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M.E.C.-102

Macroeconomic Analysis

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By: Anand Prakash Srivastava



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**Sample Preview
of the
Solved
Sample Question
Papers**

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QUESTION PAPER

December – 2023

(Solved)

MACROECONOMIC ANALYSIS

M.E.C.-102

Time: 3 Hours]

[Maximum Marks : 100

Note: Answer questions from both Sections as per instructions.

SECTION-A

Note: Answer any two questions from this Section.

Q. 1. What is meant by classical theory in macroeconomics? What are its salient features? Examine the relevance of these features in the present context.

Ans. Ref.: See Chapter-1, Page No. 1, 'Various Schools of Macroeconomic Thought', and Page No. 7, Q. No. 1.

Q. 2. In the Ramsey-Cass-Koopman's model, discuss the central planner's problem. In the above model, explain the concept of modified golden rule.

Ans. Ref.: See Chapter-9, Page No. 92, 'Central Planner's Problem' and Page No. 94, Q. No. 1.

Q. 3. Bring out the important features of the real business cycle theory.

Ans. Ref.: See Chapter-12, Page No. 118, 'Real Factors Vs. Monetary Factors'.

Q. 4. Distinguish between nominal rigidities and real rigidities. Give a brief description of the types of real rigidities in an economy.

Ans. Ref.: See Chapter-13, Page No. 134, Q. No. 3.

Also Add: Here are several types of real rigidities:

1. Menu Costs: Menu costs refer to the costs associated with changing prices. In the real world, firms incur costs when adjusting their prices, such as printing new price lists, updating software systems, or advertising price changes. These costs can lead to sticky prices, where firms are reluctant to adjust prices frequently, even in response to changes in demand or costs.

2. Wage Rigidities: Wage rigidities occur when wages are slow to adjust to changes in labour market conditions. This can be due to factors such as labour contracts, minimum wage laws, or social norms. As a result, firms may be unable to adjust wages downward

during economic downturns, leading to higher unemployment and reduced labour market flexibility.

3. Contractual Rigidities: Contractual rigidities arise from long-term contracts between firms and their suppliers, customers, or employees. These contracts may lock in prices or wages for an extended period, limiting firms' ability to adjust to changes in market conditions.

4. Market Power: Market power refers to the ability of firms to set prices above competitive levels. When firms have market power, they may be less responsive to changes in demand or costs, leading to sticky prices and inefficient resource allocation.

5. Informational Rigidities: Informational rigidities occur when agents in the economy, such as firms, workers, or consumers, have imperfect or asymmetric information about market conditions. This can lead to delays in price or wage adjustments as agents wait for more information before making decisions.

6. Fiscal and Regulatory Rigidities: Fiscal and regulatory rigidities arise from government policies that constrain firms' ability to adjust prices or quantities. Examples include taxes, subsidies, price controls, and regulations that affect product markets, labour markets, or financial markets.

7. Technological Rigidities: Technological rigidities refer to constraints imposed by the production process or technology on firms' ability to adjust output or prices quickly. For example, some industries may have long lead times for production or limited capacity to ramp up production in response to changes in demand.

SECTION-B

Note: Answer any five questions from this Section.

Q. 5. Explain the concept of dynamic inconsistency by using a loss function.

Sample
QUESTION PAPER - 1
(Solved)

MACROECONOMIC ANALYSIS

M.E.C.-102

Time: 3 Hours]

[Maximum Marks : 100

Note: Answer questions from both Sections as per instructions.

SECTION–A

Note: Answer any two questions from this Section.

Q. 1. Describe how output and employment are determined in the classical model.

Ans. Ref.: See Chapter-1, Page No. 9, Q. No. 3.

Q. 2. State the assumptions on which the Keynesian model is based.

Ans. Ref.: See Chapter-2, Page No. 23, Q. No. 5.

Q. 3. Use the national income identity to bring out at least two fundamental differences between open and closed economies.

Ans. Ref.: See Chapter-4, Page No. 44, Q. No. 2.

Q. 4. What is the effect of monetary expansion on output and interest rates in an open economy with perfect capital mobility under flexible exchange rate?

Ans. Ref.: See Chapter-5, Page No. 53, Q. No. 1.

SECTION–B

Note: Answer any five questions from this Section.

Q. 5. Describe the AS-AD model. Illustrate the condition of natural rate of unemployment in a diagram.

Ans. Ref.: See Chapter-7, Page No. 75, Q. No. 1.

Q. 6. Explain the concept of consumption under uncertainty and discuss the Random Walk Hypothesis in the context of consumption behaviour.

Ans. Ref.: See Chapter-8, Page No. 89, Q. No. 3.

Q. 7. Derive the basic dynamic equation of the standard two period overlapping generations model with production. Explain the intuition behind this equation.

Ans. Ref.: See Chapter-10, Page No. 102, Q. No. 1.

Q. 8. Give a brief account of Keynesian view on business cycle.

Ans. Ref.: See Chapter-11, Page No. 113, Q. No. 4.

Q. 9. Give four examples of negative real shocks to an economy?

Ans. Ref.: See Chapter-12, Page No. 122, Q. No. 3.

Q. 10. Why is the distinction between flexibility and rigidity of prices important in macro-economic theory?

Ans. Ref.: See Chapter-13, Page No. 134, Q. No. 1.

Q. 11. What are various channels of transmission of monetary policy?

Ans. Ref.: See Chapter-16, Page No. 168, Q. No. 4.

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

(a) Political Business Cycles

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

(b) A Baseline RBC Model

Ans. Ref.: See Chapter-12, Page No. 119, 'A Baseline RBC Model'.

(c) Money Multiplier

Ans. Ref.: See Chapter-15, Page No. 152, 'Money Multiplier'.

■ ■

Sample Preview of The Chapter

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MACROECONOMIC ANALYSIS

1

The Classical Approach

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

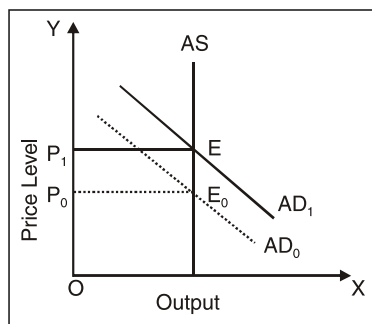
1. Say's Law of Market: This law was formulated by J.B. Say. It states that "Supply creates its own Demand", i.e. there is never a deficiency of aggregate demand. It states that an increase in output creates an equal increase in income and spending.

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

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

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

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

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.

$$MPN_f = f(W/P) \quad \dots (3)$$

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

$$N_s = g(W/P) \quad \dots (4)$$

where N_s 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 P₁ to P₂ and then to P₃ if the nominal pay rises to 2W and 3W, respectively. In panel (b) of Fig., the changes in supply and demand curves for labor are depicted.

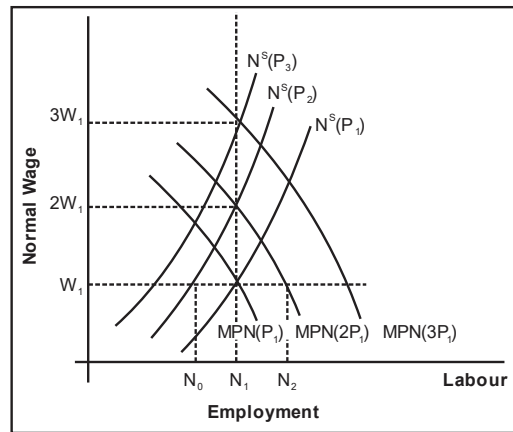
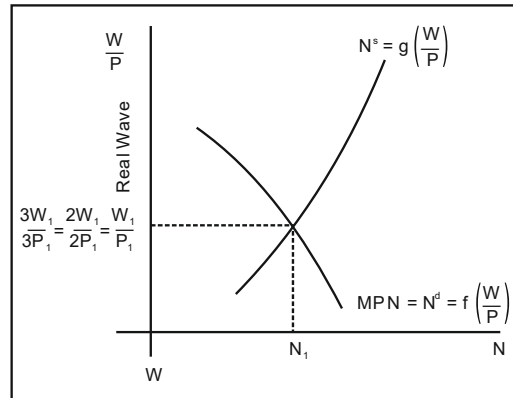
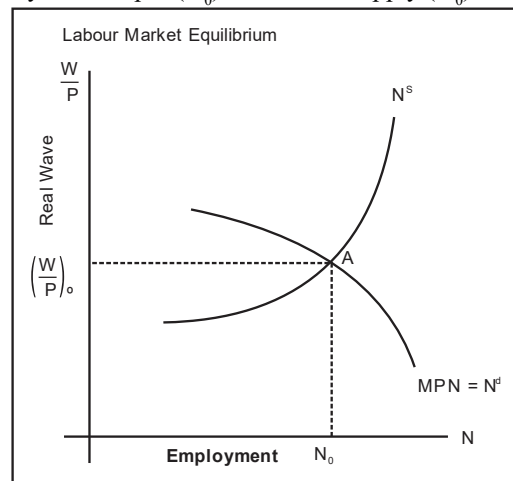


Fig.: Supply of and Demand for Labour

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).



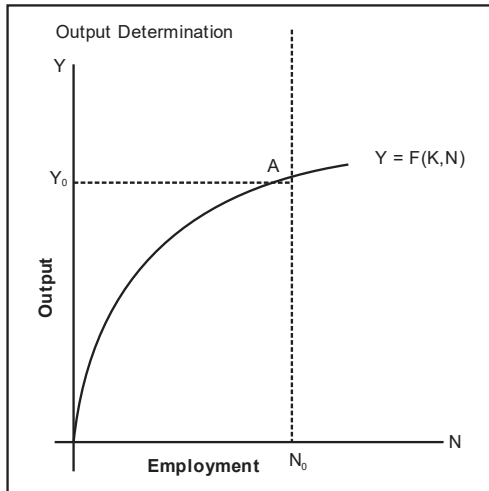


Fig.: Equilibrium Output and Employment

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.

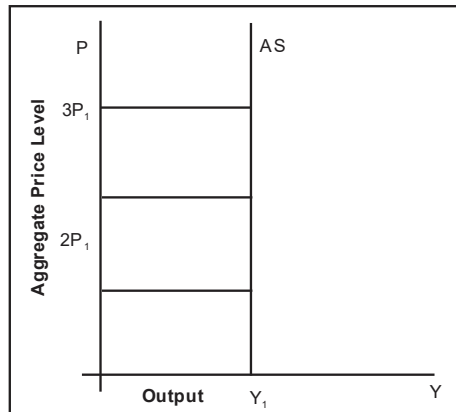


Fig.: Aggregate Supply Curve

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:

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

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,

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

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

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

Where,

M is the money supply