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# MACROECONOMICS II

## COURSE CODE: B21EC06DC

## Undergraduate Programme in Economics

## Discipline Core Course

## Self Learning Material



SREENARAYANAGURU OPEN UNIVERSITY

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The State University for Education, Training and Research in Blended Format, Kerala

# SREENARAYANAGURU OPEN UNIVERSITY



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To be benchmarked as a model for conservation and dissemination of knowledge and skill on blended and virtual mode in education, training and research for normal, continuing, and adult learners.

## Pathway

Access and Quality define Equity.

# Macroeconomics II

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Semester - VI

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**(With Model Question Paper Sets)**



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**Edition**
December 2025





ISBN 978-81-997038-2-7




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# MESSAGE FROM VICE CHANCELLOR

Dear learner,

I extend my heartfelt greetings and profound enthusiasm as I warmly welcome you to Sreenarayanaguru Open University. Established in September 2020 as a state-led endeavour to promote higher education through open and distance learning modes, our institution was shaped by the guiding principle that access and quality are the cornerstones of equity. We have firmly resolved to uphold the highest standards of education, setting the benchmark and charting the course.

The courses offered by the Sreenarayanaguru Open University aim to strike a quality balance, ensuring students are equipped for both personal growth and professional excellence. The University embraces the widely acclaimed "blended format," a practical framework that harmoniously integrates Self-Learning Materials, Classroom Counseling, and Virtual modes, fostering a dynamic and enriching experience for both learners and instructors.

The university aims to offer you an engaging and thought-provoking educational journey. The undergraduate programme in Economics is designed to be on par with the high-quality academic programmes offered at state universities throughout the country. The curriculum incorporates the latest methodologies for presenting economic ideas and concepts. It stimulates students' interest in developing a deeper comprehension of the discipline. The curriculum encompasses both theoretical concepts and historical evidence. Suitable emphasis is placed on India's experiences with economic transformation. This would aid learners in preparing for competitive examinations, should they choose to take them. Upon successfully completing the programme, we anticipate that students will be well-equipped to handle key areas within the economics discipline. The Self-Learning Material has been meticulously crafted, incorporating relevant examples to facilitate better comprehension.

Rest assured, the university's student support services will be at your disposal throughout your academic journey, readily available to address any concerns or grievances you may encounter. We encourage you to reach out to us freely regarding any matter about your academic programme. It is our sincere wish that you achieve the utmost success.

Regards,
Dr. Jagathy Raj V.P.

01-01-2026

# Contents


# IS LM Model

UNIT 1

# IS Curve and Goods Market Equilibrium

## Learning Outcomes

After completing this unit, the learner will be able to:

- determine the equilibrium condition in the goods market
- derive investment and saving functions mathematically
- apply the IS curve to find combinations of interest rates and income

## Prerequisite

As consumers, we interact with the goods market every day. Any change in prices, income, savings, or spending patterns immediately affects our consumption. Similarly, businessmen and the government constantly make decisions that influence production, investment, and public spending. Together, these decisions create cyclical fluctuations in the economy.

Therefore, it is important to understand how consumption depends on income, savings, expectations, and other factors. Investment decisions are influenced by interest rates, expected profits, and business confidence. Government spending and taxes also play a major role in determining overall demand in the economy.

Changes in any of these components affect total output (GDP). By studying this, we gain clarity on how consumption, investment, and government spending together determine the level of economic activity. The IS curve helps us understand how income and interest rates interact in the real economy.

## Keywords

Goods Market, Aggregate Demand (AD), Aggregate Supply (AS), Investment Function, Saving Function, Income, Interest Rate, IS Curve

## Discussion

## 1.1.1 The Goods Market

The goods market is the part of the economy in which goods and services are produced and purchased. As in every economy, the goods market is influenced by both Aggregate Demand (AD) and Aggregate Supply (AS). Aggregate Demand (AD) refers to the total demand for goods and services in the economy, and it is composed mainly of Consumption (C) and Investment (I). Aggregate Supply (AS) represents the total quantity of goods and services produced, which is measured by National Income (Y). In the goods market, equilibrium is achieved when Aggregate Demand equals Aggregate Supply (AD = AS).

### 1.1.1.1 Aggregate Demand (AD)

Aggregate Demand (AD) represents the total demand for goods and services in an economy at a given level of income and interest rate. In the two-sector Keynesian model, which excludes government and foreign trade, aggregate demand consists of consumption (C) and investment (I), expressed as

$$AD = C + I.$$

Consumption, is the largest component of aggregate demand, refers to total household spending on goods and services. In the Keynesian framework, consumption primarily depends on current income (Y) and is described by the consumption function

$$C = a + bY,$$

where $a$ is autonomous consumption (the minimum level of consumption even if income is zero) and $b$ is the marginal propensity to consume (MPC), representing the fraction of additional income spent on consumption. As income rises, consumption also increases, but usually by a smaller proportion than the increase in income.

Investment (I) is the spending by firms on capital goods such as machinery, equipment, and buildings. It is mainly influenced by the interest rate (r). When the interest rate falls, borrowing becomes cheaper, and investment rises; conversely, when the interest rate rises, borrowing becomes more expensive, and investment declines. Together, consumption and investment form the aggregate demand in the economy, which drives the equilibrium level of income and output in the goods market.

### 1.1.1.2 Aggregate Supply

In the simple Keynesian model, output (Y) is demand-determined, and firms adjust production to meet aggregate demand at a given price level and it represents the total output produced in the economy, which is equivalent to the national income ($AS = Y$). At equilibrium, firms produce exactly the amount demanded, so there are no unplanned changes in inventories. While output depends on factors such as labour, capital and technology, in the simple Keynesian framework, it is assumed that production adjusts to meet aggregate demand. This ensures that the economy can achieve equilibrium where total output equals total spending.

### 1.1.1.3 Goods Market Equilibrium

Goods market equilibrium occurs when aggregate demand equals aggregate supply, that is, $AD = AS$ or $C + I = Y$.

Using the consumption function $C = a + bY$, the equilibrium condition becomes

$$Y = a + bY + I$$

Rearranging the terms gives $(1 - b)Y = a + I$, and solving for equilibrium income yields

$$Y^* = \frac{a+I}{1-b}$$

This equation shows that equilibrium income depends on autonomous consumption, investment, and the marginal propensity to consume, while the term

$$\frac{1}{1-b}$$

acts as the multiplier, intensifying the effect of changes in investment or autonomous consumption on income. At equilibrium, income is either consumed or saved

($Y = C + S$), and since $C + I = Y$, it follows that $S = I$.

This equality between saving and investment is the fundamental condition of goods market equilibrium.

## 1.1.2 IS Curve

The IS curve represents the equilibrium in the goods market, where investment (I) equals saving (S). In this context, investment is a function of the interest rate (i), while saving is a function of income (Y). Therefore, the IS curve shows all combinations of income (Y) and the interest rate (i) at which the goods market is in equilibrium. In other words, for each level of the interest rate, there is a corresponding level of income where savings exactly match investment. Let us now explain this in detail.

It is a simple fact that the interest rate influences investment, and the relationship between the two is negative. This means that a rise in the interest rate decreases

investment, and a fall in the interest rate increases investment. If this relationship is assumed to be linear, it can be expressed through the following equation:

$$I = \bar{\imath} - bi$$

Where:

- I = investment
- $\bar{\imath}$ = autonomous investment (the level of investment independent of interest rate changes )
- b = behavioural coefficient that measures the sensitivity of investment to the interest rate. It is expressed as $\Delta I/\Delta i$. Since the relationship is negative, *b* (the slope) will have a negative sign.
- i = rate of interest

If this seems abstract, it can be made clearer with the help of a simple numerical example. The following table shows different levels of investment at different interest rates.

**Table 1.1.1 Rate of Interest and Investment**

| Rate of Interest (i) | Investment (I) |
|---|---|
| 10% | 500 |
| 8% | 600 |
| 6% | 700 |
| 4% | 800 |
| 2% | 900 |

From the table, it is clear that investment increases as the interest rate declines. Here, the slope $b$, which is $\Delta I/\Delta i$, is $-50$(calculated as $100/-2 = -50$). As you know, a linear function of negatively correlated variables can be written as $x = a - by$. In the same form, our investment function can be represented as:

$$I = \bar{I} - bi$$

So, $b = -50$. From the table, investment $I$ is 500 when the interest rate $i$ is 10%. Substituting these values into the equation:

$$500 = \bar{I} - 50 \times 10$$

$$500 = \bar{I} - 500$$

$$\bar{I} = 1000$$

Hence, autonomous investment in this example is 1000. Therefore, the investment function can be written as:

$$I = 1000 - 50i$$

In Keynesian income theory, we have already learned that at the equilibrium level of income, saving equals investment. Now, let us discuss the saving function.

The saving function represents the relationship between income and saving. Income generated is either consumed or saved:

$$\mathrm{Y} = \mathrm{C} + \mathrm{S}$$

Rewriting this, we get:

$$\mathrm{S} = \mathrm{Y} - \mathrm{C}$$

If the consumption function is $C = a + by$ then:

$$S = Y - (a + bY)$$

$$S = -a + (1 - b)Y$$

Here:

- b is the marginal propensity to consume (MPC), so $1 - \mathrm{b}$ is the marginal propensity to save (MPS).
- $-\ a$ is the negative y- intercept or autonomous saving, which is the level of saving when income is zero. Households still consume some amount even when income is zero, resulting in negative saving (dissaving).

For example, if a consumer consumes Rs. 400 when income is zero, saving will be $-400$.

If MPS = 0.2, the saving function becomes:

$$\mathrm{S} = -400 + 0.2\mathrm{Y}$$

Now we have two important functions: the saving function and the investment function:

$$S = -a + (MPS)Y \text{ and } I = I - bi$$

In our example, these are:

$$\mathrm{S} = -400 + 0.2\ \mathrm{Y and\ I} = 1000 - 50\mathrm{i}$$

The goods market is in equilibrium when $\mathrm{S} = \mathrm{I}$, i.e.,

$$-400 + 0.2\mathrm{Y} = 1000 - 50\mathrm{i}$$

Here, *Y* is the level of income and *i* is the interest rate.

Now, referring to Table 1.1.1 you can substitute different interest rates into this equation to calculate the corresponding levels of income.

**Table 1.1.2 Various Levels of Income Corresponding to Different Interest Rates**

| Rate of Interest (i) | Calculation Leading to Y | Corresponding Level of Income (Y) in Investment |
|---|---|---|
| 10% | 400 + 0.2Y = 1000 - 50 x 10 ⇒ 0.2Y = 500 + 400 = 900 | Y = 900 / 0.2 = 4500 |
| 8% | 400 + 0.2Y = 1000 - 50 x 8 ⇒0.2Y = 600 + 400 = 1000 | Y = 1000 / 0.2 =5000 |
| 6% | 400 + 0.2Y = 1000 - 50 x 6 ⇒ 0.2Y = 700 + 400 = 1100 | Y = 1100 / 0.2 = 5500 |
| 4% | 400 + 0.2Y = 1000 - 50 x 4 ⇒ 0.2Y = 800 + 400 = 1200 | Y = 1200 / 0.2 = 6000 |
| 2% | 400 + 0.2Y = 1000 - 50 x 2 ⇒ 0.2Y = 900 + 400 = 1300 | Y = 1300 / 0.2 = 6500 |

Now we got various levels of income corresponding to different interest rates where the goods market is at equilibrium or S=I. This represents the IS schedule as follows.

**Table 1.1.3 IS Schedule**

| Rate of Interest (i) | Level of Income (Y) |
|---|---|
| 10% | 4500 |
| 8% | 5000 |
| 6% | 5500 |
| 4% | 6000 |
| 2% | 6500 |

On the basis of the IS schedule we can draw an IS curve and that is given in the following

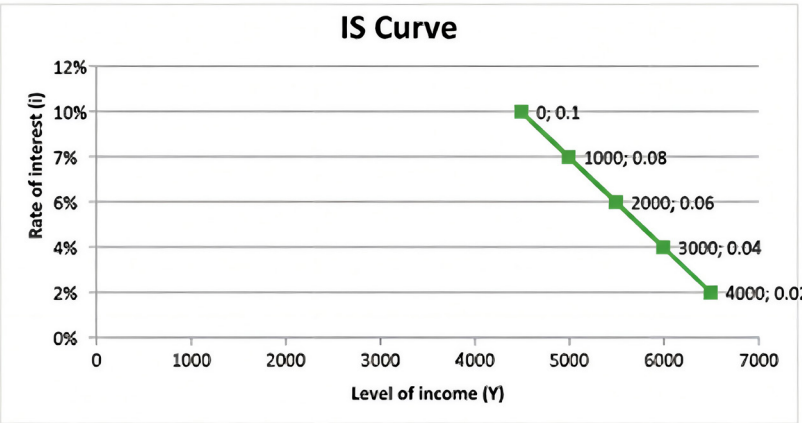


**Fig 1.1.1 IS Curve**

The IS curve diagram plots the interest rate (i) on the Y-axis (vertical) and the level of income (Y) or output (equivalent to real GDP) on the X-axis (horizontal). In this figure, an interest rate of 10% (0.1) corresponds to an equilibrium income of 4500, plotted at the point (4500, 0.1). When the interest rate falls to 8% (0.08), the equilibrium income rises to 5000, plotted at (5000, 0.08). Similarly, an interest rate of 6% (0.06) corresponds to an income of 5500, a 4% (0.04) interest rate corresponds to 6000, and a 2% (0.02) interest rate corresponds to the highest income of 6500. Connecting these points produces the downward-sloping IS curve, which illustrates that as the interest rate decreases, the equilibrium level of income in the goods market increases. The IS curve therefore represents all combinations of interest rates and income levels at which the goods market is in equilibrium, meaning savings equal investment.

The derivation of the IS curve can also be explained using diagrams. In Keynesian theory, the level of income in an economy is determined by Aggregate Demand (AD) and Aggregate Supply (AS). At the equilibrium point between AD and AS, saving equals investment. Investment is influenced by the interest rate, and when investment increases, income also increases. Due to the multiplier effect, the increase in income is greater than the initial increase in investment. Let us explain with the help of figure:

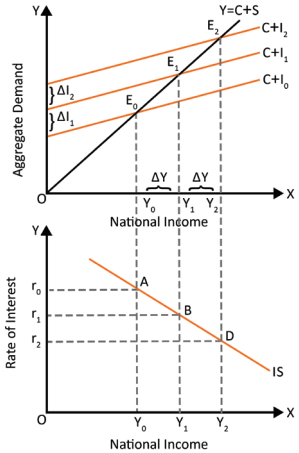


**Fig:1.1.2 Derivation of the IS curve**

In Part A of the figure, three equilibrium points are shown, each corresponding to a different level of investment. At $E_0$, aggregate demand is $AD = C + I_0$ and the level of income is $Y_0$; at $E_1$, $AD = C + I_1$ with income $Y_1$; and at $E_2$, $AD = C + I_2$ with income $Y_2$. As investment rises, income also rises, and at each income level, saving equals investment. Since investment increases when the interest rate falls, there is a specific interest rate corresponding to each level of investment and income. Part B of the figure illustrates this relationship: when the interest rate is $r_0$, investment is $I_0$ and income is $Y_0$; when the interest rate is $r_1$, investment is $I_1$ and income is $Y_1$ ; and when the interest rate is $r_2$, investment is $I_2$ and income is $Y_2$. At each of these points, savings equal investment, and the collection of all such equilibrium points forms the IS curve, which represents all combinations of interest rates and income levels where the goods market is in equilibrium.

## Recap

- Goods market is where goods and services are produced and purchased
- Aggregate Demand (AD) and Aggregate Supply (AS) influence the goods market
- Aggregate Demand (AD) represents total demand for goods and services and is mainly composed of Consumption (C) and Investment (I)
- Aggregate Supply (AS) represents total output produced in the economy and is measured by national income (Y)
- Goods market reaches equilibrium when Aggregate Demand equals Aggregate Supply, that is, C + I = Y
- Consumption (C) represents total household spending on goods and services
- Consumption depends primarily on income and forms a major component of Aggregate Demand
- Investment (I) represents spending by firms on capital goods such as machinery, equipment, and buildings
- Investment mainly depends on the interest rate (i)
- Investment and interest rate are inversely related
- Investment function can be expressed as $I = \bar{I} - bi$, where $\bar{I}$ is autonomous investment and b measures the sensitivity of investment to interest rate changes

- Saving (S) represents the portion of income that is not consumed
- Goods market is in equilibrium when saving equals investment, that is, S = I
- Equilibrium condition can be written as $-C_1 + (1 - b)Y = \bar{I} - bi$
- IS curve representing all combinations of interest rate (i) and income (Y) where the goods market is in equilibrium
- IS curve slopes downward because lower interest rates lead to higher investment, which increases equilibrium income

## Objective Questions

1. What is the market where goods and services are produced and purchased?
2. What determines the total demand for goods and services in the economy?
3. Which component of Aggregate Demand represents household spending?
4. Which component of Aggregate Demand represents spending by firms on capital goods?
5. What represents the total output produced in the economy
6. When does the goods market reach equilibrium?
7. What depends primarily on income and forms a major part of Aggregate Demand?
8. Which economic variable mainly influences investment?
9. How is the investment function expressed in Keynesian theory?
10. What represents the portion of income that is not consumed?
11. When is the goods market in equilibrium in terms of saving and investment?
12. Which curve represents all combinations of interest rate and income where the goods market is in equilibrium?

13. Why does the IS curve slope downward?

## Answers

1. Goods market
2. Aggregate Demand
3. Consumption
4. Investment
5. Aggregate Supply
6. AD=AS
7. Consumption
8. Interest rate
9. I=Ī–bi
10. Saving
11. S=I
12. IS curve
13. Due to inverse relation between investment and rate of interest



## Assignments

1. Explain the condition for equilibrium in the goods market. What factors determine this equilibrium?
2. What is IS curve? Discuss its meaning and significance in macroeconomic analysis.
3. Explain how the IS curve is derived from the goods market equilibrium. Why does the IS curve slope downward?
4. Discuss the role of consumption, investment, and government spending in determining national income within the IS-LM framework.

## Reference


1. Diulio, E. A. (1990). *Macroeconomic Theory*. Schaum's Outline Series. McGraw-Hill.

2. Froyen, R. T. (2006). *Macroeconomics: Theories and Policies*. Noida: Dorling Kindersley (India) Pvt. Ltd.


## Suggested Reading


1. Levacic, R., & Rebmann, A. (1982). *Macroeconomics: An Introduction to Keynesian-Neoclassical Controversies*. Macmillan Press Ltd.

2. Shapiro, E. (2007). *Macroeconomic Analysis*. New Delhi: Galgotia Publications (P) Ltd.

UNIT 2

# LM Curve and Money Market Equilibrium

## Learning Outcomes

After completing this unit, the learner will be able to:

- illustrate demand for money for different levels of income and interest rates
- explain money market equilibrium
- interpret the LM curve as the locus of equilibrium points in the money market

## Prerequisite

As consumers and citizens, we are not connected only to the goods market, we are also a part of the money market. We hold money for daily transactions, savings, emergencies, and future needs. At the same time, banks, firms, and the government make important decisions about lending, borrowing, and liquidity management. All these activities influence interest rates, which in turn affect investment, consumption, and the overall level of economic activity.

To understand these financial interactions, we must learn about money demand, money supply, and the determination of interest rates. The LM curve helps us understand how these elements are linked. It shows various combinations of income and interest rates at which the money market remains in equilibrium.

In this unit, we get a detailed explanation of how money demand is determined, how the central bank controls money supply, and how these factors together influence the equilibrium interest rate in the economy.

## Keywords

Money Market, Money Demand, Transaction Demand, Speculative Demand, Interest Rate, Income, Money Supply, LM Curve

## Discussion

### 1.2.1 The Money Market and the LM Curve

The money market is a part of the financial system where short-term funds are borrowed and lent, and where money in the economy is supplied and demanded. It facilitates the liquidity needs of households, firms, and the government. The money market reaches equilibrium when the demand for money equals the supply of money. In Keynesian theory, money is demanded for transaction, precautionary, and speculative purposes. The transaction demand and speculative demand together constitute the total demand for money. Transaction demand is a direct function of income, whereas speculative demand is an inverse function of the interest rate. A proportion of income is used for transaction purposes, represented as kY, where k is the proportion of income used for transactions and Y is the level of income. The speculative demand is inversely related to the interest rate, and assuming a linear relationship between the two, it can be expressed as = L′ – hi.

Where:

L′ = autonomous speculative demand
h = interest sensitivity of speculative demand
i = interest rate

Therefore, the total demand for money can be written as:

$L = kY + L' - hi$ …… (1)

The money market reaches equilibrium when L = M, where L is the demand for money and M is the supply of money.

To simplify this concept, a numerical example is provided in the following table. For easier understanding, a linear relationship between the interest rate and speculative demand is assumed.

**Table 1.2.1 Relationship Between Interest Rate and Speculative Demand**

| Rate of Interest (i) | Speculative Demand |
|---|---|
| 10% | 10 |
| 8% | 20 |
| 6% | 30 |
| 4% | 40 |
| 2% | 50 |
| 0% | 60 |

The above table shows the inverse relationship between the rate of interest and speculative demand, and this relationship can be expressed in the form of a linear equation: Speculative demand = 60 – 5i ……(2)

If the value of k is taken as 0.2, the demand for money at different levels of interest rates and income can be calculated using Equations (1) and (2). By substituting these values into the formula

$$L = kY + L' - hi \text{ (where } k = 0.2, L' = 60, \text{ and } h = 5),$$

we obtain the money demand (L) for each combination of interest rate (i) and income (Y), as shown in the table below.

**Table 1.2.2 Money Demand Schedule (or Liquidity Preference Schedule)**

| Rate of Interest (i) | Demand for Money when Y=100 | Demand for Money when Y=150 | Demand for Money when Y=200 |
|---|---|---|---|
| **10%** | 30 | 40 | 50 |
| **8%** | 40 | 50 | 60 |
| **6%** | 50 | 60 | 70 |
| **4%** | 60 | 70 | 80 |

When the level of income is 100 transaction demand for money, kY = 20 (i.e., 0.2 × 100). At an interest rate of 10%, the speculative demand is 60 – 5i = 10 (i.e., 60 - 5 ×10 = 60 - 50 =10). Therefore, the total demand for money is 30 (20 + 10). Similarly, every value in the table represents the money demanded at the corresponding combination of income and interest rate.With these values, we can now draw the money demand curves for different income levels and illustrate how money demand changes with the interest rate.

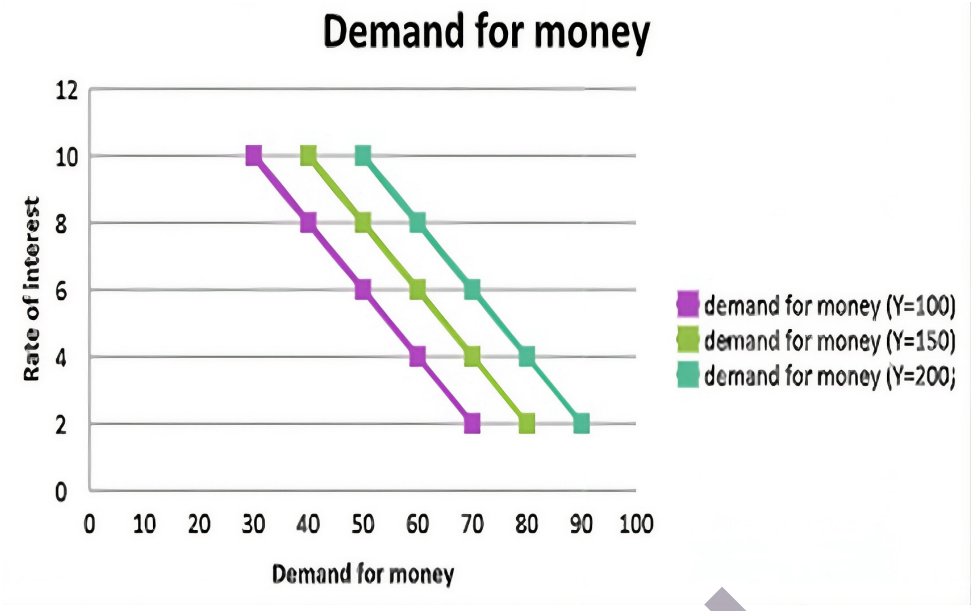


**Fig: 1.2.1 Demand for Money**

The X-axis represents the demand for money ($L$ or $M^d$), which is the quantity of real money balances that individuals and firms wish to hold, with values ranging from 0 to 100. The Y-axis represents the rate of interest ($i$), which is the opportunity cost of holding money instead of investing it in interest-bearing assets such as bonds, with values displayed as percentages from 0% to 12%. The diagram shows three distinct money demand curves, one for each level of income, and all are downward sloping. For example, the first curve from left represents $Y = 100$ with equilibrium points at (10%, 30) another at (2%, 70), the second curve represents $Y = 150$ with points at (10%, 40) and (2%, 80), and the third curve represents $Y = 200$ with points at (10%, 50) and (2%, 90). When the interest rate is high (e.g., 10%), the opportunity cost of holding money is high, so people prefer to hold more bonds to earn a return, resulting in a lower demand for money (e.g., 30 at $Y = 100$). Conversely, when the interest rate is low (e.g., 4%), the opportunity cost of holding money is low, and people prefer to keep more liquid cash, increasing the demand for money (e.g., 60 at $Y = 100$). Connecting the points of interest rate and income for each curve forms the downward-sloping money demand curve.

The above diagram shows the demand for money at various levels of income and interest rates. To determine money market equilibrium, the money supply curve is superimposed on the diagram. The money supply is controlled by the central bank and is assumed to be constant. In the figure, it is taken as 60. It is also assumed that the price level remains constant. Next, let us explain the supply of money with a corresponding figure.

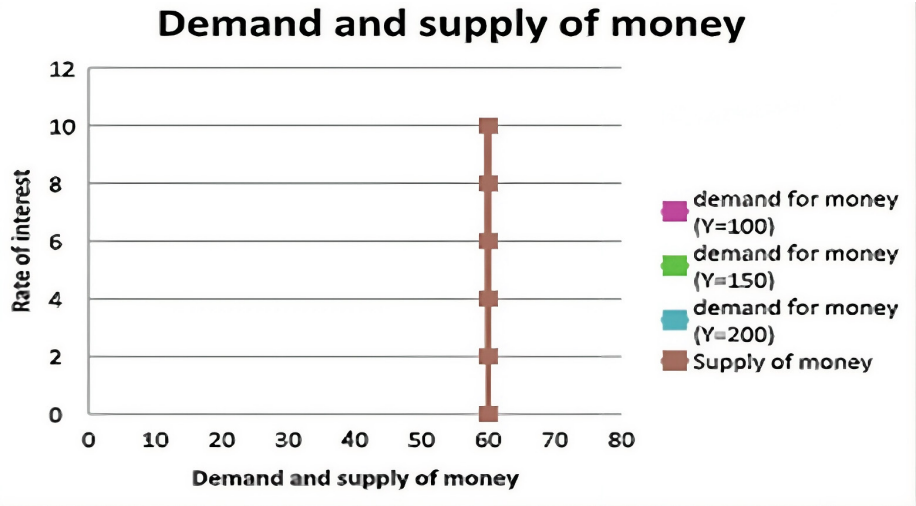


**Fig. 1.2.2 Supply of Money**

In the diagram, the X-axis represents the real money balances or the quantity of money (M/P), while the Y-axis represents the rate of interest (i). The real money supply (Ms/P) is shown as a vertical line because it is fixed by the central bank's policy (M) and the prevailing price level (P). As a result, the real money supply is perfectly inelastic, meaning it does not respond to changes in the interest rate.

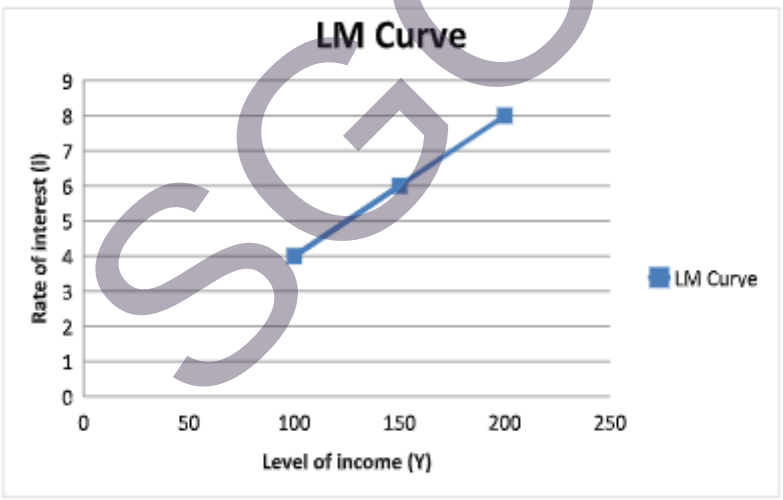


**Fig. 1.2.3 LM Curve**

From the figure, it is evident that at different levels of income, the money demanded and supplied are equal at different interest rates. At an income level of 100 (Y = 100), the money market reaches equilibrium (L = M) when the interest rate is 4%. Similarly, at an income level of 150 (Y = 150), equilibrium occurs at an interest rate of 6%, and at an income level of 200 (Y = 200), equilibrium is reached when the interest rate is 8%. This demonstrates that as the interest rate changes, the corresponding levels of income also change, and the money market attains a new equilibrium. In the diagram, these three equilibrium points correspond to the three levels of income and interest rates.

Plotting these combinations of interest rates and income produces the LM curve. The LM curve represents the different combinations of interest rates and income at which money demanded equals money supplied (L = M). Therefore, each point on the LM curve indicates money market equilibrium.

## Recap

- Money market reaches equilibrium when the demand for money equals the supply of money (L = M)
- Money is demanded for transaction and speculative purposes
- Transaction demand is a direct function of income (kY)
- Speculative demand is an inverse function of the interest rate,
- Total demand for money: L = kY + L' – hi
- At different levels of income, money market equilibrium occurs at different interest rates
- Graphically, money demand curves shift upwards as income rises, while money supply is a vertical line
- Equilibrium interest rates correspond to specific income levels, forming points on the LM curve
- LM curve shows combinations of interest rate (i) and income (Y) where money market is in equilibrium
- LM curve slopes upward: higher income → higher money demand → higher interest rate



## Objective Questions

1. When does the money market reach equilibrium?
2. What are the two main purposes for which money is demanded according to Keynesian theory?
3. Which component of money demand is directly proportional to income?

4. Which component of money demand is inversely related to the interest rate?
5. How is the total demand for money expressed mathematically in Keynesian theory?
6. What does the LM curve represent?
7. How does the LM curve slope and why?
8. What is assumed about the money supply in deriving the LM curve?

## Answers

1. L = M
2. Transaction and speculative
3. Transaction demand
4. Speculative demand
5. L = kY + L' – hi
6. Money market equilibrium
7. Upward, because higher income increases money demand and interest rate increases the achieve equilibrium with given money supply
8. Constant money supply



## Assignments

1. Explain the condition under which the money market reaches equilibrium.
2. What is the LM curve? Explain what it represents in the money market.
3. Describe the component of money demand that is influenced by interest rates and explain why it is inversely related to the interest rate.

## Reference


1. Diulio, E. A. (1990). *Macroeconomic Theory*. Schaum's Outline Series. Mc-Graw-Hill.
2. Froyen, R. T. (2006). *Macroeconomics: Theories and Policies*. Noida: Dorling Kindersley (India) Pvt. Ltd.


## Suggested Reading


1. Levacic, R., & Rebmann, A. (1982). *Macroeconomics: An Introduction to Keynesian-Neoclassical Controversies*. Macmillan Press Ltd.
2. Shapiro, E. (2007). *Macroeconomic Analysis*. New Delhi: Galgotia Publications (P) Ltd.

UNIT 3

# Equilibrium in IS-LM Framework

## Learning Outcomes

After completing this unit, the learner will be able to:

- explain the concepts of general equilibrium
- identify the factors that cause shifts in the IS curve
- know the factors that cause shifts in the LM curve

## Prerequisite

In real life, the goods market (IS) and the money market (LM) do not operate separately, they are closely connected, and changes in one market affect the other. As consumers and businesses, it is important to understand how income affects money demand and how interest rates influence investment and output. The economy reaches overall equilibrium in output, income, and interest rates only when both markets adjust simultaneously. Studying this helps us understand how the economy reacts to fiscal policy, such as changes in government spending or taxes, monetary policy, such as changes in money supply by the central bank, and external shocks, such as inflation, recession, or global crises. We also learn how policymakers can stabilise the economy, manage inflation, promote growth, and reduce unemployment by understanding the combined equilibrium of the goods and money markets. The unit examines the general equilibrium of the economy and the shifts in the IS–LM curves to understand these interactions in detail.

## Keywords

IS Curve, LM Curve, General Equilibrium, Consumption, Investment, Money Supply, Money Demand

## Discussion

### 1.3.1 Equilibrium in the Goods and Money Market

In the previous unit, we studied the goods and money markets. Here, we discuss the simultaneous equilibrium in both markets through the interaction of income and the interest rate. For this, we use the IS and LM curves. The IS curve represents various possible combinations of the interest rate and the level of national income at which the goods market is in equilibrium, meaning that savings equal investment. The LM curve, on the other hand, represents various possible combinations of the interest rate and the level of national income at which the money market is in equilibrium, meaning that the supply of money equals the demand for money. However, there is only one combination of income and interest rate at which both the goods and money markets are simultaneously in equilibrium. This combination of interest rate (i) and level of income (Y) corresponds to the intersection point of the IS and LM curves. The equilibrium is illustrated in the following figure.

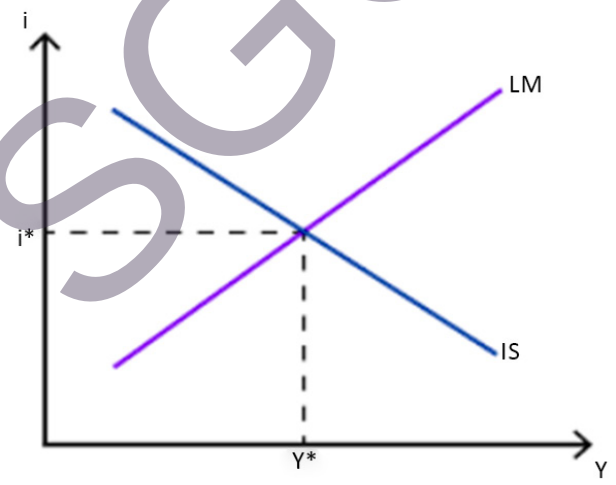


**Fig: 1.3.1 General Equilibrium**

The above diagram shows that the intersection of the IS and LM curves determines the level of income in the economy and the corresponding rate of interest feasible at that income level. This equilibrium is referred to as general equilibrium, as both the goods and money markets attain equilibrium simultaneously.

## 1.3.2 Shifts in the Goods Markets

We know that the goods market is the market for goods and services. The goods market is represented by the IS curve, which shows the combinations of income (Y) and interest rate (i) at which the goods market remains in equilibrium. Here, the shifts of the IS curve are learned. A shift means that the entire curve is moved to a new position either to the right or to the left due to a change in external (autonomous) factors. The factors that influence these shifts are discussed below with the help of figure:

### 1.3.2.1 Rightward Shift of IS Curve

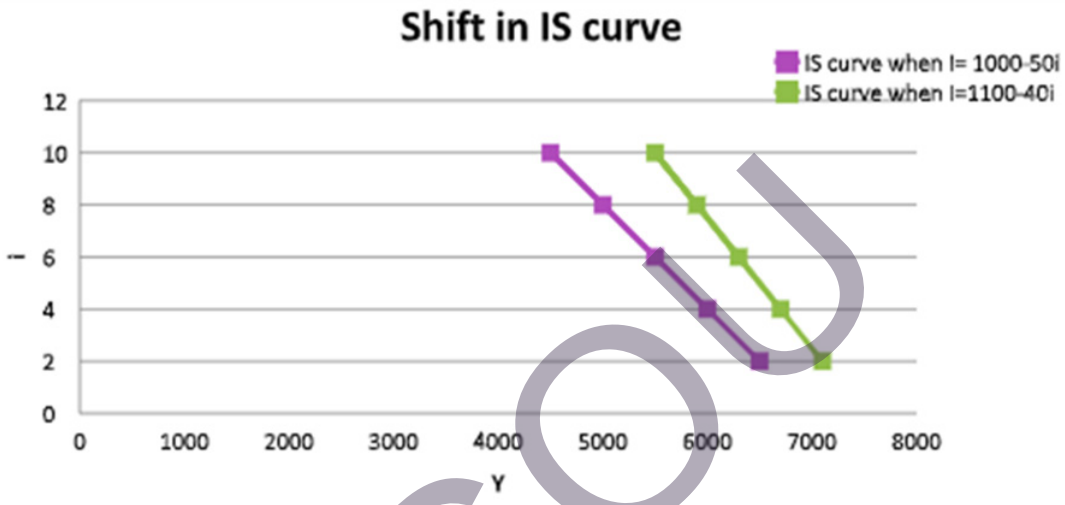


**Fig: 1.3.2 Rightward shift of IS Curve**

1. **Governmnet Expenditure :** When government expenditure is increased, more money is injected into the economy through public spending. As this additional spending enters the circular flow of income, overall demand for goods and services rises. This increase in aggregate demand occurs even when income or interest rates remain unchanged. Because the level of demand becomes higher at every level of income, the IS curve is shifted rightward**.**

2. **Taxes are Reduced :** When taxes are reduced, households are left with higher disposable income, which increases their ability to spend. This additional income is generally used for consumption, and since consumption forms a major component of aggregate demand, overall demand in the economy rises. As a result, aggregate demand becomes higher at every level of income, and the IS curve is shifted to the right.

3. **Autonomous Consumption Rises :** Autonomous consumption refers to the minimum level of consumption that takes place even when income is zero. When this autonomous consumption rises due to changes in social habits, expectations, or consumer optimism, total spending in the economy increases without any change in income. As aggregate demand becomes higher at every level of income, the IS curve is moved rightward.

4. **Autonomous Consumption Rises :** Autonomous consumption refers to the minimum level of consumption that occurs even when income is zero. When this autonomous consumption rises because of changes in social habits, expectations, or consumer optimism, total spending increases without any change in income. As a result, aggregate demand becomes higher at every income level, and the IS curve is moved rightward.

5. **Autonomous investment increases :** Autonomous investment is influenced by business expectations, technology, and future profit prospects rather than by the interest rate. When firms become more optimistic, they tend to invest more even when interest rates remain unchanged. This additional investment increases total spending in the economy, and therefore the IS curve is shifted to the right.

6. **Exports Increase :** When exports increase due to higher global demand or improved competitiveness, more goods are purchased by foreign countries. This leads to an increase in aggregate demand in the domestic economy. As a result, demand becomes higher at every level of income and interest rate, and the IS curve is shifted to the right.

7. **Imports Decrease :** When business confidence improves, firms expect higher future profits, which encourages them to plan more investment and expand production. As investment rises even without any change in interest rates, total spending in the economy increases. Consequently, aggregate demand becomes higher at every level of income, and the IS curve is shifted to the right.

### 1.3.2.2 Leftward Shift of IS Curve

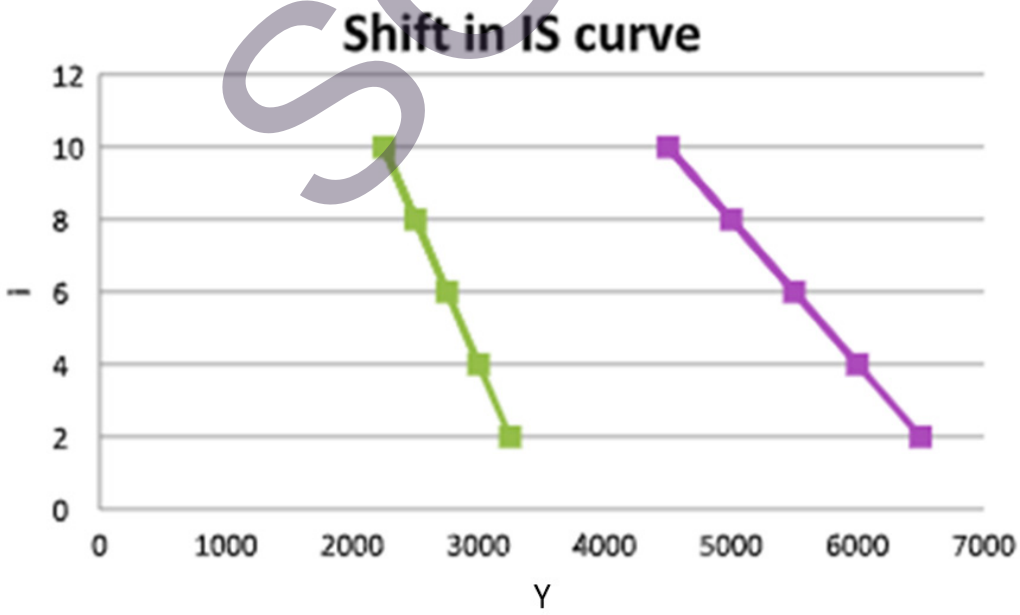


**Fig.1.3.3 Leftward Shift of IS Curve**

1. **Government expenditure decreases :** When government expenditure decreases, less money is injected into the economy through public spending. As a result, aggregate demand falls at every level of income, and the IS curve is shifted to the left.

2. **Taxes are increased :** When taxes are increased, households are left with lower disposable income. Because they have less money to spend, consumption decreases, reducing aggregate demand. Consequently, the IS curve moves leftward.

3. **Autonomous consumption falls :** Autonomous consumption refers to the minimum consumption that occurs even when income is zero. When autonomous consumption falls due to pessimism or lower consumer confidence, total spending decreases. This lowers aggregate demand and shifts the IS curve to the left.

4. **Autonomous investment declines :** Autonomous investment is determined by business expectations and future profit prospects. When firms become pessimistic or expect lower profits, they reduce investment even if interest rates remain the same. This reduces total spending and moves the IS curve leftward.

5. **Exports decrease :** When exports decrease due to lower foreign demand or reduced competitiveness, fewer goods are sold abroad. This causes a decline in aggregate demand, and the IS curve is shifted to the left.

6. **Imports increase :** When imports increase, more spending flows abroad rather than remaining in the domestic economy. This reduces demand for local goods, lowering aggregate demand and shifting the IS curve leftward.

7. **Business confidence falls :** When business confidence falls, firms expect lower future profits and reduce investment. As a result, total spending in the economy declines, and the IS curve is moved to the left.

## 1.3.3 Shifts in Money Market

The LM curve represents the combinations of income (Y) and interest rate (i) at which the money market is in equilibrium, meaning money demand equals money supply. A shift in the LM curve occurs when the entire curve moves to a new position, either to the right or to the left, due to changes in factors other than income or interest rate, such as changes in money supply, price level, or money demand.

### 1.3.3.1 Rightward Shift of LM Curve

A rightward shift of the LM curve means that at each level of income, interest rates are lower. This occurs when more money is available in the economy or less money is demanded.

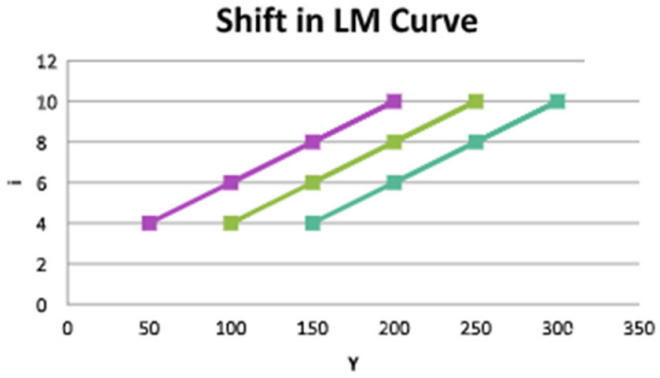


**Fig: 1.3.4 Right ward shift of LM Curve**

1. **Increase in Money Supply :** When the central bank increases the money supply, for example by printing more money or purchasing government securities, more money becomes available in the economy for transactions. This additional money lowers interest rates at every level of income, as the money market seeks a new equilibrium. As a result, liquidity in the economy increases, and the LM curve is shifted rightward.

2. **Decrease in Price Level** : When the general price level falls, the real money supply (M/P) rises because each unit of money can buy more goods and services. With more real money available for transactions, interest rates decline to maintain equilibrium in the money market. This increased liquidity causes the LM curve to shift to the right.

3. **Decrease in Money Demand** : When people demand less money for transactions, precaution, or speculative purposes at the same level of income and interest rate, the pressure on available money decreases. As a result, interest rates fall, liquidity increases, and the LM curve moves rightward to reflect the higher availability of money in the economy.

## 1.3.3.2 Leftward shift of LM Curve

A leftward shift of the LM curve means that at each level of income, interest rates are higher. This happens when less money is available or more money is demanded.

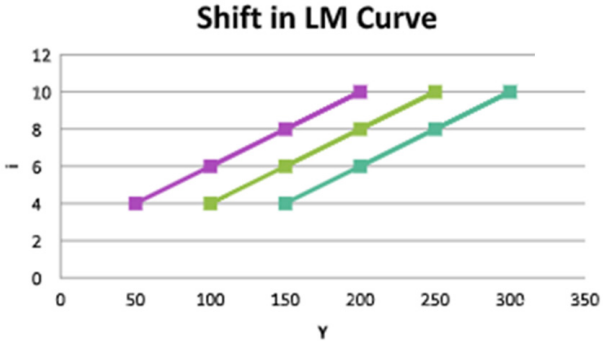


**Fig: 1.3.5 Left ward shift of LM Curve**

1. **Decrease in Money Supply :** When the central bank reduces the money supply, less money becomes available for transactions in the economy. To restore equilibrium in the money market, interest rates rise at every level of income. This higher cost of borrowing reduces liquidity, causing the LM curve to shift leftward.

2. **Increase in Price Level :** When the general price level rises, the real money supply (M/P) falls because each unit of money buys fewer goods and services. With less money available for transactions, interest rates increase to maintain equilibrium in the money market. As a result, the LM curve shifts to the left.

3. **Increase in Money Demand :** When people demand more money for transactions, precaution, or speculative purposes at the same level of income and interest rate, the available money becomes insufficient. To balance supply and demand, interest rates rise. This reduces liquidity in the economy, and the LM curve moves leftward.

## 1.3.4 Changes in General Equilibrium

We know that in the IS–LM model, general equilibrium is said to exist when both the goods market and the money market are simultaneously in equilibrium. However, the economy may operate at a point outside the IS and LM curves due to shocks or disturbances. At such points, disequilibrium occurs. From these disequilibrium positions, adjustments in the rate of interest and the level of income take place, guiding the economy towards a new equilibrium point. Here, we discuss the situations leading to changes in general equilibrium.

### 1.3.4.1 Shift of the IS Curve

Disequilibrium in the goods market arises when planned investment does not equal planned saving, that is, when $I < S$, which shows excess supply of goods. In this situation, people buy fewer goods than firms expected, and goods are produced faster than they are sold. As a result, the stock of unsold goods increases, and firms reduce output and income. Since lower income is generated at the same rate of interest, As income falls, saving also decreases, while the lower level of income reduces the demand for money, leading to a decrease in the rate of interest. The fall in the interest rate increases investment. This adjustment process continues until planned saving decreases and planned investment increases, and finally equilibrium in the goods market is restored when planned investment becomes equal to planned saving ($I = S$). Let us explain with the help of figure:

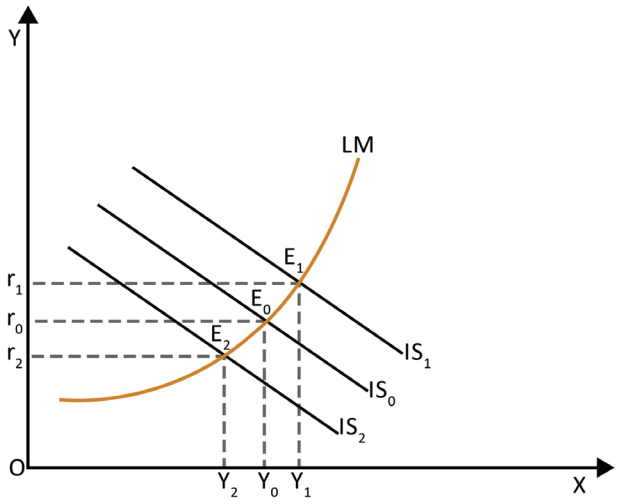


**Fig: 1.3.6 Shift of IS curve**

In the figure, the X-axis shows income, and the Y-axis shows the interest rate. An increase in autonomous investment raises aggregate demand, shifting the IS curve to the right ($IS_0 \rightarrow IS_1$). The new equilibrium moves from $E_0$ to $E_1$, with higher income ($Y_1$) and a higher interest rate ($r_1$). However, the rise in the interest rate reduces some investment, so the total increase in income is less than the initial increase in investment. As a result, the IS curve moves back toward its original position ($IS_0$). The economy then returns along the LM curve to the initial equilibrium at $E_0$, with income $Y_0$ and interest rate $r_0$.

Point $E_0$ represents the initial equilibrium, with income $Y_0$ and interest rate $r_0$, where the original IS curve ($IS_0$) intersects the LM curve. A decrease in autonomous investment or government spending, or an increase in taxes, reduces aggregate demand, causing the IS curve to shift leftward from $IS_0$ to $IS_2$. At each interest rate, the level of income needed to equilibrate the goods market is now lower. The new equilibrium occurs at $E_2$, where the new IS curve ($IS_2$) intersects the LM curve. At this point, income falls from $Y_0$ to $Y_2$ and the interest rate falls from $r_0$ to $r_2$. Lower interest rates make borrowing cheaper, which encourages some investment to rise again, partially offsetting the fall in income. Thus, the IS curve stabilises at the new equilibrium point $E_2$.

## 1.3.4.2 Shift of the LM Curve

When the central bank increases the money supply, excess liquidity is created at the existing interest rate. To dispose of this excess money, people purchase bonds, which raises bond prices and reduces the rate of interest. The fall in interest rate encourages investment by firms, as borrowing becomes cheaper. Higher investment increases aggregate demand, and through the multiplier process, national income rises. Hence, an increase in money supply leads to a fall in interest rate and a rise in income. On the other hand, a decrease in money supply reduces liquidity, raises the interest rate, discourages investment, and leads to a fall in national income. In the IS–LM model, these effects are shown through shifts in the LM curve, while the IS curve is assumed

to remain unchanged. Let us explain with the help of figure

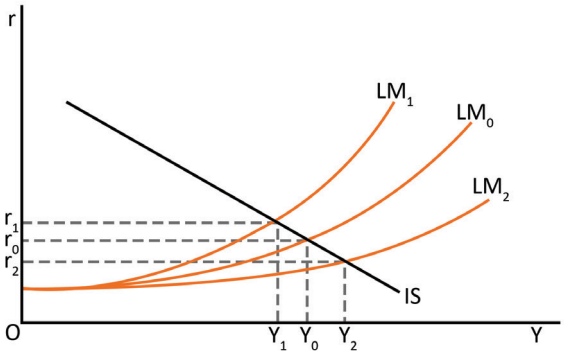


**Fig: 1.3.7 Shift of LM curve**

In the figure, the X-axis represents income (Y) and the Y-axis represents the rate of interest (r). The original equilibrium is shown at Point E, where the IS curve intersects the original LM curve ($LM_0$), determining income $Y_0$ and interest rate $r_0$. When the central bank adopts an expansionary monetary policy and increases the money supply, the LM curve shifts rightward (from $LM_0$ to $LM_2$). As a result, the equilibrium moves from Point E to Point $E_1$. At the new equilibrium, the rate of interest falls from $r_0$ to r2, while national income increases from $Y_0$ to Y2. The figure thus shows that an increase in money supply leads to a reduction in interest rate and an expansion in income. Conversely, a contractionary monetary policy would shift the LM curve leftward, leading to higher interest rates and lower income.

### 1.3.4.3 Simultaneous Changes in IS-LM

General equilibrium in an economy is achieved at the point where the IS curve intersects the LM curve. At this point, the goods market is in equilibrium with investment equal to saving (I = S), and the money market is in equilibrium with money demand equal to money supply (MD = MS). A unique combination of income ($Y_0$) and interest rate ($r_0$) is thus determined, representing the initial equilibrium position of the economy.

When both fiscal and monetary policies are expansionary, the IS and LM curves shift to the right simultaneously. The IS curve shifts rightward due to an increase in government expenditure or autonomous investment, while the LM curve shifts rightward due to an increase in money supply. Because these policy measures operate together, the economy moves to a new equilibrium with a much higher level of income. The increase in money supply accommodates the higher demand for money resulting from higher income, so the interest rate need not rise and may remain unchanged. As a result, crowding out of private investment is avoided, and the full expansionary effect of the multiplier is realised. Let us explain with the help of figure

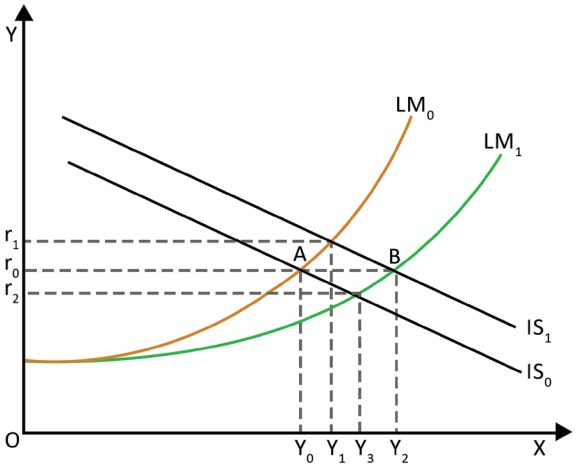


**Fig:1.3.8 Simultaneous Equilibrium shifts**

In the figure, the X-axis represents income (Y) and the Y-axis represents the rate of interest (r). The initial equilibrium is shown at Point A, where the original IS curve intersects the original LM curve, determining income $Y_0$ and interest rate $r_0$. When expansionary fiscal policy is adopted, the IS curve shifts rightward. At the same time, expansionary monetary policy causes the LM curve to shift rightward. Due to these simultaneous shifts, the equilibrium moves from Point A to Point B. At the new equilibrium, national income increases from $Y_0$ to $Y_2$, while the rate of interest remains constant or shows no significant rise. This figure clearly shows that simultaneous expansionary fiscal and monetary policies lead to a large increase in income without causing an increase in the interest rate.



## Recap

- The IS curve shows the equilibrium of the goods market
- The LM curve shows the equilibrium of the money market
- The intersection of the IS and LM curves is called general equilibrium
- The IS curve shifts to the right when government expenditure rises
- The IS curve shifts to the right when taxes fall
- The minimum consumption at zero income is called autonomous consumption

- The IS curve shifts to the right when autonomous investment rises
- An increase in exports shifts the IS curve to the right
- An increase in imports shifts the IS curve to the left
- The IS curve shifts to the left when business confidence falls
- An increase in money supply is one factor that shifts the LM curve to the right
- The LM curve shifts to the right when money supply increases
- The LM curve shifts to the right when the price level decreases
- The LM curve shifts to the right when money demand decreases
- An increase in price level is one factor that shifts the LM curve to the left
- The LM curve shifts to the left when money demand increases
- The LM curve shifts to the left when money supply decreases
- The LM curve shifts to the left when the price level increases
- General equilibrium exists at the intersection of the IS and LM curves



## Objective Questions

1. Which market equilibrium is represented by IS Curve ?
2. Which market equilibrium is represented by LM Curve?
3. What is the intersection of IS and LM called ?
4. Which direction does IS curve shift when government expenditure rises ?
5. Which direction does IS curve shift when taxes fall ?
6. What is the term for minimum consumption at zero income ?
7. Which direction does IS curve shift when autonomous investment rises ?

8. How does an increase in exports shift the IS curve ?

9. How does an increase in imports shift the IS curve ?

10. Name one factor that shifts LM curve to the right.

11. How does LM curve shift when money supply increases ?

12. How does LM curve shift when price level decreases ?

13. How does LM curve shift when money demand decreases ?

14. Name one factor that shifts LM curve to the left.

15. How does LM curve shift when money demand increases?

## Answers

1. Goods market
2. Money market
3. Equilibrium
4. Rightward shift
5. Rightward shift
6. Autonomous Investment
7. Rightward shift
8. Rightward shift
9. Leftward shift
10. Money supply
11. Rightward shift
12. Rightward shift
13. Rightward shift
14. Price level
15. Leftward shift

## Assignments

1. Explain the concept of general market equilibrium in the IS–LM model.
2. Explain the factors that can cause the LM curve to shift to the right or to the left.
3. Explain the factors that can cause the IS curve to shift to the right or to the left.

## Reference


1. Diulio, E. A. (1990). *Macroeconomic Theory*. Schaum's Outline Series. McGraw-Hill.

2. Froyen, R. T. (2006). *Macroeconomics: Theories and Policies*. Noida: Dorling Kindersley (India) Pvt. Ltd.


## Suggested Reading


1. Levacic, R., & Rebmann, A. (1982). *Macroeconomics: An Introduction to Keynesian-Neoclassical Controversies*. Macmillan Press Ltd.

2. Shapiro, E. (2007). *Macroeconomic Analysis*. New Delhi: Galgotia Publications (P) Ltd.


BLOCK

# Theories of Inflation

UNIT 1

# Types and Measurement of Inflation

## Learning Outcomes

After completing this unit, the learner will be able to:

- identify the different types of inflation
- explain the importance of measuring inflation
- know the difference between headline and core inflation
- describe the various CPI indices in India and their components

## Prerequisite

Inflation is an important economic concept that affects everyone in daily life. It influences the prices of goods and services, the value of money, and the overall cost of living. Changes in inflation can affect household budgets, savings, wages, and business decisions, making it a major issue in economic discussions.

Understanding inflation also helps learners connect economic theory with real-life situations. It explains why the same amount of money may buy fewer goods over time and why governments and institutions closely monitor price levels. Inflation plays a major role in shaping economic policies and development strategies in a country like India.

In this unit, learners will come across the meaning of inflation, the different types of inflation, and the methods used to measure inflation in India.

## Keywords

Inflation, Index numbers, Wholesale Price Index (WPI), Consumer Price Index (CPI), Producer Price Index (PPI), Headline Inflation, Core Inflation

## Discussion

### 2.1.1 Inflation

The rise in the price of commodities is widely discussed in economics. This phenomenon is called inflation. But can we call it inflation if only the price of one commodity increases? The answer is no. Inflation occurs only when the prices of most commodities rise. It is a macroeconomic concept because it deals with changes in the overall price level of a group of commodities. While studying inflation, economists usually consider the prices of a basket of goods consumed by a group of people. Therefore, inflation is defined as a rise in the general price level.

According to Paul A. Samuelson (2014), *"Inflation occurs when the general level of price is rising"*. "N. Gregory Mankiw (2010) explains it with an example: "In 1970, the New York Times cost 15 cents, the median price of a single-family home was $23,400, and the average wage in manufacturing was $3.36 per hour. In 2008, the Times cost $1.50, the median home price was $183,300, and the average wage was $19.85 per hour. This overall increase in prices is called inflation. In all definitions, the word 'general' is important. It shows that inflation refers to price rise for most goods, not for one or two items.

There are two common definitional issues regarding inflation:

1. What rate of price rise should be considered inflation?

2. How long should prices rise for the situation to be called inflation?

There is no universally accepted answer to these questions. Economists classify inflation into different types based on how fast prices rise. Edward Shapiro, in *Macroeconomic Analysis*, highlights that what matters is not the speed or duration of price rise, but the causes and consequences of rising prices. He defines inflation as a "persistent and appreciable rise in the general level of prices".

### 2.1.2 Types of Inflation

In Economics, different measures are used to determine the rate at which the general price level changes in an economy. The price level may rise at different magnitudes under different situations. A low rate of price increase is generally not viewed as a serious problem, but inflation beyond a certain level demands urgent control. Therefore, economists monitor the rate of price change periodically, and based on its severity, inflation is classified into various categories.

1. **Creeping Inflation :** Creeping inflation refers to a very mild rate of inflation. Generally, when the price level increases by less than 3% per annum, it is considered creeping inflation. This level of inflation is usually not harmful and may even be associated with stable economic growth.

2. **Walking Inflation :** Walking inflation occurs when the annual price rise is more than 3% but less than 10%. Inflation in the single-digit range but approaching double digits acts as a warning signal for the government to take steps to control it.

3. **Running Inflation :** Running inflation refers to situations where the inflation rate exceeds 10% per annum. If not controlled, running inflation may accelerate further and lead to extremely high levels of inflation, eventually resulting in hyperinflation.

4. **Hyperinflation :** The extreme price rise experienced by Germany in 1923 and Zimbabwe during 2007-09 are classic examples of hyperinflation, a situation that is highly dangerous and can destabilise the entire economy. Hyperinflation is generally defined as inflation exceeding 50% per month. As Mankiw (2010) notes, an inflation rate of 50 per cent per month implies a more than 100-fold increase in the price level over a year and a more than 2-million-fold increase over three years. Phillip Cagan, an American economist who studied hyperinflation extensively, observed that hyperinflation begins when monthly inflation first exceeds 50 per cent and ends only when the monthly inflation rate falls below 50 per cent and remains under that threshold for at least one year.

5. **Anticipated and Unanticipated Inflation:** If prices rise at a fixed percentage each year, people tend to expect this pattern to continue and adjust their behaviour accordingly. When actual inflation matches expected inflation for several years, individuals begin to anticipate the same trend in the future, and a low level of expected inflation has minimal impact on economic activity. However, most inflation is unanticipated, creating uncertainty in the economy. A notable example is the Russian inflation of 1992, when the removal of price controls led to a staggering 400,000% increase in prices over the next five years an outcome that even professional economists could not predict.

6. **Administered Inflation :** In a free market, the price of a commodity is determined by the forces of demand and supply, with the resulting price known as the equilibrium price. However, for various reasons, the government or another external agency may fix prices above or below the equilibrium level. This process is called price administration, and the resulting prices are referred to as administered prices. When inflation arises due to such externally fixed prices, it is known as administered inflation.

## 2.1.3 Measurement of Inflation in India

Inflation influences everyone, and to control it effectively, it must be measured with accuracy. If inflation is not properly monitored, it reduces the purchasing power of money and can lead to economic instability, whether through high inflation or deflation.

Reliable inflation data is essential because governments and central banks depend on it to frame suitable monetary and fiscal policies. Businesses also study inflation trends to plan their production costs, set prices, manage profits, and make investment decisions. Similarly, trade unions and government departments use inflation figures to adjust minimum wages, dearness allowances (DA), pensions, and other benefits so that workers can maintain their standard of living. Inflation is measured with the help of a statistical tool called Index Numbers. Therefore, before discussing how inflation is measured in India, it is necessary to understand what an index number is and how it works.

### 2.1.3.1 Index Numbers

The statistical technique called the index number is used for measuring inflation. As you know, an index number measures the changes that occur in a variable over a period of time, that is, between the base year and the current year. Its construction generally involves the following steps:

- First, choose a base year with which the data of the current year will be compared.
- Next, decide the items to be included and assign appropriate **weights**. For example, while constructing a price index, a list of commonly consumed items is prepared, and weights are assigned based on the proportion of expenditure on each item.
- Then, collect the values of the variable under study for both the base year and the current year.
- After that, select the method of measurement from the available methods (such as Laspeyres' index number, Paasche's index number, etc.).
- Apply the chosen method and calculate the index. Usually, the base year value is taken as 100. If the calculated index is 110, it indicates a 10 per cent increase in the variable being measured.
- This process continues over the years to capture further changes. In the case of a price index, the index is prepared monthly, and the values are compared both monthly and annually.

For example, if the base year is 2012, the value for all subsequent years is calculated using that base. Suppose the index value is 183 in 2020 and 192.4 in 2021. This means that if the price of a selected bundle of goods is taken as 100 in 2012, it has increased to 183 in 2020 and 192.4 in 2021. The yearly change is then expressed as a percentage to obtain the inflation rate. In this example, $(\frac{192.4 - 183}{183}) \times 100 = 5.13\%$

which is considered the inflation rate for 2021.

## 2.1.3.2 Methods Used to Measure Inflation in India

### 1. The Wholesale Price Index (WPI)

The WPI is the main measure of the rate of inflation used in India. Historically, the Reserve Bank of India (RBI) focused on developments in the Wholesale Price Index and used it as a key tool for monetary policy decisions until 2014. The WPI is an index that reflects changes in the wholesale prices of a representative basket of goods in the country. Wholesale prices capture all bulk transactions of goods carried out in the domestic market. Therefore, the WPI includes all transactions at the first point of bulk sale in the domestic market.

Currently, the WPI basket includes a total of 697 commodities, of which 117 are primary articles with a weight of 22.618, 16 fuel and power items with a weight of 13.152, and the remaining 564 manufactured products with a weight of 64.230. Services are excluded from the WPI. To calculate the index, the price relative of each commodity is determined using the formula:

$$Price\ Relative = \frac{P_1}{P_0} \times 100$$

Each price relative is then multiplied by the corresponding weight, and the sum of these values represents the index. The WPI is compiled and released monthly by the Office of the Economic Adviser in the Department of Industrial Policy and Promotion, Ministry of Commerce & Industry. The measurement of the WPI began in 1942, and the base year has been revised several times. Since 1947, the index has been published regularly, and the new series of WPI with base year 2011–12 was first compiled in May 2017.

### 2. Consumer Price Indices

The CPI measures change in the general level of retail prices of selected goods and services that households purchase for consumption. Unlike the WPI, the goods and services used by the final consumer are included in the CPI basket, and the prices used for calculating the index are retail prices. Therefore, the CPI acts as a true indicator of changes in the cost of living. For this reason, the CPI is considered an important macroeconomic indicator for policy purposes. In recent years, in India, both the Government and the Central Bank have adopted the CPI as the main tool for inflation targeting and for maintaining price stability.

The Central Statistics Office (CSO) began releasing Consumer Price Indices for all-India and for States/UTs, separately for rural, urban, and combined sectors, on a monthly basis with effect from January 2011. Considering its wide applications and the vast diversity of the country, different CPI indices are compiled in India. Let us now discuss them in the following sections.

#### a. CPI for Industrial Workers (CPI-IW)

The Consumer Price Index for Industrial Workers (CPI-IW) has been compiled on uniform and scientific lines in India since 1958–59. Since then, the Labour Bureau

has calculated and released the index every month. The CPI-IW measures the relative changes in retail prices over time for a fixed set of goods and services consumed by an average working-class family in a given area. The Labour Bureau introduced a new series of CPI-IW with base year 2016 = 100, effective from September 2020. The new series includes 465 items, classified into the following groups:

i. Food & Beverages – weight 39.17

ii. Pan, Supari, Tobacco & Intoxicants – weight 2.07

iii. Clothing & Footwear – weight 6.08

iv. Housing – weight 16.87

v. Fuel & Light – weight 5.50

vi. Miscellaneous – weight 30.31

The miscellaneous group includes:

a. Education

b. Health

c. Recreation & Entertainment, and

d. Household Goods & Services.

**b. CPI for Agricultural Labourers (CPI-AL)**

The Labour Bureau has been compiling the CPI-AL since September 1964. The existing series (base 1986–87 = 100) replaced the earlier series (base 1960–61 = 100) in November 1995.The CPI-AL measures changes in the prices of commodities used by agricultural labourer households. A person is considered an agricultural labourer if the person is engaged in one or more agricultural occupations as a labourer for hire. Rural labour households that earn 50% or more of their total income from wage-paid manual labour in agriculture are classified as agricultural labour households. Data for the index are collected from agricultural labour households, and rural retail prices are used. Household expenditure is classified into groups; each assigned a specific weight:

i) Food – 69.50
ii) Pan, Supari, Tobacco & Intoxicants – 3.79
iii) Fuel & Light – 8.35
iv) Clothing, Bedding & Footwear – 6.98
v) Miscellaneous – 11.73

The miscellaneous group includes medical care, education, recreation, transport and communication, personal care, etc. The index is compiled monthly.

**c. CPI for Rural Labourers (CPI-RL)**

The CPI-RL is compiled monthly by the labour bureau. The existing series (base 1986–87 = 100) replaced the earlier series (base 1960–61 = 100) from November 1995. The CPI-RL measures the change in the price of commodities used by rural labourer households. A rural labourer is a person who performs manual work in rural areas-whether agricultural or non-agricultural in exchange for wages paid in cash, kind, or both. Rural labour households are those whose income from wage-paid manual labour (agricultural and/or non-agricultural) during the last 365 days exceeds income from paid non-manual employment or self-employment. While the CPI-AL covers only agricultural labourers, the CPI-RL covers all rural labourers, including agricultural labourers. The retail prices used in both indices are the same, but the weights differ. Expenditure is grouped as follows:

i) Food – 66.77
ii) Pan, Supari, Tobacco & Intoxicants – 3.70
iii) Fuel & Light – 7.90
iv) Clothing, Bedding & Footwear – 9.76
v) Miscellaneous – 11.87

The miscellaneous group includes medical care, education, recreation, transport and communication, personal care, etc.

**d.CPI for Urban Non-Manual Employees (CPI-UNME)**

The CPI-UNME formerly measured price movements faced by salaried urban households engaged in non-manual occupations. This index has been discontinued since December 2010.

**3.The Producer Price Index (PPI)**

The Producer Price Index measures average changes in prices received by domestic producers for their output over some time. It measures the changes in the price of goods and services produced in a country. Unlike the CPI, the PPI is calculated by taking the prices received by the producers for their output. Similar to other indices, here also, the baskets of goods and their weights are pre-determined and their current price is compared with the base year price and the methodology followed is Laspeyre's index number.

Instead of taking the output price, if the index is calculated by considering the input price, the price the producers paid for their inputs, the index is referred to as Input PPI. Output PPI is prominent and nations that calculate PPI are mainly calculating Output PPI. In that sense, the PPI measures the average change in the price of output sold by the producers of the country.

From the discussion above on inflation and its measurement, some general observations can be made:

1. One of the main features of inflation is that it represents a persistent increase in the general price level.

2. Almost all major commodities consumed by the relevant group are included when calculating changes in the overall price level.

3. A measure of inflation should reflect the real trend in price changes.

4. It should capture economy-wide inflationary pressures.

However, no single measure of inflation can capture all these features. The fundamental purpose of measuring inflation is to understand its impact on the cost of living for the general public. Therefore, in most countries, one measure of inflation is considered representative. This measure provides the essential information that an inflation index is intended to offer and captures broad economy-wide inflationary pressures. This representative measure is called headline inflation. In most countries, the CPI is considered the measure of headline inflation.

Headline inflation includes almost all major commodities in the consumption basket. However, the prices of some items, such as food and energy, can be highly volatile. This volatility can create noise in inflation analysis, making the measure unstable and future inflation difficult to predict.

To address this issue, another measure called core inflation is used. Core inflation is calculated by excluding volatile items from headline inflation. It serves as a more stable indicator and represents the underlying trend of inflation, providing a clearer view of long-term price changes.

## Recap

- Inflation is a persistent rise in the general price level of goods and services
- Inflation is a macroeconomic concept
- Economists consider a basket of goods while studying inflation
- Inflation below 3% per year is called creeping inflation
- Inflation between 3% and 10% per year is called walking inflation
- Inflation above 10% per year is called running inflation
- Inflation exceeding 50% per month is called hyperinflation
- Inflation that is expected is called anticipated inflation
- Inflation that is unexpected is called unanticipated inflation

- Inflation is measured using index numbers
- The Wholesale Price Index (WPI) measures wholesale prices
- The Consumer Price Index (CPI) measures retail prices for households
- The Producer Price Index (PPI) measures prices received by producers
- The Consumer Price Index (CPI) is a true indicator of cost of living
- Headline inflation represents economy-wide inflation
- Core inflation excludes volatile items like food and energy
- CPI in India is released by the CSO and the Labour Bureau

## Objective Questions

1. What is inflation?
2. Does inflation occur if only one commodity's price rises?
3. Who defined inflation as a "persistent and appreciable rise in the general level of prices"?
4. Which type of inflation rises less than 3% annually ?
5. Name the types of inflation that rises annually between 3% and 10% ?
6. Which type of inflation exceeds 10% per annuam ?
7. Name the type of inflation that exceeds 50% per month ?
8. Expected inflation is called?
9. Unexpected inflation is called?
10. Name the Inflation caused by government-fixed prices is?
11. Which is Statistical tool used to measure inflation?
12. Name the Index measuring wholesale prices in India.
13. Name the Index measuring retail prices for households

14. Which Index measures prices received by producers?

15. Which index is considered a true indicator of cost of living?

16. Which Inflation excludes volatile items like food and energy?

17. Which agencies release CPI in India?

## Answers

1. Persistent rise of general price level
2. No
3. Edward Shapiro
4. Creeping Inflation
5. Walking Inflation
6. Running Inflation
7. Hyperinflation
8. Anticipated Inflation
9. Unanticipated Inflation
10. Administered Inflation
11. Index number Inflation
12. WPI
13. CPI
14. PPI
15. CPI
16. Core
17. CSO, Labour Bureau

## Assignments

1. Explain the concept of inflation.
2. What are the major types of inflation?
3. How is inflation measured in India?
4. Explain the methods used to measure inflation in India.

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UNIT

# Effects of Inflation

## Learning Outcomes

After completing this unit, the learner will be able to:

- define inflation and understand its impact on the economy
- explain the various effects of inflation
- comprehend the concept of the sacrifice ratio and its significance in reducing inflation

## Prerequisite

We live in a complex economy, and it is impossible to think about economic activity without considering prices. Inflation is not a small factor-it affects our everyday life in many ways. Rising prices reduce the purchasing power of money, influence savings and income distribution, and shape the economic decisions of households, businesses, and the government. Changes in prices also have broader consequences for economic growth, stability, and competitiveness. In daily life, we encounter inflation in the cost of food, housing, transport, education, and other essential goods and services, so understanding it is essential. Studying inflation helps us see how it shapes consumption patterns, investment decisions, and labour markets. It also allows us to understand how policymakers respond through monetary and fiscal measures to stabilise prices, promote growth, and maintain economic stability. Overall, understanding inflation equips us to analyses real-world economic issues, evaluate policy decisions, and comprehend the impact of price changes on society and the economy

## Keywords

Inflation, Redistributive Effect, Menu Costs, Economic Efficiency, Sacrifice Ratio (SR), Phillips Curve

## Discussion

## 2.2.1 Effects of Inflation

Inflation is the increase in the average level of prices. A price index technically measures this change. Price rises make the life of ordinary people difficult. What will be the change in your purchasing behaviour when you go to the nearby grocery shop next time and find that the prices of most of the items you need have increased? Of course, you will be forced to curtail your purchases. This will reduce your consumption and affect your family's budget. What would be the macro-level impact of this reduction in household purchases?

Consider another case: You have borrowed an amount from your bank at a fixed interest rate, and your monthly EMI is Rs. 5,000. Suppose, before the price rise, your wage rate was Rs. 1,000 per day, and you had to work five days to meet your monthly EMI. If a general price rise occurs and your wage increases to Rs. 1,250, you would now need to work only four days to pay your monthly EMI. Being a consumer, a price increase is disadvantageous; however, for a debtor, the price rise is advantageous provided the interest rate is fixed. Conversely, if you were a creditor with a fixed-term deposit, the price rise would reduce the real interest rate you earn. These examples show that the impact of a price rise is not the same for everyone. It affects people differently depending on the situation. Now, let us examine the major effects of inflation.

**1. The Redistributive Effect of Inflation** : Consider that, farmers are purchasing various inputs for farming and after harvest, they sell their outputs. Being final consumers, they also purchase several consumer goods from the market. So, they are the buyers and sellers at the same time. What would be the impact of a price rise on their life if the prices of their inputs increased heavily, but the price of their output increased meagre? In this context, the relative increase in price is not favourable to the farmer and it may cause a severe drain of their wealth. This causes a redistributive impact on income. The pie of national income going to the hands of farmers will decline and it may be called the redistributive impact of inflation.

Now take the case of earlier said creditor and debtor. If the rate of interest on a loan and deposit is fixed, and not flexible, inflation may favour the debtor and disfavour the creditor. When one party makes benefits out of inflation and the other suffers from it, definitely it may lead to income redistribution.

**2. Shoe Leather Costs of Inflation :** A persistent uncontrolled hike in price reduces the value of a currency. So, people may hold less currency in their hands and keep a major portion in interest-bearing bank accounts. This will invite frequent bank visits and causes a waste of time and effort for the people. Take another case. What would be the impact if such a value reduction forces the people to hold foreign currency rather than a domestic currency? Holding foreign currency rather than domestic currency creates a lot of direct and indirect impacts on the economy. The efforts, time and resources used by the people to convert the domestic currency into foreign stable currencies are its direct effects and indirectly it may worsen inflation further. Illegal channels of currency conversion may rise and it may invite serious social and economic issues.

Take another case, if inflation persists for a long, people may hold real assets rather than holding money in hand. What would be its possible impacts? Similar to the earlier case, this would also invite direct and indirect repercussions. The rise in demand for more real durable and non-durable goods will exacerbate inflation further and speed up its other consequences. The surge in inflation reduces the real interest rate and it will further increase the consumption of real goods or investment in real goods. Spending in haste on real goods may lead to the misallocation of resources. The term shoe leather cost, of course, literally indicates the wear and tear of the shoe of a person when he frequently visits the bank. But its real meaning is more than that and it covers all the above-mentioned implications. In short, it can be defined as the wastage of resources due to inflation-induced reduction in money holdings.

**3. Menu Costs of Inflation :** Suppose the rate of inflation is persistently increasing. Analyse the situations given below and think about the possible problems that the individual or firm in the following situations may face.

Case 1: A restaurant which has to print new menu lists frequently due to inflation.

Case 2: A firm that has to send new price information frequently due to inflations to its dealers, about its various ranges of products.

Case 3: A firm which educates its customers about its prices through advertisements.

Case 4: A firm which prints mail order forms and catalogues of prices.

Case 5: A taxi driver who has to re-meter their cabs due to inflation.

Case 6: Cities that adjust parking meters due to inflations.

Case 7: A firm that uses printed price tags.

Think about such situations and you can add several such cases to the list. All the firms or individuals facing such situations may incur a loss due to frequent price changes. Such costs of inflation are referred to as menu costs.

**4. Inflation Reduces the Purchasing Power :** The obvious effect of inflation on the common man is the loss of the purchasing power of the money he earned. The price rise reduces the bundle of goods that we purchase from the market. But inflation will not erode the purchasing power if the person is compensated equally by increasing his income like wages, rent, interest etc. But exactly compensating a worker or lender

may not be possible in the long run if the rate of inflation increases at an alarming rate. Moreover, the relative increase may not be the same always. For example, an industrialist may get more advantage from a price rise rather than a farmer or among farmers, farmers of some products may get more benefit from a price rise than others.

**5. Inflation, Level of Output and Employment :** The level of output and employment are affected by price changes. There is no unanimous answer for the relationship between inflation, output and employment. There are a lot of macroeconomic theories and differences of opinion among economists regarding the relationship. As output increases employment also will increase. So, if inflation increases employment (reduces unemployment) means it increases output too. As the relationship between these variables is much more complicated and its intricacies are dealt with in some other chapters of macroeconomics, here, we could learn some generalisations regarding their relationship.

In an economy operating below full employment, inflation of a low rate helps to increase output and thereby reduces unemployment. If inflation is not anticipated, the price rises faster than money wage rates. It increases the business profit and thereby increases output. But if it is anticipated workers may argue for a wage increase and therefore, the cost of production increases proportionately. Hence, inflation will not fetch additional profit for the business. In such a situation, the output will not expand and employment will not be increased.

In some industries, inflation may not increase the price of their output. For example, if the output of an industry is sold on a contract basis, a general increase in the price level will not increase the price of the products of the industry. In such cases, inflation may reduce their production. Now we understood that the effect of inflation on output and employment depends on various factors and employment will increase due to inflation if the net effect of inflation increases output in an economy.

**6. Inflation And Economic Efficiency :** Inflation distorts price signals and hence harms economic efficiency. Price changes help to allocate resources carefully and efficiently. Normally, people will reduce the use of a product when its price increases. They will use more of its substitute if it is available at a relatively less price. So, price determines the judicious use of resources. But, at times of frequent price increases, it will be very difficult to find out the product for which the relative price rise is less and therefore, the inflation distorts the efficient utilisation of resources.

**7. Distortion Effect of Inflation on Taxes**

Now let us consider the following situations.

**Case 1:** Suppose an employee is compensated for inflation in the form of Dearness Allowance (DA). As you know, DA is a hike in the wage of an employee equivalent to inflation. But, if the person has been taxed 30 per cent in the form of income tax, a 30 per cent hike in income due to an increase in income will flow back from the employee and in the real sense the person will be compensated 30 per cent less than the inflation.

**Case 2:** If the nominal interest rate is 10% and inflation is 5% the real interest rate is 5%. But, if the person is taxed for his interest income, he has to pay tax for the nominal 10%, not for the 5% that he really earned.

**Case 3:** Suppose a person has gained an income of Rs. 3,00,000/- in the form of capital gain for his investment. Capital gain is the profit that a person earns from the sale of the assets like shares, bonds or real estate. Suppose, during the investment, the inflation rate has depleted his income and it is equal to Rs. 1,00,000/-. In such cases, the tax authority normally imposes a capital gain tax on the whole amount of Rs.3,00,000/-, not on the inflation-adjusted capital gain of Rs.2,00,000/-.

In all these cases, inflation reduces the real gain whereas the person has to pay tax for the nominal gain. Such distortions in tax payments are the consequences of inflation. It can be rectified by taking inflation-adjusted income for the calculation of tax. But it is very difficult to implement as it further complicates the taxation procedures.

## 2.2.2 Sacrifice Ratio

The Sacrifice Ratio that measures the cost of reducing inflation in terms of lost output. It shows how much real GDP must be sacrificed to achieve a 1% reduction in the inflation rate and is calculated,

$$Sacrifice\ Ratio = \frac{\%\ loss\ in\ Real\ GDP}{\%\ Reduction\ in\ Inflation}$$

For example, If a country reduces inflation by 2% but the economy loses 4% of its GDP in the process, the sacrifice ratio is:

$$\frac{4}{2} = 2$$

This means the economy sacrificed 2% of its output for each 1% reduction in inflation.

The sacrifice ratio is significant for policymakers as it helps them understand the trade-off between controlling inflation and maintaining economic growth, and it is used in planning monetary and fiscal policies.

The sacrifice ratio can be explained using the Phillips Curve, which shows an inverse relationship between inflation and unemployment. In the short run, when the central bank uses policies to reduce inflation, unemployment rises and output falls. This output loss is measured by the sacrifice ratio. Over time, as people adjust their expectations about inflation, the economy can lower inflation without increasing unemployment. So, the Phillips Curve shows the trade-off between inflation and unemployment, while the Sacrifice Ratio shows the cost in terms of lost output.

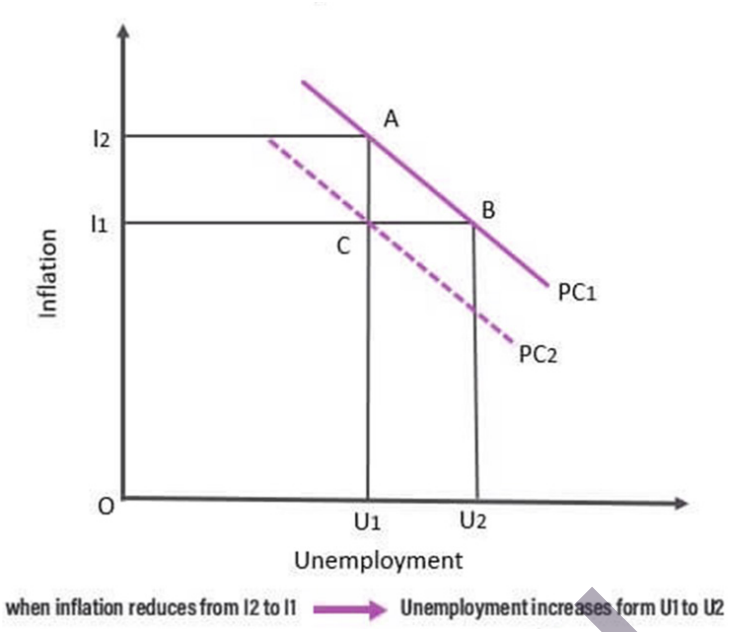


**Fig: 2.2.1 The Sacrifice Ratio and the Phillips Curve**

When inflation falls from I2 to I1, unemployment rises from U1 to U2. The movement from point A to B shows the short-run 'sacrifice' in output needed to reduce inflation. In the long run, as people adjust their expectations, a new Phillips Curve (PC2) forms, and at point C, inflation can fall without increasing unemployment.

## Recap

1. Inflation refers to the general increase in the average level of prices in an economy
2. Inflation is measured using price indices such as the Consumer Price Index (CPI) and the Wholesale Price Index (WPI)
3. The Sacrifice Ratio measures the cost of reducing inflation in terms of lost output and is calculated as:

$$Sacrifice\ Ratio = \frac{\%\ loss\ in\ real\ GDP}{\%\ reduction\ in\ inflation}$$

4. The Sacrifice Ratio helps policymakers understand the trade-off between controlling inflation and maintaining economic growth
5. Moderate inflation can increase output and reduce unemployment when the economy operates below full employment

## Objective Questions

1. What does inflation refer to?
2. Name the index used to measure inflation in India.
3. Who benefits from fixed-rate loans during inflation?
4. Who loses real interest income when inflation rises?
5. What is the effect of inflation on purchasing power?
6. What effect redistributes income between debtors and creditors?
7. What term describes the cost of frequent bank visits due to inflation?
8. What are the costs firms face when they frequently change prices?
9. How does anticipated inflation affect production costs?
10. What measures the cost of reducing inflation in terms of lost output?
11. What economic curve shows the inverse relationship between inflation and unemployment?

## Answers

1. General price level rises
2. CPI and WPI
3. Debtors
4. Creditors
5. Reducing purchasing power
6. Redistributive effect
7. Shoe-leather cost
8. Menu cost
9. Increase
10. Rise the production cost

11. Sacrifice ratio
12. Phillips curve

## Assignments

1. Explain the effects of inflation on the economy and daily life.
2. Discuss the measures used to reduce the effects of inflation.
3. What is the Sacrifice Ratio? Explain its significance in controlling inflation.

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UNIT 3

# Theories of Inflation

## Learning Outcomes

After completing this unit, the learner will be able to:

- explain the different theories of inflation
- get an idea of how fiscal and monetary measures are used to control inflation
- describe the impact of inflation on overall economic stability

## Prerequisite

Inflation is defined as a sustained and continuous rise in the general price level of goods and services in an economy over a period of time. Inflation may create both positive and negative effects on the economy. On the positive side, the profits of producers may increase, and investment may be encouraged during a period of moderate inflation. On the negative side, the purchasing power of money is reduced, fixed-income groups suffer, and savings are discouraged. In addition, income inequality may increase. The effects of inflation vary depending on economic conditions and social groups. Therefore, inflation cannot be completely avoided, but at the same time, it cannot be allowed to continue without control, as unchecked inflation can harm economic stability. This situation raises some important questions such as: Why does inflation occur?

Under what conditions does inflation arise in a society?

Economists have offered different explanations to answer these questions. Some economists believe that an increase in money supply leads to a proportional increase in prices. Others argue that an increase in aggregate demand initially

results in higher output rather than higher prices, especially when the economy is operating below full employment. Another view states that inflation occurs when the growth of money supply exceeds the growth of output. To find precise and systematic answers to these questions, it becomes necessary to examine the various theories of inflation. In this unit, we will study the different theories of inflation in order to understand how and why inflation occurs in an economy, and why its impact differs across situations and economic conditions.

## Keywords

Inflation, Quantity Theory of Money, Fiscal Policy, Monetary Policy

## Discussion

## 2.3.1 Theories of Inflation

Inflation is the rise in the general price level of goods and services over time, which affects the purchasing power of money and economic decisions. Economists have developed different theories to explain why inflation occurs, focusing on factors such as money supply, demand, costs, and structural imbalances in the economy. Here, we discuss some of the major theories of inflation.

### 2.3.1.1 The Quantity Theory of Money

The Quantity Theory of Money is one of the oldest economic doctrines used to explain how an increase in the money supply leads to inflation in an economy. The theory does not have a single author because it evolved over time. However, its main contributors are David Hume, David Ricardo, Irving Fisher, and the Cambridge economists such as Alfred Marshall and A.C. Pigou, who contributed through the cash-balance approach. The basic idea of the quantity theory of money is that when the amount of money in circulation increases, the general price level also increases. As a result, inflation occurs because too much money is available in the economy. This explanation is based on a direct and proportionate relationship between the quantity of money and the price level. Let us learn the classical theory of inflation in the words of these economists.

The Quantity Theory of Money was the main idea used by classical economists in the 19th century to understand and control inflation. One of the most famous contributors was David Hume, who explained how changes in the money supply affect different sectors of the economy. He showed that when the money supply increases, its effects spread from one sector to another, leading to changes in prices and quantities.

Another important economist, David Ricardo believed that short-term disturbances caused by changes in the money supply were not very important. He argued that inflation

in Britain (during the wars with France) occurred only because the Bank of England printed too much money after leaving the gold standard. He also opposed the idea that increasing the money supply could raise output or employment.

A well-known economist, Irving Fisher, later formalised the theory mathematically using his famous Equation of Exchange, written as:

**MV = PT**

Where:

- **M** = Quantity of money
- **V** = Velocity of money (how fast money circulates)
- **P** = Price level
- **T** = Volume of transactions/output

Fisher showed the conditions under which the proportional relationship between money supply and price level (more money → higher prices) holds true.

### 2.3.1.2 Monetary Theory of Inflation

The monetary theory of inflation is mainly associated with Milton Friedman and his followers, known as monetarists. According to them, inflation occurs when there is too much money in the economy. They argue that in the short run, an increase in the money supply affects both output (production) and prices. However, in the long run, the money supply influences only the price level and not output. This implies that printing more money cannot increase the real production of goods and services over time.

In the words of the famous monetarist Milton Friedman, who refined the classical quantity theory of money, inflation is: "Inflation is always and everywhere a monetary phenomenon." This means that inflation arises only when the money supply grows faster than the economy's ability to produce goods and services. Therefore, if the money supply expands rapidly while output remains unchanged or grows slowly, prices will inevitably rise. Because of this, monetarists believe that monetary policy is more effective than fiscal policy in controlling inflation and stabilising the economy.

### 2.3.1.3 Demand-Pull Inflation

John Maynard Keynes and his followers argued that demand-pull inflation occurs when aggregate demand in an economy increases faster than aggregate supply. Aggregate demand consists of consumption, investment, and government expenditure. When total demand exceeds the level of output that can be produced at full employment, an inflationary gap is created, leading to rising prices. The larger this gap between aggregate demand and aggregate supply, the faster inflation will rise.

Keynesians also point out that inflation can begin even before the economy reaches full employment. This is because certain bottlenecks or constraints may appear in specific sectors-such as shortages of skilled labour, raw materials, or production capacity. These sectoral imbalances cause prices to rise even when the overall economy has not fully utilised all resources. Therefore, during periods of prosperity, such inflationary pressures are natural and arise from the uneven growth of different economic sectors.

According to Keynes's theory of demand-pull inflation, reducing aggregate demand is the key to controlling inflation. This can be done by decreasing government expenditure, increasing taxes, or controlling the money supply. These measures reduce overall spending in the economy and help ease pressure on prices. In extreme situations, such as wartime or hyperinflation, managing the money supply or cutting spending may be difficult, so higher taxation combined with direct controls on demand may be necessary to stabilise prices.

### 2.3.1.4 Cost-Push Inflation

Cost-push inflation occurs when the cost of production rises, forcing firms to increase the prices of goods and services. It is mainly caused by higher wages demanded by labour unions and profit increases sought by employers. Although this type of inflation has existed since the medieval period, it became a major focus in the 1950s and 1970s and was often called the 'New Inflation'.

A key cause of cost-push inflation is when money wages rise faster than labour productivity. Labour unions demand higher wages, which raises production costs. Employers then increase prices to maintain profit margins, and higher prices prompt unions to demand even more wages. This creates a wage-cost spiral, which can spread inflation across the economy. Cost-push inflation can also occur if wages rise in one sector and increase the cost of inputs for other sectors, or if imported raw material prices rise.

Another cause is profit-push inflation, which occurs when firms with monopoly or oligopoly power raise prices to cover higher costs and earn greater profits. Because these firms can control the prices of their products, this type of inflation is also called administered-price inflation or price-push inflation. In summary, cost-push inflation arises from rising production costs, whether due to wages, raw materials, or profit-seeking by firms, leading to higher general price levels.

### 2.3.1.5 Structural Inflation

Structural inflation focuses on how structural factors in an economy affect inflation. Unlike inflation caused solely by excess demand or rising costs, structural inflation arises from long-term imbalances in the economic system, such as outdated production methods, inefficient distribution networks, and limited investment. It looks at the root causes of inflation linked to the economy's structure rather than short-term fluctuations.

Structural inflation often occurs when supply cannot keep up with demand, even if there are idle resources or unemployment. This is common in less developed countries, where outdated structures or slow productivity prevent the economy from meeting demand efficiently. Other contributing factors include rapid growth of the service sector due to population growth and migration, dominance of certain industries, high labour costs, and social inequalities. These factors create hidden inflationary pressures across the economy.

Structuralists argue that traditional anti-inflation measures, such as reducing government spending or tightening the money supply, may hinder economic growth, especially in developing countries. They recommend government intervention to improve market structures, fair distribution of inflationary pressures, and controlled growth policies. During periods of rapid economic and social change, inflation may also reflect attempts by new social and economic groups to redistribute income and strengthen their political and economic power.

## 2.3.2 Measures to Control Inflation

It is already learnt that inflation may arise due to various reasons. Therefore, there is no single solution for inflation. Economists also vary in their opinions regarding the application of these measures. Here, we limit our discussion to the most prominent measures suggested for controlling inflation, keeping excess aggregate demand as the main reason for inflation in mind. Economists mainly suggest various fiscal and monetary policies to reduce inflation.

### 2.3.2.1 Fiscal Measures to Control Inflation

All modern states are welfare states. The governments of modern states spend an enormous amount on the welfare of their people. To meet this huge expenditure, the government raises funds from various sources and annually prepares a statement of these receipts and expenditures. You know that this annual statement prepared by the government is known as a budget.

The government makes adjustments in receipts and expenditures and influences the lives of its people through budgetary policies. Budget management includes managing the receipts and expenditures of a government and adjusting one against the other. It decides the nature of the budget, i.e., whether it should be deficit, surplus, or balanced. All policies of the government concerning budget management are referred to as fiscal policies.

Let us first consider the receipts side of the budget. Tax is the main source of receipts for the government, and an increase in taxes reduces the disposable income of the people, ultimately reducing the aggregate demand in the economy. A reduction in aggregate demand lowers the price level if other things remain constant.

Similarly, government expenditure can be reduced during periods of inflation. When the government tries to increase its receipts and reduce expenditures, the budget may be a surplus budget. In situations of excess demand, the government can raise direct taxes and reduce transfers like unemployment allowances. Apart from these measures,

borrowing from the public can also help reduce the purchasing power of households and, thereby, control inflation.

### 2.3.2.2 Monetary Measures to Control Inflation

The central bank of a country controls the money supply. It can regulate aggregate demand by managing the money supply. Monetary policies are the policies of the central bank concerning money supply aimed at achieving price stability and full employment.

Monetary measures generally affect the rate of interest and the credit availability of commercial banks. Monetary measures adopted during inflation increase interest rates, reduce credit availability, or reduce the purchasing power of households. Different monetary measures adopted by the central bank are classified into two types:

1. **Quantitative Measures –** Affect the quantity of credit supplied and, thereby, change the price level.

2. **Qualitative Measures** – Make qualitative changes in the credit supplied.

**Quantitative Measures:**

1. **Changing the Reserve Requirements: :** Member banks are required to maintain a minimum reserve of their demand and time deposits in the form of cash with the central bank. This reserve is called the Cash Reserve Ratio (CRR). Additionally, banks must maintain assets worth a given percentage of their total demand and time liabilities as prescribed by the central bank, referred to as the Statutory Liquidity Ratio (SLR). Increasing these reserves reduces credit availability for commercial banks, forcing them to reduce lending. Reduced credit reduces money supply, aggregate demand, and ultimately the price level.

2. **Bank Rate:** The bank rate is the standard rate at which the central bank buys or rediscounts bills of exchange or other eligible commercial papers. An increase in the bank rate raises interest rates, reducing borrowing from banks. This reduces money supply, aggregate demand, and the price level.

3. **Open Market Operations**: The sale and purchase of government securities by the central bank in the open market are referred to as Open Market Operations. When the central bank sells government securities to commercial banks, money flows from banks to the central bank, reducing credit availability. Reduced credit flow helps control aggregate demand during excess demand periods.

4. **Changing Margin Requirements:** Margin Requirement is the difference between the current value of collateral and the value of the loan granted against it. Raising the margin requirement reduces borrowing capacity, helping to reduce money supply, aggregate demand, and price levels during excess demand.

## Qualitative Measures

1. **Moral Suasion:** Oral or written appeals by the central bank to member banks to restrict or expand credit to control inflation or recession are referred to as moral suasion. During excess demand periods, the central bank may appeal to banks to restrict credit to the public**.**

2. **Selective Credit Control:** This method restricts or expands credit flow to specific sectors. It is used when a particular sector faces inflation or deflation. For example, if the construction sector is booming and needs to be controlled, the central bank could reduce credit flow to this sector through measures such as fixing higher interest rates on loans or limiting the maximum loan amounts for the sector.

Controlling inflation is essential for maintaining economic stability, safe guarding purchasing power and promoting sustainable growth.

## Recap

- Quantity Theory of Money means inflation occurs when the money supply increases faster than the economy's output
- Monetary Theory means inflation is always and everywhere a monetary phenomenon, arising when money supply grows faster than production
- Demand-Pull Inflation means inflation occurs when aggregate demand exceeds the level of output at full employment
- Cost-Push Inflation means rising wages or production costs push prices up, creating a wage-cost spiral
- Structural Inflation means inflation arises from long-term structural imbalances in the economy, such as inefficient production and distribution systems
- Fiscal Policy means increasing taxes or reducing government expenditure lowers aggregate demand, helping control inflation
- Monetary Policy means the central bank regulates money supply and credit to maintain price stability and economic growth
- Cash Reserve Ratio (CRR) means the minimum percentage of a bank's deposits that must be kept as reserves with the central bank
- Statutory Liquidity Ratio (SLR) means the minimum percentage of a bank's net demand and time liabilities that must be maintained in specified liquid assets

- Bank Rate means the interest rate at which the central bank lends to commercial banks, influencing overall credit and money supply
- Open Market Operations means the sale and purchase of government securities by the central bank to control money supply and liquidity
- Margin Requirements means the difference between the value of collateral and the loan amount, which regulates borrowing capacity
- Moral Suasion means oral or written appeals by the central bank to banks to restrict or expand credit for controlling inflation or deflation
- Selective Credit Control means restricting or expanding credit flow to specific sectors to manage inflation or economic activity in targeted areas

## Objective Questions

1. Which theory states that inflation occurs when money supply increases faster than output?
2. Which theory claims 'inflation is always and everywhere a monetary phenomenon'?
3. Which type of inflation occurs when aggregate demand exceeds full employment output?
4. Which type of inflation is caused by rising wages or production costs?
5. Which inflation arises from long-term structural imbalances in the economy?
6. Which policy involves increasing taxes or reducing government expenditure to control inflation?
7. Which policy involves regulating money supply and credit to stabilise the economy?
8. What is the minimum percentage of a bank's deposits that must be kept as reserves with the central bank?
9. What is the minimum percentage of net demand and time liabilities that banks must maintain in liquid assets?
10. What is the rate at which the central bank lends to commercial banks?

11. What refers to the sale and purchase of government securities to control money supply?

12. What regulates borrowing capacity based on the difference between collateral and loan amount?

13. What is the central bank's oral or written appeal to banks to control credit called?

14. Which method restricts or expands credit flow to specific sectors?

## Answers

1. Quantity Theory of Money
2. Monetary Theory
3. Demand-Pull inflation
4. Cost-Push inflation
5. Structural inflation
6. Fiscal Policy
7. Monetary Policy
8. CRR
9. SLR
10. Bank Rate
11. Open Market operation
12. Margin Requirements
13. Moral Suasion
14. Selective Credit Control

## Assignments

1. Explain the Quantity Theory of Money
2. Discuss the monetary theory of inflation as proposed by Milton Friedman.
3. Explain demand-pull inflation
4. Discuss cost-push inflation
5. Explain structural inflation and its causes, particularly in developing countries.
6. Describe the fiscal and monetary measures used to control inflation in an economy

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BLOCK

# Unemployment

UNIT 1

# Types and Measures of Unemployment

## Learning Outcomes

After completing this unit, the learner will be able to:

- describe about unemployment
- comprehend different types of unemployment
- calculate the level and cost of unemployment

## Prerequisite

The ideal situation of development occurs when human beings are become both the means and end of all progress. But this situation can be attained only when the human resources are fully employed. Such a situation is very rarely found in the real world. Mostly we face with less than full utilisation of human resources. The optimum could be realised when those who wants to work get a job. Unemployment is the tragedy that block a region from the best social and economic setup. There are millions of people in this world who do not have employment or any kind of job. The main causes of unemployment are the increasing population and the demand for jobs. Taking a broader view of poverty, the nature of the deprivation of the unemployment includes loss of freedom which goes well beyond the declines in income. A person in a state of unemployment, even when materially supported by social insurance, does not get to exercise much freedom to decision. Moreover, if we will ignore this problem then it will become the reason for the doom of the country.

The world's highest unemployment rate was recorded during the Great Depression, when unemployment rose to 24.9 per cent between 1931 and 1940. Thereafter, the unemployment rate declined and remained low until 1982, when

it again increased beyond 10 per cent.During the recession unemployment again, rose to 10% in 2009. In the middle of the coronavirus pandemic, unemployment reaches 14.8% in April 2020. After that, there is decreasing tendency showing in the unemployment rate till June 2021. This unit presents unemployment and different types of unemployment.

## Keywords

NSSO, Labour Force, Open Unemployment, Frictional Unemployment, Cyclical Unemployment, Structural Unemployment, Seasonal Unemployment, Technological Unemployment, Disguised Unemployment, Voluntary Unemployment, Underemployment, Labour Force Participation Rate (LFPR), Unemployment Rate

## Discussion

### 3.1.1 Unemployment

Unemployment occurs when a person who is actively searching for work is unable to find employment. It is often used as an indicator of the health of an economy. The most common measure of unemployment is the unemployment rate, which is calculated as

Unemployment Rate = (Number of Unemployed Workers / Total Labour Force) × 100

According to the National Sample Survey Organisation (NSSO), employment and unemployment are defined based on an individual's activity status. Individuals who are engaged in economic activity are considered employed, while those who are actively seeking work or available for work are considered unemployed. People who are neither seeking nor available for work are categorised as not in the labour force. The first two categories together constitute the labor force, and the unemployment rate represents the percentage of the labor force that is without work.

Various factors increase unemployment in a nation, and these factors differ from country to country. Here, we examine the causes of unemployment in the Indian context.

1. **Lack of Education/a Skills:** A large portion of India's informal workforce, such as domestic helpers and construction workers, lacks proper education and vocational skills. This limits their ability to secure formal employment. Consequently, many people remain confined to low-paying or irregular jobs, reducing their overall productivity and earning potential.

2. **Issues Regarding Joint Families:** In big joint families, several members may depend on the collective family income instead of seeking independent employment. This reduces their motivation to actively search for jobs. Such dependence can also discourage skill development and entrepreneurship among younger family members.

3. **Rapid Population Growth:** India's continuously increasing population adds more workers to the labour market than the number of available jobs.. This oversupply of labor leads to higher unemployment rates. The pressure of a large labor force also creates competition for limited resources and employment opportunities.

4. **Dominance of Agriculture:** About half of India's workforce is employed in agriculture, which remains underdeveloped and mostly provides seasonal employment. Many agricultural workers face underemployment during off-seasons. This overdependence on agriculture restricts diversification of employment opportunities in other sectors.

5. **Fall of Cottage and Small Industries:** Industrialization and modern manufacturing techniques have reduced employment opportunities in traditional cottage and small-scale industries. Artisans and small-scale workers often lose their livelihoods. This decline also affects the local economy, as small industries play a key role in rural employment and community development.

6. **Low Labor Mobility:** Labor mobility in India is limited as many people are reluctant to move far from home due to family ties, language barriers, religious considerations, or climate preferences. This restricts access to employment opportunities in other regions. As a result, skilled workers may remain unemployed despite the availability of suitable jobs elsewhere.

7. **Defects in Education System:** India's education and training systems often do not align with the requirements of modern, specialised jobs. Many graduates lack practical skills needed in industry and services. Consequently, even educated individuals may remain unemployed or underemployed, while employers face a shortage of adequately trained workers.

Unemployment is a serious problem that affects the health of an economy. It has major economic and social consequences. Economically, unemployment leads to a waste of valuable resources. Socially, it causes distress as many people struggle with reduced incomes and financial insecurity. Unemployment negatively affects the overall growth of an economy. Long-term unemployment increases economic inequality and results in the underutilisation of manpower resources, hindering sustainable growth. A rising unemployment rate often indicates a depressed economy. Individuals who could be valuable contributors to the economy instead become a burden. High unemployment creates feelings of hopelessness and despair, especially among youth, and limits people's ability to support their families. It also leads to inefficiency, as many are forced to accept work below their skill level, leaving the economy unable to fully utilise its labor potential.

Unemployment increases poverty and widens the gap between the rich and the poor. Beyond economic losses, prolonged unemployment has severe psychological effects, lowering self-esteem and overall quality of life. It can lead to declining health, school dropouts, and social disengagement. Jobless youth may resort to illegal or unethical activities to earn money, which may contribute to certain anti-social behaviours such as theft or fraud. Thus, unemployment not only hampers economic development but also undermines social stability and cohesion.

## 3.1.2 Types of Unemployment

Finding employment for all able-bodied persons is a major challenge for all countries. Although the causes and extent of unemployment differ from one country to another, unemployment can be classified on the basis of its causes into three:

i. unemployment arising from a deficiency of aggregate demand,

ii. unemployment arising from a shortage of capital equipment or other complementary resources, and

iii. frictional unemployment.

The first type is mainly cyclical and occurs in both developed and developing economies. The second type is more pronounced in developing economies, while the third type can occur in all economies. The goal of social policy in all countries, especially advanced ones, has been to achieve full employment by directing investments into specific sectors and by encouraging capital formation.

Unemployment has been one of the most persistent and difficult problems faced by all nations. As the economy develops, unemployment generally declines, but some level of unemployment always remains. Based on its nature and characteristics, unemployment can be classified as follows:

**1. Open Unemployment :** When a person migrates from rural to urban areas due to lack of work but is still unable to find a job, they experience open unemployment. It refers to a situation in which able-bodied people above a certain age, who are willing to work at the existing wage rate, remain unemployed. It is also known as involuntary unemployment. Such individuals depend entirely on other family members. Open unemployment is commonly seen among educated youth, agricultural labourers, and unskilled workers. Open unemployment includes:

a. Frictional unemployment

b. Cyclical unemployment

c. Structural unemployment

d. Seasonal unemployment

e. Technological unemployment

**a) Frictional Unemployment** : This type of unemployment occurs when workers move between jobs. For example, women in cities may work before marriage, leave the job after marriage, and return to the labour market after raising children. They may not immediately find a job that matches their expectations. Some workers leave their current job in search of better opportunities, and some take time off for education or training. During this period, they may remain temporarily unemployed. Frictional unemployment also occurs when employers are unaware of available workers or workers are unaware of available jobs. It arises due to a mismatch between the demand for and supply of labour.

**b) Cyclical Unemployment :** Cyclical unemployment results from fluctuations in economic activity, also known as business or trade cycles. A capitalist economy goes through four phases: boom, recession, depression, and recovery. During a boom, economic activity is high, and the economy experiences full employment. Eventually, the boom gives way to recession and then depression, causing unemployment. Cyclical unemployment associated with Keynesian theory, occurs when aggregate effective demand falls below the productive capacity of the economy. It can be reduced by increasing aggregate demand through higher consumption and increased investment.

**c) Structural Unemployment** : As economies grow, new industries emerge, some decline, and consumer demand patterns change. These structural changes alter the demand for labour. However, workers may not have the skills needed for the new jobs, causing unemployment in one area while vacancies exist in another. Structural unemployment is caused by long-term changes in the economy, such as technological progress. Sometimes, the labour force grows faster than capital formation, creating a shortage of productive resources. This type of unemployment can be reduced by retraining and educating workers.

Major causes of structural unemployment:

i. Technological advancement

ii. Changes in government policies

iii. Relocation of industries

iv. Lack of training or educational programs

**d) Seasonal Unemployment :** Seasonal unemployment occurs when people have work only during certain seasons. It is mainly found in rural areas, especially in agriculture, where jobs exist only during sowing and harvesting periods. In the off-season, workers remain idle. Seasonal unemployment also occurs in industries such as tourism, festivals, weddings, and holiday-related services. It can be reduced by providing subsidiary jobs in the off-season. Gandhi suggested assigning rural workers activities such as spinning during the off-season.

**e) Technological Unemployment :** Technological unemployment occurs when new machinery or technology replaces human labour. Modern production methods are dynamic and involve frequent innovations. When old technology is replaced by machines that require fewer workers, many jobs disappear. The 2016 World Bank report estimated that around 69% of jobs in India were at risk due to automation. Technologies such as artificial intelligence and advanced software systems are increasingly performing tasks previously done by humans.

**2. Disguised Unemployment** : Disguised unemployment exists when more people are employed than actually needed, especially in agriculture. Although everyone appears to be working, the removal of some workers does not reduce total output. This is common in underdeveloped countries. It is involuntary unemployment and indicates zero marginal productivity of surplus workers. Overcrowding in agriculture due to

population pressure and lack of alternative employment opportunities is the main cause.

**3. Voluntary Unemployment** : Voluntary unemployment occurs when people choose not to work at the prevailing wage rate. Jobs are available, but they prefer to remain unemployed. Some people remain unemployed to search for better jobs, while others prefer leisure over low-paying work. Low-productivity workers sometimes depend on unemployment benefits instead of accepting low-wage jobs. Although it leads to a waste of human resources, it is not considered a serious economic problem

**4. Underemployment** : Underemployment occurs when individuals work in jobs that do not match their skills, abilities, or educational qualifications. For example, an engineer working as a delivery person. According to the International Conference of Labour Statistics, underemployment occurs when:

a. people working part-time are willing and able to work more, or

b. workers could increase productivity and income by shifting to a better job.

Underemployment is of two types:

- **Visible Underemployment**: The person works fewer hours than normal and may work multiple part-time jobs.
- **Invisible Underemployment**: The job does not match the person's skills or qualifications.

## 3.1.3 Measuring Unemployment

The workforce of a region consists of all able-bodied adults (for example, those above the age of 15 and below 60 years). Within this workforce, some people are employed, while others are unemployed. Among the unemployed, some may not be actively seeking employment. This is more common among wealthy persons than among poor people. Some individuals do not wish to work due to personal reasons. Such people, who are not willing to work, are excluded from the workforce. After this exclusion, we get the labour force of a region. The labour force refers to the number of adults who are either employed or actively searching for jobs. Accordingly, the unemployed are those who are willing to work and are seeking employment but are unable to find jobs. With this basic information, we can understand the major measurements of unemployment.

- **Unemployment Rate:** It is the percentage of the labour force without jobs. It is calculated by dividing the number of unemployed persons by the total labour force.
- **Labour force Participation Rate (LFPR):** It is the ratio of the number of persons in the labour force to the total working-age population. For example, if the population is 1,000, with 400 people employed and 300 people willing to work, the labour force is 700. The LFPR is thus (700 ÷ 1,000) × 100 = 70%. Higher labour force participation rates indicate lower unemployment, and vice versa.

According to the Australian Bureau of Statistics (ABS), the population aged 16 years and above is classified into four categories:

- **Employed:** People engaged in any paid work, including those temporarily absent due to illness, strikes, or vacations.
- **Unemployed:** Individuals who are employable and actively searching for a job but have not found work in the reference week, and are currently available for work.
- **Not in the labour force:** People who are not looking for a job or doing unpaid work, such as homemakers, retirees, and students.
- **Labour force:** All individuals who are either employed or unemployed.

In India, the National Sample Survey Office (NSSO) under the Ministry of Statistics and Programme Implementation (MoSPI) measures unemployment using the following approaches:

1. **Usual Status Approach:** A person is considered unemployed if they are available for work for more than 183 days in a year but work for less than 183 days. The unemployment rate is calculated by dividing the number of unemployed by the total labour force.
2. **Weekly Status Approach:** A person is considered unemployed if they were willing to work throughout the reference week but did not get employment.
3. **Daily Status Approach:** This refers to the number of man-days that people were willing to work but did not get work. Dividing the number of unemployed man-days by the total available man-days gives the daily-status unemployment rate.

**Limitations of Unemployment Rate Measurement**

1. In underdeveloped countries, people have low literacy and limited awareness. This stands in the way of obtaining reliable and statistical data.
2. In underdeveloped countries like India, the officials who are entrusted with the task of collecting the required data may not be adequately trained in that line. Consequently, the figures furnished by them become quite unreliable.
3. It is noticed that a lot of guess work is involved in the collection of figures relating to unemployment rate. This brings down the quality of the unemployment rate measurement.
4. Another limitation is that the investigators are not satisfactorily equipped for discharging their duties. This tells upon their efficiency and reliability of the figures.

## 3.1.4 Costs of Unemployment

When unemployment exists, it results in lost output, as the economy operates below its full potential, and tax revenues are lower. Unemployment creates hardships not only for the individuals affected but also for the economy and society as a whole.

1. **Economic Costs of Unemployment :** Unemployment leads to a loss of output for the economy, as individuals who could be producing goods and services remain idle, resulting in a GDP lower than its potential GDP. It also causes a loss of tax revenue, since unemployed people do not earn income and therefore do not pay taxes, reducing government revenue. Additionally, government expenditure increases because funds must be allocated to provide benefits and support to the unemployed. Unemployment also reduces business profits, as firms perform better and earn more when employment is higher; lower profits limit the funds available for further investment.

2. **Personal Costs of Unemployment :** Unemployed individuals face several personal costs. Their standard of living often declines, as unemployment benefits rarely fully replace previous income. They also experience a loss of human capital, since job training and work experience are interrupted, reducing skills and future employability. Additionally, unemployment can negatively impact mental and physical health, with studies showing higher levels of depression, anxiety, and other health problems among those without work.

3. **Social Costs of Unemployment :** High unemployment indicates that the economy is operating below its full capacity, resulting in lower output and incomes. Extended periods of mass unemployment can lead to social unrest and contribute to poverty, pushing households into debt. In addition, prolonged unemployment may increase the incidence of social problems such as crime, alcoholism, and vandalism.

4. **Government Costs of Unemployment :** Unemployment imposes significant costs on the government. With fewer people earning and spending, tax revenues decline, reducing funds available for public services. At the same time, the government must increase expenditure on unemployment benefits, which diverts resources from other critical investments such as infrastructure, defense, and research, and contributes to higher government debt. Additionally, lower consumer spending by the unemployed reduces indirect tax revenues.

5. **Waste of Resources :** Idle resources represent a significant waste for the economy. Education and training costs are wasted when individuals who have acquired skills remain unemployed. Moreover, underutilised labor reduces overall productivity and economic growth. The economy also misses out on the potential innovations and contributions that these trained individuals could provide if employed.

## Recap

- Unemployment occurs when a person who is actively searching for work is unable to find employment
- Unemployment Rate = (Number of Unemployed Workers ÷ Total Labour Force) × 100
- Individuals engaged in any economic activity are considered employed according to the NSSO
- Open unemployment occurs when able-bodied people willing to work at the existing wage rate remain unemployed, often due to migration or lack of jobs
- Types of unemployment under open unemployment include frictional, cyclical, structural, seasonal, and technological unemployment
- Frictional unemployment occurs when workers move between jobs, take time off for education, training, or due to short-term disruptions in the labor market
- Cyclical unemployment is caused by fluctuations in economic activity, such as recessions and depressions, leading to a fall in aggregate demand
- Structural unemployment arises from long-term changes in the economy, such as technological progress, industrial relocation, or a mismatch of skills
- Seasonal unemployment occurs when work is available only during certain seasons, such as in agriculture, tourism, or festivals
- Technological unemployment occurs when machines or technology replace human labor, reducing the demand for workers
- Disguised unemployment exists when more people are employed than actually needed, and removing some workers does not reduce total output
- Voluntary unemployment occurs when individuals choose not to work at the prevailing wage rate despite available jobs
- Underemployment occurs when individuals work in jobs that do not match their skills, abilities, or qualifications, or when they work fewer hours than desired
- Labour Force Participation Rate (LFPR) = (Labour Force ÷ Total Working-Age Population) × 100

- The three approaches used by NSSO to measure unemployment are: usual status approach, weekly status approach, and daily status approach

## Objective Questions

1. What occurs when a person actively searching for work cannot find employment?
2. According to NSSO, individuals engaged in any economic activity are considered what?
3. What type of unemployment occurs when able-bodied people willing to work at existing wages remain jobless?
4. Which type of unemployment occurs when workers move between jobs or take time off temporarily?
5. Which unemployment arises due to economic downturns, such as recessions?
6. What type of unemployment happens due to long-term changes like technological progress or skill mismatch?
7. Which unemployment occurs only during certain seasons like agriculture or tourism?
8. What is the term for unemployment caused when machines replace human labor?
9. Which type of unemployment exists when more people are employed than actually needed?
10. What is it called when individuals choose not to work despite available jobs?
11. Which occurs when individuals work in jobs below their skill or work fewer hours than desired?

## Answers

1. Unemployment
2. Employed
3. Open unemployment
4. Frictional unemployment
5. Cyclical unemployment
6. Structural unemployment
7. Seasonal unemployment
8. Technological unemployment
9. Disguised unemployment
10. Voluntary unemployment
11. Underemployment

## Assignments

1. Define unemployment and examine the major causes of unemployment
2. Explain the types of unemployment.
3. Write a note on measuring unemployment.
4. Elucidate on the costs of unemployment.

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UNIT 2

# Okun's Law and the Phillips Curve

## Learning Outcomes

After completing this unit, the learner will be able to:

- describe the relationship between unemployment and GDP
- differentiate between the short-run and long-run Phillips curves,
- discuss about NAIRU

## Prerequisite

On a rainy afternoon in a small town, a group of young graduates stood outside an employment office, waiting for their turn to register their names. Some were hopeful, some were anxious, and others were simply tired of waiting. Each of them had a different story, but all of them were connected by one common concern: how the economy shaped their chances of finding work and earning a living. As they spoke to one another, it became clear that their personal struggles were not just about effort or talent, but about larger forces that no single person could control.

Inside the same town, shop owners were facing a different kind of worry. When customers had steady incomes, business was good. When people started losing jobs or fearing for their future, spending fell and shelves remained full. The decisions made by households and firms seemed to move together in ways that were not always obvious, yet deeply linked. What happened in offices, factories, and homes slowly reflected in the overall health of the town.

A local newspaper tried to make sense of these changes by publishing regular reports on prices, jobs, and incomes. Readers began to notice patterns. When jobs were plentiful, people felt confident and spent more. When prices rose too

quickly, people complained that their wages did not go far enough. These simple observations made many realise that everyday life was closely tied to broad economic movements.

Over time, even school students started discussing these issues. They wondered why sometimes it was easy to find work and at other times it was not. They also asked why the cost of living kept changing and how it affected ordinary families. Such questions slowly moved from casual conversation into serious thinking about how an economy functions and how different outcomes are connected.

## Keywords

Unemployment Rate, Real GDP, Potential GDP, Okun Coefficient, Unemployment, Inflation, Natural Rate Of Unemployment, Non-Accelerating Inflation Rate Of Unemployment

## Discussion

### 3.2.1 Okun's Law

Okun's Law, named after Arthur Melvin Okun (1928–1980), a Yale economist, was published in the early 1960s and explains the relationship between changes in the unemployment rate and the growth rate of real GDP. The key idea of the law is that to maintain a steady unemployment rate, the economy must grow at a rate close to its potential GDP, and to reduce unemployment, GDP must grow faster than potential GDP. According to Okun's Law, for every 2% that GDP falls relative to potential GDP, the unemployment rate rises by about 1 percentage point. Another version of the law suggests that a 1% decrease in unemployment leads to a 3% increase in GDP.This relationship given in the following formula.

$$y - y^* = -\beta(u - u^*)$$

Where:

$y$= Actual GDP

$y^*$= Potential GDP

$\beta$= Okun coefficient

$u$= natural rate of unemployment

$u^*$ = Previous unemployment rate

$y - y^*$ = Output gap

The equation shows the difference between actual GDP and potential GDP (output gap) caused by the deviation of unemployment from its natural rate. Predicts how far the economy is from full employment.

## 3.2.2 Phillips Curve

Alban William Housego Phillips (18 November 1914 – 4 March 1975) was a New Zealand economist, best known for his contribution to macroeconomics through the Phillips Curve. In the 1950s, Phillips studied the Keynesian analytical framework, which suggested that during a recession, inflationary pressures are low, but when output reaches or exceeds potential GDP, the risk of inflation rises. He aimed to understand the relationship between unemployment and inflation to help policymakers balance economic growth and price stability. For this, Phillips analysed 97 years of data from the United Kingdom (1861–1957), focusing on wages and unemployment, and examined how changes in the labor market affected money wage rates and prices. Phillips found an inverse relationship between unemployment and inflation, later called the Phillips Curve. His study showed that when unemployment is high, inflation tends to be low, and when unemployment is low, inflation rises rapidly. He concluded that non-inflationary price stability could only exist with a relatively high level of unemployment. The Phillips Curve demonstrates that it may not be possible for an economy to achieve both low inflation and low unemployment simultaneously. Hence, the Phillips Curve is downward-sloping, indicating that the rate of increase in money wages is inversely related to the unemployment rate. Let us explain this concept with the following figure.

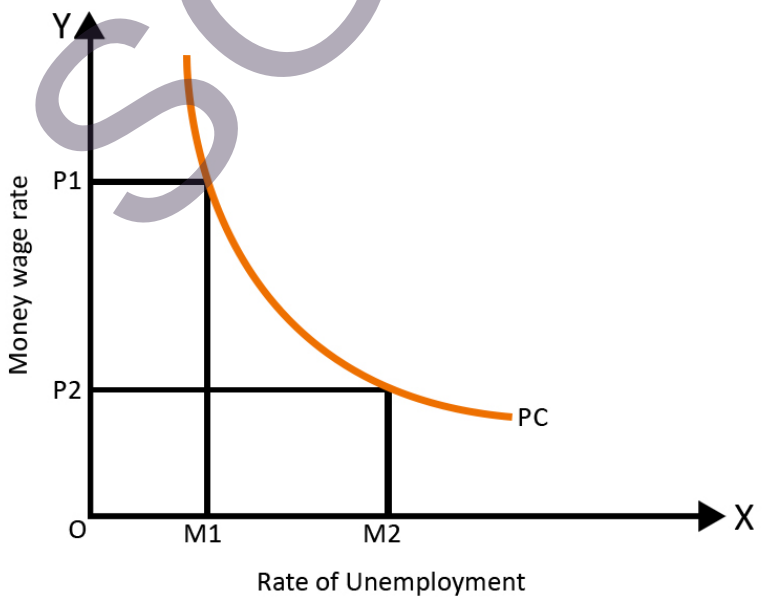


**Fig 3.2.1 Philips Curve**

In the figure, the money wage rate is marked along the Y-axis, and the rate of unemployment is along the X-axis. The Phillips Curve is convex to the origin. The

curve shows that an unemployment rate of $OM_2$ is associated with a money wage rate of $OP_2$. This means that the economy must accept a high rate of unemployment ($OM_2$) if wage-push inflation is to be avoided and non-inflationary price stability ($OP_2$) is to be achieved. To reduce the unemployment rate to $OM_1$, the economy must allow a higher money wage rate of $OP_1$.

**Causes of the Inverse Relationship Between Wages and Unemployment**

1. The first cause is related to the behaviour of organised labour. Organised labour can push wages above labour productivity, resulting in wage-push inflation. The relative bargaining strength of management and labour unions varies with the level of business activity and unemployment. When unemployment is low, labor unions demand larger wage increases. Such excessive wage demands are often granted by employers because periods of low unemployment are usually characterised by high profits.

2. During periods of high economic activity or a boom, there is an excessive demand for labour. This excess demand raises money wages and reduces unemployment. Under such conditions, even if labour unions remain passive, wage rates increase due to the competition for workers.

3. Another cause of the inverse relationship in the Phillips Curve is the occupational and geographical shortage of labour. Labour shortages in certain occupations or sectors lead to higher wage rates in those areas.

## 3.2.3 Short Run and Long Run Phillips's Curve

The Phillips curve explains the relationship between inflation and unemployment. A.W. Phillips found that, in the short run, there is an inverse or negative relationship between the two. This means that when inflation increases, unemployment tends to decrease, and when inflation decreases, unemployment tends to rise. Therefore, if policymakers aim to reduce unemployment, they must be willing to accept a higher rate of inflation,, and if they want to reduce inflation, they must be ready to sacrifice low unemployment. This trade-off exists because workers and firms do not fully adjust their wage and price expectations in the short run. Due to this incomplete adjustment, the short-run Phillips curve becomes downward sloping, clearly showing the inverse relationship between inflation and unemployment.

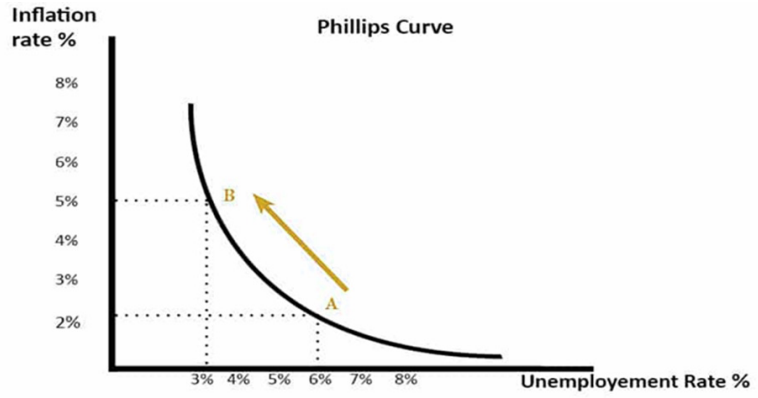


**Fig 3.2.2 Short Run Philips Curve**

The long run vertical Phillips curve known as the expectations augmented Phillips curve was developed by Milton Friedman and Edmund Phelps. According to these economists Phillips curve relates to short run. In the long run, shortrun Phillips Curve shifts with changes in expectations of inflation. The long run Phillips curve showing the relationship between inflation and unemployment is vertical. In the long run, the Phillips curve becomes a vertical line at the 'natural rate of unemployment'. Friedman and Phelps tried to explain that the actual inflation will equal expected inflation, if the output and unemployment remain at the equilibrium levels. This is attained when the economy is at the natural rate of unemployment. It is that rate of unemployment at which inflation rate has no tendency to increase or decrease. The point at which the Phillips curve crosses the line depicting the natural rate of unemployment, actual inflation rate is equal to inflation of expectations. If inflation expectations increase, then the Phillips curve shifts upwards, while a decrease in inflation expectations leads to a downward shift. The diagrammatic representation of long run Phillips curve is given below:

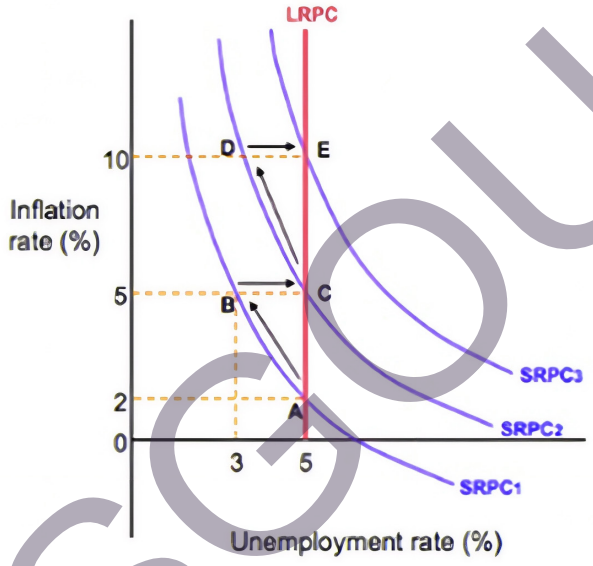


**Fig 3.2.3 Long Run Philips Curve**

Suppose the economy experience a natural rate of unemployment of 5% together with a mild rate of inflation of 2%. On the short run Phillips curve $SRPC_1$ at point of 2%. People think that this rate of inflation of 2% will continue in future. Government takes initiatives to raise aggregative demand and to reduce unemployment from 5% to 3% by introducing monetary and fiscal policy. Inflation will increase due to increase in aggregate demand. When the actual inflation rate (5%) is greater than the expected inflation rate, the economy moves from point A to point along the same $SRPC_1$. Consequently the laborer demand higher wages. This forces the firms to discharge laborer and unemployment will increase from B to C with the shifting of $SRPC_1$ to $SRPC_2$. The natural rate of unemployment is re-established at point C at a higher rate of inflation. If the government again increases the aggregate demand to reduce unemployment to 2%, the same process will continue, and the $SRPC_2$ shifts to $SRPC_3$. A line which connects the points A, C and E gives us the long run Phillips curve. It is a vertical line at the natural rate of unemployment. There is no tradeoff between inflation and unemployment along this LRPC. We can conclude that the expected rate of inflation delays behind the actual rate of inflation.

## 3.2.4 Non-Accelerating Inflation Rate of Unemployment (NAIRU)

In 1958, economist A.W. Phillips wrote a paper titled *"The Relation Between Unemployment and the Money Wage Rates in the United Kingdom."* In this paper, Phillips described the inverse relationship between the unemployment level and the rate of inflation. This relationship came to be known as the Phillips Curve. However, after the severe recession, when both inflation and unemployment reached historically high levels, people began to doubt the theoretical basis of the Phillips Curve.

Milton Friedman and Edmund Phelps criticised the macroeconomic policies that were being guided by a low unemployment target, which caused inflation expectations to change. Milton Friedman introduced a modified version of the Phillips Curve for the long run. He argued that the Phillips Curve applies only in the short run. In the long run, it shifts due to changes in inflation expectations. Therefore, the inverse relationship between inflation and unemployment does not hold in the long run. Instead, the long-run Phillips Curve becomes a vertical line at the natural rate of unemployment. Friedman defined the natural rate of unemployment as the level of unemployment at which the inflation rate has no tendency to increase or decrease. It is the equilibrium rate of unemployment towards which the economy moves in the long run.

The term natural rate of unemployment (NAIRU) entered the language of macroeconomics in the 1970s, a period marked by high and rising inflation. NAIRU refers to the specific level of unemployment that does not cause inflation to increase. When unemployment is at the NAIRU level, inflation remains constant. It represents an equilibrium between the state of the economy and the labor market. NAIRU is considered the lowest level of unemployment that can exist in an economy before inflation begins to rise. Friedman and Phelps argued that rational, well-informed employers and workers pay attention only to real wages, which reflect the inflation-adjusted purchasing power of money wages. In their view, real wages adjust to bring the supply of labour equal to the demand for labour, and the resulting employment level corresponds to the natural rate of unemployment.



## Recap

1. Okun's Law explains the relationship between changes in the unemployment rate and the growth rate of real GDP
2. According to Okun's Law, for every 2% fall in GDP below potential GDP, the unemployment rate rises by about 1 percentage point
3. The Okun gap version equation, $y - y^* = -\beta(u - u^*)$, shows how the output gap is caused by deviations in unemployment from its natural rate

4. The Phillips Curve shows the inverse relationship between unemployment and inflation

5. Phillips concluded that price stability can exist only with a relatively high level of unemployment

6. The Phillips Curve is downward sloping, showing that money wage increases are inversely related to unemployment

7. In the short run, inflation and unemployment have an inverse relationship

8. The long-run Phillips Curve shows that there is no trade-off between inflation and unemployment in the long run

9. Friedman and Phelps argued that the Phillips Curve does not hold in the long run because inflation expectations adjust

10. NAIRU represents the lowest unemployment an economy can sustain without causing inflation to accelerate

## Objective Questions

1. What does Okun's Law explain?

2. By how much does unemployment rise if GDP falls by 2% below potential?

3. What does the Okun coefficient ($\beta$) measure?

4. What is the difference between actual GDP and potential GDP called?

5. What two variables are related in the Phillips Curve?

6. When can non-inflationary price stability exist according to Phillips?

7. What is the slope of the short-run Phillips Curve?

8. Name another cause of the inverse relationship in the Phillips Curve.

9. What kind of relationship exists between inflation and unemployment in the short run?

10. What happens to the Phillips Curve in the long run?

11. Who developed the long-run (expectations-augmented) Phillips Curve?

12. What happens to the short-run Phillips Curve when inflation expectations increase?

13. Is there a trade-off between inflation and unemployment along the long-run Phillips Curve?

14. What does NAIRU stand for?

15. What happens to inflation at the NAIRU level of unemployment?

16. What does NAIRU represent in terms of unemployment?

17. What adjusts to bring labor supply and demand into equilibrium according to Friedman and Phelps

## Answers

1. The relationship between GDP and unemployment
2. 1%
3. The responsiveness of unemployment to changes in GDP
4. Output gap
5. Unemployment and inflation
6. When unemployment is high
7. Downward
8. Labour shortages
9. Inverse
10. Vertical
11. Friedman & Phelps
12. Shifts upward
13. No
14. Non-Accelerating Inflation Rate of Unemployment
15. Inflation remains stable
16. Natural rate of unemployment
17. Real wages

## Assignments

1. Explain the meaning and features of stagflation.
2. Discuss the majour causesa of stagflation in the 1970s.
3. Explain the measures to control stagflation.

## Reference


1. Laurence Ball and N. Gregory Mankiw, *The NAIRU in Theory and Practice*, Journal of Economics perspective- Volume 16, 2002.
2. N. Gregory Mankiw, *Macroeconomics*, Worth publisher's 7 th edition, 2010.


## Suggested Reading


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UNIT 3

# Stagflation

## Learning Outcomes

After completing this unit, the learner will be able to:

- discuss stagflation and its components
- know the causes and effects of stagflation during the 1970s
- identify strategies and policy measures used to control stagflation

## Prerequisite

Stagflation is an unusual and harmful economic condition in which an economy experiences slow or no economic growth, high inflation, and high unemployment at the same time. The term, created by combining stagnation and inflation, was first used in 1965 by British politician Iain Macleod, who warned that the United Kingdom was facing "the worst of both worlds, stagnation and inflation together." During the 1970s, this situation became severe across many countries, especially after the oil crisis. Stagflation surprised economists because the widely accepted Phillips Curve suggested that inflation and unemployment would move in opposite directions. Therefore, the simultaneous increase in prices and unemployment challenged long held beliefs about how economies behave.

This period revealed major weaknesses in traditional Keynesian macro economics, which assumed a predictable tradeoff between inflation and unemployment. Keynesian policies mainly focused on managing demand through government spending or taxation to influence output and prices. However, in the 1970s, economies were struck by high inflation, rising unemployment, and stagnant growth at the same time, showing that demand-based solutions were not enough. Stagflation proved that the Phillips Curve was not stable in the long run, that inflation could rise even when unemployment was high, and that supply side shocks, such as sharp increases in oil prices, could disrupt the economy in ways

that traditional Keynesian policies could not effectively handle. So, in this unit we will study the stagflation of the 1970s in detail.

## Keywords

Stagflation, Inflation, Stagnation, Phillips Curve, Natural Rate of Unemployment, NAIRU, Supply Shock, Gold Standard, Cost Push, Demand Pull

## Discussion

### 3.3.1 Stagflation of 1970s

By the late 1960s, the post–World War II economic boom began to fade. The United States faced increasing international competition, a decline in manufacturing jobs, and the heavy financial burden of the Vietnam War. As a result, both unemployment and inflation began to rise at the same time. During the early 1960s, policymakers believed, based on the Phillips Curve, that they could reduce unemployment permanently by accepting slightly higher inflation. However, this relationship held only in the short run. Milton Friedman, who opposed the Keynesian view, argued that the tradeoff between unemployment and inflation existed only temporarily and would not work in the long run.

In the 1970s, an unexpected situation emerged in which both unemployment and inflation remained high. This condition came to be known as stagflation. The word combines stagnation and inflation. Stagnation refers to very slow or no economic growth, often less than two percent annually, while inflation refers to a sustained rise in the general price level of goods and services. Thus, stagflation describes a situation in which slow growth, rising prices, and high unemployment occur together.

The term stagflation first appeared in 1965 when British politician Iain Macleod warned that the country had "the worst of both worlds, not just inflation or stagnation, but both together." Stagflation in the 1970s occurred due to a combination of policy failures and major supply-side shocks. The Federal Reserve attempted to control inflation using monetary policy, but this sometimes-worsened unemployment. The situation became more severe when the Organization of Petroleum Exporting Countries (OPEC) imposed an oil embargo on the United States, leading to sharp increases in oil prices and production costs. As a result, the economy experienced high oil prices, high inflation, increasing unemployment and recessionary conditions.

## 3.3.2 Reasons of Stagflation of 1970s

1. **The 1973 Oil Crisis: A Major Trigger :** In 1973, the Organisation of Petroleum Exporting Countries (OPEC) restricted oil exports to the United States and several Western countries due to political tensions in the Middle East, creating a sudden shortage of oil. As a result, oil prices increased fourfold within a few months, production costs for industries rose sharply, transportation costs went up, and energy-dependent sectors slowed down. This supply shock pushed many economies into recession and became a major cause of stagflation. The sudden rise in oil prices also increased the cost of living for households, reducing their purchasing power. Industries faced reduced profits, which led to layoffs and further increased unemployment.

2. **Supply Shocks :** The oil shock caused the aggregate supply curve to shift leftward, leading to higher prices, lower output, and job losses, which together created stagflation. In addition, the rising production costs forced many businesses to cut back on investment, slowing economic growth even further. Consumer confidence also fell as households faced higher living costs and job insecurity, which reduced overall demand and prolonged the economic slowdown.

3. **End of the Gold Standard :** In 1971, the convertibility of the U.S. dollar into gold was ended by President Richard Nixon, an event known as the "Nixon Shock." As a result, confidence in the U.S. dollar was weakened, the currency was depreciated, and the prices of imported goods were increased, which further raised inflation. In addition, global financial markets were destabilised due to uncertainty about exchange rates, and greater volatility was created in international trade as countries struggled to adjust to the new floating exchange rate system. All these effects added to the stagflationary pressures already faced by the economy.

4. **Differential Accumulation :** Economists Jonathan Nitzan and Shimshon Bichler argue that differential accumulation is another reason behind stagflation. Differential accumulation refers to the way large companies merge or acquire other firms to increase their market power and limit the supply of goods. This concentration of economic power in the hands of a few leads to higher prices and reduces competition, which can increase the risk of stagflation. It also makes it harder for smaller businesses to survive and slows down overall economic growth. As a result, wealth becomes concentrated, and inflationary pressures are reinforced across the economy.

5. **Cost-Push Factors and Stagflation :** Cost-push inflation occurs when the overall price level rises because the cost of production increases. This can happen due to higher wages, increased profit margins, or additional taxes on goods and services. During the 1970s stagflation, cost-push factors were significant in many countries. For example, after the 1973 oil crisis, oil prices quadrupled, which increased the cost of energy for industries and transportation. This made production more expensive, and companies passed these higher costs onto consumers, pushing prices up. Rising wages also played a role. In several industrialised nations, strong labor unions demanded higher wages to keep up with the rising cost of living, even when

productivity did not increase proportionally. For instance, in the United States and the United Kingdom, strikes and wage negotiations in key sectors like steel, manufacturing, and mining led to higher labor costs, which further pushed up prices. Excessive commodity taxes and other regulatory costs also added to production expenses. All these cost-push factors combined with supply constraints, like the oil shock, created a situation where prices rose, economic growth slowed, and unemployment remained high-resulting in stagflation.

6. **Policy Mistakes :** During this period, several policy mistakes were made by governments and central banks. The money supply was increased in an attempt to stimulate growth, and large budget deficits were allowed to continue. Wages were permitted to rise faster than productivity, which further weakened the economy. These actions raised inflation but failed to reduce unemployment. Milton Friedman strongly criticised these policies and argued that inflation cannot lower unemployment permanently.

7. **Demand-Pull Factors** : One of the major causes of stagflation is a sharp increase in demand, known as demand-pull inflation. This happens when the total demand for goods and services in the economy exceeds what can be produced at current prices, causing prices to rise. During the 1970s, for example, many countries, including the United States, increased government spending to fund the Vietnam War and social welfare programs. At the same time, consumer demand was rising as incomes increased after the post-World War II boom.

Monetarists like Milton Friedman argued that this excessive increase in money supply was a key factor. More money in people's hands raised their purchasing power, which increased demand for goods and services. However, production could not keep pace, leading to higher prices without a corresponding increase in output. For instance, in the early 1970s, the rapid growth in consumer demand combined with rising energy costs pushed overall prices higher, contributing to the stagflation experienced during the oil crisis.

Keynesians also explained that when aggregate demand exceeds aggregate supply, an inflationary gap arises. In the 1970s, the combination of increased consumer spending, government expenditure, and easy credit created such a gap. The larger the gap, the faster prices rose, even though economic growth slowed and unemployment remained high. This real-life situation demonstrates how excessive demand, alongside supply constraints like the oil shock, fueled stagflation.

## 3.3.3 Effects of Stagflation in the 1970s

Stagflation in the 1970s had severe consequences on economies worldwide, combining high inflation, high unemployment, and slow economic growth. The main effects included:

1. **Reduced Economic Growth** : Economic growth slowed significantly in many countries. For example, the United States faced a period of low GDP growth after the 1973 oil shock, with some quarters showing negative

growth. Similarly, the United Kingdom struggled with near-zero growth, marking the end of the post-World War II economic boom.

2. **Rising Prices (Inflation) :** The sharp increase in oil prices caused costs for industries and transportation to rise, which was passed on to consumers. In the U.S., inflation doubled in 1973 and reached double digits by 1974. Basic goods and services became significantly more expensive, reducing the purchasing power of households.

3. **High Unemployment :** Unemployment rose alongside inflation, which was unusual and contrary to the Phillips Curve expectations. In the U.S., unemployment reached around 9 percent by May 1975. Similarly, the UK and other European countries faced rising joblessness, especially in manufacturing sectors affected by international competition.

4. **Lower Investment** : Economic uncertainty and high inflation discouraged businesses from investing in new projects. Companies delayed expansion or modernization because rising costs and uncertain demand made investment risky.

5. **Reduced Savings and Impact on Fixed Incomes** : Inflation eroded the value of savings and fixed incomes. Pensioners and people on fixed wages found it increasingly difficult to maintain their standard of living.

6. **Financial Market Disruption** : High inflation and interest rates negatively affected bond and stock markets. Investors faced losses, and financial instability increased.

7. **Social and Political Pressure** : The combination of unemployment and rising living costs led to widespread dissatisfaction. In the UK, strikes and labor unrest became common, and governments faced political pressure to manage the crisis.

The 1970s stagflation demonstrated that an economy could face high inflation and unemployment simultaneously, challenging existing economic theories. The oil shock, rising wages, and policy errors were key contributors, and the effects were felt across households, businesses, and governments globally.

## 3.3.3 Measures to Control Stagflation

Stagflation is extremely difficult to control because the economy suffers from two opposite problems at the same time: high inflation, high unemployment, and slow or negative economic growth. Traditional policy tools usually solve only one problem at a time, which makes the situation more complicated. After experiencing severe stagflation during the 1970s, many countries learned important lessons and adopted strategies to prevent similar crises in the future. These strategies were based on real policy actions taken by governments and central banks in the late 1970s and early 1980s, especially in countries like the United States, the United Kingdom, Japan, and several European nations.

1. **Tight Monetary Policy** : Tight monetary policy is used as an important tool against stagflation. It means reducing the growth of money in the economy in order to control inflation. A famous example is the policy followed by Paul Volcker, the Chairman of the U.S. Federal Reserve from 1979 to 1982. To fight the high inflation of the 1970s, he sharply increased interest rates, and at one point the short-term interest rate reached almost 20 percent. This made borrowing costly and reduced spending in the economy. As a result, inflation fell sharply from more than 13 percent in 1980 to around 4 percent by 1983, although unemployment temporarily increased. The main lesson from this experience is that strict control over the money supply and higher interest rates can reduce inflation and help prevent stagflation in the long run

2. **Energy Diversification :** Reducing dependence on oil is another important solution to prevent stagflation. The idea is to make the economy less vulnerable to sudden increases in oil prices. After the oil price shocks of 1973 and 1979, many countries took strong steps to diversify their energy sources. The United States increased investment in domestic oil production, especially in Alaska. Japan moved quickly toward nuclear power and developed energy efficient technology. Several European countries encouraged the use of public transport and promoted fuel efficient cars. These measures helped reduce dependence on oil from the Middle East, making the economies less likely to face severe supply problems like those seen in 1973.

3. **Wage and Price Controls :** Wage and price controls are sometimes used as a temporary method to stabilise the economy during stagflation. The government tries to prevent excessive wage demands and sudden increases in prices. A well-known example is the wage and price freeze introduced in the United States in 1971 under President Nixon. For ninety days, wages and prices were not allowed to increase. This provided short term relief and slowed down inflation for a while. However, it did not offer a lasting solution. The main lesson is that wage and price controls can reduce the immediate pressure on the economy, but they cannot permanently prevent stagflation.

4. **Supply-Side Policies :** Supply side policies are used to increase production and improve efficiency in the economy so that growth can happen without creating inflation. Countries like the United Kingdom under Margaret Thatcher in the late 1970s and 1980s followed such policies. The government reduced the power of trade unions, privatised inefficient industries such as coal, steel, and telecommunications, and encouraged more competition in the market. As a result, productivity improved, inflation came down, and unemployment gradually decreased. This helped the United Kingdom come out of the stagflation problem. In the United States, similar policies were introduced during the Reagan period. Taxes were reduced to encourage investment, and many industries such as airlines and energy were deregulated. These steps helped businesses expand, increased innovation, and brought inflation under control.

5. **Controlling Government Deficits :** Controlling government deficits is an important strategy to prevent stagflation. Excessive government spending can increase inflation, so many countries adopted fiscal discipline after the 1970s. For example, Germany maintained strict limits on budget deficits,

and the United States temporarily reduced government spending under the Volcker and Reagan policies. Maintaining stable government budgets helps reduce inflationary pressure during periods of slow economic growth and keeps the economy more stable.

6. **Improving Labour Market Flexibility :** Improving labour market flexibility helps the economy adjust more quickly to changing conditions. In the 1970s, strong trade unions in the United Kingdom demanded high wages even when productivity was low, which contributed to inflation. During the 1980s, labour market reforms limited the power of unions and reduced the frequency of strikes. As a result, wage pressures decreased, inflation fell, and the overall economy became more stable.

7. **Strengthening Monetary Policy Frameworks** : Strengthening monetary policy frameworks involves giving central banks more independence so they can control inflation without political interference. For example, in 1997, the Bank of England became independent and was clearly tasked with maintaining low inflation. Similarly, the European Central Bank was established with a strict mandate to control inflation. These measures helped countries avoid the type of inflation mismanagement that contributed to stagflation in the 1970s.

Stagflation is a challenging economic condition where slow growth, high inflation, and high unemployment occur simultaneously. The experience of the 1970s showed that traditional demand-based policies alone could not solve such crises. Lessons from that period, including tight control of money supply, reducing dependence on oil, supply-side reforms, fiscal discipline, labour market flexibility, and independent central banks, have helped countries prevent similar situations in the future. A combination of careful monetary, fiscal, and structural policies is essential to maintain economic stability and avoid the risks of stagflation.



## Recap

- Stagflation occurs when an economy experiences slow growth, high inflation, and high unemployment simultaneously
- The term “stagflation” was first used by Iain Macleod in 1965
- Keynesian demand-based policies could not control both inflation and unemployment at the same time
- The 1970s stagflation was caused by the oil crisis, supply shocks, the end of the gold standard, cost-push and demand-pull factors, differential accumulation, and policy mistakes
- Large firms increased market power, limited competition, and raised prices, a phenomenon called differential accumulation

- Higher wages, oil prices, and taxes increased production costs, causing cost-push inflation
- Excessive government spending and high consumer demand created demand-pull inflation
- Tight monetary policy, like Paul Volcker's high-interest-rate strategy, reduced inflation in the early 1980s
- Effective prevention of stagflation requires a combination of monetary, fiscal, and structural policies

## Objective Questions

1. What is the meaning of stagflation?
2. Who first used the term "stagflation" and in which year?
3. Name the major supply shock that triggered stagflation in 1973.
4. How did the end of the gold standard contribute to stagflation?
5. Define differential accumulation and its impact on stagflation.
6. List at least two policy mistakes that worsened stagflation.
7. Mention three effects of stagflation on the economy.
8. Give one example of tight monetary policy used to control stagflation.
9. What measures were taken by countries to reduce dependence on oil?
10. How did supply-side policies help economies overcome stagflation?



## Answers

1. Stagnation-inflation
2. Iain Macleod, 1965

3. Oil crisis
4. Dollar depreciation
5. Market concentration
6. Excess money supply and high wages
7. Inflation, unemployment, low growth
8. Volcker policy
9. Energy diversification
10. Productivity growth

## Assignments

1. Explain the meaning of stagflation and describe its main features.
2. Discuss the major causes of stagflation in the 1970s.
3. Explain the concepts of differential accumulation and cost-push inflation with examples from the 1970s.
4. What were the demand-pull factors that contributed to stagflation during the 1970s?
5. Describe the policy measures used to control stagflation.



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1. Phillips, A. W. (1958) '*The Relationship between Unemployment and the Rate of Change of Money Wage Rates in the United Kingdom*', Economica, Vol 25
2. Phelps, E. (2006) *Analysis of Intertemporal Tradeoffs in Macroeconomic Policy*, The Royal Swedish Academy of sciences, Stockholm, Sweden.
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2. N. Gregory Mankiw, *Macroeconomics*, Worth publisher's 7 th edition, 2010.


BLOCK

# Business Cycles

UNIT 1

# Business Cycles - Phases

## Learning Outcomes

After completing this unit, the learner will be able to:

- know about trade cycles
- learn about different phases of trade cycles
- comprehend on aggregate economic activity

## Prerequisite

A trade cycle is the periodic growth and decline of a nation's economy, measured mainly by its GDP. Governments try to manage trade cycles by spending, raising or lowering taxes, and adjusting interest rates. Trade cycles can affect individuals in a different way, from job-hunting to investing. Trade cycles have no defined time frames. A trade can be short, lasting a few months, or long, lasting several years. Trade cycles are marked by the alternations of the phases of expansion and contraction in aggregate economic activity, and the movement among economic variables in each phases of the cycle. Aggregate economic activity is represented by not only the measure of aggregate output but also the aggregate measures of industrial production, employment, income, and sales. Generally, periods of expansion are more prolonged than the periods of contraction, but the actual length can vary. Since the end of the world war second, the average period of expansion in the U S lasted 65 months, and the average contraction lasted about 11 months. According to the Congressional Research Service, understanding the different phases of a trade can help individuals make lifestyle decisions, investors make financial decisions and government take appropriate policy decisions.

## Keywords

Trade Cycle, Aggregate Demand, Expansion, Contraction, GDP, Boom, Recession, Depression, Recovery.

## Discussion

### 4.1.1 Trade Cycles

***"The modern world regards business cycles mush as the ancient Egyptians regarded the overflowing of the Nile. The phenomenon recurs at intervals, it is of great importance to everyone, and natural causes of it are not in sight."***

***John Bates Clark, 1898***

It is no surprise the Covid-19 pandemic caused the global economy to come to a screeching half early in 2020.Quarantines and social distancing shuttered the service companies causing a drastic decrease in demand, leads to widespread layoffs in industries like leisure, hospitality and airlines. Manufacturing companies struggled with decreasing demand and production delays caused by workers contracting the virus and the subsequent inability to work. In April 2020, International Labour Organisation (ILO) estimated that nearly 2.5 crore jobs could be lost worldwide due to the covid -19 pandemic. This cyclical nature of the economy is taken into account when policy makers take major decisions. Just because the cycles are repetitive does not mean they can be avoided. The fluctuations are indicated by parameters like GDP, production, employment, aggregate demand, real income, and consumer spending. Economic fluctuations present a recurring problem for economists and policy makers.

Considering a single country case, on average, the real GDP of the United States grows between 3 and 3.5 percent per year. But this long run average hides the fact that the economy's output of goods and services does not grow smoothly. Growth is higher in some years than in others; sometimes the economy turns negative. When the economy experiences a period of falling output and rising unemployment, the economy is said to be in recession. A recent recession began in late 2007. From the third quarter of 2007 to the third quarter of 2008, the economy's production of goods and services expanded by a paltry 0.7 percent well below the normal rate of growth. The unemployment rate rose from 4.7 percent in November 2007 to 8.5 percent in March 2009. Economists call these short-run fluctuations in output and employment the business cycle. Although this term suggests that economic fluctuations are regular and predictable, they are not. This economic upward swings and downward swings called Trade cycles.

A 'trade cycles' commonly called 'business cycles' or "economic cycles" refers to a series of stages in the economy as it expands and contracts. A trade cycle refers to fluctuations in economic activities especially in employment, output, income, price and profits. It has been defined differently by different economists. According to J M Keynes

"a trade cycle is composed of periods of good trade characterized by rising prices and low unemployment percentages and altering with periods of bad trade characterised by falling prices and high unemployment percentages". Keynes has thus specified two indices namely prices and unemployment for measuring the upswing and downswing of the trade cycles.

### 4.1.1.1 Features of Trade Cycles

1. A trade cycle is synchronic. When cyclical fluctuation started from one sector it spread it to other sectors.

2. In a trade cycle, the period of prosperity is followed by the period of depression. Hence the trade cycle is a wave like movement.

3. A business cycle is recurrent and rhythmic; prosperity is followed by depression and vice versa.

4. A trade cycle is cumulative and self- reinforcing. Each phase feeds on itself and creates further movement in the same direction.

5. A trade cycle is asymmetrical. The prosperity phase is slow and gradual, and the phase of depression is rapid.

6. The business cycle is not periodical. Some trade cycles last for three or four years, while others last for six or eight or even more years.

7. The impact of a trade cycle is differential. It affects different industries in different ways.

8. A trade cycle is international in nature. Through international trade, booms and depressions in one country are passed to other countries.

### 4.1.1.2 Phases of a Trade Cycles

Think of business cycle like a tide, a natural never-ending ebb and flow from high tide to low tide and back again. And the same way the waves can suddenly seem to surge even when the tide's going out or seem low when the tides coming in there can be interim, contrarian bumps either up or down in the midst of a particular phase. All business cycles are bookended by a sustained period of economic growth, followed by a sustained period of economic decline. Major phases include depression, recovery/ expansion, boom or prosperity, and recession. Peak and trough are called turning points in a business cycle.

**a. Depression**

It is a protracted period in which business activity in the country is far below the normal. It is characterised by a sharp reduction of production, mass unemployment, falling prices, low wages and an atmosphere of all-round pessimism and despair. Since the costs are "sticky" and do not fall as rapidly as prices, the manufacturers suffer huge

financial losses. The prices of agriculture commodities and raw materials fall to a great extent than the prices of finished manufactured goods. The agriculturists are hit more than the manufacturing classes. Weaker firms are eliminated from the industries.

**b. Recovery and Expansion**

The basic thing is that there is a limit to which an economy can go down. When the economy hits the bottom and stays there for sometimes, it makes the end of pessimism and the beginning of optimism. The reversal begins in the labour market. The widespread unemployment brings down the wages. The producers anticipating the better future offer jobs to some workers here and there. The halt in the decrease in price encourages consumers to resume their postponed consumption. Therefore, the demand picks up gradually. Bankers have accumulated idle cash reserve try to improve their financial position by lowering the lending rate and by investing their funds in securities and bonds even if rate of return is very low. Similar action is taken by private investors. Consequently, stock prices rise, and interest rate move downward. Investments pick up and employment gradually increase. Economic activities get accelerated.

As the recovery gathers momentum, some firms plan additional investment, some undertake renovation programmes, and some undertake both. These activities generate construction activities in both consumer goods and capital goods sectors. Employment levels go up, wages rise and consumption expenditure increases. The economy passes through a phase of expansion.

**c. Boom (Prosperity)**

According to Prof. Haberler, boom or prosperity is a situation in which the real income consumed, and the level of employment are high. There are no idle resources or unemployed workers. During this period, economic activities are at hike. The level of wages and the prices is high though wages lag prices. The continuance of investment even after the stage of full employment results in a sharp inflationary rise of prices. This cause undue optimism businessmen and industrialists who make additional investments in the various fields of the economy. This put additional pressure on the factors of production which are already fully employed causing a sharp rise in their prices. Soon a situation develops in which the number of jobs exceeds the number of workers available in the market. Profit's touch new heights. Attracted by the rising profits businessmen and industrialists further increase their capital investments. There is an atmosphere of over-optimism all around.

**d. Recession**

The boom carries with it the seeds of self-destruction. Bottlenecks begin to appear in the various sectors of the economy. Factors of production become scarce causing further spurt in their prices. Cost calculations of the businessmen and the industrialists are completely upset. This makes the businessmen over cautions. They now begin to stay away from new projects and even stop the expansion of the existing units. This prepares the ground for the recession. The boom is followed by a burst. Optimism gives way to pessimism characterized by hesitation and fear on the part of the businessmen. Failure of some business enterprises. Building construction slows down and unemployment

appears in basic and capital goods industries. This initial unemployment then spreads to other industries. Unemployment leads to fall in income, expenditure, prices, and profits. A recession starts and it goes on gathering momentum. It finally assumes the shape of depression. The following diagram explains the four phases of a typical trade cycle.

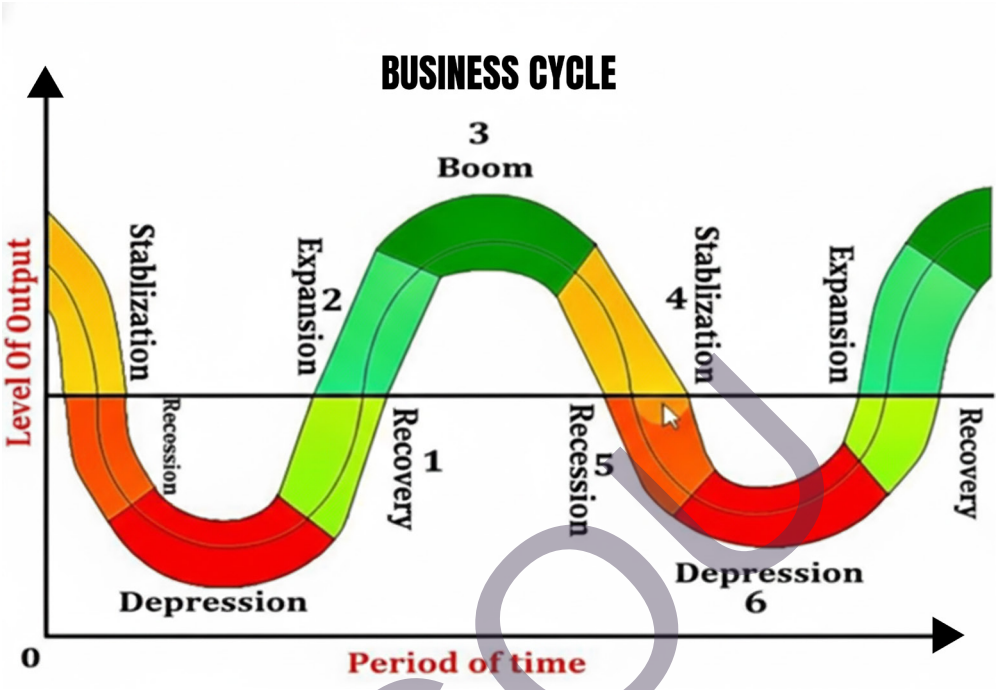


**Fig 4.1.1 Phases of a Trade Cycle**

We started from depression when the level of economic activity i.e., the level of production and employment is the lowest. The second phase represents the recovery from depression due to the revival of economic activities. The recovery reaches the boom. This stage of prosperity cannot continue indefinitely. The recession or the downswing starts leading to depression. In the above diagram, the cyclical fluctuations take place around a growth path. The growth path represents long run rising trend in economic activities. Then, the trade cycles represent short run trends in economic activities. However, we cannot say anything definite about the duration or length of the various stages of the trade cycle. This cyclical fluctuation is considered as a part and parcel of a free enterprise capital country.

From technological innovations to wars, a variety of things can shift a business cycle's phases. But, according to the Congressional Research Service, the key influence boils down to the aggregate supply and demand within an economy. Economists speak for the total spending that individuals and companies do. When that demand decrease, a contraction occurs. Likewise, when demand increases an expansion take place. The trade cycle move in natural phases doesnot mean they canot be influenced. Countries can and do try to manage the various stages slowing them down or spending them up using monetary policy and fiscal policy is carried out by the government and monetary policy by a nation's central bank.

## Recap

- Trade cycles are comprised of concerted cyclical upswings and downswings in the broad measure of economic activity like output, employment, income, and sales
- Trade cycle is the overall state of the economy as it goes through four stages in a cyclical pattern
- The four stages of the cycle are recovery, boom, recession, and depression
- An economic cycle is the periodic growth and decline of a nation's economy, measured mainly by its GDP
- GDP, interest rate, total employment and consumer spending are the factors that help to determine the current stage of the trade cycles
- Insight into economic cycles can be very useful for business and investors
- Government tries to manage trade cycle by spending, raising, or lowering taxes and adjusting interest rates
- Trade cycle can affect individuals in several ways from job hunting to investing
- The boom period of the trade cycle marked by high levels of business activity
- The depression period is prolonged and is painful because of widespread unemployment
- The risk and adverse effects of the phases can be mitigated by through wisely devising monetary and fiscal policies



## Objective Questions

1. How many phases in a trade cycle?
2. What is the lower point in trade cycle?
3. In a trade cycle depression is followed by?

4. Which one phases is the upper turning point of the trade cycle?

5. What cause the rapid increase in interest rate?

6. When aggregate economic activity is increasing, the economy is said to be in?

7. What is the correct sequence of the phases of occurrence of business cycles?

8. When aggregate economic activity is declining the economic activity in a position?

9. Which are the turning points of a trade cycles?

## Answers

1. Four phases.
2. Trough.
3. Recovery.
4. Boom
5. Recession.
6. Expansion.
7. Recovery, Boom, Recession and Depression.
8. Contraction.
9. Peak and Trough.

## Assignments

1. Explain the meaning of business cycles and describe the main phases of a business cycle with suitable examples.

2. Analyse the characteristics of each phase of the business cycle and discuss how economic variables such as output, employment, and investment behave across these phases.

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UNIT 2

# Theories of Trade Cycle

## Learning Outcomes

After completing this unit, the learner will be able to:

- learn about different theories of trade cycles
- grasp Hawtrey's theory and Hayek's theory of trade cycles
- comprehend Keynesian theory of business cycle
- get an insight into the monetarist interpretation of business cycle

## Prerequisite

The recent global crisis has once again questioned economists ability to explain business cycle mechanism and to provide policy solutions to economic crises. Several theories have been proposed to explain the concept of the business cycle. Most of the contributions to the theory of business cycle were made in the early twentieth century, but, however the business cycles took place throughout the nineteenth century. The classical economists such as Adam Smith, Mill, Ricardo and Malthus had laid that cycles are temporary and economy .

The classical school of the thought believed that "supply creates its own demand" was the most valid and accurate explanation of the world economic behaviour and that the unemployment arises due to the inflexible wages and the interest rates. According to Adam Smith, the market forces is the invisible hands, that would maintain the stability in the economy by themselves. Then came Keynes, who proposed the general economic theory wherein he provided standard tools to analysis the causes of fluctuations in the economic activities. In the post-Keynesian era, the main contributors to the business cycle theories include Hicks, Samuelson, Harrod and others. We pay more attention to monetary

business cycles, and we investigate whether they do account for cyclical behaviour observed in the economy.

## Keywords

Monetarism, Business cycle, Inflation, Deflation. Money Supply, Market Rates, Recession, Boom, Monetary Demand, Expansion and Contraction, Accelerator, Natural Rate of Interest, Equilibrium Rate of Interest, Marginal Eficiency of Capital, Investment Multiplier, Weather Shock, Economic Stability, Recession

## Discussion

### 4.2.1 Theories of Trade Cycles

Economists have identified different causes for the occurrence of trade cycle in an economy and formulated various theories of trade cycles. A systematic study of business cycles, however, is a relatively recent development. Most of the importance contributions to the theory of trade cycle were made in the first half of the twentieth century though business cycles have taken place throughout the nineteenth century. The classical economists Adam Smith, Mill, Malthus and Ricardo, have devoted little attention to the causes of trade cycles. The classical school believed that Say's law, "Supply creates its own demand," was a valid representation of the world economic behaviour and that unemployment appears only if wages and interest rates are inflexible. Market forces, what Adam Smith called "invisible hand" would by themselves maintain stability in the economy. Between 1890 and First World War, however, several importance contributions were made to the trade cycle theory.

Although many important contributions were made to the theory of business cycle prior to the Great Depression, the study of trade cycle remained outside the general economic theory. It was Keynes, who provided a general theoretical framework, in which the theory of trade cycle could be interwoven. In his General Theory, he provided standard tools for analysing the economic fluctuations though he himself had said little about the cause of cyclical fluctuations. Hicks had remarked that Keynesian economics had done all for understanding of business fluctuations but has left out the analysis of trade cycle itself. In the Post-Keynesian era, the main contributions to the cycle theory includes Metzler, Harrod, Samuelson, Kaldor, Hicks Goodwin and Dusenberry.

The following theories are important contributions. For the sake of clarity, the theories can be classified as:

**a. Non- Monetary Theories**

These theories emphasis non-monetary causes. The non-monetary theories are:

1. Stanley Jevon's sunspot theory.
2. Pigou's psychological theory.
3. Socialists over production theory
4. Douglas and Hobson's over- saving theory/ under consumption theory.
5. Schumpeter's innovation theory.
6. Cobweb theorem.

**b. Monetary Theories**

These asserts monetary causes. The monetary theories of trade cycle include,

1. Hawtrey's theory of business cycle.
2. Hayek's over investment theory.
3. Keynes's theory of business cycle and
4. Hick's theory of business cycle.

## 4.2.1.1 Hawtrey's Theory

Ralph G. Hawtrey was educated Eton and Trinity College, Cambridge, with a B.A. in mathematics in 1901. Although he never attended any of Marshall's lectures at Cambridge, Ralph Hawtrey has been considered a Marshallian economist. This might be right. Although Hawtrey worked at the Treasury most of his life, entering in 1904, Hawtrey's numerous writings on economics have an unmistakable Cambridge hue. Most notable is Hawtrey's contributions to the Cambridge cash-balance approach to money. An early friend of John Maynard Keynes, Hawtrey was also an early critic of the Treatise. In his most famous work, Hawtrey adopted Wicksell's cumulative process to derive his famous 1919 overconsumptions monetary theory of business cycles.

According to Prof. R. G. Hawtrey, Hawtrey emphasised monetary factors as the primary drivers of trade cycle. It is the changes in the flow of monetary demand on the part of businessmen that leads to prosperity and depression in the economy. He says that non-monetary factors like strikes, floods, earthquakes, droughts, wars, etc. may at best cause a partial depression, but not a general depression.

An elastic money supply is the basic cause of the operation of this business cycle. Expansion and contraction of money supply leads to expansion and contraction of business activities. In short, inflation and deflation cause fluctuations in business activities. His theory based upon the fact that banks are able to create money and bank

credit forms an important part of the total money circulation in a country. According to Hawtrey the fluctuations in economic life are owing to the expansion and contraction of bank credit.

Now, let us see how the upswing starts. The banking system as whole creates and supplies more money at lower rate of interest. Availability of credit at a lower interest rate induces the traders to have good stock of consumer goods. Naturally, they place large orders with the manufacturers. The manufacturers buy more materials, employing more labourers and reorganising their production units, produce and supply a large output. A vicious circle set up, a cumulative expansion of productive activities. A rise in the level of production increases the flow of money income. People demand more goods, the level of production and employment rises, and a period of prosperity is experienced everywhere.

But this period of boom is not an indefinite one. After a stage, the economy begins to experience a recession which ultimately leads to a depression. The banks which have so far following a liberal policy of credit expansion now find that their cash resources have been exhausted. Consequently, they stop their policy of credit expansion and give notice to the traders are forced to take out their stocks and sell them even at lower prices for money. More goods come to the market, and the prices tumble down. The manufacturers get less orders, they restrict their production, some are forced to close down their units, and unemployment become quite common in the industrial sector. An unbalanced situation of more goods and less money together with lower production and unemployment inaugurates a depression. People try to hoard the scanty money income which they receive. This action adds fuel to the fire. Thus, the banks are responsible for the down swing also. In the words of Prof. Pen "Bankers make and break economic life.

**Criticism**

1. This theory does not furnish a comprehensive explanation of the business cycle. As pointed out by Pigou "variations in the bank money supply are a part of the business cycle, it is not the case of it." At the bottom of the depression, credit is easily available. Even then, it falls to bring a revival. Similarly, contraction of credit cannot bring a depression. At best, it can create a condition for that. Thus, expansion and contraction of credit cannot originate either boom or depression in the economy.

2. Money supply cannot continue a boom or delay a depression. Haberler has criticise Hawtrey for "his contention that the reason for the breakdown of the boom is always a monetary one and that prosperity could be prolonged, and depression stayed off indefinitely if the money supply were inexhaustible." But the fact is that even if the supply of money is exhaust ible in the country, neither prosperity nor depression can be delayed indefinitely.

3. Traders do not depend only on bank credit. Hamberg has criticised Hawtrey for the role assigned to wholesalers in his analysis. The kingpin in Hawtrey's theory is the traders or wholesalers who gets credits from banks and starts the upturn or vice-versa. In actually, traders do not depend exclusively on bank credit, but they finance business through their own accumulated funds and borrowing from private sources.

4. The theory exaggerates the importance of bank credit as a means of financing the development and expansion of business firms. As we know, the big firms often resort to the policy of ploughing back their profits for expansion and development.

5. Factors other than interest rate are often have more importance. It is an exaggeration to say that the decisions of traders regarding accumulation or depletion of stocks are solely governed by changes in interest rate. As a matter of fact, factors other than the rate of interest are more important in influencing such decisions. They are business expectations, price changes, cost of storage, etc.

6. Inventory investment does not produce true cycles. Hamberg further points out that in Hawtrey's theory cumulative movements in economic activity are the result of changes in stocks of goods. But fluctuations in inventory investment can at best produce minor cycles which are not cycles in the true sense of the term.

7. Hawtrey's theory of business cycles does not explain periodicity of cycles. The theory also fails to explain the periodicity cycle.

8. It is an incomplete theory as it does not take into account the non monetary factors which cause business fluctuations. Hawtrey's theory emphasises only monetary factors and totally ignores such non monetary factors as innovations, capital stock, multiplier-accelerator interaction, etc.

However, Hawtrey's theory still retains its importance because the changes in money supply can at least accentuate the upswing or the downswing of business activities. He asserts that changes in the flow of money are the sole and adequate cause of economic fluctuations. But, a trade cycle, being a complex phenomenon, cannot be attributed to a single cause. There are various nonmonetary factors, besides monetary factors which influence economic activity. Thus, it trades cycles are a purely monetary phenomenon

### 4.2.1.2 Hayek's Theory of Business Cycle

Friedrich Hayek has made fundamental contributions in political theory, psychology, and economics. In a field in which the relevance of ideas often is eclipsed by expansions on an initial theory, many of his contributions are so remarkable that people still read them more than fifty years after they were written. Many graduate economics students today, for example, study his articles from the 1930s and 1940s on economics and knowledge, deriving insights that some of their elders in the economics profession still do not totally understand. It would not be surprising if a substantial minority of economists still read and learn from his articles in the year 2050. In his book *Commanding Heights,* Daniel Yergin called Hayek the "preeminent" economist of the last half of the twentieth century.

Prof. Von Hayek's in his books on *Monetary theory and trade cycle and prices and production* has developed a theory of trade cycle. He has distinguished between equilibrium or natural rate of interest and market rate of interest. Market rate of interest is one at which demand for and supply of money equal. Natural rate of interest is

consistent with intertemporal equilibrium and price stability, and is considered as the rate at which savings equals investment. This equilibrium rate of interest reflects the rate of return on capital. On the other hand, the market rate of interest is the rate at which banks give loans to the businessmen. If both equilibrium rate of interest and market rate of interest are equal, there will be stability in the economy. If equilibrium rate of interest is higher than market rate of interest, there will be prosperity and vice versa.

Let us assumes that the economy experiencing a period of depression. The businessmen's demand for bank credit is, therefore, very low. This pulls down the market rate of interest below the natural rate. This means that the businessmen are able to avail bank credit at a rate of interest which is below the expected rate of return in investment projects. This induces them to invest more by undertaking new investment projects. This because investment exceed saving by the amount of the newly created bank credit. With the spirit of investment expenditure, the expansion of the economy begins. Increase in investment causes income and employment to rise, which induces more consumption expenditure. As a result, the production of consumer goods increases. The competition between capital goods and consumer goods industries for scarce resources causes their prices to rise which in turn push up the prices of goods and services. There is prosperity throughout economy.

But this boom does not last long. On the one hand the excess reserves with the banks come to an end. On the other hand, the mounting demand for money makes the market rate of interest. This makes further investment unprofitable. Some of the projects already underway are abandoned. There is decline in investment which causes both income and consumption to fall. The economy brings in depression as capital structure is distorted and resources are misallocated to long-term projects.

Hayek's theory has certain weakness. These are given as below:

- It is not easy to transfer resources from capital goods industries to consumer goods industries and vice versa.
- This theory does not explain all the phases of trade cycle.
- It gives too much importance to rate of interest in determining investment. It has neglected other factors determining investment.
- Hayek has suggested that the volume of money supply should be kept neutral to solve the problem of cyclical fluctuations. But this concept of neutrality of money is based on old quantity theory of money which has lost its validity.

### 4.2.1.3 Keynes Theory of Business Cycles

John Maynard Keynes was an English economist whose ideas fundamentally changed the theory and practice of macroeconomics and the economic policies of governments. Originally trained in mathematics, he built on and greatly refined earlier work on the causes of business cycles. One of the most influential economists of the 20th century, he produced writings that are the basis for the school of thought known as Keynesian

economics, and its various offshoots. His ideas, reformulated as New Keynesianism, are fundamental to mainstream macroeconomics.

According to Keynes, the operation of the business cycle due to the fluctuations in the volume of investment. The two determinants of business are the Marginal Efficiency of Capital (MEC) and the interest rate. Marginal efficiency of capital may be defined as the expected rate of profit from an additional unit of investment. To be brief, it is the profitability in investment. Between the two determinants of investment namely the marginal efficiency of capital and the rate of interest, Keynes argued interest rate can be ineffective at low levels (liquidity trap. Then fluctuations in investment come from the fluctuations in MEC. Businessmen are interest to make investments in a particular line of business if the MEC is sufficiently higher than the rate of interest. Therefore, MEC is the real strategic variable which determines the volume of private investment.

Now, let us come to the course of the trade cycle starting with depression characterised by fall in production, national income, prices and increase in unemployment. There is an atmosphere of pessimism among the businessmen. MEC depends on expected profitability. Stable consumption supports effective demand. As time elapses, it tends to move up for the following reasons: -

i. Consumption is a stable function. It cannot go down beyond a limit even if there is fall in income. This stability of consumption reacts favourably on the MEC.

ii. The existing machinery and plants become worn out and need to be replaced.

iii. The surplus stock of goods gets exhausted with the passage of time.

iv. Wages and prices of raw materials are very low. All these factors have the effect of toning up the MEC. Pessimism gives way for expands gradually.

The rise in MEC gathers momentum where the rate of interest is sticky. So, it is profitable to setup new enterprises. The process of economic expansion goes on till the peak of the boom is reached. A period of ethic economic activity is experienced but it is not permanent. Certain economic force coming into operation, which exerts pressure on the MEC in the downward direction. The most important cause of the downward is the stability of consumption. Expenditure on consumer goods does not increase in proportion to the increased income of the community. As the process of expansion goes on, costs of production start rising on account of the increasing scarcities of materials and equipment. Rapid industrial expansion results in increasing abundance of output. These factors have the effect of depressing the MEC. Recession emerges as the businessmen adjust their activities accordingly. It leads to depression.

An important aspect of the Keynesian theory of business cycle is the idea of investment multiplier. It states that an increase in investment will lead to a magnified increase in income. The recovery from depression converted into a boom through the working of the multiplier in the forward direction. Similarly, a recession is converted into depression by the reserve operation of the multiplier. That is, a setback in investment makes a magnified decrease in income and employment.

Modern economists argues that a rise in income produced by a given rise in investment will have further repercussion in the economy. This reaction is described in the principle of the accelerator. According to the principle of acceleration, a change in national income will tend to induce changes in the rate of investment. Keynes stresses the importance of MEC and multiplier in the working of business cycle. does not make a reference to the principle of accelerator in his theory of business cycle.

In recent years a new theory of trade cycle has been developed explaining the business cycle in terms of multiplier and accelerator. Economists following this approach are Hicks, Samuelson, Hansen, and Harrod. According to these economists, business fluctuations in the economy are attributed to the combined effect of the multiplier and the accelerator.

### 4.2.1.4 Monetarist Interpretation of Business Cycle

Mainly there exist two competing models to explain the Great Depression in the relevant literature, Monetarist and Keynesian models. Monetarists asserts that depression result from a contraction of the money supply in the early 1930's. In monetarist view, in the short run monetary disturbances can exerts powerful independent influences on real output but money has no long run effect on real national output. Monetarist economics founder Milton Friedman believed the monetary policy was so incredible crucial to a healthy economy.

In nineteenth century, many of the classical economists, have conducted a study on business cycle. After that, Keynes provided a general theoretical framework, in which the theory of business cycle could be interwoven. Hicks has remarked that Keynesian economics had done all for understanding of business fluctuations but has left out the analysis of business cycle itself. In the post - Keynesian era, the main contributors to the trade cycle theory include Metzler, Harrod, Samuelson, Kaldor, Goodwin, and Dusenberry.

The monetarist school, headed by Milton Friedman, contents that the classical rather than the Keynesian theory would be valid if money cad affects real variables in the short run, but only nominal magnitudes in the long run.

**Monetarist and Monetarism :** The term monetarist is used to refer to an economist who values the theory that the overall money supply plays a primary role in affecting the demand in an economy. Furthermore, a monetarist believes that the regulation of the money supply can impact the performance of such a belief comes from the idea that the regulation and control of inflation. Changes in the money supply also affect employment and production levels, but the monetarist theory asserts that those effects are only temporary, while the effect on inflation is more long- lasting and significant.

Monetarism is a macroeconomic theory which states that governments can foster economic stability by targeting the growth rate of the money supply. Essentially, it is a set of views based on the belief that the total amount of money in an economy is the primary determinant of economic growth. Monetarism is an economic school of thought which states that the supply of money in an economy growth. As the availability of money in the system increases, aggregate demand for goods and services goes up.

An increase in aggregate demand encourages job creation, which reduces the rate of unemployment and stimulates economic growth. Monetary policy an economic tool used in monetarism is implemented to adjust interest rates that, in turn, control the money supply. When interest rates are increased, people have more of an incentive to save than to spend, thereby reducing or contracting the money supply. Contracting, when interest rates are lowered following an expansionary monetary scheme, the cost of borrowing decreases, which means people can borrow more and spend more, thereby stimulating the economy.

**Milton Friedman and Monetarism :** Monetarism is closely associated with economists Milton Friedman, who argued based on the quantity theory of money, that the government should keep the money supply steady, expanding it slightly each year to allow for the natural growth of the economy. Due to the inflationary effects that can be brought about by the excessive expansion of the money supply, Friedman, who formulated the theory of monetarism, asserted that monetary policy should be done by targeting the growth rate of the money supply to maintain economic and price stability. In his book, *A Monetary History of the United States 1867-1960*, Friedman proposed a fixed growth rate called the K-percent rule, suggesting that money supply should grow at a constant annual rate tied to the growth of nominal gross domestic product (GDP) and be expressed as a fixed percentage per year. This way, the money supply will be expected to grow moderately, businesses will be able to anticipate the changes to the money supply every year and plan accordingly, the economy will grow at a steady rate, and inflation will be kept at low levels.

**Monetarist Theory :** According to monetarist theory, if a nation's supply of money increases, economic activity will increase and vice-versa. Monetarist theory is governed by a simple formula: MV=PQ, where M is the money supply, V is the velocity of circulation P is the price of goods and services and Q is the quantity of goods and services. Assuming constant V when M is increased, either P, Q or both P and Q rise. General price level tends to rise more than the production of goods and services when the economy is closer to full employment. When there is slack in the economy, Q will increase at a faster rate than P under monetarist theory. In the U. S, the federal reserve sets monetary policy without government interference. The federal reserve operates on a monetarist theory that focuses on maintain stable prices (low inflation), promoting full employment, and achieving steady gross domestic product (GDP) growth.

**Monetarist Interpretation of Business Cycles**

Let us examine how monetarist theory explains trade cycles with upward sloping short-run aggregate supply curve and changes in growth of money supply. Firstly, we focus on how recession is caused in this theory.

According to monetarists, there is an action taken by central bank of a country caused to when there is a slowdown in growth in money stock, then the aggregate demand decreases. With the upward sloping short-run aggregate supply curve, given the wage rate, the decrease in aggregate demand brings about decline in both price and national output and employment causing unemployment in the economy.

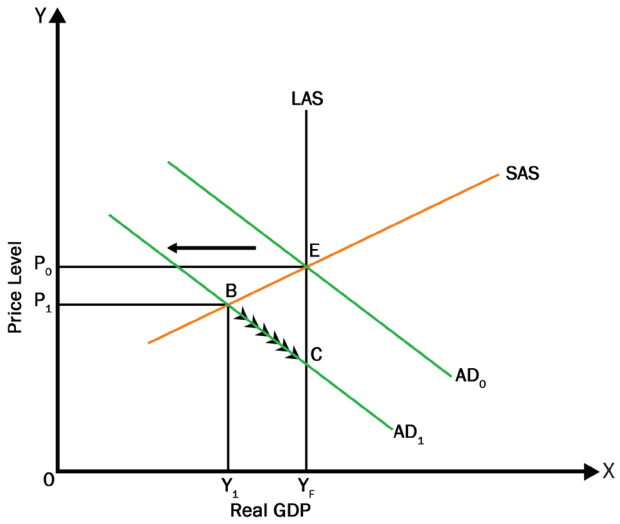


**Fig. 4.2.1 Explain Recession :- Monetarist theory**

Real GDP is marked along the X-axis and price level along the Y-axis. Economy is in a period of recession, $AD_0$ is the aggregate demand curve which cuts both the vertical long run aggregate supply curve LAS and the upward-sloping short-run aggregate supply curve SAS at point E. At point E the system is in long run equilibrium. Now if there is a slowdown in growth of money supply causing a leftward shift in aggregate demand curve from to $AD_0$ to $AD_1$. As a result, $AD_1$ cuts the short-run aggregate supply curve SAS, the economy moves to the new equilibrium point B. At a point B aggregate output is smaller than the potential GDP level, unemployment in the economy will emerge.

Monetarist believes that wage rate is only temporarily sticky. When aggregate demand decreases due to slowdown in growth of money supply and causes increase in unemployment, money wage rate will slowly begin to fall. With the fall in money wage rate short-run aggregate supply curves (SAS) shifts downwards results in decreases in price level, until the equilibrium is reached at point C at the level of potential GDP level where full employment prevails.

According to the monetarist views, through adjustment in money wage rate and price, the economy again reaches full employment. This is the pathway of monetarist implies how with the fall in growth of money supply, the economy goes into recession and then through adjustment in wage rate and price level. Automatically achieved a new full- employment equilibrium at a lower rate and price level.

Many Keynesian also believes that changes in money supply are important source of macroeconomic instability. Monetarist theory is an important alternative to Keynesian explanation of cyclical fluctuations in the economy. Monetarist believes that, cyclical fluctuations has been founded as much on empirical evidence as on theoretical reasoning in terms of money shocks to the economy. In this theory there is a time lag between changes in money supply and their actual effect on aggregate demand and the real economy and further that this time lag is quite uncertain. That is, changes in money supply do not immediately affect demand or spending on goods and service. The initial effect of changes money supply is on interest rate and wealth. The initial expansion in

money supply is spent on financial assets like bonds, shares, securities etc. driving their prices up and thereby lowers interest rate.

Eventually lower interest rate and increase in their wealth leads to increase in investment demand for capital goods and demand for consumer goods and services. How this changes in aggregate demand for goods, both capital and consumer goods, affect the price level and aggregate output (GDP) depends on, as explains above, on the response of supply of output to it. It needs to be emphasised that the lag between the increase in money supply and its effect on aggregate demand is uncertain and variable. It may be a few months, a year or more for a given increase in money supply to produce its effect on aggregate demand and hence on price level and output. Central bank injects more money to fight recession when trough of recession might be several months in the past.

According to monetarists, such excessive aggregate demand pressure generally prompts the central bank to contract money supply which will cause AD curve to shift to the left and ease demand pressure. However, according to them, the central bank may decide to contract the money supply when aggregate demand is already slowing down on its own. If such is the case, the contraction of money supply at this time could push the economy into recession.

**Criticism**

- Keynes and other economists are believing that large money supply changes have a destabilising effect on the economy. But monetarist argues that money supply changes alone are responsible for cyclical fluctuations does not appear to be correct.

- Keynes says that changes in investment demand due to changes in marginal efficiency of capital are important factors that determine changes in aggregate demand and cause cyclical fluctuations in economic activity, even without any significant money supply changes.

- Central Bank takes a decision regarding for pull the economy out of recession, by increase the money supply it may have no effect on aggregate spending.

- Federal reserve had pumped into the economy a large amount of money, reduced its lending rate at almost zero, during the period of in 2007-08 when worst ever recession took place since the Great Depression of 1930s, but it did not lead to greater investment and consumption spending.

- The experience of 2007-09 recession has abundantly showed that the automatic correction has failed to occur.

- In the experience of the U S economy, limitation of monetary expansion along with the expansionary monetary policy, the adoption of fiscal stimulus policy measures helped the recovery of the U S economy.

According to monetarists, intervention by the central bank through changes in money supply only aggregate the natural tendency of cyclical fluctuations to be of small

amplitude. These small natural fluctuations, according to them, are caused by imperfect information, weather shocks and changes in international factors.

## Recap

- Most of the important contributions to the theory of business cycle were made in the first half of the twentieth century
- According to Hawtrey, the business cycle is purely monetary phenomenon
- Hawtreys believes that expansion and contraction are the basic causes of trade cycle
- Hawtreys, theory based up on the fact that banks are able to create money and bank credit creation is an important part of the total money circulation in a country
- Hayek's makes a distinction between the natural rate of interest and the market rate of interest
- Hayek's idea of 'rate of return on capital' comes in line with the Keynesian concept of the MEC
- Hawtreys, believes that trade cycle is nothing but small-scale replica of inflation and deflation
- According to Keynes, the operation of the business cycle is due to the fluctuations in the volume of investment
- In the Keynes model, the two determinants of investment are the MEC and the rate of interest
- MEC is the real strategic variable which determinants the volume of private investment
- An important aspect of the Keynesian theory of business cycle is the idea of investment multiplier
- New approaches to trade cycle have been developed explaining the business cycle in terms of multiplier and accelerator
- Monetarists are economists and policy makers who subscribes to the theory of monetarism
- Monetarist believes that regulating the money supply in the most effective and direct way of regulating in the economy

- Monetarism claims that money supply fluctuations drive the rate of inflation and deflation
- Monetarist theory of business cycles emphasise on money stock as the main source of economic fluctuations
- Monetarism falls behind when it comes to practical ideas about how to control the growth of the money supply
- Monetarism is a macroeconomic theory stating that governments can foster economic stability by targeting the growth rate of the money supply
- Monetarists explain the depression with monetary variables and Keynesians explain the depression with real variables
- The Monetarist theory, as popularised by Milton Friedman, asserts that money supply is the primary factor in determining inflation or deflation in an economy
- Monetarism is closely associating with economists Milton Friedman, who argued that the money supply steady, expanding it slightly each year mainly to allow for the nature growth of the economy
- Monetarism is the primary alternative macroeconomic theory to Keynesian macro-economic theory; monetarists believe in extremely limited government economic intervention, While Keynesians argue for active government intervention

## Objective Questions

1. When aggregate economic activity is declining, the economy is said to be in?
2. What are the two important business cycle events in the 20th century?
3. Who point out the words “Bankers make and break economic life”?
4. What is the main cause of the Hawtrey’s monetary theory of business cycle?
5. Who is the author of the book “monetary theory and trade cycle”?
6. What is the main factor of Keynesian theory of business cycle?

7. Who put forward the concept of the trade cycle "purely a monetary phenomenon"?

8. Which are important determinants of investment in the Keynesian theorem of business cycle?

9. According to Keynes, the operation of business cycle is due to the fluctuations in?

10. Which economists made the distinction between natural rate of interest and market rate of interest?

11. What is the main cause of economic fluctuation in monetarist theory of business cycles?

12. What are the two competing models to explain the Great Depression?

13. Which theory divides the macroeconomic fluctuations into four periods?

14. According to monetarist the main sources of depression is?

15. Who popularise the monetary theory of business cycle?

16. Which is the most important determinant of the rate of economic growth, according to monetarist theory?

## Answers

1. Contraction.

2. World War II and Great Depression.

3. Prof. Pen

4. Elastic money supply.

5. Prof. Von Hayek.

6. Investment.

7. Hawtrey's.

8. MEC and Interest rate.

9. The volume of investment.

10. Prof. Von Hayek.

11. Money stock.

12. Monetarist and Keynesian models.

13. Business cycle theory.

14. Monetary variable.

15. Milton Friedman.

16. Money supply.

## Assignments

1. Explain the main ideas of trade cycle theories.

2. Compare and contrast Hawtrey's theory and Hayek's theory of trade cycles.

3. Analyse the Keynesian and Monetarist explanations of trade cycles and discuss their relevance in understanding modern economic fluctuations.



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UNIT 3

# Contra - Cyclical Policy Measures

## Learning Outcomes

After completing this unit, the learner will be able to:

- comprehend monetary policy
- know about fiscal policy
- learn about incomes policy

## Prerequisite

Contra-Cyclical Policy measures are variables that fluctuate in a way that is positively or negatively correlated with business cycle fluctuations in Gross Domestic Product (GDP). The scope of the concept may differ between the context of macroeconomic theory and that of economic policy making. The concept is often encountered in the context of a government's approach to spending and taxation. A counter cyclical fiscal policy simply work as government choosing to reduce spending and raising taxes during a boom period and increasing spending and cutting taxes during a recession. Counter cyclical monetary policy for controlling inflation by buying up Treasury bonds from the public. Through quantitative easing, the central banks prints extra money in order to sell long term bonds and reduce the long-term interest rate.

## Keywords

Monetary Policy, Fiscal Policy, Income Policy, Contra-cyclical Monetary Policy, Contra - cyclical Fiscal Policy, Taxation, Gross Domestic Product, Treasury Bonds, Boom, Recession, Interest Rate, Expansionary Policy, Contractionary Policy, Price Stability, Inflationary Pressure, Open Market Operation, Reserve Requirement, Moral Suasion, Deficit Financing, Public Debt.

# Discussion

## 4.3.1 Contra- Cyclical Policy Measures

Covid 19 has created global recession and millions of workforces became unemployed, the overall income and expenditures of the households have decreased, many firms and various business organisations have stopped paying their workers and laid off millions of workers, net exports have declined and as a result, aggregate expenditure line has shifted down in recent months. Equilibrium real GDP and employment have decreased, and unemployment rate has increased across the countries because of the downward shift in aggregate expenditure function. When the central bank pursue incentive based contra- cyclical monetary policy by introducing, the consumers again start spending and eventually the recessionary effects propelled by covid 19 gradually evaporate and disappear. Once of the vital themes of the economic survey 2020-21 presented was a big push in public spending in the budget. The government should not worry about debt or be fiscally conservative at a time of global slowdown, the survey advocated. It did so by making a case for a so-called counter-cyclical fiscal policy.

### 4.3.1.1 Contra-Cyclical Monetary Policy

Counter cyclical monetary policy can be thought of in the following manner, when the Central bank perceives economic activity to be waning, it attempts to boost output and employment by increasing the supply of money, thereby putting downward pressure on interest rates and stimulating growth in such interest sensitive sectors as housing and consumer durables. When the Central bank perceives inflation to be accelerating, it does just the opposite, it restricts the growth of money, which tends to put upward pressure on interest rates and ease inflationary pressures. Thus, by altering the money supply, the Central bank attempts to sufficiently influence interest rates to affect overall economic activity and inflation.

Many economists believes that by attempting to offset these short-term disturbances-instead of adhering to the Central bank's traditional goal of long-run price stability the Central bank merely adds to the instability of an already uncertain situation. The Central bank is beset with several constraints, each of which presents substantial problems in the implementation of counter cyclical monetary policy. To begin with, if it attempts to stimulate economic growth by boosting the money supply for too long, the Central bank runs the risk of igniting inflationary pressures. Second, the Central bank's ability to explicitly influence market-determined interest rates is tenuous at best. Third, it is not altogether clear that the Central bank can reliably influence output and employment over the short term, say, within a few quarters or so.

A final constraint, which follows directly from the previous one, is that these lags make economic forecasting a risky proposition. As a result, the Central bank formulates policy based on unreliable short-term economic forecasts. Neither Central bank economists nor private forecasters have an exemplary record when it comes to anticipating recession or expansions.

**Monetary Policy**

Monetary policy is a set of tools used by a nation's central bank to control the overall money supply and promote economic growth and employ strategies such as revising interest rates and changing bank reserve requirements. Monetary policy is the control of the quantity of money available in an economy, and the channels by which new money is supplied. Economic statistics such as Gross Domestic Product (GDP), the rate of inflation, and industry and sector-specific growth rates influence monetary policy strategy. A central bank may revise the interest rates it charges to loan money to the nation's banks. As rates rise or fall, financial institutions adjust rates for their customers such as businesses or home buyers. Additionally, it may buy or sell government bonds, target foreign exchange rates, and revise the amount of cash that the banks are required to maintain as reserves.

## Types of Monetary Policy

Monetary policies are either expansionary or contractionary depending on the level of growth or stagnation within the economy.

**a. Expansionary Policy** : Expansionary policy occurs when a monetary authority uses its procedures to stimulate the economy. An expansionary policy maintains short-term interest rates at a lower than usual rate or increases the total supply of money in the economy more rapidly than usual. It is traditionally used to try to reduce unemployment during a recession by decreasing interest rates in the hope that less expensive credit will entice businesses into borrowing more money and thereby expanding. This would increase aggregate demand, which would increase short- term growth as measured by increase of Gross Domestic Product (GDP). Expansionary monetary policy increases the amount of currency in circulation, usually diminishes the value of the currency relatives to other currencies, in which case foreign purchasers will be able to purchase more with their currency in the country with the devalued currency.

**b. Contractionary policy :** Contractionary monetary policy maintains short- term interest rates greater than usual, slows the rate of growth of the money supply, or even decreases it to slow short-term economic growth and lessen inflation. It can result in increased unemployment and depressed borrowing and spending by consumers and businesses, which can eventually result in an economic recession.

## Goals of Monetary Policy

i. **Inflation:** Contractionary monetary policy is used to target a high level of inflation and reduce the level of money circulating in the economy.

ii. **Unemployment:** An expansionary monetary policy decreases unemployment as a higher money supply and attractive interest rates stimulate business activities and expansion of the job market.

iii. **Exchange Rates:** The exchange rates between domestic and foreign currencies can be affected by monetary policy. With an increase in the money supply, the domestic currency becomes cheaper than its foreign exchange.

## Instruments of Monetary Policy

Paper currency is issued by the Central Bank on the basis of computation of estimated demand for cash. Monetary policy guides the central bank's supply of money in order to achieve the objectives of price stability, full employment, and growth in aggregate income. This is necessary because money is a medium of exchange and changes on its demand relative to supply, necessitate spending adjustments. The instruments of monetary policy used by the Central Bank depends on the level of development of the economy, especially its financial sector. The commonly used instruments are discussed below:

- **Reserve Requirement**: The Central Bank may require banks to hold a fraction of their deposit as vault cash and or deposits with it. Authorities can manipulate the reserve requirements, the funds that banks must retain as a proportion of the deposits made by their customs to ensure that they can meet their liabilities. Lowering this reserve requirement releases more capital for the banks to offer loans or buy other assets. Increasing the requirement curtails bank lending and slows growth.

- **Open Market Operations**: In open market operation (OMO), the central bank buys bonds from investors or sells additional bonds to investors to change the number of outstanding government securities and money available to the economy as a whole. The objective of OMO is to adjust the level of reserve balances to manipulate the short-term interest rates and money supply.

- **Interest Rates:** The central bank may change the interest rates or the required collateral that it demands, In the U. S, this rate is known as the discount rate. Banks will loan more or less freely depending on this interest rate.

- **Direct Credit Control**: The central bank can direct deposit money banks on the maximum percentage or amount of loans to different economic sectors or activities, interest rate caps, liquid asset ratio and issue credit guarantee to preferred loans. In this way the available savings is allocated, and investment directed directions.

- **Lending by the Central Bank**: The central bank sometimes provide credit to Deposit Money Banks, thus affecting the level of reserves and hence the monetary base.

- **Moral Suasion**: The central bank issues licenses or operating permit to Banks and regulates the operation of the banking system. It can, from this advantage, persuade banks to follow certain paths such as credit restraint or expansion, increased savings mobilization, and promotion of exports through financial support, which otherwise they may not do, on the basis of their risk/return assessment.

- **Exchange Rate**: The balance of payments can be in deficit or in surplus and each of these affect the monetary base, and hence the money supply in one direction or the other. By selling or buying foreign exchange, the central

bank ensures that the exchange rate is at levels that do not affect domestic money supply in undesired direction, through the balance of payments and the real exchange rate.

### 4.3.1.2 Contra-Cyclical Fiscal Policy

Firstly, we will discussion about the cyclicality of the fiscal policy. Cyclicality of the fiscal policy refers to a change in direction of government expenditure and taxes based on economic conditions. These pertain to decisions by policymakers based on the fluctuations in economic growth. There are two types of cyclical fiscal policies, counter cyclical and pro-cyclical.

Counter-cyclical fiscal policy refers to the steps taken by the government that go against the direction of the economic or business cycle. Thus, in a recession or slow down, the government increases expenditure and reduces taxes to creates a demand that can drive an economic boom. The survey gives a colourful example of ancient Indian kings building palaces during droughts to drive home this point. On the other hand, during a boom in the economy, counter – cyclical fiscal policy aims at raising taxes and cutting public expenditure to control inflation and debt.

Counter-cyclical fiscal policy work in a way of an expansion in government expenditure cushions the contraction in output by offsetting the decline in consumption and investment. Higher government spending builds confidence in tough times. Through this policy, government can show their commitment to sound fiscal management. This in turn gives confidence to the private sector that the economy will not fluctuate too much. It helps businessmen overcome risk aversion and brings animal spirits in the economy.

**Fiscal policy**

> ***"The simple Keynesian multiplier analysis led many early enthusiastic to Believe that fiscal policy was the philosopher's stone, the answer to all Prayers for curbing business cycle"***
>
> **-Samuelson**

Fiscal policy refers to the use of government spending and tax policies to influence economic conditions, especially macroeconomic conditions. These include aggregate demand for goods and services, employment, inflation, and economic growth. The management of fiscal policy is a complex task. According to Walter W. Heller "Fiscal policy has to be put on constant alert. The management of fiscal policy is a full-time job" In the words of Arthur Smithies, Fiscal policy is "a policy under which the government uses its expenditure and revenue programmes to produce desirable effects and avoid undesirable effects on the national income, production, and employment. Though the ultimate aim of fiscal policy is the long run stabilization of the economy, it can only be achieved by moderating short run economic fluctuations."

During recession, the government may lower tax rates or increase spending to encourage demand and spur economic activity. Conversely, to combat inflation, it may raise rates or cut spending to cool down the economy. Fiscal policy is often contrasted with monetary policy, which is enacted by central bankers and not elected government officials. U.S fiscal policy is largely based on the ideas of British Economist J .M Keynes. He argued that economic recession is due to a deficiency in the consumer spending and business investment components of aggregate demand. Keynes believed that governments could stabilize the business cycle and regulate economic output by adjusting spending and tax policies to make up for the shortfalls of the private sector.

## Types of Fiscal Policy

Governments use fiscal policy in different ways, depending on what type of strategy is desired. The three main types of fiscal policy are:

- Fiscal Neutral Policy
- Expansionary Fiscal Policy
- Contractionary Fiscal Policy

## Fiscal Neutral Policy

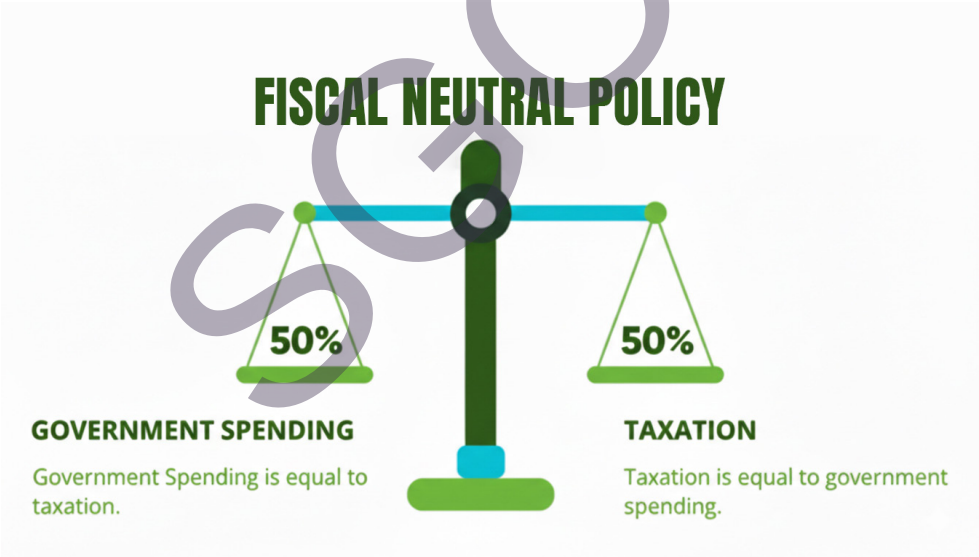


**Fig 4.3.1 Neutral Fiscal Policy**

Fiscal neutral policy is also known as balanced budget. This is where the government brings in enough taxation to pay for its expenditures. In other words, government spending equals taxation. Under a neutral fiscal policy, governments are restrained on what bring in. With a neutral fiscal policy, it is difficult to tell how much in tax will be brought in from one year to the next. So, governments often forecast tax receipts year on year and plan accordingly.

**Expansionary Fiscal Policy**

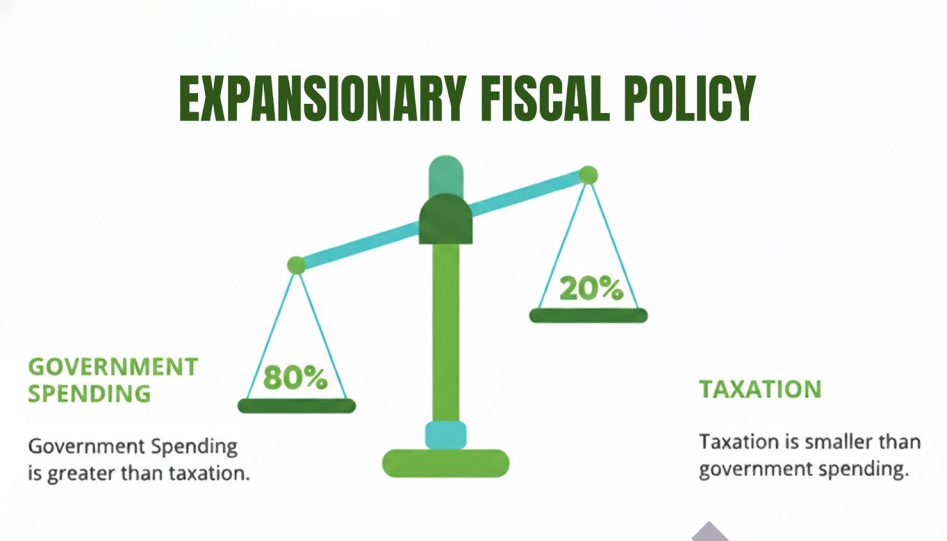


**Fig 4.3.2 Expansionary Fiscal Policy**

It involves all the actions taken by the governments to invest more money back into the economy, creates more demand for services and products. It also expands the job opportunities and increases the profit for the people and government. In other words, it stimulates economic growth.

**Contractionary Fiscal Policy**

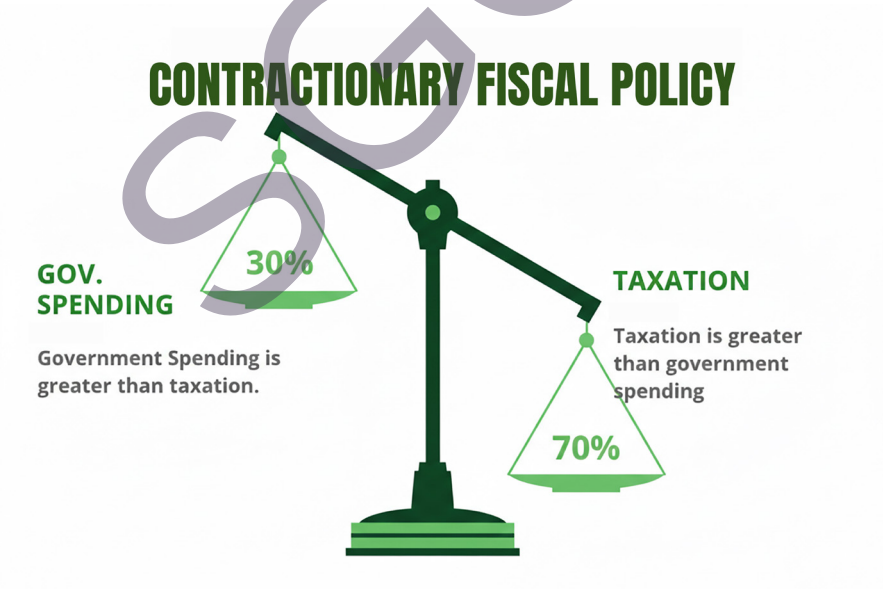


**Fig 4.3.3 Contractionary Fiscal Policy**

Sometimes expansion in the economy can also be dangerous, so in this case, the government tries to slow down the expansion so that it could not become so intense. This type of fiscal policy helps make the growth of the economy manageable and controls inflation.

**Objectives of Fiscal Policy**

- **To Promote Economic Growth :** Government promotes economic growth by setting up basic and heavy industries, it should also build infrastructures that foster economic growth. Both basic and heavy industries and infrastructure require huge amount of investment and these are essential for economic growth in the country, the burden to set up and develop them falls on the government.

- **To Reduce Income and WealthInequalities :** Government reduces in equalities in income and wealth by taxing the rich more and spending more on the poor. Further, it provides for the employment opportunities to poor that help them to earn.

- **To Provide Employment Opportunities:** Employment opportunities are increased by the government in various ways like public sector enterprises, subsidies and other incentives like tax holidays, low rates of taxes etc. to private sector that encourage production and employment. It also encourages setting up of small scale, cottage and village industries by people which are employment oriented.

- **To Ensure Stability in Prices :** Government ensures stability of prices of essential goods and services by regulating their supplies. Hence, it incurs expenditure on ration and fair price shops that keep sufficient stock of food grains.

- **To Correct Balance of Payments Deficit :** The balance of payments account of a country records its receipts and payment with foreign countries. When payments to foreigners are more than receipts from foreigners, the balance of payments account is said to be in deficit.

- **To Provide for Effective Administration :** Government incurs expenditure on police, defence, legislatures, judiciary, etc. to provide effective administration.

**Instruments of Fiscal Policy**

Fiscal policy is the policy of the Government in respect of public expenditure and public borrowings. The major instruments of fiscal policy are:

- Public Expenditure
- Public Revenue
- Public Debt and
- Deficit Financing

**Public Expenditure :** Public expenditure is nothing the expenses of Government incurred to promote economic and social welfare. It plays a vital role in developing countries like India. It has several effects on income, output, and employment. Therefore, it is regarded as a very essential instrument in the determination of economic

development of a country. In developing countries, the increased public expenditure is always desirable.

According to Wagner's Law, there is a tendency of increasing public expenditure in respect of the following activities:

- To undertake material production.
- Provision of social services like public health, literacy programmes etc.
- Maintains of internal and external securities law and order.

**Public Revenue :** Public revenue is the income of the government from various sources, both tax and non-tax revenue. To bring economic stability a suitable taxation policy is always desired. The major uses of fiscal system as an instrument of fiscal policy are as follows:

- Helps in mobilisation of revenue and checking unwanted expenditure.
- Brings favourable changes in redistribution of income and wealth.
- Helpful to control inflation and deflation.

**Public Debt :** The loan, borrowing made by the Government from public, organisations, institutions is known as public debt. When the expenditure of the government is more than its revenue, Government will go for public borrowings. The public debt can be classified as follows:

- **Internal Debt :** It is debt borrowed by the government from the sources available within the country. It includes internal borrowings, market loans, etc.
- **External Debt :** It refers to all those borrowings of government from sources available outside the country. It includes loans taken by government against non-negotiable instruments, non-interest-bearing securities which are issued by international institutions like IMF, World Bank, IBRD, ADB, IDA, etc.

**Deficit Financing :** Deficit financing is an important instrument of fiscal policy of government for raising the level of output and employment. It refers to higher expenditure over receipts. It is used to finance economic planning. The major methods adopted by the government to raise fund for deficit financing are Post Office savings, Provident Fund, Public borrowings, and printing of new currencies etc.

The deficit financing as an instrument of fiscal policy leads to an increase in aggregate demand, aggregate investment, production, employment, and income. A moderate deficit financing is always desirable in a developing country like India as it contributes to growth of an economy.

## 4.3.1.3 Income Policy

There is controversy regarding the effectiveness of monetary and fiscal policy between monetarists and fiscalists. Keynesian model rejected the importance of money supply and treated money as a veil and argued that fiscal policy is more effective in bringing stability especially saving an economy from depression. On the other hand, the monetarists under Friedman insisted that money alone matters, and monetary policy is more effective in bring stability in the economy. When there is a financial or economic disaster, the Keynesian watch the employment rate and the monetarists watch the money supply for bringing stability. Yet, the post–Keynesians question the validity of both approaches because fiscal and monetary policy alone cannot bring stability in the economy. As such the post –Keynesian's solution to inflation is incomes policy rather than monetary or fiscal policies. Hence, in addition to fiscal and monetary policies, we have several other measures for bringing stability and for promoting full employment and growth. Among other measures, Incomes policy is an important measure to stabilise the economy at full employment level of output.

The concept of "Incomes Policy" has gained currency in recent years to fight demand pull and cost push inflation. Income policy attempts to halt the increasing prices by preventing money wage from rising faster than productivity. Thus, the objective of income policy is to prevent the factor incomes from rising at rates which are too fast to be compatible with price stability. The central objective of this policy is to reconcile economic growth and price stability. The price stability is to be ensured by restraining increases in wages and other incomes from outstripping the growth of real national product. Incomes policy seeks to concentrate on curbing the private consumption expenditure in an effort to reduce the pressure of aggregate demand on aggregate supplies. This concentration on restraining the private consumption expenditure is due to the fact private consumption expenditure accounted for about two thirds or three fourths of the total aggregate demand.

Thus, incomes policy is generally defined as action taken by the government with a view to restraining wage increase and thus curbing inflation without increasing unemployment. Incomes policies consisted of limiting wages and food prices. In economics, incomes policy means economy wide-wage and price controls, most instituted as a response to inflation and usually below market level. Incomes policy vary from "voluntary" wage and price guidelines to mandatory controls like price/wage freezes. One variant is "tax-based incomes policies" (TIPs), Thus, income policy is used to maintain stability for averting deflation and to decrease inflation in an economy.

**Instruments of Incomes Policy**

The important instruments of incomes policy are price control and price freeze, wage controls and wage freeze and food subsidies etc. When the price of a goods is lowered artificially, it creates less supply and more demand for the product, thereby creating shortages. Hence, these instruments enable collective negotiation and monitoring of the wage and price agreements and are used to stabilise the economy to avoid inflation and deflation in an economy. However, incomes policy would have others. By arbitrarily interfering with price signals, they provide an additional bar to achieving economic

efficiency, potentially leading to shortages and declines in the quality of the market, while requiring large government bureaucracies for their enforcement. There is evidence that the wage and price controls were effective in some countries during some periods.

## Recap

- Monetary policy is a set of actions to control a nation's overall money supply and achieve economic growth
- Monetary policy strategies include revising interest rates and changing bank reserve requirements
- The instruments of monetary policy are bank rate variations, open market operations, changing reserve requirements and selective credit controls
- Fiscal policy is the use of government spending and taxation to influence the economy
- Fiscal policy largely based on the idea of British economist John Maynard Keynes
- An expansionary fiscal policy lowers tax rates or increases spending to increase aggregate demand and fuel economic growth
- A contractary fiscal policy raises rates or cuts spending to prevent or reduce inflation
- The tools of fiscal policy are taxes, expenditure, public debt, and a nation's budget
- Incomes policy is collective governmental effort to control the incomes of labour and capital, usually by limiting increases in wages and prices
- The important instruments of incomes policy are price controls and price freeze, wage controls and wage freeze and food subsidies
- Contra- cyclical fiscal policy refers to a change in direction of government expenditure and taxes based on economic conditions
- Contra- cyclical policies are so directed with a view of minimising output volatility and stabilising inflation at an acceptable level
- Monetary policy approach that stabilises inflation and output around the set targets in counter-cyclical in nature

## Objective Questions

1. What does the Central Bank try to stimulate when economic activity slows down?
2. What happens to the money supply during a recession under contra-cyclical monetary policy?
3. What happens to interest rates when the Central Bank increases the money supply?
4. Which economic areas are encouraged when interest rates fall?
5. What is the Central Bank trying to control when inflation rises rapidly?
6. What happens to money supply growth during inflationary pressures?
7. What effect does restricting money supply have on interest rates?
8. What major economic factor does the Central Bank aim to influence using money supply changes?
9. According to some economists, what long-term policy goal is neglected under contra-cyclical policy?
10. What major risk exists if expansionary monetary policy continues for too long?
11. How is the Central Bank's influence over market interest rates described?
12. What is uncertain in the short run regarding monetary policy results?
13. What key factor makes monetary policy forecasting difficult?
14. What type of forecasts are considered unreliable in policy formation?
15. Which stage of the economic cycle is particularly difficult to predict accurately?
16. What effect does expanding the money supply have on economic activity?
17. What problem does restricting money supply aim to reduce?
18. What unintended effect might contra-cyclical monetary policy add to the economic system?

19. What challenge occurs due to delays between policy decisions and their impact?

20. What ultimate objective does contra-cyclical monetary policy attempt to achieve?

## Answers

1. Economic output and investment.
2. It is increased to boost demand.
3. Interest rates fall.
4. Business investment and consumer spending.
5. Excessive price increases.
6. It is reduced or restricted.
7. Interest rates increase.
8. Overall economic activity.
9. Long-term economic stability.
10. High or persistent inflation.
11. Weak, indirect, or uncertain.
12. Changes in employment and output.
13. Unpredictability of economic cycles.
14. Short-term economic forecasts.
15. The timing and severity of recessions.
16. It stimulates growth and increases spending.
17. Inflationary pressures.
18. Additional uncertainty and instability.
19. Policy time lag.
20. Economic stability and balance.

## Assignments

1. Explain the meaning of contra-cyclical policy measures and discuss the role of monetary, fiscal, and incomes policies in stabilising economic fluctuations.

2. Describe the main instruments of monetary, fiscal, and incomes policies used as contra-cyclical measures during periods of boom and recession.

3. Analyse the effectiveness and limitations of contra-cyclical policy measures in achieving economic stability.

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BLOCK

# Fiscal and Monetary Policies 1

UNIT 1

# Fiscal Policy

## Learning Outcomes

After completing this unit, the learner will be able to:

- comprehend on fiscal policy
- explain how the government employs fiscal policy
- describe how taxation and public spending affect the economy.

## Prerequisite

During the COVID-19 pandemic, many countries experienced a sudden halt in economic activity. Businesses closed, workers lost income, and demand for goods and services fell sharply. To prevent a complete economic collapse, governments across the world stepped in with fiscal policy measures. They increased public spending by providing free vaccinations, financial relief packages for households, wage support for workers, and stimulus funds for businesses. At the same time, some governments reduced taxes or postponed tax collection to ease the burden on people and firms. These actions directly influenced employment, income levels, and national production. This real-world response shows how fiscal policy acts like a safety net during crises, helping the economy recover by adjusting government expenditure and taxation.

## Keywords

Budgetary Plan, Government Expenditure, Taxation, Public Borrowings, Aggregate Demand, Crowding Out

## Discussion

## 5.1.1 Fiscal Policy

Fiscal policy refers to government decisions regarding taxation, expenditure, and borrowing to influence economic activity. The exercise of government spending and taxation to impact the economy is known as fiscal policy. Fiscal policy is often used by governments to foster strong, long-term growth and poverty reduction. During the global economic crisis of 2007-08, governments stepped in to support financial institutions, jump-start economy, and lessen the crisis' impact on economy, and thereby the functions and objectives of fiscal policy gained prominence. Fiscal policy's importance as a policy instrument has fluctuated throughout history. Countries had reduced the size and function of government in recent years, with markets playing a larger role in the distribution of commodities and services, but when the global financial crisis threatened global recession, several countries resumed more active fiscal policy.

### 5.1.1.1 Key Concepts Associated with the Fiscal Policy

Fiscal policy is carried out through various fiscal instruments, also called fiscal tools. Any change in these instruments influences key macroeconomic variables that the government aims to control. Fiscal instruments and their associated target variables are explained below.

1. **Fiscal Instruments:** Fiscal instruments refer to the budgetary tools used by the government to achieve specific economic objectives. The major fiscal instruments include budgetary plan, government expenditure, taxation, and public borrowings.

2. **Target Variables:** The main goal of fiscal policy is to influence aggregate demand through strategic changes in its components. Fiscal policy aims to alter the following target variables viz. private disposable income, private consumption expenditure, private savings and investment, level and structure of prices. These variables together determine the level of economic activity and macroeconomic stability.

The key concepts associated with fiscal policy including various fiscal instruments and target variables are explained as under:

a. **Budgetary Plan:** A budgetary plan indicates whether the government intends to maintain a balanced, surplus, or deficit budget. When total government expenditure equals total revenue as a policy choice, a balanced budget policy

is followed. When the government spends more than its expected revenue, it adopts a deficit-budget policy, which helps stimulate economic activity. Conversely, when the government intentionally keeps its current expenditure lower than current revenue, it pursues a surplus-budget policy.Each type of budgeting influences the economy in different ways viz. affecting aggregate demand, income, employment, and price levels.

b. **Government Expenditure:** Government expenditure includes all spending by public authorities on goods, services, wages and salaries, infrastructure development, public investment, and transfer payments (such as pensions, subsidies, interest payments, grants, and unemployment benefits). The size and pattern of this spending depend on government priorities and available financial resources. Government expenditure acts as an injection into the economic system, increasing aggregate demand. Its overall effect depends on how the expenditure is financed and the size of the multiplier effect generated.

c. **Taxation:** Taxation refers to compulsory payments made by individuals and organisations to the government without direct return, known as non-quid-pro-quo transfers. Taxes withdraw private purchasing power and transfer it to the government. They are broadly classified as direct taxes and indirect taxes. Direct taxes include personal income tax, corporate income tax, wealth tax, and property taxes. In India, personal and corporate income taxes form major revenue sources for the central government. Indirect taxes, also known as commodity taxes, apply to the production and sale of goods and services. Important central indirect taxes include GST and customs duty.

d. **Public Borrowings:** Public borrowings include loans raised by the government from internal and external sources, mainly to finance budget deficits. Internal borrowing consists of borrowing from the public through government securities and treasury bills, and borrowing from the central bank. Borrowing from the public transfers purchasing power from private sector to government, while borrowing from the central bank (monetised deficit financing) creates additional money in the economy and thus has a direct expansionary effect. External borrowings include loans from foreign governments, international institutions like the World Bank and IMF, and borrowings from global financial markets. These too act as injections into the economy. In India, borrowings have constituted around 34 percent of total central government expenditure.

e. **Injections (J) :** Injections (J) refer to the additional flows of income that enter an economy from outside the circular flow of income and help increase the level of economic activity. They add to the total spending in the economy and support growth and employment. The main types of injections are investment by businesses, government spending on public services and infrastructure, and export earnings from selling goods and services to other countries. When injections increase, they raise national income and encourage more production and spending, helping the economy expand.

f. **Withdrawals (W) :** Withdrawals (W), also known as leakages, are the flows of income that leave the circular flow of income, reducing the overall level

of spending and economic activity in an economy. They occur when income is saved rather than spent, when taxes are paid to the government, or when money is spent on imports instead of domestic goods. These withdrawals reduce demand for goods and services within the country. If withdrawals rise sharply, they can slow down economic growth and reduce employment, whereas lower withdrawals help maintain higher levels of production and income.

g. **Fiscal Stance :** This relates to whether the government is boosting or decelerating aggregate demand, i.e. if fiscal policy is expansionary or restrictive.

h. **Automatic Fiscal Stabilisers :** Automatic fiscal stabilisers are built-in government mechanisms that help reduce economic fluctuations automatically, without the need for new policies or decisions. During a recession, they work by reducing taxes and increasing government spending through welfare and unemployment benefits, which helps support income and demand in the economy. During periods of high economic growth or inflation, tax revenues automatically rise and welfare spending falls, which helps control excessive demand. Examples of automatic stabilisers include progressive income taxes, unemployment benefits, and social security payments. In this way, automatic fiscal stabilisers help maintain economic stability and reduce the severity of both booms and recessions.

i. **Discretionary Fiscal Stabilisers :** Discretionary fiscal stabilisers refer to deliberate government policy actions taken to influence the economy during periods of recession or inflation. Unlike automatic stabilisers, these policies do not work on their own and require active decisions by the government or legislature. During a recession, the government may increase spending on public projects, provide subsidies, or reduce taxes to boost demand, employment, and income. During inflation or economic overheating, it may reduce spending or increase taxes to control excessive demand. These stabilizers are designed to support economic growth and maintain stability, but they often involve time delays due to political approval and implementation processes.

j. **Primary Budget Deficit :** It is a measure dealing with concept of balancing budget that includes tax receipts but excludes debt interest payments.

k. **The Effect of a Multiplier :** The effect of a multiplier refers to the process in which an initial increase in spending leads to a larger overall increase in national income and economic activity. When the government, businesses, or households spend money, it becomes income for others, who then spend a portion of that income again, creating further rounds of spending. This repeated flow of expenditure amplifies the original change in spending, making the total increase in output greater than the initial amount. For example, if the government invests in building roads, workers and suppliers receive income, spend more on goods and services, and generate employment in other sectors. Thus, the multiplier effect plays a crucial role in stimulating economic growth, especially during a recession, by boosting overall demand in the economy.

### 4.1.1.2 Functions of Fiscal Policy

Fiscal policy is a potent instrument available to policymakers who want to impact the economy. Governments have an influence on the economy by altering the level and types of taxes, the amount and composition of spending, and the amount and type of borrowing. Governments have a direct and indirect impact on how resources are allocated in the economy. A basic national income accounting equation that assesses an economy's output or gross domestic product (GDP) is shown below:

$$GDP = C + I + G + NX.$$

The value of all final products and services generated in the economy is represented on the left side by GDP. The sources of aggregate expenditure or demand on the right side are private consumption (C), private investment (I), government purchases of goods and services (G), and exports minus imports (net exports, NX). This equation demonstrates how governments influence economic activity (GDP), controlling G directly and indirectly impacting C, I, and NX through tax, transfer, and expenditure changes. Expansionary or "loose" fiscal policy is defined as one that directly boosts aggregate demand by increasing government spending. Fiscal policy, on the other hand, is generally regarded as contractionary or 'tight' if it reduces demand through lower spending.

The goals of fiscal policy differ. Governments may focus on macroeconomic stabilisation in the near term, such as increasing spending or reducing taxes to stimulate a struggling economy, or cutting expenditure or raising taxes to counteract rising inflation or minimise external vulnerabilities. Longer term, initiatives on the supply side to increase infrastructure or education could be used to promote sustainable growth or eliminate poverty. Despite the fact that these goals are largely shared across countries, their relative importance varies depending on the circumstances of each country. Priorities may be influenced by the business cycle. Longer-term influences could include levels of development, demographics, or natural resource endowments. In a low-income country, a desire to eliminate poverty may lead to a shift in investment toward primary health care, but in a developed economy, pension changes may address impending long-term costs associated with an ageing population. In an oil-producing country, authorities may seek to better connect fiscal policy with broader macroeconomic events by reducing procyclical spending-both by limiting spending bursts when oil prices increase and by avoiding severe cuts when prices fall.

### 4.1.1.3 Types of Fiscal Policy

Fiscal policy can be divided into two categories:

**1. Expansionary Fiscal Policy:** This policy aims to stimulate the economy. It is mostly utilised when there is a lot of unemployment or a recession. It leads to the government either decreasing taxes or increasing spending, or both. The goal is to boost the economy while ensuring that customer's spending power does not drop. Increasing aggregate demand is the goal of expansionary fiscal policy as exhibited by a rightward shift of the aggregate demand curve from $AD_1$ to $AD_2$. As a result, the government will boost expenditure (G) while lowering taxes (T). Because customers have greater

disposable income as a result of lower taxes, they will spend more (C). This will exacerbate the government's budget imbalance, forcing the government to borrow more. The implications of expansionary fiscal policy are depicted in the figure below.

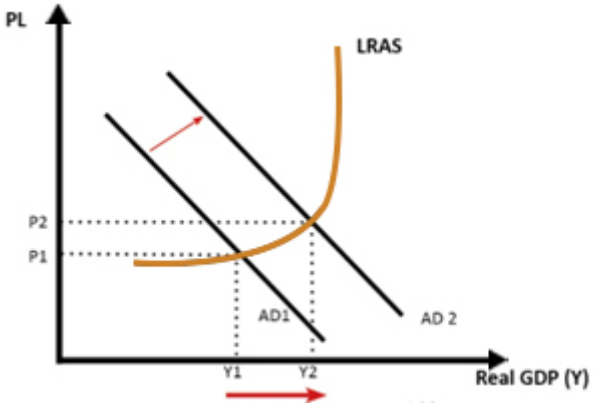


**Fig 5.1.1 Expansionary Fiscal Policy**

**2. Contractionary Fiscal policy**: This policy is intended to restrain economic development in the event of rising inflation, as the name implies. Taxes are raised and spending is reduced under the contractionary fiscal strategy. The term contractionary refers to a reduction in aggregate demand from $AD_1$ to $AD_2$. As a consequence, the government will reduce spending (G) or raise taxes. Consumer expenditure will be reduced as a result of higher taxes. Tight fiscal policy will likely result in a reduction in the government's budget deficit. The following figure depicts the consequences of contractionary fiscal policy.

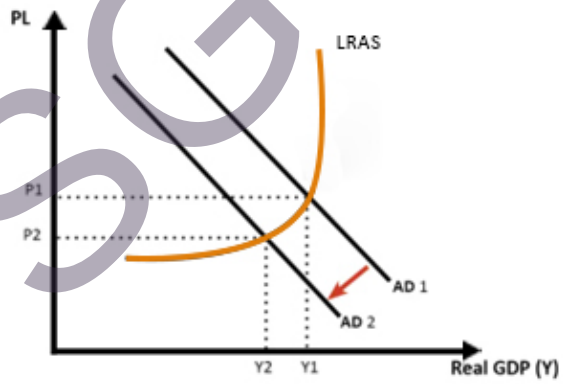


**Fig 5.1.2 of Contractionary Fiscal Policy**

***Crowding in and Crowding out***

Changes in government spending can bring about two types of situations in the economy. A situation when increased interest rates lead to a reduction in private investment spending such that it dampens the initial increase of total investment spending is called crowding out effect. Sometimes, government adopts an expansionary fiscal policy stance and increases its spending to boost the economic activity. This leads to an increase in interest rates. Increased interest rates affect private investment decisions. A high magnitude of the crowding out effect may even lead to lesser income in the economy. With higher interest rates, the cost for funds to be invested increases and

affects their accessibility to debt financing mechanisms. This leads to lesser investment ultimately and crowds out the impact of the initial rise in the total investment spending.

Crowding-in is a phenomenon that occurs when higher government spending leads to an increase in economic growth and therefore encourages firms to invest due to the presence of more profitable investment opportunities.

### 4.1.1.4 Importance of Fiscal Policy

Fiscal policy is an important component of the overall economic framework. It is critical in raising the pace of capital formation in India, both in the public and private sectors. The fiscal policy aids in the mobilisation of resources for project finance. Development activities such as railways, infrastructure, and other development activities are a fundamental focus of fiscal policy. It encourages the private sector to expand its operations. The goal of fiscal policy is to reduce income and wealth disparities. All salaried people pay income tax that is proportional to their earnings. Income tax in India is progressive in nature. Indirect taxes are likely to be higher in the case of semi-luxury and luxury items than in the case of essential consumables. The government collects a significant amount of revenue in this manner, which reduces wealth disparities. Prudent fiscal policy helps to keep prices stable and inflation under control. To achieve a balanced regional development, fiscal policy planning allocates a higher portion of funding to regional development. Its goal is to lower the balance of payment deficit.

Given the importance, there are many criticisms to fiscal policy. The government may have limited knowledge of the state of the economy and may struggle to obtain the most up-to-date information on what the economy requires. Also, there are time lags. It will take time to raise government spending. A government decision could take several months to trickle through the economy and have an impact on aggregate demand. It may be too late by then to affect the economy. Some economists claim that expanding fiscal policy (increasing government spending) will not enhance aggregate demand because it will crowd out private sector spending. This is due to the government's need to borrow money from the private sector, which will result in fewer cash available for private investment.

There are also claims that the spending by the government are inefficient. Higher government expenditure, according to free market economists, will be wasted on unproductive spending programmes. Furthermore, future spending reductions may be difficult due to political pressure from interest groups to keep stimulus spending in place indefinitely.

The importance and complexity of fiscal policy in emerging countries cannot be overstated. Developing countries face the unenviable burden of speeding their rates of economic growth in order to eradicate poverty in a short period of time, even as they face greater uncertainty regarding critical aspects of their fiscal policy, such as the tax base, as a result of globalisation. Furthermore, the exercise of fiscal policy is frequently constrained by increasing pressures from existing regulatory and exchange rate regimes, as well as external parameters such as tax rates in rival countries. For example, it would be difficult for a developing country to have corporate tax rates that

are significantly different from those of its competitors, or to burden monetary policy with large fiscal deficits that could result in a sudden depreciation of the currency rate.

## Recap

- Fiscal policy refers to government spending and taxation decisions that influence the economy
- It is used to promote economic growth and reduce poverty
- Fiscal policy gained importance during the 2007-08 global economic crisis
- Governments adjust taxes, spending, and borrowing to stabilise the economy
- Fiscal instruments include budgeting, government expenditure, taxation, and public borrowing
- Fiscal policy affects disposable income, consumption, savings, investment, exports, imports and prices
- A balanced budget means expenditure equals revenue
- A deficit budget increases demand by spending more than revenue
- A surplus budget helps control inflation by reducing demand
- Government expenditure injects income into the economy and increases aggregate demand
- Taxes withdraw purchasing power from people and reduce their spending capacity
- Direct taxes are applied on income and wealth, whereas indirect taxes are applied on goods and services
- Public borrowings finance deficits through loans from internal and external sources
- Injections such as government spending and exports increase national income
- Withdrawals such as savings, taxes, and imports reduce income and demand

- Automatic stabilisers operate without new policies to reduce economic fluctuations
- Discretionary fiscal stabilisers require government action during recession or inflation
- Expansionary fiscal policy increases spending or reduces taxes during recession to raise demand
- Contractionary fiscal policy reduces spending or increases taxes during inflation to lower demand
- Crowding out occurs when high interest rates reduce private investment due to government borrowing
- Crowding in happens when government spending raises growth and encourages investment
- Fiscal policy reduces inequality through progressive taxes and welfare schemes
- Fiscal policy helps control inflation and maintain economic stability
- Fiscal policy supports infrastructure, industrial growth, and regional balance
- Fiscal policy faces limitations due to time lags, data issues, and inefficient public spending
- Developing countries struggle due to global competition, tax pressures, and fiscal deficits



## Objective Questions

1. What is fiscal policy?
2. What does fiscal policy aim to influence?
3. Name any two fiscal instruments.
4. What is a deficit budget?
5. What is a surplus budget?

6. What are public borrowings?
7. Give one example of an automatic stabiliser.
8. Define injections.
9. What does GDP stand for?
10. What is expansionary fiscal policy used for?
11. What is contractionary fiscal policy used for?
12. What is crowding out?
13. What is crowding in?
14. What is the multiplier effect?
15. What is a primary budget deficit?
16. Mention one criticism of fiscal policy.
17. What is the role of taxation in fiscal policy?
18. Which fiscal policy helps control inflation?
19. How does government expenditure affect aggregate demand?



## Answers

1. Government spending and taxation
2. Aggregate demand
3. Taxation and government expenditure
4. Spending more than revenue
5. Revenue more than spending
6. Loans taken by government

7. Progressive tax or unemployment benefit
8. Income injection into circular flow
9. Gross Domestic Product
10. Recession control
11. Inflation control
12. Reduced private investment due to high interest rates
13. Increased investment due to growth
14. Amplified increased income due to spending
15. Deficit excluding interest payments
16. Time lag
17. Withdraws purchasing power
18. Contractionary fiscal policy
19. Increases demand

## Assignments

1. Explain the fiscal instruments used by the government with suitable examples
2. Discuss the role of fiscal policy during the global financial crisis of 2007-08
3. Describe the difference between expansionary and contractionary fiscal policy
4. Analyse the crowding out effect and its impact on economic growth
5. Evaluate the importance and challenges of fiscal policy in developing countries
6. Discuss the role of automatic stabilisers in stabilising the business cycle

7. Explain how fiscal policy influences GDP using the GDP equation

8. Illustrate the multiplier effect with a real or hypothetical example

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# UNIT

# Monetary Policy

## Learning Outcomes

After completing this unit, the learner will be able to:

- describe monetary policy
- explain how the monetary authorities employ monetary tools
- comprehend on how interest rate alterations and market interventions

## Prerequisite

When COVID-19 struck, uncertainty spread through financial markets and economic activity slowed down. To support the flow of money and credit, central banks around the world, including the Reserve Bank of India (RBI), acted quickly using monetary policy tools. They reduced interest rates to make borrowing cheaper for households and businesses. They increased liquidity in the banking system so that banks could give loans more easily. Some even allowed loan moratoriums so that people and firms could delay repayments without penalty. Such measures kept the economy from freezing when everything seemed to stop. This example shows how monetary policy helps stabilise the economy by managing interest rates and the supply of money, especially during an unprecedented shock like the pandemic.

## Keywords

Monetary Policy Framework, Inflation Targeting, Interest Rates

# Discussion

## 5.2.1 Monetary Policy

Monetary policy is a set of tools that a country's central bank can use to encourage long-term economic growth and price stability by affecting the amount of money available to the country's banks, consumers, and enterprises. A central bank's goal in controlling the money supply is to impact macroeconomic parameters like inflation, consumption, economic growth, and general liquidity. A central bank can purchase or sell government bonds, regulate foreign exchange (FX) rates, and vary the amount of cash that banks must keep as reserves in addition to changing the interest rate. Monetary policy is an important policy instrument for achieving inflation and economic targets.

### 5.2.1.1 Types of Monetary Policy

It is possible for monetary policy to be either expansionary or contractionary. The goal of an expansionary monetary policy is to increase the money supply in a given economy. Lowering key interest rates and enhancing market liquidity are used to implement an expansionary monetary policy. The goal of contractionary monetary policy is to reduce or decrease the money supply in an economy. Increases in key interest rates, which reduce market liquidity, are used to achieve a contractionary monetary policy.

The basic goal of monetary policy is to maintain price stability while still pursuing the goal of economic expansion. Price stability is an essential condition for long-term growth. In order to ensure price stability, inflation must be kept under control.

### 5.2.1.2 Monetary Policy in India

Monetary policy refers to the policy of the central bank i.e., Reserve Bank of India in matters of interest rates, money supply and availability of credit. The Reserve Bank of India (RBI) manages inflation in the country through monetary policy. The Reserve Bank of India (RBI) plays a key part in the inflation targeting consultation process. In India, flexible inflation-targeting system is adopted.

RBI achieves its goals by employing a variety of monetary instruments such as the REPO Rate, Reverse REPO Rate, SLR, and CRR, among others. In a nutshell, monetary policy is the employment of monetary instruments controlled by the central bank to influence variables such as interest rates, money supply, and credit availability in order to achieve the ultimate goal of economic policy.

***Monetary Policy Framework of India :*** The Reserve Bank of India (RBI) is responsible for operating the country's Monetary Policy Framework, according to a 2016 amendment to the Reserve Bank of India (RBI) Act, 1934. The framework attempts to determine the policy (repo) rate based on a review of the existing and evolving macroeconomic environment, as well as modulate liquidity conditions to keep money market rates at or near the repo rate. Changes in repo rates ripple across the entire financial system, influencing aggregate demand, which is a crucial predictor of inflation

and GDP. Following the announcement of the repo rate, the Reserve Bank's operational framework envisions day-to-day liquidity management through appropriate actions aimed at anchoring the operating target the weighted average call rate (WACR)-around the repo rate.

***Monetary Policy Committee (MPC) :*** The Monetary Policy Committee in India determines the policy interest rate required to meet the inflation target (MPC). The MPC is a six-member committee set up by the government (Section 45ZB of the amended RBI Act, 1934). At least four times a year, the MPC is obligated to meet. The MPC meeting requires a quorum of four members. Each member of the MPC has one vote, with the Governor having a second or casting vote in the event of a tie. Following the conclusion of each MPC meeting, the decision adopted by the MPC is published. The Reserve Bank is obligated to issue a document called the Monetary Policy Report explain: (1) the sources of inflation and (2) the inflation prediction for the medium term

***Monetary Policy Process :*** The policy interest rate required to meet the inflation objective is determined by the Monetary Policy Committee (MPC). The Monetary Policy Department (MPD) of the Reserve Bank aids the MPC in developing monetary policy. The Reserve Bank's analytical work and the perspectives of major stakeholders in the economy both contribute to the process of determining the policy repo rate. The Financial Markets Operations Department (FMOD) puts monetary policy into practise, primarily through daily liquidity management operations. The Financial Market Committee (FMC) meets every day to assess liquidity conditions in order to keep the monetary policy operating target (weighted average Call Money rate) near to the policy repo rate. The weighted average call money rate is another name for this parameter (WACR).

***Monetary Policy Instruments :*** The instruments of monetary policy are the tools used by a central bank to control the supply of money, regulate the availability of credit, and influence the overall liquidity conditions in an economy. By adjusting these instruments, the central bank aims to maintain price stability, ensure financial stability, and support economic growth. These policy instruments are often described as the weapons of monetary control because they allow the monetary authority to influence both the demand for and supply of money. They are generally divided into two categories viz. general or quantitative credit control measures, which affect the entire credit market, and selective or qualitative credit control measures, which target specific sectors or uses of credit.

## 1. General Credit Control Measures

General measures of monetary control influence the overall level of credit and liquidity in the financial system. These traditional instruments include the Bank Rate Policy, Cash Reserve Ratio (CRR), and Open Market Operations (OMO). In India, the Statutory Liquidity Ratio (SLR) has also been a significant tool to ensure adequate liquidity and support government borrowing. The Reserve Bank of India (RBI) uses these instruments depending on the economic conditions, such as inflationary pressures or recessionary trends.

**a. Bank Rate Policy** : The bank rate is the rate at which the central bank lends to commercial banks or rediscounts approved bills of exchange. As defined in the RBI Act, it is the standard rate at which the RBI is prepared to buy or rediscount eligible commercial paper. When commercial banks face a shortage of cash reserves, they depend on the central bank as the lender of last resort. By altering the bank rate, RBI affects the cost of borrowing for banks and, therefore, their lending behaviour in the economy.

A reduction in the bank rate encourages commercial banks to borrow more from the RBI, leading to increased credit availability and expansion in money supply. On the other hand, an increase in the bank rate discourages borrowing by commercial banks, reduces credit creation, and restricts the flow of money in the economy. Thus, changes in the bank rate influence interest rates, credit costs, and borrowing decisions throughout the financial system. In India, while the bank rate was historically a major instrument of monetary control, its importance has declined over time, as modern financial markets provide banks with alternative sources of funds.

In contemporary financial systems, the effectiveness of the bank rate depends on banks' reliance on the central bank for funds. Commercial banks today have diversified their financial resources and do not always need to borrow from the central bank, which weakens the impact of bank rate changes. Additionally, in many sectors, the demand for credit is not highly sensitive to interest rate changes, further reducing the effectiveness of altering the bank rate. The expansion of non-bank financial institutions and capital markets also decreases the influence of bank rate adjustments on the overall credit market. Consequently, the RBI now primarily uses the repo rate rather than the bank rate as the main tool of monetary policy.

**b. Cash Reserve Ratio (CRR) :** The Cash Reserve Ratio refers to the proportion of total deposits that commercial banks are required to keep as cash reserves with the RBI. This requirement helps ensure banks have sufficient liquidity to meet customer withdrawals and prevents financial instability. Since cash balances kept with the RBI do not earn interest, banks typically prefer to hold reserves only at the minimum required level. Therefore, CRR becomes a powerful tool for monetary regulation.

Whenever economic conditions require contractionary policy, RBI raises the CRR to reduce banks' ability to create credit. Conversely, during recession or when liquidity needs to be improved, the CRR is lowered, releasing additional funds into the banking system. A small change in CRR can significantly influence the money creation process through its impact on the credit multiplier. Thus, CRR allows the central bank to influence the money supply quickly and effectively.

**c. Open Market Operations (OMO)** : Open Market Operations involve the purchase and sale of government securities and treasury bills by the central bank. When the RBI sells securities, money flows from commercial banks and the public into the RBI's account, reducing deposits, cash reserves, and consequently the ability of banks to extend credit. This leads to a contraction in money supply. In contrast, when RBI buys securities, it injects liquidity into the banking system, raises credit availability, and increases money supply. OMO influences not only the supply of credit but also the

structure of market interest rates, making it one of the most frequently used monetary tools worldwide.

The effectiveness of OMO depends on the overall liquidity conditions in the banking system and the development of the securities market. When commercial banks already hold excess liquidity, selling securities may not significantly reduce their lending. Moreover, in economies where financial markets are not well-developed or investor participation in government securities is low, the impact of OMO may be limited. During periods of low credit demand, such as a recession, increasing liquidity through OMO may not translate into higher credit growth. Despite these limitations, it remains a central instrument of liquidity management in India due to the growing depth of the government securities market.

**d. Liquidity Adjustment Facility (LAF) :** The Liquidity Adjustment Facility comprises both overnight and term repo operations conducted by the RBI. Over time, the RBI has shifted toward greater reliance on variable-rate repo auctions of different maturities to fine-tune liquidity conditions rather than solely depending on fixed-rate overnight repos. The development of term repo markets supports a more efficient and market-driven inter-bank money market, which helps establish transparent market-based benchmarks for pricing deposits and loans. This enhances the effectiveness of monetary policy transmission, ensuring that policy rate changes influence the broader financial system more smoothly. Additionally, the RBI conducts variable interest rate reverse repo auctions when necessary to absorb surplus liquidity from the banking system under changing market conditions. The rates included under LAF are as discussed.

i. **Repo Rate:** The Repo Rate refers to the fixed interest rate at which the Reserve Bank of India (RBI) provides short-term liquidity to commercial banks, typically for an overnight period, by accepting government and other approved securities as collateral under the Liquidity Adjustment Facility (LAF). When banks face a temporary liquidity shortage, they may borrow funds from the RBI by selling securities with an agreement to repurchase them later at a predetermined price. An increase in the repo rate makes borrowing costlier for banks, discouraging excessive credit creation and reducing inflationary pressure. Conversely, a reduction in the repo rate lowers the cost of funds for banks, encouraging lending, stimulating investment, and promoting economic growth. Therefore, the repo rate is a crucial monetary policy tool used to regulate overall liquidity and control inflation in the economy.

ii. **Reverse Repo Rate:** The Reverse Repo Rate is the fixed interest rate at which the RBI absorbs excess liquidity from commercial banks on an overnight basis by borrowing funds from them against the collateral of eligible government securities. It is the opposite mechanism of the repo operation. When the RBI increases the reverse repo rate, banks are incentivized to park surplus funds with the central bank rather than lending them in the market, thereby reducing liquidity and curbing inflationary tendencies. On the other hand, a lower reverse repo rate encourages banks to lend more to the public and private sectors instead of depositing funds with the RBI. Thus, the reverse repo rate helps the RBI maintain appropriate liquidity levels and ensure monetary stability.

iii. **Marginal Standing Facility (MSF):** The Marginal Standing Facility is a special borrowing arrangement under which scheduled commercial banks can obtain overnight funds from the RBI beyond the ordinary LAF limit by temporarily dipping into their Statutory Liquidity Ratio (SLR) securities. However, borrowing under MSF is permitted only up to a specified percentage of a bank's SLR portfolio and at a penal interest rate that is higher than the repo rate. This higher cost discourages frequent use of the facility and ensures that it operates primarily as a last-resort mechanism. MSF serves as a crucial safety valve for the banking system, allowing banks to manage unexpected or acute liquidity shocks without causing instability in financial markets.

**Corridor for Interest Rate Movement** : In India, the MSF rate acts as the upper bound (ceiling) and the reverse repo rate functions as the lower bound (floor) of the interest rate corridor within which the weighted average call money rate (WACR) fluctuates on a daily basis. The call money rate is the operating target of monetary policy, representing the rate at which banks borrow and lend short-term funds to each other. By defining this corridor, the RBI helps anchor short-term interest rates, reduce volatility in the money market, and guide the overall direction of monetary policy transmission across the financial system.

**e. Statutory Liquidity Ratio (SLR) :** The Statutory Liquidity Ratio represents the proportion of a bank's Net Demand and Time Liabilities (NDTL) that must be maintained in the form of safe and liquid assets, such as cash, gold, or unencumbered government securities. By adjusting the SLR requirement, the RBI influences the capacity of banks to extend credit to the private sector. An increase in SLR compels banks to hold a larger share of their resources in approved securities, thereby reducing the pool of funds available for lending and controlling excessive expansion of credit. Conversely, a reduction in SLR frees up banking resources for productive lending, enabling greater investment and economic growth. Thus, SLR serves as an important prudential and monetary policy tool for ensuring liquidity and stability within the banking sector.

## 2. Selective Credit Control Measures

Selective credit control measures are employed by central banks when general or quantitative measures do not achieve the desired outcomes or when their broad effects on the entire credit market may lead to undesirable consequences. General credit control instruments influence the overall volume of credit and exert a uniform impact across all sectors of the economy, which is not always suitable for policy priorities. Instead, selective measures allow policymakers to specifically regulate the availability and direction of credit. These qualitative controls help ensure credit allocation toward essential and priority sectors, prevent excessive credit flow into non-productive or speculative activities, and maintain economic stability. Selective credit controls thus play a crucial role in situations requiring targeted intervention, including rationing of credit among different sectors, diverting funds from non-priority to priority areas, and discouraging speculative borrowing practices. Some major selective credit control methods are explained below.

a. **Credit Rationing :** Credit rationing is implemented when institutional credit is inadequate to meet the total demand, and strong, financially dominant sectors tend to absorb most of the available funds, causing essential and priority sectors to face severe credit shortages. To counter such imbalances, the central bank may impose restrictions on the amount of credit extended to large industries or wealthy borrowers. It may also introduce progressive interest rates, where borrowing beyond a certain limit becomes costlier. By controlling how much credit different borrowers can access, the central bank ensures that productive and socially significant sectors receive adequate financing, preventing non-priority activities from monopolising bank loans.

b. **Change in Lending Margins :** Commercial banks typically issue loans against collateral such as land, buildings, gold, shares, or inventories. The difference between the value of the collateral and the loan amount granted by the bank is known as the lending margin. When the central bank decides to curb excessive borrowing and speculative behaviour, it can raise these lending margins. Increasing the margin reduces the amount a borrower can secure against a given asset, thereby restricting credit availability. The RBI first used this method in 1949 to contain speculative activity in the stock market. From 1956 onwards, it was extensively applied to prevent hoarding and manipulation in essential agricultural commodities like food grains, cotton, oilseeds, sugar, and textiles. Speculators often borrowed large sums by repeatedly mortgaging scarce goods, creating artificial shortages and pushing prices upward. By widening margins, the RBI reduced such speculative flows of credit. Although once significant, this method is now rarely used in India due to evolving financial markets.

c. **Moral Suasion** : Moral suasion refers to the persuasive efforts of the central bank to encourage commercial banks to follow its guidance in their lending policies. Through discussions, circulars, advisory letters, and formal meetings, the central bank appeals to banks' responsibility to support national economic objectives. This method is particularly relevant in developing economies, where both quantitative and selective tools may lack full effectiveness due to underdeveloped financial markets. Moral suasion seeks voluntary cooperation rather than legal enforcement, making it a softer but often useful tool to align bank lending practices with broader policy goals.

d. **Direct Controls :** Direct controls are used only when other policy instruments fail to produce the intended results. In such cases, the central bank issues mandatory directives requiring commercial banks to operate within strict lending guidelines. These may include explicit limits on credit for specific sectors or conditions governing loan terms. Although direct controls provide immediate authority to enforce policy decisions, they are used sparingly because they interfere significantly with bank's autonomy and market functioning.

A stable monetary system is essential for achieving macroeconomic stability and providing an economic and political environment in which society can flourish. Because money accounts for half of all transactions, monetary policy mistakes have the ability to disrupt the entire economy.

## Recap

- Monetary policy controls money supply and credit in an economy
- Aims to influence inflation, consumption, growth and liquidity
- Central bank uses instruments to regulate economic stability
- Tools include interest rates, reserves and government securities
- Expansionary monetary policy increases money supply
- Expansionary monetary policies lowers interest rates and boosts liquidity
- Contractionary monetary policy reduces money supply
- Expansionary monetary policies raises interest rates and controls inflation
- Price stability supports long term economic growth
- RBI formulates and implements monetary policy in India
- RBI influences interest rates money supply and credit flow
- RBI uses repo, reverse repo, CRR and SLR
- Monetary policy framework guides policy rate decisions
- Repo rate changes influence economy wide interest rates
- Liquidity management is done through WACR targeting
- MPC decides policy rates to achieve inflation target
- MPC meets at least four times in a year
- MPC has six members including RBI Governor
- General credit control affects overall credit conditions
- Bank Rate influences borrowing cost of commercial banks
- CRR controls bank lending capacity through reserves
- OMO adjusts liquidity by buying or selling securities
- LAF uses repo and reverse repo to manage liquidity
- MSF provides emergency borrowing at higher rates
- SLR ensures liquidity and banking stability
- Selective controls direct credit to priority sectors

- Credit rationing limits lending to specific borrowers
- Lending margins control speculative credit
- Moral suasion relies on persuasion and cooperation
- Direct controls impose mandatory credit restrictions
- Monetary policy supports macroeconomic stability and growth

## Objective Questions

1. What is monetary policy?
2. Which institution implements monetary policy in India?
3. What is the main aim of monetary policy?
4. What does expansionary monetary policy do?
5. What does contractionary monetary policy target?
6. What is inflation targeting?
7. Name the key policy rate used in India.
8. What is the role of the MPC?
9. What does CRR stand for?
10. What does SLR represent?
11. What is the repo rate used for?
12. What is the reverse repo rate used for?
13. What does MSF provide to banks?
14. What does OMO stand for?
15. What is the call money rate?
16. What is a general credit control measure?
17. What is a selective credit control measure?

18. Define credit rationing.

19. What does moral suasion rely on?

20. Which tool controls liquidity quickly?

## Answers

1. Central bank's control of money supply
2. Reserve Bank of India
3. Price stability
4. Increases liquidity
5. Reduces money supply
6. Setting an inflation target
7. Repo rate
8. Fixes policy interest rate
9. Cash Reserve Ratio
10. Bank's liquid assets requirement
11. Short-term funds to banks
12. Absorbing surplus liquidity
13. Emergency borrowing
14. Open Market Operations
15. Inter-bank short-term interest rate
16. CRR, SLR, OMO
17. Controls specific sectors
18. Limiting credit availability

19. Persuasion and guidance

20. CRR

## Assignments

1. Explain the importance of monetary policy in maintaining macroeconomic stability in India.
2. Distinguish between expansionary and contractionary monetary policy with examples.
3. Describe the structure and role of the Monetary Policy Committee in India.
4. Discuss the significance of repo and reverse repo rates in monetary policy transmission.
5. Evaluate the effectiveness of selective credit control measures in a developing economy.
6. How does the RBI use Open Market Operations to manage liquidity in the financial system
7. Assess the impact of CRR and SLR on credit creation by commercial banks.
8. Examine how inflation targeting influences RBI's monetary decisions.
9. Write a critical note on the limitations of monetary policy in India.



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UNIT 3

# Fiscal and Monetary Policy - Interaction

## Learning Outcomes

After completing this unit, the learner will be able to:

- get an insight intounderstand the interaction between fiscal and monetary policy
- know about the real life situations associated with the interaction

## Prerequisite

The interaction between fiscal policy and monetary policy is central to effective macroeconomic management and determines a nation's response to economic fluctuations, crises, and long-term growth objectives. Fiscal policy, controlled by the government, utilises taxation and public expenditure to directly influence aggregate demand and the allocation of resources. Conversely, monetary policy, managed by the independent central bank, employs instruments like interest rates and the money supply to indirectly influence credit conditions, inflation, and investment decisions. While they operate through different channels and are governed by separate authorities, their objectives promoting price stability, full employment, and sustainable growth are highly interconnected. The effectiveness of any stabilisation measure is often dependent on the degree of coordination between these two policies, as uncoordinated actions can lead to conflicting signals, potentially undermining the stability of the entire economy.

## Keywords

Fiscal Policy, Monetary Policy, Covid 19 Pandemic

## Discussion

### 5.3.1 Interaction Between Fiscal and Monetary Policy

The state's two most powerful macroeconomic tools, monetary and fiscal policies, are inextricably linked. Both have a significant impact on aggregate demand and, to a lesser extent, aggregate supply. Fiscal policy has a direct impact on aggregate demand and supply through the taxes and incentives it creates, as well as public investment, transfers to households and businesses, and public sector compensation. Monetary policy affects consumption and investment indirectly, notably through interest rates, which influence financing conditions and thus consumption and investment. It has a slower and less predictable impact on the actual economy, particularly on corporate fixed investment.

To stabilise the economy, fiscal and monetary policy compete for space and cross-purposes. Coordinated global monetary and fiscal expansion after the Great Financial Crisis in 2008-09, and enormous fiscal and monetary stimulus across key countries in reaction to pandemic-induced lockdowns in 2020 are prime examples of good interactions. As the recession caused by lockdowns during the COVID 19 epidemic evolved in 2020-21, monetary and fiscal policy worked in tandem to mitigate the pandemic's economic consequences. Monetary policy helped to stabilise the financial sector, keep credit flowing, and improve overall financing conditions. Firms and consumers were protected by fiscal policy through transfers and loan guarantees. Both policies backed each other up along the process. Government funding limitations were alleviated by large-scale central bank purchases of sovereign debt, while fiscal backstops and guarantees boosted the central bank's lending capacity.

The global response to the COVID-19 pandemic necessitated unprecedented and closely coordinated interaction between fiscal and monetary policies. The main challenge was to counteract the simultaneous demand and supply shocks caused by lockdowns. Fiscal policy addressed the collapse in demand and income by deploying massive spending (deficits, transfers, and aid), while monetary policy acted as the essential lubricant, ensuring the financial system remained liquid and credit flowed cheaply, thereby supporting the large-scale government borrowing. This collaboration prevented interest rates from soaring ("crowding out") due to the massive government debt issuance and kept businesses afloat.

In the United States, the interaction was characterised by synchronised expansion. The Fiscal policy response involved multi-trillion-dollar stimulus packages, such as the CARES Act, which delivered direct cash payments, enhanced unemployment benefits, and forgivable business loans (like the PPP) to inject immediate demand. This massive government spending resulted in huge deficits. The Monetary policy response by the Federal Reserve was equally important, it slashed the federal funds rate to near zero and initiated Quantitative Easing (QE), buying vast amounts of Treasury bonds and other securities . This effectively monetarily financed the fiscal expansion by ensuring that the government could borrow cheaply and financial markets didnot freeze up, thereby preventing a liquidity crisis from turning into a solvency crisis.

In India, the interaction involved a strategy of targeted credit and liquidity support. The fiscal policy response primarily focused on providing immediate, but targeted, relief through cash and food transfers (e.g., PMGKP) and, crucially, offering large-scale credit guarantees to sectors like MSMEs (under Aatma Nirbhar Bharat Abhiyan). Instead of direct, massive deficits, the government used guarantees as an off-budget tool to induce lending. The monetary policy response by the Reserve Bank of India (RBI) involved sharp cuts to policy rates (Repo Rate) and the use of specialised tools like Targeted Long-Term Repo Operations (TLTROs). The RBI ensured that the financial system was available with liquidity, enabling banks to confidently extend credit and loans, which were necessary to operationalise the government's credit guarantee schemes, thus making the fiscal action effective. This approach stabilised the financial system while supporting economic activity with reduced immediate fiscal stress.

The combined monetary and fiscal stimulus given by the government was unprecedented. Australia, Canada, Japan, the United Kingdom, and the United States gave the most support among advanced nations, ranging from 17 to 26 percent of GDP in 2020-21. In Europe, the fiscal stimulus was lower, at 7-11 percent of GDP, and was complemented by multi-year subsidies from the Next Generation EU Fund beginning in mid-2021. The level of assistance in developing market economies was often lower, but nevertheless significant: Brazil managed to provide fiscal support worth 12% of GDP, China, Korea, and South Africa at 7%, and many others up to 5%.

The monetary stimulus was just as strong. Many central banks have slashed policy rates to record lows, frequently near or below zero. They also used unconventional measures in many emerging market economies, such as large-scale asset purchases, special lending programmes, forward guidance, and yield curve control. As a result, in most countries, the size of the major central bank's balance sheet is at an all-time high, owing to an increase in the ownership of government securities. The active participation of fiscal policy in responding to the pandemic shock is notable because, since the Great Inflation of the 1970s, academic study and policy analysis had urged against such a stabilisation function.

This viewpoint emphasised the long and uncertain lags in the implementation of tax and spending policies, as well as the widespread belief that automatic stabilisers are significantly more effective than discretionary fiscal measures for macroeconomic stabilisation over the business cycle. They did admit, however, that automatic stabilisers were rarely strong enough to totally prevent recessions, and they cautioned against a stringent balanced budget constraint, which may effectively become an automatic destabiliser. The global economy's recovery since mid 2020 indicates that the combined monetary and fiscal stimulus has been successful thus far. The unprecedented size of the stimulus, on the other hand, has raised a number of questions, including how to calibrate the policy mix in the short term, the longer-term effects of stimulus on individual countries and the global economy, and the nature of interactions between fiscal and monetary policies in the elusive 'new normal' regime that has yet to emerge following the financial crisis.

The risk of fiscal dominance is one concern for monetary-fiscal interactions. Fiscal dominance, in its broadest sense, refers to a scenario in which monetary policy is subjugated to fiscal policy goals. From the mid1930s until the early 1970s, when

the Bretton Woods fixed exchange rate system collapsed, central banks in advanced countries engaged in financial repression to allow governments to issue debt at low interest rates, and they frequently directed cheap credit to targeted industries or firms to achieve their own economic goals. Interest rates were capped, banks were imposed high reserve requirements, banks were required to hold government debt via capital requirements, banking competition was regulated, international capital movements were restricted, and other measures were used to keep nominal interest rates below the rate of inflation.

For both approaches, recovering room for manoeuvring will be critical in the coming years. A restoration to some type of separation between the two policies is one possibility. Fiscal authorities will have to ensure that public debt is sustainable, and central banks will have to continue to meet their responsibilities for stability. This means that the two approaches may at times work in opposition to one another, with fiscal consolidation pressuring monetary policy to remain loose and monetary policy normalisation pressuring government borrowing prices. As a result, uncertainty about the responsibilities of monetary and fiscal policies is likely to persist for some time. As previously stated, their interactions have often swung between periods of agreement to periods of ambiguity regarding their connection. Central banks also sought agreement during two periods: stagflation in the 1970s and financial instability, poor growth, and low inflation following the Great Financial Crisis. Balance sheet policies and macroprudential measures, which were established after the crisis, have improved the monetary policy toolkit and are likely to be part of it in the future.



## Recap

- Both monetary and fiscal policies are the state's most powerful macroeconomic tools
- They are inextricably linked and both significantly impact aggregate demand
- Fiscal policy directly affects demand and supply through taxes, transfers, and public investment
- Monetary policy indirectly affects consumption and investment mainly through interest rates
- Policy interaction can be good, such as the coordinated stimulus after the 2008 and 2020 crises
- During the COVID-19 pandemic, fiscal policy protected firms and consumers via transfers and loan guarantees

- Monetary policy helped stabilise the financial sector and ensured credit continued to flow
- Central bank purchases of sovereign debt alleviated government funding limitations
- This collaboration helped prevent interest rates from rising, which would have caused "crowding out."
- The US fiscal response included multi-trillion-dollar packages like the CARES Act, leading to huge deficits
- The US Federal Reserve slashed rates and used Quantitative Easing (QE) to finance this expansion cheaply
- India's fiscal policy focused on targeted cash transfers and large scale credit guarantees for sectors like MSMEs
- The RBI supported this with policy rate cuts and specialised tools like Targeted Long-Term Repo Operations (TLTROs)
- A major concern for the long term is fiscal dominance, where monetary policy is controlled by the government's fiscal goals

## Objective Questions

1. Which of the two main macroeconomic tools has a direct impact on aggregate demand through public investment?
2. Which financial metric is used by monetary policy to affects consumption and investment?
3. What specific type of policy expansion was coordinated globally after the Great Financial Crisis in 2008-09?
4. By avoiding what phenomenon, the massive government debt issuance during the COVID-19 crisis was prevented from causing high interest rates?
5. What mechanism, involving the purchase of government debt, helped alleviate funding limitations during the pandemic?
6. What specific Act delivered direct cash payments and enhanced unemployment benefits in the United States?

7. The US Federal Reserve slashed the federal funds rate to near what level during the crisis?

8. Which policy approach primarily focused on providing large scale credit guarantees to MSMEs in India?

9. The risk where monetary policy is made subservient to the government's fiscal policy goals is known as what?

## Answers

1. Fiscal Policy
2. Interest Rates
3. Monetary and Fiscal
4. Crowding Out
5. Sovereign Debt Purchases
6. CARES Act
7. Zero
8. Fiscal Policy
9. Fiscal Dominance

## Assignments

1. Analyze the nature of the interaction between fiscal policy and monetary policy (in a major Advanced Economy (e.g., the U.S. or Euro Area) during the initial phase of the COVID-19 pandemic (2020).

2. Discuss the emerging challenges for the interaction between monetary and fiscal policy in the post-pandemic, high inflation environment

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BLOCK

# Fiscal and Monetary Policy 2

UNIT 1

# Unconventional Monetary Policy

## Learning Outcomes

After completing this unit, the learner will be able to:

- understand unconventional monetary policy
- comprehend on different types of unconventional monetary policy
- discuss how the policy provides liquidity to stressed financial markets

## Prerequisite

Unconventional Monetary Policy represents a critical extension of the central bank's tools, utilised primarily when the traditional policy interest rate is constrained by the effective lower bound (ELB), typically near zero. These measures, adopted extensively following crises like the Global Financial Crisis, are necessary because the conventional mechanism of influencing short-term interest rates becomes impotent. These strategies aim to restore monetary stimulus by operating directly on the central bank's balance sheet and shaping long-term market expectations. Academically, the justification for unconventional monetary policy rests on its ability to lower financing costs, reduce systemic liquidity risk, and influence the overall asset price structure, thereby supplementing the weakened interest rate channel to achieve macroeconomic stabilisation goals.

## Keywords

Price Target, Quantitative Target, Risk-Free Yield Curve, Government Bond, Forward Guidance

# Discussion

## 6.1.1 Unconventional Monetary Policy

The term *conventional monetary policy* measures refer to the standard operational framework through which central banks conduct monetary policy under normal economic and financial conditions. In contemporary practice, monetary policy is primarily implemented by setting a target for the overnight interest rate in the interbank money market. The central bank steers this rate by adjusting the supply of central bank reserves through open market operations. In order to limit the exposure of its balance sheet to financial risk, liquidity-providing operations are typically conducted as reverse transactions and are secured by a predefined set of eligible collateral. Consequently, under normal circumstances, the central bank does not engage in direct lending to the private sector or the government, nor does it undertake outright purchases of government securities, corporate bonds, or other debt instruments. By influencing the level of key policy interest rates, the central bank manages liquidity conditions in money markets and seeks to fulfil its primary mandate of maintaining price stability over the medium term. Historically, this framework has proven effective in delivering adequate monetary stimulus during economic downturns, restraining inflationary pressures during periods of expansion, and ensuring the smooth functioning of money markets.

However, in what may be described as *abnormal* or crisis conditions, conventional monetary policy instruments may no longer be sufficient to achieve the central bank's objectives. Broadly speaking, there are two main reasons why this may occur. The experience of the global financial crisis, particularly during the year and a half following its onset, demonstrated that non-standard policy instruments may be required even before policy interest rates reach their effective lower bound. When financial market turmoil began in the summer of 2007, central banks across the world intervened by providing additional liquidity to financial markets. Initially, it appeared that conventional tools remained effective: despite severe disruptions, tensions in the euro area interbank market were significantly alleviated through supplementary longer-term refinancing operations. Nevertheless, as the crisis intensified during September and October of the following year, the situation deteriorated markedly.

One potential scenario necessitating unconventional measures arises when the economic shock is so severe that the nominal policy interest rate must be reduced to zero. At this point, further reductions in policy rates are no longer feasible, implying that additional monetary accommodation can be provided only through unconventional instruments. In general terms, when the policy rate is constrained by the zero lower bound, further monetary stimulus may be achieved through three complementary channels: first, by shaping expectations regarding medium- to long-term interest rates; second, by altering the composition of the central bank's balance sheet; and third, by expanding the overall size of that balance sheet. A common feature of these measures is that they are designed to ease financing conditions beyond the very short-term interbank interest rates that are directly influenced by conventional policy actions.

A second rationale for adopting non-conventional monetary policy measures exists even when the policy interest rate remains above zero, provided that the monetary transmission mechanism is significantly impaired. Under such conditions, central banks may pursue two not mutually exclusive strategies: reducing the short-term nominal interest rate more aggressively than would be warranted under normal circumstances, and intervening directly in the transmission process through the use of unconventional policy instruments.

The events following the collapse of Lehman Brothers vividly illustrate this situation. Shortly after the bankruptcy, liquidity in interbank markets virtually evaporated, and the abrupt loss of confidence among market participants posed a serious threat to the orderly functioning of the euro area money market. In such an environment, easing monetary policy solely through reductions in official interest rates would have been insufficient. When the monetary policy transmission mechanism is severely disrupted, conventional policy actions lose much of their effectiveness, and policy decisions must therefore reflect the exceptional conditions prevailing in financial markets.

Central banks possess a range of instruments to address extraordinary disruptions in interbank markets, and the selection of specific tools depends not only on institutional arrangements but also on the condition of the banking sector and the nature of the shocks affecting it. As a result, although cross-country comparisons of unconventional monetary policy measures may appear appealing, they can be misleading if they fail to account for these structural and contextual differences.

Finally, an important consideration in the implementation of non-conventional monetary policies concerns the risk of distorting market functioning by substituting for, or interfering excessively with, private market mechanisms. There is a possibility that economic agents may become overly reliant on central bank refinancing operations, leading to an excessive dependence on official liquidity provision. In such cases, financing conditions may become artificially favourable, potentially crowding out alternative market-based funding channels and weakening incentives for the restoration of normal market functioning.

### 6.1.1.1 Main Features of Unconventional Monetary Policy Measures

When standard monetary policy instruments no longer suffice to fulfil a central bank's mandate, policymakers are required to consider alternative approaches to monetary intervention. Such circumstances typically arise when adjustments to short-term policy interest rates fail to exert a meaningful influence on economic activity or financial conditions.

Unconventional monetary policy measures may be broadly characterised as policy actions that seek to influence directly both the price and the accessibility of external financing for key economic agents, including banks, households, and non-financial firms. External finance may take multiple forms, such as central bank liquidity provision, bank lending, debt securities, or equity financing. Because the cost of these funding sources usually exceeds the short-term interbank rate that conventional monetary policy targets, unconventional measures are often intended to compress the premia embedded in various financing instruments. By narrowing these spreads,

such policies aim to influence asset valuations and reallocate financial flows within the economy. Consequently, the design and effectiveness of unconventional measures are closely linked to the underlying financial structure of the economy, particularly the configuration of financial intermediation and the flow of funds across sectors.

A defining characteristic of unconventional monetary policy is the wide spectrum of available instruments that can be employed to ease financing conditions. These instruments are not mutually exclusive and may be deployed simultaneously. As a result, policymakers must first establish clear intermediate objectives for their interventions. These objectives may range from supplying additional liquidity to the banking system to directly addressing disruptions in specific market segments, such as acute liquidity shortages or elevated credit spreads. Once these objectives are clearly articulated, policymakers can select the combination of tools that is most appropriate for achieving them.

At the same time, the implementation of unconventional measures requires careful consideration of potential unintended consequences. In particular, policymakers must assess the implications of such measures for the risk profile and financial integrity of the central bank's balance sheet. Equally important is the risk that prolonged intervention may impede the restoration of normal market functioning by discouraging private sector participation and adjustment.

One important channel through which unconventional policy can operate is the management of expectations in order to influence real long-term interest rates. Expectations affect economic outcomes through several mechanisms. For example, if a central bank succeeds in shaping expectations of a higher future price level, the real interest rate may decline even when nominal policy rates are constrained at their lower bound. An increase in expected inflation reduces real borrowing costs and can therefore stimulate spending and investment. Alternatively, policymakers may influence expectations by committing conditionally to maintaining policy rates at very low levels for an extended period. Since long-term interest rates largely reflect the expected path of future short-term rates, such commitments can exert downward pressure across the yield curve.

Furthermore, credible forward guidance can help stabilise inflation expectations and prevent deflationary dynamics. In the absence of such guidance, declining inflation expectations would raise real interest rates, thereby dampening aggregate demand. When expectation management is effective, it contributes, other things being equal, to lower real long-term interest rates and supports borrowing and economic activity.

In addition to shaping expectations, central banks may influence financing costs by intervening directly in asset markets across different maturities. These interventions may target government securities, corporate bonds, commercial paper, or foreign assets. Two broad categories of asset-based policies can be distinguished. The first focuses on lowering longer-term interest rates more generally, irrespective of differences in credit risk, primarily through interventions in markets for low-risk assets such as government bonds. This approach is commonly referred to as *quantitative easing*. The second approach aims to reduce risk premia by targeting markets that are particularly

disrupted, thereby improving the pricing and availability of credit in stressed segments. This strategy is typically described as *credit easing*.

These two approaches differ not only in their objectives but also in their implications for the composition of the central bank's balance sheet. Credit easing policies can, in principle, be implemented even when short-term nominal interest rates remain above zero, whereas quantitative easing is generally most relevant when policy rates are at, or very close to, their effective lower bound. Despite these differences, both types of interventions tend to expand the size of the central bank's balance sheet and increase its monetary liabilities, reflecting a more active role for the central bank in financial intermediation during periods of economic and financial stress.

Let us discuss major tools of unconventional monetary policy viz. asset purchases, term finance facilities, market operations adjustments, negative interest rates, forward guidance.

**a. Forward Guidance**

Central banks communicate their intended approach to monetary policy through a practice commonly described as forward guidance i.e., advance policy communication. This approach provides financial markets and the public with information about the likely direction of key policy rates and other policy measures in the coming period. Such communication generally takes two main forms.

First, the guidance may be linked to a specific period, where the monetary authority signals that its policy position will remain unchanged until a stated future date. Second, the guidance may depend on economic indicators, where policy actions are tied to the achievement of particular macroeconomic conditions such as price stability or employment targets.

During periods of severe economic stress, including major global downturns and public health emergencies, central banks have maintained very low benchmark interest rates and adopted additional non-traditional measures to support economic activity and financial stability. Alongside these actions, they have increasingly clarified their future policy intentions. A key objective of this communication has been to reinforce confidence that accommodative policies will persist, thereby influencing longer-term borrowing costs. Another purpose has been to explain how policy decisions would respond under unusual or extreme economic situations. Overall, such guidance has played an important role in limiting uncertainty and stabilising expectations about future economic and financial conditions.

**b. Asset Purchases**

Asset purchases involve the central bank directly acquiring financial instruments from private entities and settling these transactions by creating central bank reserves. Although such operations have existed for many decades and were earlier used to steer the policy interest rate, their role expanded significantly after the Global Financial Crisis, leading to a sharp rise in the size of central bank balance sheets. In recent programmes, central banks have bought a wider range of securities than before. Even so, government bonds have continued to dominate these operations.

In carrying out asset purchases, the central bank usually announces a specific operational objective and conducts transactions through financial markets. This objective may relate to the volume of assets to be acquired or to the market price of a particular security. In the case of bonds, the relevant price is reflected in their interest rate. When the central bank focuses on a predetermined purchase volume, the policy is commonly described as quantitative easing (QE).

Across countries, the immediate goals of asset purchase programmes have differed. However, a shared aim has been to reduce returns on low-risk securities, especially government bonds, across different maturities, thereby influencing the entire yield curve. This process operates through the portfolio balance channel and allows central banks to affect borrowing costs beyond the policy interest rate. Asset purchases also reinforce forward guidance by signalling that accommodative monetary conditions will persist, which further suppresses bond yields. In addition, funds received by investors from selling assets to the central bank may be reallocated to other financial instruments, affecting the valuation of a broad range of assets and influencing exchange rate movements.

**c. Term Funding Facilities**

Term Funding Facilities are arrangements through which central banks supply banks and other financial institutions with long-maturity funds at relatively cheap rates. These schemes became more prominent after the Great Recession and were later expanded during subsequent economic disruptions. When short-term policy rates are already close to their minimum, such facilities help bring down the cost of longer-duration financing for financial institutions. This reduction is transmitted to households and firms in the form of lower lending rates and improved availability of credit. In addition, these facilities are often designed to encourage banks to increase loans to businesses and consumers.

**d. Adjustments to market operations**

In response to disruptions during the Global Financial Crisis and later the COVID-19 shock, central banks modified their standard market operations to address dysfunction in illiquid segments of the financial system. Although the exact measures differed across economies, common changes included supplying significantly larger amounts of liquidity, accepting a broader set of assets as collateral, and allowing a wider group of financial institutions to participate in central bank operations. These measures were intended to reassure financial institutions about their ability to obtain funds during periods of stress. Without such assurance, banks tend to reduce lending and investment, raising the likelihood of severe credit contraction and economic downturn. By strengthening confidence in liquidity access, central banks helped maintain credit flows and support orderly market functioning.

**e. Negative interest rates**

Negative interest rates represent a rare and unconventional policy approach. Under such a system, deposit holders may face charges rather than earning returns on their bank balances. Before the Great Recession, it was commonly believed that the policy interest rate could not fall below zero, as people would choose to hold physical currency instead

of keeping money in banks. Experience later showed that this limit was not absolute, and several countries implemented negative policy rates. However, commercial banks generally avoided applying negative rates to retail customers and small firms, due to practical and political concerns. Even so, there is a practical threshold below which further reductions become ineffective, as depositors eventually shift toward holding cash. For this reason, policymakers now refer to an effective lower bound rather than a strict zero lower bound.

**f. Yield Curve Control**

Yield Curve Control (YCC) is a non-traditional monetary policy strategy in which a central bank seeks to influence long-term borrowing costs by targeting interest rates on government bonds of specific maturities, such as the three-year yield. To achieve this, the central bank commits to purchasing whatever quantity of bonds is necessary to keep yields at the chosen level. The main aim of YCC is to support economic activity, promote lending, and maintain price stability by stabilising longer-term interest rates. Unlike Quantitative Easing (QE), which focuses on the volume of assets acquired, YCC emphasises the desired yield outcome, with bond purchases adjusting as needed to meet that target.

## Recap

- Conventional monetary policy operates effectively under normal economic and financial conditions
- Central banks usually implement policy by targeting the overnight interbank interest rate
- This rate is guided through open market operations that adjust central bank reserves
- Liquidity is provided against approved collateral to limit balance sheet risk
- Under normal conditions, central banks avoid direct lending and outright asset purchases
- The main objective of conventional policy is to maintain price stability
- Historically, conventional tools have managed inflation and supported stable money markets
- During crises, standard monetary tools may fail to achieve policy objectives

- The Global Financial Crisis showed limits of conventional monetary policy
- Severe economic shocks can push policy interest rates to zero
- Once rates reach zero, further cuts are no longer possible
- Additional stimulus must then come from unconventional monetary measures
- Unconventional policy is also used when monetary transmission is weak
- Central banks use different tools depending on banking structures and shocks
- Financial institutions may become too dependent on central bank support
- Overreliance on official liquidity can crowd out private market funding.
- Prolonged intervention may delay the return to normal market conditions
- Unconventional monetary policy is used when interest rate changes lose impact
- Unconventional policy uses a wide range of instruments simultaneously
- Policymakers must clearly define intermediate objectives before intervention
- Tools may target liquidity shortages or high credit spreads
- Managing expectations is a key channel of unconventional policy
- Higher expected inflation can lower real interest rates
- Lower real rates encourage spending and investment
- Forward guidance helps stabilise inflation expectations and demand
- Central banks also intervene directly in asset markets
- Quantitative easing lowers long-term interest rates broadly
- Credit easing targets stressed markets to reduce risk premia
- Both approaches expand central bank balance sheets

- Forward guidance communicates future policy intentions clearly
- Asset purchases inject liquidity and influence yields
- Term funding facilities support bank lending at low cost
- Market operation adjustments improve liquidity during stress
- Negative interest rates push borrowing costs lower
- Yield Curve Control stabilises long-term government bond yields

## Objective Questions

1. What is the primary target of conventional monetary policy?
2. Which operations are used to adjust central bank reserves?
3. What is the main mandate of central banks under normal conditions?
4. Name a global event that revealed the limits of conventional monetary policy.
5. What happens when policy interest rates reach zero?
6. Which bound limits further reduction in policy rates?
7. Name one channel used by unconventional policy when rates are at zero.
8. What mechanism becomes ineffective during severe financial stress?
9. Which event caused interbank market liquidity to collapse?
10. What type of policy measures are used during crisis conditions?
11. Which policy aims to influence future interest rate expectations?
12. What is the term for large-scale asset purchases by central banks?
13. Which assets are mainly purchased under asset purchase programmes?
14. What facilities provide long-term low-cost funds to banks?

15. What policy involves charging for holding bank deposits?

16. What policy targets yields at specific maturities?

## Answers

1. Overnight interbank interest rate
2. Open market operations
3. Price stability
4. Global Financial Crisis
5. Further rate cuts impossible
6. Zero lower bound
7. Expectations management
8. Monetary transmission mechanism
9. Lehman Brothers collapse
10. Unconventional monetary policy
11. Forward guidance
12. Quantitative easing
13. Government bonds
14. Term funding facilities
15. Negative interest rates
16. Yield Curve Control

## Assignments

1. Explain the primary difference between Quantitative Easing (QE) and Yield Curve Control (YCC), focusing on whether the central bank's target is the quantity of assets purchased or the price (yield) of those assets.

2. Describe the specific steps in the Monetary Transmission Mechanism through which a central bank's interest rate cut eventually puts upward pressure on inflation.

3. Identify and explain two significant unintended consequences arising from the prolonged use of unconventional policies like low interest rates and asset purchases.

4. How do Forward Guidance (influencing expectations) and Term Funding Facilities (altering lending costs) differ in their approach to boosting the economy's credit supply?

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UNIT 2

# Global Financial Crisis – 2007-08 and Use of Monetary and Fiscal Policy

## Learning Outcomes

After completing this unit, the learner will be able to:

- know about the global financial crisis
- comprehend the impact of global financial crisis on the US and India
- aware of the use of monetary and fiscal policy in dealing with global financial crisis

## Prerequisite

The 2008 Global Financial Crisis (GFC) marked a systemic failure, demonstrating the severe consequences arising from the interaction of global macroeconomic imbalances and prevalent flaws within the financial system. The crisis is fundamentally understood as the disruptive reversal of sustained excessively loose monetary policy in major reserve currency economies, particularly the U.S., fostered an environment of asset bubbles, excessive leverage, and risk underpricing. The collapse of the U.S. sub-prime mortgage sector merely served as the immediate trigger that exposed the fragility created by opaque financial innovation and inadequate regulatory oversight. The crisis thus necessitated the deployment of fiscal and monetary policy aimed not just at stabilisation but at preventing a total systemic collapse.

## Keywords

Global Financial Crisis, Fiscal Policy, Monetary Policy, Quantitative Easing, Sub-prime crisis

# Discussion

## 6.2.1 Global Financial Crisis and Policy Intervention in the US

The 2008 Global Financial Crisis (GFC) marked a significant downturn in modern economic history, necessitating forceful policy responses from the U.S. government and the Federal Reserve (Fed). The crisis began with the U.S. Housing Bubble, which was inflated by sustained low interest rates (2002–2004) and poor lending standards that encouraged risky subprime mortgages. Risk was amplified by complex financial innovation, specifically mortgage-backed securities (MBS) and derivatives, which disseminated fragile assets globally. Inadequate regulation and high leverage contributed to financial institutions underpricing risk. The crisis culminated in September 2008 following the collapse of the MBS market and the bankruptcy of Lehman Brothers, leading to a severe freezing of global credit markets.

The 2008 Global Financial Crisis (GFC) was immediately triggered by the failure of the sub-prime mortgage sector in the USA. However, at a more fundamental level, the crisis was rooted in the persistence of large global imbalances. These imbalances were characterised by a substantial and growing current account deficit in the US, mirrored by corresponding surpluses in Asia particularly China and oil-exporting countries. These savings-investment imbalances generated huge cross-border financial flows that put significant stress on the financial intermediation process worldwide. Many analysts also point to the long period of excessively loose monetary policy in major advanced economies, particularly the U.S., during the early 2000s, following the dot-com bubble burst. This accommodative stance contributed to the growth of the imbalances and interacted with flaws in global financial markets to create the specific features of the crisis.

### Excessively Loose Monetary Policy

Following the dot-com bust, the U.S. Federal Reserve (Fed) aggressively eased monetary policy, lowering the policy rate to just one per cent by June 2003, where it was held for an extended period. Empirical assessment, such as comparison with the Taylor Rule, suggests this policy was substantially looser than required, representing an unusual and persistent deviation. This accommodative monetary policy and the resulting low interest rates encouraged market participants to engage in an active 'search for higher yields.' This search led to a surge in capital flows to Emerging Market Economies (EMEs), whose resulting excess reserves were often recycled back into U.S. government securities. This recycling helped keep long-term interest rates low in the U.S., further fuelling the mortgage finance sector.

### Asset Bubbles and Credit Excesses

The low nominal and real interest rates fuelled strong gains in asset prices, particularly in housing and real estate. This created a wealth effect that further boosted

U.S. consumption and investment, causing aggregate demand to consistently exceed domestic output. This was reflected in the large and growing U.S. current account deficit. The benign environment, dubbed the Great Moderation, led to the underpricing of risks and a relaxation of lending standards, exemplified by the growth of sub-prime mortgage credit with low margin money and initial 'teaser' payments. Financial innovations, such as the use of the 'originate and distribute' model and the securitisation of sub-prime loans into complex derivatives, facilitated excessive leverage among banks and financial institutions, concentrating risk despite the theoretical goal of risk dispersal.

As the Fed began withdrawing monetary accommodation in 2004 to combat rising inflation, interest rates edged up. This led to rising mortgage payments, depressed housing prices, and increased incentives for sub-prime borrowers to default due to low/negligible margin financing. These defaults led to mounting losses and capital write-offs for financial institutions globally, causing a breakdown of trust among banks. This lack of confidence led to a freeze in inter-bank money markets and an aggressive search for safety, which was severely exacerbated by the failure of Lehman Brothers in September 2008. This event triggered a sharp slowdown in global growth, with the global economy contracting in 2009.

Many employees in the United States lost their jobs during the Great Recession, although these losses were concentrated among younger workers, and those with lesser levels of education. This could be due to a so-called employment ladder, which makes low-skilled workers-particularly young workers-disproportionately vulnerable to the business cycle.

The U.S. implemented a two-pronged strategy involving significant fiscal and unconventional monetary actions to restore stability.

### 6.2.1.1 Monetary Policy Response (Federal Reserve)

The Fed quickly implemented measures beyond its usual scope to address market dysfunction.

- **Interest Rate Cuts:** The primary tool, the Federal Funds Rate, was lowered to a range of 0–0.25% by late 2008, reaching its effective lower bound.

- **Quantitative Easing (QE):** The Fed initiated Large-Scale Asset Purchases (LSAPs), buying substantial amounts of long-term assets, including treasury bonds and mortgage-backed securities. This was done to inject liquidity and reduce long-term interest rates, easing overall financial conditions.

The Federal Reserve cut the federal funds rate as the Great Recession began and GDP and employment fell. (The Federal funds rate is the interest rate charged by banks to one another on a specific type of overnight loan.) This traditional monetary policy measure aims to reduce the cost of borrowing for consumers and firms, thereby stimulating both immediate consumption and investment. However, the persistently low federal funds rate-which cannot be reduced any further-along with the severity of the Great Recession led a greater coordination on fiscal policy as a weapon for averting recession.

### 6.2.1.2 Fiscal Policy Response (U.S. Government)

During the Great Recession, a component of the fiscal policy reaction was triggered by pre-existing programmes. Because they provide rapid stimulation during a recession without requiring government intervention, these programmes are known as 'automatic stabilisers.' As a result, automatic stabilisers such as unemployment insurance (UI), the Supplemental Nutrition Assistance Program (SNAP, previously Food Stamps), and Medicaid, as well as automatic stabilisers linked to tax revenue, are especially helpful in the setting of the US recession. As wages decline and unemployment rises during a recession, membership in these programmes increases and in other cases, participation grows due to automatically reduced qualifying restrictions for participants. As a result, greater money is instantly disbursed, providing immediate fiscal stimulus. Automatic stabilisers are widely used in the United States, accounting for around two percentage points of GDP in the depths of the Great Recession.

The U.S. government utilised legislative tools to provide direct financial support and stimulate demand.

- **Emergency Economic Stabilization Act (EESA) of 2008:** This authorised the Troubled Asset Relief Program (TARP), which provided funds for the recapitalisation of major financial institutions to prevent systemic failure.
- **American Recovery and Reinvestment Act (ARRA) of 2009:** This stimulus package provided tax cuts, funding for infrastructure spending, and aid to states. The aim was to directly boost aggregate demand and counter rising unemployment.

## Impact on India

The initial direct impact of the sub-prime crisis on the Indian economy was minimal. This was largely due to the limited exposure of Indian banks to complex derivatives and stringent prudential policies enforced by the Reserve Bank of India (RBI). The relatively low presence of foreign banks also protected the domestic financial system from external shocks. In fact, following the Fed rate cuts , India experienced a massive jump in net capital inflows, forcing the RBI to engage in pre-emptive tightening through increasing the Cash Reserve Ratio (CRR) and issuing bonds under the Market Stabilisation Scheme (MSS) to sterilize the excess liquidity.

Following the Lehman failure, the external environment changed abruptly. India, along with other Emerging Market Economies (EME), experienced a sudden and massive reversal of capital flows as portfolio investors engaged in deleveraging and a 'sell-off' in domestic equity markets. Net capital inflows dropped sharply from US $108.0 billion in 2007-08 to US $9.1 billion in 2008-09, leading to pressure on the foreign exchange market and a depletion of reserves. The corporate sector's access to external commercial borrowings and trade credits was constrained. This combined with a sharp slowdown in external demand led to deceleration in domestic economic activity, with industrial production growth slowing significantly.

While the financial sector remained relatively healthy, government finances came under significant pressure. The Central Government's fiscal deficit more than doubled from 2.7% of GDP in 2007-08 to 6.0% in 2008-09, driven by higher expenditures on oil and fertiliser subsidies, debt waivers, pay commission awards and subsequent fiscal stimulus packages. Despite the economic slowdown, the Indian banking system weathered the storm due to strong capital adequacy with CRAR of 13.2% at end-March 2009, above the 9% requirement and pruden

t lending standards that did not significantly relax during the preceding credit boom. The RBI's use of 'dynamic provisioning' (raising provisioning norms pre-emptively) had built adequate buffers, ensuring no need for government bailouts unlike in the West.

## Recap

- Global Financial Crisis began with the US Housing Bubble
- Low interest rates fuelled risky subprime mortgages
- Complex financial innovation like MBS amplified risk
- Lax regulation and high leverage underpriced risk
- Lehman Brothers bankruptcy froze global credit markets
- Crisis rooted in large global imbalances like US current account deficit
- Loose US monetary policy after the dot-com bust contributed to imbalances
- Low US rates encouraged a global search for higher yields
- Recycled EME reserves kept US long-term interest rates low
- Low rates fueled asset price gains and a wealth effect in housing
- Aggregate demand in the US consistently exceeded domestic output
- Withdrawal of monetary policy in 2004 led to sub-prime defaults
- Defaults caused global financial institutions to suffer mounting losses
- Lack of trust froze inter-bank money markets
- The Fed cut the Federal Funds Rate to near zero
- The Fed used Quantitative Easing (QE) or LSAPs to inject liquidity

- Automatic stabilisers like unemployment insurance provided immediate fiscal stimulus
- TARP was authorised by EESA to recapitalise major financial institutions
- ARRA provided tax cuts and spending to boost aggregate demand
- Initial GFC impact on India was minimal due to limited bank exposure to derivatives
- RBI's stringent prudential policies maintained Indian bank strength
- RBI used pre-emptive tightening (CRR, MSS) to sterilise capital inflows
- Post-Lehman failure, India saw a sudden reversal of capital flows
- Indian government's fiscal deficit doubled due to subsidies and stimulus
- Indian banks avoided bailouts due to strong CRAR and dynamic provisioning

## Objective Questions

1. What initially triggered the GFC?
2. What complex product amplified risk globally?
3. Which major bank failure severely exacerbated the crisis?
4. What US policy rate was cut to near zero by late 2008?
5. What unconventional tool did the Fed use to inject liquidity?
6. What automatic program provides immediate fiscal stimulus during a recession?
7. What legislation authorised the TARP bailouts?
8. What was the $787 billion stimulus package passed in 2009 called?

## Answers

1. US Sub-prime Mortgage Sector
2. Mortgage-Backed Securities (MBS)
3. Lehman Brothers
4. Federal Funds Rate
5. Quantitative Easing (QE)
6. Unemployment Insurance (UI)
7. Emergency Economic Stabilization Act (EESA)
8. American Recovery and Reinvestment Act (ARRA)

## Assignments

1. Explain how the combination of loose US monetary policy and the resulting global imbalances fundamentally contributed to the asset bubble and credit excesses in the US housing market.
2. Describe the specific mechanisms of the U.S. financial innovation including sub-prime securitisation and the 'originate and distribute' model that transformed localised sub-prime loan risks into a global financial crisis.
3. Compare and contrast the immediate goals and mechanisms of the Federal Reserve's Interest Rate Cuts (conventional) versus Quantitative Easing (QE) (unconventional) in the U.S. policy response.
4. Explain why the Indian financial system remained largely immune to the initial direct impact of the GFC, citing the role of the Reserve Bank of India (RBI)'s specific prudential and sterilisation policies.

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UNIT 3

# Recent Trends in India's Monetary and Fiscal Policy

## Learning Outcomes

After completing this unit, the learner will be able to:

- comprehend the structural shift in India's economic governance
- discuss the major monetary policy reforms in India between 2015 and 2025
- know the structural changes in fiscal policy from 2015 to 2025

## Prerequisite

Ananya had always taken the world around her for granted. Every morning on her way to work, she passed new shops, freshly laid roads, and buses that were far more modern than the ones she remembered from her school days. She noticed these changes, yet never paused to think about how they came to be or what decisions made them possible. To her, they were simply part of life moving forward. One day, while travelling home, she heard two passengers discussing how interest rates had changed and how their home loan instalments had become slightly easier to manage. Another spoke about how fuel prices affected the delivery business he had recently started. Their conversation sounded casual, yet it carried concerns that directly shaped their daily choices. This made Ananya wonder how decisions taken in distant offices could influence people she met every day.

A week later, her father mentioned that the government was investing more in infrastructure, and that new projects in their town had been planned years earlier. Her younger cousin added that her company had benefitted from tax reforms, giving them space to expand and hire more workers. These comments seemed unrelated at first, but they planted a small curiosity in Ananya's mind: were

these individual changes connected to something bigger? As she began paying closer attention, she realised that nothing around her changed on its own. The improvements in transportation, the stability in prices, the support for businesses, and even the employment opportunities available to young people were shaped by broader economic decisions. Some of these changes happened suddenly; others were the result of long-term planning. She understood that these policies quietly touched every aspect of life, even when people barely noticed their presence.

## Keywords

Monetary Policy, Fiscal Policy, Repo Rate, Reverse Repo Rate, Standing Deposit Facility, Liquidity Adjustment Facility, Asset Quality Review, Non-Performing Assets, Demonetisation, Capital Expenditure, Revenue Expenditure

## Discussion

### 6.3.1 India's Economic Transformation from 2015 to 2025

As we look at the Indian economy in 2025, it appears strong, confident, and far more stable than it was a decade ago. Growth is healthy, inflation is under control, and the economy has shown remarkable strength even after the severe disruptions of the pandemic years. This stability is not a sudden development. Instead, it is the outcome of steady reforms and institutional changes that began around 2015. To understand today's monetary and fiscal trends, we must return to the point where this transformation began. That starting point is 2015, a year that marks a major break in India's economic direction.

In economic history, some years simply continue existing patterns, while a few bring meaningful change. 2015 stands out as a year that redefined the rules of economic governance in India. It marked the shift from older, more discretionary policies to a framework that is rules based, transparent, and institution driven.

Three major developments explain why 2015 is used as the foundation for understanding the trends of the past decade.

1. On 1 January 2015, the Planning Commission was replaced by NITI Aayog. This was more than a change in organisational structure. It represented a move away from the earlier centralised model of planning that India had followed since Independence. Under NITI Aayog, the focus shifted to cooperative federalism, where states have a larger role in designing development strategies. This change altered how public money is planned and allocated, influencing fiscal policy discussions in the years that followed.

2. In February 2015, the Government of India and the Reserve Bank of India agreed to adopt a new Flexible Inflation Targeting system. The formal legal backing came in 2016, but the framework began shaping monetary decisions from 2015 onwards. This was a historic shift. For the first time, both policymakers agreed on a clear definition of price stability: 4 per cent CPI inflation, with a band of plus or minus 2 per cent. Before this, the RBI often had multiple goals, making decisions less predictable. Inflation targeting gave the central bank a single, measurable objective. Over time, this helped bring inflation under control and strengthened the credibility of monetary policy.

3. Another major reform in 2015 was the Asset Quality Review (AQR). For many years, banks had postponed recognising bad loans, keeping weak accounts alive by repeatedly extending them. The AQR forced banks to reveal the true condition of their balance sheets by identifying Non-Performing Assets (NPAs) clearly. This was painful in the short run, as NPAs rose sharply. However, it laid the foundation for long-term recovery. The clean-up eventually supported major reforms such as the Insolvency and Bankruptcy Code (IBC) and helped create a healthier credit system that supports growth today.

As we study the changes in India's monetary and fiscal policy from 2015 to 2025, it becomes clear that economic decisions are never just about numbers or charts. A rise in interest rates, for example, immediately affects ordinary families by increasing their home loan instalments. When the government cuts corporate tax, the intention is to stimulate investment and expand employment opportunities for young workers. Stable inflation, meanwhile, helps households manage their monthly expenses with greater certainty. Each policy choice, whether monetary or fiscal, influences people's daily lives in subtle or significant ways. Economics is therefore much more than abstract theory; it is ultimately about shaping conditions that support society's overall well-being.

## 6.3.2 Trends in India's Monetary Policy

Monetary policy is, at its core, about preserving trust. It reflects the central bank's commitment to ensure that the value of the currency people hold today will remain stable in the future. For many years, the Reserve Bank of India (RBI) tried to manage this responsibility through the Multiple Indicator Approach. Under this system, the RBI attempted to control inflation, support economic growth, and maintain exchange rate stability all at the same time. Although this offered flexibility, it often created confusion because the RBI's main priority was not always clear to the public. A major change took place in 2015. It marked the shift from a system guided largely by the Governor's discretion to a modern, rules-based framework. The transformation of India's monetary policy between 2015 and 2025 is one of the most important developments in the country's economic history. This change was driven by the hard experience of the early 2010s, when attempts to boost growth by allowing high inflation led to serious consequences. During 2009–2013, inflation remained in double digits, household savings were eroded, and the rupee faced severe pressure. To avoid such instability in the future, India needed a stronger and more predictable system; what many call a new 'Monetary Constitution'.

### 6.3.2.1 Phase I: The Age of Structural Transformation (2015–2019)

The years from 2015 to 2019 mark one of the most important turning points in the history of the Reserve Bank of India (RBI). Before this period, monetary policy often depended on the judgement of the RBI Governor and involved several overlapping objectives. During these five years, policymaking became more structured and rule-based, creating a more scientific and predictable framework for managing the economy.

**1. Adoption of Flexible Inflation Targeting (FIT):** One of the most significant changes during this period was the shift away from the earlier Multiple Indicator Approach, where the RBI tried to balance growth, exchange rates, and inflation all at the same time. This approach often led to the time inconsistency problem, where short-term growth took priority over long-term price stability. Following the recommendations of the Urjit Patel Committee, the Government of India and the RBI signed the Monetary Policy Framework Agreement in February 2015. This was later incorporated into the RBI Act in 2016. The agreement introduced a single, clear target for monetary policy: Maintain CPI inflation at 4 per cent, with a tolerance band of 2 to 6 per cent. For ordinary citizens, this framework offered a sense of predictability. High inflation reduces the value of savings, especially for low and middle-income households. By legally committing to low and stable inflation, the RBI ensured that people and businesses could plan their spending and investment decisions with greater confidence. This helped anchor inflation expectations and reduced the chances of prices rising simply because people expected them to.

**2. Monetary Policy Committee (MPC):** Before October 2016, the decision on the Repo Rate rested solely with the RBI Governor. Although supported by a technical committee, the Governor had the final say, which placed substantial responsibility on one individual. In 2016, this system changed with the creation of the Monetary Policy Committee (MPC), a six-member body designed to bring diverse perspectives into monetary policy decisions.

The composition of MPC is as follows:

- Three members from the RBI, including the Governor.
- Three external members, appointed by the government from academic and professional backgrounds.

This collective structure reduced individual bias in decision-making. Governors known for being either too strict or too lenient on rates could no longer single-handedly shape policy. Decisions were instead made through voting, and the publication of meeting minutes increased transparency. For researchers and analysts, this offered valuable insight into how and why policy decisions were made.

**3. Asset Quality Review (AQR):** Although not strictly a monetary policy measure, the Asset Quality Review, launched in late 2015, was essential for improving monetary policy transmission. A weak banking system cannot effectively pass on changes in interest rates to borrowers. Under the leadership of Governor Raghuram Rajan, the RBI required banks to stop delaying the recognition of bad loans. Many banks had

been extending poor-quality loans to avoid classifying them as Non-Performing Assets (NPAs). The AQR revealed the true scale of stress in the banking system. NPAs surged and banks reported large losses. While this appeared alarming, it was an important corrective step. Cleaning up balance sheets was necessary to resolve India's Twin Balance Sheet problem, where both banks and corporates were in financial difficulty. Without this cleanup, India would not have been in a position to enjoy the strong credit growth seen by 2025.

**4. Demonetisation:** On 8 November 2016, the government withdrew ₹500 and ₹1,000 notes, removing 86 per cent of the currency in circulation. While debates around its broader impact continue, its monetary implications were immediate.

Key monetary effects:

- **Huge Surge in Bank Deposits:** People rushed to deposit old notes, creating a large supply of low-cost funds in the banking system.
- **Fall in Short-term Interest Rates:** With abundant liquidity and lower cash usage, market interest rates fell quickly.
- **Coexistence of Rate Effects and Output Contraction:** Importantly, this period demonstrated that falling interest rates coexisted with a contraction in economic output. The sudden removal of currency acted as a negative demand shock, severely limiting consumption and business activity despite the lower cost of borrowing.
- **Liquidity Trap Effects:** The situation exhibited characteristics of a liquidity trap. Despite the surge in bank deposits (liquidity), credit offtake remained low because the demand shock dampened the appetite for new loans. The transmission of lower interest rates into growth was hindered as economic agents held back on spending due to uncertainty.
- **Rise in Digital Payments:** Demonetisation accelerated the adoption of digital platforms such as UPI, increasing the efficiency and speed of transactions in the long run.

At the same time, the sudden withdrawal of cash created difficulties in the informal sector, which is heavily cash-dependent. This slowed economic activity and made the RBI's task challenging: it had to manage excess liquidity while supporting a temporarily weakened economy.

### 6.3.2.2 Phase II: The Pandemic Response and Unconventional Measures (2020–2021)

When COVID-19 struck in early 2020, India faced an economic situation with no historical parallel. Production was disrupted, demand collapsed, and the entire economy came to an abrupt halt. In such a crisis, the Monetary Policy Committee (MPC) had to shift its focus. Instead of concentrating mainly on price stability, the Reserve Bank of India (RBI) moved swiftly towards protecting financial stability. The idea was simple: inflation targets matter only when the economy is functioning. During this period, the

RBI adopted an extremely supportive monetary policy and used tools that had never been employed in India on this scale. Many of these approaches resembled the crisis-time measures taken by central banks in advanced economies.

1. **Interest Rate Cuts:** On 27 March 2020, soon after the nationwide lockdown began, the MPC advanced its scheduled meeting and delivered a 75-basis-point cut to the Repo Rate. By May 2020, it had fallen to 4 per cent, the lowest in India's modern monetary history. However, cutting the Repo Rate alone was not enough. Banks were uncertain about the future and preferred to keep their surplus funds with the RBI instead of lending to firms that were struggling. To address this, the RBI reduced the Reverse Repo Rate sharply to 3.35 per cent, making it less attractive for banks to park idle funds with the central bank. This created an asymmetric interest rate corridor. With lower returns on depositing money with the RBI, banks were encouraged to push liquidity outwards into the economy. This was a strategic move to ensure that money did not remain locked inside the financial system but reached households and businesses.

2. **Liquidity Injection:** Although the rate cuts drew the most attention, the real stabilisation came from large-scale liquidity support. The RBI infused substantial funds into the system to prevent a credit freeze. Much of this support came through Targeted Long-Term Repo Operations (TLTROs). Under TLTRO, banks received three-year funds at low cost, on the condition that they invest this money in corporate bonds, commercial papers, and debentures of sectors facing acute stress; such as NBFCs and microfinance institutions. This ensured that credit reached the areas most in need and helped prevent a chain of bankruptcies.

3. **G-SAP:** A major innovation during this phase was the launch of the Government Securities Acquisition Programme (G-SAP) in April 2021. Under this programme, the RBI committed to purchasing a specified quantity of government securities (G-secs), beginning with ₹1 trillion.

G-SAP had two major objectives:

1. Inject durable liquidity into the banking system.

2. Manage the yield curve by keeping long-term government bond yields low.

Because government bond yields influence borrowing costs across the economy, this strategy helped the government borrow cheaply for its pandemic response and enabled firms to raise funds at lower interest rates. Functionally similar to quantitative easing, though institutionally distinct.

4. **Loan Moratorium:** Alongside monetary measures, the RBI offered a loan moratorium allowing borrowers to postpone EMI payments for six months. This provided immediate relief to households and firms whose incomes had collapsed during the lockdown. However, it also created a temporary gap in information. Since borrowers were not classified as defaulters during the moratorium, it became difficult for the RBI to judge the true quality of bank assets. This period

marked a deliberate shift away from the strict transparency introduced after 2015, an unavoidable compromise to ensure economic survival.

By the end of 2021, the RBI's approach of taking bold, unconventional measures helped India avoid a financial meltdown. Liquidity was abundant, interest rates were exceptionally low, and markets remained stable during a highly uncertain time. However, these very measures planted the seeds of a new problem. As the economy reopened while supply chains were still disrupted, the large liquidity surplus began fuelling inflationary pressures, which would become the central economic issue in the following years.

### 6.3.2.3 Phase III: The Great Tightening and the War on Inflation (2022–2023)

If Phase II was about flooding the economy with liquidity to prevent collapse, Phase III was its opposite: an urgent and determined effort to mop up that liquidity and bring inflation under control. Globally, 2022–2023 marked a sharp shift in central-bank policy: from supporting growth to fighting what became a generational high in inflation. In India, the RBI moved from an accommodative stance to a firm, hawkish posture labelled 'Withdrawal of Accommodation'.

1. **The Geopolitical Shock:** For a long time after the pandemic, many central banks treated inflation as largely transitory ; the result of temporary supply disruptions. The Russian invasion of Ukraine in February 2022 changed that calculus. Energy prices jumped (Brent crude crossed the $100 mark) and supply chains for key commodities such as wheat and edible oils were disrupted. For India, a net importer of energy and edible oils, these developments translated into imported inflation, pushing consumer price inflation repeatedly above the comfort zone and forcing a policy response.

2. **The Off-Cycle Shock:** The clear pivot arrived on 4 May 2022, when the RBI's Governor convened an unscheduled MPC meeting. The committee raised the policy repo rate by 40 basis points to 4.40%, signalling that the central bank was no longer prepared to wait for supply-side problems to fade. This surprise action was an explicit wake-up call to markets that the era of easy money had effectively ended in India. After May 2022, the RBI embarked on a sustained hiking cycle. Over the following months it raised the repo rate repeatedly, cumulatively by around 250 basis points from the pandemic low and by February 2023 the policy repo rate reached 6.50%. The explicit objective was to bring inflation back towards the 4% target while managing the risk to growth. Several MPC decisions in this period emphasised 'withdrawal of accommodation' while attempting to support activity where possible.

3. **Institutional Reform in Liquidity Management:** Beyond headline rate moves, a crucial technical reform occurred in April 2022 with the introduction of the Standing Deposit Facility (SDF). The SDF replaced the fixed-rate reverse repo as the floor of the Liquidity Adjustment Facility (LAF) corridor and allowed the RBI to absorb excess liquidity without providing collateral, thereby removing a practical constraint the central bank faced

during the pandemic. The SDF rate was set 25 basis points below the repo rate, tightening the corridor and improving the RBI's control over short-term money-market rates. This change materially strengthened the operational toolkit for managing both liquidity and policy transmission.

4. **Withdrawing Accommodation:** The MPC's 'Withdrawal of Accommodation' signalled that policy would actively cool demand until inflation expectations stabilised. That was difficult because the economy was still recovering unevenly. The RBI had to calibrate hikes carefully: enough to slow price pressures but not so aggressive as to precipitate a growth slump. India managed to navigate this period without sliding into a full recession, which suggests the policy mix and calibration were broadly effective.

5. **Digital Rupee (e₹-R):** While fighting inflation, the RBI continued to modernise the monetary system. On 1 December 2022 the RBI launched a pilot for the retail Central Bank Digital Currency (e₹-R). Unlike UPI (which routes payments between bank accounts), the digital rupee is legal tender issued by the central bank, a digital equivalent of cash and its pilot demonstrated India's intent to preserve monetary sovereignty in a changing payments landscape.

By the end of FY 2023 the heavy lifting was largely complete: policy rates had normalised (repo at roughly 6.5%), the negative real rates of the pandemic era were largely eliminated, and the RBI's operational framework had been strengthened through instruments like the SDF. The central bank's decisive pivot from accommodation to withdrawal helped curb inflationary pressures without collapsing demand, setting the stage for the next phase of stabilisation and, eventually, a policy pivot when conditions permitted.

### 6.3.2.4 Phase IV: Stability, Global Integration, and the Easing Cycle (2024–2025)

In 2024-25, India's monetary policy enters a new chapter. After navigating through the pandemic and the sharp inflationary shock, the Reserve Bank of India (RBI) moves into a phase of measured recalibration. The main themes of this stage are: (1) a prolonged 'higher for longer' interest-rate pause, (2) deeper integration of Indian sovereign debt into global markets, and (3) the eventual shift into a rate-cutting (easing) cycle.

1. **The Strategic Pause:** During fiscal 2023-24 and the early part of 2024-25, the RBI's Monetary Policy Committee (MPC) held the repo rate at 6.50 % while inflation gradually fell. In effect, although the nominal rate did not rise, the real interest rate (nominal minus inflation) increased as inflation softened. This meant policy was tightening subtly, a deliberate 'active disinflation' approach. By not lifting rates further, the RBI allowed inflation to come down steadily towards its 4 % target without the shock of fresh hikes.

2. **Global Bond Index Inclusion:** On 28 June 2024, Indian government bonds were formally included in the J.P. Morgan GBI-EM Global Diversified Index (GBI-EM) for emerging markets. This inclusion marks a structural shift in

the supply-and-demand dynamics of India's debt market. Foreign funds that track this index began passive inflows, stabilising yields and reducing pressure on domestic banks to finance government borrowing. It also helped support the rupee by increasing foreign-exchange inflows and bolstering reserves.

3. **The Pivot to 'Neutral':** By October 2024, declining inflation and the absence of strong second-round effects (for example from food-price shocks) gave the RBI confidence that the inflation war was largely won. Accordingly, the MPC shifted its official stance from 'withdrawal of accommodation' to 'neutral'. In central-bank parlance, a 'neutral' stance signals no pre-defined intent to raise or cut rates ; policy can move either way based on future data. This pivot paved the way for upcoming rate cuts.

4. **The Easing Cycle:** Entering 2025, the RBI's focus shifted from fighting inflation to supporting growth. The repo rate still at 6.50 %, the central bank judged that real interest rates were becoming too restrictive for India's growing economy. Thus, the easing cycle began. The rationale: by lowering borrowing costs the RBI seeks to support private investment, consumption, and ensure India's GDP growth remains above the 6.5 % threshold amid global headwinds.

This phase indicates how India's monetary policy has matured in the wake of the pandemic; shifting from urgent, reactive measures to more measured and calibrated responses. It began in 2024 with a deliberate 'pause' , during which the Reserve Bank of India (RBI) allowed elevated real interest rates to do much of the work in bringing down core inflation, rather than hiking nominal rates further. A turning point came in mid-2024 when Indian government bonds were included in major global indices, helping to lower borrowing costs structurally and strengthen the currency against external shocks. According to recent studies, the entry of Indian sovereign bonds into the index of JPM organ Chase & Co. took effect around June 2024. By 2025, with inflation stabilised around the 4 per cent target, generally remaining within the tolerance band, the RBI initiating an easing cycle (rate cuts expected as inflation stabilises). Unlike the emergency cuts of 2020, this easing was a carefully timed 'growth insurance' measure, designed to align real interest rates with a low-inflation environment and sustain economic momentum as global growth began to slow.

Over the decade from 2015 to 2025, India's monetary policy underwent what might be described as a metamorphosis, from discretion-driven decision-making towards a more disciplined, rule-based framework. The process began with the formal adoption of a flexible inflation - targeting regime, replacing policy uncertainty with a clear nominal anchor. This framework was vigorously tested, first by the shocks of demonetisation and pervasive liquidity stress, then by the pandemic's economic paralysis, and later by supply-side shocks stemming from global geopolitical conflicts. Remarkably, by late 2025 the economy stands with both high growth and low inflation, a combination that some might deem the 'Goldilocks' state. The RBI has also managed the so-called 'Impossible Trinity' (maintaining monetary stability while open to global capital flows) with considerable success. Today's favourable conditions are not mere luck, they are, rather, the dividend of a decade of consistent, rules-based policymaking.

## 6.3.3 Trends In India's Fiscal Policy

Monetary policy deals with the price of money, while fiscal policy directs its purpose. It defines how the government raises its resources and where it chooses to allocate them. When we examine India's fiscal journey from 2015 to 2025, we observe a transformation that is even more striking than the changes in monetary policy. Traditionally, India's fiscal structure was dominated by revenue expenditure, where most funds were spent on subsidies, salaries, interest payments, and daily administrative needs. This created a consumption-led pattern of spending. Over the past decade, however, the focus has shifted decisively towards Capital Expenditure (Capex). Investments in highways, railways, logistics networks, ports, digital infrastructure, and affordable housing have become central to policy. This marks a shift from spending merely to sustain consumption to spending with a long-term developmental vision.

The year 2015 stands out as a crucial turning point in this journey. With the implementation of the 14th Finance Commission's recommendations, India made a significant move towards deeper Cooperative Federalism. The central government increased the States' share in the divisible pool of taxes from 32% to 42%, giving States wider financial autonomy and greater responsibility in development planning. Alongside this, the government advanced a larger agenda of formalisation. Reforms such as the Goods and Services Tax (GST), the rapid spread of digital payments, and improvements in tax administration aimed to reduce the size of the informal or 'shadow' economy. Rather than raising tax rates, the emphasis was on widening the tax base and strengthening compliance.

Three major pillars define India's fiscal strategy during this period. The first is the belief in the Capex multiplier. Government estimates often suggest that every rupee invested in infrastructure generates nearly three times its value in economic activity. While this figure is indicative rather than universal, it has guided the expansion of infrastructure budgets, especially from 2022 to 2025. The second pillar is the push for greater transparency in public accounts. Earlier, many welfare and infrastructure schemes were funded through off-budget borrowings by public sector entities. Bringing these borrowings onto the government's balance sheet from 2020–21 onwards temporarily increased the fiscal deficit but restored credibility and clarity in fiscal reporting. The third pillar is the emphasis on fiscal consolidation. Despite the extraordinary spending required during the pandemic, the government continued to follow the Fiscal Responsibility and Budget Management (FRBM) framework. The fiscal deficit, which had risen to 9.2% of GDP during the crisis year, has been placed on a glide path towards a target of below 4.5% by 2025–26. This decade-long journey can be understood through four broad phases. The first phase involves structural reforms such as GST implementation and the strengthening of federal fiscal relations. The second phase is marked by the pandemic shock, which required large-scale emergency spending to protect lives and livelihoods. The third phase centres on the recovery, during which Capex-led growth became the primary engine of revival. The fourth and current phase focuses on fiscal consolidation, where the government aims to maintain strong investment while gradually reducing the deficit. Together, these phases illustrate India's attempt to balance development, transparency, and fiscal sustainability.

### 6.3.3.1 Phase I: Structural Disruption and Formalisation (2015–2019)

The years from 2015 to 2019 marked a period of major structural reforms in India's economy. Instead of using traditional fiscal stimulus, the government chose to implement deeper, supply-side changes that altered the legal, institutional, and taxation framework of the country. These reforms aimed to correct long-standing inefficiencies in the system and modernise the basic 'plumbing' of the economy. Although they caused short-term disruptions, they were essential steps that prepared the economy for stronger and more sustainable growth in the later years.

**1. The NITI Aayog :** On 1 January 2015, the Planning Commission was replaced by NITI Aayog (National Institution for Transforming India). This shift symbolised a move away from the older, centralised model in which the Union Government largely directed development priorities for the States. Guided by the recommendations of the 14th Finance Commission, the States' share of the divisible tax pool was increased significantly, from 32% to 42%. This change strengthened fiscal federalism by giving States greater financial autonomy to design and implement policies suited to their regional needs. At the same time, it reduced the Central Government's fiscal space, as a larger portion of national tax revenue had to be transferred to the States. This compelled the Centre to manage its own expenditure more efficiently while encouraging States to take a more active role in shaping local development strategies.

**2. Insolvency and Bankruptcy Code (IBC):** The Insolvency and Bankruptcy Code, passed in May 2016, became a cornerstone of India's financial reforms. Before the IBC, firms that defaulted on loans often continued operations for years due to outdated and ineffective insolvency laws. This locked valuable capital inside 'zombie firms," reducing the availability of funds for more productive sectors and weakening the investment cycle. The IBC introduced a strict, time-bound process for resolving corporate insolvency and shifted bargaining power away from defaulting firms towards lenders. As companies faced the real possibility of losing control, many began settling dues or repaying loans more promptly. This improved overall credit discipline in the economy and gradually strengthened the balance sheets of Public Sector Banks (PSBs). As a result, the pressure on the government to repeatedly recapitalise these banks using taxpayer money began to ease.

**3. Goods and Services Tax (GST):** The introduction of the Goods and Services Tax on 1 July 2017 was one of the most significant fiscal reforms in independent India. By replacing 17 different indirect taxes, including VAT, Excise Duty, and Service Tax, GST created a unified national market. The transition, however, was challenging. Many small and medium enterprises relied heavily on cash-based operations and had weak bookkeeping systems; shifting to the digital, compliance-driven GST framework created considerable short-term strain. This adjustment contributed to a temporary slowdown in economic activity during 2017–18. Over time, the structural benefits of GST became more visible. The system's input tax credit mechanism ensured that businesses could claim tax credits only if their suppliers were also compliant. This created a built-in chain of accountability that encouraged the movement of firms from the informal to the

formal sector. By 2019, the tax base had expanded substantially, improving the long-term stability of government revenues and strengthening the overall fiscal framework.

**4. Corporate Tax Cut:** In September 2019, the government introduced a major reduction in corporate tax rates to stimulate investment and revive economic momentum. The basic tax rate for domestic companies was lowered from 30% to 22%, while new manufacturing firms were offered an even more competitive rate of 15%. This reform followed a classic supply-side economic approach, drawing from the idea that lower tax rates can encourage higher levels of investment, increase growth, and eventually broaden the tax base. Although the government accepted a substantial revenue loss, estimated at around ₹1.45 lakh crore annually—it positioned India more favourably compared with investment destinations such as Vietnam and Thailand. The move sent a strong signal to global and domestic investors that India was committed to improving its business environment.

By the end of 2019, the fundamental framework of the Indian economy had been transformed. GST established a unified taxation system, the IBC provided a modern mechanism for resolving corporate distress, States gained greater fiscal autonomy under the new federal structure, and corporate tax rates were revamped to enhance competitiveness. Yet, the transition involved friction. The disruptions caused by demonetisation and the rollout of GST had slowed demand, and the economy was only beginning to stabilise when the world entered the unexpected crisis of 2020.

### 6.3.3.2 Phase II: The Pandemic Response (2020–2021)

If the earlier phase (2015–2019) focused on structural improvements and long-term reforms, the period between 2020 and 2021 was defined by urgent crisis management. The sudden arrival of COVID-19 halted economic activity almost overnight, causing a sharp fall in tax revenue at the very moment when the need for government support was at its highest. India adopted a distinctive fiscal approach known as the 'Barbell Strategy,' which combined two extremes, providing essential support to vulnerable households for survival, while simultaneously using the crisis as an opportunity to push key reforms that would strengthen future growth.

1. **Pradhan Mantri Garib Kalyan Anna Yojana (PMGKAY):** The government's first priority during the pandemic was ensuring food security for millions of people whose livelihoods were suddenly disrupted. The PMGKAY programme, the world's largest food distribution scheme, was introduced to prevent hunger and stabilise vulnerable households. Under this scheme, the government supplied 5 kg of free wheat or rice per person per month to nearly 80 crore (800 million) people. This measure absorbed a significant burden for low-income families and acted as an alternative to large-scale cash transfers, which could have fuelled inflation. Instead, by focusing on guaranteed food support, the government ensured that households could survive the lockdown period without extreme distress. PMGKAY later became a repeated fiscal commitment, extended several times as the pandemic continued.

2. **Credit Guarantees over Cash:** The government announced the Atmanirbhar Bharat package, with a headline value of ₹20 lakh crore (about 10% of GDP). However, only a small fraction of this amount involved direct fiscal spending. The key innovation was the Emergency Credit Line Guarantee Scheme (ECLGS). Rather than lending directly to small and medium enterprises, the government encouraged banks to provide loans by offering full credit guarantees. This meant that if a borrower failed to repay, the government would cover the loss. The strategy used the existing liquidity in the banking system without creating a large immediate burden on the exchequer. The fiscal cost would only arise later if loans defaulted. This approach prevented widespread closures among MSMEs and helped preserve productive capacity during the crisis, all while keeping the fiscal deficit from expanding uncontrollably.

3. **'Clean-Up' Budget:** The Union Budget of 1 February 2021 stands out as a major step towards improving fiscal transparency. For many years, governments had relied on off-budget borrowings, which kept certain expenditures such as food subsidy liabilities, outside the main budget figures. For example, the Food Corporation of India often borrowed from the National Small Savings Fund to meet subsidy needs, allowing the official deficit to appear lower. In 2021, the Finance Minister decided to bring these hidden borrowings onto the government's main accounts. This resulted in a significant jump in the reported fiscal deficit for FY21, which stood at 9.2% of GDP, partly due to the pandemic and partly due to the transparent accounting. Interestingly, financial markets welcomed this clarity. Bond investors responded positively because it showed that the government was willing to present honest numbers, thereby strengthening long-term credibility. To legally accommodate the higher fiscal deficit during the pandemic years, the government activated the 'Escape Clause' under Section 4(2) of the Fiscal Responsibility and Budget Management (FRBM) Act. This provision permits the government to temporarily exceed the prescribed fiscal deficit limits in the event of extraordinary circumstances, such as a national calamity or a severe economic breakdown. By invoking this clause, the government ensured that the additional spending required to manage the crisis remained within the legal framework. Importantly, this move signalled that fiscal discipline was being temporarily relaxed, not abandoned altogether, and would be resumed once conditions stabilised.

4. **Production Linked Incentives (PLI):** Even as the government dealt with the immediate effects of the pandemic, it continued to pursue supply-side reforms. The Production Linked Incentive (PLI) scheme was introduced to encourage domestic manufacturing in key sectors such as electronics, pharmaceuticals, automobiles, and textiles. The idea behind PLI was different from traditional investment subsidies. Instead of supporting companies merely for establishing factories, the government offered incentives linked to actual increases in production and sales. This ensured that public funds rewarded genuine output rather than speculative or non-productive investments. Over time, the scheme aimed to integrate India more closely into global manufacturing supply chains and reduce dependence on imports.

The fiscal years 2020 and 2021 tested the strength of India's policy framework. The government allowed the fiscal deficit to rise significantly, reaching 9.2% of GDP to

prevent long-term economic damage. Importantly, the spending was not restricted to consumption; a large part focused on credit guarantees, clearing pending liabilities, and protecting the productive base of the economy. These measures helped India avoid deep structural scarring and supported the rapid V-shaped recovery that followed once the economy reopened.

### 6.3.3.3 Phase III: The Capital Expenditure Crusade (2022–2024)

As the immediate effects of the pandemic began to ease, the Indian economy found itself trapped in a cycle of hesitation. Private firms were cautious about expanding production because consumer demand was still uncertain. At the same time, households were reluctant to spend freely due to concerns about job security and income stability. In this environment, the government took a decisive turn in its fiscal strategy. Instead of stimulating consumption through cash transfers, it focused on boosting investment by significantly increasing public spending on infrastructure. This period witnessed the most ambitious Capital Expenditure (Capex) expansion in independent India's history. The guiding belief was straightforward: strengthening physical infrastructure would create jobs, support businesses, and eventually revive economic growth, essentially, 'Build, and growth will follow'.

1. **The Quality of Expenditure:** A key feature of this phase was the deliberate improvement in the quality of government spending. Revenue Expenditure, such as salaries or subsidies, meets immediate needs but does not create lasting assets. In contrast, Capital Expenditure builds long-term infrastructure such as roads, bridges, and railways. Between 2022 and 2024, the Union Government increased its Capex allocation by more than 30% each year for three consecutive budgets. In FY 2023–24, the Capex target rose to ₹10 lakh crore, and by FY 2024–25, it reached a record ₹11.11 lakh crore, roughly 3.4% of GDP. This strategy relied on the Reserve Bank of India's research on fiscal multipliers, suggesting that every one rupee spent on Capex could generate between ₹2.45 and ₹3.14 in economic output. With this, the government aimed to 'crowd in' private investment, creating a modern, reliable infrastructure network that would encourage companies to invest in new projects with greater confidence.

2. **PM Gati Shakti:** To ensure that the large capital investments were efficiently utilised, the government introduced the PM Gati Shakti National Master Plan. Traditionally, infrastructure development in India suffered from poor coordination across departments, projects often overlapped, and delays were common. A road might be completed only to be dug up later for laying electricity cables or telecom lines. Gati Shakti addressed this challenge by bringing 16 ministries, including Roads, Railways, Power, Telecom, and Shipping, onto a single digital platform. This enabled coordinated planning, real-time monitoring, and reduced duplication of work. Improved coordination meant fewer delays and lower cost overruns, ultimately increasing the efficiency of capital expenditure. One long-term aim was to bring India's logistics cost down from an estimated 13–14% of GDP to single-digit levels, making Indian exports more competitive in global markets.

3. **New Regime Tax System:** On the taxation front, the government initiated an important shift in personal income tax policy. In the Union Budget 2023, significant changes were made to the New Tax Regime (NTR), a system offering lower tax rates but minimal exemptions or deductions. The government nudged taxpayers towards this system by making it the default option. The broader philosophy was to simplify the tax structure and reduce the reliance on exemptions that previously influenced savings and investment decisions. Instead of encouraging people to buy insurance or invest in specific instruments merely to save tax, the government aimed to leave more disposable income with households, allowing them to decide how best to use it. This move also helped reduce litigation and made the tax system more transparent and predictable.

4. **The Return to Discipline:** Despite the sharp increase in Capex, the government recognised the importance of maintaining fiscal credibility, especially in the eyes of global credit rating agencies. Excessive deficits could raise borrowing costs and unsettle financial markets. To avoid this, the government committed to a Fiscal Glide Path, a gradual plan to reduce the fiscal deficit after the pandemic spike. From the unprecedented 9.2% of GDP in FY21, the deficit was lowered to 6.4% in FY23 and further to 5.8% in FY24 (Revised Estimates). This consolidation was achieved through careful management of revenue expenditure, including rationalising certain subsidies, while keeping Capex protected. This approach allowed the government to continue building infrastructure without putting undue pressure on bond markets. As a result, interest rates and bond yields remained stable despite global economic volatility.

   By the beginning of 2024, India's landscape had been visibly reshaped by the large-scale Capex push. New expressways, upgraded railway lines, modernised airports, and digital infrastructure signalled a renewed focus on building the foundations for long-term growth. During a period when private firms were cautious, the government effectively used its balance sheet to keep the investment cycle alive. As the economy entered FY25, the expectation was that improved infrastructure and rising confidence would allow private investment and consumption to take the lead once again.

5. **Strategic Disinvestment and Asset Monetisation:** Alongside its push to create new infrastructure, the government also reshaped its broader role in business and public asset management. A major turning point came in February 2021, when the government introduced the New Public Sector Enterprise (PSE) Policy. This policy represented a clear departure from the previous model of limited disinvestment, where small stakes were sold but the government retained control. Instead, the new approach emphasised privatisation, meaning full transfer of ownership and management to the private sector wherever possible. Under this policy, sectors were grouped into two categories: Strategic sectors, which included areas such as atomic energy, defence, and power; and Non-strategic sectors, where the government committed to withdrawing entirely from commercial operations. One of the most significant outcomes of this shift was the privatisation of Air India in January 2022, when it was acquired by the Tata Group. This ended

many years of loss-making operations funded by taxpayers and signalled a firm intention to reduce the government's direct involvement in running businesses.

At the same time, the government sought innovative ways to raise resources for new infrastructure without expanding public debt. This led to the launch of the National Monetisation Pipeline (NMP). Instead of selling assets outright, the NMP focused on leasing out existing, income-generating public assets such as highways, gas pipelines, and power transmission networks, to private operators for a defined period. This model, known as asset recycling, enabled the government to generate revenue from under-used or idle assets, while using the proceeds to finance new greenfield infrastructure projects. It offered a way to unlock value from the public sector's asset base without permanently losing ownership.

6. **The 15th Finance Commission:** While the 14th Finance Commission shaped the fiscal landscape in the earlier part of the decade, the period from 2021 to 2026 operated under the framework set by the 15th Finance Commission. One of its key recommendations was a minor adjustment in the States' share of the divisible tax pool, from 42% to 41%. This reduction was a technical correction reflecting the reorganisation of the former State of Jammu and Kashmir into two Union Territories, which no longer required the same level of tax devolution as a full-fledged State. A more significant shift came through the introduction of performance-based incentives. Unlike earlier frameworks that focused largely on formula-based transfers, the 15th Finance Commission linked part of the States' borrowing limits and grants to specific reforms. These included the rollout of the One Nation One Ration Card system, improvements in power sector efficiency, and measures to enhance the ease of doing business at the State level. This approach encouraged States to strengthen governance systems, modernise service delivery, and implement structural reforms. In effect, access to central funds was no longer automatic, it depended on measurable progress, nudging States to focus not just on expenditure but on institutional and operational improvements.

### 6.3.3.4 Phase IV: Consolidation and the Employment Pivot (2024 – 2025)

While the earlier phase focused on building physical infrastructure such as roads, railways, and logistics networks, Phase IV reflects a strategic shift towards strengthening human capital, especially in the areas of employment and skills. By mid-2024, much of the major infrastructure push was already underway. However, concerns over an uneven 'K-shaped' recovery, where some sectors bounced back strongly while many young people struggled to find secure, formal jobs, became increasingly visible.

In response, the Union Budgets of July 2024 (FY25) and February 2025 (FY26) introduced a new fiscal framework centred on 'Incentivising Recruitment'. This marked a turning point in fiscal policy, where the government shifted its priority from supporting capital formation alone to actively encouraging job creation and workforce participation.

1. **The Employment Linked Incentive (ELI) Schemes:** In the Union Budget of July 2024, the government expanded its incentive approach beyond the earlier Production Linked Incentive (PLI) model and introduced Employment Linked Incentives (ELI). The aim was to subsidise the cost of hiring workers rather than the cost of building factories. This was an important policy innovation designed to support youth employment and formalisation.

- **Scheme A – First-Time Jobseekers:** The government committed to covering the equivalent of one month's wage (up to ₹15,000) for individuals entering the formal workforce for the first time, registered through the EPFO. This acted as a state-funded 'entry boost', reducing the financial barrier for young people transitioning into formal jobs.

- **Scheme B – Manufacturing Jobs:** For new manufacturing sector workers, the government offered a direct subsidy that benefited both employees and employers during the first four years of employment. This supported long-term job creation in labour-intensive industries.

- **Scheme C – Employer Support:** Employers were eligible for reimbursements of up to ₹3,000 per month for two years towards their EPFO contributions for each additional employee hired. This reduced the cost of expanding payrolls and encouraged companies to formalise new workers.

  With a total allocation of ₹2 lakh crore, the programme aimed to formalise 4.1 crore young workers.

2. **The Prime Minister's Internship Scheme:** To address the persistent 'employability gap', the mismatch between academic qualifications and practical job skills, the government launched the Prime Minister's Internship Scheme. This large-scale programme combined government funding with Corporate Social Responsibility (CSR) support. The target was to offer internships to 1 crore young people across the top 500 companies over a five-year period. Each intern received a monthly stipend of ₹5,000, of which ₹4,500 came from the government and ₹500 from corporate CSR contributions. This initiative functioned as a state-supported finishing school for the workforce. By shifting some training costs from companies to the public sector, it enabled young graduates to gain valuable experience and made them more competitive in the job market.

3. **Revenue Buoyancy:** A key factor that enabled the government to fund large employment schemes without destabilising public finances was the strong performance of the Goods and Services Tax (GST). By FY 2024–25, the early challenges of the GST regime had largely faded, and the system began delivering consistently high revenues. In April 2025, collections surged to a record ₹2.36 lakh crore in a single month. This surge in tax revenues known as revenue buoyancy allowed the government to maintain high levels of spending on employment and skilling programmes while keeping borrowing under control. It reflected not only stronger compliance but also the increasing formalisation of the economy.

In the February 2025 Budget, the government reiterated its commitment to fiscal discipline. The fiscal deficit target was set to achieve below 4.5% by FY26, down from the revised estimate of 4.8% in the previous year. The government also signalled a broader shift in its fiscal framework by adopting the Debt-to-GDP Ratio as its primary long-term anchor, aiming to bring total public debt down to 50% of GDP by 2030–31. This clear commitment to a sustainable fiscal trajectory contributed significantly to global credit rating agencies such as S&P and Moody's, upgrading India's sovereign outlook to 'Positive' in May 2024.

Phase IV marks the beginning of the 'Human Capital Era' in India's fiscal policy. After laying a solid physical infrastructure foundation, the government shifted its focus towards employment generation, formalisation, and skill development. The ELI schemes and the Prime Minister's Internship Programme represented a new approach where the state actively subsidised hiring to stimulate job creation. Importantly, this expansion in employment-related spending was funded not through excessive borrowing but through strong GST-driven revenue growth. As a result, the fiscal deficit could glide smoothly towards the FY26 target of 4.4%.

The decade from 2015 to 2025 stands out as a transformative period in India's fiscal history. Over these ten years, the country moved away from a system heavily dependent on revenue expenditure towards a model centred on asset creation, institutional reform, and strategic investment.

From 2015 to 2019, reforms such as GST and the IBC brought greater formalisation and improved economic efficiency. During 2020 and 2021, in the face of the pandemic, India adopted a calibrated 'Barbell Strategy' that combined social protection with credit support to protect the productive base of the economy. From 2022 to 2024, the government launched an unprecedented Capex drive, reshaping national infrastructure. Finally, in 2024 and 2025, fiscal policy broadened its scope to include employment generation and workforce development while still following a disciplined fiscal glide path. By 2025, fiscal policy in India had evolved far beyond a simple accounting exercise. It became a strategic instrument for promoting investment, strengthening the workforce, and integrating India more deeply into global value chains. The period stands as an example of how targeted, sustained reforms can reshape an economy's long-term trajectory.



## Recap

- India's monetary policy shifted to a rules-based inflation-targeting framework from 2015 onwards
- The Monetary Policy Committee replaced individual discretion and improved transparency

- The pandemic required sharp rate cuts, liquidity injections, and unconventional tools to support stability
- From 2022, policy tightened to control inflation and restore monetary balance
- By 2024–25, monetary policy moved into a pause and easing cycle to support growth
- Fiscal policy moved from revenue expenditure towards capital expenditure to build long-term assets
- Major fiscal reforms included GST, IBC, federal restructuring, and corporate tax cuts
- The pandemic fiscal response combined food security, credit guarantees, and transparency measures
- Post-pandemic budgets focused on Capex-led growth supported by disciplined fiscal consolidation
- Recent policy shifts emphasise employment generation and skilling through ELI schemes and internships

## Objective Questions

1. What is India's formal inflation target under FIT?
2. What is the upper limit of the inflation tolerance band?
3. Which body was replaced by NITI Aayog?
4. What does MPC stand for?
5. Which year saw the introduction of FIT in India?
6. What does AQR identify in banks?
7. What is the name of the rate at which RBI lends to banks?
8. Which rate encourages banks not to park surplus funds with RBI?
9. What is the digital currency pilot introduced by RBI called?

10. Which global index included Indian government bonds in 2024?
11. What does GST aim to create?
12. What major insolvency reform was passed in 2016?
13. What scheme provided free food grains during the pandemic?
14. What is the term for loans guaranteed by the government during COVID-19?
15. Which scheme incentivises domestic manufacturing?
16. What term describes the sharp rise in Capex spending from 2022?
17. What is the name of the skill-building internship scheme introduced recently?
18. What does EPFO stand for?
19. What type of expenditure creates long-term assets?
20. Which tax reform reduced the basic corporate tax rate to 22%?

## Answers

1. 4 per cent
2. 6 per cent
3. Planning Commission
4. Monetary Policy Committee
5. 2015
6. Non-Performing Assets
7. Repo Rate
8. Reverse Repo Rate
9. Digital Rupee (e₹-R)
10. J.P. Morgan GBI-EM Index
11. Unified National Market
12. Insolvency and Bankruptcy Code
13. PM Garib Kalyan Anna Yojana
14. Emergency Credit Line Guarantee Scheme
15. Production Linked Incentive
16. Capex Crusade

17. Prime Minister's Internship Scheme

18. Employees' Provident Fund Organisation

19. Capital Expenditure

20. Corporate Tax Cut

## Assignments

1. Discuss the major transformations in India's monetary policy framework between 2015 and 2025.

2. Examine the impact of the pandemic on India's monetary policy and financial stability.

3. Describe and evaluate the structural reforms in India's fiscal framework implemented during 2015–2019.

4. Explain how monetary policy and fiscal policy jointly contributed to India's economic transformation from 2015 to 2025.

5. Discuss the importance of transparency and institutional strengthening in India's macroeconomic policy over the last decade.



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# Suggested Reading


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# SREENARAYANAGURU OPEN UNIVERSITY

## MODEL QUESTION PAPER I

QP CODE: ……

Reg. No: …….....
Name: ……...

SIXTH SEMESTER - BA ECONOMICS EXAMINATION

DISCIPLINE CORE COURSE

**B21EC06DC - MACRO ECONOMICS II**

(CBCS - UG)

2022-23 - Admission Onwards

Time: 3 Hours Max Marks: 70

### Section A - Objective Type Questions

**Answer any 10 questions. Each question carries 1 mark**

**(10 x 1=10 marks)**

1. Define Boom.
2. What is hyperinflation?
3. Name the turning points of a business cycle.
4. What are term funding facilities?
5. Which two components make up aggregate demand in a two-sector Keynesian model ?
6. Name the two important business cycle events in the 20th century?
7. Define Goods market
8. What is GST?
9. What are fiscal instruments in a fiscal policy?
10. Define sacrifice ratio?
11. What is CRR?
12. Name the market represented by the LM Curve.
13. Define unemployment rate.
14. What is quantitative easing?
15. What is CPI?

**Section B- Very Short Answer**

**Answer any 10 questions. Each question carries 2 marks**

**(10x2=20 marks)**

16. Define money market equilibrium under the IS-LM model.
17. Write a short note on monetary policy.
18. Why does the LM curve slopes upward.
19. What is counter-cyclical fiscal policy?
20. Define short run Philips Curve.
21. What is repo rate?
22. What is cost push inflation ?
23. What does moral suasion refers to?
24. Write a short note on costs of unemployment?
25. What is yield control curve?
26. Define under employment ?
27. Write a note on the immediate trigger for the global financial crisis.
28. What is Index number?
29. Write a note on demonetisation.
30. What are open market operations?

**Section C- Short Answer**

**Answer any 5 questions. Each question carries 4 marks.**

**(5X4=20 marks)**

31. Discuss ELI scheme.
32. Elucidate on the different phases of business cycle.
33. Explain the policy interventions made by the USA during global financial crises?
34. Explain the effects of inflation.
35. Elucidate on conventional monetary policy.
36. Write a note on NAIRU.
37. Explain contractionary and expansionary fiscal policy.
38. Describe the factors that cause the IS curve shift to the right.

39. Explain the selective credit control measures of RBI.

40. Discuss the Hayek's Theory of business cycle.

**Section D- Long Answer/Essay**

**Answer any 2 questions. Each question carries 10 marks.**

**(2x10=20 marks)**

41. Elucidate on the general credit control measures under monetary policy.

42. Discuss how the short-run Phillips curve relates to the long-run Phillips curve.

43. Explain the concept of general equilibrium in the IS-LM model.

44. Describe the fiscal and monetary measures used to control inflation in an economy.

# SREENARAYANAGURU OPEN UNIVERSITY

**MODEL QUESTION PAPER II**

QP CODE: ……

Reg. No: …….....
Name: ……...

SIXTH SEMESTER - BA ECONOMICS EXAMINATION
DISCIPLINE CORE COURSE
**B21EC06DC - MACRO ECONOMICS II**
(CBCS - UG)
2022-23 - Admission Onwards

Time: 3 Hours Max Marks: 70

**Section A - Objective Type Questions**

**Answer any 10 questions. Each question carries 1 mark**

**(10 x 1=10 marks)**

1. Who popularised the monetary theory of business cycle?
2. What do you mean by anticipated inflation ?
3. Which is the lowest point in a business cycle?
4. What is equation of exchange?
5. Define money market equilibrium.
6. What happens to the money supply during a recession under contra-cyclical monetary policy?
7. What is aggregate supply?
8. What is asset quality review?
9. What is the shape of the long run phillips curve?
10. Define bank rate?
11. What does injections refer to?
12. Mention two reasons for the rightward shift of the LM curve?
13. Define stagflation ?
14. What is G-SAP?
15. What is Okun's Law?

**Section B- Very Short Answer**

**Answer any 10 questions. Each question carries 2 marks**

**(10x2=20 marks)**

16. List out the factors causing a shift in the IS curve to the left?
17. Name any two features of the business cycle.
18. Describe goods market equilibrium.
19. What is depression in a business cycle.
20. Write a short note on demand pull inflation.
21. What is credit rationing?
22. Write a short note on CPI for Agricultural Labourers.
23. Give a brief note on MPC
24. What are open market operations.
25. Write a short note on PMGKAY.
26. Define disguised unemployment.
27. What is Wholesale Price Index?
28. Define NAIRU.
29. Write a short note on NITI Aayog?
30. Name two determinants of investment according to Keynes theory.

**Section C- Short Answer**

**Answer any 5 questions. Each question carries 4 marks.**

**(5x4=20 marks)**

31. What are the major types of inflation?
32. Explain the Hawtrey's Theory of business cycle.
33. Discuss how technology has improved healthcare services.
34. Explain the monetary theory of inflation.
35. Analyse the impact of global financial crisis on the Indian economy.
36. Explain the costs of unemployment.
37. Distinguish between expansionary and contractionary fiscal policy.
38. Discuss the reasons for the rightward shift of the LM curve.

39. Explain the liquidity adjustment facility by RBI.

40. Describe the monetary measures used to control inflation in an economy.

**Section D- Long Answer/Essay**

**Answer any 2 questions. Each question carries 10 marks.**

**(2x10=20 marks)**

41. What are the features of business cycles? Explain the business cycle using its different phases.

42. Explain the meaning of stagflation and discuss the major causes of stagflation in the 1970s.

43. Discuss the IS-LM model in a closed economy.

44. Analyse the trends in fiscal policy in India with respect to COVID-19 pandemic.

**സർവ്വകലാശാലാഗീതം**

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വിദ്യയാൽ സ്വതന്ത്രരാകണം
വിശ്വപൗരരായി മാറണം
ഗ്രഹപ്രസാദമായ് വിളങ്ങണം
ഗുരുപ്രകാശമേ നയിക്കണേ

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സൂര്യവീഥിയിൽ തെളിക്കണം
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# Macroeconomics II

COURSE CODE: B21EC06DC



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ISBN 978-81-997038-7-2