# UNIT 1 ISSUES AND CONCEPTS*

**Structure**



## 1.0 OBJECTIVES

After going through this unit you should be in a position to

- distinguish between microeconomics and macroeconomics;
- appreciate the importance of macroeconomics;
- explain the concept of production possibility curve; and
- provide an overview of issues such as inflation, unemployment and business cycle.

## 1.1 INTRODUCTION

By now you are familiar with the term microeconomics, which deals with issues pertaining to economic agents such as households and firms. In the case of households, we deal with the issue of utility maximization subject to budget constraint. Similarly, in the case of firms, we deal with the issue of profit maximization (or its dual, cost minimization) subject to a resource constraint. Such issues related to maximization of utility by a household, and minimization


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of cost (or maximization of profit) by a firm are the subject matter of microeconomics. Through various diagrams you learnt how households make choices, what constraints they face, and how they reach their optimum levels of consumption. The optimization problem before a household can be explained through diagrams and can be solved by mathematical methods, particularly linear algebra. A similar treatment is made for analysis of the behavior of firms, where firms optimize their production level given the prices of inputs and resources available to them. Naturally a question comes to mind, "Does the same optimization problem applies to countries also?" The answer is yes; countries have certain objective functions, and they also face constraints. The objective function for a country could be maximization of growth in gross domestic product (GDP), minimization of poverty among households, maintaining a stable price level, reduction of inequality in distribution of income among individuals, and so on. In order to analyse these issues we need a different framework that is macroeconomics.

Macroeconomics is the branch of economics that studies the behavior of the economy as a whole. Thus it deals with aggregate variables such as national income, national consumption, national saving, national investment, exports, imports, etc. As you will come to know in later Units of this course, many of these variables are not simply the aggregation over microeconomic units.

## 1.2 WHY STUDY MACROECONOMICS?

In the early twentieth century, there was no such branch of economics as macroeconomics. According to Krugman and Wells, the term macroeconomics was coined by Ragnar Frisch in 1933. Theoretical developments in macroeconomics came into prominence with the publication of the book, 'General Theory of Interest, Employment and Money' by J M Keynes in 1936.

As mentioned earlier, macroeconomics concerns with the study of aggregate behavior in an economy. The need for a special branch of macroeconomics arises because what holds for the individual units may not hold good for the economy as a whole. For example, suppose a firm employs labour for production of output (say, cement). It can hire as many workers it requires at the ongoing wage rate. Thus increase in demand for labour by a single firm does not have any impact on the wage rate. However, if all firms increase their demand for labour (say due to economic boom and optimism in the country), there will be a shortage of labour and increase in wage rate. Further, the number of workers available for work in the country is limited; thus demand for labour beyond this limit will increase wage rate only, not the supply of labour.

Let us consider another example – saving by a household and total saving of the country. As you all will agree with me, saving by an individual is a virtue – we

should not consume all our income and save certain part of it for the future. In fact, if a person saves more, (s) he will receive interest on her savings, and her future income level will increase. There is a flip side to this issue however. Whenever a person saves certain part of income, her/his consumption expenditure decreases by a similar amount. Consequently, her/his demand for goods and services on which the amount could have been spent (say, clothing) is decreased. Thus the sales of the trader from whom (s)he would have bought the clothing get reduced. As a result, the income (profits) of the trader gets reduced. If the income of the trader is reduced, the amount of money the trader would have spent on purchase of goods and services gets reduced. The ripple effect continues.

We should not forget however that when we consume, we generate demand for goods and services. Such demand for goods and services leads to production activities and creation of employment in the country. If there is no demand for goods and services, there will be no production, no employment and no income generation in the country. Thus it is in the interest of the country that there is a steady growth in household consumption. In view of the above, it is often said that saving is a private virtue but a social vice! This problem is termed as the *paradox of thrift*.

Often the difference between microeconomics and macroeconomics is explained by giving the example of trees and forest. There are varieties of trees in the forest and each one could be different. Microeconomics is like studying the trees in a forest – their species, dimensions, growth, age, etc. Macroeconomics is like studying the forest – its area, density, composition, and overall ecosystem. We cannot ignore the forest for the trees – macro aspects as important as the micro aspects. While microeconomics is useful for analyzing the behavior of firms and households, macroeconomics is helpful in policy formulation and policy evaluation. Issues such as economic growth, inflation, employment, national debt, balance of payments, business cycles, etc. are very important for an economy. These issues are part of macroeconomics and need to be analysed at the macro level.

**Check Your Progress 1**

1. Distinguish between microeconomics and macroeconomics.

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2. Explain why macroeconomics is important.

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## 1.3 CERTAIN CONCEPTS

We present certain concepts frequently used in macroeconomics.

### 1.3.1 Stocks and Flows

A stock is measured at a point of time. For example, the capital stock of a country includes machines, equipment, and buildings. It refers to the part of national wealth that is reproducible (i.e., man-made); it consists of resources that help in production of goods and services. The stock of capital can be measured at a particular date. Money supply, labour force and external debt are some other examples of stock.

Flows are measured over an interval of time; thus it is a rate. In microeconomics, as you would have observed, the output of a firm can be measured on per day or per month basis. Otherwise, production without a time dimension is ambiguous. Similarly, if I say that my income is Rs. 10000, it is ambiguous – is it for a day, for a week, or for a month? In macroeconomics, the same logic applies. The gross domestic product (GDP) of a country, for example, is a flow. It represents the value of final goods and services produced over a year. Income, expenditure, saving, investment, consumption, profits, borrowings, etc. are examples of flows. Stock gets accumulated over time through change in stock. The change in capital stock is given by investment. Mathematically, stock can be seen as integration of a flow variable over a period of time.

### 1.3.2 Short-Run and Long-Run

You should be familiar with the concepts of short run and long run in microeconomics – in the short run certain factors of production are fixed. For a firm capital and technology are assumed to be fixed in the short run; they can be varied in the long run only. Thus in the long run, there are no constraints for a firm and the firm can maximize its output when all factors of production are variable.

In macroeconomics the usage of the terms short run and long are somewhat different from that in microeconomics. In macroeconomics, we assume certain variables to be sticky in the short run, particularly price level and wage rate. As we will see in later Units, the classical economists assumed prices and wages

to be fully flexible in the sense that they instantaneously adjust to changes in aggregate demand and aggregate supply and a new equilibrium is reached. According to Keynes these variables are sticky and they need time to adjust to their desired level. Thus prices and wages reach their equilibrium levels in the long run, not in the short run. Since policy makers are concerned with the short run also, they need to take into account rigidities in prices and wages in policy formulation.

The flow of capital input across various sectors of the economy takes time; it takes place in the long run, not in the short run. The movement of capital across countries is another variable which adjusts to its equilibrium level in the long run. The impact of such flows is spread over a period of time.

### 1.3.3 Economic Models

In economics we often use the term 'model'. It refers to a simplified version of reality. It allows us to understand, analyse and predict economic behavior. An economic model can be for a microeconomic agent such as household or firm. In macroeconomics, it represents the behavior of the economy as a whole.

In macroeconomic models we identify relevant macroeconomic variables (such as income, output, expenditure, investment, saving, exports, etc.) and establish relationship among them. The relationships among these variables may be expressed through diagrams or mathematical equations. There could be macroeconomic models without mathematical expressions, but these may not be precise.

An economic model is based on certain assumptions. These assumptions are required so that minute details are ignored and essential elements are included. Let me illustrate the point through an example. In the case of a firm, we assume that there are two factors of production, viz., capital and labour. We club all types of labour into a homogeneous category – we do not distinguish between a manager and a worker in the field! Similarly, while describing an indifference curve we overlook the type of households – the behavior of a rich household would be different from that of a poor household; or the behavior of a household in a rural area would be different from that of a household in an urban area. We ignore such details because our objective is to analyse the behavior of households to changes in prices and income. If our objective is to identify the changes in consumption pattern across households, we would require a different model and consider such differences.

In the Keynesian model, to take an example from macroeconomics, we consider aggregate variables such as total consumption, total investment, government expenditure, and net exports. We determine equilibrium level of output for the economy as whole. We ignore the behavior of households and firms.

Several growth models (such as Harrod-Domar model or Solow model) assume that the economy consists of just one sector – there is an aggregate production function, which gives the relationship between aggregate output (that is, total output) with aggregate inputs (that is, total capital and total labour). It may sound unrealistic, but the objective of these growth models is to analyse the equilibrium conditions for economic growth, saving ratio and population growth. These models ignore the details but the broad conclusions drawn are helpful in policy formulation. A question such as, 'why growth rate differs across countries?' can be addressed through these growth models.

### 1.3.4 Growth Rate

We use growth rate frequently in our day to day dealings. I am concerned with the rate at which my salary increased over the year, the rate of interest I get on my savings, and the rate of inflation which affect my purchasing power. At a broader level I may be interested in the rate at which India's population is growing or GDP is growing. The calculation of growth rate is the same in all the above cases. Annual growth rate of a variable is calculated as

$$\text{Growth rate} = \frac{\text{Value in current year} - \text{Value in previous year}}{\text{Value in previous year}} \times 100$$

Let us find out the growth rate of GDP

$$\text{Growth rate of GDP} = \frac{\text{GDP of current year} - \text{GDP of previous year}}{\text{GDP of previous year}} \times 100$$

We find that the GDP of India in financial year 2018-19 was Rs.190.10 lakh crore at *current prices* while it was Rs. 170. 95 lakh crore at current prices in 2017-18. If we put these values in the above equation we obtain $\frac{190.10 - 170.95}{170.95} \times 100 = 11.20$ per cent. Thus the growth rate of GDP we calculate above is 11.20 per cent for the year 2018-19! As we see from official data and newspaper reports, the growth rate of GDP of India during 2018-19 is not this high; it is much lower. The error we commit is that we consider GDP at *current prices* which include increase in output and increase in prices. Our objective, however, is to obtain an estimate of the increase in output during the financial year 2018-19. We need to neutralise the effect of price rise – for this we consider the GDP at *constant prices*. In India, GDP at constant prices, as of 2019, is given at the *base year* 2011-12. The GDP of India in constant prices for the year 2018-19 is Rs. 140.78 lakh crore compared to Rs. 131.80 crore in 2017-18 (the base year considered is 2011-12; thus these values are in 2011-12 prices). If we put these values in the above equation we find real GDP growth rate in 2018-19 = $\frac{140.78 - 131.80}{131.80} \times 100 = 6.81$ per cent.

## 1.4 PRODUCTION POSSIBILITY CURVE

As mentioned earlier, achieving higher economic growth is one of the objectives of economic policy of most countries. Economic growth of a country however cannot be higher than certain limit. This limit depends on the availability of inputs such as land, labour, capital, raw material, energy and technical knowhow. Availability of certain resources is also limited. Even for countries where natural resources are available in abundance, financial resources required for exploitation of natural resources may be in short supply. Every year we are glued to the television set during the government budget presentation; because it informs us about the policy and thrust areas of the government. The budget indicates how much money will be spent on various sectors of the economy.

It is important because the resources allotted on various heads of expenditure are limited. In general, we notice that there are several constraints before a country – there may not be sufficient budget for carrying out the activities, there may be shortages in supply of certain strategic raw materials, there could be a long gestation period between initiation of a project and its completion, and so on.

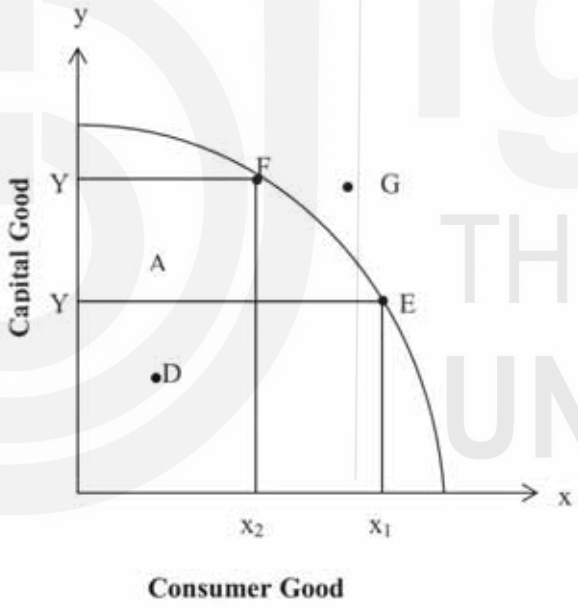


**Fig. 1.1: Production Possibility Curve**

You should note that the PPC shows the potential GDP of a country. What actually is being produced in the country may be different. For example, when production takes place on the PPC (see points E and F in Fig. 1.1), all resources are being utilized efficiently. If production takes place at a point inside the PPC (see points A and D), certain resources are under-utilised. A point outside the PPC, such as G in Fig. 1.1, is not attainable. If the country is operating at a point inside the PPC, then there is an 'output gap' as given below.

Output Gap = Potential Output – Actual Output

Potential GDP can grow overtime by two methods: technological progress and accumulation of more resources. In such cases the PPC shifts outwards to the right. In case the PPC shifts sufficiently outward, point G (which was not attainable earlier) could be achieved. When a country's PPC shifts outward, the country observes economic growth.

**Check Your Progress 2**

1. Distinguish between the following concepts: (i) stock and flows; (ii) short run and long run.

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2. Explain the concept of production possibility curve through a diagram.

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## 1.5 IMPORTANCE OF ECONOMIC GROWTH

As mentioned above, growth rate of an economy is given by the growth rate of its real GDP. Maximisation of growth rate is one of the objectives of most countries. You might have noticed that growth rate differs across countries – while countries like China have witnessed more than 10 per cent per annum growth rate for decades, there are many African countries where growth has been is negligible.

Very high economic growth of Japan is said to be a miracle during the post World War period. In the past 20 years, however, there has been severe economic crisis in Japan – highly fluctuating economic growth, declining population size, and very high public debt. Argentina, a Latin American country, was richer than many countries such as Australia, Canada and France during the early twentieth century. Argentina is endowed with vast natural resources, particularly in the areas of agriculture and energy. In 1913 Argentina's per capita income was $3797 compared to $3452 of France and $3134 of Germany. According to International Monetary Fund (IMF), in 2019, the per capita income of Argentina

is $9887 while that of France and Germany are $41760 and $46563 respectively. It indicates that per capita incomes of France and Germany have increased much faster over the past century than that of Argentina. Economists ascribe this relative stagnation in growth rate of Argentina to several factors including political instability, lack of technological progress, adherence to the development strategy of import-substitution (instead of export promotion), and high inflation. In another example, we compare the per capita incomes of China and India; two major emerging economies of the world. Per capita GDP of India and China was almost at the same level till 1990 (in US Dollar terms, GDP per capita of India was $367 in 1990 compared to $318 of China). In the subsequent period, however, growth rate of China was much higher than that of India. In 2018, per capita GDP of India was about 20 per cent that of China (India's per capita GDP, in US Dollar terms in 2018, was $2010 compared to China's $9770). If we compare the per capita income of India and China in purchasing power parity (PPP) terms for the year 2018, however, India's per capita GDP was $7762 compared to $18236 of China (about 43 per cent). We can make such comparisons across countries and analyse the reasons for such differences in growth by undertaking macroeconomic analysis.

You should be aware of the 'rule of 70'. It indicates the number of years it takes to double your money. If you save Rs. 1000 in a bank and the rate of interest is 1 per cent per annum, your saving will take 70 years to double, i.e., to be Rs. 2000. If the rate of interest is 7 per cent, it takes only 10 years to double. The formula is

$$\text{Number of years to double the amount} = \frac{70}{\text{rate of inerest}}.$$

The same rule can be applied to GDP and per capita GDP of a country. If per capita GDP of a country is growing at the rate of 5 per cent, it takes 14 years (that is, $\frac{70}{5}$=14) for the country to double its per capita GDP. If growth rate in per capita GDP is 10 per cent per annum, it will double in 7 years. Let us compare between two countries, A and B, which have the same per capita GDP, say Rs. 1000. Let us assume that per capita GDP of country A is growing at 5 per cent per annum while that of country B is growing at 10 per cent per annum. If we consider a time span of 28 years, per capita GDP of country A will be Rs. 4000 after 28 years that of country B will be Rs. 8000! You can imagine how much difference a higher growth rate can bring to per capita GDP in the long run. Economic growth is important because it leads to increase in income of people, which in turn leads to higher consumption and saving. Second, there is increase in tax revenue of the government due to higher income and output. Third, increase in GDP leads to fall in unemployment, as more workers get employed. Fourth, increased government expenditure leads to improved public services.

You should note that economic development is different from economic growth. While economic growth indicates increase in GDP, economic development is a much broader concept.

Economic development includes improvement in basic facilities such as health, education, electricity, drinking water, absence of poverty, etc. Such improvement is possible if there is economic growth.

## 1.6 INFLATION AND UNEMPLOYMENT

We come across the terms inflation and unemployment often in newspapers and in our everyday conversation. Increase in either of these variables creates miseries in people's life and much concern for the policy makers. Inflation is defined as a persistent rise in the general level of prices. If price level goes up today but falls tomorrow then it may not imply inflation, but only short-term fluctuations in prices. The term 'general price level' is also important since, over a period of time, prices of some commodities may have gone up while that of some others may have actually fallen. As a result, on the whole, the average of these prices may remain constant or even go down. Similarly if the price of a group of commodities, which constitute a small fraction of the total value of output of the economy, would go up, then again it might not be inflationary as such. That is, the effect of rise in prices of such commodities might be too small so as to affect the average price level of all the commodities.

Thus we see that inflation is a macroeconomic phenomenon and is not concerned with the rise in the price of a particular commodity, or, a small group of commodities. When there is inflation, the purchasing power of people declines. Inflation has differential impact on various sections of society. While salaried groups (persons having fixed monthly income) are hit adversely, producers and traders stand to gain during periods of inflation. Very high inflation (often called hyper-inflation) puts everyone's budget in disorder.

Unemployment is another social evil. In economics when we refer to the term unemployment, we mean involuntary unemployment, that is, a person is looking for work but not able to find a job. A person who is not looking for a job cannot be considered as unemployed.
There are periods when we quit a job and look for another. At any point of time, certain fraction of workers is between jobs – such unemployment is transitory.

However, there are time periods when unemployment rate is quite high. Unemployment is bad on two counts, viz., (i) it results in loss of income for the unemployed, and (ii) there is wastage of valuable human resources.

It is generally observed that there is a trade-off between inflation and unemployment, at least in the short run. If the government wants to decrease the

rate of unemployment, the economy has to tolerate a higher rate of inflation. Similarly, if the government wants to control inflation, the rate of unemployment may increase.

There is considerable debate on the relationship between inflation and unemployment; and there is much difference among economists on the relationship between the two.

## 1.7 BUSINESS CYCLE

There are ups and downs in economic activities for any country – while growth rate is high in certain periods, it is low in other periods. It is generally observed that there are alternating phases of high and low growth rates. Such phases of growth are called business cycles.

There are four phases of a business cycle: expansion, recession, depression, and recovery. The duration of a business cycle can vary from two years to twelve years. Business cycles are *synchronic*. Depression or contraction occurs simultaneously in most industries or sectors of the economy. Recession passes from one industry to another and chain reaction continues till the whole economy is in the grip of recession. Similarly, prosperity spreads through various linkages of input-output relations or demand relations between industries or sectors. Business cycles can be distinguished from other fluctuations as they are usually *larger, longer,* and *widely diffused*.

In business cycles we observe that several inter-related variables move together. Fluctuations occur simultaneously in the level of output as well as employment, investment, consumption, rate of interest, price level, etc. The immediate impact of recession or expansion is on the inventories of goods. When recession sets in, inventories start accumulating beyond the desired level. In response, producers cut down on the level of production of goods. In contrast, when recovery starts, aggregate demand picks up and inventories go below the desired level. It encourages business houses to place more orders for goods which boosts production and stimulates investment. Business cycle is international in character; once started in one country, it spreads to other countries through contagion effect. The downslide in financial markets, for example, in one country spreads rapidly to other countries as financial markets are linked globally through capital flows. Further, recession in one country, say the United States (US), can spread to other countries as the imports of the US will decline. Countries which are major exporters to the US will witness a decline in their exports and may witness recession.

The adverse impact of the Great Depression (1929-34) is well documented. It resulted in widespread unemployment, poverty and misery among a large section

of society in many countries. In recent years, during 2007-09 (often it is referred to as the Great Recession) most countries witnessed a phase of severe recession. The world has overcome the adverse impact of the economic crisis of 2007-09 to some extent, but its memories are still fresh.

**Check Your Progress 3**

1. Explain why economic growth is important for a country.

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2. Distinguish between economic growth and economic development.

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3. Explain the concept of business cycle.

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## 1.8 LET US SUM UP

In this unit we distinguished between microeconomics and macroeconomics. Macroeconomics considers broader and aggregative aspects of the economy. It is helpful in policy formulation and policy evaluation.

We discussed how growth rate can be calculated. In addition, we described the importance of economic growth. Distinction between concepts such as stock and flows, and short-run and long run are presented in the Unit.

Brief ideas on certain concepts such as inflation, unemployment and business cycle, which we come across in our everyday life, are also given in the Unit.

## 1.9 ANSWERS/ HINTS TO CHECK YOUR PROGRESS EXERCISES

**Check Your Progress 1**

1. Go through Section 1.2 and answer.
2. Go through Section 1.2 and answer.

**Check Your Progress 2**

1. (i) Stocks are measured at a point of time while flows are measured per unit of time. Go through Section 1.2 for further details.

   (ii) In the short run certain factors are fixed while in the long run all factors are variable. Go through Section 1.2 for further details.

2. Production possibility curve depicts the potential output of an economy. Explain Fig. 1.1 for your answer.

**Check Your Progress 3**

1. Go through Section 1.5 and answer.
2. Economic growth means the growth in the GDP of a country. Economic development is a multi-dimensional concept. In addition to per capita income, it includes various socio-economic variables. Go through Section 1.5 for further details.
3. Go through Section 1.7 and answer.