

Economic Foundations: Money and Rates

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FNT 615

Finance Concepts

Lecture 2



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In this chapter, we will explore microeconomics and macroeconomics, and examine how individual decision-making and aggregate economic behavior interact to shape financial outcomes. We will analyze business cycles and economic activity to understand fluctuations in growth, inflation, and employment, and their implications for financial markets. The chapter also covers interest rates and foreign exchange rates, which play a central role in investment decisions, capital flows, and risk management. Finally, we will discuss the sources and characteristics of economic data, emphasizing how reliable data underpin sound financial analysis and policy evaluation. Together, these topics provide you with an integrated perspective that will enhance your ability to interpret economic signals, assess financial risks, and make informed decisions in both academic research and professional practice.

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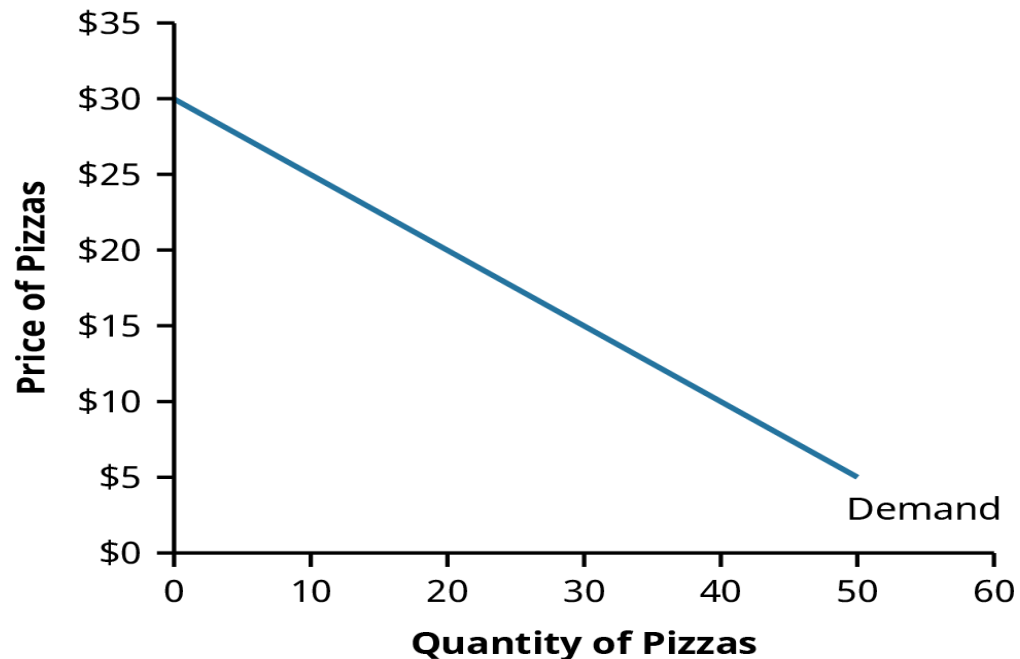
Microeconomics

Microeconomics focuses on the decisions and actions of individual agents, such as businesses or customers, within the economy. The interactions of the decisions that businesses and customers make will determine the price and quantity of a good or service that is sold in the marketplace. Financial managers need a strong foundation in microeconomics. This foundation helps them understand the market for the company's products and services, including pricing considerations. Microeconomics also helps managers understand the availability and prices of resources that are necessary for the company to create its products and services. A successful business cannot just create and manufacture a product or provide a service; it must produce a product or service that customers will purchase.



Demand

Let's consider what the demand for pizza might look like. Suppose that at a price of \$30 per pizza, no one will purchase a pizza, but if the price of a pizza is \$25, 10 people might buy a pizza. If the price falls even lower, more pizzas will be purchased, as shown in Table 1.



Price (\$)	Quantity
30	0
25	10
20	20
15	30
10	40
5	50

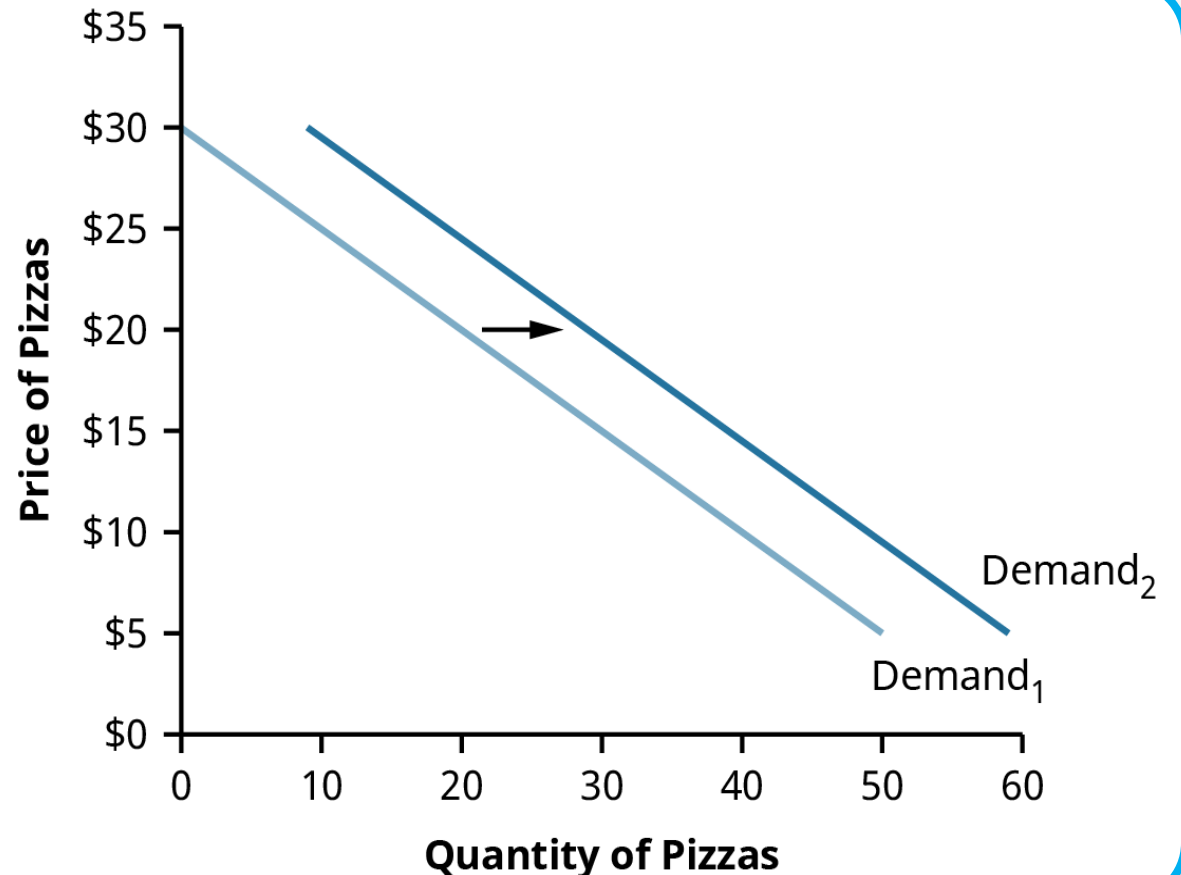
The inverse relationship between the price of a good and the quantity of a good sold occurs for two reasons. First, as you consume more and more pizza, the amount of happiness that one more pizza will bring you diminishes. If you have had nothing to eat all day and you are hungry, you might be more willing to pay a high price for a pizza, and that pizza will bring you a great deal of satisfaction. However, after your hunger has been somewhat satisfied, you may not be willing to pay as much for a second pizza. You may only be willing to purchase a third pizza if you can get it at a fairly low price. Second, demand depends not only on your willingness to pay but also on your ability to pay. If you have limited income, then as the price of pizza rises, you simply cannot buy as much pizza. The demand curve is drawn as a relationship between the price of the good and the quantity of the good purchased. It isolates the relationship between price and quantity demand.

For example, if the price of hamburgers doubled, then families might substitute having a pizza night for having a hamburger. This would cause the demand for pizzas to increase. If the demand for pizzas increased, the quantities of pizza purchased at every price level would be higher. The demand schedule for pizzas might look like Table 2 after an increase in the price of hamburgers.

Price (\$)	Quantity
30	0
25	10
20	20
15	30
10	40
5	50

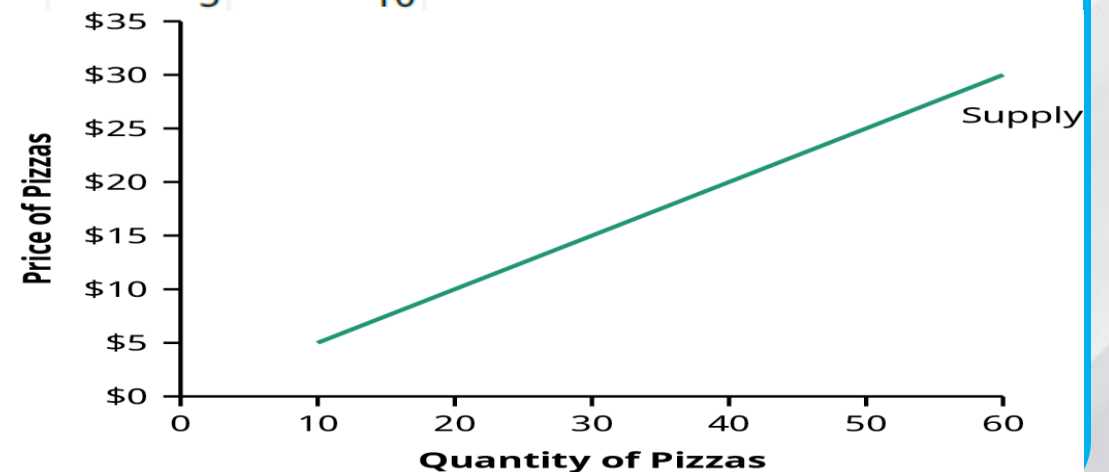
Price (\$)	Quantity
30	9
25	19
20	29
15	39
10	49
5	59

This change leads to a movement in the demand curve outward to the right, as shown in Figure. This is known as an increase in demand. Now, at a price of \$25, people will purchase 19 pizzas instead of 10; and at a price of \$15, people will purchase 39 pizzas instead of 30. A decrease in demand would cause the demand curve to move to the left. This could happen if people's tastes and preferences changed.



Supply is the quantity of a good or service that firms are willing to sell at various prices, during a given time period, *ceteris paribus*. Table 3 is a fictional example of a supply schedule for pizzas. In some cases, higher prices encourage producers to provide more of their product for sale. Thus, there is a positive relationship between the price and quantity supplied. The data from the supply schedule can be pictured in a graph, as is shown in Figure 3. Because a higher price encourages suppliers to sell more pizzas, the supply curve will be upward sloping.

Price (\$)	Quantity
30	60
25	50
20	40
15	30
10	20
5	10



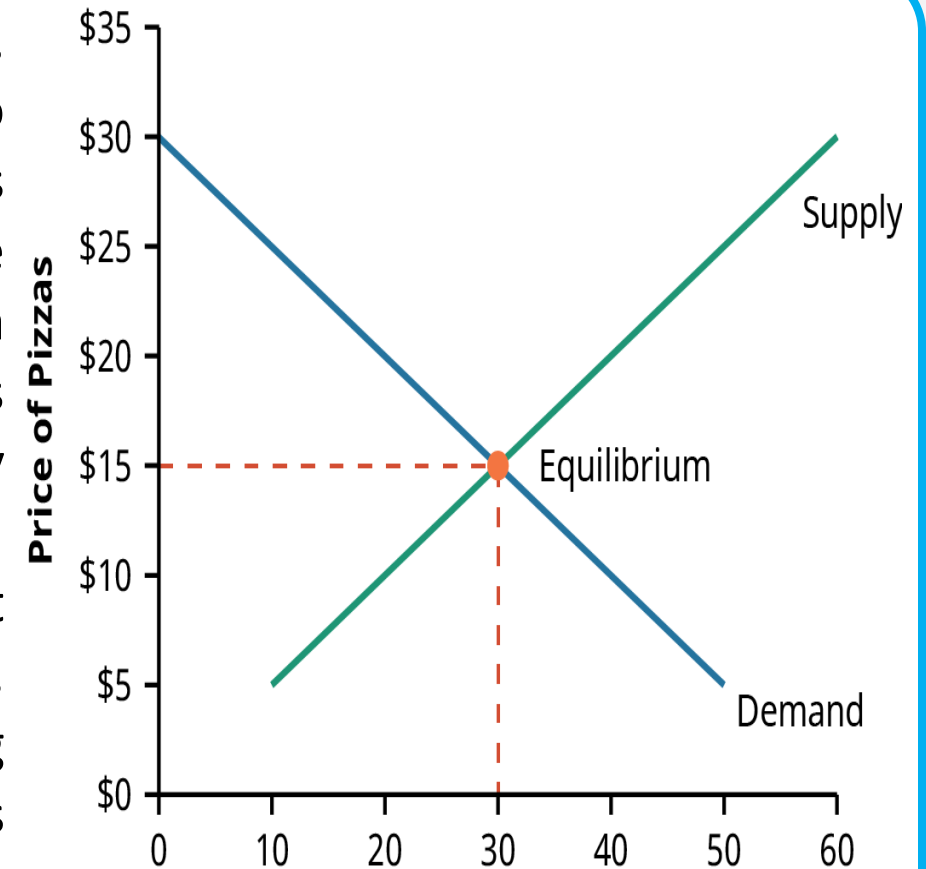
Equilibrium Price

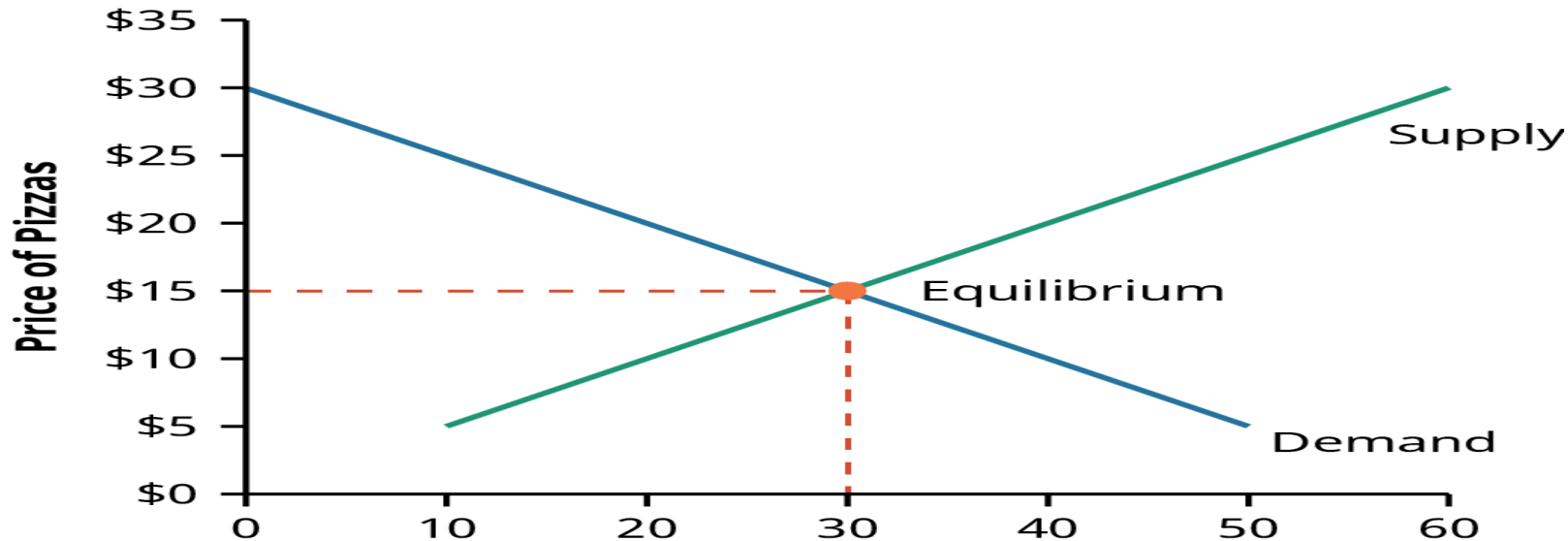
The equilibrium price is the price at which the quantity demanded of a good or service is exactly equal to the quantity supplied. At this price, the market is said to be in balance, because there is no tendency for the price to change.

Demand represents buyers, and supply represents sellers. In the market, these two groups interact to determine the price of a good and the quantity of the good that is sold. Because both the demand curve and the supply curve are graphed with price on the vertical axis and quantity on the horizontal axis, these two curves can be placed in the same graph, as is shown in Figure.

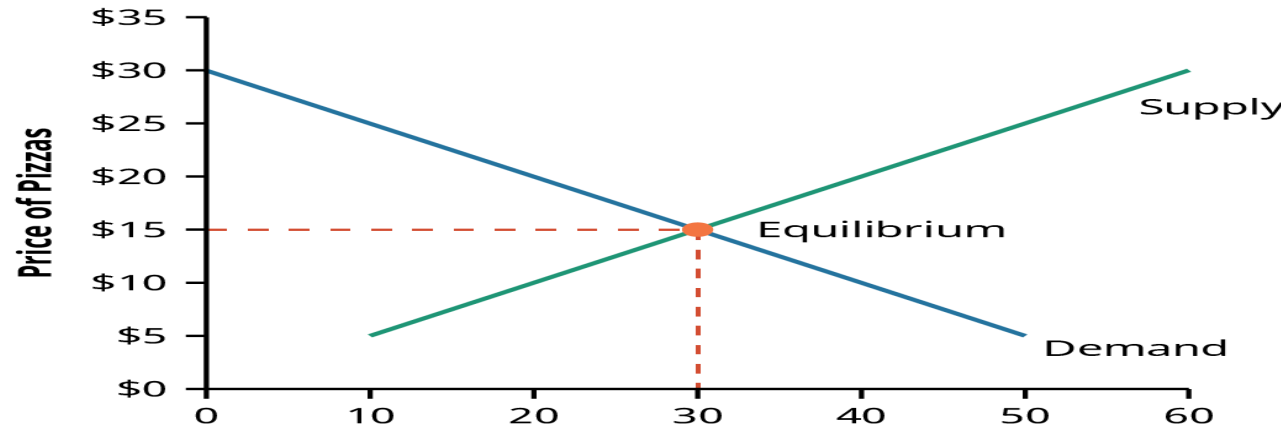
In a market, buyers and sellers have different interests. Buyers prefer lower prices because they want to purchase more goods at a lower cost, while sellers prefer higher prices because higher prices increase their revenue. The equilibrium price represents a compromise between these two forces. It is determined by the interaction of demand and supply in the market.

Graphically, the equilibrium price is found at the point where the demand curve intersects the supply curve. At this intersection point, the market clears, meaning that all goods produced are sold, and all consumers who are willing and able to buy at that price can do so.





The point at which the supply and demand curves intersect is known as the equilibrium. At the equilibrium price, the quantity demanded will equal exactly the quantity supplied. There is no shortage or surplus of the product. In the example shown in Figure 3.5, when the price is \$15, consumers want to purchase 30 pizzas and sellers want to make 30 pizzas available for purchase. The market is in balance.



A price higher than the equilibrium price will not be sustainable in a competitive marketplace. If the price of a pizza were \$20, suppliers would make 40 pizzas available, but the quantity of pizzas demanded would be only 20 pizzas. This would be a surplus, or excess quantity supplied, of pizzas. Restaurant owners who see that they have 40 pizzas to sell but can only sell 20 of those pizzas will lower their prices to encourage more customers to purchase pizzas.

Inflation

Macroeconomics looks at the economy as a whole. It focuses on broad issues such as inflation, unemployment, and growth of production. Perhaps you have heard your parents talk about how much they paid for their first automobile. These conversations often turn to a discussion of how a dollar just doesn't go as far as it used to. The reason for this is inflation, or a general increase in price levels. It is not that just the price of an automobile has increased. Over time, the prices of many other things, from the salt on your table to college tuition, have increased. Also, you were paid a higher hourly wage at your first job than your parents and grandparents were paid; the price of labor has risen. When economists talk about inflation, they are discussing this phenomenon of the price of many things rising. Instead of tracking the price of one particular item, they consider the price of purchasing a basket of goods.

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Inflation is measured by tracking changes in the general price level of goods and services over time using price indices. The most commonly used measure is the Consumer Price Index (CPI), which calculates the average change in prices paid by consumers for a fixed basket of goods and services, such as food, housing, transportation, and healthcare. The percentage change in the CPI over a specific period represents the inflation rate. Another important measure is the Producer Price Index (PPI), which captures price changes from the perspective of producers and reflects cost pressures earlier in the production process.

In addition, economists use the GDP Deflator to measure inflation across the entire economy. Unlike the CPI, the GDP deflator includes all domestically produced goods and services and allows the basket of goods to change over time

Unemployment is a measure of people who are not working. For the individuals who find themselves without a job, unemployment causes financial hardship. From a macroeconomics standpoint, unemployment means that society has labor resources that are not being fully utilized. The official unemployment rate is the percentage of the labor force that is unemployed. It is calculated as:

$$\begin{aligned}\text{Unemployment Rate} &= \frac{\text{Number Unemployed}}{\text{Labor Force}} \\ &= \frac{\text{Number Unemployed}}{\text{Number Employed} + \text{Number Unemployed}}\end{aligned}$$

Note that the unemployment rate is calculated as the percentage of the labor force that is unemployed, rather than the percent of the total population. Only those who are currently employed or who meet the definition of being unemployed are counted in the labor force



Consider the following data for an economy:

Total working-age population (16+): 1,000,000

Employed persons: 580,000

Unemployed persons actively seeking work: 70,000

Discouraged workers (not actively seeking work): 50,000

Retired, students, and others not seeking work: 300,000

Step 1: Define the Labor Force

According to standard economic definitions, the labor force includes only employed and unemployed persons who are actively seeking work. Discouraged workers are excluded.

Labor Force = Employed + Unemployed (actively seeking)

Labor Force = 580,000 + 70,000

Labor Force = 650,000

Step 2: Calculate the Unemployment Rate

Unemployment Rate

$$= (\text{Number of Unemployed} \div \text{Labor Force}) \times 100$$

Unemployment Rate

$$= (70,000 \div 650,000) \times 100$$

$$= 10.77\%$$

Step 3: Interpretation (Graduate-Level Insight)

The official unemployment rate of 10.77% reflects labor market conditions only among active participants. However, the presence of a large number of discouraged workers suggests that the official unemployment rate may understate labor market weakness. If discouraged workers were included, the measured unemployment rate would be significantly higher.

Gross Domestic Product (GDP) is one of the most important indicators used to measure the economic performance of a country. GDP represents the total monetary value of all final goods and services produced within a country's borders during a specific period of time, usually a year or a quarter. It reflects the size of an economy and gives a general picture of how well the economy is performing. In simple terms, GDP answers the question: How much value did a country produce?

GDP includes only final goods and services, meaning items sold to the final consumer. Intermediate goods (used to produce other goods) are excluded to avoid double counting. It also includes production by both domestic and foreign companies as long as the production takes place within the country.



There are three main ways to calculate GDP:**-Production (Output) Approach**

GDP is calculated by adding the value added at each stage of production across all sectors of the economy such as agriculture, industry, and services.

-Income Approach

GDP is calculated by summing all incomes earned in the economy, including wages, rents, interest, and profits.

-Expenditure Approach (the most common)

$$\text{GDP} = \text{Consumption} + \text{Investment} + \text{Government Spending} + (\text{Exports} - \text{Imports})$$

This approach looks at total spending on final goods and services.

Types of GDP

- Nominal GDP measures output using current prices and does not adjust for inflation.
- Real GDP adjusts for inflation and shows the true growth in production.
- GDP per capita divides GDP by population and is often used as an indicator of average living standards.

Why GDP is important

GDP helps governments and policymakers:

- Assess economic growth or recession
- Compare economic performance across countries
- Design fiscal and monetary policies

However, GDP has limitations. It does not measure income distribution, quality of life, environmental damage, or informal economic activities.

Fiscal Policy

Fiscal policy refers to the use of government spending, taxation, and borrowing decisions to influence the overall performance of an economy. It is one of the primary tools used by governments to achieve macroeconomic objectives such as economic growth, price stability, full employment, and income redistribution.

fiscal policy is analyzed not only as a stabilization tool but also as a mechanism that interacts with political institutions, public debt dynamics, and long-term economic sustainability. Governments implement fiscal policy through two main components: public expenditure and taxation.

Taxation, on the other hand, serves as a source of government revenue and a tool for influencing economic behavior. Changes in tax rates can affect consumption, saving, investment, and labor supply. For example, tax cuts may increase disposable income and stimulate consumption, while higher taxes can reduce inflationary pressures during periods of economic overheating.

Fiscal policy can be classified into expansionary and contractionary fiscal policy. Expansionary fiscal policy involves increasing government spending or reducing taxes to boost economic activity during a recession. Contractionary fiscal policy, in contrast, aims to reduce inflation and budget deficits by decreasing public spending or increasing taxes during periods of economic expansion.

Monetary policy refers to the actions undertaken by a country's central bank to control money supply and credit conditions in order to achieve macroeconomic objectives such as price stability, economic growth, and financial stability. Unlike fiscal policy, which is implemented by governments, monetary policy is usually conducted by an independent central bank.

monetary policy is analyzed as a complex framework that involves expectations, financial markets, transmission mechanisms, and institutional credibility. The primary goal of modern monetary policy is price stability, which is often operationalized through targeting low and stable inflation.

Monetary policy can be classified into expansionary and contractionary monetary policy. Expansionary monetary policy is adopted during periods of economic slowdown or recession and involves lowering interest rates or increasing money supply to encourage lending and investment. Contractionary monetary policy, in contrast, is used during periods of high inflation and aims to reduce money supply or raise interest rates to slow down economic activity.

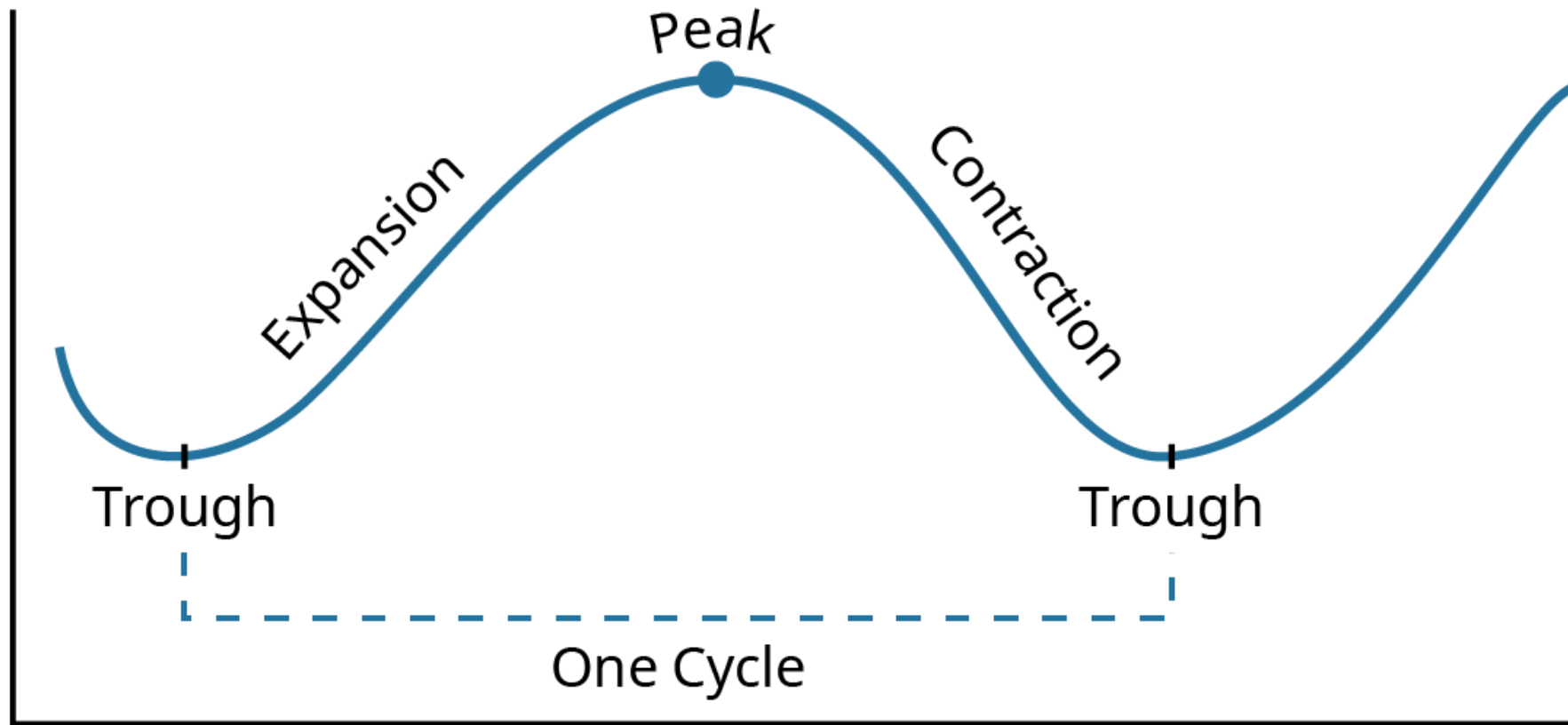
An important aspect of monetary policy analysis at the graduate level is the monetary transmission mechanism, which explains how policy decisions affect the real economy. These channels include the interest rate channel, credit channel, exchange rate channel, and expectations channel. The effectiveness of monetary policy depends on how efficiently these channels operate within the financial system.

However, monetary policy also faces limitations. Time lags, uncertainty about economic conditions, weak transmission channels, and the zero lower bound on interest rates can reduce its effectiveness. Furthermore, excessive reliance on monetary policy may contribute to financial imbalances and asset price bubbles.

monetary policy plays a vital role in macroeconomic management. For graduate students, understanding monetary policy requires not only knowledge of its tools and objectives but also a deep analysis of its interaction with financial markets, expectations, and fiscal policy.

Stages of the Business Cycle

The business cycle consists of a period of economic expansion followed by a period of economic contraction. During the period of economic expansion, GDP rises. Employment expands as businesses produce more; conversely, unemployment falls. Other measures of economic growth may include increased new business starts and new home construction. The economy is said to be “heating up.” As the expansion continues, inflation often becomes a concern. Fast-paced economic expansion is not sustainable. Eventually, growth slows and unemployment rises.



Often, the contraction is referred to as a recession. Historically, a recession was defined as two consecutive quarters of declining GDP. Today, it will declare a recession when there is a significant decline in economic activity that is spread across the economy and lasts for at least a few months. Measures of real income, employment, industrial production, and wholesale and retail sales are considered in addition to real GDP.

In economics, overall economic activity does not grow at a constant rate. Instead, it moves in cycles, called business cycles, which reflect periods of expansion and decline in an economy. A typical business cycle consists of four phases: expansion, peak, contraction, and trough.

When this contraction becomes significant and lasts for a sustained period, it is commonly referred to as a recession. In practical terms, economists often define a recession as a period of declining real GDP for at least two consecutive quarters, although broader definitions also consider employment, income, and sales.

So, the statement: “Often, the contraction is referred to as a recession” means that when the downward phase of the business cycle is strong enough, economists and policymakers label it a recession to describe a widespread slowdown in economic activity.

This concept is important because identifying recessions helps governments and central banks design policies such as fiscal stimulus or monetary easing to stabilize the economy and encourage recovery.

Foreign Exchange Rates

Foreign Exchange Rates refer to the price of one country's currency in terms of another country's currency. In other words, an exchange rate tells us how much of one currency must be given up to obtain one unit of another currency. Foreign exchange rates play a central role in the global economy because they affect international trade, investment, tourism, and capital flows. When a country's currency appreciates (becomes stronger), its goods and services become more expensive for foreign buyers, while imports become cheaper for domestic consumers. Conversely, when a currency depreciates (becomes weaker), exports become cheaper and more competitive abroad, but imports become more expensive at home. Exchange rates are determined in the foreign exchange market, where currencies are bought and sold



There are different exchange rate systems used by countries. Under a floating exchange rate system, the value of the currency is determined by market forces with minimal government intervention. Under a fixed exchange rate system, the government or central bank pegs the currency to another currency or a basket of currencies and intervenes to maintain that rate. Some countries use a managed float, which combines elements of both systems.

Foreign exchange rates are also closely linked to macroeconomic performance. Changes in exchange rates affect inflation, balance of payments, and economic growth. For instance, a sharp depreciation may increase inflation by raising the cost of imported goods, while an overvalued currency may hurt export competitiveness and slow economic growth.

Sources and Characteristics of Economic Data

Economic data form the backbone of economic analysis, empirical research, and policy formulation. At the master's level, students are expected not only to use economic data, but also to critically evaluate their sources, reliability, and suitability for specific analytical purposes. Understanding where economic data come from and what characteristics they possess is essential for producing sound research and informed economic conclusions.

Economic data refer to quantitative and qualitative information that describe economic phenomena such as production, income, prices, employment, trade, and financial activity. These data allow economists to observe patterns, test theories, forecast trends, and assess the impact of economic policies.



Sources of Economic Data

Primary economic data are data collected firsthand for a specific research objective. They are generated directly by the researcher or institution conducting the study. This type of data collection is common in surveys, experiments, interviews, and field studies.

Secondary economic data, by contrast, are data that have already been collected and published by other institutions for purposes different from the current research. These are the most widely used data in macroeconomic and financial analysis. Governments are major producers of secondary data through national statistical offices, ministries of finance, and central banks.

International organizations such as the International Monetary Fund (IMF), World Bank, United Nations, and OECD play a crucial role in compiling, standardizing, and publishing cross-country economic data. These sources are particularly important for comparative and international economic studies at the graduate level.

With the rise of digitalization, economists now also rely on big data sources, including online transactions, satellite data, mobile payment records, and real-time financial market data. While these sources offer high frequency and large volume, they raise important methodological and ethical challenges related to privacy, representativeness, and data quality.

Characteristics of Economic Data

For economic data to be useful in analysis and research, they must possess certain key characteristics.

One of the most fundamental characteristics is accuracy. Accurate data correctly reflect the economic reality they are intended to measure. Measurement errors, reporting mistakes, or deliberate misreporting can distort results and lead to incorrect conclusions. For instance, inaccurate inflation data may result in inappropriate monetary policy decisions.

Another crucial characteristic is relevance. Data must be appropriate for the specific research question or policy issue under consideration. Using national-level GDP data to analyze regional inequality, for example, would be insufficient because the data do not capture the required level of detail. Relevance ensures that the data align with the analytical objective.

Timeliness is also essential. Economic conditions change rapidly, especially in times of crisis. Outdated data may fail to capture current realities and can mislead policymakers and investors. This is why high-frequency data, such as monthly inflation or daily exchange rates, are particularly valuable in modern economic analysis.

Closely related is consistency and comparability. Economic data should be collected using consistent definitions and methodologies over time and across countries. This allows economists to compare trends, conduct longitudinal studies, and perform cross-country analysis. For example, comparing unemployment rates across countries requires standardized definitions of employment and labor force participation.

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Reliability and credibility refer to the trustworthiness of the data source and the transparency of its methodology. Data produced by well-established institutions with clear statistical procedures are generally considered more reliable. At the graduate level, students are expected to question data sources, understand how the data were collected, and recognize potential biases.

Finally, economic data often display aggregation and abstraction. Macroeconomic indicators such as GDP or national income summarize complex economic activities into single figures. While this aggregation is useful, it can also conceal distributional issues, informal economic activity, and qualitative aspects of economic well-being.

References

Julie Dahlquist, and Rainford Knight. (2022). Principles of finance. OpenStax.



Thank You