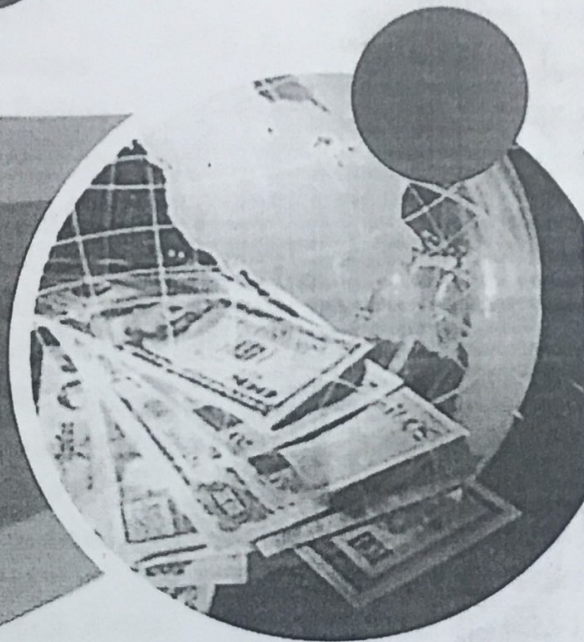




SOCIAL SCIENCES FOR BEGINNERS

VOL. I

Geography and Economics

Editors:

I.P. Ifabiyi

U.A. Raheem

A.T. Yakubu

A Publication of the Faculty of Social Sciences, University of Ilorin, Ilorin Nigeria

TABLE OF CONTENTS

CHAPTERS

Page

Forward

i.

1. Definition, Scope and Branches of Geography 1- 17
2. The Composition and Structure of the Earth 18-29
3. Ocean Circulation And Global Ocean Currents 30-45
4. Introduction to Earth's Energy and Mass Budget 46-56
5. Ocean Circulation And Its Impact In Our Environment 57-72
6. An Overview of Field Techniques in Human Geography 73-76
7. Global Environmental Issues and Climate 77-87
8. The Cycling Of Matters And Energy In Ecosystems 88-103
9. First Order Relief Features Of The Earth 104-121
10. Soil And Soil Processes 122-147
11. Man-Environment Relationships and Sustainability of the Earth System. 148-157
12. Optimizing the Potentials of Sack Farming in Solving the Problems of
Land Accessibility, Security and Household Food Insecurity in Nigeria 158-164
13. World Population Distribution and Patterns 165-172
14. Patterns and Factors of Economic Activities in Africa 173-183
15. Spatial Interaction Models 184-194
16. Link Between Population And Energy Consumption 195-205
17. Waste Management In Nigeria: Issues, Perspective and Impact on Development 206-220

Economics

221

18. Nature And Scope Of Economics 222-227
19. Price Theory and its Applications 228-237
20. Theory Of Cost 238-243
21. Theory Of Production 244-254
22. Industrialisation 255- 259
23. National Income Accounting 260-270
24. Elementary Models of income and Employment 271-282
25. Analysis of Money and Banking 283-293
26. Introductory Concepts in International Trade Theory 294-302
27. Taxation And Public Expenditure 303-309

CHAPTER 24

ELEMENTARY MODELS OF INCOME AND EMPLOYMENT

Yakubu, A.T and Alabi M. K.

Department of Economics
University of Ilorin, Nigeria.

INTRODUCTION

In this chapter, we discuss how the national income of an economy is determined and what causes fluctuations in the level of the economies national income and employment. The credit for expounding a theory of income and employment goes to John Maynard Keynes, a British economist (1884-1946). In 1936, he published his epoch-making book titled "The General Theory of Employment, Interest and Money and set out his new theory in it. Prior to this, the earlier economists, known as the Classical economists, believed that normally there was full employment in the economy and, therefore, the level of national income normally corresponded to the level of full employment. It is important to note that when we talk of full employment, it is not limited to labour but the total utilization of all factors of production and resources.

It was the Great Depression of the early nineteen thirties that changed everything. There was widespread and acute unemployment and a sharp fall in national incomes throughout the world. Obviously, there was something seriously wrong with the full employment belief of the Classical economists. Keynes not only proved that they were wrong but also formulated a comprehensive theory to explain how the level of income and employment in an economy is determined. He also indicated the economic policies to be adopted in order to attain and maintain full employment and thus to raise the level of national income. Keynes thus gave a new perspective in Economics known as the Keynesian Revolution. The ideologies of both Keynes and the Classical Economists gave birth to the theories of income and employment.

Two important theories of Income and Employment are:

1. Classical Theory of Income and Employment
2. Keynesian Theory of Income and Employment

1. Classical Theory of Income and Employment: The theory is ascribed to the early Classical economists like Adam Smith, David Ricardo, and Thomas Malthus and also to the neo-classicals like Alfred Marshall, A.C.Pigou and Lionnel Robbins. *They believe that:*

- (a) An economy, as a whole, always functions at the level of full employment: Full employment level of output of goods and services is the largest output that the economy is capable of producing when all its resources are fully employed. Full employment is regarded as a normal situation, yet there could be a temporary unemployment. If at all there is unemployment, it must be a temporary one and it will be cured automatically through the free play of economic forces of demand and supply, otherwise known as the "invisible hand" or the "Self-adjusting mechanism". The Classics believe that aggregate supply would always be equal to aggregate demand at full employment level.

- (b) **Supply creates its own demand:** The Classical theory of employment is based on 'Say's Law of market' postulated by J.B Say in which he states that 'supply creates its demand'. This implies that supply creates a matching demand for it with the result that the whole of output is sold out. So, there is no deficiency in aggregate demand and hence no possibility of over-production and unemployment. Thus, equilibrium level of income and employment is established only at the level of full employment.
- (c) **Flexible system of prices, interest rates and wages:** It is strongly believed that prices, interest rates and wage rates can either rise or fall and this also affects the corresponding demand and supply.
- (i) Price mechanism automatically brings equilibrium between demand and supply in the market,
- (ii) Flexibility of interest rates brings about equality between savings and investment,
- (iii) Flexibility of wage rates brings about full employment equilibrium. As a result, the aggregate supply is always equal to aggregate demand at full employment level of output.
- (d) **Laissez faire Policy:** The Classics believed in a laissez faire policy meaning very little or no government intervention in managing the economy.
- (e) **Level of Savings is equal to Investment and it is a function of interest rate:** The belief of the Classical Economists is that the level of savings is determined by the interest rate. Also the level of investments is determined by the interest rate. At the equilibrium interest rate, savings would be equal to investment.
- (f) **The demand for money is for Transactionary and Precautionary motives only:** People demand for money for various reasons. It could be for transactions or for precautionary motives. This is made possible by the medium of exchange function which money performs.

2. Keynesian Theory of Income and Employment: John Maynard Keynes criticized the Classical theory stating that the assumptions on which the theory is based are wrong and impractical. *For example,*

- (i) In the real world situation, an economy often does not function at the level of full employment; rather it generally functions at less than full employment level,
- (ii) Supply cannot create its equivalent demand on its own and, therefore, there is every possibility of general over-production and unemployment,
- (iii) Similarly, prices, wages and interest rates may not be flexible due to presence of monopolies and trade unions.

The Great Depression of 1929-33 fully shattered the Classical myth of full employment. It was at such a crucial time that Keynes developed his alternative theory of income and employment. John Keynes propounded his own theory and in 1936, brought out his famous book "General Theory of Income, Interest and Money" which brought about a revolution in economic thought. This led to the emergence of Macroeconomics as a separate branch of economics. Keynes's theory of income and employment is based on the Principle of Effective Demand. However, in order to be able to understand this principle, it is necessary first to know the concepts of Aggregate Demand, Aggregate Supply and Equilibrium level of income and employment.

Aggregate Demand: Aggregate demand (AD) refers to the total demand for final goods and services in the economy. Since aggregate demand is measured by total expenditure of the community on goods and services, therefore, aggregate demand is also defined as 'total amount of money which all sectors (households, firms, government) of the economy are ready to spend on the purchase of goods and services.'

Aggregate Supply: Aggregate supply is the money value of total output available in the economy for purchase during a given period. When expressed in physical terms, aggregate supply refers to the total production of goods and services in an economy.

Equilibrium level of Income and Employment:- The economy is in equilibrium at that level of employment at which the aggregate demand curve intersects the aggregate supply curve or at which aggregate demand in the economy is equal to aggregate supply. That aggregate demand at which the economy is in equilibrium is called *Effective Demand*.

The salient points of his theory are:

- (i) An economy can be in equilibrium even at less than full employment level: An Economic system does not ensure automatic equality between 'aggregate demand' (AD) and 'aggregate supply (AS) at full employment' as believed by Classical. He proved that an economy could be in equilibrium even at less than full employment level. This is the basic difference between Classical Theory and Keynesian Theory.
- (ii) **Demand creates its own supply:** Aggregate demand for goods and services directly determines the level of output, income and employment. If AD increases, more resources (land, labour, capital) will be put to use or employed, and this would lead to an increase in the level of output and an increase in income too. Thus, demand creates its own supply.
- (iii) **Equilibrium level of income and employment is determined by aggregate demand and aggregate supply:** Equilibrium level of income and employment is determined by the equality of AD and AS but this does not mean it is happening at a level of full employment. The equilibrium level of income may be below or above the level of full employment. In reality, an economy operates very often at less than full employment equilibrium. Since in the short run, aggregate supply does not change, it therefore means that, changes in aggregate demand brings about changes in income and employment. The Equilibrium will be one of under-employment equilibrium because when income increases, consumption also increases but by less than the increase in income.
- (iv) Government intervention is required to manage the economy effectively because the market forces can't do it alone. This is where fiscal policy comes in.
- (v) Savings is equal to Investments and it's a function of Income, interest rate and Marginal Efficiency of Capital
- (vi) The demand for money has 3 motives namely:
 - **Transactionary Motive** – This connotes the fact money has a medium of exchange function where it is used to make regular payments for goods and services. It relates to the need of cash for the current transactions of personal and business exchange.
 - * **Precautionary Motive:** This is the desire to set aside some money for

contingencies requiring unexpected expenditure and for unforeseen opportunities

* **Speculative Motive:** This is the money demanded after keeping enough for transactions and precautionary purposes. This can be invested on bonds or financial assets in order to make profit.

The core issue of macroeconomics is the determination of the level of income, employment and output. According to this theory, in any economy, Income and Employment are in equilibrium at that level at which Aggregate Demand = Aggregate Supply.

The Keynesian theory is supposed to apply in the short run and under perfect competition. Thus, in the Keynesian framework, this determination depends mainly on the level of aggregate demand because during the short run, aggregate supply is constant with respect to given price.

Equilibrium level of Employment and Income using the Savings – Investment Equality

The equilibrium level of employment and income can also be established using the equality of savings and investment.

$$S = I$$

Proof

Savings is a function of income

$$S = f(Y)$$

Whatever is not consumed is saved

$$S = Y - C$$

And

$$Y = C + I$$

$$Y - C = I$$

And

$$Y - C = S$$

Therefore

$$S = I$$

Aggregate Demand: it's Meaning and Components

Aggregate Demand:

- (a) **Meaning:** Aggregate demand (AD) refers to the total demand for final goods and services in the economy. Since aggregate demand is measured by total expenditure of the community on goods and services, therefore, aggregate demand is also defined as 'total amount of money which all sectors (households, firms, government) of the economy are ready to spend on purchase of goods and services.'

Alternatively, it is the total expenditure which the community intends to incur on purchase of goods and services. Thus, aggregate demand is synonymous with aggregate expenditure in the economy. If the total intended (that is, ex-ante) expenditure on buying all the output is larger than before, this shows a higher aggregate demand.

On the contrary, if the community decides to spend less on the available output, it shows a fall in the aggregate demand. Simply put, aggregate demand is the total expenditure on consumption and investment. It should be noted that the determination of output and employment in the Keynesian framework depends mainly on the level of aggregate demand in the short term.

(b) Components of AD:

Thus, the main components of aggregate demand (aggregate expenditure) in a four sector economy are:

1. Household (or private) consumption demand. (C)
2. Private investment demand.(I)
3. Government demand for goods and services. (G)
4. Net export demand.(X-M)

Thus $AD = C + I + G + (X - M)$

Here, all the variables above represent planned (ex-ante) and not actual (ex-post). We discuss below each of the above components:

1. Household (or Private) Consumption Demand (C):

It is defined as the 'Value of goods and services that households are able and willing to buy.' Alternatively, it refers to ex-ante (planned) consumption expenditure to be incurred by all households on purchase of goods and services. For instance, households' demand for food, clothing, housing, books, furniture, cycles, radios, TV sets, educational and medical services will be called household consumption demand.

Consumption (C) is a function (f) of disposable income (Y^d), that is,
 $C = f(Y^d)$

As disposable income increases, consumption expenditure also increases but by how much? It depends upon the propensity to consume. The relationship between income and consumption is called consumption function. A consumption function is represented by the equation.

$$C = a + bY^d$$

Where "a" represents the amount spent on consumption which is not dependent on income.
"b" represents the marginal propensity to consume, that is, it measures or tells us by how much consumption will change due to a change in income. ($0 < b < 1$)
 Y^d represents disposable income that is, income left after deducting direct tax

For example, the 2 monthly consumption functions below represent that of Ada and Ngozi respectively. $C = 3000 + 0.9Y$ $C = 3000 + 0.2Y$

From the consumption functions, we can say that both Ada and Ngozi will spend ₦3000 on consumption demand irrespective of the level of their income. This is known as autonomous consumption and it does not depend on the individual's income.

However, when they both earn income of about ₦10,000 each, Ada will spend a higher portion of her income on consumption because she has a higher propensity to consume of 0.9 (precisely ₦9,000) while Ngozi will spend a lower portion of hers because she has a lower propensity to consume (precisely ₦2,000).

$$C = 3000 + 0.9Y$$
$$C = 3000 + 0.2Y$$

When $Y = 10,000$

$$C = 3000 + 0.9Y$$

$$C = 3000 + 0.2Y$$

$$C = 3000 + 0.9(10,000)$$

$$C = 3000 + 0.2(10,000)$$

$$C = 3000 + 9000$$

$$C = 3000 + 2000$$

$$C = \text{₦}12,000$$

$$C = \text{₦}5000$$

Total consumption for Ada is ₦12,000 and for Ngozi it is ₦5000

2. Private Investment Demand (I):

This refers to planned (ex-ante) expenditure on creation of new capital assets like machines, buildings and raw materials by private entrepreneurs. Investment in Keynesian sense does not imply purchase of existing shares or securities but means expenditure on creation of new capital assets such as plants and equipment, inventories, construction works, and so on, that help in production. Investment is made not only to maintain present level of production, but also to increase production capacity in future.

An economy grows through investment. The relationship between investment demand and rate of interest is called investment demand function. There is an inverse relationship between the rate of interest and the level of investment demand. The higher the rate of interest, the lower will be the level of Investment demand. Investment is of two types—Autonomous and Induced but all private investment expenditure is assumed as induced investment.

Below is an example of an Investment Demand function
 $I = f(r, MEI)$

Where:

r represents Interest rate

MEI represents Marginal Efficiency of Investment

What determines investment in the private enterprise economy? Just as household consumption demand depends on disposable income of households, investment demand in a private enterprise economy depends mainly on two factors, namely, MEI (Marginal Efficiency of Investment, that is, the net return expected from a new unit of investment) and Rate of Interest.

In other words, the investors judge whether the expected rate of return on new investment is equal to or greater than or less than the market rate of interest. Suppose a businessman wants to make an investment by taking a loan. He has to pay interest on the loan. Before making the investment, he would compare the interest he has to pay on the loan and the profit he is expected to make on the investment.

3. Government Demand for Goods and Services (G):

It refers to government planned (ex-ante) expenditure on purchase of consumer and capital goods to fulfill common needs of the society. The level of government expenditure is determined by government policy. Today, most nations are welfare states and government participation in economic welfare of the people has increased manifold.

Government demand may be for satisfying public needs for roads, schools, hospitals, water works, railway transport or for infrastructure (like roads, bridges, airports), maintenance of law and order and defense from external aggression. It needs to be noted that Private investments in the private sector is made with profit motive and, therefore, called induced investment but government expenditure is guided by people's welfare motive and, therefore, called autonomous government expenditure.

4. Net Exports (Exports-Imports) Demand:

Net export is the difference between export of goods and services and import of goods and services during a given period. Net exports reflect the demand of foreign countries for our goods and services over our demand for foreign countries' goods and services. Thus, net exports show expected (ex-ante) net foreign demand. This strengthens the income, output and employment process of our economy. On the contrary, imports from abroad drive out the earnings of the economy and, therefore, they do not encourage domestic output and employment. There are many factors which influence the volume of net foreign demand such as foreign exchange rates, terms of trade, trade policy of the importing and exporting countries, relative prices of goods, incomes of the nations, balance of payment position, types of exchange control and so on.

Aggregate demand is the sum of the above- mentioned four types of demand (expenditure),

$$\text{that is, } AD = C + I + G + (X - M).$$

Since determination of income (output) and employment is to be studied in the context of a two sector (Household and Firm) economy we shall, therefore, include in the aggregate demand (AD) only two broad components of demand such as consumption demand (C) and investment demand (I). Put in symbols:

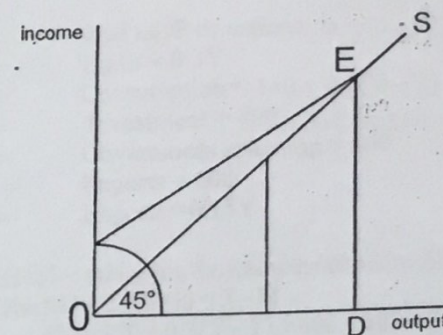
$$AD = C + I$$

The following are noteworthy points of the Expenditure-Output model below:

- (i) AD curve has a positive slope which means when income increases, AD (Expenditure) also increases.
- (ii) AD curve does not originate at point O which shows that even at zero level of income, some minimum level of consumption is essential.
- (iii) The 45° line is AS
- (iv) The economy is at equilibrium at point E where the $AD = C + I$ intersects the $AS = C + S$ that is, the 45° line.
- (v) Y^c is the level of under-employment equilibrium and not full employment. This is the normal situation according to Keynes. The vertical line labeled potential Y (GDP) in the model shows the level of output that would be produced only at full employment when all factors are fully employed. All points to the right of E shows that $AS > AD$, leading to excess supply and all points to the left of E shows that $AD > AS$, leading to excess demand. Both cases are not sustainable.

It is only at the equilibrium point E where $AS = AD$ that is sustainable.
Potential Y or AS

$$\text{Aggregate Demand (AD) } Y \\ AD = C + I$$



Y^c Income/Output/GDP
Figure 1: Expenditure-Output Model

Aggregate Supply and its Component

Aggregate supply is the money value of total output available in the economy for purchase during a given period. When expressed in physical terms, aggregate supply refers to the total production of goods and services in an economy. It is assumed that in the short run, prices of goods do not change and elasticity of supply is infinite. At the given price level, output can be increased till all resources are fully employed. If we go further, we will find that aggregate supply is represented by national income. This is because the money value of final output is distributed as rent, wages, interest and profit among factors of production which help to produce the output. From the producers' point of view, it is the cost of producing goods and services which they must recover from sale of output; otherwise, they will not produce the output. Since the sum of factor incomes (rent, wages, interest and profit) at national level is called national income, aggregate supply (AS), output and national income are, therefore, the same.

Alternatively, $AS = Y$ where Y is national income.

Thus, income or total output measures the aggregate supply of goods and services.

$$\text{Aggregate Supply} = \text{Output} = \text{Income}$$

Components: Main components of aggregate supply are two, namely, consumption and saving. A major portion of income is spent on consumption of goods and services and the balance is saved. Thus, national income (Y) or aggregate supply (AS) is the sum of consumption expenditure (C) and savings (S).

Put in the form of an equation:

$$AS = C + S,$$

$$\text{That is, } Y = C + S$$

Aggregate supply or national income is shown on X-axis and Aggregate Demand or Expenditure on Y-axis. The AS curve is artificially represented by a 45° line from the origin. This is because every point on this line is equidistant from X-axis and Y-axis taking same scale on both the axes, that is, each point on this line indicates Expenditure (AD) = Income (AS).

Thus the 45° line helps us to identify equilibrium when two variables are to be shown graphically equal. That is why AS curve is represented by a 45° line so that when AD curve intersects it, AD becomes equal to AS.

Thus, every point on 45° line represents AD = AS (that is, equilibrium). Again, the 45° line implies that the sum of consumption and saving (C + S) is always equal to the level of income (Y). Another point to note is that since technology is assumed to be constant during the short period, output (or aggregate supply) can be increased only by employing more resources, mainly labour. Thus, aggregate supply increases in direct proportion to increase in employment.

Calculating Equilibrium National Income

In a simple Keynesian macroeconomic model with no government sector and no foreign trade, it is assumed that

$$AD = C + I \dots\dots\dots(1)$$

$$C = a + bY \dots\dots\dots(2)$$

$$AS = Y \dots\dots\dots(3)$$

Where AD is aggregate demand, AS is aggregate supply, C is consumption and I is investment, exogenously fixed, and a and b are parameters.

To calculate the equilibrium national income, we equate AD to AS

$$AD = AS$$

$$C + I = Y$$

$$Y = C + I \dots\dots\dots(4)$$

Substituting (2) into (4) we get

$$Y = a + bY + I$$

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

$$Y = (a + I) / (1 - b)$$

So the equilibrium national income is $Y = (a + I) / (1 - b)$

The marginal propensity to consume (MPC) is the rate of change of consumption as national income increases, which is equal to $dC/dY = b$

Numerical Example 1:

In a basic Keynesian macroeconomic model it is assumed that $Y = C + I$ where $I = 820$ and $C = 60 + 0.8Y$. Calculate the equilibrium income.

Solution:

$$Y = C + I \quad C = 60 + 0.8Y \text{ and } I = 820$$

$$Y = 60 + 0.8Y + 820$$

$$Y(1 - 0.8) = 60 + 820$$

$$Y = 880 / 0.2$$

$$Y = \text{₹}4,400$$

Numerical Example 2:

Given an economy with the following characteristics, find the equilibrium national income.

Y	=	Real GDP or national income
T	=	Taxes = 0.3Y
C	=	Consumption = $140 + 0.9(Y - T)$
I	=	Investment = 400
G	=	Government spending = 800
X	=	Exports = 600
M	=	Imports = 0.15Y

Solution: We could solve this using the knowledge of our AD and AS

$$The AD = C + I + G + X - M$$

$$AD = 140 + 0.9(Y - T) + 400 + 800 + 600 - 0.15Y$$

The $AS = Y$ and so at equilibrium, $AS = AD$. Whatever income we arrive at is the equilibrium national income. $Y = 140 + 0.9(Y - T) + 400 + 800 + 600 - 0.15Y$

Insert the term 0.3Y for the tax rate T.

$$Y = 140 + 0.9(Y - 0.3Y) + 400 + 800 + 600 - 0.15Y$$

$$Y = 140 + 0.9Y - 0.27Y + 1800 - 0.15Y$$

$$Y = 1940 + 0.48Y$$

$$Y - 0.48Y = 1940$$

$$0.52Y = 1940$$

$$0.52Y / 0.52 = 1940 / 0.52$$

$$Y = 3730 \quad \text{Equilibrium national income is ₹3,730}$$

CONCLUSION

This chapter introduced us to the elementary models of income and employment determination developed by the Classical and Keynesian Economists. While the former emphasized the presence of full employment equilibrium in the economy at all times, the latter criticized this view and stated that an economy does not function at full employment, rather what we have is less than full employment equilibrium. The Classical Economists strongly believed in the self-adjusting mechanism of the economy but Keynes advocated government intervention to stabilize the economy. So, while it is good to allow the market forces to operate freely in determining the level of output and employment, these forces of demand and supply cannot do it alone; hence the need for government to intervene where necessary.

REFERENCES

- DOMINIC, S. And Eugene, D. (2003), *Principles of Economics*, New York: MacGraw Hill.
- Dwivedi, D.N. (2018), *Macroeconomics*, New Delhi: Tata McGraw Hill Publications
- Keynes, J. M. (1936). *The General Theory of Employment, Interest and Money*. London: Palgrave Macmillan.
- Mankiw N.G. (2010), *Macroeconomics*, New York: Worth Publishers.
- Mankiw N.G. (2011), *Principles of Economics*, Kentucky: South Western Cengage Learning.
- OpenStax College. (2015). *Principles of Macroeconomics for AP®*

Courses Retrieved from <http://cnx.org/content/col11864/latest>
Rosser, M. (2003), *Basic Mathematics for Economists*, London: Routledge.
Smith, Adam (1776). *An Inquiry into the Nature and Causes of the Wealth of Nations*, Chicago: University of Chicago Press.

Multiple Choice Questions

1. In a two-sector economy, when consumption is $N 40 + 0.9Y$ and investment is $N 50$, equilibrium output is
 - a. $N 90$
 - b. $N 400$
 - c. $N 500$
 - d. $N 900$
2. Suppose the marginal propensity to save (MPS) in a three sector model is 0.4, what is the value of the multiplier?
 - a. 2.7
 - b. 3.7
 - c. 2.5
 - d. 3.4
 - e. 5.1
3. Which of the following is a key feature of the Keynesian economics?
 - a. The level of saving depends mostly on interest rates
 - b. The level of government expenditure depends on interest rates
 - c. Supply creates its own demand
 - d. Macroeconomic equilibrium can occur at less than full employment
4. In classical economic analysis, money is a temporary abode of purchasing power which indicates that:
 - a. money performs both speculative and transaction functions
 - b. money performs both precautionary and transaction functions
 - c. money performs speculative, transaction and precautionary functions
 - d. money performs only speculative function
 - e. money performs only transaction function
5. The MPC has a value -----
 - a. greater than 0 but less than 1
 - b. less than 0 but less than 2
 - c. less than 0 but more than 1
 - d. greater than 0
5. In an economy at full employment, a presidential candidate proposes cutting the government debt by half in four years by increasing income tax rates and reducing government expenditures. According to Keynesian theory, the effect of these policies is most likely to be an increase in -----
 - a. consumer prices
 - b. aggregate demand
 - c. unemployment
 - d. the rate of economic growth
7. Which of the following is a basic tenet of classical economic analysis?
 - a. Saving is usually greater than investment
 - b. The economy may be in equilibrium at less than full employment
 - c. The economy is self-correcting to full employment
 - d. Inflation is not a serious economic problem