

ECON 206

Chapter 1

INTRODUCTION

Macroeconomics is concerned with the behavior of the economy as a **whole**—with booms and recessions, the economy's total output of goods and services, the growth of output, the rates of inflation and unemployment, the balance of payments, and exchange rates.

Macroeconomics deals with both long-run economic growth and the short-run fluctuations that constitute the business cycle.

Macroeconomics focuses on the economic behavior and policies that affect consumption and investment, the dollar and the trade balance, the determinants of changes in wages and prices, monetary and fiscal policies, the money stock, the budget, interest rates, and the national debt.

What Is Macroeconomics?

Macroeconomics is the study of the behavior of the economy as a whole and the policy measures that the government uses to influence it.

The study of macroeconomics is organized around three models that describe the world, each model having its greatest applicability in a different time frame.

- Very Long Run
- Long Run
- Short Run

The ***very long run*** behavior of the economy is the domain of growth theory, which focuses on the growth of the economy's capacity to produce goods and services. The study of the very long run centers on the historical accumulation of capital and improvements in technology.

In the model we label the ***long run***, we take a snapshot of the very long run model. At that moment, the capital stock and the level of technology can be taken to be relatively fixed, although we do allow for temporary shocks. Fixed capital and technology determine the productive capacity of the economy—we call this capacity “potential output.” In the long run, the supply of goods and services equals potential output. Prices and inflation over this horizon are determined by fluctuations in demand.

In the ***short run***, fluctuations in demand determine how much of the available capacity is used and thus the level of output and unemployment. In contrast to the long run, in the short run prices are relatively fixed and output is variable. It is in the realm of the short-run model that we find the greatest role for macroeconomic policy.

Macroeconomics In Three Models

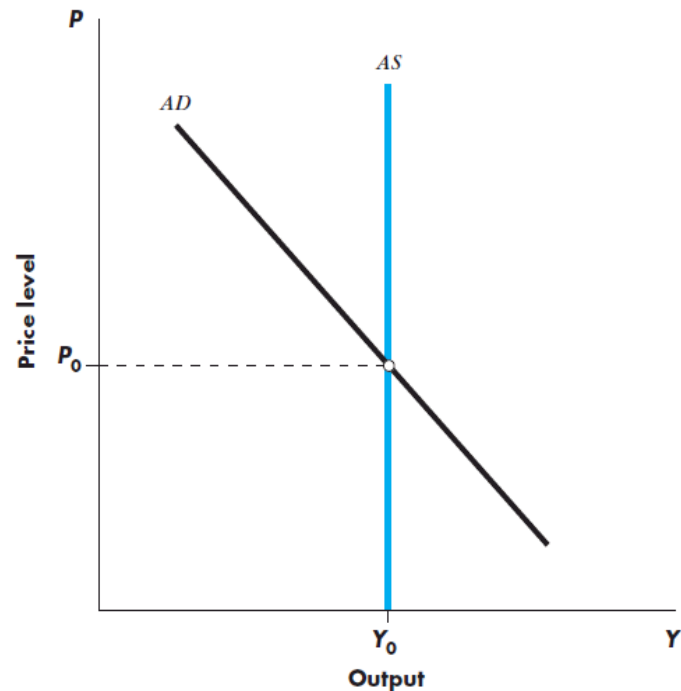
1. Very Long Run Model: domain of growth theory → focuses on growth of the production capacity of the economy
2. Long Run Model: a snapshot of the very long run model, in which capital and technology are largely fixed
 - Level of capital & technology determine level of potential output
 - Output is fixed, but prices determined by changes in AD
3. Short Run Model: business cycle theories
 - Changes in AD determine how much of the productive capacity is used and the level of output and unemployment
 - Prices are fixed in this period, but output is variable

NOTES:

- The level of ***aggregate supply*** is the amount of output the economy can produce given the resources and technology available.
- The level of ***aggregate demand*** is the total demand for goods to consume, for new investment, for goods purchased by the government, and for net goods to be exported abroad.

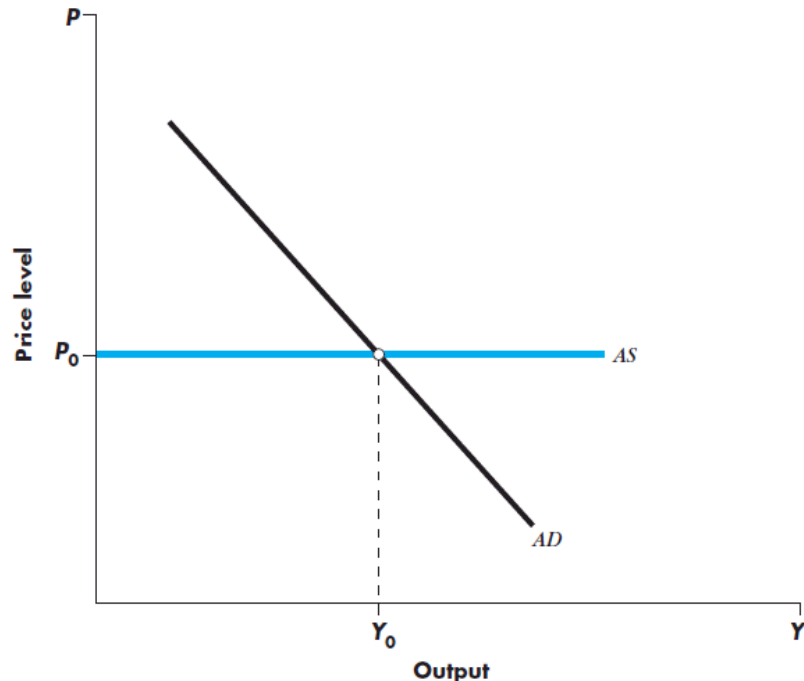
The Long Run Model

- In the long run, the AS curve is vertical and pegged at the potential level of output
 - Output is determined by the supply side of the economy and its productive capacity
 - The price level is determined by the level of demand relative to the productive capacity of the economy
- Conclusion: high rates of inflation are always due to changes in AD in the long run



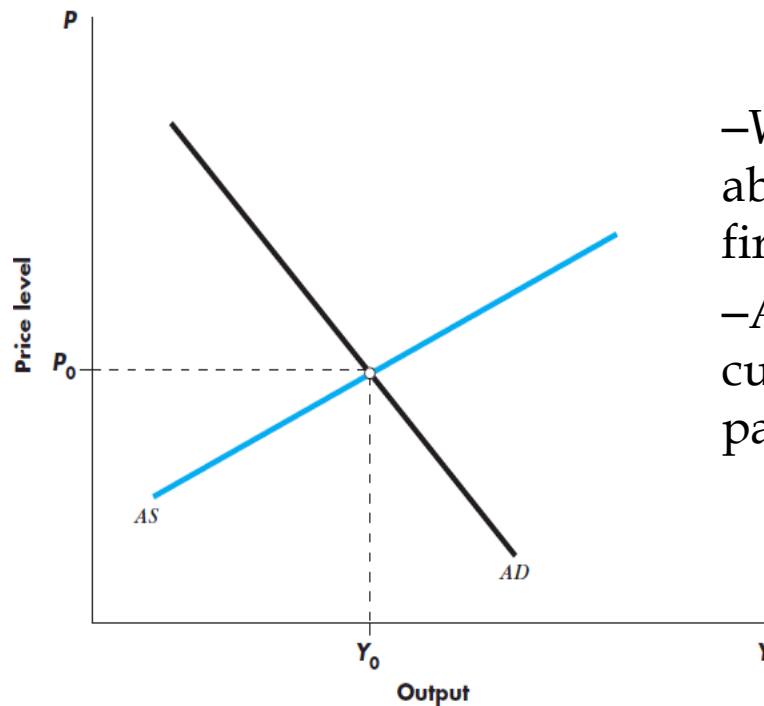
The Short Run Model

- Short run fluctuations in output are largely due to changes in AD
 - The AS curve is flat in the short run due to fixed/rigid prices, so changes in output are due to changes in AD
- Changes in AD in the short run constitute phases of the business cycle
 - In the short run, AD determines output, and thus unemployment



The Medium Run

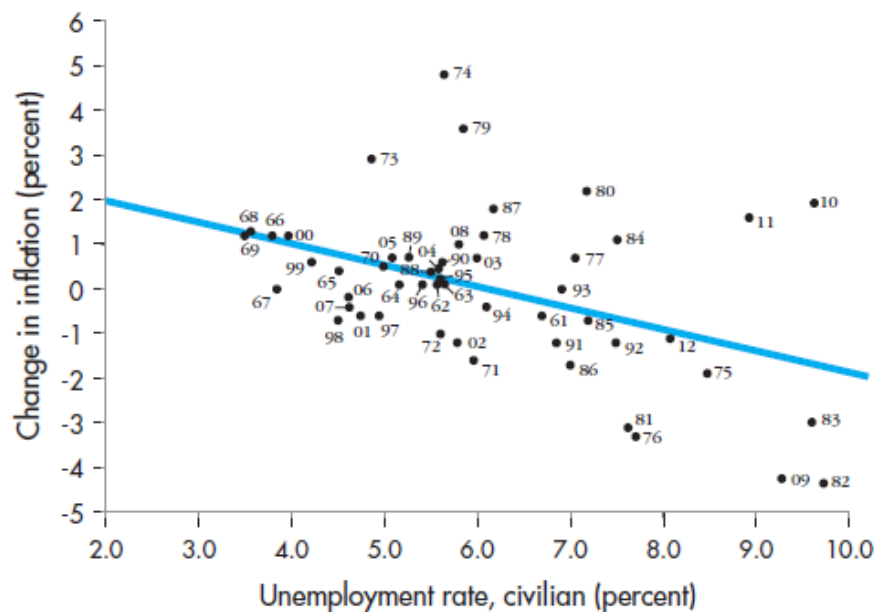
The medium run looks something like the situation shown in Figure 1-5 ; the aggregate supply curve has a slope intermediate between horizontal and vertical. The question, How steep is the aggregate supply curve?, is in effect the main controversy in macroeconomics.

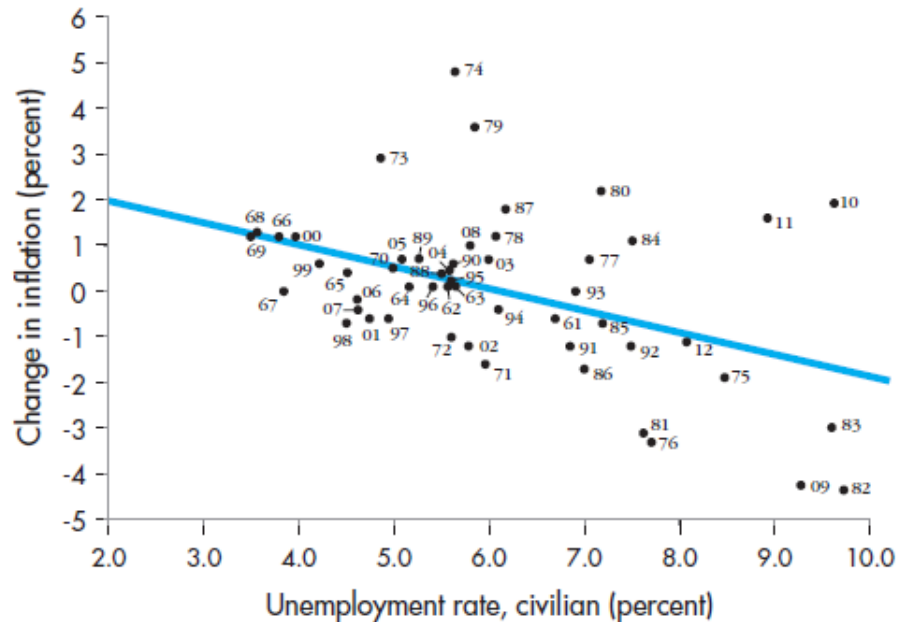


- When AD pushes output above the sustainable level, firms increase prices
- As prices increase, the AS curve is no longer pegged at a particular price level

The speed with which prices adjust is a critical parameter for our understanding of the economy. At a horizon of 15 years, not much matters except the rate of very long run growth. At a horizon of 15 seconds, not much matters except aggregate demand. What about in between?

It turns out that prices usually adjust slowly; thus, over a 1-year horizon, changes in aggregate demand give a good, though certainly not perfect, account of the behavior of the economy. The speed of price adjustment is summarized in the **Phillips curve**, which relates inflation and unemployment, one version of which is shown in Figure 1-6





In this figure, the change in the inflation rate is plotted against the unemployment rate. Pay careful attention to the numbers attached to the horizontal and vertical scales. A 2-point drop in unemployment is a very large change. You can see that such a drop, say, from 6 to 4 percent, will increase the inflation rate by only about 1 point over a period of a year. So, over a 1-year horizon, the aggregate supply curve is quite flat and aggregate demand will provide a good model of output determination.

NOTE:

The **Phillips curve** is an economic concept developed by A. W. **Phillips** stating that inflation and unemployment have a stable and inverse relationship.

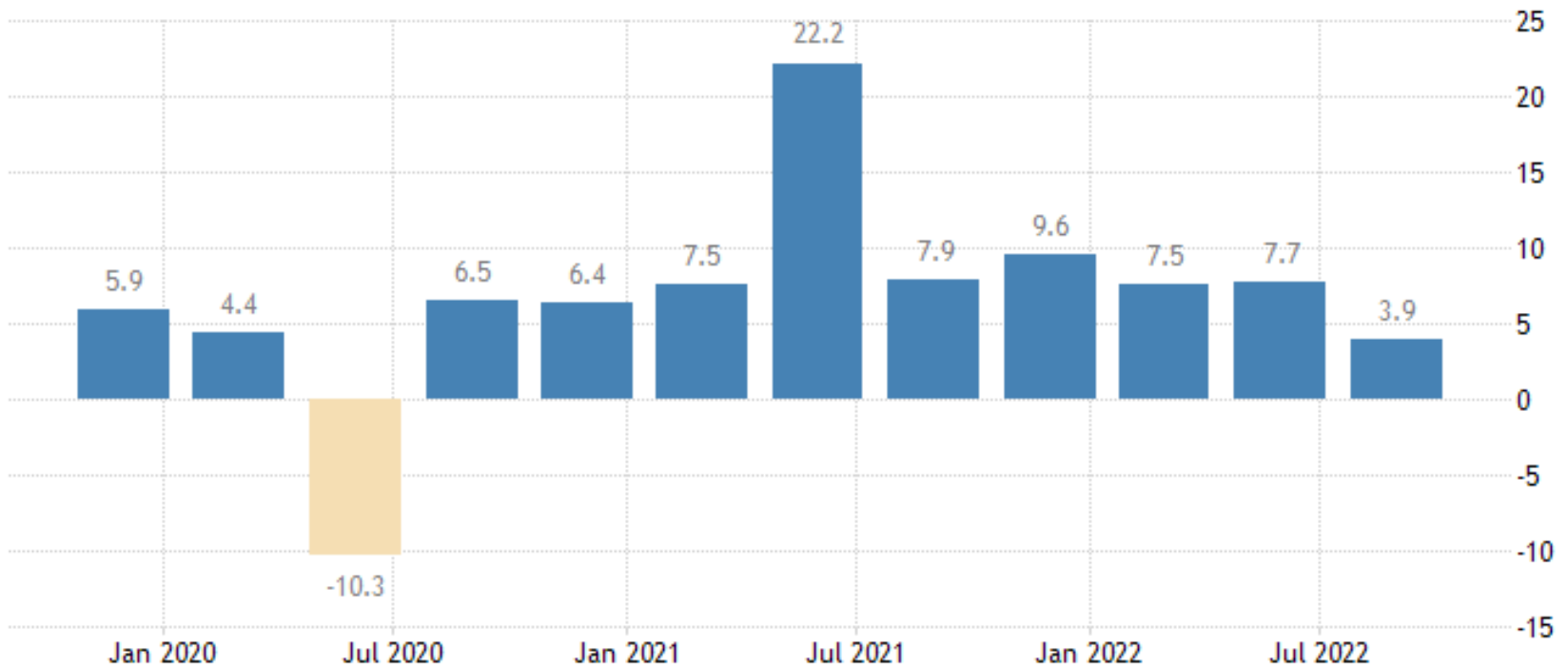
Growth and GDP

The ***growth rate*** of the economy is the rate at which the gross domestic product (GDP) is increasing. On average, most economies grow by a few percentage points per year over long periods.

$$\frac{\text{Real GDP}_{\text{current year}} - \text{Real GDP}_{\text{previous year}}}{\text{Real GDP}_{\text{previous year}}} \times 100$$

$$= \frac{\$ 1 493 171 - \$ 1 451 824}{\$ 1 451 824} \times 100$$

$$= 2.8\%$$



The Türkiye economy expanded 3.9% year-on-year in the third quarter of 2022, following an upwardly revised 7.7% rise in the previous period. Figures compare with market forecasts of 4%. Source: Turkish Statistical Institute

What causes GDP to grow over time?

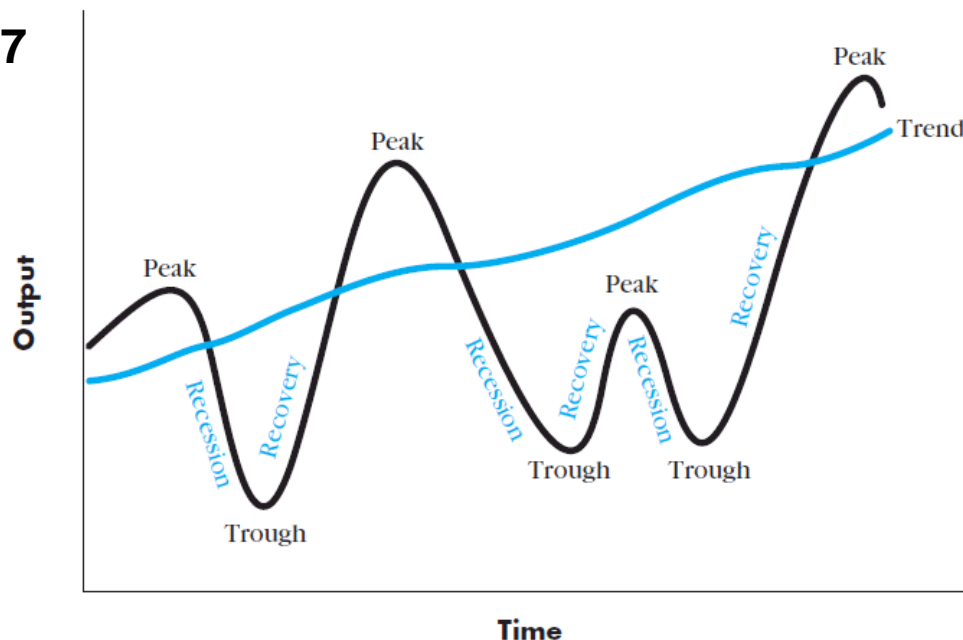
1) The first reason GDP changes is that the available amount of resources in the economy changes. The principal resources are capital and labor. The labor force, consisting of people either working or looking for work, grows over time and thus provides one source of increased production. The capital stock, including buildings and machines, likewise rises over time, providing another source of increased output. Increases in the availability of factors of production—the labor and capital used in the production of goods and services—thus account for part of the increase in GDP.

2) The second reason GDP changes is that the efficiency of factors of production may change. Efficiency improvements are called ***productivity*** increases. Over time, the same factors of production can produce more output. Productivity increases result from changes in knowledge, as people learn through experience to perform familiar tasks better, and as new inventions are introduced into the economy.

The Business Cycle and the Output Gap

Inflation, growth, and unemployment are related through the business cycle. The **business cycle** is the more or less regular pattern of expansion (recovery) and contraction (recession) in economic activity around the path of trend growth. At a cyclical peak, economic activity is high relative to trend; at a cyclical trough, the low point in economic activity is reached. Inflation, growth, and unemployment all have clear cyclical patterns. For the moment we concentrate on measuring the behavior of output or GDP relative to trend over the business cycle.

Figure 1-7



The gold line in Figure 1-7 shows the ***trend path of real GDP*** . The trend path of GDP is the path GDP would take if factors of production were fully employed.

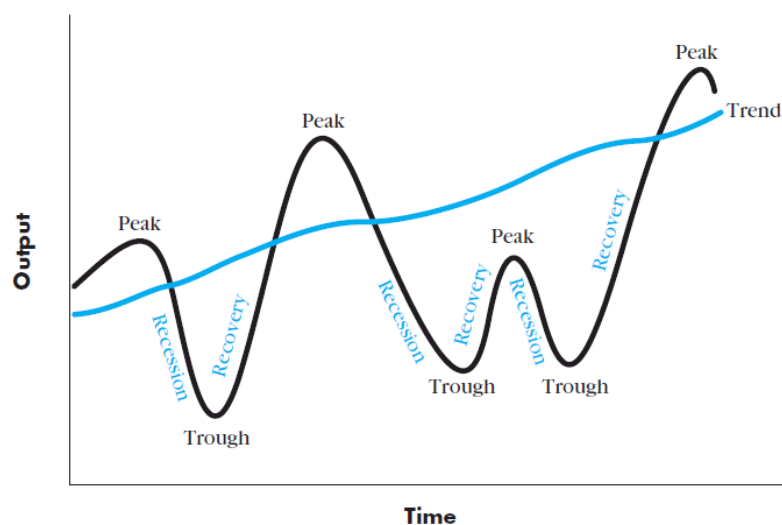
Over time, **GDP changes for the two reasons** we already noted.

1) More resources become available: The size of the population increases, firms acquire machinery or build plants, land is improved for cultivation, the stock of knowledge increases as new goods and new methods of production are invented and introduced. This increased availability of resources allows the economy to produce more goods and services, resulting in a rising trend level of output.

2) Factors are not fully employed all the time. Full employment of factors of production is an economic, not a physical, concept. Physically, labor is fully employed if everyone is working 16 hours per day all year. In economic terms, there is full employment of labor when everyone who wants a job can find one within a reasonable amount of time. Because the economic definition is not precise, we typically define full employment of labor by some convention, for example, that labor is fully employed when the unemployment rate is 5 percent. Capital similarly is never fully employed in a physical sense; for example, office buildings or lecture rooms, which are part of the capital stock, are used only part of the day.

Output is not always at its trend level, that is, the level corresponding to (economic) full employment of the factors of production. Rather, output fluctuates around the trend level.

During an expansion (or recovery) the employment of factors of production increases, and that is a source of increased production. Output can rise above trend because people work overtime and machinery is used for several shifts. Conversely, during a recession unemployment increases and less output is produced than could in fact be produced with the existing resources and technology. The wavy line in Figure 1-7 shows these cyclical departures of output from trend. Deviations of output from trend are referred to as the **output gap**.

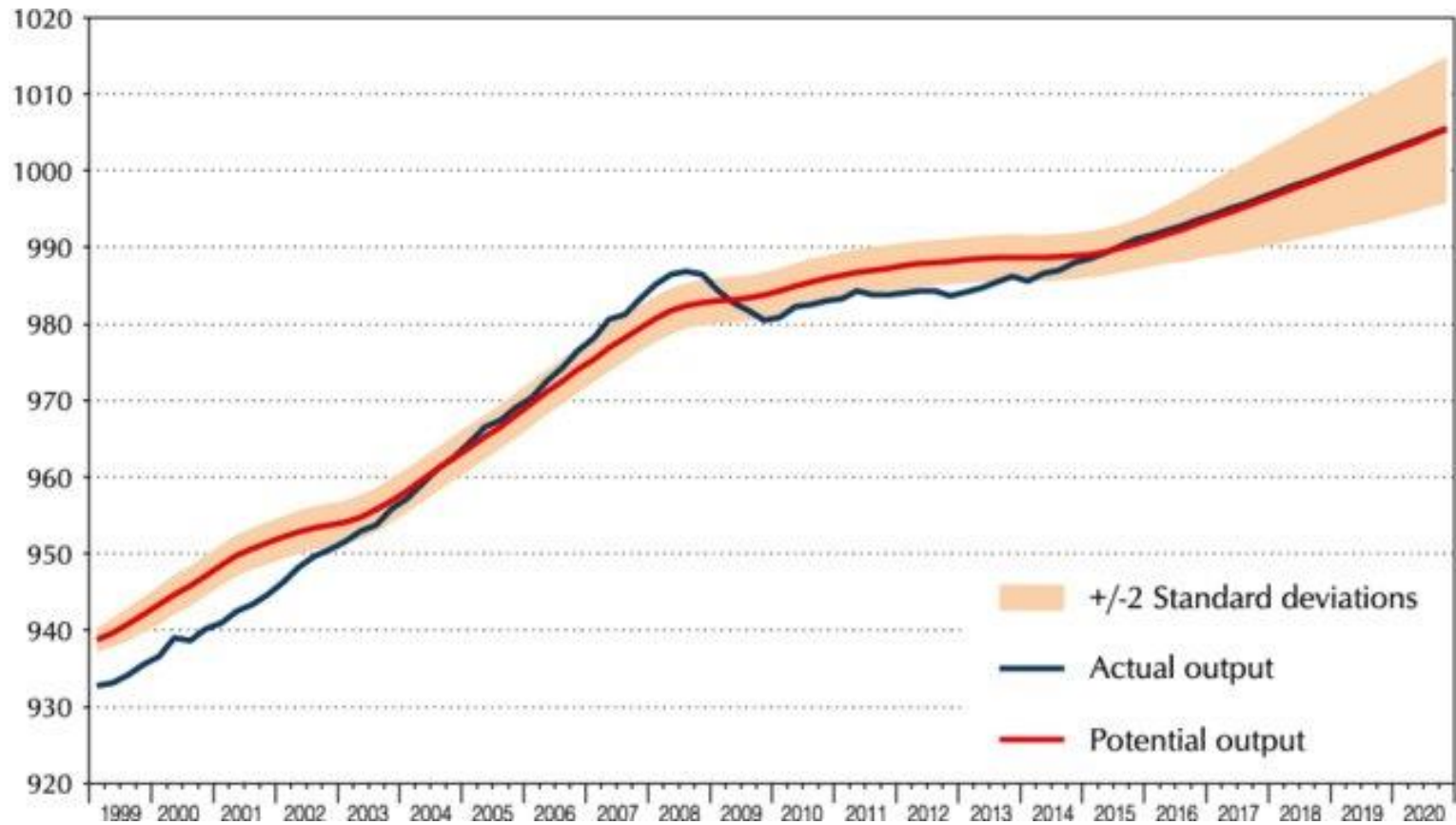


The ***output gap*** measures the gap between actual output and the output the economy could produce at full employment given the existing resources. ***Full employment output is also called potential output .***

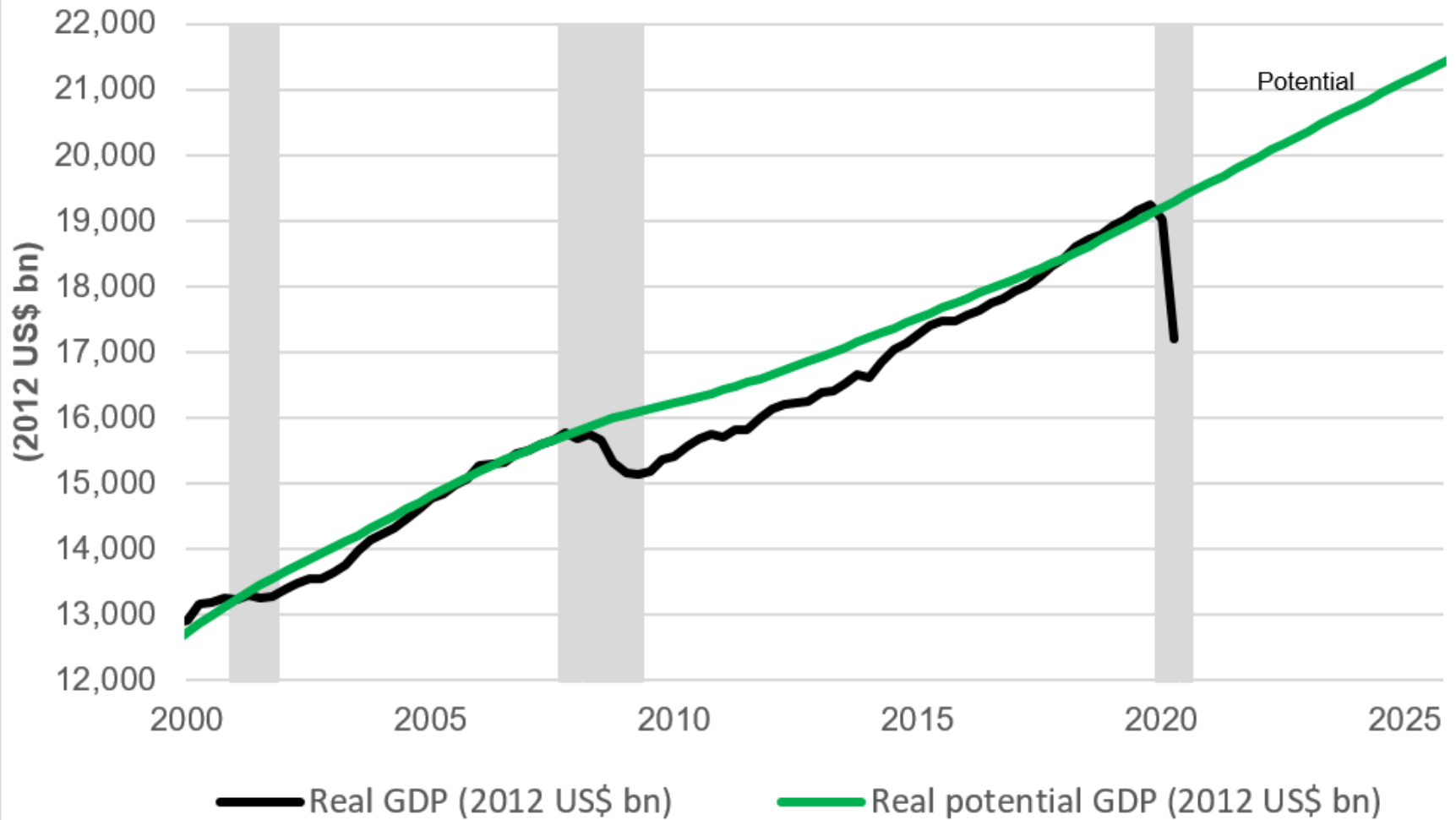
Output gap = actual output - potential output

The output gap allows us to measure the size of the cyclical deviations of output from potential output or trend output.

Example: Actual and Potential Output

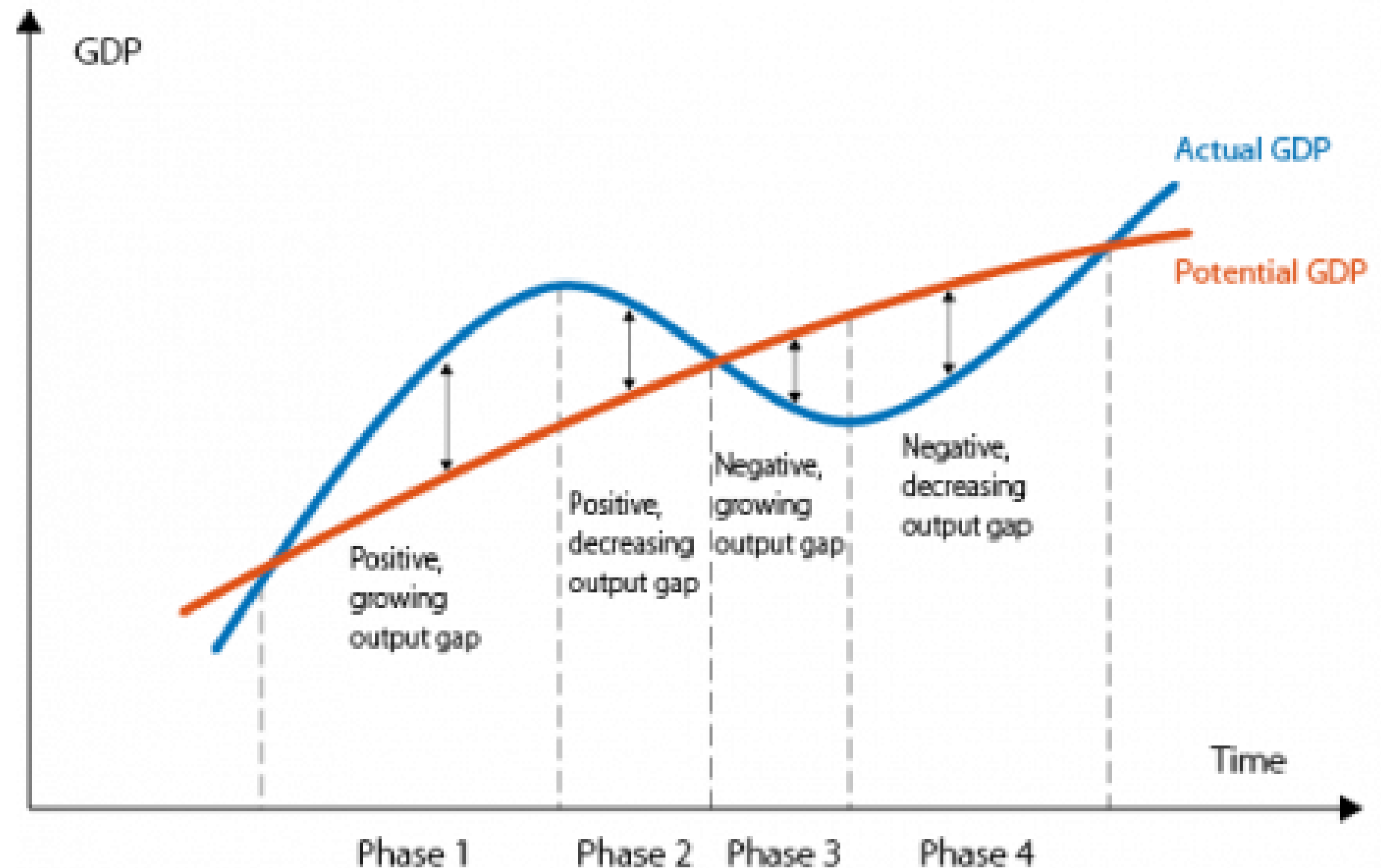


U.S. actual and potential real GDP and recession periods



Source: CBO; FRED; RSM US

The four phases of an economic cycle

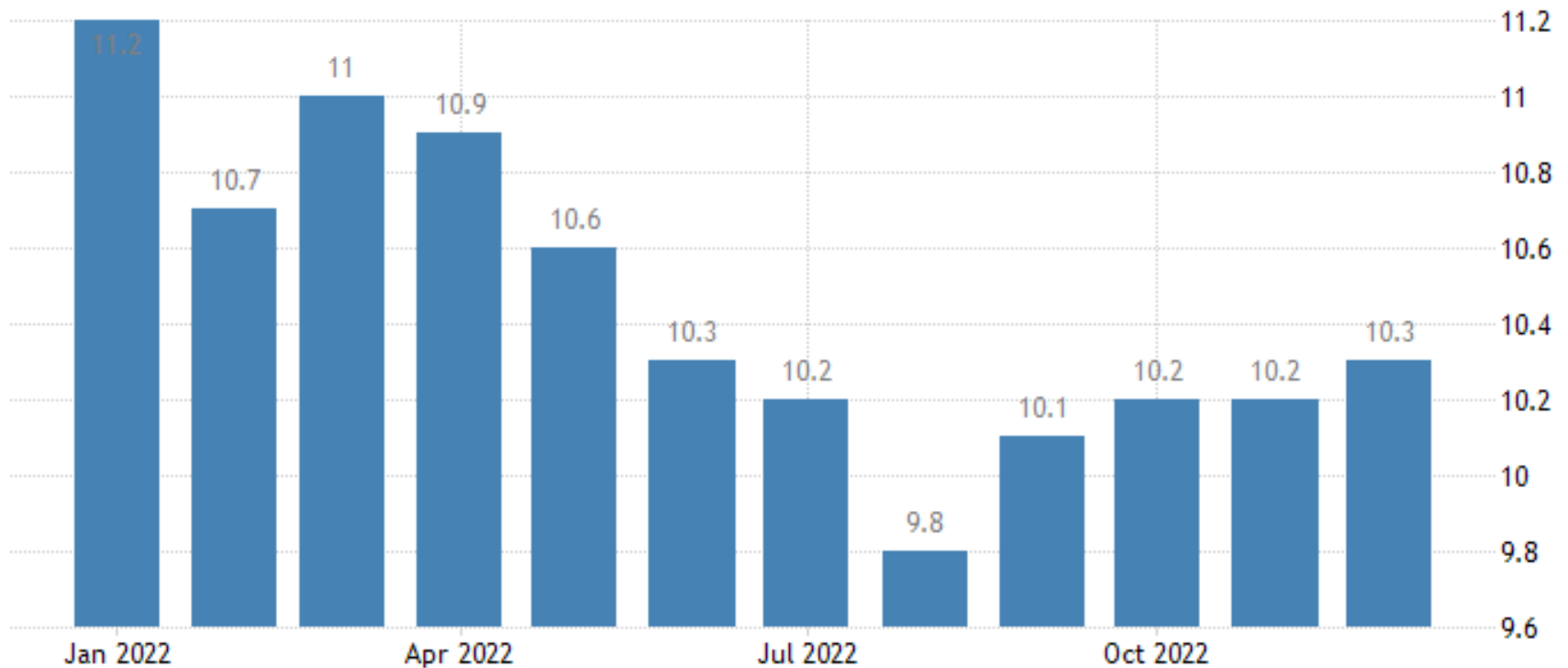


UNEMPLOYMENT

Unemployment, according to the OECD (Organisation for Economic Co-operation and Development), is persons above a specified age (usually 15) not being in paid employment or self-employment but currently available for work during the reference period.

Unemployment is measured by the unemployment rate, which is the number of people who are unemployed as a percentage of the labour force (the total number of people employed added to those unemployed)

The unemployment rate in Türkiye slightly increased to 10.3 percent in December of 2022 from 10.2 percent in the previous month (Source: Turkish Statistical Institute)



Inflation and the Business Cycle

Increases in inflation are positively related to the output gap. Expansionary aggregate demand policies tend to produce inflation, unless they occur when the economy is at high levels of unemployment. Expanded periods of low aggregate demand tend to reduce the inflation rate.

The inflation measure is the rate of change of the consumer price index (CPI), the cost of a given basket of goods representing the purchases of a typical urban consumer.

A ***consumer price index*** measures changes in the price level of a weighted average market basket of consumer goods and services purchased by households.

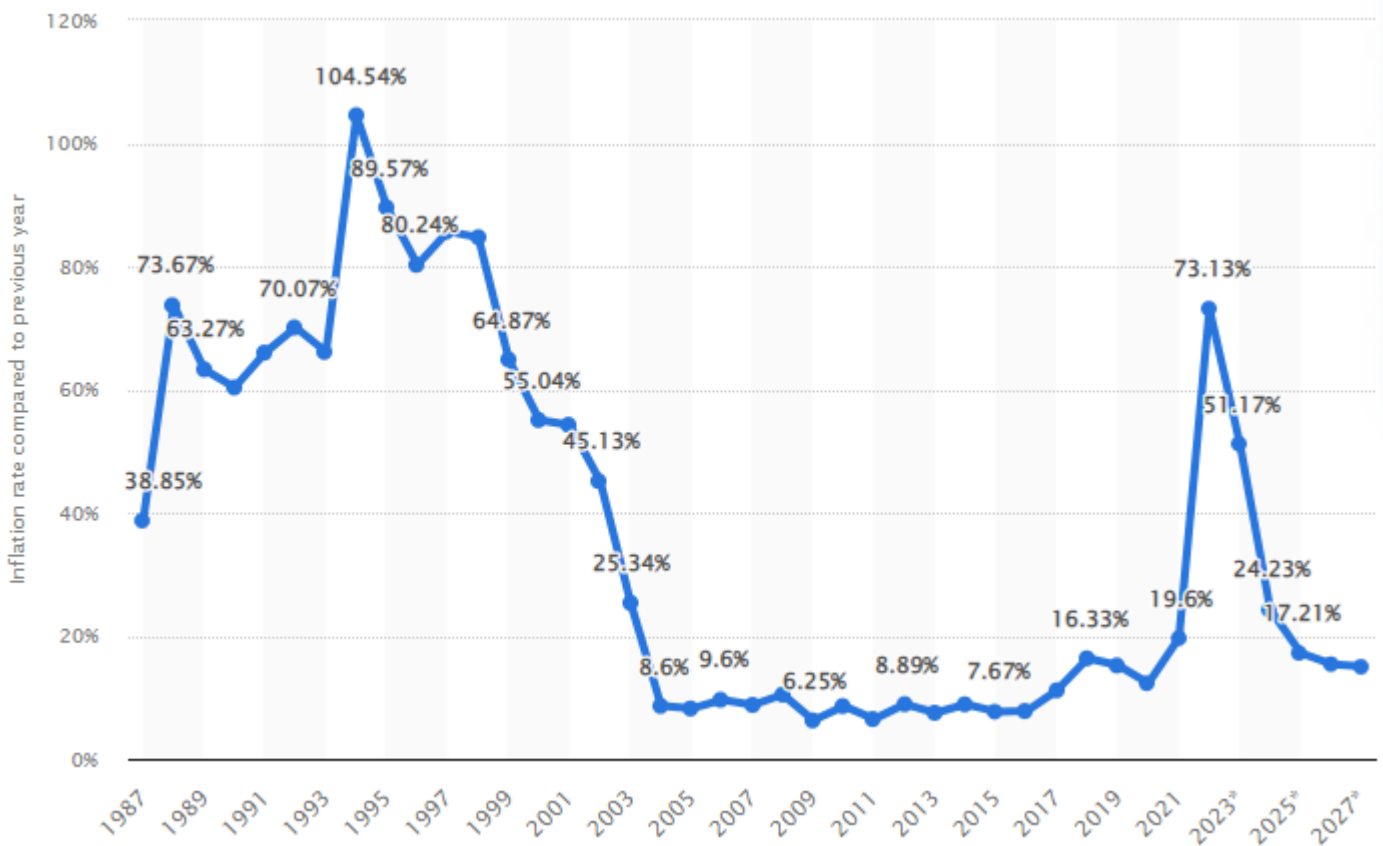
Inflation, like unemployment, is a major macroeconomic concern. However, the costs of inflation are much less obvious than those of unemployment.

In the case of unemployment, potential output is going to waste, and it is therefore clear why the reduction of unemployment is desirable.

In the case of inflation, there is no obvious loss of output. It is argued that inflation upsets familiar price relationships and reduces the efficiency of the price system.

Whatever the reasons, policymakers have been willing to increase unemployment in an effort to reduce inflation—that is, to trade off some unemployment for less inflation.

The statistic shows the average inflation rate in Türkiye from 1987 to 2021, with projections up until 2027. In 2021, the average inflation rate in Türkiye was at around 19.6 percent compared to the previous year.



(Source: Turkish Statistical Institute)

Core inflation is the change in the costs of goods and services but does not include those from the food and energy sectors. This measure of inflation excludes these items because their prices are much more volatile.

Core Inflation Rate is the inflation rate excluding effects of food and energy prices.

Question: Why take it out?

Answer: Is a better indicator of long-term inflation because it takes out products that frequently experience volatile price changes due to foreign government and business decisions as well as unexpected short-term crises (i.e., drought, hurricane).

In Turkey, core consumer prices measure a broad rise or fall in prices that consumers pay for a standard basket of goods, excluding volatile items such as energy, food and non-alcoholic beverages, alcoholic beverages, tobacco and gold.

Core consumer prices in Turkey increased 52.97 percent in January of 2023 over the same month in the previous year. (Source: Turkish Statistical Institute)

