. Real variables measure actual quantities of goods and services.

Why the distinction matters

If your nominal income stays at \$30,000 while all prices double, your *real* income has fallen — your income buys only half as much. In this text, "aggregate output" and "aggregate income" always mean the *real* measures.

The aggregate price level

Three common measures of the price level:

- **GDP deflator** $= \dfrac{\text{nominal GDP}}{\text{real GDP}}$.
  If 2016 nominal GDP is \$10tn and real GDP (2005 prices) is \$9tn, the deflator is 1.11 — prices rose 11% since 2005. As an index (base $= 100$): 111.
- **PCE deflator** $= \dfrac{\text{nominal personal consumption expenditures}}{\text{real PCE}}$ — a measure the Fed watches closely.
- **Consumer price index (CPI)** — prices a fixed "basket" of goods and services bought by a typical urban household; the most widely reported measure.

Dividing a nominal magnitude by a price index converts it to a real magnitude.

Growth rates and the inflation rate

Growth rate

$$\text{growth rate of } x = \frac{x_t - x_{t-1}}{x_{t-1}} \times 100$$

where t is today and $t-1$ is a year earlier.

- Example: real GDP rises from \$9tn (2016) to \$9.5tn (2017) $\Rightarrow$ GDP growth $= 5.6\%$.
- The **inflation rate** is the growth rate of the aggregate price level.
  If the GDP deflator rises from 111 to 113, inflation $= \frac{113-111}{111} \times 100 = 1.8\%$.
- Growth rates over periods shorter than a year are usually *annualized* — a quarterly figure is roughly multiplied by 4.

PART 7

Wrap-up

Why this matters for your career

Studying money, banking, and financial markets pays off well beyond the exam:

- Understanding monetary policy may help you *predict* when interest rates will rise or fall.
- It helps you decide whether it is better to *borrow now* or wait until later.
- Knowing how banks and other financial institutions are managed can help you get a *better deal* when you borrow from them.
- It can help you make better *investment decisions* — for yourself, or for the company you work for.

Key terms from Chapter 1

- financial markets, security, asset
- bond, interest rate, common stock, stock
- financial intermediaries, banks
- financial innovation, e-finance
- financial crises
- money (money supply), monetary theory
- monetary policy, central bank, the Fed
- fiscal policy, budget deficit / surplus
- inflation, inflation rate
- aggregate output, aggregate income
- aggregate price level, GDP
- business cycles, recession
- unemployment rate
- foreign exchange market & rate

Looking ahead

- Next deck this session: **Chapter 2** — An Overview of the Financial System.
- Keep the framework in mind: most of what follows is supply-and-demand analysis applied to assets, plus a transaction-cost / asymmetric-information view of why intermediaries exist.