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Content

MACROECONOMIC ANALYSIS

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Sample Preview of the Solved Sample Question Papers

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QUESTION PAPER

June – 2024

(Solved)

MACROECONOMIC ANALYSIS

MEC-102

Time: 3 Hours] ***[Maximum Marks: 100***

Note: *Answer questions from each section as per instructions given.*

SECTION-A

Note: Answer any two questions from this Section:

Q. 1. Compare between Classical Theory and Keynesian Theory of Macro Economics. Use appropriate diagrams to justify your answer.

Ans. Ref.: See Chapter-1, Page No. 1, 'Various Schools of Macroeconomic Thought'.

Q. 2. Give a brief outline of the IS-LM model. What does a point outside the IS and LM curves signify? Does the economy reach equilibrium position automatically in the above model?

Ans. Ref.: See Chapter-5, Page No. 50, 'The Open Economy IS-LM Framework' and Page No. 51 'Equilibrium in Open Economy IS-LM Model'.

Q. 3. Explain, with appropriate diagrams, how fiscal policy may not be effective in an open economy with flexible exchange rate. What policy option is available to the government in such situations?

Ans. Ref.: See Chapter-5, Page No. 52, 'Monetary and Fiscal Policies Under Fixed Exchange Rate'.

Q. 4. Discuss the policy instruments available to the government for implementation of monetary policy.

Ans. Ref.: See Chapter-16, Page No. 163, 'Monetary Policy Instruments'.

SECTION-B

Note: Answer any five questions from this Section:

Q. 5. Explain the features of the Lucas supply function. Why is it upward-sloping in the short-run?

Ans. Ref.: See Chapter-7, Page No. 79, Q.No. 6.

Also Add: Upward-Sloping in the Short Run:

1. Imperfect Information and Misperception: The key reason why the Lucas supply curve is upward-sloping in the short run is due to misperceptions about price changes. Firms and workers temporarily believe that a rise in the overall price level reflects a change in demand for their specific product or labour, leading them to increase output.

As a result, in the short run, an increase in the general price level leads to higher output (positive correlation between price and output).

2. Short-run Rigidity: Since the economy does not adjust instantaneously to changes in price expectations, in the short run, an increase in aggregate demand or price level can cause firms to produce more, leading to a positive relationship between output and prices.

3. Information Lag: Agents do not immediately realize that price changes are generalized across the economy. Due to information lag, they adjust output upwards, believing that their individual product prices have risen in real terms.

Mathematical Representation: The Lucas supply function can be represented as:

$$Y = Y^* + \alpha(P - E(P))$$

Where:

(Y) is the actual output,

(Y*) is the natural level of output (output at full employment),

(P) is the actual price level,

(E) ((P)) is the expected price level,

(α) is a positive constant that reflects the sensitivity of output to price misperceptions.

In this equation, the difference between the actual price level (P) and the expected price level (E) (P) drives short-run deviations in output from its natural level. As long as actual prices deviate from expected

prices, output will deviate from its natural level, creating the upward-sloping supply curve in the short run.

Why It Is Upward-Sloping:

Short-run price misperception: When the actual price level exceeds the expected price level, firms mistakenly perceive higher demand for their goods, leading to increased production. As a result, the aggregate supply curve slopes upwards in the short run.

Adjustment over time: Once firms and workers fully adjust their expectations (realizing that the price level change is general and not specific), the economy moves back to the natural level of output, making the long-run supply curve vertical.

Thus, the Lucas supply function explains why in the short run, output rises when prices increase due to misperceptions. However, once these misperceptions are corrected, the economy returns to its natural output level, making the supply curve vertical in the long run.

Q. 6. In an inter-temporal framework, explain the life cycle hypothesis.

Ans. Ref.: See Chapter-8, Page No. 83, 'Life Cycle Hypothesis'.

Q. 7. In the Samuelson's model, explain how the interaction between the multiplier and the accelerator can lead to business cycle.

Ans. Ref.: See Chapter-11, Page No. 107, 'Samuelson's Model of Business Cycles: Interaction between Multiplier and Accelerator'.

Q. 8. Critically examine the efficiency wage model.

Ans. Ref.: See Chapter-13, Page No. 131, 'Efficiency-Wage Theories' and Efficiency-Wage Model'.

Q. 9. Bring out the important channels of transmission of the effects of monetary policy.

Ans. Ref.: See Chapter-16, Page No. 164, 'Transmission Mechanism of Monetary Policy' and Page No. 168, Q. No. 4.

Q. 10. In the Keynesian framework, explain how discretionary fiscal policy can be used to close the inflationary gap.

Ans. Ref.: See Chapter-18, Page No. 183, 'Discretionary Fiscal Policy'.

Q. 11. Explain why a high debt-GDP ratio could be dangerous for an economy.

Ans. Ref.: See Chapter-19, Page No. 193, 'Debt-GDP Ratio and The Dangers of High Debt'.

Q. 12. Write short notes on any two of the following:

***(a)* Real rigidities in the goods market**

Ans. Ref.: See Chapter-13, Page No. 129, 'Real Rigidities in the Goods Market'.

***(b)* Dating of business cycles**

Ans. Ref.: See Chapter-11, Page No. 109, 'Dating of Business Cycles'.

***(c)* Impact of real supply shocks on the economy**

Ans. Ref.: See Chapter-12, Page No. 121, 'Impact of Supply Shocks to the Economy'.

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Sample Preview of The Chapter

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MACROECONOMIC ANALYSIS

The Classical Approach

1

INTRODUCTION

As a macroeconomics student, you should be aware that the theory has changed over time in response to the changing macroeconomic environment. In the beginning, economists and economic historians agreed that an economy could function well without significant fluctuations in income, output, and employment during the late nineteenth and early twentieth centuries. It was believed that the government should only intervene as little as possible in economic factors like wages, prices, and interest rates. Economic equilibrium in an economy would be handled by market forces (supply and demand). Such a presumption is untrue, though, as all governments have in place specific economic policies (including monetary policy and fiscal policy) and occasionally make changes to these policies.

As you are aware, macroeconomic theory focuses on aggregative macroeconomic phenomena. Because what holds true for individual units may not hold true for the economy as a whole, a particular field of macroeconomics is required. Consider a scenario where a business uses labour to produce an output, such as cement. At the ongoing salary rate, it may hire as many employees as necessary.

Therefore, a single firm's increased demand for labour has no effect on the pay rate. However, there will be a labour shortage and an increase in wage rates if all of the businesses in a nation boost their need for labour (for example, because of the country's economic boom and optimism). Furthermore, there are only a certain number of employees who can find employment in the nation; as a result, when the demand for labour increases past this threshold, neither the supply nor the wage rate will change.

CHAPTER AT A GLANCE

VARIOUS SCHOOLS OF MACROECONOMIC THOUGHT

There are varied views given by economists about the adjustment process of output, prices and employment in an economy. There is no consensus even on the shape of AS and AD curves.

There are two important schools of thought:

(i) Classical Thought

(ii) Keynesian Thought

J.M. Keynes used the term classical approach to refer to those economists who presented their ideas before him.

Keynesian theory evolved as a result of great depression of 1929 in which none of the ideas of the classical economists worked as expected. Keynes explained that great depression was caused by insufficient demand. On the contrary, classical economists always proposed that demand adjusts itself according to supply. They suggested a laissez faire economy where government should concentrate on its administrative role and does not interfere with economic activities.

Classical theory was propounded by Karl Marx, Malthus, Adam Smith, Ricardo, Marshall.

The classical economists asserted that full employment is a normal feature of a capitalist economy. Full employment is defined as an absence of involuntary unemployment. There is an in-built system in the economy that makes economy work at the full employment level.

Assumptions of the Theory

1. Say's Law of Market: This law was formulated by J.B. Say. It states that "Supply creates its own Demand", i.e. there is never a deficiency of aggregate demand. It states that an increase in output creates an equal increase in income and spending.

2. Flexibility in Wage Rates and Price Exists: Wage and price flexibility means that real wages and prices can change freely and quickly. This assumption of wage flexibility implies that supply of labour equals demand for labour i.e. there is no unemployment. Flexibility in prices implies that AD = AS and there is no excess demand or excess supply.

Criticism of the theory:

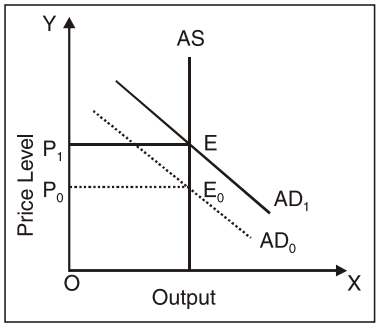
1. In reality, J.B. Say's law of market does not operate due to its unrealistic assumptions.

2. Keynes' proved that the economy may be in equilibrium at less than full employment level.

3. Saving and investment do not depend on interest rates only. Savings depend on disposable income and investment depends on expected return on investment.

4. Wage rates and prices are not so flexible in reality.

5. It ignored the role of state in influencing markets through its fiscal and monetary policy.



Classical Approach to Output and Price Determination

Statement of the Theory: It states that demand creates its own supply and economy in the short-run generally operates below full employment level and under employment equilibrium is a normal situation. Government intervention through various policies can help in bringing about equilibrium between AD and AS.

Assumptions of the Theory

1. Rigid Wages and Prices: Government intervenes through minimum wage laws to fix wages which results in involuntary unemployment. Government also intervenes to fix the prices of essential commodities through various policies.

2. Constant MP of Labour: If MP of each labour is constant and wage rates are also same then it means that each additional unit cost the same to the producer.

Under-Employment Equilibrium

The Concept of Aggregate Supply: Keynes' AS curve is perfectly elastic till full employment level and perfectly inelastic after attainment of full employment.

BASIC FEATURES OF CLASSICAL THEORY

Classical economics developed in opposition to the idea of 'mercantilism'. The mercantilists implemented policies that encouraged exports and opposed imports through subsidies and tariffs because they thought that a country's wealth depended on its stock of bullion (or, gold and silver). Such theories were rejected by classical economics, who held that the 'wealth of nations' depended on actual conditions. Money is only a means of transaction for them. These are some crucial aspects of classical theory:

(i) **Microeconomic Issues:** The focus of classical economists was mostly on microeconomic concerns involving the actions of economic agents like enterprises and households. A firm maximizes its profits under the traditional theory, subject to resource constraints. Similar to this, given their financial limitations, households seek to maximize their utility or financial rewards.

(ii) **Laissez Faire:** Classical economics adhered to the laissez faire concept, which is French for 'leave alone' or 'let you do'. This point of view contends that the government ought to interfere in corporate activities as little as possible.

(iii) **Invisible Hand**: Adam Smith is credited with developing the idea of the 'invisible hand'. He contends that everyone should look out for their own interests in order for the economy to thrive. He said, "We expect our dinner not from the goodness of the butcher, the brewer, or the baker, but from their regard to their own interest." Self-interested people appear to be guided by a 'invisible hand' to maximize the overall wellbeing of everyone in the system. It is a producer's self-interest, not their benevolence, that drives them to sell a good.

(iv) **Continuous Market Clearing:** The variable nature of pricing and wages was a basic tenet of classical economics. Microeconomics has taught you that the equilibrium price is established when supply and demand are equal. Price will rise if demand exceeds supply, according to the supply and demand curves. Similar to this, pricing will drop if supply exceeds demand. In addition to commodities, this notion also holds true for wage rates.

(v) **Perfect Competition:** Traditional economists believed that in order for markets to run successfully, there must be perfect competition. Since there is full employment (as a result of wage rate flexibility), output is always at full employment. The implication of the foregoing is that there is no room for variations in output level. By applying this reasoning, classical economists disregarded the notion of 'business cycles'.

(vi) **Say's Law of Market:** Production or supply, according to classical economics, is the secret to economic prosperity. As a result, they placed more emphasis on the economy's supply side. The Say's law, which bears the name of eminent classical economist J.B. Say, provides an excellent summary of this strategy.

J.B. Say asserts that 'supply creates its own demand'. Demand is created whenever production occurs since it results in a flow of income into people's hands.

(vii) **Neutrality of Money:** Economic growth is attributed by traditional economists to advances in technology and an increase in the factors of production. Money is merely a means of trade that makes transactions between economic agents easier. As a result, a rise in the money supply merely raises prices rather than the level of output.

DETERMINATION OF OUTPUT AND EMPLOYMENT

The following presumptions form the foundation of the classical theory:

(a) Businesses and employees are optimizers,

(b) They are fully knowledgeable, and

(c) They work in markets that are fully competitive.

The foregoing implies that pricing and salaries are completely variable. The demand for labour from businesses that aim to maximize profits is

$$P = W/MPN \quad \ldots (1)$$

where, P is the product price,

W is nominal wages, and

MPN is the marginal product of labour.

P is equal to the marginal revenue (MR), which is the money made from the sale of one unit of output, because there is perfect competition. Here, W/MPN stands in for the marginal cost of production, or the price to produce an extra unit of output.

Equation (1) can be rewritten as

$$MPN = W/P \quad \ldots (2)$$

According to Equation (2), the real wage (W/P) and the marginal product of labour are the same. Thus, the marginal product of labour is what drives the labor demand curve in terms of real wages. The labor demand curve is dipping downward.

$$MPN_d = f(W/P) \quad \ldots (3)$$

The real pay has a positive relationship with the labour supply. It is predicated on the idea that individual labour maximizes utility.

This could be expressed as

$$Ns = g(W/P) \quad \ldots (4)$$

where Ns indicates the supply of labour.

The equilibrium in the labour market is shown in Fig. Keep in mind that the labour market is at equilibrium when there is full employment. The supply and demand of labour are equal at the point of equilibrium. We present labour supply and demand as functions of real wage (W/P) in the upper panel. We give labour demand and supply as functions of nominal wage in the lower panel. Real wages can be kept at the same level while the price level rises from P_1 to P_2 and then to P_3 if the nominal pay rises to 2W and 3W, respectively. In panel *(b)* of Fig., the changes in the supply and demand curves for labor are depicted.

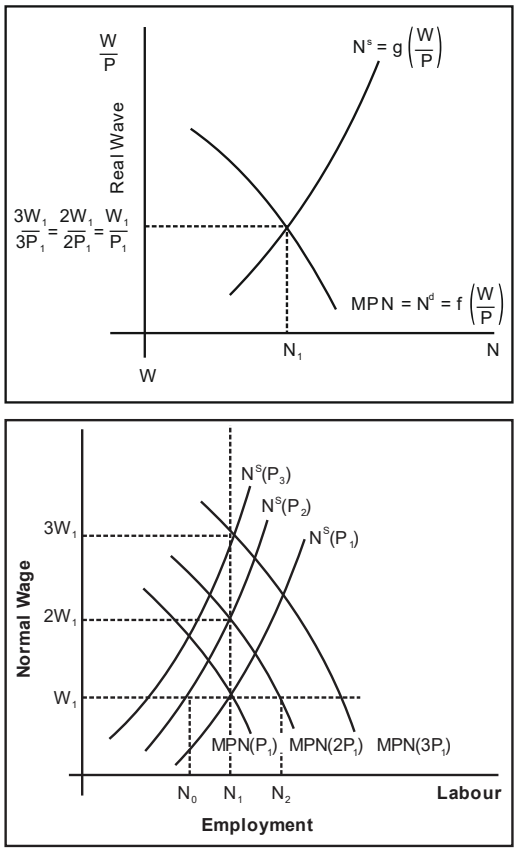
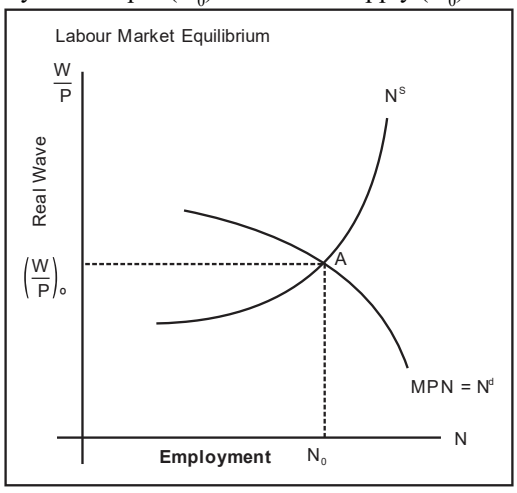


Fig.: Supply of and Demand for Labour

Assume there are only two production factors: labour and capital. As shown in Fig. panel *(b)*, the production function Y = F (K, N) determines output. Full employment labour supply and real pay rate are determined by labour market equilibrium (see panel *(a)* of Fig.). The full employment outcome is shown in panel *(b)* of Fig. The economy works with full employment output (Y_0) and labour supply (N_0).



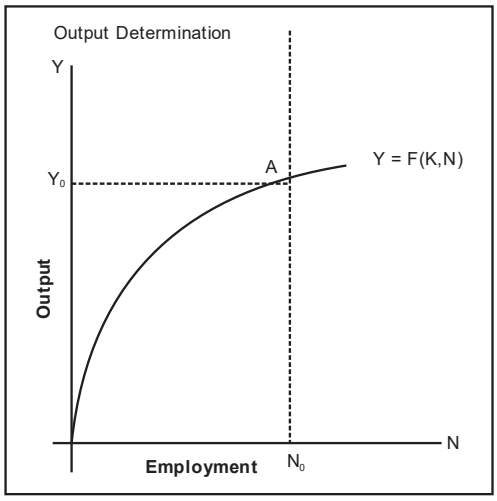


Fig.: Equilibrium Output and Employment

With constant full employment and a given production function and capital, the Aggregate Supply (AS) is inelastic at full output levels. As seen in Fig., the AS curve is a vertical straight line. The AS curve shifts with changes in technology (production function) or capital levels.

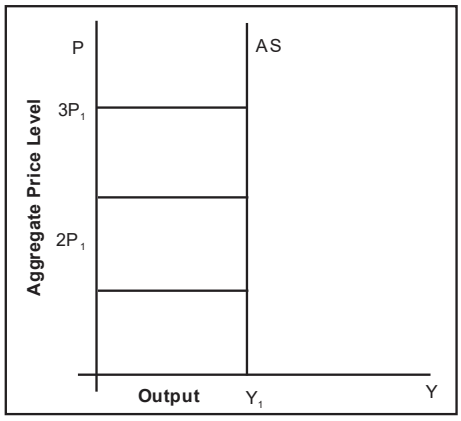


Fig.: Aggregate Supply Curve

QUANTITY THEORY OF MONEY

To comprehend the impact of money stock fluctuations, we must examine the money market equilibrium. A stock variable is money. Its stock refers to its quantity at a specific time. Money is a public asset needed for its holding. Banks and the government provide money. Money markets are formed by the interaction between money demand and supply. In this unit, we assume the monetary authority independently controls money supply in an economy. Aggregate demand for money refers to public demand for money. The demand for money refers to the total amount of money demanded by individuals, such as households or corporations.

Different theories of money demand exist, including the traditional Quantity Theory of Money (QTM), Keynesian theory, and Friedman's restatement of traditional QTM. We will explore the classical theory of money demand in this unit. Popularly known as the QTM, it is a hypothesis of price level. Money serves as a means of trade, a standard for deferred payment, a store of value, and a unit of account.

Classical economists believe money is valued as a medium of exchange. The popular classical QTM has various variants.

We offer Fisher's equation of exchange, often known as the transaction version, below:

$$M.V = P.T \quad \ldots (5)$$

Where,

T is number of transactions of average size, and proxy for income level

M is quantity of money supply,

V is velocity of circulation of money, and

P is the average price level.

Classical economics heavily relies on the QTM to support the money demand theory. According to the QTM, the price level is proportionate to the amount of money held by the people. Using the traditional premise of full employment, the output level is determined. In equation (5), T is used as a surrogate for national income. Additionally, V refers to the number of times a rupee changes hands in a certain timeframe. The system relies on the public's consistent paying behaviour over time.

The right-hand side of equation (5) shows the money needed for transactions, such as buying or selling total production in the economy (PT). Left-hand side of equation (5) The left-side term MV in the equation is the product of the number of rupees in circulation and their usage for public payments. Hence, MV represents the total accessible money for transactions during the period. The system achieves equilibrium when money demand (PT) matches money supply (MV).

The equation (5) can be rewritten as below,

$$P = \frac{V}{T} M \quad \ldots (6)$$

As mentioned earlier, the terms V and T are constants in equation (6).

Another classical QTM technique examines the relationship between money demand and nominal production by focusing on real output rather than transaction numbers. In equation form, it can be expressed as

$$MV = PY \quad \ldots (7)$$

Where,

M is the money supply