



UNIT 3

MACROECONOMICS



1 Key Concepts of Macroeconomics

Key Concepts of Macroeconomics

► THE BIRTH OF MACROECONOMICS

- The 1930s marked the first stirrings of the science of macroeconomics, founded by John Maynard Keynes as he tried to understand the economic mechanism that produced the Great Depression.
- After World War II, reflecting both the increasing influence of Keynesian views and the fear of another depression, the U.S. Congress formally proclaimed federal responsibility for macroeconomic performance.
- It enacted the landmark Employment Act of 1946, which stated:
- *“The Congress hereby declares that it is the continuing policy and responsibility of the federal government to use all practicable means consistent with its needs and obligations . . . to promote maximum employment, production, and purchasing power.”*
- For the first time, Congress affirmed the government’s role in promoting output growth, fostering employment, and maintaining price stability.

The Three Central Questions of macroeconomics:

- ▶ The Employment Act usefully frames the three central questions of macroeconomics:
- ▶ 1. Why do output and employment sometimes fall, and how can unemployment be reduced?
- ▶ 2. What are the sources of price inflation, and how can it be kept under control?
- ▶ 3. How can a nation increase its rate of economic growth?

1. Why do output and employment sometimes fall, and how can unemployment be reduced?

- ▶ All market economies show patterns of expansion and contraction known as business cycles. The latest business-cycle recession in the United States occurred after a severe financial-market crisis that began in 2007. Housing and stock prices fell sharply, and banks tightened credit and lending. As a result, output and employment fell sharply. Political leaders around the world used the tools of monetary and fiscal policy to reduce unemployment and stimulate economic activity.
- ▶ From time to time countries experience high unemployment that persists for long periods, sometimes as long as a decade. Such a period occurred in the United States during the Great Depression, which began in 1929. In the following years, unemployment rose to almost one-quarter of the workforce, while industrial production fell by one-half.
- ▶ One of the deepest and most prolonged economic downturns of the modern era came in Japan, which experienced declining prices and was unable to shake off high unemployment and slow economic growth after 1990.

1. Why do output and employment sometimes fall, and how can unemployment be reduced?

- ▶ Continued.....
- ▶ Macroeconomics studies the sources of persistent unemployment and high inflation.
- ▶ Having considered the symptoms, macroeconomists suggest possible remedies, such as using monetary policy to alter interest rates and credit conditions or using fiscal instruments such as taxes and spending.
- ▶ The lives and fortunes of millions of people depend upon whether economists find correct diagnoses for major macroeconomic ailments—and upon whether governments apply the right medicine at the right time.

2. What are the sources of price inflation, and how can it be kept under control?

- ▶ A market economy uses prices as a yardstick to measure economic values and conduct business. When prices are rising—a phenomenon we call inflation—the price yardstick loses its value. During periods of high inflation, people may get confused about relative prices and make mistakes in their spending and investment decisions. Tax burdens may rise. Households on fixed incomes find that inflation is eating away at their real incomes.
 - ▶ Macroeconomic policy has increasingly emphasized low and stable inflation as a key goal. Many countries set “inflation targets” for their economic policy, with targets often being in the range from 1 to 3 percent per year. Except for brief spikes, the United States has succeeded in containing inflation over the last two decades, with an average inflation rate of 3 percent per year for the consumer price index. Many countries have not been so successful.
- Note: India experienced WPI inflation spikes to over 8-year high of 7.39% in March***
- The retail inflation, measured Consumer Price Index (CPI) rose to 5.03 per cent in February.***

2. What are the sources of price inflation, and how can it be kept under control?

- ▶ Continued.....
- ▶ Formerly socialist countries like Russia and many Latin American and developing countries experienced inflation rates of 50, 100, or 1000 percent per year in the last two decades. The inflationary record in the last few years was in troubled Zimbabwe, where inflation was around 20,000,000 percent per year in 2008. A chicken that cost 10 thousand Zimbabwean dollars at the beginning of the year would cost 10 trillion Zimbabwean dollars at the end! Why was the United States able to contain the inflationary tiger, while Zimbabwe failed to do so?
- ▶ Macroeconomics can suggest the proper role of monetary and fiscal policies, of exchange rate systems, and of an independent central bank in containing inflation.

3. How can a nation increase its rate of economic growth?

- ▶ The single most important goal of macroeconomics concerns a nation's long-term economic growth. This refers to the growth in the per capita output of a country. Such growth is the central factor in determining the growth in real wages and living standards. Most countries of North America and Western Europe have enjoyed rapid economic growth for two centuries, and residents in these countries have high average incomes.
- ▶ Over the last five decades, Asian countries such as Japan, South Korea, and Taiwan produced dramatic gains in living standards for their peoples. China's growth has similarly been outstanding in recent years. A few countries, particularly those of sub-Saharan Africa, have suffered declining per capita output and living standards.
- ▶ Nations want to know the ingredients in a successful growth recipe. Economic historians have found that the key factors in long-term economic growth include reliance on well-regulated private markets for most economic activity, stable macroeconomic policy, high rates of saving and investment, openness to international trade, and accountable and noncorrupt governing institutions.

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- ▶ All economies face inevitable tradeoffs among these goals. Increasing the rate of growth of output over the long run may require greater investment in education and capital, but higher investment requires lower current consumption of items like food, clothing, and recreation. Additionally, policymakers are sometimes forced to rein in the economy through macroeconomic policies when it grows too fast in order to prevent rising inflation or when financial conditions exhibit irrational exuberance.
- ▶ There are no magic formulas for ensuring low and stable inflation, high employment, and rapid growth. Macroeconomists have vigorous debates about both the goals and the appropriate policies for reaching the goals. But sound macroeconomic policies are essential if a country wishes to achieve its economic objectives in the most effective manner.



OBJECTIVES AND INSTRUMENTS OF MACROECONOMICS

Objectives of Macroeconomics

Objectives

Output:

High level and rapid growth of output

Employment:

High level of employment with low involuntary unemployment

Stable prices

1. OUTPUT

- ▶ The ultimate objective of economic activity is to provide the goods and services that the population desires. What could be more important for an economy than to produce ample shelter, food, education, and recreation for its people?
- ▶ The most comprehensive measure of the total output in an economy is the gross domestic product (GDP).
- ▶ GDP is the measure of the market value of all final goods and services—beer, cars, rock concerts, donkey rides, and so on—produced in a country during a year.
- ▶ There are two ways to measure GDP. Nominal GDP is measured in actual market prices. Real GDP is calculated in constant or invariant prices (where we measure the number of cars times the prices of cars in a given year such as 2000).
- ▶ Real GDP is the most closely watched measure of output; it serves as the carefully monitored pulse of a nation's economy.



FIGURE 19-1. Growth Rate of U.S. Real Gross Domestic Product, 1929–2008

Real GDP is the most comprehensive measure of an economy's output. This figure shows the rate of growth from one year to the next. Note the string of negative growth rates in the Great Depression of the 1930s. Also, we see the Great Moderation of the last few years, in which output was less volatile than in earlier periods.

Source: U.S. Bureau of Economic Analysis at www.bea.gov. Shaded regions are major economic downturns.

- . The growth rate is defined as:

% growth rate of real GDP in year t

$$= 100 \times \frac{\text{GDP}_t - \text{GDP}_{t-1}}{\text{GDP}_{t-1}}$$

- ▶ For example, real GDP in 2006 was \$11,294.8 billion and in 2007 was \$11,523.9 billion (both in 2000 prices). A calculator will show that the growth of real GDP in 2007 was 2.0 percent over the year. It is worthwhile making sure you can replicate this calculation.
- ▶ Note the sharp economic decline during the Great Depression of the 1930s, the boom during World War II, and the recessions in 1974, 1982, 1991, and 2008.
- ▶ Despite the short-term fluctuations seen in business cycles, advanced economies generally exhibit a steady long-term growth in real GDP and an improvement in living standards; this process is known as economic growth.
- ▶ The American economy has proved itself a powerful engine of progress over a period of more than a century, as shown by the growth in potential output.



► Potential GDP and Actual GDP

- ▶ Potential GDP represents the maximum sustainable level of output that the economy can produce. When an economy is operating at its potential, there are high levels of utilization of the labor force and the capital stock. When output rises above potential output, price inflation tends to rise, while a below-potential level of output leads to high unemployment.
- ▶ Potential output is determined by the economy's productive capacity, which depends upon the inputs available (capital, labor, land, etc.) and the economy's technological efficiency. Potential GDP tends to grow steadily because inputs like labor and capital and the level of technology change quite slowly over time.
- ▶ By contrast, actual GDP is subject to large business-cycle swings if spending patterns change sharply. During business downturns, actual GDP falls below its potential, and unemployment rises. In 1982, for example, the U.S. economy produced about \$400 billion less than its potential output. This represented \$5000 lost per family during a single year.
- ▶ A recession is a period of significant decline in total output, income, and employment, usually lasting more than a few months and marked by widespread contractions in many sectors of the economy.
- ▶ A severe and protracted downturn is called a depression. Output can be temporarily above its potential during booms and wartime as capacity limits are strained, but the high utilization rates may bring rising inflation and are usually brought to an end by monetary or fiscal policy.

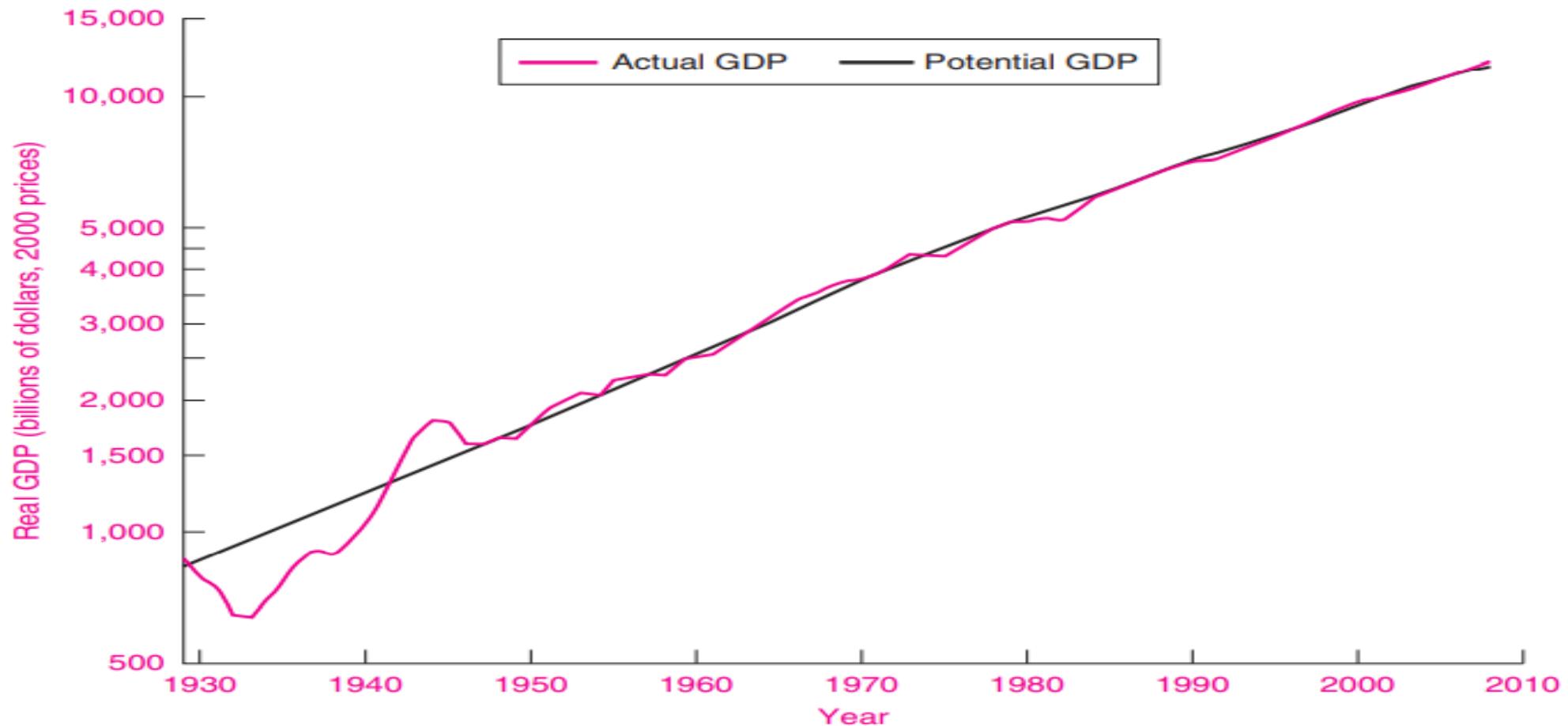


FIGURE 19-2. Actual and Potential GDP in the United States

Business cycles occur when actual output departs from its potential. The smooth blue line shows potential or trend output over the period 1929–2008. Potential output has grown about 3.4 percent annually. Note the large gap between actual and potential output during the Great Depression of the 1930s.

Source: U.S. Bureau of Economic Analysis, Congressional Budget Office, and authors' estimates. Note that actual GDP is directly estimated from underlying data while potential output is an analytical concept derived from actual GDP and unemployment data.

2. High Employment, Low Unemployment.

- ▶ Of all the macroeconomic indicators, employment and unemployment are most directly felt by individuals. People want to be able to get high-paying jobs without searching or waiting too long, and they want to have job security and good benefits.
- ▶ In macroeconomic terms, these are the objectives of high employment, which is the counterpart of low unemployment.
- ▶ Figure 19-3 shows trends in unemployment over the last eight decades. The unemployment rate on the vertical axis is the percentage of the labor force that is unemployed. The labor force includes all employed persons and those unemployed individuals who are seeking jobs. It excludes those without work who are not looking for jobs.
- ▶ The unemployment rate tends to reflect the state of the business cycle: when output is falling, the demand for labor falls and the unemployment rate rises.
- ▶ Unemployment reached epidemic proportions in the Great Depression of the 1930s, when as much as one-quarter of the workforce was idled.
- ▶ Since World War II, unemployment in the United States has fluctuated but has avoided the high rates associated with depressions.

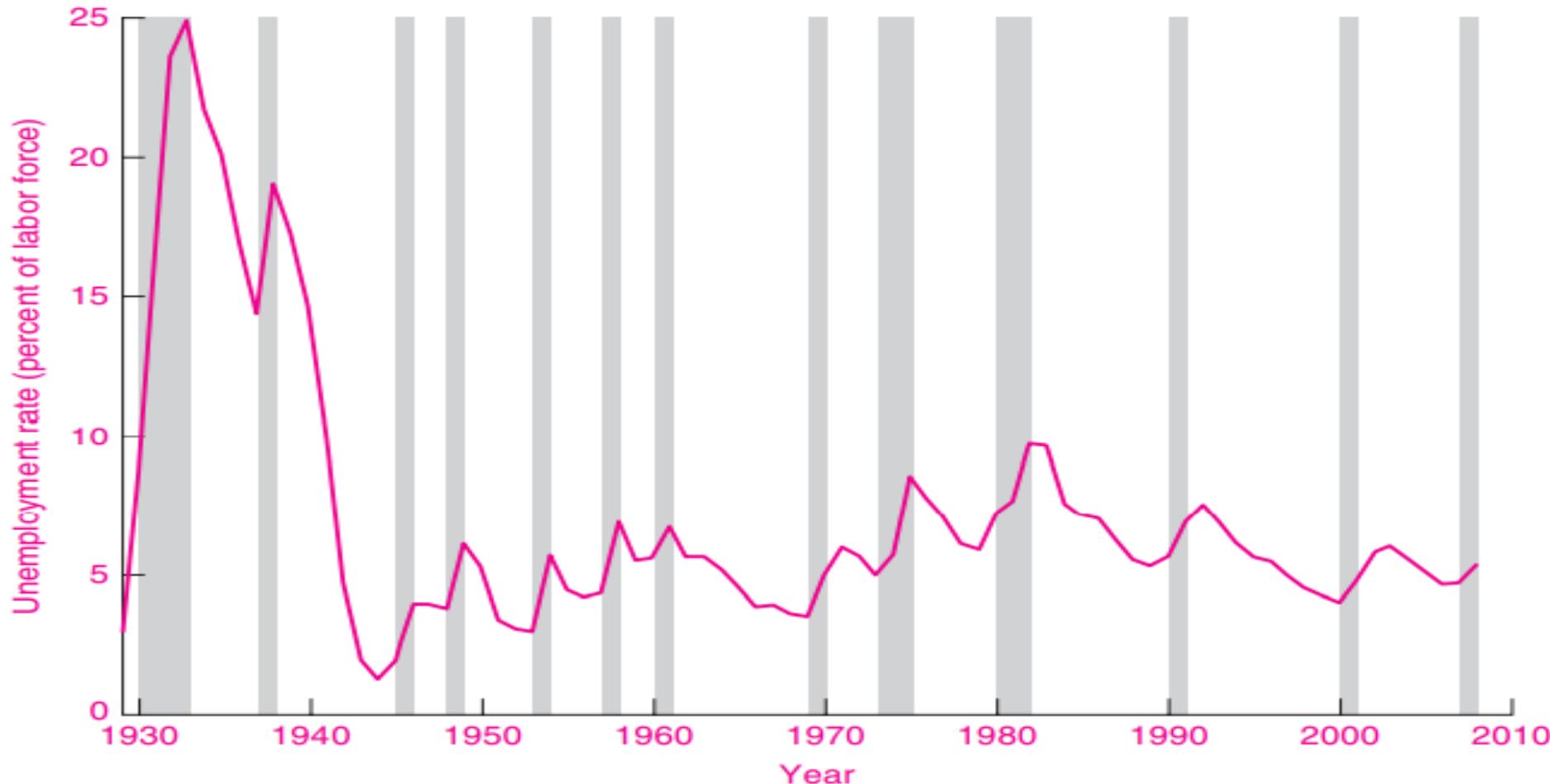


FIGURE 19-3. Unemployment Rises in Recessions, Falls during Expansions

The unemployment rate measures the fraction of the labor force that is looking for work but cannot find work. Unemployment rises in business-cycle downturns and falls during expansions. Shaded regions are NBER recessions.

Source: U.S. Bureau of Labor Statistics at www.bea.gov.

3. Price Stability.

- ▶ The third macroeconomic objective is price stability. This is defined as a low and stable inflation rate.
- ▶ To track prices, government statisticians construct price indexes, or measures of the overall price level. An important example is the consumer price index (CPI), which measures the trend in the average price of goods and services bought by consumers. We will generally denote the overall price level by the letter P.
- ▶ Economists measure price stability by looking at inflation, or the rate of inflation.
- ▶ The inflation rate is the percentage change in the overall level of prices from one year to the next. For example, the CPI was 201.6 in 2006 and 207.3 in 2007. The inflation-rate calculated as below:

$$\text{Rate of inflation in year } t = 100 \times \frac{P_t - P_{t-1}}{P_{t-1}}$$

We thus calculate the inflation rate for 2007 as

$$\begin{aligned}\text{Rate of inflation in 2007} &= 100 \times \frac{207.3 - 201.6}{201.6} \\ &= 2.8\% \text{ per year}\end{aligned}$$

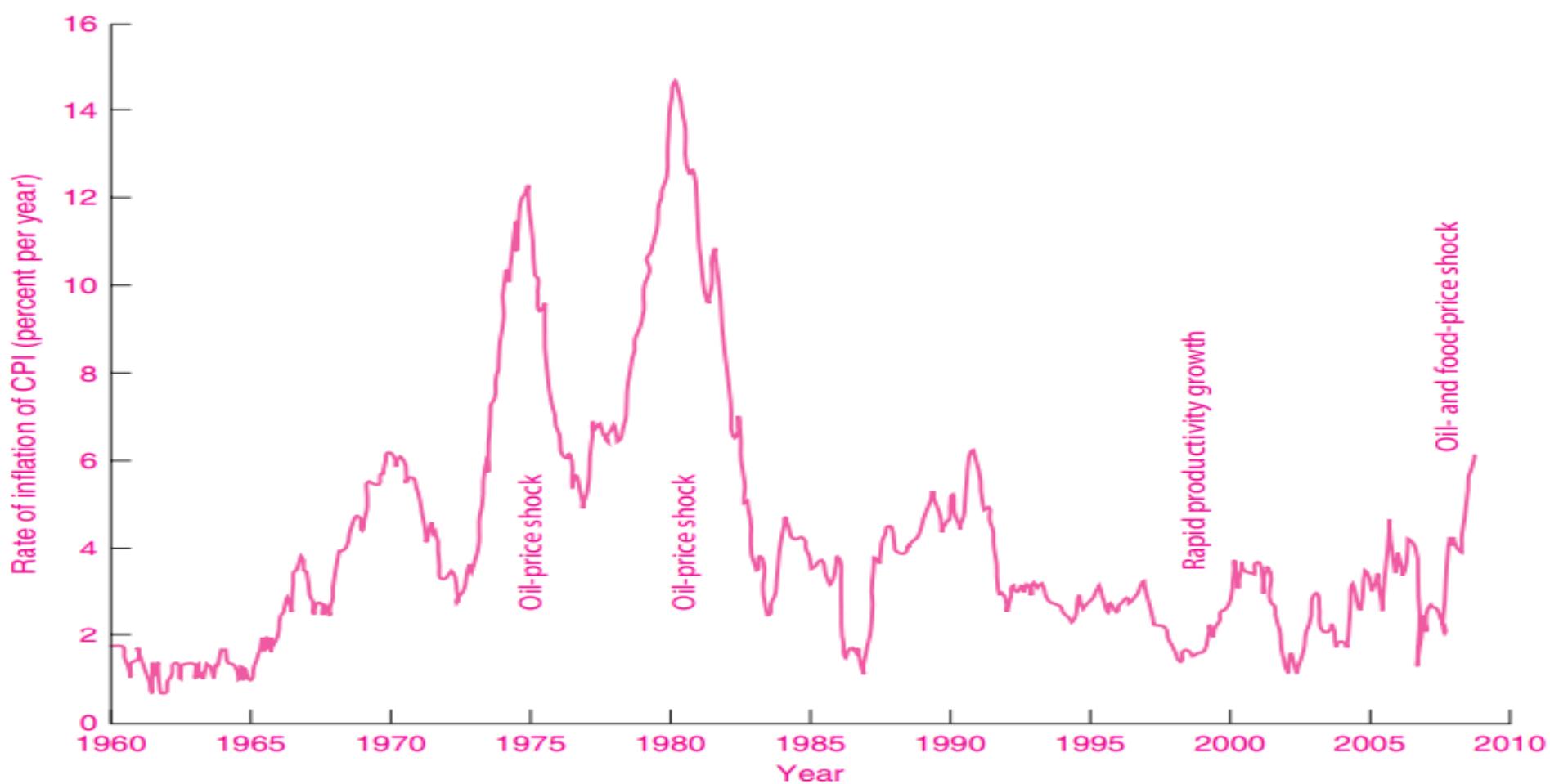


FIGURE 19-4. U.S. Consumer Price Inflation, 1960–2008

The rate of inflation measures the rate of change of prices from one year to the next; here we see the rate of inflation as measured by the consumer price index (CPI). Most inflationary episodes have been associated with shocks to oil or food prices. Note that inflation has moved in a narrow corridor since the mid-1980s.

Source: U.S. Bureau of Labor Statistics. Data show rate of inflation from 12 months earlier.



3. Price Stability.

- ▶ Continued.....
- ▶ A deflation occurs when prices decline (which means that the rate of inflation is negative).
- ▶ At the other extreme is a hyperinflation, a rise in the price level of a thousand or a million percent a year. In such situations, as in Weimar Germany in the 1920s, Brazil in the 1980s, Russia in the 1990s, or Zimbabwe in recent years, prices are virtually meaningless and the price system breaks down.
- ▶ Price stability is important because a smoothly functioning market system requires that prices accurately convey information about relative scarcities.
- ▶ History has shown that high inflation imposes many costs—some visible and some hidden—on an economy.
- ▶ With high inflation, taxes become highly variable, the real values of people's pensions are eroded, and people spend real resources to avoid depreciating rubles or pesos.
- ▶ But declining prices (deflation) are also costly. Hence, most nations seek the golden mean of slowly rising prices as the best way of encouraging the price system to function efficiently.



3 INSTRUMENTS OF MACROECONOMICS

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Instruments

Monetary policy:

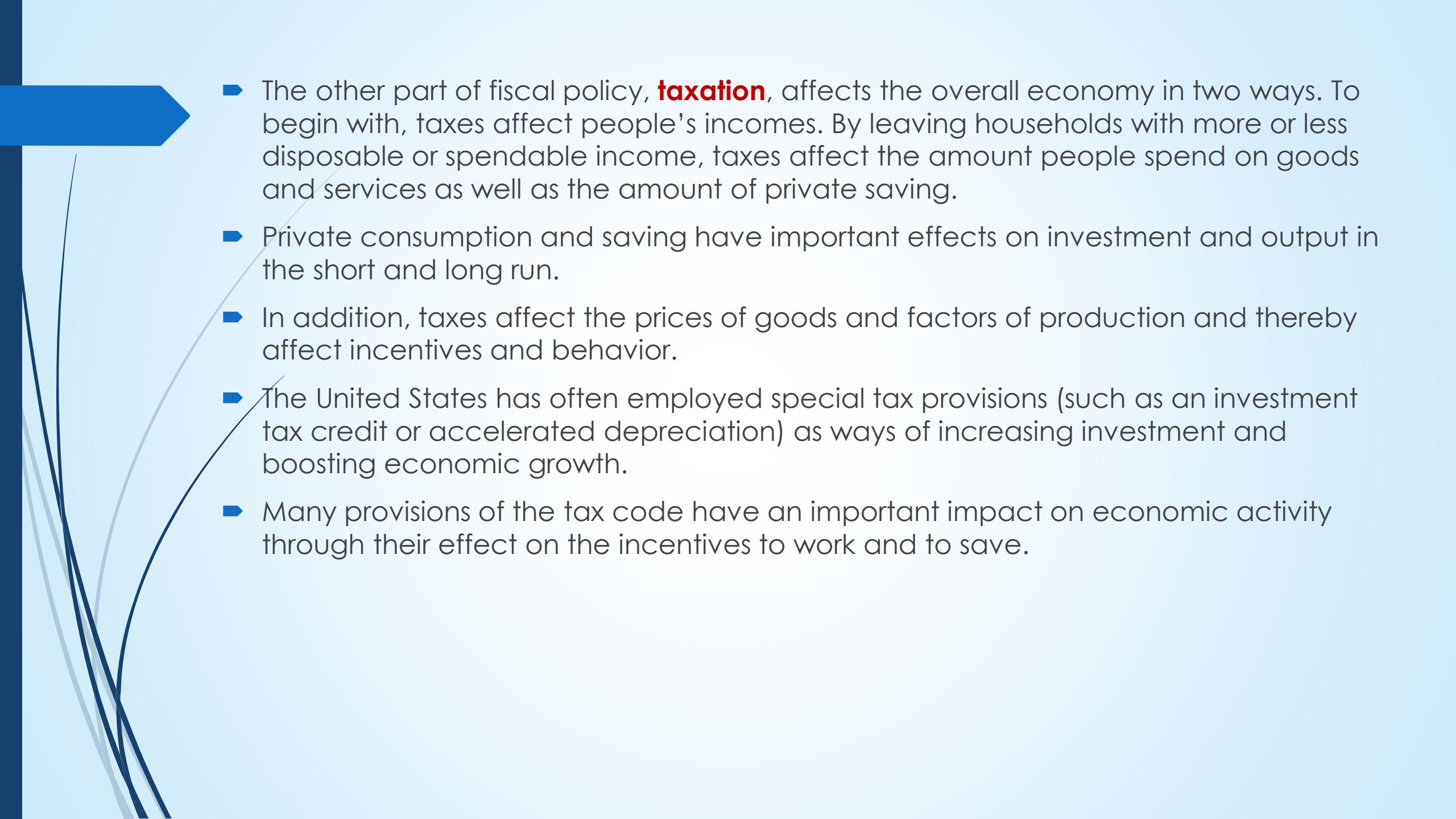
Buying and selling bonds, regulating financial institutions

Fiscal policy:

Government expenditures
Taxation

1. Fiscal Policy.

- ▶ Fiscal policy denotes the use of **taxes** and **government expenditures**.
- ▶ Government expenditures come in two distinct forms.
- ▶ **First there are government purchases.** These comprise spending on goods and services—purchases of tanks, construction of roads, salaries for judges, and so forth.
- ▶ **Government transfer payments:** which increase the incomes of targeted groups such as the elderly or the unemployed.
- ▶ Government spending determines the relative size of the public and private sectors, that is, how much of our GDP is consumed collectively rather than privately.
- ▶ From a macroeconomic perspective, government expenditures also affect the overall level of spending in the economy and thereby influence the level of GDP.

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- ▶ The other part of fiscal policy, **taxation**, affects the overall economy in two ways. To begin with, taxes affect people's incomes. By leaving households with more or less disposable or spendable income, taxes affect the amount people spend on goods and services as well as the amount of private saving.
 - ▶ Private consumption and saving have important effects on investment and output in the short and long run.
 - ▶ In addition, taxes affect the prices of goods and factors of production and thereby affect incentives and behavior.
 - ▶ The United States has often employed special tax provisions (such as an investment tax credit or accelerated depreciation) as ways of increasing investment and boosting economic growth.
 - ▶ Many provisions of the tax code have an important impact on economic activity through their effect on the incentives to work and to save.

Summary:

- ▶ Fiscal policy consists of government expenditure and taxation.
- ▶ Government expenditure influences the relative size of collective spending and private consumption.
- ▶ Taxation subtracts from incomes, reduces private spending, and affects private saving.
- ▶ In addition, it affects investment and potential output.
- ▶ Fiscal policy is primarily used to affect long-term economic growth through its impact on national saving and investment; it is also used to stimulate spending in deep or sharp recessions.

2. Monetary Policy.

- The second major instrument of macroeconomic policy is monetary policy, which the government conducts through managing the nation's money, credit, and banking system.
- You may have read how our central bank, the Federal Reserve System, affects the economy by determining short term interest rates. How does the Federal Reserve or any other central bank actually accomplish this?
- It does so primarily by setting short-run interest-rate targets and through buying and selling government securities to attain those targets.
- Through its operations, the Federal Reserve influences many financial and economic variables, such as interest rates, stock prices, housing prices, and foreign exchange rates.
- These financial variables affect spending on investment, particularly in housing, business investment, consumer durables, and exports and imports.
- Historically, the Fed has raised interest rates when inflation threatened to rise too high. This led to reduced investment and consumption, causing a decline in GDP and lower inflation. In the most recent slowdown, which started in 2007, the Fed acted quickly to lower interest rates, provide credit, and extend its lending facilities outside traditional banking institutions.

2. Monetary Policy.

- ▶ Continued.....
- ▶ The central bank is a key macroeconomic institution for every country. Japan, Britain, Russia, and the countries of the European Union all have powerful central banks. In an “open economy”—that is, one whose borders are open to goods, services, and financial flows—the exchange-rate system is also a central part of monetary policy.
- ▶ Monetary policy is the tool that countries most often rely on to stabilize the business cycle, although it becomes less potent in deep recessions. The exact way that central banks can affect economic activity will be thoroughly analyzed in the chapters on monetary policy.

Summary:

- ▶ Monetary policy, conducted by the central bank, determines short-run interest rates.
- ▶ It thereby affects credit conditions, including asset prices such as stock and bond prices and exchange rates.
- ▶ Changes in interest rates, along with other financial conditions, affect spending in sectors such as business investment, housing, and foreign trade.
- ▶ Monetary policy has an important effect on both actual GDP and potential GDP.



B. AGGREGATE SUPPLY AND DEMAND



Definitions of Aggregate Supply

- ▶ Aggregate supply refers to the total quantity of goods and services that the nation's businesses willingly produce and sell in a given period.
- ▶ Aggregate supply (often written AS) depends upon the price level, the productive capacity of the economy, and the level of costs. In general, businesses would like to sell everything they can produce at high prices.
- ▶ Under some circumstances, prices and spending levels may be depressed, so businesses might find they have excess capacity.
- ▶ Under other conditions, such as during a wartime boom, factories may be operating at capacity as businesses scramble to produce enough to meet all their orders.
- ▶ We see, then, that aggregate supply depends on the price level that businesses can charge as well as on the economy's capacity or potential output.
- ▶ Potential output in turn is determined by the availability of productive inputs (labor and capital being the most important) and the managerial and technical efficiency with which those inputs are combined

Definitions of Aggregate Demand

- ▶ aggregate demand, which refers to the total amount that different sectors in the economy willingly spend in a given period.
- ▶ Aggregate demand (often written AD) equals total spending on goods and services. It depends on the level of prices, as well as on monetary policy, fiscal policy, and other factors.
- ▶ The components of aggregate demand include consumption (the cars, food, and other consumption goods bought by consumers); investment (construction of houses and factories as well as business equipment); government purchases (such as spending on teachers and missiles); and net exports (the difference between exports and imports).
- ▶ Aggregate demand is affected by the prices at which the goods are offered, by exogenous forces like wars and weather, and by government policies.

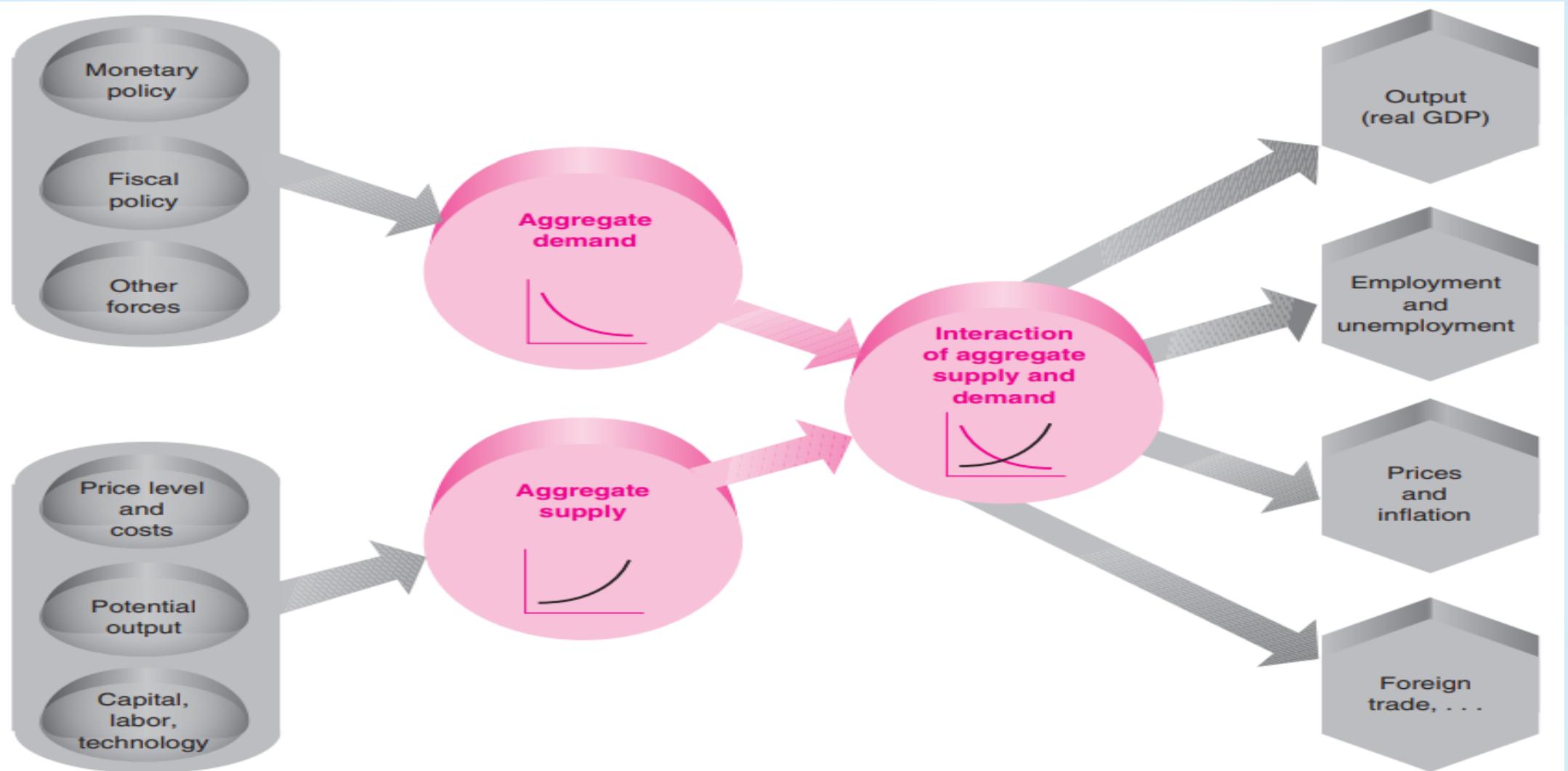


FIGURE 19-5. Aggregate Supply and Demand Determine the Major Macroeconomic Variables

This key diagram shows the major factors affecting overall economic activity. On the left are the major variables determining aggregate supply and demand; these include policy variables, like monetary and fiscal policies, along with stocks of capital and labor. In the center, aggregate supply and demand interact. The chief outcomes are shown on the right in hexagons: output, employment, the price level, and international trade.

Aggregate Supply and Demand Curves

- ▶ Aggregate supply and demand curves are often used to help analyze macroeconomic conditions.
- ▶ Figure 19-6 shows the aggregate supply and demand schedules for the output of an entire economy. On the horizontal axis is the total output (real GDP) of the economy. On the vertical axis is the overall price level (as measured by the “price of GDP”). We use the symbol Q for real output and P for the price level.
- ▶ The downward-sloping curve is the aggregate demand schedule, or AD curve. It represents what everyone in the economy —consumers, businesses, foreigners, and governments— would buy at different aggregate price levels (with other factors affecting aggregate demand held constant). From the curve, we see that at an overall price level of 150, total spending would be \$3000 billion (per year). If the price level rises to 200, total spending would fall to \$2300 billion.
- ▶ The upward-sloping curve is the aggregate supply schedule, or AS curve. This curve represents the quantity of goods and services that businesses are willing to produce and sell at each price level (with other determinants of aggregate supply held constant).
- ▶ According to the curve, businesses will want to sell \$3000 billion at a price level of 150; they will want to sell a higher quantity, \$3300 billion, if prices rise to 200. As the level of total output demanded rises, businesses will want to sell more goods and services at a higher price level.

Aggregate Price and Output Determination/ Macroeconomic Equilibrium

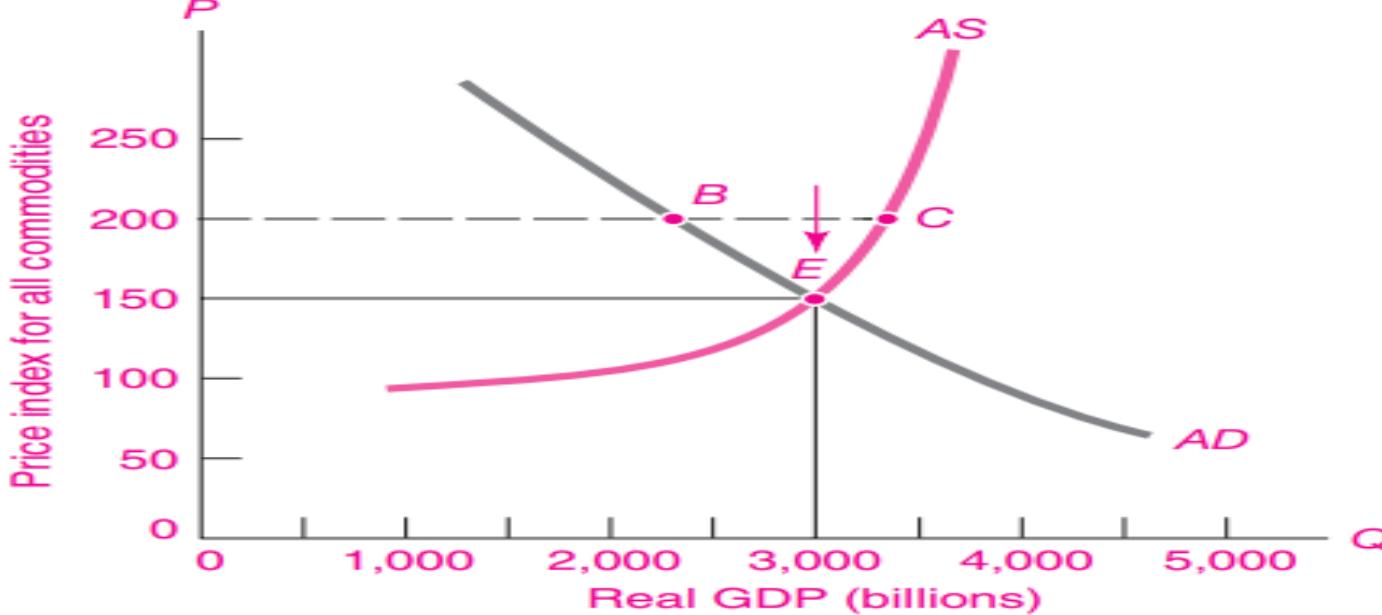


FIGURE 19-6. Aggregate Price and Output Are Determined by the Interaction of Aggregate Supply and Demand

The *AD* curve represents the quantity of total spending at different price levels, with other factors held constant. The *AS* curve shows what firms will produce and sell at different price levels, other things equal.

National output and the overall price level are determined at the intersection of the aggregate demand and supply curves, at point *E*. This equilibrium occurs at an overall price level where firms willingly produce and sell what consumers and other demanders willingly buy.

Aggregate Price and Output Determination/ Macroeconomic Equilibrium

- ▶ Aggregate output and the price level adjust or equilibrate to bring aggregate supply and aggregate demand into balance. That is, we use the AS and AD concepts to see how equilibrium values of price and quantity are determined or to find the P and Q that satisfy the buyers and sellers all taken together.
- ▶ For the AS and AD curves shown in Figure 19-6, the overall economy is in equilibrium at point E. Only at that point, where the level of output is Q 3000 and P 150, are spenders and sellers satisfied. Only at point E are demanders willing to buy exactly the amount that businesses are willing to produce and sell.
- ▶ A macroeconomic equilibrium is a combination of overall price and quantity at which all buyers and sellers are satisfied with their overall purchases, sales, and prices.
- ▶ Figure 19-6 illustrates the concept. If the price level were higher than equilibrium, say, at P 200, businesses would want to sell more than purchasers would want to buy; businesses would desire to sell quantity C, while buyers would want to purchase only amount B. Goods would pile up on the shelves as firms produced more than consumers bought.
- ▶ Because of the excess aggregate supply of goods, firms would cut production and shave their prices. The overall price level would begin to decline or rise less rapidly. As the price level declined from its original too high level, the gap between desired total spending and desired total sales would narrow. Eventually, prices would decline to the point where overall demand and production were in balance. At the macroeconomic equilibrium, there would be neither excess supply nor excess demand—and no pressure to change the overall price level.

CHAPTER 2

National Income Terms

2.1 Gross domestic product: the yardstick of an economy's performance

- ▶ GDP is the name we give to the total market value of the final goods and services produced within a nation during a given year.
- ▶ The gross domestic product (GDP) is the most comprehensive measure of a nation's total output of goods and services.
- ▶ It is the sum of the dollar values of consumption (C), gross investment (I), government purchases of goods and services (G), and net exports (X - M) produced within a nation during a given year.
 - ▶ $\mathbf{GDP = C + I + G + (X - M)}$
- ▶ GDP is used for many purposes, but the most important one is to measure the overall performance of an economy.

Measures/Approach to Calculate GDP

1. Flow-of-Product Approach.

- ▶ Each year the public consumes a wide variety of final goods and services: goods such as apples, computer software, and blue jeans; services such as health care and haircuts. We include only final goods —goods ultimately bought and used by consumers. Households spend their incomes for these consumer goods Add together all the consumption dollars spent on these final goods, and you will arrive at this simplified economy's total GDP.
- ▶ Thus, in our simple economy, We can easily calculate national income or product as the sum of the annual flow of final goods and services: (price of blue jeans number of blue jeans) plus (price of apples number of apples) and so forth for all other final goods. The gross domestic product is defined as the total money value of the flow of final products produced by the nation.
- ▶ National accountants use market prices as weights in valuing different commodities because market prices reflect the relative economic value of diverse goods and services. That is, the relative prices of different goods reflect how much consumers value their last (or marginal) units of consumption of these goods.



Product Approach

Components of gross domestic product:

- Consumption (C)
- + Gross private domestic investment (I)
- + Government purchases (G)
- + Net exports (X)

Equals: Gross domestic product

Measures/Approach to Calculate GDP

► **2. Earnings or Income Approach.**

- The second and equivalent way to calculate GDP is the income accounts (also called the earnings or cost approach).
- Through it flow all the costs of doing business; these costs include the wages paid to labor, the rents paid to land, the profits paid to capital, and so forth.
- But these business costs are also the earnings that households receive from firms.
- By measuring the annual flow of these earnings or incomes, statisticians will again arrive at the GDP.
- Hence, a second way to calculate GDP is as the total of factor earnings (wages, interest, rents, and profits) that are the costs of producing society's final products.

Earnings Approach

Earnings or income approach to gross domestic product:

- Compensation of labor (wages, salaries, and supplements)
- + Corporate profits
- + Other property income (rent, interest, proprietors' income)
- + Depreciation
- + Net production taxes

Equals: Gross domestic product

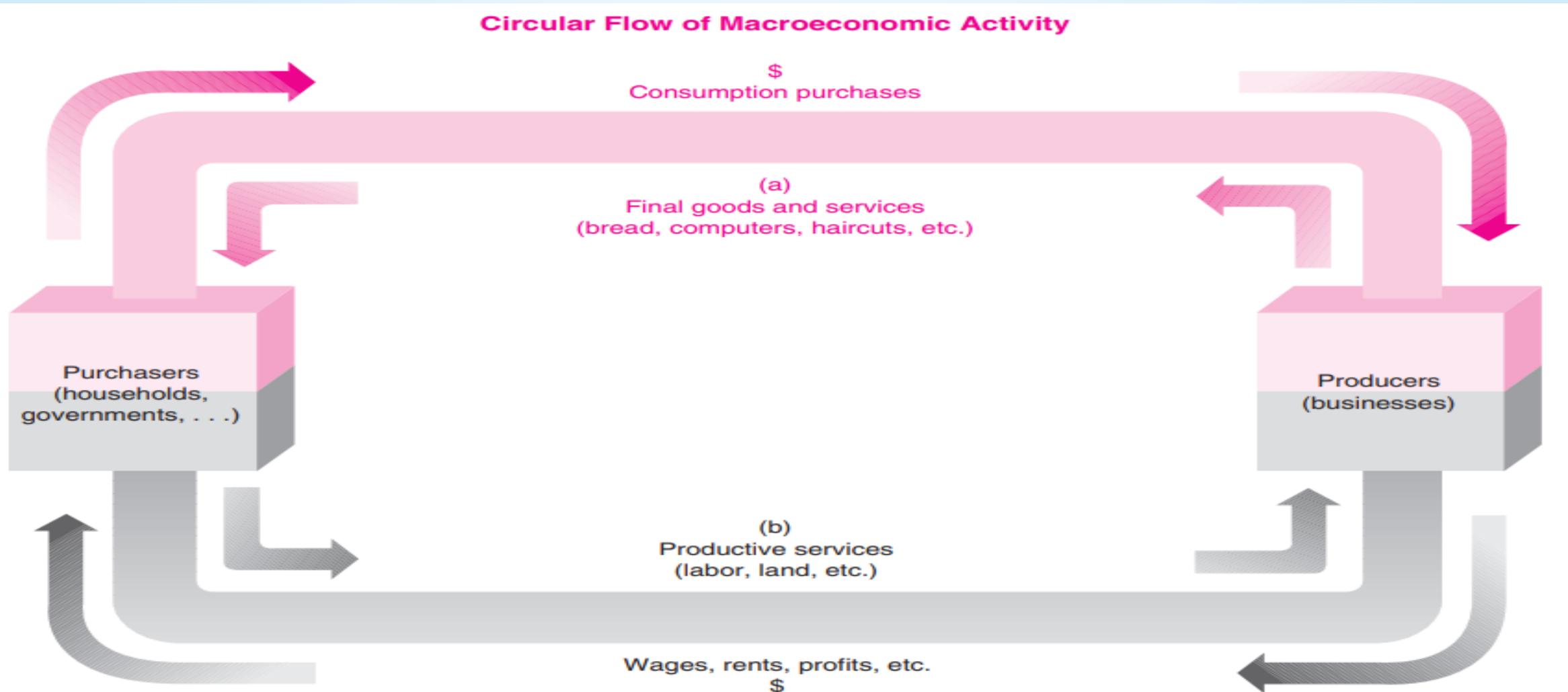


FIGURE 20-1. Gross Domestic Product Can Be Measured Either as (a) a Flow of Final Products or, Equivalently, as (b) a Flow of Earnings or Incomes

In the upper loop, purchasers buy final goods and services. The total dollar flow of their spending each year is one measure of gross domestic product. The lower loop measures the annual flow of costs of output: the earnings that businesses pay out in wages, rent, interest, dividends, and profits.

The two measures of GDP must always be identical. Note that this figure is the macroeconomic counterpart of Fig. 2-1, which presented the circular flow of supply and demand.

Equivalence of the Two Approaches.

- Now we have calculated GDP by the upper-loop flow -of-product approach and by the lower-loop earnings -flow approach. Which is the better approach? The surprise is that they are exactly the same .
 - We can see why the product and earnings approaches are identical by examining a simple barbershop economy. Say the barbers have no expenses other than labor. If they sell 10 haircuts at \$8 each, GDP is \$80. But the barbers' earnings (in wages and profits) are also exactly \$80. Hence, the GDP here is identical whether measured as a flow of products (\$80 worth of haircuts) or as a flow of costs and incomes (\$80 worth of wages and profits).
 - In fact, the two approaches are identical because we have included “profits” in the lower loop along with other incomes. What exactly is profit? Profit is what remains from the sale of a product after you have paid the other factor costs—wages, interest, and rents. It is the residual that adjusts automatically to make the lower loop’s costs or earnings exactly match the upper loop’s value of goods and services.
- To sum up:**
- GDP, or gross domestic product, can be measured in two different ways:
 - (1) as the flow of spending on final products, or
 - (2) as the total costs or incomes of inputs.
 - Both approaches yield exactly the same measure of GDP.

Equivalence of the Two Approaches.

(a) Income Statement of Typical Farm		
Output in Farming		Earnings
Sales of goods (corn, apples, etc.)	\$1,000	Costs of production:
		Wages \$ 800
		Rents 100
		Interest 25
	_____	Profits (residual) 75
Total	\$1,000	Total \$1,000

(b) National Product Account (millions of dollars)		
Upper-Loop Flow of Product		Lower-Loop Flow of Earnings
Final output ($10 \times 1,000$)	\$10,000	Costs or earnings:
		Wages (10×800) \$ 8,000
		Rents (10×100) 1,000
		Interest (10×25) 250
	_____	Profits (10×75) 750
GDP total	\$10,000	GDP total \$10,000

TABLE 20-1. Construction of National Product Accounts from Business Accounts

Part (a) shows the income statement of a typical farm. The left side shows the value of production, while the right side shows the farm's costs. Part (b) then adds up or aggregates the 10 million identical farms to obtain total GDP. Note that GDP from the product side exactly equals GDP from the earnings side.

The Problem of “Double Counting”

- We defined GDP as the total production of final goods and services.
- A final product is one that is produced and sold for consumption or investment.
- GDP excludes intermediate goods —goods that are used up to produce other goods.
- GDP therefore includes bread but not flour, and home computers but not computer chips.
- If we include Intermediate goods in calculating GDP then it will lead to double counting.

► **Value-added approach:**

- To avoid double counting, we take care to include only final goods in GDP and to exclude the intermediate goods that are used up in making the final goods.
- By measuring the value added at each stage, taking care to subtract expenditures on the intermediate goods bought from other firms, avoids all double counting and records wages, interest, rents, and profits exactly one time.

Bread Receipts, Costs, and Value Added (cents per loaf)			
Stage of production	(1) Sales receipts	(2) <i>Less: Cost of intermediate products</i>	(3) Value added (wages, profits, etc.) (3) = (1) – (2)
Wheat	23	0	= 23
Flour	53	23	= 30
Baked dough	110	53	= 57
Final product: bread	190	110	= 80
Total	376	186	190 (sum of value added)

TABLE 20-2. GDP Sums Up Value Added at Each Production Stage

To avoid double counting of intermediate products, we calculate value added at each stage of production. This involves subtracting all the costs of materials and intermediate products bought from other businesses from total sales. Note that every blue intermediate-product item both appears in column (1) and is subtracted in the next stage of production in column (2). (By how much would we overestimate GDP if we counted all receipts, not just value added? The overestimate would be 186 cents per loaf.)

Components of Gross Domestic Product (4 Components)

- ▶ Four major components of GDP are:
- ▶ *1. Private Consumption Expenditure (C)*
- ▶ *2. Investment Expenditure (I)*
- ▶ *3. Government Purchases of Goods and Services (G)*
- ▶ *4. Net Exports ($X - M$)*

Components of Gross Domestic Product (4 Components)

- ▶ Continued ...1
- ▶ **1. Private Consumption Expenditure (C):** (Consumption spending by households) —This component measures the money value of consumer goods and services which are purchased by households and non-profit institutions for current use during a period of account. These are classified into consumer durables, semi-durables, non-durables and services; broadly, this classification of consumer goods Is based on the length of time within which consumer goods are used. Private consumption expenditure includes expenditure on all these categories of goods and services.
- ▶ **2. Investment Expenditure (I):** Investment means additions to the physical stock of capital during a period of time: Gross Private Domestic Investment shows the aggregate value in this regard. Investment Includes building of machinery housing construction, construction of factories and offices and additions to a firm's inventories of goods. Whereas intermediate goods are used up in the process of making other goods, capital goods (like machinery, building, etc.) get partially depleted in producing other goods and services. This is called depreciation of fixed capital goods. Depreciation is fall in the value of the existing capital stock which has been consumed or used up in the process of producing output.

Components of Gross Domestic Product (4 Components)

- ▶ Continued...2
- ▶ **3. Government Purchases of Goods and Services (G):** This component summarizes government spending on goods and services. It includes (i) purchase of intermediate goods and (ii) wages and salaries paid by the government. All government purchases are a proxy measure for government output.
- ▶ Such government purchases are treated as part of the final product. Transfer payments which are made by government to households and firms are not counted as part of GDR. This is to avoid double counting since the consumption or investment by recipients of the transfer payments is counted in C and I.
- ▶ **4. Net Exports ($X - M$):** It shows the difference between domestic spending on foreign goods (i.e., imports) and foreign spending on domestic goods (i.e., exports). Thus, the difference between Exports (X) and Imports (M) of a country is called Net Exports ($X - M$).
- ▶ To sum up, Gross Domestic Product (GDP) is the total value of sum of Consumption Expenditure by households (C), Investment Expenditure by firms (I), Government Purchases (G) and Net Exports. ($X - M$). Symbolically:
- ▶
$$\text{GDP} = C + I + G + (X - M)$$

GDP at Factor Cost and GDP at Market Price:

- ▶ In GDP at market price are included indirect taxes and are excluded subsidies by the government. Therefore, in order to arrive at GDP at factor cost, indirect taxes are subtracted and subsidies are added to GDP at market price.
 - ▶ Thus,
 - ▶ **GDP at Factor Cost = GDP at Market Price – Indirect Taxes + Subsidies.**
- ▶ **GDP at Market Price = GDP at Factor Cost + Indirect Taxes - Subsidies.**

Real Vs Nominal GDP

Real and Nominal GDP :-

When GDP is measured at current market prices, it is called nominal GDP (NGDP). An increase in the value of NGDP does not always mean increase in output. It would only mean that the price level has gone up.

Real GDP is calculated by valuing the goods at a base year price level. An increase in the value of real GDP indicates economic growth.

Real Vs Nominal GDP

► Continued ...2

Nominal GDP : Nominal GDP is calculated on the basis of current year prices.

$$\text{Nominal GDP} = \text{output of goods \& services} \times \text{current year price}$$

Real GDP : Real GDP is calculated on the basis of base year prices. Real GDP measures changes in physical output in an economy, between different time periods by valuing all goods produced in two periods at the same prices.

Real GDP is arrived by dividing nominal GDP by GDP deflator.

$$\text{Real GDP} = \frac{\text{Nominal GDP}}{\text{GDP deflator}}$$

$$\text{GDP deflator} = \frac{\text{Price level of current year}}{\text{Price level of base year}}$$

Real Vs Nominal GDP

- Continued ...3
- Numerical Calculation:

Q. A country produces 1000 tons of wheat in 2007 and 1010 tons in 2008. The price of 1 ton wheat Rs. 18,000 in 2007 and 36,000 in 2008. Calculate Nominal GDP for 2007, 2008. Real GDP for 2008

Solution:

→ 2007 1000 tons 18,000/- per ton
2008 1010 tons 36,000/- per ton

$$\text{Nominal GDP}_{(2007)} = 1000 \times 18,000 \\ = 18,000,000/-$$

$$\text{Nominal GDP}_{(2008)} = 1010 \times 36,000 \\ = 3,63,6,000/-$$

$$\text{GDP deflated} = \frac{36,000}{18,000}$$

$$= 2$$

$$\text{Real GDP} = \frac{\text{Nominal GDP}_{(2008)}}{\text{GDP deflator}} = \frac{3,63,6,000}{2}$$

Comparison between Nominal GDP vs Real GDP

The Basis of comparison	Nominal GDP	Real GDP
Meaning	Total economic output produced valued at a current market price	Total economic output produced valued at a constant market price
Calculation	Based on the current market price	Based on pre-determined base year market price
Price change effect	Included	Excluded
Value	Usually higher due to inflation	Usually lower than nominal GDP
Usage	Used for comparison across different quarters of output in a year for the same country	More appropriate for comparison across years and across countries
Complexity	Comparatively easier to calculate	More difficult to calculate
Analysis of economic growth	Cannot segregate between volume growth and growth due to price changes	Concentrates on volume growth only, hence economic growth can be more appropriately analyzed
Comparison across countries	Not appropriate to compare nominal GDP across countries with different inflation rates	Better index for measuring long-term economic performance and comparison across countries

Net Domestic Product (NDP)

Net domestic product (NDP) is calculated by subtracting the value of depreciation of capital assets of the nation such as machinery, housing and vehicles from the gross domestic product (GDP).

- ▶ NDP also takes into account the other factors such as obsolescence and complete destruction of the asset. The depreciation is also referred to as capital consumption allowance.
- ▶ If the country is unable to replace all the capital stock that is lost through depreciation, the result will be a fall in the GDP of the country.
- ▶ It is considered good for an economy if the gap between GDP and NDP is narrower or smaller, which will indicate economic balance, while a wider gap between the GDP and NDP shows increase in the value of obsolescence.
- ▶ We can derive Net Domestic Product form Gross Domestic Product by using below formula:
- ▶ **Net Domestic Product (NDP) = Gross Domestic Product (GDP) – Depreciation**
- ▶ **NDP = GDP – Depreciation**
- ▶ Where,
- ▶ NDP = Net Domestic Product
- ▶ GDP = Gross Domestic Product
- ▶ Depreciation = Depreciation of capital assets such as equipment, vehicles, housing, etc.
- ▶ As NDP takes into account the depreciation of capital assets, it is considered to be superior to the GDP as a measure of well being of a nation.

Gross National Product (GNP)

- ▶ Gross National Product (GNP) is a measure of the value of all goods and services produced by a country's residents and businesses.
- ▶ It estimates the value of the final products and services manufactured by a country's residents, regardless of the production location.
- ▶ GNP is known as gross national product and represents the total value of goods and services produced by the residents of a country during a financial year.
- ▶ It takes the income earned by the citizens of the country present within or outside the country into consideration.
- ▶ It excludes the income generated by the foreign nationals who are residing in the country. It can be calculated as:
 - ▶ **GNP = GDP + NFIA (Net Factor Income From Abroad)**
 - ▶ **GNP = GDP + Net Income Inflow from Overseas – Net Income Outflow to Foreign Countries**

NFIA (Net Factor Income From Abroad)

Net factor income from abroad (NFIA) :-

NFIA measures the value of factor income earned by the domestic factors of production employed in the rest of the world minus (-) income earned by factors of rest of the world employed in domestic economy.

e.g:- The income of Indian citizen working in Saudi Arabia is included in Saudi Arabian GDP. But legally speaking, she is an Indian. So we take into account her earnings. Similarly, profits made by foreign factors in our economy are subtracted. e.g. Hyundai car factory (South Korea),

Difference Between GDP and GNP

GDP	GNP
Definition	
The value of goods and services produced within the geographical boundaries of a nation in a financial year is termed as GDP.	The value of goods and services produced by the citizens of a nation irrespective of the geographical limits in a financial year is known as GNP.
What Does It Measure?	
It measures only the domestic production.	It measures only the national production.
Emphasis	
It emphasises on the production that is obtained domestically.	It emphasises on the production that is achieved by the citizens living in different nations.
Highlights	
It highlights the strength of the country's economy.	It highlights the contribution of the residents to the development of the economy
Scale of Operations	
Local scale	International scale
Excludes	
The goods and services that are being produced outside the economy are excluded.	The goods and services that are produced by the foreigners living in the country are excluded.

National Income (Net National Product) NNP factor cost

- Net National Product at factor cost is the net output evaluated at factor prices.
 - It includes income earned by factors of production through participation in the production process such as wages and salaries, rents, profits, etc.
 - It is also called National Income.
 - This measure differs from NNP at market prices in that indirect taxes are deducted and subsidies are added to NNP at market prices in order to arrive at NNP at factor cost.
 - Thus
 - NNP at Factor Cost = NNP at Market Prices – Indirect taxes+ Subsidies**
 - NNP at Factor Cost = GNP at Market Prices – Depreciation – Indirect taxes + Subsidies.**
 - = National Income.
 - Normally, NNP at market prices is higher than NNP at factor cost because indirect taxes exceed government subsidies.
 - However, NNP at market prices can be less than NNP at factor cost when government subsidies exceed indirect taxes.

Per Capita Income (PCI)

The average income of the people of a country in a particular year is called Per Capita Income for that year.

- ▶ This concept also refers to the measurement of income at current prices and at constant prices.
- ▶ For instance, in order to find out the per capita income for 2001, at current prices, the national income of a country is divided by the population of the country in that year.

$$\text{Per Capita Income for 2001} = \frac{\text{National income for 2001}}{\text{Population in 2001}}$$

- ▶ Similarly, for the purpose of arriving at the Real Per Capita Income, this very formula is used.

$$\text{Real Per Capita Income for 2001} = \frac{\text{Real national income for 2001}}{\text{Population in 2001}}$$

- ▶ This concept enables us to know the average income and the standard of living of the people.
- ▶ But it is not very reliable, because in every country due to unequal distribution of national income, a major portion of it goes to the richer sections of the society and thus income received by the common man is lower than the per capita income.

Disposable Income

Disposable income or personal disposable income means the actual income which can be spent on consumption by individuals and families.

- ▶ The whole of the personal income cannot be spent on consumption, because it is the income that accrues before direct taxes have actually been paid. Therefore, in order to obtain disposable income, direct taxes are deducted from personal income.
- ▶ Thus **Disposable Income=Personal Income – Direct Taxes.**
- ▶ But the whole of disposable income is not spent on consumption and a part of it is saved. Therefore, disposable income is divided into consumption expenditure and savings.
- ▶ Thus **Disposable Income = Consumption Expenditure + Savings.**
- ▶ If disposable income is to be deduced from national income, we deduct indirect taxes plus subsidies, direct taxes on personal and on business, social security payments, undistributed corporate profits or business savings from it and add transfer payments and net income from abroad to it.
- ▶ Thus
- ▶ **Disposable Income = National Income – Business Savings – Indirect Taxes + Subsidies – Direct Taxes on Persons – Direct Taxes on Business – Social Security Payments + Transfer Payments + Net Income from abroad.**



Price Index

PRICE INDEX

- ▶ A price index is a numerical measure design to help compare how the prices of some class of goods or services, taken as a whole, differ between time periods or geographical locations.
- ▶ For the purpose of preparing price index, a base year is taken and prices of that base year are assumed to be equal to 100. Price Index is measured as follows:
- ▶
$$\text{Price Index} = \frac{\text{Current Years Price}}{\text{Base Years Price}} \times 100$$
- ▶ ***Types of Price Index:***
 - ▶ 1). Producer Price Index (PPI)
 - ▶ 2). Consumer Price Index (CPI)
 - ▶ 3) Weighted Price Index (WPI)

Types of Price Index:

- ▶ *Continued.....1*
- ▶ **1). Producer Price Index (PPI)**
 - ▶ Producer Price Index measures average changes in prices received by domestic producers for their output. PPI measures the pressure being put on producers by the cost of their raw materials. This could be “passed on” to consumers as increase in price and inflation.
- ▶ **2). Consumer Price Index (CPI):**
 - ▶ A consumer price index (CPI) is an estimate as to the price level of consumer goods and services in an economy which is used as a way to estimate changes in prices and inflation.
 - ▶ A CPI takes a certain basket of common goods and tracks the changes in the prices that basket of goods over time.
 - ▶ CPI is also called as cost of living index number.
 - ▶ The CPI is the measure of changes in the average cost of buying a basket of different goods & services for a typical household.

Types of Price Index:

How to Calculate Consumer Price Index?

- ▶ **Formula to Calculate CPI for a single item**

$$\text{CPI of the Current Year} = \frac{\text{Current Price of the Item} * \text{CPI of the Base Year}}{\text{Price of the Base Year}}$$

- ▶ **Four steps to calculate consumer price index (CPI)**
- ▶ **Step 1** – A base year is selected for the calculation. The CPI of the base year is set as 100.
- ▶ **Step 2** – Based on how a typical consumer spends his / her money on purchasing commodities, a basket of goods and services is defined for the base year. In order to gather this information, the national body of authority conducts several surveys with consumers and households. Then prices of each of those products is added together in the base year to arrive at the price of base year.
- ▶ **Step 3** – Prices of the same commodity basket at the current year is added together as the third step.
- ▶ **Step 4** – Calculate the CPI using the CPI formula. This includes dividing the current year prices from the prices of base year and multiplies that by the CPI of the base year which is 100.

► Example

Assume that the market basket of goods and services of a given economy is as mentioned below for two given time periods.

Cost	2000 (\$)	2010 (\$)
Loaf of Bread	8	10
Gallon of Gas	50	58
Cost of a Medical Treatment	75	100
Total	133	168

► Consider the base year as 2000.

► Based on the above information, CPI can be calculated as follows.

$$\begin{aligned} \text{CPI} &= \frac{168 * 100}{133} \\ &= 126.32 \end{aligned}$$

► This answer implies that the prices of the basket of goods and services have been increased by 26.32% from 2000 to 2010.

Types of Price Index:

- *Continued.....2*
- **3) Weighted Price Index (WPI)**

$$\text{Price Relative (I)} = \frac{P_1}{P_0} \times 100$$

P_1 = prices in current year

P_0 = prices in base year

$$\text{Simple Index no.} = \frac{\sum I}{n}$$

n = no. of commodities.

$$\text{Weighted Index no.} = \frac{\sum I \cdot W}{\sum W}$$

Types of Price Index:

► *Continued.....3*

► **3) Weighted Price Index (WPI)**

<u>Category</u>	<u>(P₀) Price - 2007</u>	<u>(P₁) Price 2008</u>	<u>$\frac{P_1}{P_0} \times 100$</u>	<u>I Weighting</u>	<u>I W</u>
Food	10	17	170	19	3230
Clothing	12	15	125	12	1500
Transport	9	12	133	14	1862
Housing	45	70	155	23	3565
Leisure	5	12	240	9	2160

$$\text{Simple Index} = \frac{\sum I}{n} = \frac{823}{5} = 164.7$$

$$\text{Weighted Index no.} = \frac{12317}{77} = 159.9$$



INFLATION

Meaning of Inflation:

- ▶ Inflation can be defined as a persistent increase in general price level, or persistent decline in real income of people i.e, decline in value of money. In other words, inflation means things getting more expensive.
- ▶ Inflation is a situation in which the general price level rises or it is the same thing as saying that the value of money falls. In other words, inflation reduces the purchasing power of money. A unit of money now buys less.
- ▶ According to Coulbrun, “too much money chasing to few goods”.
- ▶ Crowther defines, “inflation is a state in which the value of money is falling”.
- ▶ While measuring inflation, we take into account a large number of goods and services used by the people of a country and then calculate average increase in the prices of those goods and services over a period of time.
- ▶ A small rise in prices or a sudden rise in prices is not inflation.
- ▶ It is to be pointed out here that inflation is a state of disequilibrium when there occurs a sustained rise in price level. It is inflation if the prices of most goods go up. Such rate of increases in prices may be both slow and rapid. It is not high prices but rising price level that constitute inflation.
- ▶ It constitutes, thus, an overall increase in price level. It can, thus, be viewed as the devaluing of the worth of money.

The inflation rate can be calculated by using following formula:

- **The inflation rate can be calculated by using following formula:**

$$\text{Inflation Rate} = \frac{\text{Current Year CPI} - \text{Base Year CPI}}{\text{Base Year CPI}} \times 100$$

Example 1: If current year CPI Is 18,900. Base year CPI is 16,000. Calculate inflation rate.

$$\text{Inflation Rate} = (18,900 - 16,000) / 16,000 \times 100$$

$$= 2,900 / 16,000 \times 100$$

$$= 0.1813 \times 100$$

$$= \mathbf{18.13\%}$$

Example 2: Suppose, in December 2007, the consumer price index was 193.6 and, in December 2008, it was 223.8. calculate the inflation rate.

$$\text{Inflation rate} = 223.8 - 193.6 / 193.6 \times 100 = 15.6$$

Types of Inflation:

As the nature of inflation is not uniform in an economy for all the time, it is wise to distinguish between different types of inflation. Inflation may be caused by a variety of factors. Its intensity or pace may be different at different times. It may also be classified in accordance with the reactions of the government toward inflation.

- ▶ **On the Basis of Speed or Intensity following are the types of inflation:**

- ▶ **(i) Creeping or Mild Inflation:**

- ▶ If the speed of upward thrust in prices is slow but small then we have creeping inflation. What speed of annual price rise is a creeping one has not been stated by the economists. To some, a creeping or mild inflation is one when annual price rise varies between 2 p.c. and 3 p.c. If a rate of price rise is kept at this level, it is considered to be helpful for economic development. Others argue that if annual price rise goes slightly beyond 3 p.c. mark, still then it is considered to be of no danger.

- ▶ **(ii) Walking Inflation:**

- ▶ If the rate of annual price increase lies between 3 p.c. and 4 p.c., then we have a situation of walking inflation. When mild inflation is allowed to fan out, walking inflation appears. These two types of inflation may be described as ‘moderate inflation’.

- ▶ Often, one-digit inflation rate is called ‘moderate inflation’ which is not only predictable, but also keep people’s faith on the monetary system of the country. Peoples’ confidence get lost once moderately maintained rate of inflation goes out of control and the economy is then caught with the galloping inflation.

Types of Inflation:

Continued....2

- ▶ **(iii) Running inflation:** running inflation starts at 10% and goes up to 100%.during this type of inflation people starts loosing faiths in their domestic currency and if there is capital convertibility then foreign capital starts moving out of country. All international payments are preferred in \$ dollars.
- ▶ **(iv) Galloping and Hyperinflation:** Walking inflation may be converted into running inflation. Running inflation is dangerous. If it is not controlled, it may ultimately be converted to galloping or hyperinflation. It is an extreme form of inflation when an economy gets shattered. Inflation in the triple digit range of greater than 100 or 200 p.c. a year is labelled “galloping inflation”.
- ▶ **(v) Stagflation:** This is a typical situation when stagnation and inflation exist together. In stagflation output will be at lowest level along with high rates of unemployment accompanied by continuous rise in price levels. Such condition is normally found in less developed economies. India too has faced stagflation in the decade of 1970s, when industrial production was at its lowest, accompanied by increasing prices.
- ▶ **(vi) Suppressed inflation:** This is a state when inflationary conditions exist, but the government makes such policies which temporarily keep prices at low level. Once the government curbs are lifted, the suppressed inflation becomes open inflation. Open inflation may then result in hyperinflation. Petrol and diesel prices in India are example of suppressed inflation

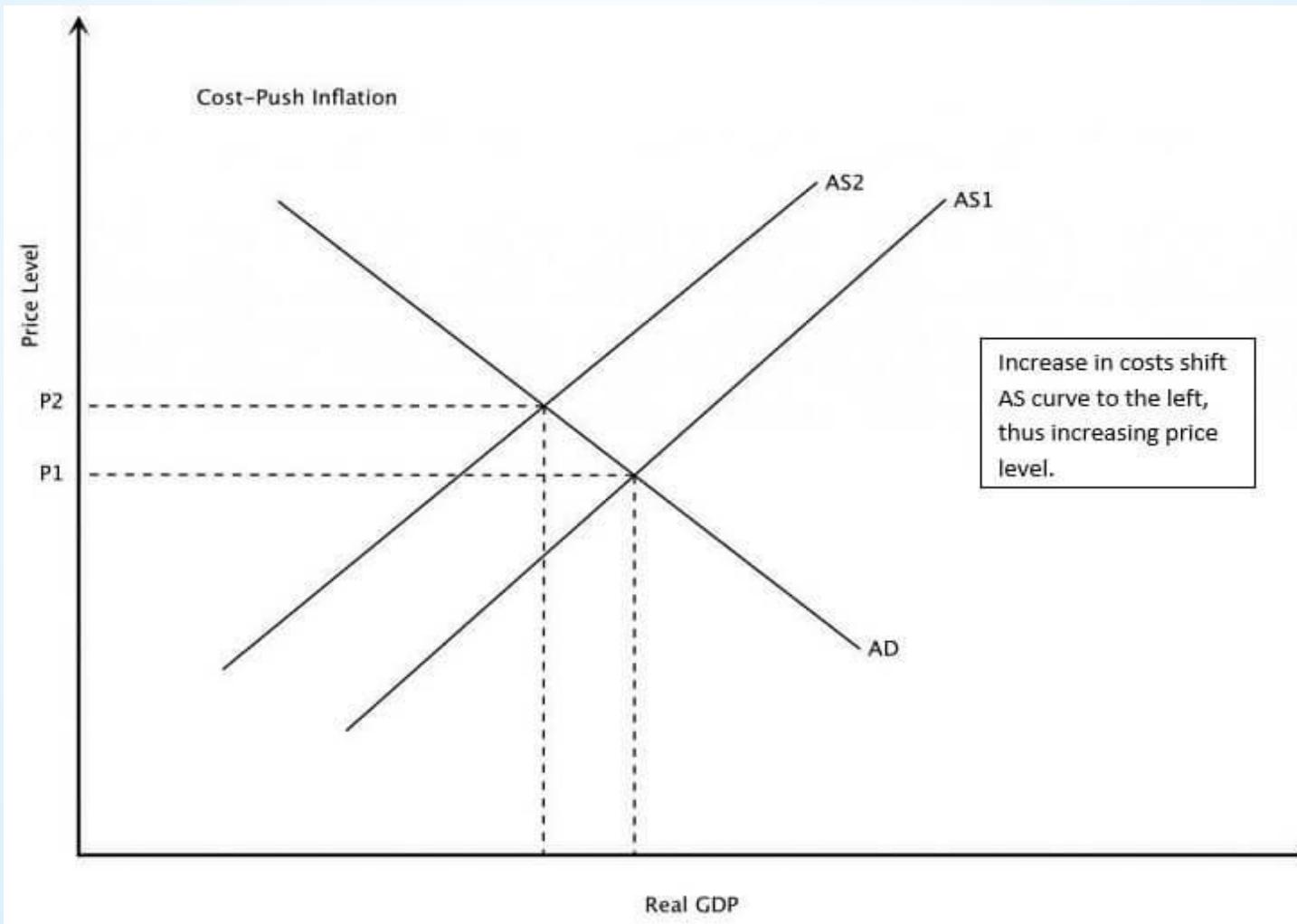
Causes/Types of Inflation:

- ▶ Inflation is mainly caused by excess demand/ or decline in aggregate supply or output. Former is called demand-pull inflation (DPI), and the latter is called cost-push inflation (CPI). Before describing the factors, that lead to a rise in aggregate demand and a decline in aggregate supply, we like to explain “demand-pull” and “cost-push” inflation.
- ▶ **1. Cost Push Inflation**
- ▶ Cost push inflation occurs when there is a decrease in supply of goods and services.
- ▶ This happens when the cost of production increases and pushes the price level.
- ▶ The cost of production increases when there is an increase in prices of the factors such as increases in wages, raw materials, indirect tax etc.
- ▶ When the companies are working at their optimum capacity, there cannot simply produce more and thus pass on the increased cost of production to the customers in terms of higher prices.
- ▶ The company passes the increased costs of production on to the consumer, making higher price levels.

Causes/Types of Inflation:

► Continued...2

► 1. Cost Push Inflation



Causes/Types of Inflation:

► Continued...3

► Reasons of Cost Push Inflation

- **Supply shock:** If there is an increase in prices of essential goods like oil, this raises the transport costs and all firms would experience higher costs.
- **Rising unit labor costs:** Wages are a large share of costs for firms. Push for higher wages leads to an increase in costs of production for the firm and hence higher price level.
- **Higher taxes:** Higher indirect tax, VAT etc raises the costs and thus the price level.
- **Rise in import costs:** If there is depreciation in the exchange rate results in higher price of the imported goods.

Causes/Types of Inflation:

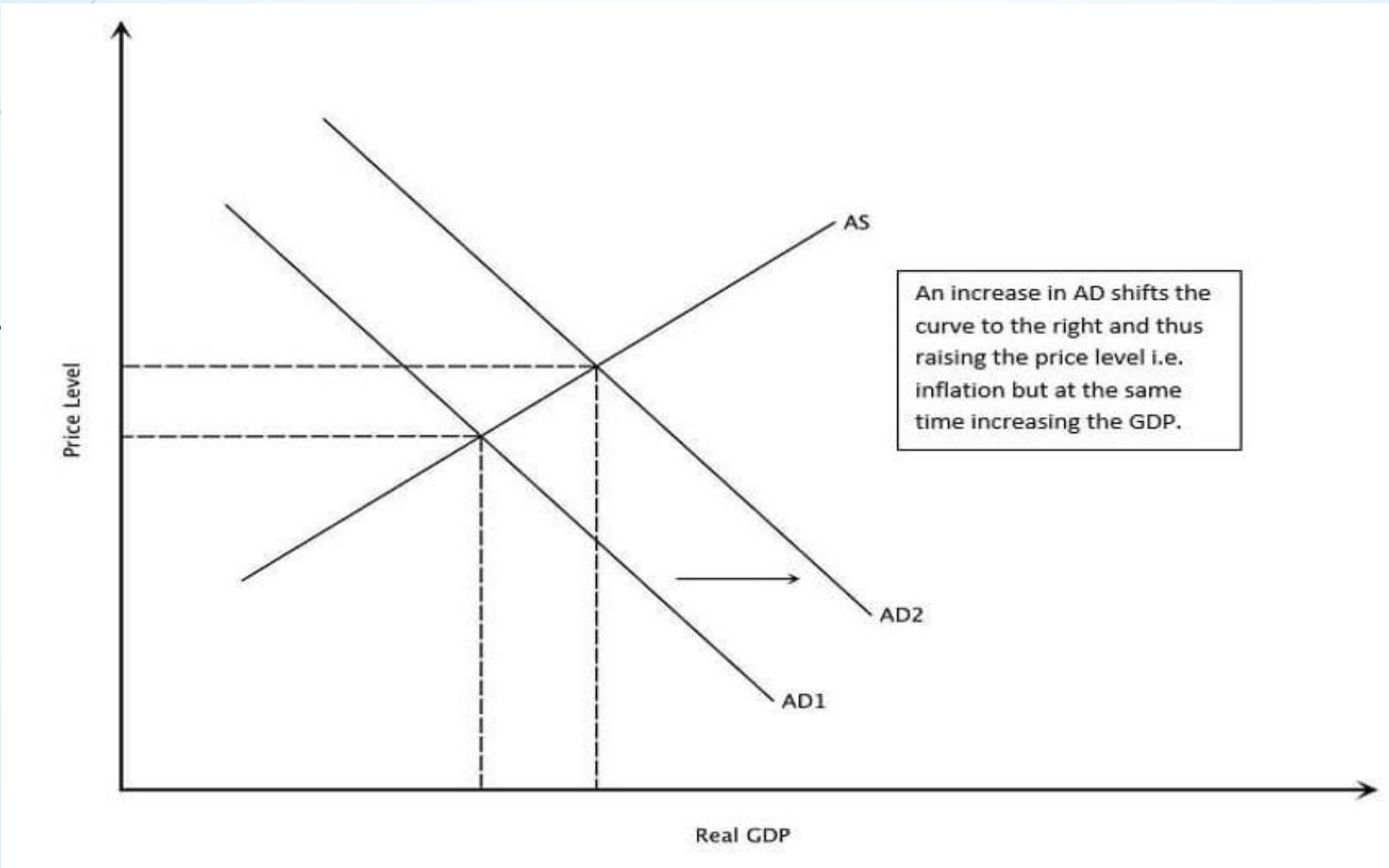
Continued...4

- ▶ **2. Demand Pull Inflation:**
- ▶ This occurs when there is a strong consumer demand i.e. inflation due to increase in aggregate demand for goods and services.
- ▶ In demand pull inflation, the increase in demand for goods, pulls up the price to rise and thus raising the inflation.
- ▶ Here, the aggregate demand of the economy outweighs the aggregate supply which makes the price level to increase.
- ▶ In a market where there is high demand for goods, prices ought to go up.
- ▶ Demand-Pull Inflation is also termed as “too much money chasing too few goods”.
- ▶ The effect of inflation depends on how steep the AS curve is and how close it is to full employment.
- ▶ Due to the increase of demand, firms tend to hire more people which eventually increase the output.
- ▶ Thus, firms hire more people, which increase employment.
- ▶ When people hold more money, this results in more demand for goods and services. And firms will try and hire more people to keep up with demand.

Causes/Types of Inflation:

Continued...5

► 2. Demand Pull Inflation:



Causes/Types of Inflation:

Continued...6

► Reasons of Demand-Pull Inflation:

- **Consumption:** If there is an increase in consumption and investment by firms, this will raise AD.
- **Exchange rate:** Increase in price of imports and reduces the foreign price of a country's exports. If consumers buy less imports, then exports grow, AD in will rise.
- **Government Spending:** Increase in government spending will rise AD.
- **Monetary growth:** Excessive monetary growth raises the price of the good.

What are the negative effects of inflation in the country?

- ▶ (i) Discourages savings since people use their earnings on consumption.
- (ii) Increase in the interest rates hence high cost of borrowing.
- (iii) Low standards of living especially for people with fixed incomes because the value of their earning is eroded by inflation.
- (iv) Money lenders loose real value of money if the interest rate does not change accordingly.
- (v) Social political/ unrest especially among low income earners.
- (vi) Worsening balance of payment since exports become expensive.
- (vii) The gap between the rich and the poor widens, the rich become richer at the expense of the poor.
- (viii) Hampers effective implementation of development plans since the cost becomes higher than precedent.
- (ix) Loss of coincidence and the local currency leading to the use of foreign currency.



CHAPTER 3

Consumption and Investment

Consumption , Income and Saving

- ▶ Income, consumption, and saving are all closely linked.
- ▶ More precisely, personal saving is that part of disposable income that is not consumed; saving equals income minus consumption.
- ▶ Economic studies have shown that income is the primary determinant of consumption and saving.
- ▶ Rich people save more than poor people, both absolutely and as a percent of income. The very poor are unable to save at all.
- ▶ Instead, as long as they can borrow or draw down their wealth, they tend to dissave.
- ▶ That is, they tend to spend more than they earn, reducing their accumulated savings or going deeper into debt.

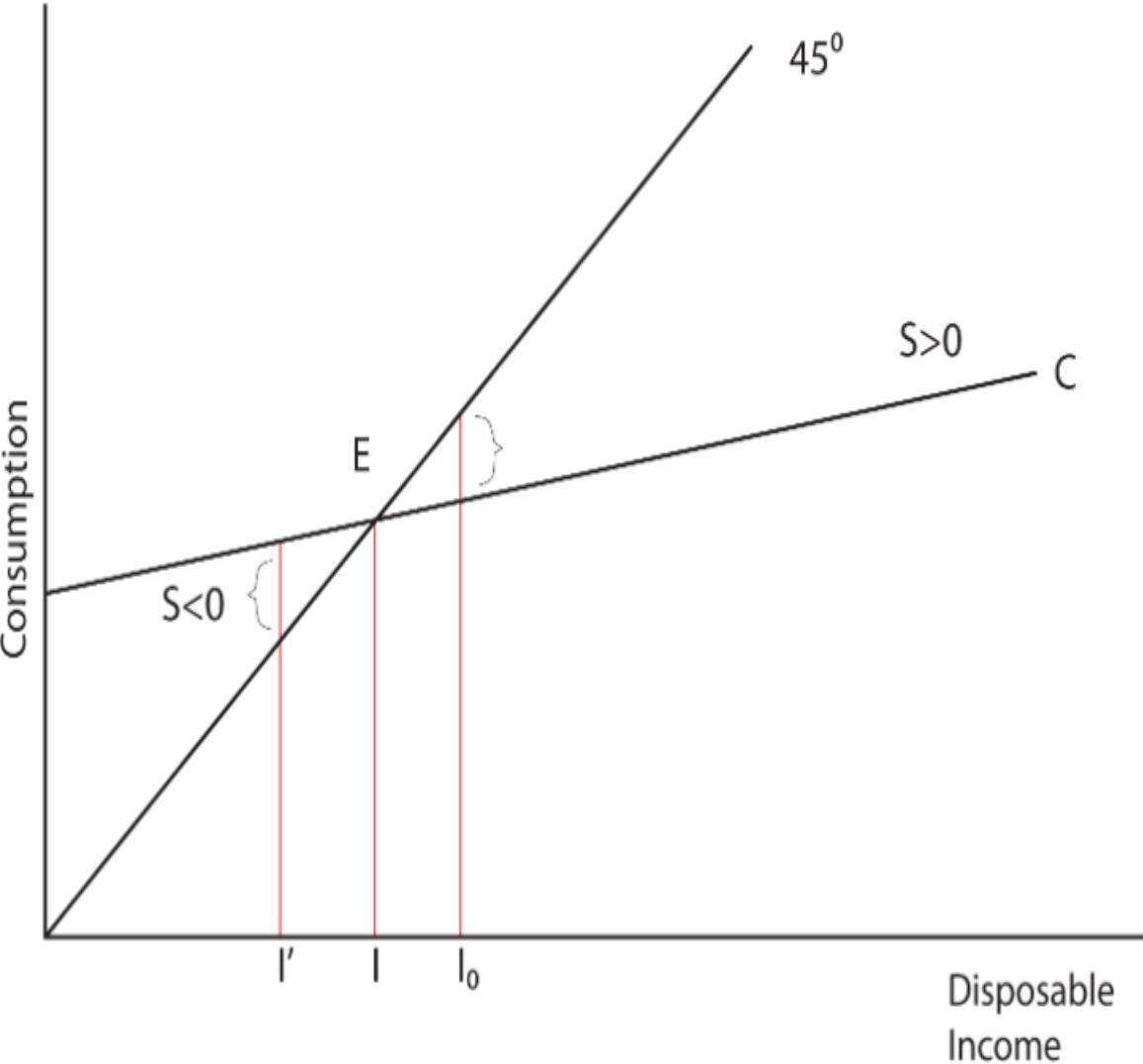
Relationship Between Income, consumption, and saving

	(1) Disposable income (\$)	(2) Net saving (+) or dissaving (-) (\$)	(3) Consumption (\$)
A	24,000	-200	24,200
B	25,000	0	25,000
C	26,000	200	25,800
D	27,000	400	26,600
E	28,000	600	27,400
F	29,000	800	28,200
G	30,000	1,000	29,000

- Table contains illustrative data on disposable income, saving, and consumption drawn from budget studies on American households. The first column shows seven different levels of disposable income. Column (2) indicates saving at each level of income, and the third column indicates consumption spending at each level of income.
- The break-even point—where the representative household neither saves nor dissaves but consumes all its income—comes at \$25,000.
- Below the break-even point, say, at \$24,000, the household actually consumes more than its income; it dissaves (see the \$200 item). Above \$25,000 it begins to show positive saving [see the \$200 and other positive items in column (2)].
- Column (3) shows the consumption spending for each income level. Since each dollar of income is divided between the part consumed and the remaining part saved, columns (3) and (2) are not independent; they must always exactly add up to column (1).

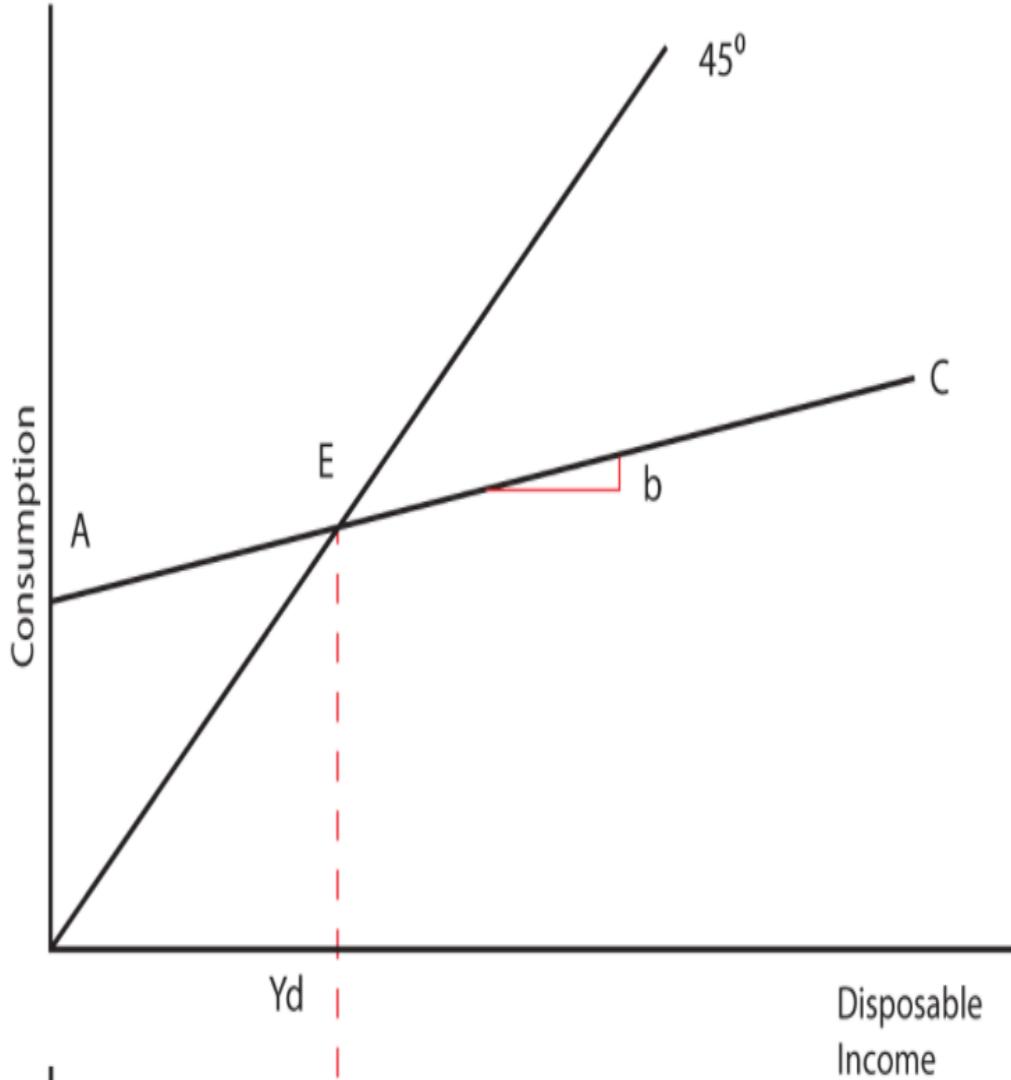
Consumption , Income and Saving

- ▶ Continue....2
- ▶ In the simplest model we can consider, we will assume that people do one of two things with their income: they either consume it or they save it.
 - ▶ $\text{Income} = \text{Consumption} + \text{Savings}$
- ▶ In this simple model, it is easy to see the relationship between income, consumption, and savings.
- ▶ If income goes up then consumption will go up and savings will go up.
- ▶ To examine the relationship between Consumption , income and saving, we have to understand Consumption Function and Saving Function.
- ▶ The consumption function shows the relationship between the level of consumption expenditures and the level of disposable personal income.
- ▶ The saving function shows the relationship between the level of saving and income.



- ▶ 45° degree line to illustrate the point at which income is equal to consumption.
- ▶ At point, labeled E in our graph, savings is equal to zero.
- ▶ At income levels to the right of point E (like I_0), savings is positive because consumption is below income,
- ▶ and at income levels to the left of point E (like I'), savings is negative because consumption is above income.
- ▶ How can savings be negative? If you thought of borrowing, you are right. In economics we call this “dissaving's.”
- ▶ Point E is called the breakeven point because it is the point where there are no savings but there are also no dissaving's.

The Consumption Function

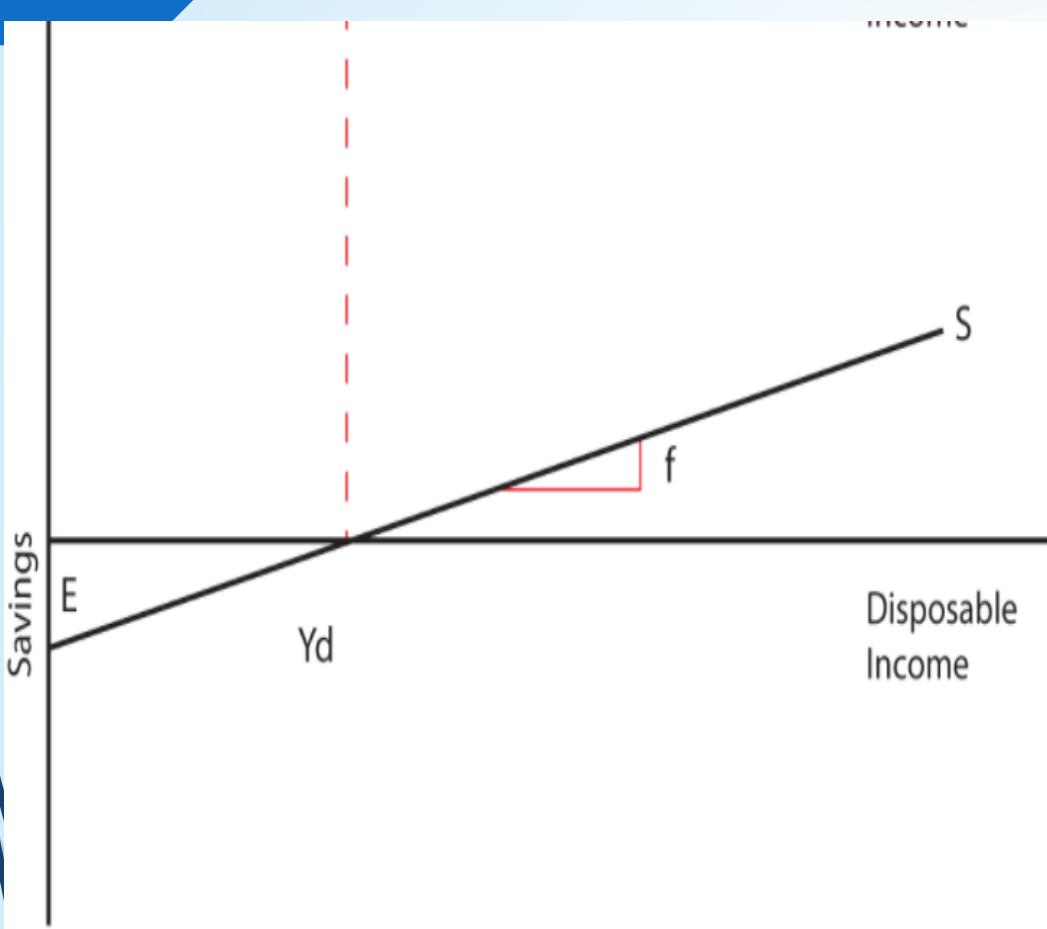


- ▶ The Consumption Function shows the relationship between consumption and disposable income. Disposable income is that portion of your income that you have control over after you have paid your taxes.
- ▶ To simplify our discussion, we will assume that Consumption is a linear function of Disposable Income, just as it was graphically shown above.
 - ▶ $C = a + b Yd$
- ▶ In the above equation, “a” is the intercept of the line and b is the slope. Let’s explore their meanings in economics. The intercept is the value of C when Yd is equal to zero. In other words, what would your consumption be if your disposable income were zero? Can there be consumption without income? People do this all the time.
- ▶ In fact, some of you students may have no income, and yet you are still consuming because of borrowing or transfers of wealth from your parents or others to you. In any case, “a” is the amount of consumption when disposable income is zero and it is called “autonomous consumption,” or consumption that is independent of disposable income.

The Consumption Function

- ▶ In the consumption function, b is called the slope.
- ▶ It represents the expected increase in Consumption that results from a one unit increase in Disposable Income.
- ▶ If Income is measured in dollars, you might ask the question, “How much would your Consumption increase if your Income were increased by one dollar?”
- ▶ The slope, b, would provide the answer to that question.
- ▶ It is the change in consumption resulting from a change in income.
- ▶ In economics, “b” is a particularly important variable because it illustrates the concept of the Marginal Propensity to Consume (MPC).
- ▶ The slope of the consumption function, which measures the change in consumption per dollar change in disposable income, is the marginal propensity to consume.

The Saving Function



- ▶ The Savings Function shows the relationship between savings and disposable income. As with consumption, we will assume that this relationship is linear:
 - ▶ $S = e + f Y_d$
- ▶ In this equation the intercept is e , the autonomous level of Savings.
- ▶ With savings, it is quite likely that " e " will be negative, which indicates that when Disposable Income is zero, Savings on average are negative.
- ▶ The slope of the savings function is " f ," and it represents the Marginal Propensity to Save—the increase in Savings that would be expected from any increase in Disposable Income.

Marginal Propensities to Consume and Save (MPC and MPS)

- ▶ The Marginal Propensity to Consume is the extra amount that people consume when they receive an extra dollar of income.
- ▶ The Marginal Propensity to Save is defined as the fraction of an extra dollar of disposable income that goes to extra saving.
- ▶ If in one year your income goes up by \$1,000, your consumption goes up by \$900, and your savings go up by \$100, then your MPC = .9 and your MPS = .1.
- ▶ In general it can be said:
 - ▶ $\text{MPC} = \text{Change in Consumption}/\text{Change in Disposable Income} = \Delta C/\Delta Y_d$
 - ▶ $\text{MPS} = \text{Change in Savings}/\text{Change in Disposable Income} = \Delta S/\Delta Y_d$
- ▶ It is also important to notice that: $\text{MPC} + \text{MPS} = 1$
- ▶ Remember, the MPC is the slope of the consumption function and the MPS is the slope of the savings function.

Marginal Propensities to Consume and Save (MPC and MPS)

	(1) Disposable income (after taxes) (\$)	(2) Consumption expenditure (\$)	(3) Marginal propensity to consume <i>MPC</i>	(4) Net saving (\$) (4) = (1) – (2)	(5) Marginal propensity to save <i>MPS</i>
A	24,000	24,200		–200	
B	25,000	25,000	$800/1,000 = 0.80$	0	$200/1,000 = 0.20$
C	26,000	25,800	$800/1,000 = 0.80$	200	$200/1,000 = 0.20$
D	27,000	26,600	$800/1,000 = 0.80$	400	$200/1,000 = 0.20$
E	28,000	27,400	$800/1,000 = 0.80$	600	$200/1,000 = 0.20$
F	29,000	28,200	$800/1,000 = 0.80$	800	$200/1,000 = 0.20$
G	30,000	29,000	$800/1,000 = 0.80$	1,000	$200/1,000 = 0.20$

TABLE 21-4. The Marginal Propensities to Consume and to Save

Each dollar of disposable income not consumed is saved. Each extra dollar of disposable income goes either into extra consumption or into extra saving. Combining these facts allows us to calculate the marginal propensity to consume (*MPC*) and the marginal propensity to save (*MPS*).

Marginal Propensities to Consume and Save (MPC and MPS)

Continued.... 2

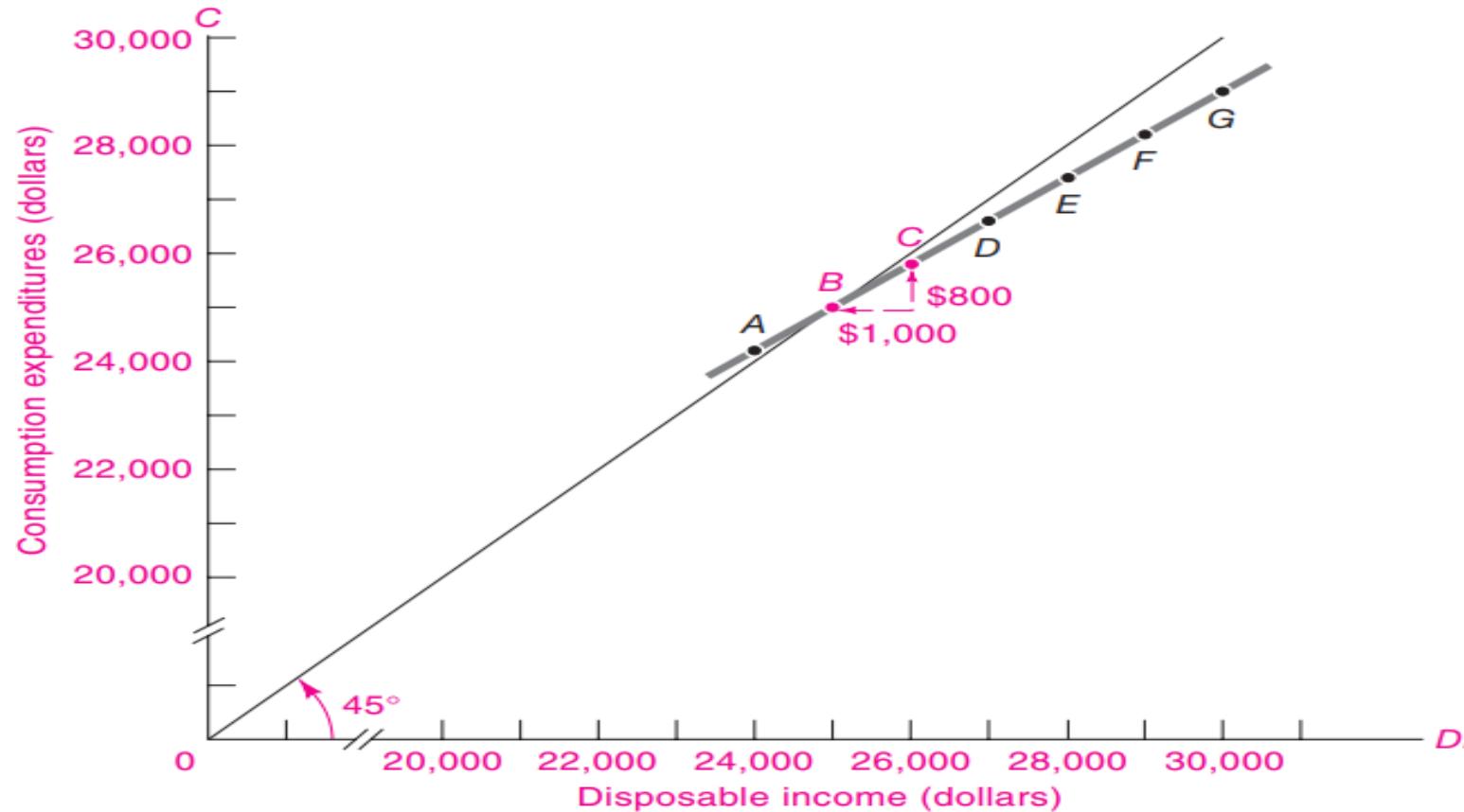


FIGURE 21-4. The Slope of the Consumption Function Is Its MPC

To calculate the marginal propensity to consume (*MPC*), we measure the slope of the consumption function by forming a right triangle and relating height to base. From point *B* to point *C*, the increase in consumption is \$800 while the change in disposable income is \$1000. The slope, equal to the change in *C* divided by the change in *DI*, gives the *MPC*. If the consumption function is everywhere upward-sloping, what does this imply about the *MPC*? If the line is a straight line, with a constant slope, what does this imply about the *MPC*?

INVESTMENT

- ▶ The second major component of private spending, after consumption, is investment.
- ▶ Investment plays two roles in macroeconomics.
- ▶ First, because it is a large and volatile component of spending, investment often leads to changes in aggregate demand and affects the business cycle.
- ▶ In addition, investment leads to capital accumulation. Adding to the stock of buildings and equipment increases the nation's potential output and promotes economic growth in the long run.
- ▶ Thus ~~investment~~ plays a dual role, affecting short run output through its impact on aggregate demand and influencing long-run output growth through the impact of capital formation on potential output and aggregate supply.
- ▶ The Meaning of “Investment” in Economics Remember that macroeconomists use the term “investment” or “real investment” to mean additions to the stock of productive assets or capital goods like computers or trucks.
- ▶ When Amazon.com builds a new warehouse or when the Smiths build a new house, these activities represent investment.
- ▶ Many people speak of “investing” when buying a piece of land, an old security, or any title to property. In economics, these purchases are really financial transactions or “financial investments,” because what one person is buying, someone else is selling, and the net effect is zero. There is investment only when real capital is produced.

DETERMINANTS OF INVESTMENT

In this discussion, we focus on gross private domestic investment, or I.

- ▶ This is the domestic component of national investment.
- ▶ Investment is very important component of total social investment, which also includes foreign investment, government investment, and intangible investments in human capital and improved knowledge.
- ▶ The major types of gross private domestic investment are the building of residential structures; investment in business fixed equipment, software, and structures; and additions to inventory.
- ▶ In this discussion, we focus on business investment, but the principles apply to investments by other sectors as well.
- ▶ Why do businesses invest?
- ▶ Ultimately, businesses buy capital goods when they expect that this action will earn them a profit—that is, will bring them revenues greater than the costs of the investment.
- ▶ This simple statement contains the three elements essential to understanding investment: revenues, costs, and expectations.
- ▶ Therefore three Important Determinants of Investment is mentioned below:
- ▶ **1. Revenues**
- ▶ **2. Costs (Rate of Interest)**
- ▶ **3. Expectations.**

DETERMINANTS OF INVESTMENT

➤ 1. Revenues

- An investment will bring the firm additional revenue if it helps the firm sell more product.
- This suggests that the overall level of output (or GDP) will be an important determinant of investment.
- When factories are lying idle, firms have relatively little need for new factories, so investment is low.
- More generally, investment depends upon the revenues that will be generated by the state of overall economic activity.
- Most studies find that investment is very sensitive to the business cycle.

DETERMINANTS OF INVESTMENT

➤ 2. Costs (Rate of Interest)

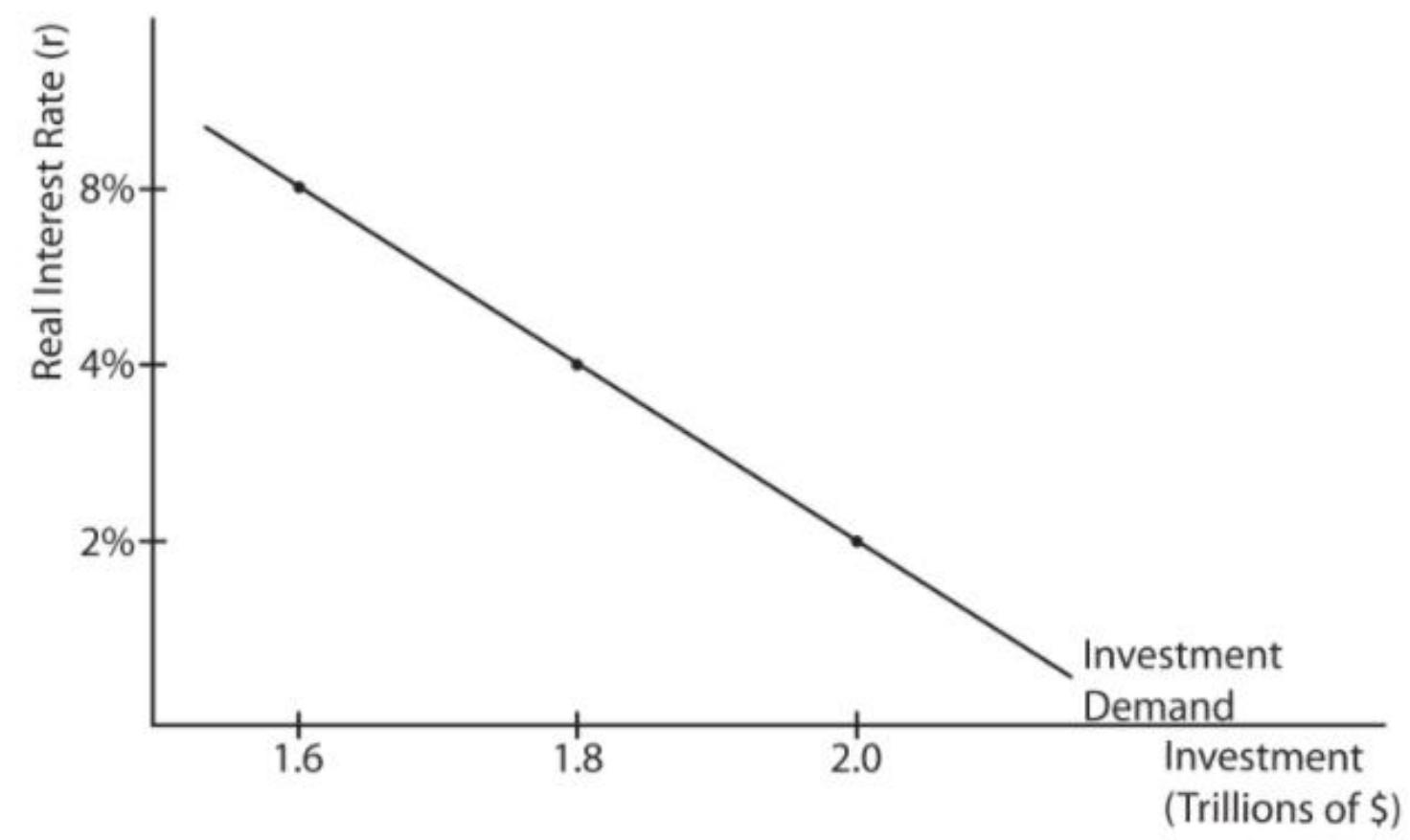
- A second important determinant of the level of investment is the costs of investing.
- Because investment goods last many years, reckoning the costs of investment is somewhat more complicated than doing so for other commodities like coal or wheat.
- For durable goods, the cost of capital includes not only the price of the capital good but also the interest rate that borrowers pay to finance the capital as well as the taxes that firms pay on their incomes.
- To understand this point, note that investors often raise the funds for buying capital goods by borrowing (say, through a mortgage or in the bond market).
- What is the cost of borrowing? It is the interest rate on borrowed funds. Recall that the interest rate is the price paid for borrowing money for a period of time; for example, you might have to pay 8 percent to borrow \$1000 for a year. In the case of a family buying a house, the interest rate is the mortgage interest rate.
- Additionally, taxes can have a major effect on investment. One important tax is the federal corporation income tax. This tax takes up to 35 cents of the last dollar of corporate profits, thereby discouraging investment in the corporate sector.
- Sometimes, the government gives tax breaks to particular activities or sectors. For example, the government encourages home ownership by allowing homeowners to deduct real-estate taxes and mortgage interest from their taxable income.

DETERMINANTS OF INVESTMENT

➤ 3. Expectations

- Additionally, profit expectations and business confidence are central to investment decisions.
- Investment is a gamble on the future.
- This means that business investments require a weighing of certain present costs with uncertain future profits.
- If businesses are concerned that political conditions in Russia are unstable, they will be reluctant to invest there.
- Conversely, if businesses believe that Internet commerce is the key to riches, they will invest heavily in that sector.
- Thus, investment decisions hang by a thread on expectations and forecasts. But accurate forecasting is difficult.
- Businesses spend much energy analyzing investments and trying to narrow the uncertainties about their investments.

Investment Demand Curve



summary

- ▶ We can sum up our review of the forces lying behind investment decisions as follows:
- ▶ Businesses invest to earn profits.
- ▶ Because capital goods last many years, investment decisions depend on
 - ▶ (1) the level of output produced by the new investments,
 - ▶ (2) the interest rates and taxes that influence the costs of the investment,
 - ▶ (3) business expectations about the state of the economy.

Chapter 4

Monitory policy and the Economy

Meaning and Definition

Monetary policy is the process by which monetary authority of a country, generally a central bank controls the supply of money in the economy by exercising its control over interest rates in order to maintain price stability and achieve high economic growth.

- ▶ The central bank of a country is responsible for the expansion and contraction of money and bank credit as per the needs of the community.
- ▶ Monetary policy is also known as “credit policy” or “RBI’s money management policy” in India.
- ▶ It is a regulatory policy by which the central bank or monetary authority of a country controls the supply of money, availability of bank credit & cost of money i.e rate of interest.
- ▶ It can be defined as deliberate effort by the central bank to control credit & money supply for the purpose of achieving certain broad objectives.
- ▶ Monetary Policy is regarded as an important tool of economic management in India.
- ▶ The traditional agent to carry out monetary policy is RBI.
- ▶ **Definition**-monetary policy is usually defined as the central banks policy pertaining to the control of the availability, cost & use of money & credit with the help of monetary measures in order to achieve specific goals.
- ▶ In India, monetary policy comprise those decision of the government & RBI which directly influences the volume, composition, size & distribution of credit, level & structure of interest rate & direct & indirect effects of these monetary variables upon related factors such as savings & investment, determinants of output, income & price.

Objectives of Monetary policy (with special reference to RBI):

1. Price Stability

- Monetary policy tries to keep value of money stable. Price stability helps in reducing the income & wealth inequalities. Price Stability implies promoting economic development with considerable emphasis on price stability. RBI has now adopted the policy of 'growth & stability' this means sufficient credit will be available for growing needs of different sectors of economy & at the same time, inflation will be controlled with in a certain limit.

2. Controlled Expansion Of Bank Credit

- One of the important functions of RBI is the controlled expansion of bank credit and money supply with special attention to seasonal requirement for credit without affecting the output.

3. Encouraging savings and investments :

- RBI by offering attractive interest rates encourage savings in the economy. A high rate of saving promotes investment. thus the monetary management by influencing rates of interest can influence saving mobilization in the country. The aim here is to increase the productivity of investment.

Objectives of Monetary policy (with special reference to RBI):

4.Promotion of Exports and Food Procurement Operations

- ▶ Monetary policy pays special attention in order to boost exports and facilitate the trade. With the growth of imports & exports India's linkages with the global economy are getting stronger. It is an independent objective of monetary policy.

5. Promoting priority sector:

- ▶ Monetary authority has control over the decisions regarding the allocation of credit to priority sector and small borrowers. Priority sector includes agriculture, export and small scale enterprises & weaker section of population. RBI with the help of bank provides timely & adequately credit at affordable cost of weaker sections & low income groups. RBI along with NABARD is focusing on microfinance through the promotion of self help groups & other institutions.

6.Equitable Distribution of Credit

- ▶ The policy of Reserve Bank aims equitable distribution to all sectors of the economy and all social and economic class of people. By control of inflation & deployment of credit to weaker section of society the monetary policy may redistribute income & wealth favoring to weaker sections.

7).Generation of employment

Monetary Policy helps in employment generation by influencing the rate of investment & allocation of investment among various economic activities. If the monetary policy is expansionary then the credit supply can be encouraged. it would help in creating more jobs.

Objectives of Monetary policy (with special reference to RBI):

8.Reducing the Rigidity

- ▶ RBI tries to bring about the flexibilities in the operations which provide a considerable autonomy. It encourages more competitive environment and diversification. It maintains its control over financial system whenever and wherever necessary to maintain the discipline and prudence in operations of the financial system.

□ 10. Financial stability:

- ▶ financial stability means the ability of the economy to absorb shocks & maintain confidence on financial system. Threats to financial stability can come from internal & external shocks. such shocks can be destabilize the country's financial system. Thus the greater importance is being given to RBI's role in maintaining confidence in financial system through proper regulation & controls, without sacrificing the objective of growth. Therefore RBI is focusing on regulation, supervision & development of financial system.

□ Regulation of NBFI's:

Non banking financial institutions like UTI, IDBI, IFCI plays an important role in deployment of credit & mobilization of savings. RBI does not have any direct control on the functioning of such institutions. However it can indirectly affects the policies & functions of NBFI's through its monetary policy.



Two types of monetary policy.

1. **Expansionary** :- expand money supply in the economy.
2. **Contractionary**:-contract money supply in the economy.

EXPANSIONARY MONETARY POLICY:

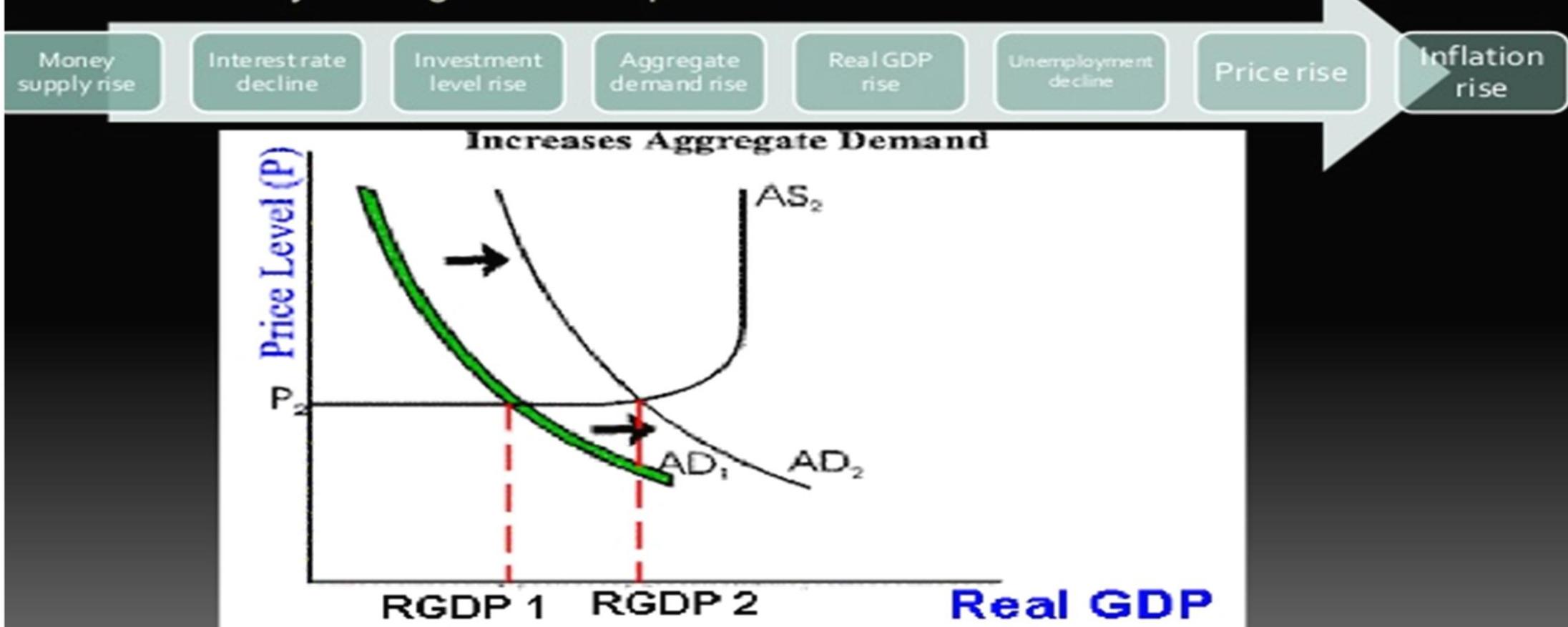
Expansionary monetary policy is appropriate when the economy is in recession and unemployment is a problem. The goal of expansionary monetary policy is to reduce unemployment. Therefore the tools would be an increase in the money supply.

To increase the money supply the federal government can:

- Buy government bonds(open market purchase)
- Lower the interest rate
- Lower the reserve ratio

EXPANSIONARY MONETARY POLICY:

This would shift the AD curve to the right decreasing unemployment but it may also cause some inflation. Change the money supply affect the economy through a these process:



CONTRACTIONARY MONETARY POLICY:

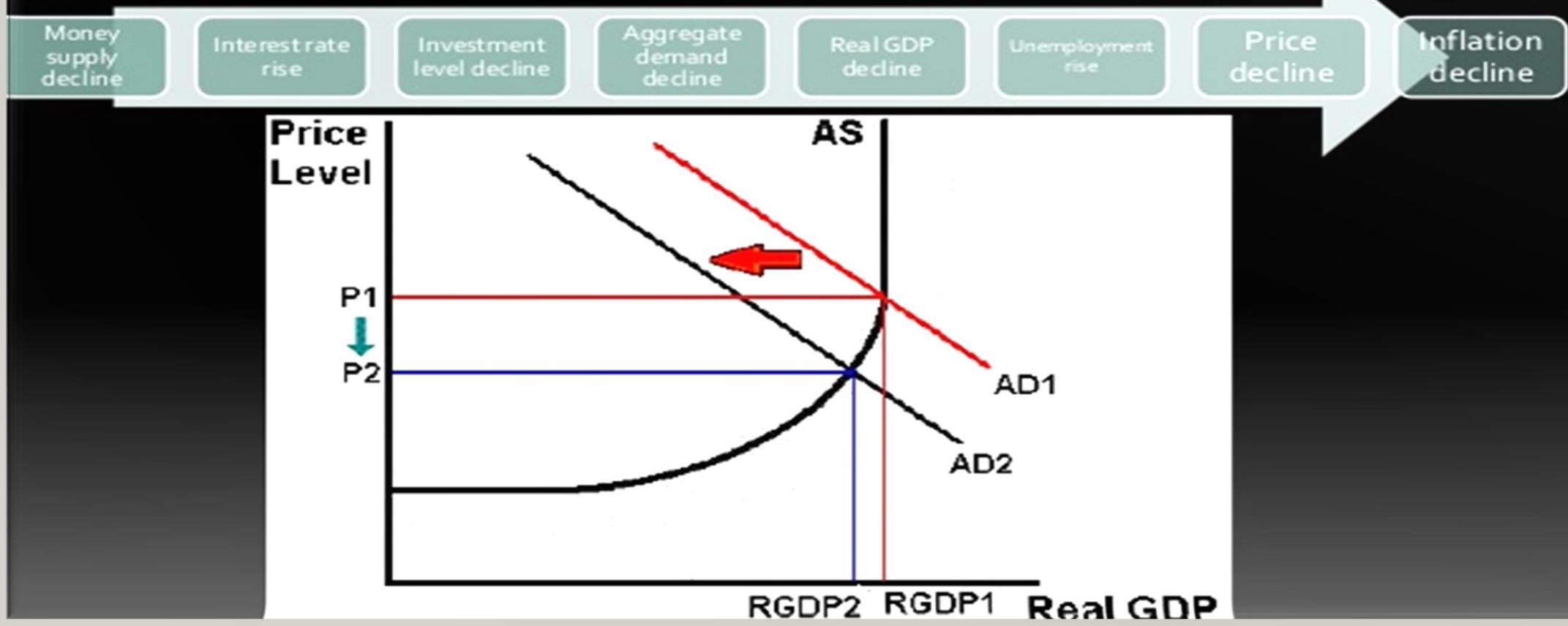
Contractionary monetary policy is appropriate when economy is in expansion and inflation is a problem. The goal of contractionary monetary policy is to reduce inflation. Therefore the tool would be the decrease in the money supply.

To decrease the money supply the federal reserve can:

- Sell government bonds(an open market sell)
- Raise the interest rate
- Raise the reserve ratio

CONTRACTIONARY MONETARY POLICY:

This would shift the AD curve to the left decreasing inflation. But it may also cause some unemployment. Change the money supply affect the economy through these process:



Tools of monetary policy

- There are two major tools that the RBI uses to control the money supply in the economy-
1. **Quantitative Tools :** Controls only the quantity of credit and money supply.
 2. **Qualitative Tools:** Regulates the uses to which bank credit is directed.

Quantitative Tools of monetary policy

By Quantitative Credit Control we mean the control of the total *quantity* of credit

- ▶ Quantitative controls are used to control the volume of credit and indirectly, to control the inflationary and deflationary pressures caused by expansion and contraction of credit.
- ▶ Quantitative Measures: These methods are called traditional methods because they have been in use for decades.
- ▶ Through these methods, the credit creation is controlled by changing the cash re-serves of commercial banks.
- ▶ They are designed to effect the lendable resources of commercial banks either directly affecting their reserve base or by making the cost of funds cheaper or dearer to them.
- ▶ Following are the various Quantitative tools:
 - ▶ **1. Bank Rate**
 - ▶ **2. Open Market Operations**
 - ▶ **3.Cash Reserve Ratio**
 - ▶ **4. Statutory Liquidity Ratio**
 - ▶ **5.Repo rate**
 - ▶ **6. Reverse repo rate**

1. Bank Rate

- ▶ Bank Rate also known as the Discount Rate is the official minimum rate at which the Central Bank of the country is ready to rediscount approved bills of exchange or lend on approved securities
- ▶ Section 49 of the Reserve Bank of India Act 1934, defines Bank Rate as “the standard rate at which (RBI) is prepared to buy or re-discount bills of exchange or other commercial paper eligible for purchase under this Act”.
- ▶ **Bank Rate is the rate at which central bank of the country (in India it is RBI) allows finance to commercial banks.**
- ▶ Bank Rate is a tool, which central bank uses for short-term purposes.
- ▶ This is the rate at which central bank (RBI) lends money to other banks or financial institutions.
- ▶ If the bank rate goes up, long-term interest rates also tend to move up, and vice-versa.
- ▶ Thus, it can said that in case bank rate is hiked, in all likelihood banks will hikes their own lending rates to ensure and they continue to make a profit.

Working of the Bank Rate



- ▶ Suppose a country is facing inflationary pressure.
- ▶ The Central Bank, in such situations, will increase the bank rate thereby resulting to a hiked lending rate.
- ▶ This increase will discourage borrowing & investment.
- ▶ It will also lead to a fall in the business activity.
- ▶ Fall in the demand for goods and services.
- ▶ Fall in the price level & inflation decreases
- ▶ **But Employment of some factors of production will have to be reduced by the businessmen so it will increase the unemployment..**
- ▶

2). Open Market Operations

- ▶ An open market operation is an instrument of monetary policy which involves buying or selling of government securities from or to the public and banks.
- ▶ This mechanism influences the reserve position of the banks, yield on government securities and cost of bank credit.
- ✓ Open Market Operation it refers to the buying & selling of government securities in open market in order to expand & contract the amount of money in the banking system.
- ✓ This technique is superior to bank rate policy.
- ✓ When RBI sell security, money supply in the economy decreases.
- ✓ When RBI buy security money supply increases.
- ▶ The RBI sells government securities to contract the flow of credit and buys government securities to increase credit flow.
- ▶ Open market operation makes bank rate policy effective and maintains stability in government securities market.

3).Cash Reserve Ratio

Cash Reserve Ratio is a certain percentage of bank deposits which banks are required to keep with RBI in the form of reserves or balances .

- ▶ The cash reserve ratio (CRR) is an effective instrument of credit control.
- ▶ Higher the CRR with the RBI lower will be the liquidity in the system and vice-versa.
- ▶ A high CRR reduces the cash for lending & low CRR increases the cash for lending.
- ▶ Thus, When a bank's deposits increase by Rs100, and if the cash reserve ratio is 6%, the banks will have to hold additional Rs 6 with RBI and Bank will be able to use only Rs 94 for investments and lending / credit purpose.
- ▶ Therefore, higher the ratio (i.e. CRR), the lower is the amount that banks will be able to use for lending and investment.
- ▶ This power of RBI to reduce the lendable amount by increasing the CRR, makes it an instrument in the hands of a central bank through which it can control the amount that banks lend.
- ▶ Thus, it is a tool used by RBI to control liquidity in the banking system.
- ▶ When there is inflationary pressure RBI increases the CRR – when CRR increases the credit availability of commercial bank gets decreases and the loans & advances (lending capacity) decreases, therefore investment decreases, income & expenditure falls – demand for goods and services falls and finally price level falls and inflation gets reduced.
- ▶ RBI is empowered to vary CRR between 15 percent and 3 percent.

4). Statutory Liquidity Ratio

- Every financial institution has to maintain a certain quantity of liquid assets with themselves at any point of time of their total time and demand liabilities. These assets can be cash, precious metals, approved securities like bonds etc. and are known as statutory liquidity ratio
 - ▶ The ratio of the liquid assets to time and demand liabilities is termed as the Statutory liquidity ratio .
 - ▶ Higher SLR ratio forces commercial banks to maintain a larger proportion of their resources in liquid form and thus reduces their capacity to grant loans and advances to business and industry- thus it is anti inflationary in impact, and reduces inflation.
 - ▶ Increase in statutory liquidity requirements (SLR) and the cash reserve ratio (CRR) have the same effects, viz., they reduce the capacity of commercial banks to expand credit to business and industry and thus are anti-inflationary.
 - ▶ During higher inflation RBI Increases the SLR so that the commercial banks lending & advancing capacity gets reduce & there will be reduction in money supply , lower investment, lower demand for goods & services and finally it results in fall in price and inflation will be reduced .

5). Repo rate (7.75%)

- ▶ Repo rate is the rate at which RBI lends money to commercial banks generally against government securities
- ▶ Reduction in Repo rate helps the commercial banks to get money at a cheaper rate.
- ▶ Increase in Repo rate discourages the commercial banks to get money as the rate increases and becomes expensive.
- ▶ Therefore, we can say that in case, RBI wants to make it more expensive for the banks to borrow money, it increases the repo rate; similarly, if it wants to make it cheaper for banks to borrow money, it reduces the repo rate.
- ▶ Repo rate is the rate at which commercial banks borrow from the RBI to meet the gap between the demand they are facing for money (loans) & how much they have on hand to lend .
- ▶ If the RBI wants to make it more expensive for the banks to borrow money, it increase the repo rate.

6). Reverse Repo Rate

- ▶ Reverse Repo rate is the rate at which RBI borrows money from the commercial banks
- ▶ Reverse Repo rate is the rate at which banks park their short-term excess liquidity with the RBI.
- ▶ The banks use this tool when they feel that they are stuck with excess funds and are not able to invest anywhere for reasonable returns.
- ▶ An increase in the reverse repo rate means that the RBI is ready to borrow money from the banks at a higher rate of interest.
- ▶ **The rate at which RBI borrows money from the banks (or banks lend money to the RBI) is termed the reverse repo rate.**
- ▶ The RBI uses this tool when it feels there is too much money floating in the banking system.
- ▶ It will borrow money from the bank & offer them a lucrative rate of interest .
- ▶ As a result, banks would prefer to keep their money with RBI (which is absolutely risk free) instead of lending it out(this option comes with a certain amount of risk).

The key indicators of RBI Monetary Policy along with their current rates in the table given below:

Indicator	Current rate
Bank rate	4.25%
CRR	3.00%
SLR	18.00%
Repo rate	4.00%
Reverse repo rate	3.35%

Last Updated 09th May 2021

Qualitative Tools of monetary policy

By *Quality* we mean the uses to which bank credit is directed.

- ▶ For example- the Bank may feel that spectators or the big capitalists are getting a disproportionately large share in the total credit, causing various disturbances and inequality in the economy, while the small-scale industries, consumer goods industries and agriculture are starved of credit.
- ▶ Qualitative Method controls the manner of channelizing of cash and credit in the economy.
- ▶ It aims at allocating finance to productive purposes.
- ▶ It is a ‘selective method’ of control as it restricts credit for certain section. expands for the other known as the ‘priority sector’ depending on the situation.
- ▶ **The aim of selective credit control is to channelise the flow of bank credit from speculative and other undesirable purposes to socially desirable and economically useful uses.**
- ▶ Tools used under this method are-
 - ▶ **1. Marginal Requirement**
 - ▶ **2. Rationing of credit**
 - ▶ **3. Publicity**
 - ▶ **4. Direct Action**
 - ▶ **5. Moral persuasion**

Qualitative Tools of monetary policy

Continued... 2

1. Marginal Requirement

- ▶ Marginal Requirement of loan = current value of security offered for loan-value of loans granted.
- ▶ The marginal requirement is increased for those business activities, the flow of whose credit is to be restricted in the economy.
- ▶ e.g.- a person mortgages his property worth Rs. 1,00,000 against loan. The bank will give loan of Rs. 80,000 only. The marginal requirement here is 20%.
- ▶ In case the flow of credit has to be increased, the marginal requirement will be lowered.

2. Rationing of credit

- ▶ Under this method there is a maximum limit to loans and advances that can be made, which the commercial banks cannot exceed.
- ▶ RBI fixes ceiling for specific categories.
- ▶ Such rationing is used for situations when credit flow is to be checked, particularly for speculative activities.
- ▶ Minimum of Capital: Total Assets" (ratio between capital and total asset) can also be prescribed by Reserve Bank of India
- ▶ Rationing of credit has been used very effectively in Russia and Mexico.

Qualitative Tools of monetary policy

Continued... 3

- ▶ **3. Publicity**
- ▶ Through publicity central bank publishes various reports stating what is good & what is bad in the system. This published information can help commercial banks to direct credit supply in the desired sectors. Through its weekly & monthly bulletins, the information is made public & banks can use it for attaining goals of monetary policy.
- ▶ RBI uses media for the publicity of its views on the current market condition and its directions that will be required to be implemented by the commercial banks to control the unrest.
- ▶ Though this method is not very successful in developing nations due to high illiteracy existing making it difficult for people to understand such policies and its implications.
- ▶ **4. Direct Action**
- ▶ Under the banking regulation Act, the central bank has the authority to take strict action against any of the commercial banks that refuses to obey the directions given by Reserve Bank of India. If certain banks are not following to the RBI's directives, the RBI may refuse to rediscount their bills & securities.
- ▶ RBI may refuse credit supply to those banks whose borrowings are in excess to their capital.
- ▶ There can be a restriction on advancing of loans imposed by Reserve Bank of India on such banks.
- ▶ e.g. - RBI had put up certain restrictions on the working of the Metropolitan Co-operative Banks.

Qualitative Tools of monetary policy

Continued... 3

5. Moral persuasion

- ▶ Moral Persuasion is the method that the Reserve Bank of India, being the apex bank uses here, is that of persuading the commercial banks to follow its directions/orders on the flow of credit.
- ▶ RBI puts a pressure on the commercial banks to put a ceiling on credit flow during inflation and be liberal in lending during deflation.
- ▶ This method of persuasion, of request, of informal suggestion, and of advice to the commercial bank usually adopted by the central bank.
- ▶ The executive head of the central bank calls a meeting of the heads of the commercial banks wherein he explains them the need for the adoption of a particular monetary policy in the context of the current economic situation, and then appeals to them to follow it.
- ▶ This method has been found to be highly effective as a selective method of credit control in India, New Zealand, Canada and Australia, though it failed in the USA.



Government Control of the economy (Fiscal Policy)

Meaning & Definition of Fiscal Policy

- ▶ Fiscal policy deals with the taxation and expenditure decisions of the government.
- ▶ **Fiscal policy** is the use of government revenue collection (mainly taxes) and expenditure (spending) to influence the economy
- ▶ Fiscal policy is composed of several parts.
- ▶ These include, tax policy, expenditure policy, investment or disinvestment strategies and debt or surplus management.
- ▶ Fiscal policy is an important constituent of the overall economic framework of a country and is therefore intimately linked with its general economic policy strategy.
- ▶ In most modern economies, the government deals with fiscal policy while the central bank is responsible for monetary policy.
- ▶ We can define fiscal policy as a policy of government revenue & expenditure.
- ▶ Fiscal policy is a policy under which government uses its expenditure and revenue programs to produce desirable effects and avoid undesirable effects on **National income, production and employment**.

Main Objectives of Fiscal Policy In India

- ▶ 1. Development by effective allocation of Resources.
- ▶ 2. Reduction of Income and Wealth inequalities
- ▶ 3. Employment Generation
- ▶ 4. Balanced Regional Development
- ▶ 5. Capital Formation

Main Objectives of Fiscal Policy In India

Continued...2

- ▶ **1.Development by effective allocation of Resources.**
- ▶ The primary objective of fiscal policy is to produce rapid and sustainable economic growth and development.
- ▶ By Mobilization of Financial Resources this objective of economic growth and development can be attained.
- ▶ Both the central and the state governments in India have been empowered to mobilize financial resources in order to bring effective financial planning and its uses.
- ▶ **In India financial resources are mobilized by following three means :-**
- ▶ **Taxation :** Through fiscal policies, the government generated revenue. It aims to allocate resources by means of direct taxes as well as indirect taxes. Direct taxes involves income tax which each working citizen of India pays from his salary.
- ▶ **Public Savings :** By reducing government expenditure and increasing surpluses of public sector enterprises is one of the emerging tool of fiscal policy. Hence financial resources can be mobilized well through public savings.
- ▶ **Private Savings :** With the help of effective fiscal policy such as tax benefits, the government can bring resources from households and private sector. Resources can be allocated and managed through government borrowings by means of loans from domestic and foreign parties, treasury bills, issue of government bonds, deficit financing etc.

Main Objectives of Fiscal Policy In India

- ▶ **Continued...3**
- ▶ **2.Reduction of Income and Wealth inequalities**
- ▶ Fiscal policy by reducing income inequalities among different sections of the society leads to strive equity or social justice.
- ▶ The direct taxes play crucial role in this, income tax are charged on all salaried person which is directly proportion to the income of the person.
- ▶ More the person earns more he is entitled to pay tax
- ▶ Hence direct tax applied more on the higher income groups as compared to lower income groups.
- ▶ Likely indirect taxes are also more in the case of semi-luxury and luxury items than that of necessary consumable items.
- ▶ In this way government generates good amount of revenue which is on significant proportion is implemented on Poverty Alleviation Programs which improves the conditions of poor people in society and consequently leads to reduction of income and wealth inequalities.

Main Objectives of Fiscal Policy In India

- ▶ **Continued...4**
- ▶ **3.Employment Generation**
- ▶ The government is inducing every possible effort for increasing employment throughout the country with help of effective fiscal measure.
- ▶ Direct and indirect employment are one of the outcome of various investments in infrastructure of the country.
- ▶ Small-scale industrial (SSI) units are encouraged to bring in more investment by providing lower taxes and duties which consequently creates more employment.
- ▶ Government of India in order to solve problems in rural areas initiated various rural employment programs to generate employment and cope up with increasing poverty.
- ▶ Likely, self employment schemes have been taken up in order to generate employment for persons in the urban areas who are technically qualified.
- ▶ Example : MGNREGA , Jawahar Rozgar Yojana (JRY) etc.

Main Objectives of Fiscal Policy In India

Continued...5

4.Balanced Regional Development

- ▶ Balanced regional development is very important for any nation.
- ▶ Government key responsibility is to see that all states and its sub units whether urban or rural develop equally and no part of country be away from development.
- ▶ So fiscal policy planning occupies larger portion for regional development.
- ▶ Government in order to accomplish its aim provides various incentives such as Finance at concessional interest rates, Cash subsidy, Concession in taxes and duties in the form of tax holidays etc for setting up projects in backward areas.

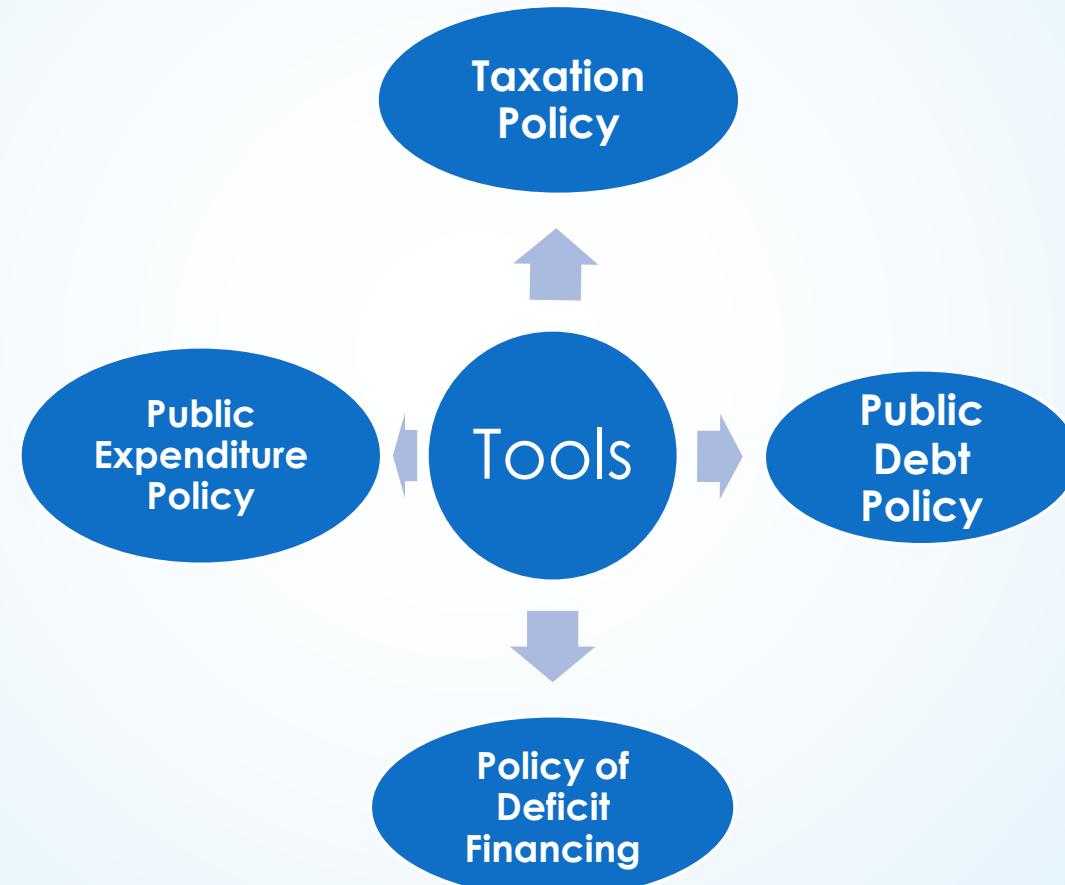
5.Capital Formation

- ▶ The aim of fiscal policy in India is also to improve and increase the rate of capital formation so as to increase the overall economic growth.
- ▶ An underdeveloped country is badly trapped with the problem of increasing poverty which is mainly an outcome of capital deficiency.
- ▶ In order to defeat poverty and increase the capital formation generation, the fiscal policy must be systematically prepared to encourage savings and decrease spending.

Types of fiscal policy

- ▶ **1. Neutral fiscal policy :** is usually undertaken when an economy is in equilibrium. Government spending is fully funded by tax revenue and overall the budget outcome has a neutral effect on the level of economic activity.
- ▶ **2. Expansionary fiscal policy:** involves government spending exceeding tax revenue, and is usually undertaken during recessions.
- ▶ **3. Contractionary fiscal policy:** occurs when government spending is lower than tax revenue, and is usually undertaken to pay down government debt.

Tools of Government policy (fiscal policy)





Tools of Government policy (fiscal policy)

- **1. Taxation Policy of Government of India:**
- One of the important sources of revenue of the Government of India is the tax revenue. Both the direct and indirect taxes are being levied by the Government of India. Direct taxes are progressive by nature and most of indirect taxes are regressive in nature. Taxation plays an important role in mobilizing resources for plan.
- **2. Public Expenditure Policy of Government of India:**
- Public expenditure is playing an important role in the economic development of a country like India. With the increase in responsibilities of the government and with the increasing participation of government in economic activities of the country, the volume of public expenditure in a highly populated country like India is increasing at a galloping rate.
- Public expenditure is of two different types, i.e., developmental and non-developmental expenditure. Developmental expenditure of the government is mostly related to the developmental activities viz., development of infrastructure, industry, health facilities, educational institutions etc.
- The non-developmental expenditure is mostly a maintenance type of expenditure and is related to maintenance of law and order, defense, administrative services etc.

Tools of Government policy (fiscal policy)

- ▶ **3. Policy of Deficit Financing of Government of India:**
- ▶ Following the policy of deficit financing as introduced by J.M. Keynes, the Government of India has been adopting the policy for financing its developmental plans since its inception. The deficit financing in India indicates taking loan by the government from the Reserve Bank of India in the form of issuing fresh dose of currency.

- ▶ **4. Public Debt Policy of the Government of India:**
- ▶ As the taxation has got its limit in a poor country like India due to poor taxable capacity of the people, thus the government is taking recourse to public debt for financing its developmental expenditure. In the post-independence period, the Central Government has been raising a good amount of public debt regularly in order to mobilize a huge amount of resources for meeting its developmental expenditure. Total public debt of the Central Government includes internal debt and external debt.
- ▶ **Internal Debt:** Internal debt indicates the amount of loan raised, by the government from within the country. The Government raises internal public debt from the open market by issuing bonds and cash certificates and 15 years annuity certificates. The government also borrows for a temporary period from RBI (Treasury bills issued by RBI) and also from commercial banks.
- ▶ **External Debt:** As the internal debt is insufficient thus the government is also collecting loan from external sources, i.e., from abroad, in the form of foreign capital, technical know-how and capital goods. Accordingly, the Central Government is also borrowing from international financing agencies for financing various developmental projects. These agencies include World Bank, IMF, IDA, IFC etc.



END OF UNIT 3