NATIONAL OPEN UNIVERSITY OF NIGERIA

MACROECONOMIC THEORY II

ECO 342

SCHOOL OF ARTS AND SOCIAL SCIENCES

COURSE GUIDE

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CONTENT

Introduction

The course, Macroeconomics Theory II (ECO 342) is a second semester core course which carries three credit units for third year level economics students in the School of Art and Social Sciences at the National Open University, Nigeria. This coursework will be useful in your academic pursuit and help to gain in-depth insight in Macroeconomic theory and Practice.

This course guide is built on prerequisite knowledge (i.e some fundamental bedrock that is expected to have been learnt in the previous levels vis-à-vis ECO 301), however, its simplicity will make the student assimilate faster and practice question at the end of each unit will also prepare the student for the examination purposes. It suggests some general guidelines for the amount of time required of users on each unit in order to achieve the course aims and objectives successfully. It also provides users with some guidance on your tutor marked assignments (TMAs) as contained herein.

Course Content

The course is made up of twenty-one units (seven modules) spread across twenty-one lectures hours and covering areas such as National income (accounting and determination) , Aggregate Saving, and Aggregate Consumption Expenditure, Investment and employment, Money Supply, Inflation and Unemployment, Balance of payments Theory .

Course Aims and Objectives

The course attempt to explain the determinants of the magnitude of these aggregates and their rate of change over time. It also aims to give users an in-depth understanding of the Macroeconomic theory and practice, and equally prepare the students with policy mix with which macroeconomic disequilibrium could be tackled. Also, the course is prepared in a way in which the users would easily enhance their previous knowledge of Eco 301. Also, the course aims to help users develop critical thinking skills, learn how to evaluate economic arguments, and understand the roles of Macroeconomic thought in guiding current economic policies and debates.

However, the overall aims of the course will be achieved by:

i. Explaining what macroeconomic entails

ii. Establishing distinction between aggregate saving, consumption and investment

iii. Understanding clearly the concept national income accounting and determination.

iv. Discussing national income models with special reference to classical and Keynesian models.

v. Explaining the theory ot international trade and balance of payment equilibrium

vi. Discussing the theories of money demand and supply'

vii. Exploring inflation and unemployment and relationship

Working Through The Course

To successfully complete this course, you are required to read the study units, referenced books and other materials on the course.

Each unit contains self-assessment exercises called Student Assessment Exercises (SAE). At some points in the course, you will be required to submit assignments for assessment purposes. At the end of the course there is a final examination. This course should take about 15weeks to complete and some components of the course are outlined under the course material subsection.

Course Material

The major component of the course and what you have to do and how you should allocate your time to each unit in order to complete the course successfully on time are listed follows:

1. Course guide
2. Study unit
3. Textbook
4. Assignment file
5. Presentation schedule

Study Unit

There are 18 units in this course which should be studied carefully and diligently.

Module 1

Unit 1 National Income Models
Unit 2 Determinant of Equilibrium National Income
Unit 3 National Income Accounting
Unit 4 The circular flow, Uses and Problems of National Income

Module 2

Unit 1: The concept of Money Demand and Supply
Unit 2: Some selected theories of Demand for Money
Unit 3: Central Bank and Money supply

Module 3

Unit 1: Concept of Unemployment
Unit 2: Causes and Effects of Unemployment
Unit 3: Unemployment in Nigeria

Module 4
Unit 1: Inflation and price level
Unit 2: Inflation and Deflation
Unit 3: Inflation and Unemployment

Module 5
Unit 1: International Trade
Unit 2: Balance of Payment and Balance of Trade
Unit 3: Equilibrium Balance of Payment

Module 6
Unit 1: Concepts of foreign exchange rate
Unit 2: Theories of foreign exchange rate
Unit 3: Exchange Rate system

References and Other Resources

Every unit contains a list of references and further reading. Try to get as many as possible of those textbooks and materials listed. The textbooks and materials are meant to deepen your knowledge of the course.

Assignment File

There are assignments on this course and you are expected to do all of them by following the schedule prescribed for them in terms of when to attempt them and submit same for grading by your tutor. The marks you obtain for these assignments will count toward the final mark you obtain for this course. Further information on assignments will be found in the Assignment File itself and later in this Course Guide in the section on Assessment.

There are four assignments in this course. The four course assignments will cover:
Assignment 1 - All TMAs' question in Units 1 – 4 (Module 1)
Assignment 2 - All TMAs' question in Units 1 – 3 of Module 2
Assignment 3 - All TMAs' question in Units 1 – 3 of both Module 3 and 4
Assignment 4 - All TMAs' question in Units 1 – 3 of Module 5 and 6

Presentation Schedule

The presentation schedule included in your course materials gives you the important dates for this year for the completion of tutor-marking assignments and attending tutorials. Remember, you are required to submit all your assignments by due date. You should guide against falling behind the schedule.

Assessment

There are two types of assessment of the course. First are the tutor-marked assignments; second, there is a written examination.

In attempting the assignments, you are expected to apply information, knowledge and techniques gathered during the course. The assignments must be submitted to your tutor for formal Assessment in accordance with the deadlines stated in the Presentation Schedule and the Assignments File. The work you submit to your tutor for assessment will count for 30 % of your total course mark.

At the end of the course, you will need to sit for a final written examination of three hours' duration. This examination will also count for 70% of your total course mark.

Tutor-Marked Assignments (TMAs)
There are four tutor-marked assignments in this course. You will submit all the assignments. You are enjoined to work all the questions thoroughly. The TMAs constitute 30% of the total score.

Assignment questions for the units in this course are contained in the Assignment File. You will be able to complete your assignments from the information and materials contained in your text books, reading and study units. However, it is desirable that you demonstrate that you have read and researched more widely than the required minimum. You should use other references to have a broad viewpoint of the subject and also to give you a deeper understanding of the subject.

When you have completed each assignment, send it, together with a TMA form, to your tutor. Make sure that each assignment reaches your tutor on or before the deadline given in the Presentation File. If for any reason, you cannot complete your work on time, contact your tutor before the assignment is due to discuss the possibility of an extension. Extensions will not be granted after the due date unless there are exceptional circumstances.

Final Examination and Grading
The final examination will be of three hours' duration and have a value of 70% of the total course grade. The examination will consist of questions which reflect the types of self-assessment practice exercises and tutor-marked problems you have previously encountered. All areas of the course will be assessed
Use the time between finishing the last unit and sitting for the examination to revise the entire course material. You might find it useful to review your self-assessment exercises, tutor-marked assignments and comments on them before the examination. The final examination covers information from all parts of the course.

Course Marking Scheme
The table presented below indicate the total marks (100%) allocation.

Assessment	**Marks**
Assignment (Best three assignment out of the four marked)	30%
Final Examination	70%

Total **100%**

How to Get the Most from This Course

In distance learning the study units replace the university lecturer. This is one of the great advantages of distance learning; you can read and work through specially designed study materials at your own pace and at a time and place that suit you best.

Think of it as reading the lecture instead of listening to a lecturer. In the same way that a lecturer might set you some reading to do, the study units tell you when to read your books or other material, and when to embark on discussion with your colleagues. Just as a lecturer might give you an in-class exercise, your study units provides exercises for you to do at appropriate points.

Each of the study units follows a common format. The first item is an introduction to the subject matter of the unit and how a particular unit is integrated with the other units and the course as a whole. Next is a set of learning objectives. These objectives let you know what you should be able to do by the time you have completed the unit.

You should use these objectives to guide your study. When you have finished the unit you must go back and check whether you have achieved the objectives. If you make a habit of doing this you will significantly improve your chances of passing the course and getting the best grade.

The main body of the unit guides you through the required reading from other sources. This will usually be either from your set books or from a readings section. Some units require you to undertake practical overview of historical events. You will be directed when you need to embark on discussion and guided through the tasks you must do.

The purpose of the practical overview of some certain historical economic issues are in twofold. First, it will enhance your understanding of the material in the unit. Second, it will give you practical experience and skills to evaluate economic arguments, and understand the roles of history in guiding current economic policies and debates outside your studies. In any event, most of the critical thinking skills you will develop during studying are applicable in normal working practice, so it is important that you encounter them during your studies.

Self-assessments are interspersed throughout the units, and answers are given at the ends of the units. Working through these tests will help you to achieve the objectives of the unit and prepare you for the assignments and the examination. You should do each self-assessment exercises as you come to it in the study unit. Also, ensure to master some major historical dates and events during the course of studying the material.

The following is a practical strategy for working through the course. If you run into any trouble, consult your tutor. Remember that your tutor's job is to help you. When you need help, don't hesitate to call and ask your tutor to provide it.

Read this Course Guide thoroughly.

- Organize a study schedule. Refer to the `Course overview' for more details. Note the time you are expected to spend on each unit and how the assignments relate to the units. Important information, e.g. details of your tutorials, and the date of the first day of the semester is available from study centre. You need to gather together all this information in one place, such as your dairy or a wall calendar. Whatever method you choose to use, you should decide on and write in your own dates for working breach unit.
- Once you have created your own study schedule, do everything you can to stick to it. The major reason that students fail is that they get behind with their course work. If you get into difficulties with your schedule, please let your tutor know before it is too late for help.
- Turn to Unit 1 and read the introduction and the objectives for the unit.
- Assemble the study materials. Information about what you need for a unit is given in the `Overview' at the beginning of each unit. You will also need both the study unit you are working on and one of your text books on your desk at the same time.
- Work through the unit. The content of the unit itself has been arranged to provide a sequence for you to follow. As you work through the unit you will be instructed to read sections from your text books or other articles. Use the unit to guide your reading.
- Up-to-date course information will be continuously delivered to you at the study centre.
- Work before the relevant due date (about 4 weeks before due dates), get the Assignment File for the next required assignment. Keep in mind that you will learn a lot by doing the assignments carefully. They have been designed to help you meet the objectives of the course and, therefore, will help you pass the exam. Submit all assignments no later than the due date.
- Review the objectives for each study unit to confirm that you have achieved them. If you feel unsure about any of the objectives, review the study material or consult your tutor.
- When you are confident that you have achieved a unit's objectives, you can then start on the next unit. Proceed unit by unit through the course and try to pace your study so that you keep yourself on schedule.
- When you have submitted an assignment to your tutor for marking do not wait for it return `before starting on the next units. Keep to your schedule. When the assignment is returned, pay particular attention to your tutor's comments, both on the tutor-marked assignment form and also written on the assignment. Consult your tutor as soon as possible if you have any questions or problems.
- After completing the last unit, review the course and prepare yourself for the final examination. Check that you have achieved the unit objectives (listed at the beginning of each unit) and the course objectives (listed in this Course Guide).

Tutors and Tutorials

There are some hours of tutorials (2-hours sessions) provided in support of this course. You will be notified of the dates, times and location of these tutorials. Together with the name and phone number of your tutor, as soon as you are allocated a tutorial group.

Your tutor will mark and comment on your assignments, keep a close watch on your progress and on any difficulties you might encounter, and provide assistance to you during the course. You must mail your tutor-marked assignments to your tutor well before the due date (at least two working days are required). They will be marked by your tutor and returned to you as soon as possible.

Do not hesitate to contact your tutor by telephone, e-mail, or discussion board if you need help. The following might be circumstances in which you would find help necessary. Contact your tutor if.

• You do not understand any part of the study units or the assigned readings
• You have difficulty with the self-assessment exercises
• You have a question or problem with an assignment, with your tutor's comments on an assignment or with the grading of an assignment.

You should try your best to attend the tutorials. This is the only chance to have face to face contact with your tutor and to ask questions which are answered instantly. You can raise any problem encountered in the course of your study. To gain the maximum benefit from course tutorials, prepare a question list before attending them. You will learn a lot from participating in discussions actively.

Summary

This course, Macroeconomic theory II (ECO 342), exposes the users to macroeconomics rudiments such as National income models and accounting, concepts of aggregate saving, consumption and investment, as well as theories of inflation and unemployment, the demand for and supply of money . it equally explain the theory of international trade and issues closely related to it such as balance of trade and payment, disequilibrium in balance of pay and the solution to these problems.

On successful completion of this course, you would have developed crucial thinking skills with the material necessary for efficient and effective discussion of economic issues and events both theoretically and practically. However, to gain a lot from the course please try to apply anything you learn in the course to term papers writing in other economic development courses. We wish you success with the course and hope that you will find it both interestingly intuitive and courteously functional.

MODULE ONE

Unit 1 National Income Models
Unit 2 Determinant of Equilibrium National Income
Unit 3 National Income Accounting
Unit 4 The circular flow, Uses and Problems of National Income

UNIT 1: NATIONAL INCOME MODEL

CONTENTS

1.0 Introduction

This unit is to discuss the meaning of national income because national income is an uncertain term which is used interchangeably with national dividend, national output and national expenditure. Also the different model of national income as discussed by different economist will be looked into.

Also this unit introduced the students to aggregate component of National Income such as aggregate savings, aggregate consumption and aggregate investment expenditure. The analysis of these components will give students (users) a clearer understanding of each of the elements (identities) that made up the National Income.

Also, interrelationship that exist among all the aggregate variables will be discussed graphically and numerically to ascertain facts about the relationship among macroeconomic variables.

2.0 Objective

At the end of this unit you should be able to

- Define and know the meaning of National Income
- Understand the different Models of National Income
- Understand the meaning and component of aggregate consumption expenditure.
- Understand the meaning and component of aggregate investment expenditure
- Understand the meaning and component of aggregate savings
- Explain the interrelationship among the stated macroeconomic variables.

3.0 Main Content

3.1 Definition of National Income

The study of National income in Macroeconomics is the measurement of aggregate outcomes of economic activities in a particular period of time usually a year. In a .consumption, and investment arranged in such a manner as to emphasise the distinction between the people concerned with the production of goods and services on one hand and the consumption of commodities on the other hand.

National income account can therefore be defined as the record of all economic activities in a country during a particular period usually a year. It can also be defined as the summation of all market values of all goods and services produced in a nation all through a year.

Self Assessment exercise: What is the meaning of National income?

3.2 Model Classified

National income models can be classified into two, namely classical model and Keynesian model. The **classical** model was the first national income model dated back in seventeenth century, the model was anchored on the fact that what determined aggregate expenditure or aggregate production was household expenditure and private sector investment expenditure which is represented algebraically as $Y = C + I$ meaning that, level of aggregate income/expenditure/production is determined by household and firm and that the government sector has little or nothing to do with businesses, this is also known in literature as two sector model. This economic thought was in vogue until 1930s when there was a global recession, that is, deficiency in demand due to low level of income whose result hampered productivity, then this problem led to another line of thinking headed by John Maynard Keynes, who then was a student of the classical school.

The **Keynesian** school of thought argued that all sector of the economy should participatein economic activities, that the problem could only be solve if the government sector participates in the economic activities, he said government should employ and pay people and that the unemployment and underemployment level will ease off and money would be in circulation to buy goods and services and also when problem of this nature arises it could only be solved through government fiscal and monetary policies, he therefore estimated the national income model being a linear summation of the three major sector of the economy, namely household sector, business firm and the government sector, which could be represented algebraically as

Y = C + I + G. This also classified as three sector model

Self Assessment exercise: Explain what led to advent of Keynesian revolution**.**

3.3 The National Income Models

Classical Economics is the school of economics thought headed by Adam Smith in1776. This school believed that individual self-interest and competition determine prices and factor rewards. They argued that the price system is the most efficient devise for resources allocation. The classical macroeconomic theory is rooted on Say's Law of markets. According to Say's Law, supply creates its own demand as prices move to balance demand with aggregate supply. In effect the classicalist believed that supply (aggregate production) determines national income and full employment is assured (i.e Y= C + I), however, in the 1930s this way of thinking ran into problems because of the global economic depression which led to the Keynesian economics thought (revolution).

Keynesian Economics is the body of economics thought developed by John Maynard Keynes who held the view that a capitalist system did not automatically tends towards full employment equilibrium. Keynes believed that the resulting under employment equilibrium could be cured by fiscal or monetary policies to raise aggregate demand. According to Keynes aggregate production or national income is determined by aggregate expenditure i.e. total planned spending by all sectors of the economy (i.e. Y = C + I + G)

Self Assessment exercise: Differentiate between the Classical and Keynesian model of national income.

3.4 The concept of Aggregate Savings, Consumption and Investment

The concepts of aggregate savings, consumption and investments refers to the totality of savings (Gross National Savings), Consumptions (total household consumptions) and investments (both private and public investments) in any given economy, they constitutes the components of aggregate expenditures (when consider injection and withdrawal approaches) in a country. It is noteworthy that savings, taxes and import constitute

withdrawal while consumptions, investments and government spending constitute injection in the economy.

A) **Aggregate Saving**: -

In classical term savings is income less consumption that is Y – C = S……..1

Where Y = income; C = Consumption; and S = Saving. This mathematical statement is established from classical statement that income is either saved or consumed. That is,

Y = C + S ……2

However, aggregate saving is the total amount of money saved in deposit money banks in an economy for a given period of time. It consists of all kinds of saving in the banking system except those invested on financial assets.

B) **Aggregate Consumption: -** This is the sum of all household consumption expenditures in an economy. It consists of all expenditures or spending by households on final goods and services, it does not include all expenditures on intermediate or producer goods and services. Also, in classical terms, it is the total income less savings or (and) investments in an economy, as represented in the following equations;
Y – S = C……3
Y – I = C ……4
Equations (3) and (4) streams from classical assertion in 5 and 6 respectively that;
Y = C + S ……5
Y = C + I ……6
Equation 5 and 6 imply that income is either consumed or saved; and (or) income is either consumed or invested respectively.

C) **Aggregate Investments**:- Aggregate investment is the total investment expenditures in the economy, it consists of both private and public investment expenditures. Equation 6 can be rewritten as follows. Y – C = I ……7

There are three kinds of investment

i. Housing construction (residential and business).
ii. Purchase of machinery and
iii. Additions to a firm's inventory of goods. However, there are two main determinants.

- ***Anticipated Rate of Return:*** Businesses invest because of profit. This implies that investment spending is based on profit motive: the business sector buys capital goods iv when it anticipates such purchases to be profitable.
- ***The Real Interest Rate:*** Business firms at times borrow funds for investment. These borrowed funds are repaid out of future revenues. The annual opportunity

cost of using a cedi to make an investment is represented by the real interest rate. Thus, the higher the real of interest, the less will be the profits to the business after paying interest and the less it will want to invest and vice versa.

Self Assessment Exercise: What do you understand by aggregate consumption and Investment?

3.5 Establishment of Equilibrium between Aggregate Savings and Investment.

The classical Economists established equality between savings and investment at equilibrium level. The equation 5 and 6 above were used to explain the working of the economy and how savings and investment equates. However, it should be noted that the achievement of this equilibrium was built on some certain fundamental premises (the classical assumptions). The major focus of this assumption is that economy is self regulating or rather regulates by an invisible hands.

We restate equations 5 and 6 as follows;

$Y = C + S$ ……5
$Y = C + I$ ……6
Since $Y = C + S = C + I$ then
$C + S = C + I$ ……..7
Collect like terms to have;
$C – C = I – S$ ……8
$I – S = 0$……9
$I = S$ ……10 (by adding S to both sides of eqn 9)

Self Assessment exercise: Show that at equilibrium aggregate savings should equal aggregate investment.

3.6 Relationship between Savings, Consumption and Investment

Here, we will still make reference to the classical school assertion that aggregate income is either saved, consumed or invested, the main connector among savings, consumption and investment is the aggregate level of income. This is to say that at any point in time the investment level, savings level and the level of consumption expenditure is largely influenced by the magnitude and frequency at which real income is accumulated.

Self Assessment Exercise:

The level of income is a major determinant of the level of investment and savings in an economy. True or false. Expatiate

4.0 Conclusion

We conclude that the two models of National income are related and that Keynesian model is an extension of the classical model. We also explores concepts of saving, consumption and investment and establish relationship between the pair in relation to

income level and concludes that income could either be consumed or invested since saving is also equates investment at equilibrium.

5.0 Summary

We define national income concept in a concise manner and gave clear analysis of the two models in a close economy. The concepts of aggregate consumption expenditures, aggregate investment and aggregate saving are all components of economy aggregate expenditures, while savings belong to the withdrawal component, consumption and investment expenditure belong to the group of injection, however, at equilibrium both are expected to be equal. We, examined individually the three concepts mentioned above

6.0 Tutor-Marked Assignment

a) Examine the concept of National income

b) Differentiate between Classical and Keynesian model

c) Evaluate the relationship between the two closed economy models

d) Explain what is meant by aggregate investment expenditures.

e) Enumerate and explain all components of aggregate expenditure using withdrawal and injection approaches.

f) Given the following classical National Income identities Y= C+ I ; and Y = C + S

g) Show that investment and savings are equal at equilibrium and explain the meaning of this equilibrium to a lay man.

7.0 References/Further Readings

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UNIT 2: Determinant of Equilibrium National Income

CONTENTS

1.0 Introduction

The main focus of this unit is to discuss how national income is determine under the open economy that is the concepts of exports and imports is being introduced to the working of the economy because it is believe that for economic growth and development, every economy take part in exporting and importing of goods and services. Moreover, how aggregate demand is increase over time is also discuss here.

2.0 Objectives

The objectives of this unit are

- To understand how the national income equilibrium is determined in an open economy
- Understanding the concept of Multiplier and how it can be calculated when the economy is an open one.
- Understand the numerical analysis of determining national income equilibrium.

3.0 Main Content

3.1 National income determination in an open economy

An open economy consist of external sector which determine the level of economy dependency and foreign exchange conservation and reservation. Algebraically, this is represented by X – M, where X = export and M = import. meaning export less import

(net export) ; however if the external sector is added to the Keynesian equation the resultant equation is the open economy using Keynesian model.

Self Assessment Exercise:
Which variables differentiate a closed economy from an open economy under the National income determination?

3.2 Algebraic determination of equilibrium income

An open economy is represented by the equations below

$$Y = C + I + G + X - M \quad (1.1)$$

$$C = a + bY_d \quad a > 0: 0 < b < 1 \quad (1.2)$$

$$Y_d = Y - T \quad (1.3)$$

$$T = T_0 + tY \quad To > 0: 0 < 1 < 1 \quad (1.4)$$

$$I = I_o \quad (1.5)$$

$$G = G_o \quad (1.6)$$

$$X = X_0 \quad (1.7)$$

$$M = M_o + mY \quad Mo > 0: 0 < m < I \quad (1.8)$$

Equation (1.4) explains tax revenue. In this economy, total tax revenue is divided into two, lump sum tax revenue (T_o) and income base tax revenue (tY). The marginal rate of tax is "t". The foreign sector is represented by equations (1.7) and (1.8). Exports (X) are autonomous because they do not depend on domestic's income but rather on the rest of the world income. On the other hand, imports are dependent on domestic's income. The part of imports that is dependent on domestic income is called income-induced imports (mY), where 'm' is marginal rate of import. The other part that is dependent on domestic's income is a function of such variables as term of trade, real exchange rate, etc.

To derive the equilibrium income in an open economy and the open economy multiplier we substitute equation (1.2) to equation (1.8) into (1.1) to obtain equation (1.9)

$$Y = a + bYd + I_0 + G_0 + (X_0 - (M_0 + mY)) \quad (1.9)$$

$$Y = a + b(Y - T) + I_0 + G_0 + (X_0 - (M_0 + mY)) \quad (1.10)$$

$$Y = a + b(Y - [T_0 + tY] + I_0 + G_0 + X_0 - (M_0 + mY) \quad (1.11)$$

Opening the brackets and taking like terms to the left hand side of equation (1.11) we obtain equation (1.12)

$$Y - b(1 - t)Y + mY = a - bT_0 + I_0 + G_0 + X_0 - M_0 \quad (1.12)$$

Factoring out Y on the left side of equation (1.12) we obtain equation (1.13)

$$[1 - b(1 - t) + m]Y = a - bT_0 + I_0 + G_0 + X_0 - M_0 \quad (1.13)$$

Equation 1.13 is the same as equation (1.14)

$$Y = \frac{1}{1 - b(1 - t) + m}(a - bT_0 + I_0 + G_0 + X_0 - M_0) \quad (1.14)$$

Equation 1.14 is an expression for the equilibrium income.

Self Assessment Exercise:

Determine equilibrium national income given the following information;

$C = a + bY$; $I = I_0$; $G = G_0$; $X = X_0$ and $M = M_0 + iY$

3.2 The Concept of Multiplier

Equilibrium national income changes if injections and/ or leakages change. Under this section we introduce you to the Multiplier. This analyses the magnifying effects of changes in leakages and/or injections on equilibrium income.

Figure 1.3.1: A Diagrammatic Illustration of the Multiplier Process

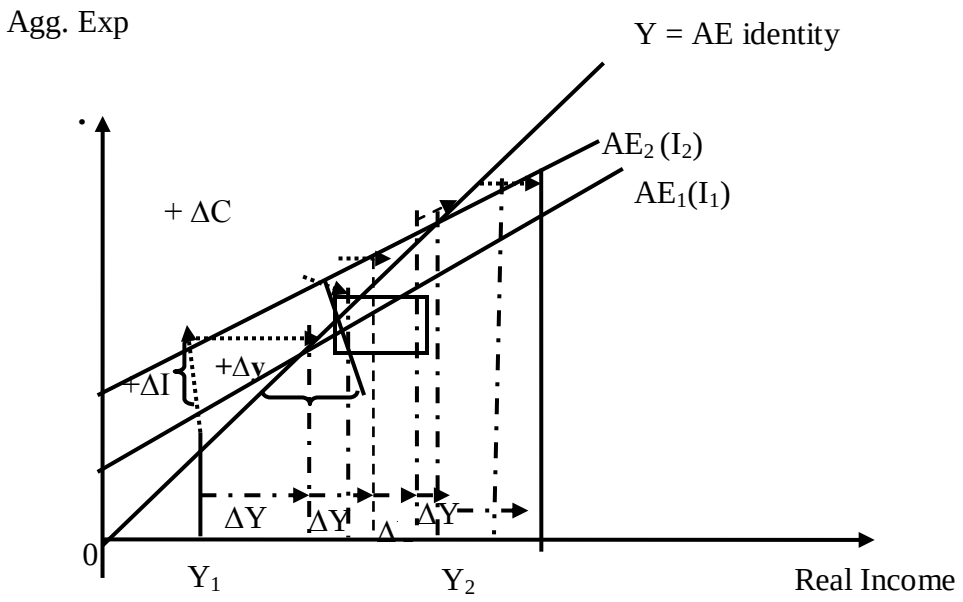

Figure 1.3.1 depicts the working of the multiplier. The initial change was an increase in investment expenditure depicted as **(+Δ I).** This change caused an increase in income

shown as Δy. The increase in income (Δy) gave rise to increase in consumption expenditure depicted as ΔC and an increase in savings not depicted. Since consumption expenditure is a component of AE aggregate expenditure increased necessitating in income denoted as Δy. This sets in motion another chain of reactions until the economy converges to a new equilibrium income level depicted as Y_2.

Algebraic Illustration of the Multiplier

We will employ equation 1.14 for the illustration.

$$Y = \frac{1}{1 - b(1 - t) + m} (a - bT_0 + I_0 + G_0 + X_0 - M_0) \quad (1.14)$$

Equation 1.14 has two main components. The expression for the multiplier $\frac{1}{1 + b(1-t) + m}$ and the autonomous components $(a - bT_0 + 1_0 + G_0 + X_0 - M_0)$.

From equation 1.14, if any of the autonomous components changes for example Investment, income will change by

$$\Delta Y = \frac{1}{1 - b(1 - t) + m} (\Delta 1_0) \quad (1.15)$$

From equation 1.15 the changes in Y with respect to I could be expressed as.

$$\Delta I \quad \frac{}{1 - b(1 - t) + m}$$

Equation 1.16 is the investment spending multiplier. The value of equation 1.16 is the member of times by which a change in investment will be multiplied to obtain the resultant change in income.

Self Assessment Exercise:

Given the following equation determine the multiplier; $Y = C + I + G + X - M$, where $C = a + bY_d$, $Y_d = Y - T$, $I = I_o$, $T = T_o + tY$, $G = G_0$, $X = X_o$, $M = M_o$.

3.4 Numerical Analysis of National Income Determination

Given the following structural equations of a hypothetical economy

$Y = C + I + G + X - M$

$C = 140 + 0.45\ Yd$

$Yd = Y - T$

$T = 100$

I = 50 + 0.15Y

G = 120

X = 130

M = 125

Determine

a) Equilibrium national income

b) Income multiplier

c) What effect will a 30% cut in government expenditure have an equilibrium national income

d) Suppose the tax rate is expressed as a function income i.e. T = 20 + 0.1Y, what will be the level of the new national income

e) Calculate the new investment multiplier

Solution

a) Y = 140 + 0.45Yd + 50 + 0.15Y + 120 + (130 – 125)

Y = 140 _ 0.45 (Y-T) + 50+0.15Y + 120 + 5

Y = 140 + 0.45 (Y-100) + 50 + 0.15Y + 120+5

Y = 140 + 0.45Y – 45+50+0.15Y + 120 + 5

Y – 0.45Y – 0.15Y = 140 + 50+ 120+ 5- 45

Y – 0.6Y = 270

Y (1-0.6) = 270

$Y_e = \frac{1}{1-0.6}$ (270)

Y_e = 1/0.4 (270)

Y_e = 2.5 (270) = N675 million

b) Income multiplier (K) = $\frac{1}{1-b} = \frac{}{1-0.45}$ 1

K = $\frac{1}{0.55}$ = 1.8182

c) $Y_{ne} = Y_{oe} – K\Delta G$

$\Delta G = 300/100 \times 120/1 = 36$

Therefore

$Yne = 675 - 2.5\ (36)$

$= 675 - 90$

= N585 million

A 30% decrease in government spending will contract equilibrium national income by N90 million and thus reduce equilibrium income to N585 million.

d) Tax became $T = 20 + 0.1Y$

$Y = C + 1 + G + X - M$

$Y = 140 + 0.45Yd + 50 + 0.15Y + 120 + (130-125)$

$Y = 140 + 0.45(Y-T) + 50 + 0.15Y + 120 + 5$

$Y = 140 + 0.45\ (Y-(20+0.1Y) + 50 + 0.15Y + 120 + 5$

$Y = 140 + 0.45(Y-20-0.1Y) + 50 + 0.15Y + 120 + 5$

$Y = 140 + 0.45Y - 9 - 00.45Y + 50 + 0.15Y + 120 + 5$

$Y - 0.45Y + 0.045Y - 0.15Y = 140-9+50+125$

$Y\ (\ 1 - 0.45 + 0.045 - 0.15) = 306$

$Y\ (1 + 0.045 - 0.45 - 0.15)$

$Y\ (1.045 - 0.60) = 306$

$$Y_e = \frac{1}{1.045 - 0.60}\ (306)$$

$$Y_e = \frac{1}{0.445}(306)$$

$Y_e = 2.2472\ (306)$

Y_e = N687.64 million

e) Investment Multiplier

$$\frac{\Delta Y}{\Delta I} = \frac{I}{1-b}$$

$$K = \frac{1}{\ }$$

$$k = \frac{1-0.6}{0.4} = 2.5$$

Self Assessment exercise: Given Y = C + I + G + X – M

Where, C = 100+0.6Yd, Yd = Y – T, T = 60 + 0.1Y, I = 50 + 0.2Y, G = N100m, X = N80m, M = N50m. Determine: (i) the equilibrium national income, (ii) the income multiplier, (iii) what is the value of the tax multiplier.

4.0 Conclusion

Here, we essentially examined how equilibrium national income is determined cum multiplier determination.

5.0 Summary

We determined equilibrium national income algebraically (symbolically and numerically) and equally explain and determine concept of multiplier**.**

6.0 Tutor-Marked Assignment

a) Given the following National Income identities Y= C+ I +G + (X- M) where;

C = 25 + 0.75Y_d ; I = I_0 = 755m; G=G_0=950m ; X=X_0= 150m and M=2+0.2Y; T=5+0.1Y. Determine;

i. Equilibrium National Income.
ii. Multiplier
iii. If government planned a balance budget what would be the equilibrium National Income.

(b) In Nigeria the full employment figure is put at N12.5m. Consumption consists of N1.5m autonomous and 0.037Y_d dependents, investment is N2.75m, while autonomous government expenditure is N2m. After all efforts Statisticians are able to estimate tax receipts at N0.75 + 0.01Y. Determine,

i) Equilibrium level of income

ii) Consumption, investment and taxes at the level of income

iii) Is the economy deflationary or inflationary? By how much?

iv) what policy implication does your result in (iii) indicate?

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UNIT 3: NATIONAL INCOME ACCOUNTING

CONTENTS

1.0 Introduction

This unit looks at the meaning and some conceptual definition of National income accounting and how it is calculated, also in line with the calculation different method of calculating national income will be discussed and illustrated.

2.0 Objectives

The objectives of this unit are

- Explaining the different method of calculating National income accounting
- To understand the different conceptual definition of National income accounting
- Understanding the calculation of the different concepts of National income accounting.

3.0 Main Content

3.1 Meaning of National income Accounting

This is a method to present statistically the interrelationships between the different sectors of the economy for a thorough understanding of the economic conditions of the economy. It is a technique of presenting information about the nature of the economy with a view not only to get an idea of its prosperity, but also to get guidelines for state policy to influence or regulate the economy. In other word national income accounting

describes statistically the economic activities of the different sectors of the entire economy, which indicates their relationships and provides a framework for anaylsis.

Self Assessment Exercise:

National income accounting is a method use in studying the structure of an economy, discuss.

3.2 Method of calculating National income

Basically, there are three major approaches to calculation of national income accounting, namely, income approach, expenditure approach and product or output approach. The first approach looked at the concept of national income accounting from the perspective of rewards to all factor inputs, while the second approach takes into consideration the aggregate expenditure or spending in the economy (C+I+G) or (C+I+G+X-M)

THE INCOME METHOD

This method values GDP as the sum of final incomes earned by factors of production located in a country for the production of goods and services for a defined accounting period.

The first stage under the income method is to determine and sum up factor incomes. We account for only factor incomes generated through the production of good and services. Some of these incomes are wages, salaries, commissions, etc. before taxes, social security and pension deductions which accrue to labour, rent, royalties, etc. which accrue to land; interest and dividends which are earned by capital and profits of private and public business which accrue to enterprise.

We therefore, exclude from the accounts transfer payments e.g. state pension, private transfer of money from one individual to another.

THE EXPENDITURE METHOD

Under the expenditure method GDP is the sum of the final expenditure on goods and services produced in a country measured at market prices. There are four main spending sectors: Household (C), Firms (I), Government (G) and Foreign sector (X-M).

Symbolically, GDP = C+ I + G + (X – M)

THE VALUE- ADDED (OUTPUT) METHOD

National income can also be measured by adding all values of final goods and services produced in the economy during the period and excluding the values of intermediate products to avoid double counting. On the other hand, it can be measured by estimating only the net values of output at every stage of production in the economy during the course of the year.

Self Assessment Exercise:

Differentiate between the different methods of measuring National income.

3.3 Conceptual definition of National income accounting

There are a number of concepts pertaining to national income and methods of measurement relating to them. Therefore we have the following concepts;

a) Gross Domestic Product (GDP): This is the value of goods and services produced by people residing in a country. It does not include income and property earnings of nationals living outside the country.
b) Gross National Product (GNP): This is the value of goods and services produced by the nationals of a country whether currently residing in the country or living abroad.
c) Net Domestic Product (NDP): it is the value of net output of the economy during the year. NDP is GDP minus capital consumption (depreciation) and depreciation is the value which must be set aside to replaced the wear and tear of the physical asset or machine.
d) Net National Product (NNP): It is the GNP minus depreciation.
e) Personal Income (PI): it is all incomes accruable to an individual, it can be said that not all incomes earned are received due to payment of National Insurance and Security Trust Fund (NISTF), National Housing fund (NHF) etc. and there are some income not earned or worked for but are received such as payment to compensate disaster victims etc. Therefore, personal income can be defined as income that accrues to an individual after adjustments in income earned but received and income received not earned.
f) Disposable Income (DI): is an individual take home pay, what is left in an individual's pocket after the deduction of personal income tax.
g) Per Capita Income (PCI): This is the average income of the people of a country in a particular year. It is also Gross National Product (GNP) divided by the total population.

Self Assessment Exercise:

Point out the difference between the following concepts of national income and also their relationship with each other:

i) Gross National Product and Net National Product.
ii) Net National Product and Net Domestic Product.
iii) Disposable Income and Personal Income.

3.4 Illustration of National income accounting

Numerical Example:

Given the following data of the national income accounts

	Item	**N (Million)**
1	Consumption expenditure	1221
2	Gross private investment	310
3	Wages and salaries	953
4	Income of self employed	105
5	National insurance and security trust fund	85
6	Government subsidies	253
7	National housing fund	65
8	Rents	48
9	Exports	85
10	Imports	160
11	Personal income tax	195
12	Company income tax	76
13	Government expenditure on goods and services	348
14	Capital consumption allowance	183
15	Net income from abroad	48
16	Undistributed profits	87
17	Indirect business taxes	165
18	Dividends	95

Determine

i) GDP using expenditure method
ii) GDP using the income method
iii) Gross National Profit (GNP)
iv) Net National Profit (NNP)
v) National Income (NI)
vi) Personal Income (PI)
vii) Disposal Income (D.I)

viii) Suppose the population of the country is put at 15 million people determine the per capital income

Solution

I) Using the expenditure approach (method) for GDP

Consumption expenditure	1221	
Gross private investment	310	
Export		85
Good Expenditure	348	
Less imports	(160)	
GDP	N1804m	

Ii) **Using the factor income method**

Wages & Salaries	953	
Income of self employed	105	
N.I.S.T.F	85	
N.H.F	65	
Rents	48	
Personal Income tax		195
Company income tax		76
Undistributed profit	87	
Indirect business taxes	165	
Dividends	95	
Capital consumption allowance	183	
Less government subsidies	(253)	
GDP	N1804m	

iii) Gross National product

GDP + Net income from abroad

1804 + 48 = N1852m

iv) Net National Product

GNP - Depreciation

1852 – 183 = N1669m

v) National Income (N.I)

NNP – Indirect business taxes

1669 – 165 = N1504m

Alternatively it can be obtained directly from GNP by subtracting depreciation and indirect business taxes components from the value of GNP i.e

NI = GNP – (D + IBT)

= 1852 – (183 + 165)

= 1804 – 348

= N1504m

vi) Personal Income (PI)

PI = NI + government subsides – (NISTF + NHF + undistributed profits + company income tax)

PI = 1504 + 253 – (85 + 65 + 87 + 76)

= 1504 + 253 – 313

PI = N1444m

vii) Disposable income

Personal income – personal income tax

= 1444 – 195

DI = N1249m

viii) Per capital income (PCI) = GNP/Population

PCI = 1852/15

= N123.47m

Self Assessment Exercise:

Given that GDP 564.35M and capital consumption allowance is 4.67M, while indirect tax is given by 23.6M . Find NDP

4.0 Conclusion

We examined national income accounting and conclude that the results from all approaches to estimation of national income are the same at equilibrium, that is NI = NE = NP**.**

5.0 Summary

The national income or product or expenditure provides a measure of total value at factor cost of final goods and services, which are available either for consumption or for addition to wealth (inventory).

6.0 Tutor-Marked Assignment

a) What do you understand by the concept of national income? Briefly discuss the method involved in measuring it.
b) Given the following statistics of the national income of a hypothetical African Country:

Items	**N million**
Consumption	5,255.00
Government Expenditure	1,740.00
Salaries	4,915.00
Government Transfer Payments	1,030.00
Company Income Taxes	280.00
Net Income from abroad	240.00
Gross Domestic Investment	1,600.00
Capital Consumption Allowance	815.00
Indirect Business Taxes	775.00
Personal Income Taxes	825.00
National Insurance and Security Trust Fund	310.00

Undistributed Profits	320.00
National Housing Fund	250.00
Rents	115.00
Exports	450.00
Imports	745.00
Dividend	300.00
Income of individual businessmen and women	425.00

You are required to compute:

i) GDP by income method (ii) GDP by expenditure method (iii) GNP by expenditure (iv) NNP (v) National Income (vi) Personal Income (vii) Disposable Income (viii) Per capital income assuming population is 20 million.

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UNIT 4: THE CIRCULAR FLOW, USES AND PROBLEMS 0F NATIONAL INCOME

CONTENTS

1.0 Introduction

In a spendthrift economy, the value of output produced is equal to the value of income earned. Therefore, we talk of national income or national product.

In every economy the flow of real resources always moved in a circular form. The various components of national income and expenditure such as savings, investment, taxation, government expenditure, exports, imports, etc. goes round in such a manner that national income equals national expenditure.

National income data has some importance for an economy and it use by policy maker all over the world as a means for economic planning. The data generated enables the country to know the direction in which the industrial output, investment and savings etc. change, and proper measures can be adopted to bring the economy to the right path. There are also many conceptual and statistical problems involved in measuring national income.

2.0 Objective

The objectives of this unit are

- To understand the movement of real resources in an economy.
- Explaining the circular flow of income in a two sector model.
- To show the circular flow with savings and investment.

- Understanding how income flows in a three sector model.
- To identify uses of National income
- Explain the problem encountered in calculating National income

3.0 Main Content

3.1 Definition of Circular Flow of Income

The circular flow of income and expenditure refers to the process whereby the national income and expenditure flow in a circular manner continuously through time that is the circular flow of income shows the movement of real resources as well as flow of fund within the economy. We shall explain this flow the two sectors economy, three sectors economy and the one that emphasized the movement of all economic resources within the country.

Self Assessment exercise:

What do you understand by the circular flow of income?

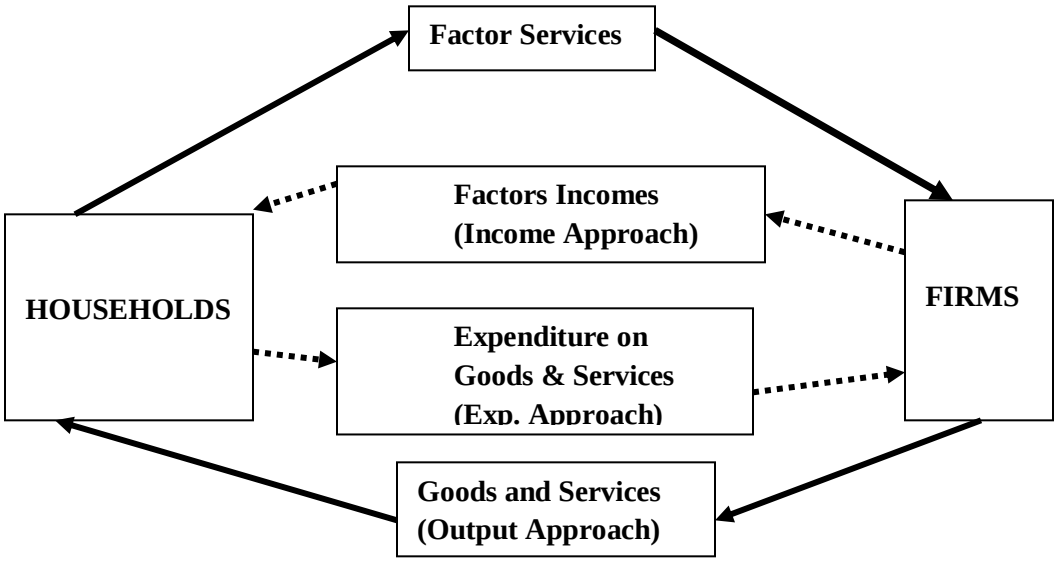
3.2 Circular Flow of Income of two sectors model

The circular flows of income that emphasise the two sectors economy are with the following assumptions.

Basic Assumptions:

1. The economy has two sectors – household sector and business sector
2. The role of savings and investment is not captured.
3. The government and the foreign sectors are also not represented.

Diagram 1.3.: The Circular Flow of Income



The diagram shows Real Flow (goods and services) and Monetary Flow (income and expenditure).

The bottom pair arrows depict the goods market. In this market, households exchange money for the goods and services produced by the firms. The total value of these goods and services estimates national from the product/output side. The other arrow shows the expenditure approach. The summation of these expenditures represents the expenditure approach.

The top pair of arrows represents the factor market in which the firms exchange money for the services provided by the household, that is, wages-payments for labour services, interest for incomes earned by factors of production for producing the economy's goods and services.

The circular flow diagram shows that national income may be measured by final output expenditure (Expenditure Method).

The diagram gives us the basic national income identity: National Income = National Product = National Expenditure. This identity means that actual incomes received in the economy are identical to both actual expenditure and actual output or product produced in the economy.

We must emphasize here that in accounting for national income, we use **ex-post (**what actually happened in the economy) not ex-ante (what people wish or intend to happen.

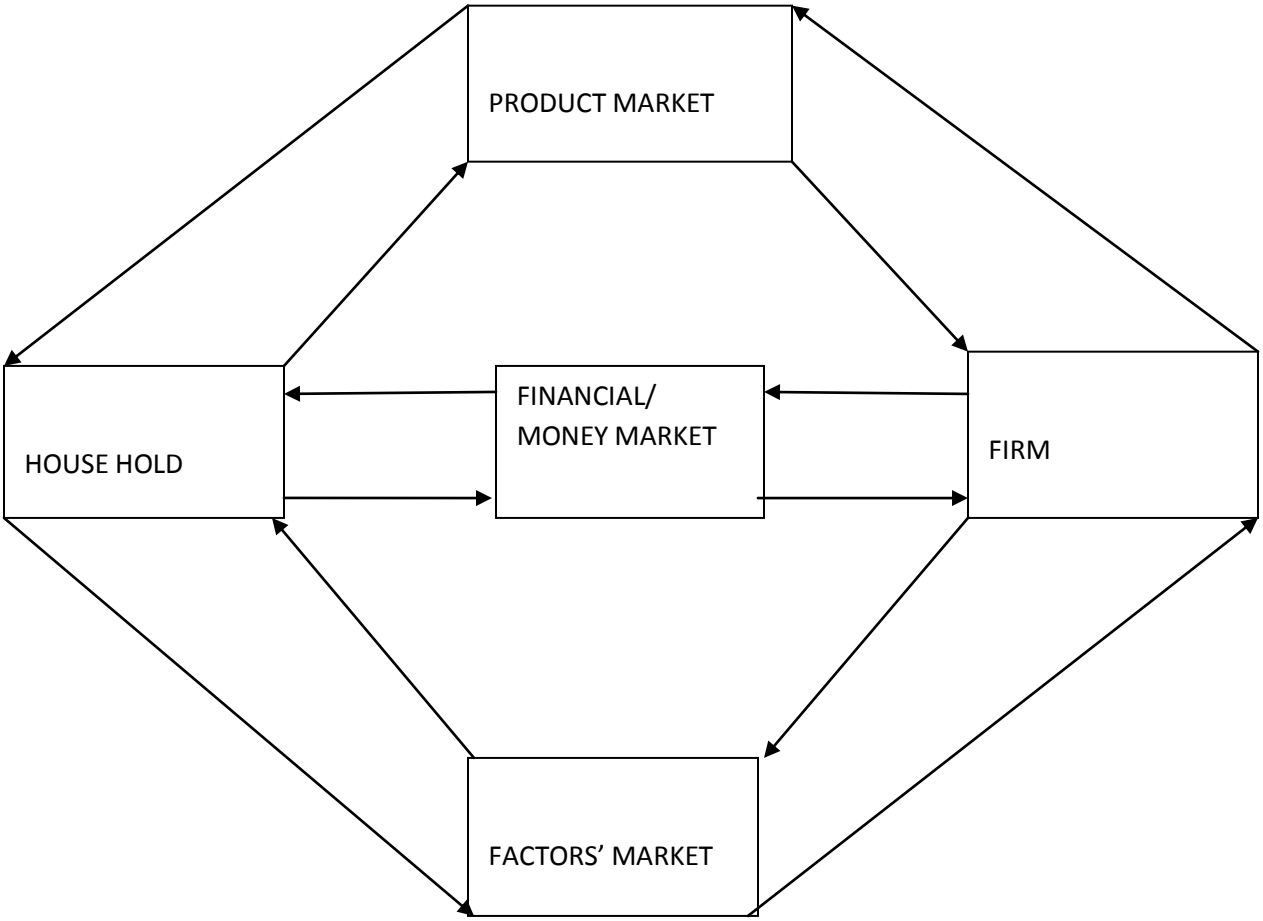
Self Assessment Exercise:

Explain the process of circular flow of income and product in a two sector closed model.

3.3 Circular flow with savings and investment.

This approach shows the circular flow of income that emphasise impact of savings and investment.

Diagram 1.3.3: Circular Flow of Income with Saving and Investment.



From the diagram above the outer loop represent the flow of real resources which start from the movement of factors from household to factor markets and from factor market to the firm (after being employed). This factor inputs were made to produce goods and services by the firm and in turn this output is taken to the product market for final consumption by the same household. On the other hand, the inner loop represents the flow of financial resources, which begins from the firm (who pays the employed factors) to the household, the household in turn could either save or consume the earned income. Fraction of the income earned by the household, if consumed will be taken to the product market for final consumption of goods and services, while in turn, the money realise form the product market be taken to the firm for further production, however, if saved in the financial market, such saving would be converted to loan to the firm for investment and in turn, the firm pays the loan given to them with interest to the financial market who also pay back part of the interest with capital to the household on demand.

Self Assessment Exercise:
Explain the circular flow with money market

3.4 Circular Flow of income of three sectors model

For the three sectors model we add the government sector so as to make it a three sector closed model of income and expenditure. For this we add taxation and government purchases. Taxation is a leakage from the circular flow and government purchases are injections into the circular flow. Here we take the household, business firms and government sectors together to show their inflows and outflows in the circular flow. Taxation tends to reduce consumption and saving of the household sector. Reduced consumption, in turn reduces the sales and income of firms. Also taxes on business firms tend to reduce their investment and production. The government offsets these leakages by making purchases from the business sector and buying services of household sector equal to the amount of taxes. The diagram shows that taxes flow out of household and business sectors and go to the government. The government makes investment and purchases goods from firms and also factors of production from households. Thus government purchases of goods and services are injection in the circular flow of income and taxes are leakages.

Self Assessment Exercise:

In the three sectors model of circular flow of income taxation is always a leakages from the flow while government expenditure inject income back into the flow. True or false

3.4 **USES OF NATIONAL INCOME ACCOUNTING.**

i. It clearly revealed the contribution of the difference sector of the nation to National income. Through it one can easily know the contribution of each sector to the economy and this may influence planning in the future, for example, for allocation of resources.

ii. It makes us to know the structure of production, level of consumption, savings and investment.

iii. Through national income one can measure a country economy growth and it also gives an idea of the standard of living of a country, for example, the greater the standard of living vis-à-vis the citizens of the economy.

iv. It also gives an idea of the economy strength of the country. It provides assistant to foreign investors who may have to decide whether or not to invest in a country.

V. It is useful in the study of business functions and economic policies generally.

vi. It helps in the forecasts of any future events. It can be used to analyze what changes are likely to occur in the economy both in economic or political policies.

Vii National income accounting is also use for comparative analysis of two or more countries. The purchasing power parity (PPP) of countries could be established through the per capital income of individual nations from which the standard of living of a country is recognized.

Self Assessment Exercise:

How does National income data reflects the economic welfare of the country?

3.6 PROBLEM OF MEASURING NATIONAL INCOME

The following problems arise in the calculation (estimating) of national income:

i. Double Counting: This has to do with intermediate goods, intermediate expenditure and transfer payments. There is the likelihood of valuing, for example, cassava and gari, counting expenditure on suiting material as well as the suit and counting incomes earned not for productive activities (transfer payments). If this happens, the value of total output will be grossly exaggerated. This problem is avoided to a very large degree by taking note of only the value added or final expenditure and excluding transfer payments.

ii. Marketability of Goods: National income is the money value of goods and services produced in a given period. A problem arises in connection with goods and services that are not exchanged through the market. This problem is solved to some extent by including goods and services that do not enter the market. Conventionally, items that do not enter the market are included. (a) Rent is imputed to owner occupied houses. (b) Value is also imputed to food produced and consumed on the farm. (c) Housewives income is not also included in National income but estimation of these could temporary reduce the problem.

Output approach provides detailed information on the contributions of the various sectors and sub-sectors of the economy. Data provided by the expenditure approach gives an idea about the proportion of income invested, consumed or transferred. Finally, data provided by the income approach provides information on functional distributions of income which is useful for income tax policies.

iii. Income earned through illegal activities such as gambling or extraction of wine etc. is not included in national income, such goods and services do have value and meet the needs of the consumers, but by leaving them out, the national income works out to be less than the actual.

iv. There arises the difficulty of including transfer payments in the national income. Individual get pension, unemployment allowance and interest on public loans but whether these should be included in national income is a difficult problem. On the other hand, these earning are a part of individual income and on the other hand they are government expenditure.

v. Another difficulty in calculating national income is that of price changes which fail to keep stable the measuring rod of money for national income. When the price level in the country rises, the national income also shows an increase even though the

production might have fallen. On the contrary, with a fall in price level, the national income shows a decline even though the production might have gone up.

vi. Problem of treating depreciation. There is problem of estimating the current depreciated value of a piece of capital whose expected life is fifty years is very difficult. Also, how depreciation is calculated between firms are different and these will give different value.

Self Assessment exercise: What are the problems encountered in calculating national income?

4 Conclusion

We conclude here that both income and expenditure always interact in an economy. That is what is income to a person could be expenditure to another therefore we say that income always go in a circular flow. Moreover we examine and explain all problems associated with national income accounting which also pose limitation to reliability of the national income data.

5 Summary

This unit discuss the various circular flows that can be found in an economy, it looked at the two sectors, three sectors model and how income flows when savings and investment are involved. National Income estimates are very useful to economists, policy makers, business people and investors. However, some problems are faced in accounting for national income.

6 Tutor-Marked Assignment

a) Explain the process of circular flow of income and product in a three sector closed model.

b) Explain the circular floe of income that emphasise savings and investment.

c) Graphically explain the difference between the two sector and three sector flow of income and product.

d) Enumerate and explain uses and problems associated with National Income Accounting.

e) Examine the usefulness of the concept of national income in analysing an economy aggregate behaviour

f) Under what circumstances national income tends to be underestimated?

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MODULE TWO

Unit 1 Concepts of Money Demand and Supply
Unit 2 Some theories of Demand for Money
Unit 3 Central Bank and Money Supply

UNIT 1: Concept of Money Demand and Supply

CONTENTS

1.0 Introduction

The unit brings to the understanding of the students the concepts of demand and supply of money. It also explored the reason why people hold money and those factors that could limit transaction balance at any given time. It further examines the determinant of supply of money and the role of central bank in maintaining the stock of money in the economy at any particular time period.

2.0 Objective

At the end of this unit student should be able to;

i. Appreciate what is meant by demand and supply of money.
ii. Understand the main motives for holding money.
iii. Explain the determinants of demand and supply of money

3.0 Main Content

3.1 The Demand for Money

Generally, money is an indisputable tool in every economy, and it is the main element in describing economic and non economic goods in an economy. However, the demand for money is endogenously determined while supply is exogenously determined; meaning that, the demand for money is strongly linked to the level of economic activities while supply of money is solely determined by the country's monetary authority. The demand for money arises from two important functions of money i.e. money acts as a medium of exchange and store of value. Thus individuals and businesses wish to hold money partly in cash and partly in the form of assets. There are

two views that explain changes in the demand for money. The first is the "scale" view which is related to the impact of the income or wealth level. The higher the income level the greater will be the demand for money. The second is the "substitution" view which is related to relative attractiveness of assets that can be substituted for money. According to this view when alternative assets like bonds become unattractive due to fall in interest rates, people prefer to keep their assets in cash and the demand for money increases and vice versa. These two view combined together have been used to explain the nature of the demand for money which has been divided into transaction, precautionary and the speculative demand for money.

Self Assessment Exercise:
What is demand for money? Why do people demand for it?

3.2 Determinant of Demand for Money

There are various factors that can determine the reason why people hold money at any particular time in an economy and among them we have the following:

i) **Level of Income:** the higher the level of income, the higher the willingness to hold money and vice versa. It should be noted that to a great extend, income level influences the liquidity preference of individual.
ii) **Interest Rate:** Interest rate payable on savings is another factor that influence or determine liquidity preference the higher the rate of interest, the lower the willingness to hold money in its liquid form. This means that interest rate is a stimulus to savings; people forgo current consumption for higher interest rate given that price level is stable overtime.
iii) **Price level:** the price level which is the measure of inflation rate level in the economy is another determinant of liquidity preference, the higher the price level, the higher the willingness to hold money in its liquid form and vice versa. Note that a higher inflation is a disincentive to savings and this affects investment level since savings imply investment at equilibrium.
iv) **Return on Financial assets:** The return on financial assets such as bonds, treasury bills and certificates, stocks, etc. can also influence the demand for money. For example, if return on these assets is high people would be willing to invest in them in order to reap the hike in returns.
v) **Government Policy:** There are number of government policies that have direct impact on income which also has implication on the amount of money people are willing to hold in liquid form. For instance a higher tax will reduce disposable income and the amount to be held in liquid form, while subsidy will have opposing effect. The time lag between income received and when expenditure takes place also determine the transaction balance or cash balance. Income and expenditure are not done simultaneously, therefore the level of individual transaction influence the amount cash balance held at any point in time.

Self Assessment exercise:

The level of income plays a major role in determining the amount of money people hold at any particular time. Discuss.

3.3 The Supply of Money

The supply of money is a stock at a particular time and it is the total amount of money in the economy. It is also exogenously determined that is solely determined by the country's monetary authority. There are three alternative views regarding the definition or measures of money supply. The first view is the Keynesian thought which stresses the medium of exchange function of money. To this view, money supply is defined as currency with the public and demand deposits with commercial banks. Demand deposits are savings and current accounts deposits with commercial banks. Therefore, demand deposits with commercial banks plus currency with the public are denoted as M_1 and this is regarded as a narrower definition of money supply. This first definition of money supply may be analytically better because M_1 is a sure medium of exchange. But M_1 is an inferior store of value because it earns no rate of interest, as is earned by time deposits. Further the central bank can have control over a narrower area if only demand deposits are included in the money supply.

The second definition is broader and associated with the Modern Quantity theorists headed by Friedman and he defined money supply as M_1 plus time deposits of commercial banks and this is known as M_2. This stresses the store of value function of money. This second definition that includes time deposits in the supply of money is less satisfactory analytically because in a highly developed financial structure, it is important to consider separately the motives for holding means of payment and time deposits. Unlike demand deposits, time deposits are not perfect liquid of money. This is so because the amount lying in them can be withdraw immediately by cheques. Normally, it cannot be withdrawn before the due date of expiry of deposit but in case a depositor wants his money earlier, he has to give a notice to the bank which allows the withdrawal after charging a penal interest rate from the depositors. Thus time deposits lack perfect liquidity and cannot be included in the money supply. But this definition is more appropriate from the point of view on monetary policy because the central bank can exercise control over a wider area that includes both demand and time deposits held by commercial banks.

The third definition is the broadest and is associated with Gurley and Shaw. They include in the supply of money M_2 plus deposits of savings banks, building societies, loan associations and deposits of other credit and financial institutions. This third definition is unsatisfactory. Firstly, they do not serve the medium of exchange function of money. Secondly, they almost remain outside the area of control of the central bank. The only advantage they possess is that they are highly liquid store of value. Despite this merit, deposits of non-financial institutions are not included in the definition of money supply.

Self Assessment Exercise:

What makes the broader definition of supply of money different from the narrower definition of supply of money?

3.4 Determinant of Supply of Money

There are two extremes views about the determinants of money supply. One extreme believes money is exogenously determined by the monetary authorities (CBN) and the other believe money is endogenously determined by the happenings in the economy, especially by the level of business activity and rates of interest and totally depends on the monetary authorities. But in practice, it is the combination of these two that influence the supply of money. Therefore the following factors will determined the supply of money.

1. The Required Reserve Ratio: The required reserve ratio (or minimum cash reserve ratio or the reserve deposit ratio) is the ratio of cash to current and time deposit liabilities which is determined by law, every commercial bank is required to keep a certain percentage of these liabilities in the form of deposits with the central bank of the country. This is an important determinant of money supply, an increase in the required reserve ratio reduces the supply of money with commercial banks increases the money supply with commercial bank lending purposes.
2. The Level of Bank Reserves: The level of bank reserves is another determinant of the money supply. Commercial bank reserves consist of reserves on deposits with the Central bank of the country influences the reserves of commercial banks in order to determine the supply of money. The commercial banks are required to hold reserves equal to a fixed percentage of both time and demand deposits. These are legal minimum or required reserves. Required reserves are determined by the required reserves ratio and the level of deposits of a commercial bank, the higher the reserve ratio, the higher the required reserves to be kept by a bank, and vice versa. But it is the excess reserve that is important to the determination of money supply and excess reserves are the difference between total reserves and required reserves. A commercial bank advances loans equal to its excess reserves which are important component of the money supply. To determine the supply of money with a commercial bank, the central bank influences its reserves by adopting open market operations and discount rate policy

   Open market operation refers to the purchase and sale of government securities and other types of assets like bills, securities, bonds etc. , both government and private in the open market. When the central bank buys or sells securities in the open market, the level of bank reserves expands or contracts.

   The discount rate policy affects the money supply by influencing the cost and supply of bank credit to commercial banks. It is also the interest rate at which commercial banks borrow from the central bank. A high discount rate means that commercial banks get fewer amounts by selling securities to the central bank. The commercial banks in turn raise their lending rates to the public thereby making advances dearer

to them. Thus, there will be contraction of credit and the level of commercial bank reserves. When the bank rate is lowered it tends to expand credit and consequently bank reserves.

It should be noted that commercial bank reserves are affected significantly only when open market operations and discount rate policy supplement each other. Otherwise, their effectiveness as determinants of bank reserves and consequently of money supply is limited.

3. Public desire to hold Currency and Deposits: People's desire to hold currency (or cash) relative to deposits in commercial banks also determines the money supply. If people are in the habit of keeping less in cash and more in deposits with the banks, the money supply will be large. This is because banks can create more with larger deposits. On the contrary, if people do not have baking habits and prefer to keep their money holding in cash, credit creation of banks will be less and the money supply will be at a low level.
4. High-Powered Money: High-powered money is the sum of commercial bank reserves and currency (notes and coins) held by the public. High powered money is the base for the expansion of bank deposits and creation of money supply varies directly with changes in the monetary base and inversely with the currency and reserves ratios.
5. Other Factors: Money supply is a function not only of the high powered money determined by the monetary authorities, but of interest rates, income and other factors. These factors change the proportion of money balances that the public holds as cash. Changes in business activity can change the behaviour of banks and the public and thus affect the money supply. Hence the money supply is not only exogenous controllable item but also an endogenously determined item.
6. The velocity of circulation of money also affects the money supply. If the velocity of money in circulation increases, the bank credit may fall even after a decrease in the money supply. The central bank has little control over the velocity of money which may adversely affect bank credit.

Self Assessment Exercise: How can open market operation and discount rate policy influence the supply of money in an economy?

4.0 Conclusion

We examined the concept of money supply and demand and concludes that demand for money is endogenous while money supply is exogenously determined

5.0 Summary

We studied the demand for money and supply of money and found that those factors that determine the supply are not the same with those that influences demand for money, the former is exogenous while the latter is endogenous.

6.0 Tutor-Marked Assignment

a) What are the factors that determined supply of money in an economy?

b) Analyse the various factors that can determined the amount of liquidity people will hold at any particular time.

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UNIT 2: Some theories of Demand for Money

CONTENTS

1.0 Introduction

There are different approaches to the demand for money, but the Classical, Cambridge and Keynesian approaches will be discussed here. Moreover, we shall looked at the relationship among them.

2.0 Objective

The main objectives of this unit is to enable students to understand the different theories of demand for money

3.0 Main Content

3.1 The Classical Approach:

This was propounded by Sir Irving Fisher is inherent in the quantity theory of money. They emphasized the transactions demand for money in terms of velocity of circulation of money. This means that money acts as a medium of exchange and facilitates the exchange of goods and services. In Fisher's "Equation of Exchange"

$$MV = PT$$

where M is the total quantity of money, V is velocity of circulation, P is the price level and T is the total amount of goods and services exchanged for money.

PT represents the demand for money which depends upon the value of the transaction to be undertaken in the economy and is equal to a constant fraction of those transactions. MV represents the supply of money which is given and in equilibrium equals the demand for money. The demand for money in Fisher's approach is a constant proportion of the level of transactions, which in turn bears a constant relationship to the level of national income. Also, the demand for money is linked to the volume of trade

going on in an economy at any time i.e. people hold money to buy goods. But people also hold money for other reasons, such as to earn interest and to provide against unforeseen events. It is therefore, not possible to say that V will remain constant when M is changed. Fisher's theory does not clarify whether to include as money such items as time deposits or savings deposits that are not available to pay debts without first being converted into currency.

The major policy implication of the theory is that monetary policy, of the restrictive type, is most relevant for effective control of inflation. In other words, to curb the problem of inflation effectively requires the reduction of money stock through the use of monetary policy instruments such as open market operations (OMO), reserve requirements, and bank rate. However, if reverse is the case, then expansionary monetary policy will be implied.

Self Assessment exercise: What determine value of money, according to Fisher?

3.2 The Cambridge Approach

As an alternative to Fisher's quantity theory of money, Cambridge economists like Marshall, Pigou, Robertson and Keynes formulated the cash balances approach. It was the Cambridge Cash Balances Approach which raised a question why do people actually want to hold their assets in the form of money. To them with larger incomes people makes larger volumes of transactions and therefore larger cash balance will be demanded. The Cambridge equation for money is

$$Md = kPY$$

Where Md is the demand for money which is equal to supply for money (Md=Ms) in the economy 'k' is the fraction of the real money income (PY) which people wish to hold in cash and demand deposits or the ratio of money stock to income, 'P' is the price level and 'Y' is the aggregate real income. This equation means that demand for money in normal terms would be proportional to the nominal level of income for each individual and hence for the aggregate economy as well.

Although, this approach include time and savings deposits and other convertible funds in the demand of money and also stresses the importance of factors that make money more or less useful, such as the costs of holding it, uncertainty about the future and so on. But this approach says little about the nature of the relationship that is expected to exist between its variables, and it does not say which one is more important.

One of its criticisms arises from the neglect of store of value function of money. They emphasized only the medium of exchange function of money which just facilitates buying and selling. To them, money performed a neutral role in the economy that is, it will not multiply if store in the form of wealth. This was an erroneous view because money performed the asset or store of value function when it is transformed into other forms of assets like equities, debentures, real assets, etc. It was the neglect of the store of value function of money that Keynes try to remedied.

Self Assessment Exercise:
Interpret the equation of the cash balances approach Md = kPY.

3.3 The Keynesian Approach - Liquidity Preference

Keynes in his General Theory used a new term "Liquidity Preference" for the demand for money. Keynes suggested three motives which led to the demand for money in an economy: (i) the transactions demand (ii) the precautionary demand and (iii) the speculative demand.

i) The Transactions Demand for Money

This arises from the medium of exchange function of money in making regular payments for goods and services. According to Keynes, it relates to the need of cash for the current transactions of personal and business exchange. It is further divided into income and business motives. The income motive is meant to bridge the interval between the receipts of income and it disbursement. Also, the business motive is meant to bridge the interval between the time of incurring business of expenditure and receipt of income is small, less cash will be held by the people for current transactions and vice versa. There will be changes in the transactions demand for money depending upon the expectations of income recipients and businessmen. They depend upon the level of income, the interest rate, the business turnover, the normal period between the receipt and disbursement of income etc. Given these factors the transactions demand for money is a direct proportional and positive functions of the level of income.

ii) The Precautionary Demand for Money

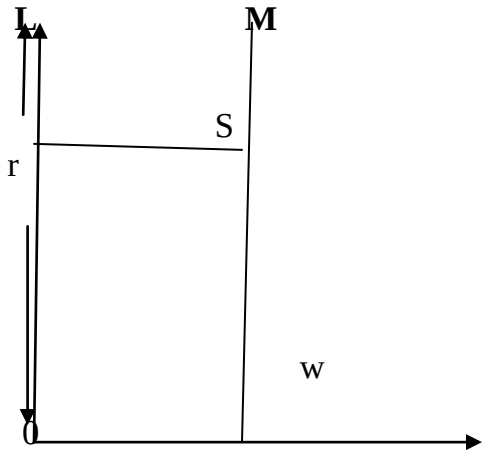
The precautionary motive relates to the desire to provide for contingencies requiring sudden expenditures and for unforeseen opportunities of advantageous purchases. Both individuals and businessmen keep cash in reserve to meet unexpected needs. Individuals hold cash some cash to provide for illness, accidents, unemployment and other unforeseen contingencies. Also, businessmen keep cash in reserve to tide over unfavourable conditions or to gain from unexpected deals. The precautionary demand for money depends upon the level of income, business activities, opportunities for unexpected profitable deals availability of cash, the cost of holding liquid assets in bank reserves etc.

iii) The Speculative Demand for Money

The Speculative (or asset or liquidity preference) demand for money is held for speculative purposes and thus arises from the store of value function of money. Money held for speculative purposes is a liquid store of value which can be invested at an opportune moment in interest bearing bonds or securities. According to Keynes it is expectations about changes in bond prices or in current

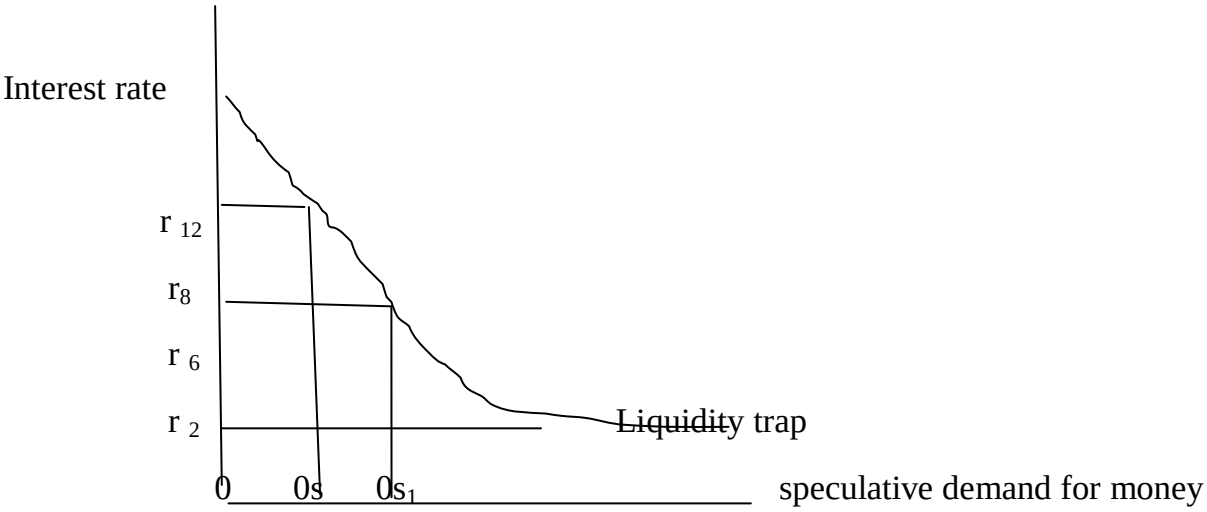
market rate of interest that determine the speculative demand for money, Keynes talked about a normal or critical rate of interest (r_c). If the current rate of interest (r) is above the critical rate of interest, investors expect it to fall and bond prices to rise. They will buy bonds to sell them in future when their prices rise in order to gain thereby, at such times, the speculative demand for money would fall. Conversely, if the current rate of interest happens to be below the critical rate, investors expect it to rise and bond prices to fall. They will therefore, sell bonds in the present if they have any, the speculative demand for money would increase. Thus, when $r > r_c$, an investor holds all his liquid assets in bonds and when $r < r_c$ his entire holdings go into money. But when $r = r_c$, he becomes indifferent to hold bonds or money.

- **The relationship between an individual's demand for money and the rate of interest is shown in figure 3.3.1**



The horizontal axis shows the individual's demand for money for speculative purposes and the current and critical interest rates on the vertical axis. If the r is greater than r_c , the asset holder puts all his cash balances in bonds and his demand for money is zero, this is illustrated by the LM portion of the vertical axis. When r falls below r_c, the individuals will converts his entire holdings into money as shown by OW.

For the economy as a whole the individual demand curve can be aggregated on this presumption that individual asset holders differ in their critical rate r_c. This is a curve that slopes downward from left to right as shown in figure 3.3.2 below;



Here, the speculative demand for money is a decreasing function of rate of interest i.e. the higher the rate of interest the lower the speculative demand for money and vice versa. This can be expressed algebraically as Ls=f(r). From above figure at r_{12} the speculative demand for money is zero and investor invest their cash holdings in bonds because they believe that the interest rate cannot rise further. As the rate of interest falls to r_8, the speculative demand for money is OS with a further fall in the interest rate to r_6 it rise to OS. But at a very low rate of interest r_2 the Ls curve becomes perfectly elastic and this is known liquidity trap when people prefer to keep money in cash rather than invest in bonds and the speculative demand for money is infinitely elastic. This shows that the speculative demand for money depend upon the behaviour of interest rates.

Self Assessment Exercise:

i) List the three main motives for holding money.
ii) What is Liquidity Trap?

4.0 Conclusion

We study the demand for money theories and conclude that the theories are multidimensional and as much as there divergences, there are also some level of convergence in their analysis.

5.0 Summary

We indeed explored some selected theories of demand for money and adequately explain their determining factors.

6.0 Tutor-Marked Assignment

a) According to Keynes there are three main motives why people hold cash, what are these motives and what factors can influence each of the motives.
b) Critically examine the Keynesian theory of money and prices.

c) Give the similarities and dissimilarities of the Quantity Theory of Money and Cambridge Cash Balances Theory

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UNIT 3: Central Bank and Money Supply

CONTENTS

1.0 Introduction

This unit discuss the role of central bank in money supply. Central bank is know as the government bank. It is the apex regulatory authority of the financial system. It supervises all government monetary policies and also ensures its implementation. It places the needs of the country over and above its own financial interest and on behalf of the government to exercise ultimate control over other banks and financial institutions.

2.0 Objective

The following are to be understood by the student

i) Understanding how central bank came into existed.

ii) To understand the traditional and monetary function of central bank

iv) Explaining the role of central bank in the supply of money in Nigeria.

3.0 Main Content

3.1 Central bank of Nigeria Historical Background

The West African Currency Board (WACB) was established in 1912 by the British Colonial Government to serve as the central bank of West African Countries. Among its function was to issue the West African pound to serve as legal tender in Gambia, Sierra

Leone, Ghana and Nigeria. The reserves of the countries are managed by the WACB who invest these reserves in instruments at the money market in London. The balance of payment equilibrium was among the focused point of the bank during this period and it was able to maintain it in all West African economies.

Despite these achievements, the bank suffered a number of weaknesses which lead to three major commissions that were set up by the British Colonial government in the 1950s to look into the possibility of establishing a central bank in Nigeria. The commissions were (i) J.L. Fishers' Commission (1952), (ii) I.B.R.D. Commission (1953), (iii) J.B. Loyne's Commission (1957). J.B. Loynes recommendations led to the promulgation of the Central Bank of Nigeria (CBN) Act of 1958, which set up the Central Bank of Nigeria. The legal backing for the CBN rests mainly in Central Bank of Nigeria Decree No. 24 of 29th June, 1991 which supersedes the CBN Act of 1958 and subsequent amendments and the Central Bank of Nigeria Currency Conversion Act of 1967 and its amendments. This decree expands the powers of CBN to execute its primary functions. With the introduction of the banks and other financial institutions (BOFI) Decree of 1991 and the Failed banks (Recovery of Debt) and Financial Malpractices in Banks Decree No. 18, the bank was further strengthened in areas of banking supervision and examination, monetary, management and enforcement of prudential standard in banking. It also confers enormous power on the bank to prosecute those who contributed to the failure banks and to recover the debt owed to the failed banks.

Self Assessment Exercise:

Briefly narrate the historical background of central bank of Nigeria.

3.2 Traditional functions of Central Bank

The Central Bank performed the following functions;

a) **Currency issue and distribution:** The Central Bank is the only institution empowered by law to issue currency notes and coins that are used as a medium of exchange in the country, The monopoly power of issuing legal tender currency is important to control the supply of money in order to prevent inflation.
b) **The Bankers' Bank:** The Central Bank provides facilities for other banks especially commercial banks to keep their cash reserve and clear their balance through the clearing house. It also grants loans to or discount the bills of commercial banks when they are short of fund, hence the Central Bank is referred to as 'lender of last resort'.
c) **Banke**r **to the government:** The Central Bank keeps the account of the government and all its corporations and agencies. It receives all payment due to the government, as well as undertakes borrowing on behalf of the government through the issuance of short term and long term securities e.g treasury bills, treasury certificates and long term securities e.g development stocks. The central

bank is also responsible for the management of domestic and external debts of the government.

d) **Promotion of Monetary stability:** The Central Bank controls money supply in the economy to promote price stability.

e) **Foreign Exchange Management:** To ensure that foreign exchange disbursement and allocation are consistent with economic priorities, the central bank acquires, allocates and monitors the use of scarce foreign exchange resources as well as maintains the country's foreign exchange reserves.

f) **Supervision of the banking system:** The central banks in a number of developing countries have been entrusted with the responsibility of developing a strong banking system to meet the expanding requirements of agriculture, industry, trade and commerce. Accordingly, the central bank possess some additional powers of supervision and control over commercial banks and other financial institutions. It issue licences to these finance houses, regulate their branch expansion, see to it that every bank maintains the minimum paid up capital and reserves as provided by the law, they inspect or audit the accounts of banks, it approve the appointment of chairmen and directors of banks in accordance with the rules and qualifications, it control and recommend merger of weak banks in order to avoid their failures and protect the interest of depositors, it also publish periodical reports relating to different aspects of monetary and economic policies for the benefit of banks and the public, it engage in research and train banking personnel.

Self Assessment Exercise:

Give a brief explanation on how the central bank can act as the government bank and the bankers' bank.

3.3 Developmental Function of Central Bank

The central bank of Nigeria has been involved in the provision of efficient monetary institutions and machinery for monetary management to establish an efficient and equitable credit system in the economy, provision of development finance and supporting development finance institutions to encourage savings habits, and the mobilization and training of staff for the banking and financial sectors.

1. **Provision of Monetary and Financial Machinery in the Economy;** Before the establishment of central bank of Nigeria, one of the defects of the financial system was the absence of local money and capital markets for short and long term lending respectively. This absence created at least two problems. First, whatever investment funds Nigeria could get tended to be invested abroad. Second, local businesses had no easy means of raising capital either for short-term or long-term business needs.

To solve these problems, the central bank set up the Nigeria Stock Exchange as well as money market (via the call money scheme) in 1962. Since then the stock exchange has grown and has provided a strong base for the raising of long-term capital for both government and private firms. Money market instruments like treasury bills, treasury certificates and bankers unit fund (BUF) have all been devised and used to meet the needs of short and medium-term borrowers. The full backing of central bank is essential for inspiring confidence in the growth of the Nigeria money market and the capital market.

2. **Availability of Credit in the Economy;** Before the establishment of central bank, the major source of credit available to the local firms was the local money lender. This was accompanied by the problems of high interest rates and small loanable capital. The non-Nigerian owned commercial banks that dominated the banking system were lukewarm on giving credit to Nigerians, mainly because of their inability to provide acceptable collateral and evidence of successful management expertise. The central bank has substantially contributed to liberalization of credit to government and private sector. Additionally, the central bank ensures that credit priorities are given to economic sectors which the national development plan seeks to develop.

3. **Provision of Development Finance and Institutions;** the central bank, aware of the need to mobilize domestic savings for development purposes of a longer term nature, took steps since 1961 to undertake the following:

    a. Ensure a regular issue of development loan stocks in order to mobilize savings from the public and some private firms.

    b. Set up the Nigerian Industrial Development Bank (NIDB) in 1964 to undertake the financing of long-term industrial projects.

    c. Set up the Nigerian Bank of Commerce and Industry (NBCI) in 1973 to facilitate indigenisation by financing the transfer of ownership of industries from foreigners to nationals. Both NIDB and NBCI have now been emerged into Bank of Industry (BOI)

    d. Set up the Nigerian Agricultural and Cooperative Bank (NACB) to provide finance to agriculture.

    e. Facilitate the establishment of the financial institutions and schemes such as the Agricultural Credit Guarantee Scheme Fund, Securities and Exchange Commission, Nigerian Deposit Insurance Corporation and Nigerian Import-Export bank.

Although the central bank is still involved in the task of further extending the range of financial institutions

4. **Mobilization of Rural Savings;** at present, banking and other savings institutions are concentrated in urban centres in Nigeria. This means that people in rural areas have little or no access to modern savings institutions. The central bank has initiated a policy to encourage the development of rural banking. The extension of banking to rural communities will also make credit accessible to the small farmers. In the 1980s, the opening of community banks was encouraged and this has helped in mobilizing local savings. Recently, the central bank began facilitating the transformation of the Community banks into micro-finance banks.

5. **Support for Small and Medium Enterprises;** because of the critical role that small and medium enterprises plays in the growth and development of the Nigerian economy, the central bank has taken measures to promote credit availability to this sector. It promoted the creation of small and medium industries equity investment scheme (SMIEIS).

6. **Development of Expertise in the Banking Industry;** with the emergence of central bank, steps were taken to train Nigerians to hold top management positions in the banking industry. It is to the credit of central bank that, since its establishment, its affairs have been competently directed and managed by Nigerian financial experts. The central bank has taken the initiative to become even more involved in the training of high level staff for the banking industry in the future.

3.4 Monetary function of Central Bank

The most important function of the central bank is to control the supply of money in the economy and the credit creation power of the commercial bank in order to control inflationary and deflationary pressures within the economy. For this purpose, it adopts quantitative and qualitative methods. Quantitative methods aim at controlling the cost and quantity of credit by adopting bank rate policy, open market operations and by variations

of credit. These involve selective credit controls and direct action.

The central bank controls the money supply and credit to achieve the following:

i. To stabilise the internal price level
ii. To stabilise the rate of foreign exchange
iii. To protect the outflow of gold
iv. To control business cycles
v. To meet business needs
vi. To have growth with stability.

Self Assessment Exercise:

What do you understand by the monetary functions of the central bank?

What role does the central bank play in the economic development of a country?

3.5: The Central Bank and Money Supply

The statutory mandate of the CBN is to maintain "monetary stability". The pursuit of this mandate has been further strengthened by the "instrument autonomy", granted to the Bank in 1998, implying that the CBN has discretion over the use of any monetary policy instrument and could intervene in the financial market in pursuance of the objectives of maintaining monetary stability and a sound financial structure. Towards these ends, the Bank is to ensure that variations in the demand for and supply of money would be managed in such a way as to minimize disturbances in the general level of prices, the achievement of external sector viability and real output growth.

In the foregoing review of macroeconomic developments, it is clear that monetary policy had played a crucial role. The high inflation of the early 1990s and exchange rate volatility of the same period were strongly underlined by excessive monetary expansion. The CBN recognizes that inflation imposes significant costs on the economy and has, as an ongoing endeavor, used the instruments at its disposal to absorb or inject reserves into the system.

- **Monetary Targeting**

The CBN seeks to achieve the ultimate objectives of policy through a monetary framework that targets monetary aggregates/intermediate variables. The CBN monetary program me sets explicit targets for broad money (M2), the key intermediate benchmark variable and base money as the operating variable. The factors, which influence the expansion or contraction of money stock, include aggregate bank credit to the private sector and credit to government, net foreign assets and "other" domestic assets (net) of the banking system. The target for the intermediate variable (M2) is determined with reference to the programmed inflation rate, external reserves accretion and real GDP growth targets. The link between the ultimate goals of price stability, the intermediate targets of money stock (M2) and indicator variables like the inflation rate are not usually so direct, but there is a wide consensus about the relative effect of the proximate variables on the ultimate goals. The question then arises as to, how does the CBN prepare its monetary programme? Prior to 1992, monetary and exchange rate policies were conducted through direct administrative control of the nominal interest rate, imposition of ceilings on interest rate and credit expansion, sectoral allocation of bank credit, foreign exchange control and quantitative restrictions. Though the reforms of 1986 liberalized the sector by adopting a flexible exchange rate regime and removing various forms of non-market interventions in the financial markets, the conduct of, monetary policy did not become fully market determined until 1993 when the use of open market operations (OMO) was introduced. Since 1993, the conduct of monetary policy hinged on a formal programme that sought to contain the growth rate of nominal money stock to programme targets through the injection and absorption of reserve money. In order to enhance the effectiveness of monetary policy, we complement the use of OMO with other

instruments, including cash reserve requirement, which specifies the proportion of deposit liabilities of the banks that should be kept as cash reserves at the CBN; discount window operations, for the purpose of discounting or repurchasing of securities, and by implication the injection or withdrawal of reserves into / from the system; and finally the Minimum Rediscount Rate, the nominal anchor of CBN's interest rate policy, used to signal the direction of interest rate changes. The other instrument used; as the need arises include the transfer of public sector accounts in and out of the CBN.

The adoption of the indirect approach to monetary management since 1993 has significantly contributed to enhanced efficiency in resource allocation in the system, despite the fact that targets were not always met. Effective from 2002, the CBN has adopted a medium-term perspective monetary policy framework, for a two-year period (2002 – 2003) to replace the annual monetary programme. The shift was in recognition of the fact that monetary policy actions affects the ultimate objectives of policy with substantial lag and, therefore, aims to free monetary policy implementation from the problem of time inconsistency as well as minimize over-reaction to temporary shocks.

Self Assessment Exercise:

Critically examine the establishment of central banking in Nigeria

4.0 Conclusion

We observed the historical perspective of central bank of Nigeria and evaluate its functions both traditional and monetary function**s** and concludes that the two functions are instrumental to the development of the nation.

5.0 Summary

This unit dealt with how the central bank came into existence and their role in controlling the financial situation of the country. It also treated the various ways the central bank can employed different policy to influence the level of economic activities in a developing economy.

6.0 Tutor-Marked Assignment

a) Discuss the Traditional Functions of the Central Bank.

b) Distinguish between quantitative and qualitative methods of credit control.

c) What is the monetary targeting of the central bank of Nigeria?

d) Distinguish between the traditional functions and the development functions of the central bank.

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MODULE THREE

Unit 1 Concept of Unemployment
Unit 2 Causes and Effect of Unemployment
Unit 3 Unemployment in Nigeria

UNIT 1: Concept of Unemployment
CONTENTS

1.0 Introductions

Unemployment has been one of the most persistent and unmanageable problems facing almost all countries of the world. All the same, the goal of the government has been to remove unemployment and to achieve full employment. Therefore in this unit we attempt to deals with the concept of unemployment. It also brings to the understanding of the students the meaning of unemployment and its types

2.0 Objective

- Explain the meaning of employment
- Understanding the difference between Unemployment and underemployment
- Identify and explain types of unemployment.

3.0 Main Content

3.1 Concept of Unemployment: Introduction

It refers to a situation where people who are *willing* and able to work do not find jobs at the *existing wage rate.* For a person to be referred to as unemployed he or she must be qualified for a job, willing to work at the current wage rate and unable to find a job.

The unemployment rate is expressed as a percentage of the total number of persons available for employment at any time. Unemployment is a problem that each society faces, and each society must find a way to beat it. Unemployment is one of the developmental problems that face every developing economy in the 21st century.

Self Assessment Exercise:
Who is an unemployed person?

3.2 Unemployment and Underemployment

Underemployment refer to situation when an individual or group of person is contributing less than their productive capacity, it can also be said to be a situation where an individual is employ to a cadre below his statue. For instance, a graduate selling recharge cards.

On the other hands, unemployment refer to a situation where people who are *willing* and able to work do not find jobs at the *existing wage rate.* For a person to be referred to as unemployed he or she must be qualified for a job, willing to work at the current wage rate and unable to find a job

Self Assessment Exercise:
Differentiate between unemployment and underemployment.

3.3 Types of Unemployment.

The main types of employment are structural, frictional, seasonal, cyclical, residual, technological and disguised unemployment.

1. **Frictional unemployment:-**it refers to unemployment caused by changes in individual labour markets. This is the type of unemployment resulting from people who have left jobs that did not work out and are searching for new employment or people who are either entering or re-entering the labour force to search for a job.

2. **Structural unemployment:**- This is unemployment resulting from changes in the pattern of demand for goods and services or changes in technology. These changes may in turn alter the structure of the total demand for labour rendering some particular skill less in demand or may become obsolete. The demand for other skill however may expand. Unemployment in this case is the result of the composition of the labour force which does not respond quickly to new structures of job opportunities.

3. **Cyclical unemployment:-** This type of unemployment (also known as Keynesian unemployment or the demand deficient unemployment) is due to the operation of the business cycle. This arises at a time when the aggregate effective demand of the community becomes deficient in relation to the productive capacity of the country. In other words, when the aggregate demand falls below the full employment level, it is not sufficient to purchase the full employment level of output. Less production needs to be carried out which ultimately leads to retrenchment of workers. Cyclical or Keynesian unemployment is characterized by an economy wide shortage of jobs and last as long as the cyclical depression last

4. **Seasonal unemployment:-** This is due to seasonal variations in the activities of particular industries caused by climatic changes, changes in fashions or by the inherent nature of such industries. The ice factories are closed down in winter throwing the workers out of their jobs because there is no demand for ice during winter. Likewise, the sugar industry is seasonal in the sense that the crushing of sugar-cane is done only in a particular season. Such seasonal industries are bound to give rise to seasonal unemployment.

5. **Disguised unemployment:** This type of unemployment is to be found in the backward and the underdeveloped countries of Asia and Africa. The term 'disguised unemployment' refers to the mass unemployment and underemployment which prevail in the agricultural sector of an underdeveloped and overpopulated country. For example, if there are four persons trying to cultivate an area of land that could be cultivated as well by three persons, then only three of these persons are really fully employed and the remaining fourth person represents disguised unemployment. The people in underdeveloped countries are outwardly employed but actually they are unemployed, the reason being that agricultural production would suffer no reduction if a certain number of them are actually withdrawn from agriculture. This can also be seen when the growth of the labour force exceeds the amount of investment made. The lack of investment is due to shortages in real factors such as shortage of skilled labour, managers, right type of entrepreneurs, etc. As a result, there is over supply of labour available and these excess labours are 'employed" (to be exact, underemployed) in jobs when there are already enough workers. Therefore, the marginal productivity of such labour is low. This type of disguised unemployment is caused by the chronic shortage of capital resources in relation to the rapidly growing population.

6. **Technological unemployment:** The purpose of growth causes this and it results from the installation of labour saving machinery. Technological changes may eliminate many unskilled and semi-skilled workers while creating jobs for specialised trained persons. This is why many rural urban immigrants cannot even get factory work because of lack of needed skills.

Self Assessment Exercise: Explain any fives types of unemployment.

3.4 Meaning of Full Employment

From the classical to the modern economists, there is no unanimity of views on the meaning of full employment. Therefore, it is worth-while to analysing the various views of economists on full employment.

The Classical View of Full Employment

They believed in the existence of full employment at all times in the economy, to them full employment is a normal situation in the economy. According to Pigou, the tendency of the economic system is to provide full employment in the labour market. There is unemployment when there is wage rigidity and interference in the working of free market system in the form of trade union legislation, minimum wage legislation, etc. Full employment exists when everybody who at the present wages wishes to be employed. For the Pigovain view those who are not prepared to work at the existing wage are not unemployed but they are voluntary unemployed. Also, with perfectly free competition there will always be a strong tendency for wage rates to be so related to demand that everybody is employed. This view on full employment is consistent with frictional, voluntary, seasonal or structural unemployment.

The Keynesian View of Full Employment

According to Keynes, full employment means the absence of involuntary unemployment that is full employment is a situation in which everybody who wants to work gets work. Full employment is consistent with frictional and voluntary unemployment. He assumes that with a given organisation, equipment and technique, real wages and the volume of output are co-related, so that, an increase in employment can only occur to the if the wage rate decline. To achieve full employment, Keynes advocates increase in effective demand to bring about reduction in real wages. According to him when effective demand is deficient, there is underemployment of labour in that people unemployed will be willing to work at less than existing real wage. But if effective demand increases, employment increases, though at a real wage equal to, or less than, the existing one, until a point comes, at which there is no surplus of labour available at the existing real wage.

Keynes also gives another definition of full employment in his "General theory": 'It is a situation in which aggregate employment is inelastic in response to an increase in the effective demand for its output.' if the supply of output becomes inelastic at the full employment level, any further increase in effective demand will lead to inflation in the

economy. Thus the Keynesian concept of employment involves three conditions: (i) reduction in the real wage rate, (ii) increase in effective demand and (iii) inelastic supply of output at the level of full employment.

Other Views on Full Employment

Lord Beveridge in his book "Full Employment in a Free Society" defined it as a situation where there were more vacant jobs than employed men so that normal lag between losing one job and finding another will be very short." By full employment he does not mean zero employment which means that full employment is not always full. That is, there is always a certain amount of frictional unemployment in the economy even when there is full employment.

According to the American Economic Association Committee, "Full employment means that qualified people who seek jobs at prevailing rates can find them in productive activities without considerable delay. It means full time jobs for people who want to work full time. It does not mean people like house-wives and students are under pressure to take jobs when they do not want jobs or that workers are under pressure to put in undesired overtime. It does not mean unemployment is zero." Therefore, both Beveridge and the Committee considered full employment to be consistent with some amount of unemployment.

Self Assessment Exercise: According to your our view what is full employment.

4 Conclusion

Here, we study the concept of unemployment, we looked at it cause types and solution. We equally examined the concept of underemployment and relate it to unemployment**.**

5 Summary

Unemployment is a situation in which able people are ready and willing to work at the ongoing wage rate but are unable to secure a job. Unemployment of people may not necessarily arise out of lack of vacancies in the economy as a whole, but essentially the unemployed may not possess the right skills for the available jobs or he may not be aware of the existence of that vacancy.

6 Tutor-Marked Assignment

a) What is meant by unemployment?

b) Explain all the types of unemployment you know.

c) Distinguish between unemployment and underemployment, what major difference existed between them?

d) What do you mean by full employment? Explain measures to achieve full employment.

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UNIT 2: Causes and Effect of Unemployment

CONTENTS

1.0 Lntroduction

There are many causes for unemployment, and it is vital that we understand them all to be effective in combating this great social evil. Only by offering solutions to tackle the causes of unemployment can we really solve the problem; treating the symptoms is not enough and will have the same effect as a painkiller: you numb the pain but the problem doesn't go away and, what more worrying, painkillers are addictive, and so are solutions for the symptoms of unemployment as opposed to the causes.

2.0 Objective

- Identifying the causes of unemployment
- Examining the effect of unemployment
- Understanding the solution to unemployment

3.0 Main Content

Unit 1: Causes of unemployment

Unemployment is cause by the following reasons:

i) Recessions

When the economy is not growing, then jobs aren't being created and unemployment rises. Combating recessions is done through a prudent fiscal policy that includes incentives to invest and to spend money, including

lower taxation and interest rates. Recessions are a reason why Conservatives want sustainable growth with a prudent fiscal policy. Recklessness in public finances means that a recession strikes harder and does a lot more damage.

ii) Over-Regulation

Over-regulation is an important cause for unemployment. Too much burden on a business shoulders and that business cannot afford to expand and, with its expansion, to create more jobs. Because of this, if you are unemployed, it will be almost impossible for you to find work, and this will be especially critical for students and for anyone who finds him or herself out of work when they are middle aged. There is too much paperwork involved to do anything; there are too many regulations that stifle job creation efforts. This leads to a two-tier system, usually, with those who are already employed having a job for life, and those who do not have a job are unable to find anything, and are forced to live on welfare. There are too few job offers for the demand, a shortage that leads to poverty and chronic unemployment. This means that adding burdens to the economy will not create new jobs. It will, in fact, make the amount of new jobs being created decrease.

iii) Skills

To be able to handle a certain job, a person needs a set number of skills. If the person does not have the skills for a job, then he or she either gets training or he or she is unable to get that job. When the types of jobs in a certain area change, then people without the right skills are either able to move to a different area or they are unable to find work. In the meantime, these new jobs are filled up with new people, who do have the skills these require. A technology shift can lead to this sort of unemployment, which is structural in nature. The wrong approach to this problem would be to keep the old jobs going forever, because that situation is unsustainable. A lot of money will be spent and the people get to keep their jobs, but they are not given the possibility to improve their situation. The way to solve this issue is through training.

iv) Lack of Information

A source of unemployment that cannot be overlooked is the lack of information about available jobs. If people don't know that jobs are there, then they will not take them. It is also important that, when people do know about possible employment opportunities for them, they are able to take them. Dissemination of information is fundamental in any market, and in the job market it is fundamental as well. The obvious solution for this problem is to be able to bring information to the people who need it. Job centres do that, and the more efficient they are.

v) Wide gaps between rural and urban incomes. In the urban cities, white collar jobs are available for few lucky ones who are generally better paid than their counterparts in the rural areas. This causes the drift from the rural to the urban centres.

Self Assessment Exercise: In your opinion can population pressure and lack of investment be the cause of unemployment.

3.2 Effects of unemployment

Unemployment always has the following effects on the economy of a country:

(i) Valuable human resources would be wasted
(ii) Valuable material resources would be lying idle
(iii) Potential goods and services would not be produced in large quantities and therefore leading to goods and services scarcity
(iv) It makes life to become miserable for unemployed people and the overall effect is that there will be a setback for the whole nation in general.

Self Assessment exercise: Do you think that unemployment can lead to rural – urban migration which can have effect on the number of people living in the urban cities.

Unit 3.3: Solution to Unemployment

There are various solutions that an economy can apply to solve the problem of unemployment and among are the following:

1. **Infrastructural development in the country;** If a nation developed its basic infrastructure such as road network, electricity, pipe borne water and other social overhead. This will encourage producers to established business at lower cost and promote employment opportunity.

2. **Human capital development:** Development of human resources is a back bone of every economy. A nation that developed its resources would expand its productive capacity by doing the right thing in the right way and encouraging further production.

3. **Foreign direct investment;** There is a linkage between infrastructural development and foreign direct investment. Foreign direct investment implies in domestic economy by multinational, this will generate employment opportunities and increase in local productivity.

4. **Training and retraining of employees;** incentives for both companies to retrain and employees to take part in training to

make them more attractive and useful to firms. Governments may also directly take part in retraining projects where unemployment levels as a result of structural unemployment are very high. This will boost productivity and give opportunities to expand production capacity, thereby creating employment opportunity**.**

5. **Research and Development;** Research and development enable a country to expand knowledge base and production capacity thereby creating employment opportunity.

6. **Political Stability:** A stable polity with sound macroeconomic environment encourages both domestic and foreign entrepreneur to established business and thus create employment opportunity.

7. **Absence of corruption, nepotism, favouritism, etc;** A nation that is free of all these social ailments would have a stable polity and will grow faster than those that did not. The presence of corruption and other social disease are responsible for backwardness of developing nations. If a country is free of these cankerworms, there would be judicious utilisation of public funds which will enhance expansion of productivity capacity in the Ministries Department and Agencies (MDAs) of government and thereby create employment opportunities.

8. People should try to be self employed rather than look for white collar jobs that could not be found in abundance.

9. Government should try to develop the rural sector so as to reduce the problem of "rural-urban migration".

10. To a certain extent, government should try to control population as well as making adequate plan in seeing that the graduates are well absorbed into the employment

Self Assessment exercise: What action policy should the government undertake to eradicate unemployment in the country?

4.0 Conclusion

Even though, there are various causes and effects of unemployment in an economy, there are various solutions that can also be use to combat these problems of unemployment.

5.0 Summary

We examined the causes , effects and solution to unemployment and established that every ailment in the society has its panacea**.**

6.0 Tutor-Marked Assignment

a) What are the causes of unemployment?
b) In what ways can unemployment be combated in a country?

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UNIT 3: Unemployment in Nigeria

CONTENTS

1.0 Introduction

Unemployment has been one of the most persistent and unmanageable problems facing all industrial countries of the world. At the same time, the goal of public policy has been to remove unemployment and to achieve full employment in such countries.

2.0 Objective

- Examining the background of unemployment in Nigeria.
- Explain the effects of unemployment in Nigeria
- Understanding the policies use by the government to minimise unemployment in Nigeria

3.0 Main Content

3.1 Unemployment in Nigeria – Historical background

In the traditional African societies, unemployment was never a problem. All people have their assigned duties, although it could be argued that, for farming communities, which were very prevalent, there existed some element of underemployment especially for adult males during the period immediately preceding the harvest season. This period is of course used mostly for communicably organized civil construction activities.

The colonial period and the world civil wars marked the beginning of unemployment problem in Nigeria and some other counties formal, literary and modern education was introduced and wage employment in the expatriate sector (government, mining and agriculture) was instituted. As there was a tremendous increase in the number of persons with some formal education whereas the

opportunities for employment lagged behind. Beside the world wars II also led to the release of ex-service men who settled in the cities, thereby accentuating the cost of housing in the cities. Furthermore, the rural area became deserted on account of large number of men moving to the urban area.

According to the Central Bank of Nigeria (2003) the national unemployment rate, rose from 4.3 percent in 1970 to 6.4 percent in 1980. The high rate of unemployment observed in1980 was attributed largely to depression in the Nigerian economy during the late 1970s. Specifically, the economic downturn led to the implementation of stabilization measures which included restriction on exports, which caused import dependency of most Nigerian manufacturing enterprises, which in turn resulted in Operation of many companies below their installed capacity. This development led to the close down of many industries while the survived few were forced to retrench a large proportion of their workforce, furthermore, the Nigerian Government also placed an embargo on employment. Specifically, total disengagement from the Federal Civil Service rose from 2, 724 in 1980 to 6,294 in 1984 (Odusola, 2001). Owing to this, the national unemployment rate fluctuated around 6.0% until 1987 when it rose to 7.1 percent. It is important to state here, that SAP adopted in 1986, had serious implications on employment in Nigeria, as unemployment rate declined from 7.1 percent in 1987, to as low as 1.8 percent in1995, after which it rose to 3.4 percent in 1996, and hovered between 3.4 and 4.7 percent between 1996 and 2000 (Douglason et al, 2006). According to a 1974 survey, reported by Aigbokhan (2000) graduate unemployment accounted for less than 1 percent of the unemployed, in 1974, by 1984, the proportion rose to 4 percent for urban areas and 2.2 percent in the rural areas. Graduate unemployment, (Dabalen et al, 2000) accounted about 32% of the unemployed labour force between 1992 and 1997. It is impressive to note here that, in 2003, Nigerian's unemployment rate declined substantially to 2.3 percent. This decline was attributed to the various government efforts aimed at addressing the problem through poverty alleviation programmes. Recently, the Federal Government accepted World Bank's figure of 40 million (28.57%) unemployed people in Nigeria. Though there were no details of how the Bank arrived at that figure, the admission by the Minister of Labour, Prince Adetokunbo Kayode that we do have such an unemployment crisis is enough to give credence to the report. We recall those two years ago, the Federal Government disclosed that about 70 percent of Nigeria's population lived below the poverty line, but since then no concrete measures have been taken to address the situation. Suddenly we are confronted with the statistic that 40 million Nigerians are unemployed.

It is indeed worrisome for a country with a population figure of 140million (as indicated in the 2006 Census report) to have 40million unemployed. But we wonder why the minister should rely on World Bank to ascertain the country's unemployment figures rather than obtain same from the federal office of statistics. Notwithstanding the reliability or otherwise of the figures, the good thing is that those at the helm of affairs are beginning to show concern about the growing rate of unemployment and poverty in this country and may decide to act now. While acknowledging efforts made by previous administrations to tackle the problem of unemployment, we however disagree with the minister for attributing the present statistics to the current global economic meltdown. Over the years, hundreds of factories that hitherto provided employment to multitudes of graduates and artisans have collapsed. In one year, over 100 textiles factories closed shop across the country and the trend continues. Why? This is because energy supply which serves as the main engine of production has been comatose, thus forcing surviving industries to depend on power generators while the country becomes a dumping ground for all imported items. Many artisans such as furniture makers, welders, aluminium window fitters, tailors, etc who cannot afford power generators are today out of work. In desperation, a large chunk of Nigerian youths have taken to riding commercial motorcycles while others went into street hawking just to keep body and soul together. The country is faced with a gross abuse and under utilization of human resources with direct impact on national productivity and competitiveness. Brain drain in all professional callings has become the order of the day, while the Manufacturers Association of Nigeria (MAN) which used to play a key role in policy formulation and implementation has been reduced to a gathering of complainants. Another disturbing aspect of the whole phenomena is the state of our educational system which has forced some employers of labour to reserve spaces for Nigerians with foreign qualifications. This is because our higher institutions are steadily producing graduates whose skills are suspect, thus making it difficult for them to get recruited. This brings to the fore, the need for Guidance and Counselling tutorials in our schools, in order to prepare, guide and encourage students to read courses that could guarantee them employment after graduation.

Self Assessment Exercise:
Clearly discuss unemployment in Nigeria.

3.2 Effect of Unemployment in Nigeria

High and persistent unemployment has presented a major challenge for the economy in two major areas. One such area, it has eroded the funding base and secondly, it has increased the demands on government through the use of welfare programs because of the consequences for poverty and inequality resulting from high unemployment. The following is an analysis of the effects that unemployment has on the economy. One such effect is the social costs, these include increasing poverty, personal hardships, depression, decay of unused skills, increase in crime(mostly among the young) as well as family disputes and broken marriages. Unemployed individuals become more and more dissatisfied and resort to riots and demonstrations. Secondly, the economic costs that are produced from unemployment. Due to unemployment, the economy's GNP will be less than the potential GNP, that is to say; what is possible of full employment. This difference is known as the GNP gap. The gap is positive but can be slightly negative if the actual GNP exceeds potential GNP and this can be possible only when the employed labour works overtime or firms run their plants beyond their efficient level of capacity. Unemployment is an economic problem involving loss of output and income.

Self Assessment Exercise:
Unemployment is a serious cankerworm eating deep into the economy. Discuss?

3.3 Policy Control to Combat Unemployment in Nigeria.

Government policies to reduce unemployment must be based upon the types and causes of unemployment that are prevalent. It may be worth glancing back to that section to remind you of the major kinds of unemployment; however, we will go into more detail in this section. General policies such as cuts in direct taxes so should be effective across any kind of unemployment, as it increases the appeal of any job to any potential employee.

a) Real Wage Unemployment
This is unemployment as a result of a kind of **Market failure** a failure of the labour market to respond to changes in demand. If demand for workers rises, it is logical that they will demand greater real wages similarly, if demand falls, workers should expect to suffer lower real wages for the same work. Real wage unemployment is usually caused by a combination of:

i. **Strong trade unions**- giving employees greater power over deciding wage conditions with the threat of industrial action (strikes etc.) With strong unions, firms will not be able to reduce wages when demand is low, leading to bankruptcy (unemployment) or layoffs of workers (unemployment)

ii. **Wage 'stickiness'**- Employees on long term contracts will have a fixed wage over a long period of time. If a downturn in demand occurs, wages cannot fall immediately in response - they are 'sticky'

iii. **Minimum wage**- This is a characteristic of most modern economies, guaranteeing every worker a minimum standard of living. Whilst this is undoubtedly wonderful, if the minimum wage is set too high, the labour market is once again inflexible Government policies to tackle this form of unemployment are invariably unpopular for workers, as their wage levels are threatened to the benefit of firms and businesses. However, it is largely appreciated that, for example, overly strong trade unions can utterly paralyze an economy. Policies to combat real wage unemployment include trade union reform (reducing their powers); increasing firms' ability to change wages and encouraging shorter term contracts and ensuring that the minimum wage level does not adversely impact the economy.

Self Assessment exercise: In your opinion what policy control will be more effect to combat unemployment in Nigeria?

4.0 Conclusion

We conclude that Nigeria has gone through a trade cycle and manage to come out of it in the past and that the recent unemployment problem could also be solved through application of right policy framework**.**

5.0 Summary

This unit examined historical underpinning of unemployment problems in Nigeria, its effects and the policy instruments used in combating the problem

6.0 Tutor-Marked Assignment

a) What solutions do you think the government should embark on to solve the problem of unemployment in Nigeria?
b) Analysis the causes and effect of unemployment in Nigeria.

7.0 **References/Further Readings**.

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MODULE FOUR

Unit 1 Inflation and Price Level
Unit 2 Inflation and Deflation
Unit 3 Inflation and Unemployment

UNIT 1: Inflation and Price level

CONTENTS

Introduction

This unit will discuss the meaning of inflation, the various types of inflation, its causes and effect of inflation on the economy. It went further to bring to the understanding of the students the ways that the government can use to combat the problem of inflation.

Objectives

At the end of this unit, the reader should be able to

- Define inflation
- Explain the various types of inflation.
- Identify and explain five causes of inflation.
- Explain five effects of inflation.
- Explain how demand management policies and supply side policies could be used to control inflation.

3.0 Main Content

3.1 Inflation - Definition

Inflation describes a persistent and an appreciable increase in the general price level. The Inflation rate is measured as a percentage change in a price index, such as the consumer price index. Inflation can also be refers to a high and persistent rise in the general prices of goods and services which is due mainly to large volume of money in circulation

relative to goods and services produced. From these definitions, it means that inflation can occur if:

- There in an increase in the supply of money not matched with a corresponding increase in goods and services.
- There is a lower increase in production of goods and services than money supply.
- There is a greater increase in demand for goods and services than physical production of goods and services.

Self Assessment Exercise:
What are the factors that can lead to inflation?

Unit 3.2: Types of Inflation

a) **Demand Pull Inflation:** it describes a sustained increase in general price level that is caused by a permanent increase in nominal aggregate demand. Simply, is can be viewed as an inflation that occurs as a result of increase in aggregate demand. When aggregate demand exceeds aggregate supply at current prices, prices are pulled upwards to equilibrate aggregate supply and demand.

b) **Cost Push or Supply Inflation:** it is a situation where the process of increasing price level is caused by increasing costs of production which push up prices.
Cost push inflation is also referred to as supply inflation. Price level in this case increases due to an increase in business costs. These increases in prices occur in the face of high unemployment and slacken resource utilization. The increase in cost of production causes supply of final goods and services to fall. This creates excess aggregate demand and a new equilibrium is attained at a higher price level.

c) **Creeping Inflation:** when the rise in prices is very slow like that of a snail, it is called creeping inflation or a sustained rise in prices of annual increase of less than 3% per annum is characterised as creeping inflation and it essential for economic growth.

d) Hyper Inflation: This is the extreme form of inflation in which the value of money loses its purchasing power. Money thereby loses its function as a store of value. The increase in the economy's output is impossible because of the breakdown in monetary mechanism. It is associated by an increase in the supply of money. It is usually experienced during war when labour and other resources are channelled towards the persecution of war.

Self Assessment Exercise:

Differentiate between Demand Pull inflation and Cost Push inflation.

Unit 3.3: Causes and Effects of Inflation

❖ Causes of Inflation

1. Excessive growth in wages relative to productivity can cause inflationary pressures. This causes aggregate demand to increase relative to aggregate supply and pulls up prices level.
2. Government sector causes. Changes such as an increase in government expenditure can produce an increase in the price level in the economy via increased aggregate demand.
3. Price stocks. These are substantial increases in the prices of some items, for example, due to drought, floods, or massive oil price hike. These increases in the prices of these items may feed into cost of production. Aggregate output may fall and given the aggregate demand the price level is pushed up.
4. Excessive growth in money supply relative to the level of production in the economy. This causes the level of aggregate demand in the economy to increase relative to aggregate output, shortages occur and the price level rises.
5. Changes in exchange rate. If the external value of the domestic currency falls relative to other nations currencies this may be inflationary. Under this circumstance important goods become more expensive and this may add o domestic cost and price structure on the economy fuelling inflation.

❖ Effects of Inflation

1. On income Earners: Those on fixed income or assets (fixed in nominal terms) lose, however, those on incomes, which are directly related to the price level; real incomes may remain relatively unchanged or may even increase.
2. On profits: Generally, profits increases when the inflation is the demand pull type and decline when the inflation is the cost push type. During demand pull inflation the prices of final goods and services tend to be more flexible in an upward direction than many other prices.
3. On lenders and borrowers: inflation tends to encourage borrowing and discourage lending. This is so because what is borrowed today which could have been used to purchase, say a bowl of garri today, would not enable the creditor to purchase the same bowl of garri when the loan is paid back. This is true only when nominal interest rate is fixed or rises at a slower pace than inflation.
4. On production: Demand pull inflation may lead to inefficiency in production since competitive pressures to improve both product and performance will be greatly reduced cost – push inflation however, puts a premium on efficiency.
5. On foreign Trade: Rising domestic prices can hurt exports. If domestic prices are rising faster than the rest of the world prices, exports will fall and imports will tend to increase and this will invariably affect our net exports and may have devastating balance of payment implications.
6.

Self Assessment exercise:

Explain the economic effects of inflation on different people.

Unit 3.4: Control of Inflation

How inflation is controlled in an economy depends on the causes and the type of inflation the economy is experiencing

1. **Use of Fiscal Policy**

Fiscal policy is one of the two main macroeconomic policies used to control aggregate demand and thereby achieve economic stability. Fiscal measures relate to taxation. Government expenditure and public debt management, which seek to influence the level of aggregate demand in an economy.

There are three main tools of fiscal policy viz. government spending (G), the income tax rate (t) and government transfer payments (Tr). In times of demand pull inflation these tools are used to reduce aggregate demand. An increase in tax rate, decrease in government expenditure and decline in government transfer payment will reduce aggregate expenditure in the economy.

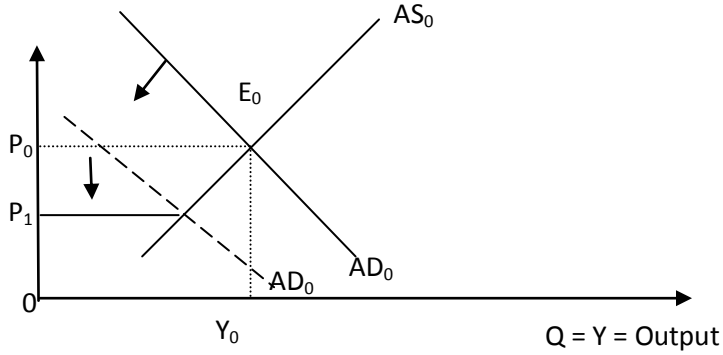
2. **Use of Monetary Policy**

Monetary policy is that part of macroeconomic policy which regulates the changes in money supply in order to maintain price stability.

Tools of monetary policy are changing discount rate (d); changing required ratio (rr) and open market operations (OMO). Increased required reserve ratio (rr) reduces the extent to which commercial banks create credit hence reduces money supply. When the discount rate is increased short term interest rates increased and this discourages borrowing to finance investment spending. This invariably reduces aggregate demand. Central bank selling of its own government securities to the general public reduces money supply which reduces aggregate demand.

We employ Figure 5.3.1 to illustrate how monetary and fiscal policies shift the aggregate demand curve.

Figure 4.3.1: Effects of Monetary and Fiscal Policy On Aggregate Demand.



In the mainstream macroeconomics, monetary policy shifts the aggregate demand curve of an economy. In figure 4.3.1, the equilibrium price level is P_0 and the equilibrium aggregate output is Y_0. If the central bank increases the discount rate (d) or engages in open market sales or increases the required reserve ratio the AD – curve shifts to the left (aggregate demand falls) from AD_0 to AD_1 and the price level declines to P_1. This is known as restrictive monetary policy. The central bank in an attempt to fight inflation may embark on restrictive monetary policy.
Contractionary fiscal policy via reduction in government expenditure (G), decrease in transfer payments (Tr) and increase in the income tax rate (t), would also cause the AD_0 to shift to AD_1.

3. **Control measures**

These measures may take the form of wage freeze, linking wage increases to increase in productivity. Price controls may also be used. Maximum prices are used in this case. These prices are the highest possible legal prices for scarce goods. However, these prices may lead to queues rationing and black marketing in scarce products.

4. **Supply Side Policies.**

In addition to the demand management policies, supply side policies could also be used in controlling inflation. This however is a long – term measure. The following may increase aggregate supply: increasing productivity in all sectors of the economy. Increases in productivity may increase output, which will subsequently increase supply. This may be achieved by the retraining labour, improving technology, removing all structural rigidities e.g. land tenure system, poor road infrastructure etc.

Self Assessment exercise: Suggest measures to control inflation.

4.0 Conclusion

We conclude that inflation is of different dimensions and that the perceived cause is also the source of solution.

6.0 Summary

Inflation describes a persistent and an appreciable increase in the general price level. The inflation rate is measured as a percentage change in a price index, such as the consumer price index.

Demand pull inflation describes a sustained increase in the general price level that is caused by a permanent increase in nominal aggregate demand. Cost push or supply inflation is a situation where the process of increasing price level is caused by increasing costs of production which push up prices.

There are various causes of inflation which have different effects on the economy as a whole. Also, the government can use monetary or fiscal policies and other control measures to combat the problem of inflation.

6.0 Tutor-Marked Assignment

1) "Inflation has been a contributory factor to the decline in the Nigeria economy". Discuss.
2) What is inflation and what effect does inflation have on the economy?
3) Suggest possible measures to the government to cushion the effects of inflation.
4) Discuss the various types of inflation you know..

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UNIT 2: Inflation and Deflation
CONTENTS

1.0 Introduction

The unit reflect on deflation which is a situation when prices fall along with reduction in output and employment. It went further to explain the effects and how it can be control. The relationship between inflation and deflation is also discussed.

2.0 Objective

The objectives of the unit are

- Explaining the meaning of Deflation
- Examining the relationship between inflation and deflation
- Identifying the effects and control of deflation
- Analysing if there is any relation between deflation and unemployment.

3.0 Main Content

3.1 Deflation Defined

The opposite of inflation is deflation. It is a state in which the value of money is raising i.e. prices is falling. Deflation is caused when prices are falling more than proportionately to the output of goods and services in the economy as a result of decrease in money supply.

Self Assessment Exercise:

What is Deflation?

3.2 Comparison between Inflation and Deflation

Inflation brings about rising prices and redistribution of income in favour of the better-off classes. On the other hand, deflation leads to fall in output, employment and income. According to Keynes, inflation is unjust while deflation is inexpedient; inflation is unjust because it widens the gap between the rich and poor that is the poor and low income classes suffer because their wages and salaries do not rise to the extent of price rise. It becomes difficult for them to make ends meet with rising prices of consumer goods. On the other hand, businessmen, traders, industrialists, real estate holders, etc. gain because their profit and incomes increase much more than the rise in prices. So they are not affected by the fall in purchasing power when price is rising.

Again inflation is unjust because persons who save are losers in the long run, when prices are rising, the value of money is falling therefore, the savings in the banks reduced automatically in real terms as inflationary pressures increase.

Inflation is also unjust because it is socially harmful. People amass wealth by unscrupulous means, they resort to hoarding, black marketing adulteration, manufacture of sub-standard commodities, speculation, etc. corruption also spreads in every walk of life and all this reduces the efficiency of the economy.

Deflation on the other hand is inexpedient because it reduces national income, output and employment. While inflation takes away half the bread of the poor, deflation impoverished them by taking away the whole of the bread.

Deflation leads to mass unemployment because fall in production, prices and profits force producers and businessmen to close down their enterprises. It is also inexpedient because falling prices lead to depression, all economic activities are stagnant, and factories are locked out, trade and business are at a standstill. According, to Keynes he prefer inflation to deflation because inflation increases national output, employment and income, whereas deflation reduces national income and brings the economy backward to a state of depression. Again inflation is a lesser evil than deflation because it redistributes income and wealth in favour of the rich but, deflation is a greater evil even though it redistributes income in favour of the low income groups, yet it fails to benefit them because they are unemployed and have little income during deflation. It also easier to control inflation than deflation through appropriate monetary, fiscal and direct control measures. Moreover, as long as inflation is mild, it helps the economy to grow. It is only when inflation is hyperinflation that is dangerous, still its effects on the economy may not be so injurious as under deflation.

Self Assessment Exercise:

Is inflation more preferable to you than deflation.

3.3 Effects and Control of Deflation

❖ Effects of Deflation

Deflation affects different groups differently;

i) Persons with fixed incomes such as white collar salaried workers, pensioners, etc. gain because the value of money rises with falling prices. On the other hand, equity holders also lose. Thus deflation affects adversely the distribution of income and wealth. When prices are falling the purchasing power is increasing, the lower, middle, and other classes with low incomes gain. On the other hand, businessmen, industrialists, traders, real estate holders and other with variable incomes are hit hard and their profits decline with deflation.

ii) Deflation also affects production adversely. With falling prices, production falls because income and employment are also declining and the aggregate demand is on the decline. Commodities start accumulating. Profits will fall which will make small firms to close down making unemployment to spread. This vicious circle of fall in demand, production, employment, income and aggregate demand leads to a depression.

iii) The government also suffer under deflation because revenues from direct and indirect decline. The real burden of public debt increases, development of the economy suffers because the government is unable to increase public expenditure.

❖ Control of Deflation

Deflation can be controlled by adopting monetary and fiscal measures in just the opposite manner to control inflation and this is discussed briefly.

1) **Monetary Policy:** To control deflation, the central bank can increase the reserves of commercial bank through monetary policy. They can buy securities and reduce interest rate. As a result the commercial bank ability to extend credit facilities to borrowers increases. The success of monetary policy in controlling deflation is limited because when business activity is almost at a standstill, businessmen do not have any inclination to borrow to build up inventories even when the rate of interest is very low but, rather they want to reduce their inventories by repaying loans already drawn from the banks. Also, the consumers who are faced with unemployment and reduced incomes do not like to purchase any durable goods through bank loan. Thus all that the banks can do is to make credit available but they cannot force businessmen and consumers to accept it. So the low interest rates and the unused reserves with the banks will not have any significant impact on the economy.

2) **Fiscal Policy:** This through increase in public expenditure and reduction in taxes tends to raise national income, employment, output, and prices. An increase in

public expenditure during deflation increases the aggregate demand for goods and services and leads to a large increase in income via the multiplier process, while a reduction in taxes has the effect of raising disposable income thereby increasing consumption and investment expenditures of the people. The government should increase its expenditure through deficit budgeting and reduction in taxes.

Self Assessment exercise: Is fiscal policy more effective to control deflation than monetary policy?

Unit 3.4 Deflation and Unemployment

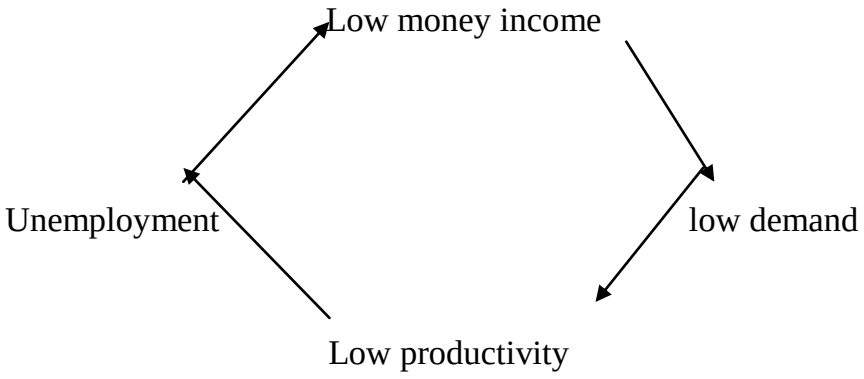
Deflation is the continuous and consistence fall in general price level due to low volume of money income in circulation which lead to deficiency in demand. A chronic demand deficit (deficit demand) always results to deflation.

However, low money income which resulted to low or deficient demand will equally leads to low productivity and low productivity will results to laying off of workers (unemployment). This cycle will continue until a policy measure described earlier is put forth to arrest the situation.

Unemployment refers to a situation where there is presence of involuntary unemployment in Keynesian term. Unemployment can also be seen as a situation where people who are willing and able to work at the going market wage rate could not get a job or a means of livelihood. The first definition implies absence of voluntary unemployment which is a situation where a number of people might not be willing to work at the market established wage rate for some certain reasons.

Causation between Deflation and Unemployment

The definition of deflation above could infers that deflation generates unemployment for the fact that low income leads to low demand and low demand leads to low productivity while low productivity leads to unemployment.



It should however, be noted that deflation causes unemployment, it can also be viewed that the low money income is as a result of chronic unemployment and then conclude that there is a bi-directional relationship between deflation and unemployment and that a solution to one is also solution to the other.

Self Assessment exercise: Do you agree that deflation leads to unemployment?

4.0 Conclusion

We examined the concept of inflation, unemployment and deflation and explain the impact of each to the level economic activities and justified that a mild inflation is necessary for growth**.**

5.0 Summary

This unit explained the concepts of inflation, deflation and unemployment and there effect to the level of economic activities**.**

6.0 Tutor-Marked Assignment

1. What relationship exists between deflation and unemployment?

2. Distinguish between inflation and deflation, what are the major features of these economic ailments.

3. "Inflation is unjust and deflation is inexpedient." Discuss.

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UNIT 3: Inflation and Unemployment

CONTENTS

1.0 Introduction

This unit introduced the students to relationship between inflation and unemployment, also uses Philip curve to illustrate this relationship, while Okun law and Taylor rule gave alternative to Philip curve. Also, the phenomenon of stagflation will be discussed and this is a situation whereby a country is experiencing high rate of unemployment and high rate of inflation.

2.0 Objective

At the end of this unit student should be able to;

i) Understand the kind of relationship between inflation and unemployment.
ii) Use Philip curve to illustrate relationship between unemployment and inflation.
iii) Explaining the concept of stagflation.
iv) Understand the meaning of Okun's law and establish relationship between this and Philip curve.
v) Explain Taylor's rule and modest inflation targeting..

3.1 : Relationship between Inflation and Unemployment

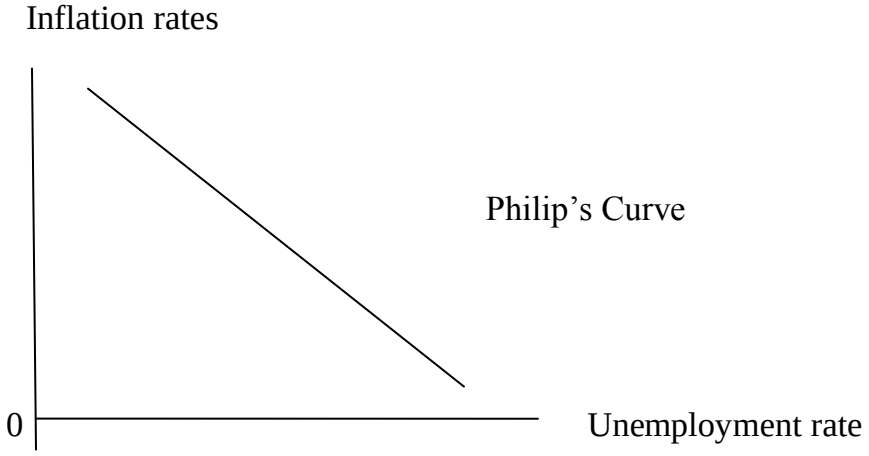
Inflation is described as persistent and appreciable increase in the general price level. The Inflation Rate is measured as a percentage change in a price index, such as the consumer price index. Inflation can also be defined as persistent increase in general price level due to too much money chasing few goods and services. Unemployment refers to a situation where people who are *willing* and able to work do not find jobs at the *existing wage rate.* For a person to be referred to as unemployed he or she must be qualified for a job, willing

to work at the current wage rate and unable to find a job. J. m Keynes defined full employment which is the opposite of unemployment as the absence of involuntary unemployment, therefore unemployment Keynes and Pigou sense is the presence of "involuntary unemployment" that is a situation in which people are willing to work at prevailing market wage but could not find work to do.
However, several authors have established different relationships between inflation and unemployment but the most popular one is that of Professor Philips that said that inverse relationship exist between unemployment and inflation and that trade off exist between them, that an appeal to solve unemployment problem will generate inflation and vice versa.

Self Assessment exercise: What types of relationship exist between inflation and unemployment?

3.2: The Philip's Curve Analysis

Phillips curve theory indicates that changes in inflation are influenced by the state of the economy relative to its productive capacity, as well as to other factors. This productive capacity can be measured by potential GDP, which is a function of the natural rate of unemployment, the rate of unemployment consistent with full employment. The Philips curve is the graphical tool that professor Philips uses in illustrating the trade of that existed between unemployment and inflation when he carried out his research in the United States of America. In that research he discovered that there is negative or inverse relationship between inflation and unemployment and any macroeconomic policy mix use in curbing one will generate the other. He demonstrated this by using a downward sloping curve to illustrate his point the curve has since then been named Philip's curve. The curve has on its vertical axis inflation or price level while the horizontal axis is represented by unemployment level.



Self Assessment Exercise:

Explain the Phillips curve.

3.3 The Stagflation Phenomenon

The word stagflation is formed by combining two words: stagnation and inflation. An economy is said to experience stagflation when it has both inflation and unemployment at the same time. One of the principal causes of stagflation has been restriction on the aggregate supply. When aggregate supply is reduced, there is a fall in output and employment and the price level rises that is a reduction in aggregate supply, may be caused by a rise in money wages on account of strong unions or by a rise in the legal minimum wage rate, or by increased tax rates which reduce work effort of the workers.
When wage rise, firms are forced to reduce production and employment, consequently, there is fall in real income and consumer expenditure. Since the decline in consumption will be less than fall in the real income, there will be excess demand in the commodity market which will push up the price level. The rise in the price level will reduce output and employment in the following three ways:

(a) It reduces the real quantity of money, raises interest rates and brings a fall in investment expenditure.
(b) The rise in the price level reduces the real value of cash balances with the government and the private sector via the Pigou effect which reduces their consumption expenditure.
(c) The rise in prices of domestic goods makes exports dearer for foreigners and makes foreign goods relatively more attractive to domestic consumers, thereby adversely affecting domestic output and employment.

Another cause of restriction in aggregate supply is the increase in indirect taxes. When government increases taxes, it leads to the transfer of real purchasing power from the people to the government. As a result, aggregate demand falls, and output and employment are affected. But, if government increases its expenditure equal to the increase in tax revenue, it would raise the price level further due to increase in additional demand.

Stagflation can be controlled by either restrictive or expansionary measures, tax-based income policies, introduction of income policies i.e. income policies should be linked with increase in money wage or increase in productivity and reduction in personal and business taxes.

Self Assessment Exercise:

Explain the phenomenon of stagflation. Suggest measures to control it.

3.4 The Taylors Rule and Nairu Proposition

Federal Reserve (CBN in Nigeria) and most other central banks currently conduct monetary policy by setting a target for short-term interest rates like the federal funds rate. But how should this target be chosen?

John Taylor of Stanford University has come up with an answer, called the Taylor rule. The Taylor rule indicates that the federal (fed) funds rate should be set equal to the inflation rate plus an "equilibrium" real fed funds rate (the real fed funds rate that is consistent with full employment in the long run) plus a weighted average of two gaps: (1) an inflation gap, current inflation minus a target rate, and (2) an output gap, the percentage deviation of real GDP from an estimate of its potential full employment level.' This rule can be **written as follows**: Federal funds rate target = inflation rate + equilibrium real fed funds rate + $^1/_2$ (inflation gap) + $^1/_2$ (output gap)

Taylor has assumed that the equilibrium real fed funds rate is 2% and that an appropriate target for inflation would also be 2%, with equal weights of $^1/_2$ on the inflation and output gaps. For an example of the Taylor rule in practice, suppose that the inflation rate were at 3%, leading to a pos[i]tive inflation gap of 1% (= 3% - 2%), and real GDP was 1% above its potential, resulting in a positive output gap of 1%. Then the Taylor rule suggests that the federal funds rate should be set at 6% (= 3% inflation + 2% equilibrium real fed funds rate +1/2(1% inflation gap) + ^{1}/2 (1% output gap)1%.

The presence of both an inflation gap and an output gap in the Taylor rule might indicate that the Fed should care not only about keeping inflation under control, but also about minimizing business-cycle fluctuations of output around its potential. Caring about both inflation and output fluctuations is consistent with many statements by Federal Reserve officials that controlling inflation and stabilizing real output are important concerns of the Fed (CBN).

An alternative interpretation of the presence of the output gap in the Taylor rule is that the output gap is an indicator of future inflation as stipulated in Phillips curve theory. Phillips curve theory indicates that changes in inflation are influenced by the state of the economy relative to its productive capacity, as well as to other factors. This productive capacity can be measured by potential GDP, which is a function of the natural rate of unemployment, the rate of unemployment consistent with full employment.

A related concept is the **NAIRU**, the non-accelerating inflation rate of unemployment, the rate of unemployment at which there is no tendency for inflation to change.' Simply put, the theory states that when the unemployment rate is above NAIRU with output below potential, inflation will come down, but if it is below NAIRU with output above potential, inflation will rise. Prior to 1995, the NAIRU was thought to reside around 6%. However, with the decline in unemployment to around the 4% level in the late 1990s, with no increase in inflation and even a slight decrease, some critics have questioned the value of Phillips curve theory. Either they

claim that it just doesn't work anymore or, alternatively, they believe that there is great uncertainty about the value of NAIRU, which may have fallen to below 5% for reasons that are not absolutely clear.

Self Assessment Exercise:

Is there any relationship between Taylors rule and Nairu's proposition.

3.5 The Okun's Law

In its most basic form, Okun's law investigates the statistical relationship between a country unemployment rate and the growth rate of its economy. Okun's intended to tell us how much of a country's gross domestic product (GDP) may lost when the unemployment rate is above its natural rate. it also explained, that output depend on the amount of labour use in the production process, so there is a positive relationship between output and employment. Total employment equal the labour force minus the unemployed, so there is a negative relationship between output and unemployment.

Okun's is, in essence, a rule of thumb to explain and analysis the relationship jobs and growth.

A onetime chairman of federal reserve of the united state of American, Ben Bernanke once summaries Okun's law basic concept as : "that rule of thumb describes the observed relationship between changes in the unemployment rate and the growth rate of real output (GDP). Okun noted that, because of ongoing increases in the size of the labour force and in the level of productivity, real GDP growth close to the rate of growth of its potential is normally required, just to hold the unemployment rate steady. To reduce the unemployment rate, therefore, the economy must grow at a pace above it potential.

More specifically, according to currently accepted versions of Okun's law to achieve a 1 percentage point decline in the unemployment rate in the cause of a year real GDP must grow approximately 2 percentages point faster than the rate of growth of potential GDP over that period. So, for illustration if the potential rate of GDP is 2%, Okun's law said that GDP must grow at about a 4% rate for one year to achieve a 1 percentage point reduction in the rate of unemployment."

Arthur Okun was a Yale Professor of Economics, was born in November 1928 and passed away in March 1980.

Self Assessment exercise: How does Arthur Okun explain the relationship between inflation and unemployment?

4.0 Conclusion

This unit conclude that inflation and unemployment has a trade off, an attempt to lower inflation will result to higher unemployment rate and vice versa. However, a mild inflation is desirable for growing economy**.**

5.0 Summary

The relationship between inflation and unemployment was well explained and those theories and propositions that are closely related to these macroeconomic variables are discussed in an explicit manner to the understanding of students.

6.0 Tutor-Marked Assignment

a) Succinctly establish relationship between inflation and unemployment.

b) Explain the theoretical link (relationship) that exist among Philip's curve, Taylor's rule and Okun's law

c) Give a clearly stated numerically okun's law as quoted by Ben Bernanke.

d) Explain what you understand by Nairu proposition.

e) What is stagflation? Explain why a typical African economy has experienced stagflation since the era of the structural adjustment reforms in the 1980s.

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MODULE FIVE

Unit 1 International Trade
Unit 2 Balance of payment and Balance of Trade
Unit 3 Equilibrium Balance of payment

UNIT 1: International Trade

CONTENTS

1.0 Introduction

Students are here introduced to the concept of international trade and related concepts, and also distinction between internal and external trade. The advantages and disadvantages of international trade will also be considered.

2.0 Objectives

At the end of this unit student should be able to;

i) Understand the concept of international trade.
ii) Differentiate between internal and international trade.
iii) Understand the advantages and disadvantages in international trade.
iv) Understand basic classical theories of international trade.

3.0 Main Content

3.1 International trade – Introduction

Domestic trade is trade that take place within a nation between individuals i.e. exchange of goods and services between individuals within the country's or within two (2) states or

regions. International trade on the other hand refers to the exchange of goods and services between countries. Good sold to other countries are referred to as exports and goods bought from them are dubbed as imports. International trade also involves movement of capital between countries.

Basic reasons for international trade.

i) From the supply side, differences in factor endowment countries are endowed differently e.g. differences in climate and soil, differences in availability of natural resources, differences in capital endowment and differences in labour skills. These differences translate into differences in the abilities of countries because of their factor endowment can produce certain goods cheaper than other countries, e.g. Nigeria is endowed with crude oil and natural gas. These can be produced cheaper in Nigeria than in Ghana, Ghana therefore imports them from Nigeria.
ii) From the demand side, the needs to satisfy certain wants: Countries are faced with demand for goods and services that their factor endowment cannot produce. In order to satisfy these wants they are sourced from foreign countries as imports. Nigeria imports capital equipment for its oil sector from the nest of the world. The rest of the world imports crude oil from Nigeria.
iii) It serves as a foreign exchange earner and act as agent of growth: exports acts as foreign exchange earner to the domestic economy because foreign exchange availability is an essential requirements for the survival of any national economy. Also international trade act as a catalyst to the growth of the total spending and hence growth in the Gross national product of such an economy.

Self Assessment Exercise:

Why do countries involved in trade among themselves?

3.2: Differentiation between Internal and International Trade

The following features differentiate domestic trade from international trade:

i) **Factor immobility:** The factors of production are perfectly mobile within each nation and perfectly immobile between countries entering into international trade.

ii) **Different markets:** International trade are separated by difference in language, habit, taste etc. even the systems of weights and measures and pattern and styles of machinery and equipment differ from country to country. Thus goods which may be traded within a country may not be sold in other countries. That

is why in so many cases products to be sold in foreign countries are especially designed to conform to the national characteristics of that country.

iii) **Large scale production:** A big firm may be producing and selling a number of products in different countries, but it may not be able to standardize its product and realize the economies of large scale production. On the other hand a firm which specializes in the production of only one type of product for the domestic markets may enjoy the economies of large scale production.

iv) **Different currencies:** The principal difference between domestic and international trade lies in the use of different currencies which value may be different in foreign trade but the same currency in domestic trade.

Self Assessment exercise: What are the difference between internal trade and international trade?

3.3 The Theories of International Trade

Under this section we are going to discuss the theories of Absolute Advantage and Comparative Cost Advantage.

The Theory of Absolute Advantage

Adam Smith postulated that each country should specialize in those commodities it can produce at the lower absolute cost than other countries. He made this assertion when he was writing about division of labour and specialization in international trade in his "*Wealth of Nations*" in 1776.

Adam Smith argued for free trade by comparing nations to households. Since every household finds it prudent to produce only some of its needs and to buy others with products it can sell, the same should apply to nations.

Adam Smith assumes a two (2) goods and a two (2) country in the world, he concluded that trade is mutually beneficial if one nation has an absolute advantage in the production of one good and the other nation has absolute advantage in the production of the second good.

Illustration of Absolute Advantage

Assume a two nation (Nigeria and Ghana), a two good (Crude Oil and Cocoa) model. Assume again that only one factor of production (labour) is used and each nation has the same amount of labour. Now suppose that each nation devotes half of its limited resources (labour) to the production of crude oil and the half to the production of cocoa. The production totals without trade are shown in Table 5.1a below

Table 5.1a: Production and Consumption Totals without trade

Nation	Crude oil (units)	Cocoa (units)
Nigeria	20	10
Ghana	10	20

In Table 5.1a, Nigeria produces 20 units of crude oil combined with 10 units of cocoa. Ghana on the other hand, produces 10 units of crude oil combined with 20 units of cocoa. Here Nigeria has an absolute advantage in crude oil production because given the same labour resources more of crude oil is produces in Nigeria. Ghana has an absolute advantage in cocoa production, given the same resources more cocoa can be produces in Ghana than Nigeria.

According to this theory specialization and trade would be beneficial to Nigeria and Ghana. Nigeria should specialise completely in crude oil production while Ghana specialises completely in cocoa production. The production totals are depicted in Table 5.1b.

Table 5.1b: Production after Specialization

Nation	Crude oil (units)	Cocoa (units)
Nigeria	40	0
Ghana	0	40

Table 5.1b shows the production totals after specialization. Nigeria now produces 40 units of crude oil and zero (0) unit of cocoa, Ghana, after specialization produces Zero (0) crude oil and 40 units of cocoa. Total world output increased after specialization based on the theory of absolute advantage. Gains from specialization based on absolute advantage are 10 units each of crude oil and cocoa. Some of the assumptions underlying the theory of absolute advantage are:

1. Factors of production are perfectly mobile within each nation and theycan be instantly switched between industries, however, factors are immobile between countries, though final goods and services can be traded.
2. There are constant returns to scale and constant average costs of production in both industries in both countries.
3. The limited resources and factors of production in each nation are fully employed.
4. There are no transport costs between the two countries.
5. The theory assumes value in real magnitude entirely different from monetary phenomenon i.e. in units of crude oil and cocoa.

The Theory of Comparative Cost Advantage

Adam Smith's theory of absolute advantage fails to explain the basis of trade in a situation where a country has absolute advantage in the production of both goods.

David Ricardo in his "*Principle of Political Economy and Taxation*" published in1817 proved that even if a nation has absolute advantage in the production of both commodities it is still possible for trade to exist between them for which both countries could benefit. He pointed out that what was relevant therefore was comparative advantage and not absolute advantage.

According to Ricardo, absolute advantage is not a sufficient condition for mutually beneficial trade. According to him the sufficient condition for mutually beneficial trade is a pattern of comparative advantage across nations.

Therefore according to the theory whether or not one of the two countries is in absolute terms more efficient in the production of every commodity than the other, if each specializes in the product in which it has a greater comparative advantage trade will be mutually beneficial.

Illustration of Comparative Advantage

From the previous example in table 5.1a, suppose Nigeria becomes more efficient in both crude oil and cocoa production. Now if each nation devotes half of its resources to each good the production totals are:

Table 5.1: Production and Consumption Totals without Trade

Nation	Crude oil (units)	Cocoa (units)
Nigeria	30	15
Ghana	5	10

Table 5.1c shows that Nigeria has an absolute advantage over Ghana in the production of both crude oil and cocoa. Both commodities can be produced more cheaply in Nigeria than in Ghana. In this case the principle of absolute advantage fails to explain the reason for specialization and trade.

The principle of comparative cost advantage explains the basis of specialization and trade here. To determine which good Nigeria and Ghana is to specialize in we need to calculate the opportunity cost ratios. These is done in table 5.1d

	Nigeria	Ghana
Opportunity Cost of producing one unit (1) of crude oil in terms of cocoa	15/30 = ½ unit cocoa	10/5 = 2 units of cocoa
Opportunity Cost of producing one unit (1) of cocoa in terms of crude oil	30/15 = 2 units of crude oil	5/10 = ½ unit of crude oil

In Nigeria, the opportunity cost of producing one unit of crude oil in terms of cocoa is ½ unit of cocoa. This means that if Nigeria needs one more unit of crude oil they must be prepared to reduce the production of cocoa by ½ unit. It also means that a unit of crude oil in Nigeria costs ½ unit of cocoa. In Ghana, the opportunity cost of producing one unit of cocoa in terms of crude oil is 2 units of cocoa. That is, in Ghana, the price of a unit of crude oil equals 2 units of cocoa.

Nigeria (which has absolute advantage in both commodities) possesses a comparative advantage in crude oil production, whereas Ghana (with an absolute disadvantage in both) has comparative advantage in cocoa production. Therefore Nigeria specialises in crude oil and Ghana in cocoa. To Ricardo, the gain from international trade depends on the pattern of comparative advantage and not absolute advantage.

Self Assessment exercise: Compare and contrast the theories of Absolute advantage and Comparative advantage.

3.4: Advantages and disadvantages of International trade

- **Advantages of international trade**

1. It leads to increased total world production of goods and services. International trade based on comparative cost advantage allows countries to specialise in what they can do best. This allows for increase in output and invariably increases in the volume of total world output.

2. It leads to efficiency in use of world resources: international trade is based on specialisation in what you can do best. This means each country involved in international trade uses the resources available to her in the most efficient way and hence world resources are efficiently used.

3.It leads to availability of variety of goods and services. International trade makes citizens of nations to consume goods and services their resources cannot be used to produce.

4. International trade leads to economies of scale. International trade leads to increased output and firms involved in producing for exports may enjoy cost reducing advantages that go with increased output.
5. International trade brings about interdependence. This politically may help a nation to be conscious of the existence of other nations. The interdependence of nations helps to promote good neighbourliness.

- **Disadvantages**

1 It may lead to collapse of infant firms. These young firms not enjoying economies of scale and producing at a high unit cost, if international trade is allowed cheap imports are brought in and these may lead to the collapse of infant firms.
2 International trade may lead to excessive interdependence. This may have negative effects on the country in times of crisis, if, for example there is a political crisis between Ghana and Nigeria, Nigeria may halt its exports of crude oil to Ghana.
3 It may lead to unemployment. If through international trade infant firms collapsed in a country their employees will be laid off and it will create unemployment.

4. It may lead to dumping. Dumping occurs when goods are sold in foreign countries below their cost of production at home. This will under-cut competition in the foreign country and destroy local firms.

Self Assessment Exercise: Does the advantages of international trade supersedes its disadvantages. Discuss.

4.0 Conclusion

We explored the concept of international trade, looking at the basic theories of international trade; the problems associated to it and the likely policy solution to the erring problems as well as it relationship with achievement of balance of payment equilibrium. We however conclude that international trade have cost and benefit but no country can live in isolation.

5.0 Summary

International trade refers to the exchange of goods and services between countries. Goods sold to other countries are referred to as exports and goods bought from them as imports. International trade also involves movement of capital between countries.

The bottom line for the existence of international trade is differences in cost of production across countries.

6.0 Tutor-Marked Assignment

a) Adam Smith and David Ricardo propounded theories on why nations should engage in international trade. What are their theories? Do you think these theories are relevant in modern day?

b) Explain the gains from international trade and give reasons for the imposition of restrictions on international trade.

c) Differentiate between internal trade and international trade with example.

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UNIT 2: Balance of Payment and Balance of Trade

CONTENTS

1.0 Introduction

This unit looked at the concepts of importation and exportation because it is the two components that make international trade possible. The terms of trade are the comparison of a country's exports with imports. Variation in the terms of trade can be described as favourable or unfavourable and whenever it becomes unfavourable the country can impose restriction to correct the situation.

2.0 Objective

At the end of this unit the student should be able to

- Differentiate between importation and exportation
- Explain the terms of trade
- Identify and explain trade barriers
- Explain methods of protecting international trade
- Know the difference between balance of payment and balance of trade

3.0 Main Content

3.1 Concept of Importation and Exportation

Importation is the buying of goods and services from abroad or another country to domestic economy. It involves foreign exchange and largely depends on domestic level of income. For instance if a Nigerian buys goods from America that goods is estimated as part of Nigerian importation at that period in time.

On the other hand exportation involve selling of domestically produced goods or services beyond the shores f this country. In other words, selling locally produced product to another country other than the country where they are produced. Exportation also involve foreign exchange but rather depend on the income of the consuming (buying) countries.

Self Assessment Exercise: Differentiate with example between the concept of import and export.

3.2. Terms of trade

The terms of trade are defined as the quantity of domestic goods that must be given up to get a unit of imported goods. It is the rate at which a country's exports are exchanged for its imports for a given period of time. Thus the terms of trade are nothing more than the opportunity cost of obtaining goods through international trade rather than producing them directly. Both countries will gain from trade as long as the terms of trade lie between the domestic opportunity cost ratios of the two countries.

In other words, it is the ratio of the price index of the nation's exports (Px) to the price index of imports (Pm) multiplied by 100.

$$T.O.T = \frac{\text{Price index of Exports}}{\text{Price index of Imports}} \times 100$$

If this measure rise says from 1 to 2, it means that a given amount of exports will purchase twice as many imports as before. Rises and falls in the measure are refer to as favourable and unfavourable terms of trade.

Self Assessment Exercise:

What is Terms of Trade and how can it be measure?

3.3 Reasons for protecting trade and method used

The reasons for protecting international trade in spite of the benefits from free trade are:

1. The protection of infant industries: the absence of economies of scale to them makes their unit cost of production higher than older and efficient firms in other countries. Protection may be justified during the early growth of an infant firm. As the infant firms grow, skill and productivity, as well as economies of scale will grow, so increasing the firms' relative competitive advantage.
2. To protect labour against cheap foreign labour: the theory of comparative cost advantage assumes that factors of production are both fully employed and mobile within countries. It large scale unemployment exists within a country, protection may be used to increase employment.
3. Protection against Dumping: it could be looked at as the export of commodities priced below cost of production. Dumping is generally looked upon as an unfair

trading practice and for that reason industries fearing competition from dumped goods ask for tariffs to protect them. An export subsidy is a salient form of dumping. Export subsidies are direct payments made or the granting of tax relief and subsidised loans to the nation's exporters or potential exporters so as to stimulate the nation's exports. This makes the nation's exports price competitive on the international markets.

4. National Security: some key industries such as agriculture and industries producing goods that are important for the defence of the country must be maintained. Countries therefore protect these industries.
5. To raise revenue: tariffs are sometimes justified as a means of raising revenue for the government, but in modern economies this is a comparatively unimportant source of government revenue.

❖ Tools used as Trade Barrier

The tools used as instrument for trade barrier are:

1. **Tariffs:** these are taxes imposed on traded commodities as they cross national borders. There are two main types of tariffs. An import tariff is a duty on an imported commodity while export tariff is a duty on an exported commodity.

   Tariffs may be specific, ad valorem or compound (a combination of ad valorem and specific tariff). The effect of a tariff on import depends on its size and the elasticity of demand for the imported commodity. If demand is elastic, a tariff imposed will reduce imports by switching demand towards the domestically produced substitutes. Conversely, if demand for imports is price inelastic, the main effect of the tariff will be on import prices rather on the quantity of imports.

2. **Domestic Subsidies:** These may be provided in many forms to avoid dumping. They are subsidies provided to certain domestic industries as a means of protecting them from lower priced foreign goods. These subsidies reduce the prices of the domestic products and make them more prices competitive.
3. **Quotas:** They are quantitative restrictions (non tariff restrictions) on the imports and exports. They restrict the amount of commodities allowed to be imported or exported.

   Other forms of non tariff barriers are voluntary export restraint (VER), technical administrative and other regulations (these include safety regulation, health regulation, packaging, labelling requirement etc.)

Self Assessment Exercise:

Why do the governments imposes trade restrictions on their importations.

3.4 Balance of payment and Balance of Trade

Balance of payment is an account that summarizes a country's total payments and total receipts from international economic transactions within a specific period usually one year. Each transaction is entered on the credit and debit side of the balance sheet. The main reason for compiling the balance of payments is to inform the government authorities in a particular country of the international position of the country. It also helps policy makers in taking decisions on monetary and fiscal policy one hand, trade and payment policies on the other.

Balance of trade on the other hand is the difference between the values of goods and services exported and imported. It contains the first two main items of the balance of payment account on the credit and the debit side.

- **Component of balance of payment/balance of trade**

i. Current Account: This made up of the total receipts and payments on both visible and invisible goods and services. It could also be subdivided into three main items, merchandise imports and exports, services imports and exports and unilateral transfers. Merchandise imports and exports are also referred to as visible trade and services imports and exports. Visible goods are for example, crude oil, timber, cars, etc. the difference between merchandise exports and imports is termed as the balance of trade. Unilateral transfers or service accounts dubbed invisible trade, this records the services of shipping and civil aviation, insurance, dividends, profits, remittances, government services, travel and tourism, banking services, etc. this section also includes unilateral transfers (gifts), that is, money transferred to and fro without rendering any services. Transactions on the current account except unilateral transfers are referred to as autonomous meaning they are undertaken because of profit motive.
The difference between invisible exports and invisible imports is called the balance of services. This is classified as favourable or unfavourable. When invisible exports exceed invisible imports we have favourable balance of services, otherwise we have unfavourable balance of services.

ii) **Capital Account:** The capital account of a country consists of its transaction in financial assets in the form of short-term and long-term lending and borrowings, and private and official investments. In other words, the capital account shows international flow of loans and investments and represents a change in the country's foreign assets and liabilities. Long-term capital transactions relate to international capital movements with maturity of one year or more and include direct investments like building of a foreign plant, portfolio investment like purchase of foreign bonds and stocks and international loans. On the other hand, short-term international capital transactions are for a period ranging between three months and less than one year.
There are two types of transactions in the capital account – private and government. Private transactions include all types of investment: direct, portfolio and short-term.

Government transactions consist of loans to and from foreign official agencies. In the capital account, borrowings from foreign countries and direct investment by foreign countries represent capital inflows. They are positive items or credits because these are receipts from foreigners. On the other hand, lending to foreign countries and direct investments in foreign countries represent capital outflow. They are negative items or debits because they are payments to foreigners. The net value of the balances of short-term and long-term direct and portfolio investments is the balance on capital account.

iii) Official Settlement Account: This part of the balance of payments informs us about how the balance of both current and capital accounts taken together is settled. They are accommodating transaction because the funds are moved to make the balance of payment balance. When the net balance of the current and capital accounts is in deficit, the deficit must be settled with an equal net credit in the official reserve account. If on the other hand, a country has a surplus, the surplus must be used up to balance the balance of payments.

- **Balance of Payment Deficit and Surplus**

Basically, there are two outcomes from balance of payment account namely;

- **Surplus Balance of Payment**-: surpluses arise as a result of excess earnings from external account i.e. positive external balance. It occur when receipt from export of goods and services is greater than payment for import of goods and services. This conserves and preserves foreign exchange. In other words, a surplus on the balance of payments may be used in the following ways:

a) To augment a country's foreign reserves
b) As loans to other countries
c) Buying assets abroad
d) To invest in businesses in other countries

- **Balance of payment deficit:-** This occurs when receipts from exportation of goods and services is less than payment for importation of goods and services. It may be defined as a situation which occurs when the combined receipts on the current and long term capital accounts of a country are less than the corresponding payments. In other words balance of payments deficit occurs when a country's expenditure flows are more than the country's income flow.

Self Assessment Exercise:

What do you understand by barrier to trade?

4.0 **Conclusion:** we conclude that here that even though countries trading with each other is very necessary but sometimes nations has to introduce trade barriers so as to prevent balance of payment deficit. Also one should recognise that there is difference between balance of payment and balance of trade.

5.0 Summary

Balance of payments is an account that summarizes a country's total payments and total receipts from international economic transaction within a specific period usually a year. While balance of trade shows the value of exports and imports. Balance of payment can either be surplus or deficit.

6.0 Tutor-Marked Assignment

a) Distinguish between balance of trade and balance of problems.

b) Explain the gains from international trade and give reasons for the imposition of restrictions on international trade.

c) Discuss ways through which government can regulate international trade.

d) What is balance of payment; describe the main components of balance of payment.

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UNIT 3: Equilibrium Balance of Payment

CONTENTS

1.0 Introduction

This unit will mainly discuss about the causes and solution to the balance of payment disequilibrium. Moreover the uses of balance of payment will be illustrated.

2.0 Objective

At the end of this unit student should be able to;

- Differentiate between equilibrium and disequilibrium balance of payment
- Explain the various causes of balance of payment disequilibrium
- Explain the solution to disequilibrium of balance of payment
- Identify the uses of payment.

3.0 Main Content

3.1 Concept of equilibrium balance of payment

This occurs when the receipts from export of goods and services is equal payment for importation of goods and services. Also balance of payment equilibrium means that the algebraic sum of the net credit and debit balances of current account, capital account and official settlements account are equal to zero. Balance of payment can be written as

$$B = R_f - P_f$$

Where, B represents balance of payments,
R_f is receipts from foreigners
P_f is payments made to foreigners.
When $B = R_f - P_f = 0$, the balance of payments is in equilibrium. When $R_f - P_f > 0$, it implies receipts from foreigners exceed payments made to foreigners and there is surplus

in the balance of payments. On the other hand, when $R_f - P_f < 0$ or $R_f < P_f$ there is deficit in the balance of payments as the payments made to foreigners exceed receipts from foreigners. If net foreign lending and investment abroad are taken, a flexible exchange rate creates an excess of exports over imports. The domestic currency depreciates in terms of other currencies. Exports becomes cheaper relative to imports that is

$X + B = M + I_f$

Where;

X is exports, M imports, I_f foreign investment, and B is foreign borrowing

Or $X - M = I_f - B$

The equation shows the balance of payments in equilibrium. Any positive balance in the current account is offset by negative balance on its capital account and vice versa.

Self Assessment Exercise:

When will balance of payment be at equilibrium?

3.2 Causes of balance of payment disequilibrium

There are many factors that can lead to BOP disequilibrium:

1. Temporary Changes: there may be a temporary disequilibrium caused by random variations in trade, seasonal fluctuations, the effect of weather on agricultural production, etc. disequilibrium arising from such temporary causes are expected to correct themselves within a short time.

2. Fundamental Disequilibrium: this refers to persistent and long run BOP disequilibrium of a country. It is a chronic BOP deficit and it is caused by factors like: (i) changes in consumer tastes within the country or abroad which reduce the country's exports and increase its imports. (ii) Continuous fall in the country's foreign exchange reserves due to supply inelasticities of exports and excessive demand for foreign goods and services. (iii) Excessive capital outflow due to massive imports of capital goods, raw materials, essential consumer goods, technology and external indebtedness.(iv) low competitive strength in world markets which adversely affects exports.

3. Structural Changes: it brings about disequilibrium in BOP over the long run. They may result from the following factors: (a) technological changes in methods of production of products in domestic industries or in the industries of other countries. They lead to changes in costs, prices and quality of products. (b) Import restrictions of all kinds bring about disequilibrium in BOP. (c) deficit in BOP also arises when country suffers from deficiency of resources which it is required to import from other countries. (d) it may also be caused by changes in the supply or direction of long term capital flows.

4. Changes in Exchange Rates: changes in foreign exchange rate in the form of overvaluation or undervaluation of foreign currency lead to BOP disequilibrium. When the value of currency is higher in relation too other currencies, it is based to be

overvalued. Opposite is the case of an undervalued currency. Overvaluation of the domestic currency makes foreign goods cheaper and exports dearer in foreign countries. As a result, the country import more and exports less goods. There is also outflow of the capital. This leads to unfavourable BOP. On the contrary, undervalued of the currency makes BOP favourable for the country by encouraging exports and inflow of capital and reducing imports.

5. Cyclical Fluctuations (or Disequilibrium). Cyclical fluctuations in business activity also lead to BOP disequilibrium, when there is depression in a country, volumes of both export and imports fall drastically in relation to other countries. But the fall in exports maybe more than that of imports due to decline in domestic production. Therefore, there is an adverse BOP situation. On the other hand, when there is boom in a country in relation to other countries, both exports and imports may increase. But there can be a surplus or deficit in BOP situation depending upon whether the country's export more than import or imports more than exports. In both cases, there will be disequilibrium in BOP.
6. Changes in National Income. Another cause is the change in the country's national income. If the national income of a country increases it will lead to an increase in imports thereby creating a deficit in its balance of payments, other things remain the same? If the country is already at full employment level, an increase in income will lead to inflationary rise in prices which may increase its imports and thus bring disequilibrium in the balance of payment.
7. Price Changes. Inflation or deflation is another cause of disequilibrium in the balance of payment. If there is inflation in the country, prices of exports increase. As a result, export fall at the same time, the demand for import increase. Thus increase in export price leading to decline in exports and rise in imports result in adverse balance of payments.
8. Stage of Economic Development. A country's balance of payment also depend on its stage of development. If a country is developing it will have a deficit in its balance of payment because it import raw materials, machinery, capital equipment, and services associated with the development process and exports primary products. The country has to pay more for costly imports and gets less for its cheap exports. This leads to equilibrium in its balance of payments.
9. Capital Movement. Borrowings and lending or movements of capitals by countries also result in disequilibrium in BOP. A country which gives loan and grants on a large scale to other countries has a deficit in its BOP on capital account. If it is also importing more, as is the case with the USA, it will have chronic deficit. On the other hand, a developing country borrowing large funds from other countries and international institutions may have a favourable BOP. But such a possibility is remote because those countries usually import huge quantities of food, raw materials, capital goods, etc. and export primary products. Such borrowings simply help in reducing BOP deficit.
10. Political Conditions. Political condition of a country is another cause of disequilibrium in BOP. Political instability in a country creates uncertainty among

foreign investors which leads to the outflow of capital and retards its inflows. This causes disequilibrium in BOP of the country. Disequilibrium` in BOP also occurs in the event of war or fear of war with some other country.

Self Assessment exercise: What are the Causes of disequilibrium in the balance of payment account?

3.3: Solution To Disequilibrium In Balance Of Payment

A number of policy mix can be employed to combat balance of payment disequilibrium

i) Foreign exchange control: It involves the rationing of foreign exchange in order to reduce balance of payment deficit.

ii) Fiscal control: This involves the raising of tariffs (i.e. increase in import duties) in order to reduce the deficit.

iii) Devaluation: Devaluation cheapens exports and make imports expensive, thus improving the balance of payments .

iv) Reduction of imports: The governments can restrict imports by the use of tariffs, quotas and outright embargo on imports.

v) Promotion of import substitution industries: This is done to replace the commodities that were previously brought from foreign countries.

vi) Grants, aids, borrowing: Grants and aid can be obtained from richer or friendly nations to offset the deficit that occurs in the balance of payment. A country can also borrow money from IMF or other richer nations in order to correct the deficit.

vii) Increase in production: With a spectacular rise in production, domestic prices of goods would be brought down and export of goods stimulated. Demand for imported goods will reduce.

Self Assessment Exercise: What solutions will you suggest to solve disequilibrium in BOP?

3.4 Uses of balance of payment

The balance of payments is useful in view of the following considerations:

a) The current account of the balance of payment which is the sum of merchandise and service exports and imports shows how competitive a nation exports are over time and across space.
b) It is a matter of great interest and concern to economic policy makers especially when the balance of trade is in deficit.
c) When capital account is presented in greater detail, it portrays significantly how much capital is transferred abroad and the form in which they are transferred.

d) It reflects charges in the foreign reserves of a country which are a component of the official transaction account. The central bank is concern with changes in national reserve because it affects money supply.

Self Assessment Exercise:
What are the various areas in which balance of payments account could be useful?

4.0 Conclusion

In conclusion even though equilibrium of balance of payment or surplus balance of payment is what every country desire we found out that nations are sometimes faced with balance of payment disequilibrium which always affects the economy.

5.0 Summary

The unit focus on the issue relating to balance of payment and its attendant problems and finally seeks solution to balance of payment disequilibrium while making clear distinction among various component concepts.

6.0 Tutor-Marked Assignment

a) Explain the in clear terms what is meant by balance of payment disequilibrium, and the remedies to the problem.
b) Enumerate and explain various causes and effects of balance of payment deficits.
c) What are the causes of an adverse balance of payments? Give suggestions to remove an unfavourable balance of payments

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MODULE SIX

Unit 1 Concepts of Foreign Exchange
Unit 2 Theories of Foreign Exchange
Unit 3 Exchange Rate System

UNIT 1: Concepts of Foreign Exchange

CONTENTS

1.0 Introduction

This unit specifically discussed the concepts of foreign exchange rate. It looked at the meaning of foreign exchange, how the equilibrium exchange rate is determined in any economy by the interaction of the demand and supply of foreign exchange. And also discussing the factors that can lead to a change in the exchange rate operating in the economy.

2.0 Objective

The unit will focus on the following objective

- Understanding the meaning of Foreign exchange rate
- Explaining the demand and supply of foreign exchange rate
- Using the analysis of demand and supply in determining the equilibrium rate of foreign exchange.
- Examining the factors that can causes a change in the exchange rate of any economy.

3.0 Main Content

3.1 Meaning of Foreign Exchange Rate

The foreign exchange rate or exchange rate is the rate at which one currency is exchange for another. It is the price at which one country's currency is exchanged for another or it is the price of one currency in terms of another currency. It is customary to define the exchange rate as the price of one unit of foreign currency in term of the domestic currency. The exchange rate between the Ghana cedi and the Nigeria naira from the standing point of Ghana is expressed as C2.50=N1. The Nigeria would express it as the number of naira requires to get one cedi, and the above exchange rate would be shown as N0.40 = C1.00

The exchange rate of the C2.50 =N1 or N0.40 = C1.00 will be maintained in the world foreign exchange market by arbitrage. Arbitrage refers to the purchase of a foreign currency in a market where its price is low and to sell it in some other market where price is high. The effect of arbitrage is to remove difference in the foreign exchange rate of currencies so that there is a single exchange rate in the world foreign exchange market. If the exchange rate is C2.48 in the Nigerian exchange market and C2.50 in the Ghana exchange rate market, foreign exchange speculator, known as arbitrageurs, will buy naira in Nigeria and sell them in Ghana, thereby making a profit of 2 kobo on each Naira. As a result, the price of naira in terms of cedi rises in the Nigeria market and falls in the Ghana market. Ultimately it will be equal in both markets and arbitrage comes to an end. If the exchange rate between the cedi and naira rises to C2.60 = N1.00, the Cedi is said to depreciate with respect to the naira, because now more cedi are needed to buy one naira. When the rate of exchange between the cedi and the naira fall to C2.40 = N1.00, the value of cedi is said to appreciate because now less cedi are required to purchase one naira. The depreciation of the cedi against the naira is the same thing as the appreciation of the naira against the cedi, and vice visa.

Self Assessment Exercise:
What is the meaning of foreign exchange?
What does an arbitrageur do?

3.2 Determination of Equilibrium Foreign Exchange Rate

The exchange rate in a free market is determined by the demand for and the supply for foreign exchange. The equilibrium exchange rate is the rate at which the demand for foreign exchange equals to the supply of foreign exchange. Ragner Nurkse defines the equilibrium exchange rate as "that rate which over a certain period of time, keeps the balance of payments in equilibrium". There are two ways of determining the equilibrium exchange rate. The rate of exchange between Nigerian naira and Ghana cedi can be determined either by the demand and supply of naira with the price of naira in cedi, or by

the demand and supply of cedi with the price of cedi in naira. Whatever method is adopted, it yields the same result.

The Demand for Foreign Exchange

The demand for foreign exchange is derived demand from Naira. It arises from import of Nigerian goods and services into Ghana and from capital movements from the Ghana to Nigeria. In fact, the demand for Naira implies a supply of cedi. When the Ghana businessmen buy Nigerian goods and services and make capital transfer to Nigeria, they create demand for Nigerian naira in exchange for Ghana cedi because they cannot make payments to Nigeria in their currency, the Ghana cedi.

The demand curve for naira DD is downward sloping from left to right. it implies that the lower the exchange rate on naira, the larger will be the quantity of naira demanded in the foreign exchange (Ghana) market, and vice versa. This is because lower exchange rates on naira make Nigerian exports of goods and services cheaper in terms of cedi. The opposite happens if the exchange rate on naira is higher. It will make Nigerian good and services dearer in terms of cedi, and the demand for naira will fall in the foreign exchange (Ghana) market. This is because, it is the demand for Nigerian tradeables (goods and services) that calls for demand for Nigerian naira.

But the shape of the demand curve for foreign exchange will depend on the elasticity of demand for imports. "if a country import necessities and raw materials we may expect the elasticity of demand for imports to be inelastic and the quantity imported to be insensitive to price changes. If, on the other hand, the country imported luxury and goods for which appropriate substitutes exist, demand elasticity's for imports might be elastic and response to price changes is high. If the country has a number of well developed import competing industries, the elasticity of demand for imports most certainly is high, in the short run; elasticity of demand for imports may not be very high. In the long run, however, it is much more probable that the production pattern will alter according to price changes, and the demand for imports, therefore, will be more elastics". In conclusion, value of a country currency is largely dependent on their demand for other countries' tradeable (i.e. importation of goods and services that are sold and bought across borders (import))

The Supply of Foreign Exchange

The supply of foreign exchange in Nigeria case is the supply of naira. It arises from Ghana exports of goods and services and from capital movements from the Ghana to Nigeria. Naira is offered in exchange for cedi because Nigerian holders of naira wish to make payments in cedi. Thus the supply of foreign exchange reflects the quantities of naira that would be supplied in the foreign exchange market at various cedi

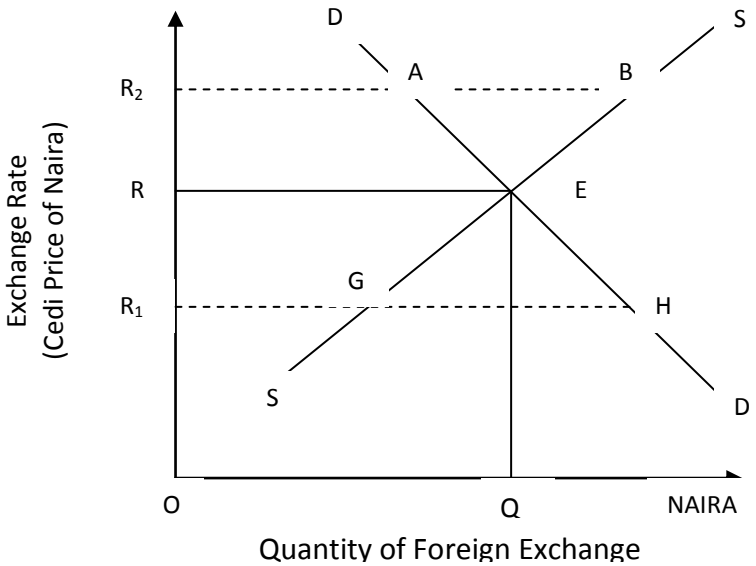

Fig: 6.1a DEMAND AND SUPPLY OF FOREIGN EXCHANGE

price of Naira. The supply curve for naira SS is an upward sloping curve, as shown in Figure 6.1a. It is a Positive function of the exchange rate on naira**.** As the exchange rate on naira increases, the greater is the quantity of naira supplied in the foreign exchange market. This is because with increase in the cedi price of naira (lower naira price of cedi), cedi goods, services and capital fund become better bargains to holders of naira. Therefore the holders of naira will offer large quantities of naira with the increase in the exchange rate. But the shape of supply curve of foreign exchange will be determined by the elasticity of supply curve. As the value of the country's currency increases, imports become cheaper and export becomes dearer.

Self Assessment Exercise:
How is the demand and supply of foreign exchange rate determined?

3.3 Analysis of Equilibrium Foreign Exchange Rate

Given the demand and supply curves of foreign exchange, the equilibrium exchange rate is determined where DD, the demand curve for Naira intersects SS, the supply curve of Naira. They meet each other at point E in figure 6.1a. The equilibrium rate is OR and OQ of foreign exchange is demanded and supplied. At OR exchange rate the Ghana demand for naira equals the Nigeria supply of naira, and the foreign exchange market is cleared. At any higher rate than this, the supply of naira would be larger than the demand for naira so that some people who wish to convert naira into cedi will be unable to do so. Then in

reaction to this, price of naira will fall, less naira will be supplied and more will be demanded. Ultimately, the equilibrium rate of exchange will be re-established.

In Figure 6.1a when the exchange rate increase to QR, the supply of naira $R_2B > R_2A$ the demand for naira. With the fall in the price of naira, the equilibrium exchange rate OR is re-established at point E. where the two curves DD and SS intersect. Suppose there is a shift upwards in the Ghana demand for naira, as shown by the upward shifting of the DD curve to D_1D_1 in Figure 6.1bi. This may be due to increase in the Ghana tastes for Nigeria goods, an increase in the Ghana national income, etc. which increases the demand for imported foods in the Ghana. With the shifting up of the demand curve D_1D_1. The Ghana cedi depreciates and the Nigeria naira appreciates which re-establish the new equilibrium exchange rate OR_1 at point E_1 in Figure 6.1bii where the S_1S_1 curve intersects the DD curve. At the new equilibrium exchange rate OR_1, OQ_1 of foreign exchange is demanded and supplied. The supply of naira may increase due to the increase in the tastes of Nigerian for the Ghana goods, the increase in the national income of Nigeria, etc.

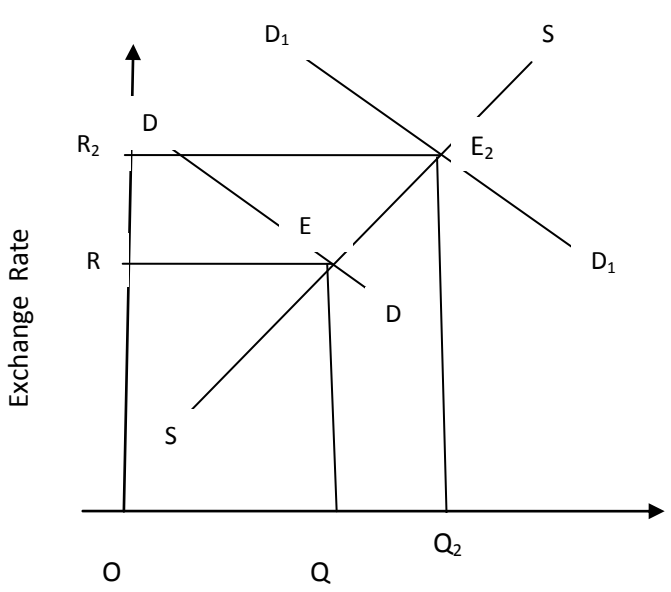

Figure: 6.1bi

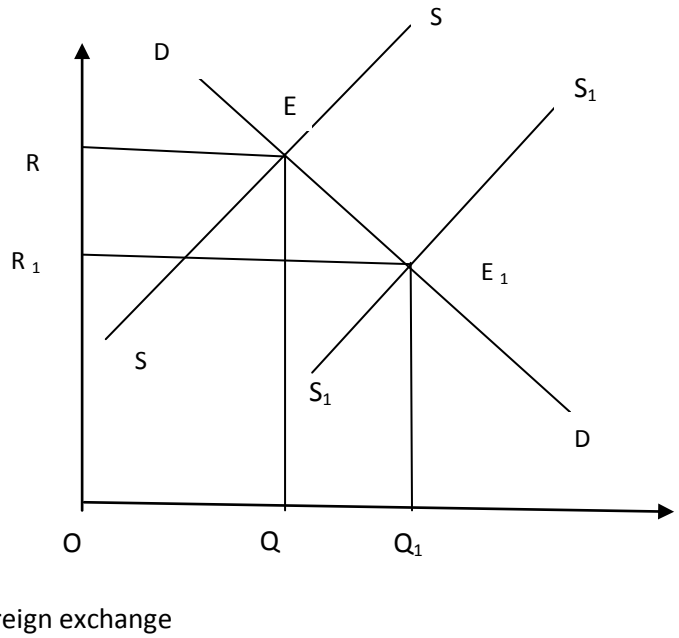

Figure: 6.1bii

Self Assessment Exercise:

With the aid of diagram, explain what is meant by equilibrium exchange rate

3.4 Causes of Movement (Changes) in the Exchange Rate

The exchange rate between countries change due to changes in demand or supply in the foreign exchange market. The factors which cause changes in demand and supply are discussed as under:

1. **Change in Prices:** It is changes in the relative price levels that cause changes in the exchange rate. Suppose the price level in Nigeria rises relative to the Ghana price level. This will lead to the rise in the prices of Nigeria goods in terms of Naira. Nigeria goods will become dearer in the Ghana. This will lead to reduction in Nigeria exports to the Ghana. So the supply of Cedi to Nigeria will diminish. On the other hand, the Ghanaian goods become cheaper in Nigeria and their imports into Nigeria increase. The supply curve for dollars will shift to the left so that the exchange rate is established at a higher level from the point of view of the Ghana. It implies appreciation of value of the Cedi and depreciation of the value of the Naira.
2. **Change in Interest Rate.** Changes in Interest rates also lead to changes in the exchange rate. If interest rates rise in the home country, there is a large inflow of capital from foreign countries. As a result the exchange rate of the domestic currency will appreciate, relative to the foreign currency. The opposite will be the case, if interest rates fall in the home country.
3. **Changes in Export and Imports.** The demand and supply of foreign exchange is also influenced by changes in exports and imports. If exports of the country are more than imports, the demand of its currency increases so that the rate of exchange moves in its favour. On the contrary, if imports are more than exports, the demand for the foreign currency increases and the rate of exchange will move against the country.
4. **Capital Movements.** Short – term or long-term capital movements also influence the exchange rate. Capital-flows tend to appreciate the value of the currency of the capital importing country and depreciate the value of the currency of the capital-exporting country. The exchange rate will move in favour of the capital-importing country the demand for currency of the capital importing country will rise and its demand curve will shift upwards to the right and the exchange rate will be determined at a higher level, given the supply curve of foreign exchange.
5. **Influence of Banks.** Banks also affect the exchange rate through their operation. They include the purchase and sale of bank drafts, letters of credit, arbitrage, dealing in bills of exchange, etc. These banking operations influence the demand for and supply of foreign exchange. If the commercial banks issue a large number of drafts and letter of credit on foreign banks, the demand for foreign currency rises
6. **Influence of Speculation.** The growth of speculative activities also influences the exchange rate. Speculation causes short-run fluctuations in the exchange rate. Uncertainty in the international money market encourages speculation in foreign exchange. If the speculators expect a fall in the value of currency in the near future, they will sell that

currency and start buying the other currency they expect to appreciate in value. Consequently, the supply of the former currency will increase and its exchanges rate will fall. While the demand for the other currency will rise and its exchange rate will go up.

7. **Stock Exchange Influences.** Stock exchange operations in foreign securities, debentures, stocks and shares, etc. put forth significant influence on the exchange rate. If the stock exchanges help in the sale of securities, debentures, shares etc. to foreigners, the demand for the domestic currency will rise on the part of the foreigners and the exchange rate also tends to rise. The opposite will be the case if the foreigners purchase securities, debentures, shares, etc. through the domestic stock exchanges.
8. **Structural Influences.** Structural changes are another important factor which influences the exchange rate of a country. Structural changes are those which bring changes in the consumer demand for commodities. They include technological changes, innovations, etc. which also affect the cost structure along with the demand for products. Such structural changes tend to increase the foreign demand for domestic products. It implies increase in exports, greater demand for domestic currency, appreciation for its value and rise in the exchanges rate.
9. **Political Conditions.** Stable political and industrial conditions and peace and security in the country have a significant influence on the exchange rate. If there is political stability ,strong and efficient, foreign investors will have tendency to invest their funds into the country. With the inflow of capital, the demand for domestic currency will rise and the exchange rate will move in favour of the country. On the contrary, if the government is weak, inefficient and dishonest and there is no safety to life and property, capital will flow out of the country and the exchange rate will move against the country.
10. **Policies of Exchange Control and Protection.** Policies of exchange control and protection discourage imports and lead to fall in the demand for foreign currency. As a result, the exchange rate f the home country appreciates in relation to the foreign country.
11. **Type of Economy.** If a country is developing, it needs to import large quantities of raw materials, and capital goods for its development along with capital. But its capacity to export is low. Therefore, its demand for foreign exchange is more which leads to the depreciation of its exchange rate vis-a-vis a developed country whose exchange rate appreciates.

Self Assessment Exercise:

Enumerate and explain major factor(s) that affect the value of a country currency.

4.0 Conclusion

This unit especially explain the meaning of exchange rate, its determinacy and factors that affect its value at any point in time. It equally emphasized the movement that arises due changes in the magnitude and frequency of any of the listed factors that determine the value of a country currency.

5.0 Summary

This unit relate to concept of foreign exchange rate, its meaning which is the price of one country currency pays for the purchase of the other. it equally explain changes in the value of foreign exchange and factors that are responsible to those changes.

6.0 Tutor-Marked Assignment

1. explain in a clear term what is meant by foreign exchange.
2. Give reason(s) why currencies of different countries have different values
3. examine the determinant of equilibrium exchange rate through market forces
4. list and explain factors that responsible for fluctuation in foreign exchange values.

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UNIT 2: Theories of Foreign Exchange Rate

CONTENTS

1.0 Introduction

There are three theories of determination of foreign exchange rate. The first is the Mint Parity theory, the second is the Purchasing Power Parity Theory, and the third is the Balance of Payments Theory. In this unit we attempt to discuss these theories one by one.

2.0 Objective

The main objective of this unit is to;

- Examine the theory of the Mint parity foreign exchange rate
- Critically examine the purchasing power parity theory of foreign exchange
- Understanding the balance of payment theory of foreign exchange rate.

3.0 Main Content

3.1 The Mint Parity Theory

This theory is associated with the working of international gold standard. Under this system, the currency is use was made of gold or was convertible into gold at a fixed rate. The value of the currency unit was defined in terms of certain weight of gold, that is, so many grains of gold to the naira, the cedi, rupee, the dollar, the pound etc. The Central Bank of the country was always ready to buy and sell gold at the specified price. The rate at which the standard money of the country was convertible into gold was called the mint price of gold. If the official naira price of

gold was N6.00 per ounce and the Ghana price of gold C36 per ounce, they were the mint prices of gold in the respective countries. The exchange rate between the cedi and the naira would be fixed at C36/N6. This rate was called the mint parity or mint par of exchange because it was based on the mint price of gold. Thus under the gold standard, the normal or basic rate of exchange was equal to the ratio of their mint per values (R = C/N).

But the actual rate of exchange could vary above and below the mint parity by the cost of shipping gold between the two countries. To illustrate this, suppose the Ghana has a deficit in its balance of payments with Nigeria. The difference between the value of imports and exports will have to be paid in gold by Ghana importers because the demand for naira exceeds the supply of naira But the transhipment of gold involves transportation cost and other handling charges, insurance, etc. Suppose the shipping cost of gold from Ghana to Nigeria is 3 pasewa. So the Ghana importers will have to spend C6.03 (C6 + 0.3p) for getting N1.00. This could be the exchange rate which is the Ghana *gold export point or upper specie point.* No Ghana importer would pay more than C6.03 to obtain one naira because he can buy C6 worth of gold from the Ghana treasury and ship it to Nigeria at a cost of 3pasewa per ounce. Similarly, the exchange rate of the naira cannot fall below C5.97 to a naira is the Ghana gold import point or lower specie point.

Assumptions:

This theory is based on the following assumptions:

1. The price of gold is fixed by a country in terms of its currency.
2. It buys and sells gold in any amount at that price.
3. Its supply of money consists of gold or paper currency which is backed by gold.
4. Its price level varies directly with its money supply.
5. There is movement of gold between countries.
6. Capital is mobile within countries.
7. The adjustment mechanism is automatic.

   Explanation

   Given these assumption, the exchange rate under the gold standard is determined by the forces of demand and supply between the gold point and is prevented from moving outside the gold point by shipments of Gold.

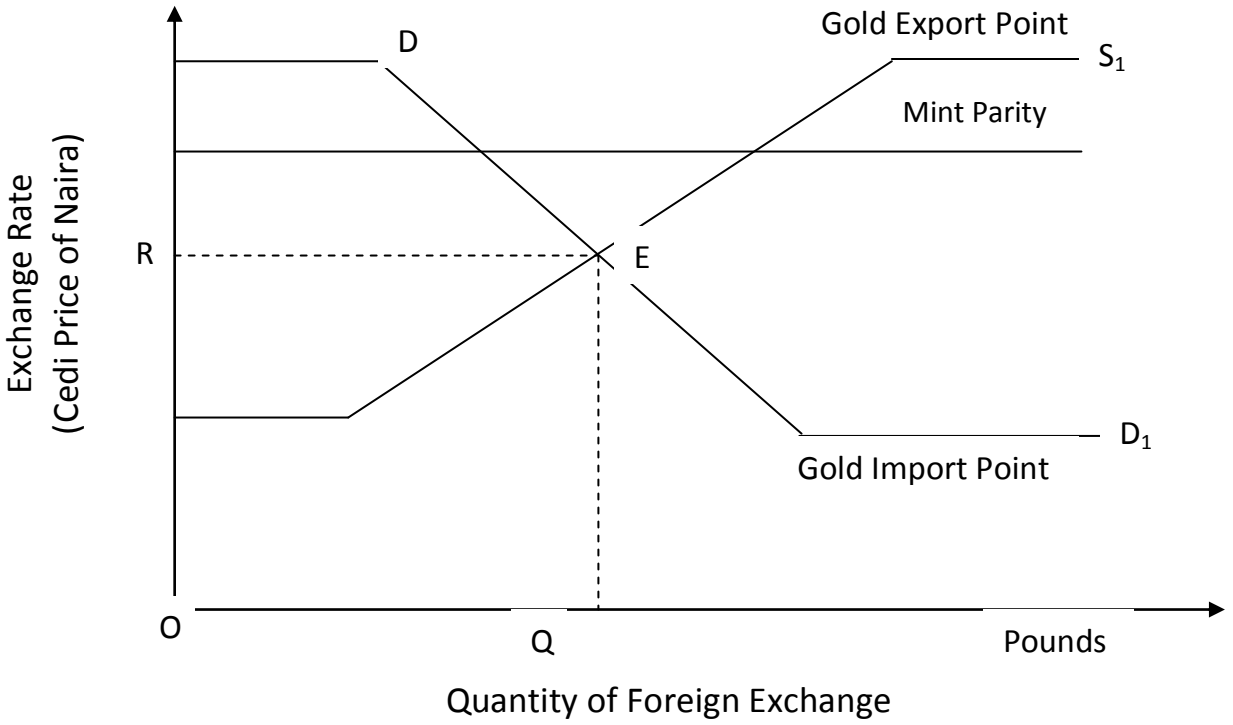

Figure: 6.2a Equilibrium in Mint Parity theory of Exchange rate

Figure 6.2a shows the determination of the exchange rate under the gold standard the exchange rate OR is set up at point E where the demand and supply curves DD_1 and SS_1 intersect. The exchange rate need not be at the mint parity. It can be anywhere between the gold points depending on the shape of the demand and supply curves. The mint parity is simply meant to define the Ghana gold export point (C 6.03) and the Ghana gold import point (C5.97). Since the Ghana treasury is prepared to sell any quantity of gold at a price of C 36 per ounce, no Ghanaian would pay more than C6.03 per naira, because he can get any quantity of naira, at that price by exporting gold. That is why, the Ghana supply curve of naira becomes perfectly elastic or horizontal at the Ghana gold export point. This is shown by the horizontal portion S_1 of the SS_1 supply curve. Similarly, as the Ghana treasury is prepared to buy any quantity of naira at the price by gold imports. Thus the Ghana demand curve for naira becomes perfectly elastic at the Ghana gold import point. This is shown by the horizontal portion D_1 of the demand curve DD_1.

Criticisms: The mint parity theory has been criticised on the following grounds:

1. The international gold standard does not exist now ever since it broke down after the Depression of the 1930s.
2. The theory is based on the assumption of free buying and selling of gold and its movement between countries. But government does not allow such sales, purchases and movements.
3. The theory falls to explain the determination of exchange rates as most countries arte on inconvertible paper standard.
4. This theory assumes flexibility of internal prices. But modern government follows independent domestic price policy unrelated to fluctuation in exchange rate

Self Assessment Exercise:
Critically examine the mint parity theory of exchange rate.

3.2 The Purchasing Power Parity Theory

The purchasing power parity (PPP) theory was developed by Gustav Cassel in 1920 to determine the exchange rate between countries on inconvertible paper currencies. The theory states that equilibrium exchange rate between two inconvertible paper currencies is determined by the equality of the relative change in relative prices in the two countries. In other words, the rate of exchange between two countries is determined by their relative price levels.

There are two versions of the PPP theory: the absolute and the relative. The absolute version states that the exchange rate between two currencies should be equal to the ratio of the price indexes in the two countries. The formula is $R_{AB} = P_A/P_B$ where R_{AB} is the exchange rate between two countries A and B and P refers to the price index. This version is not used because it ignores transportation costs and other factors which hinder trade, non-traded goods, capital flows and real purchasing power. Economists, therefore, use the relative version which we discuss below:

The theory will be explained with the help of an example.

Suppose Nigeria and England are on inconvertible paper standard and by spending N60, the same bundle of goods can be purchased in Nigeria as can be bought by spending £1 in England.

Thus according to the purchasing power parity theory, the rate of exchange will be N60 = £ 1.

If the price levels in the two countries remain the same but the exchange rate of N50 = £1 in England. It is a case of overvaluation of the exchange rate. This will encourage imports and discourage exports by Nigeria. As a result, the demand for pounds will increase and that of naira will fall. This process will ultimately restore the normal exchange rate of N60 = £1. In the converse case, if the exchange moves to N70 = £1, the Nigerian currency becomes undervalued. As a result, exports are encouraged and imports are discouraged. The demand for naira will

raise and that for pounds will fall so that the normal exchange rate of N60 = £1 will be restored.

According to the theory, the exchange rate between two countries is determined as a point which expresses the equality between the respective purchasing powers of the two currencies. This is the purchasing power parity which is a moving par and fixed par (as under the gold standard). Thus with every change in price level, the exchange rate also changes. To calculate the equilibrium exchanges rate, the following formula is used:

$$R = \frac{Domestic\ Price\ of\ a\ Foreign\ Currency\ x\ Domestic\ Price\ Index}{Foreign\ Price\ index}$$

or $r = R_o \times \frac{P_{AO}/P_{AO}}{PB1/PB_O}$

Where 0 = base period, 1 = period 1, A and B countries, P = Price index and R_o = exchange rate in base period.

According to Cassel, the purchasing power Parity is "determined by the quotients of the purchasing powers of the different currencies. This is what the formula does. Let us explain it in terms of our above example. Before the change in the price level, the exchange rate was N60 = £1. Suppose the domestic (Nigerian) price index rises to 300 and the foreign (England) price index rises to 200, thus the new equilibrium exchange rate will be

$R = £1 \times \frac{300}{200} = £1.5$

Or N 60 = £1.5

This will be purchasing power parity between the two countries. In reality, the parity will be modified by the cost of transporting goods including duties, insurance, banking and other charges. These costs of transporting goods from one country to another are, in fact, the limits within the exchange rate can fluctuate depending upon the demand and the supply of a country's currency. There is the upper limit, called the commodity export point; and the lower limit, known as the commodity import point. (These limits are not as definite as the gold points under the mint par theory).

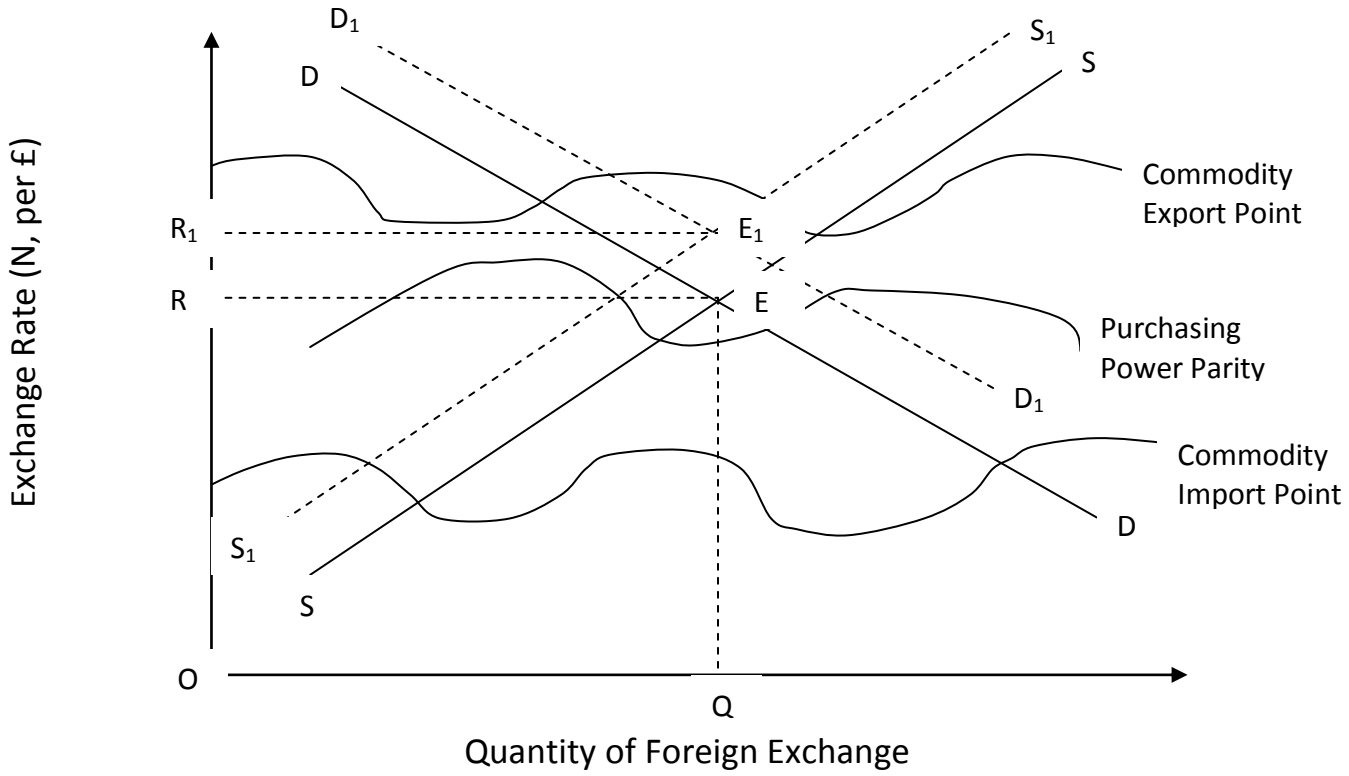

Figure 6.2b Equilibrium Exchange rate of Purchasing Power Parity theory

The PPP theory is illustrated in Figure 6.2b where DD is the demand curve for foreign currency (pound in our example) and SS is the supply curve of currency. OR is the rate to exchange of naira per £, which is determined by their intersection at point E so that the demand for the supply of foreign exchange equals OQ quantity. Suppose the price level rises in Nigeria and remains constant in England. This makes Nigerian exports costly in England and Import from England relatively cheaper in Nigeria. As a result, the demand for pounds increases the supply of pounds decreases. Now the DD curve shifts upwards to the right to D_1D_1 and the SS curve to the left S_1S_1. The new equilibrium exchange rate is set at OR_1 naira per pound, which represents the new purchasing power parity. The exchange rate rises by the same percentage as the Nigerian price level. The purchasing power curve shows that with relative change in the price levels, the exchange rate tends to fluctuate along this curve above or below the normal exchange rate. But there is a limit up to which the purchasing power parity curve can move up and down. The upper and lower limits are set by the commodity export point and the commodity import point respectively.

Criticisms: Cassel's PPP theory became very popular among economist during 1914-24 and was widely accepted as a realistic explanation of the determination of foreign exchange rate under inconvertible paper currencies. But it has severely criticised for its weak theoretical base. Some of the criticisms are discussed as under:

1. **Defects in Calculating Price level:** One of the serious defects of the theory is that of calculating the price levels in the two countries. The use of index number in calculations presents many difficulties such as the base year. Coverage and method of calculation. These may not be the same in both countries. The two countries may not include the same types of commodities in calculating the index numbers. Such difficulties make the index numbers only a rough guide for measuring the price levels and thus fail to give the correct purchasing power parity between the two countries.
2. **Comparison of General Price Level a Difficult Problem.** According to the theory, the purchasing power parity between two countries id determined by comparing their general price levels. But the price level may be made of internally traded plus internationally traded goods, or of the internationally traded goods. If the price level is calculated in terms of the internally traded goods, then the prices tend to equality in both countries, even allowing for the cost of transportation, tariffs, etc. Thus, according to Keynes, "confined to internationally traded commodities, the purchasing power parity becomes an empty truism".

   On the other hand, if the price level includes both internally and internationally traded goods, then price of internally traded goods may move in the opposite direction of internationally traded goods, at least in the short period. Thus the real exchange rate may not conform to the parties.

   Further, if the price level includes both types of goods, there is technical difficulty of people spending their money differently in the two countries, so that the basis for complete and accurate comparisons of price level is lacking.
3. **Not applicable to Capital Account.** Another weakness of the purchasing power parity theory is that it applies to countries whose balance of payments is determined by the merchandise trade Account. It is, therefore, not applicable to such countries whose exchange rate is influenced more by capital account.
4. **Difficult to Find Base year.** The theory assumes the balance of payments to be in equilibrium in the base period for the determination of the new equilibrium exchange rate. This is a serious defect, because it is difficult to find the base year when the exchange rate was initially in equilibrium.
5. **Structural changes in Factors.** The theory is also based on the assumption that there have been no structural changes in the factors underlying the equilibrium in the base period. Such factors are changes in technology, resources, tastes, etc. this assumption is highly unrealistic because changes are

bound to take place in these factors which, in turn, are likely to affect exchange rate.

6. **Capital is Mobile.** The theory is based on the assumption of zero-capital movements. There are many items in the balance of payments such as insurance, shipping, and banking transactions, capital movements, etc. Which are not affected by changes in the general price level. But these items affect the exchange rate by influencing the demand for and supply of foreign currencies. The theory is thus weak for it neglects the influence of these factors in determining the exchange rate.
7. **Changes in Exchange Rates affect Price Level.** The theory further assumes that a change in the price level brings about changes in exchange rates. But changes in exchanges rate do affect the price level. For instance, if the external value of naira falls, imports will become dearer. As a result the costs and prices of goods using imported materials will rise. On the other hand, exports will become cheaper with fall in the external value of the naira. Consequently, their demand will increase which will raise the demand for factors used for producing exports, and their prices will also rise. Thus changes in exchange rate do influence the price level.
8. **Barter Terms of trade Change.** The theory assumes that the barter terms of trade do not change between the two trading countries. This assumption is unrealistic because the barter terms of trade constantly change due to changes in the demand for foreign goods, in the volume of external loans, in the supply of exported goods, in the transport costs, etc.
9. **No Free Trade.** The theory is based on the assumption of free trade and laissez – faire policy. But governments do not follow these policies these days. Rather, they impose a number of restrictions on the movement of goods between countries. Such trade restrictions are tariff, import quotas, customs duties and various exchange control devices which tend to reduce the volume of imports. These, I turn, cause wide deviations between the actual exchange rate and the exchange rate set by the purchasing power parity.
10. **Only Purchasing Power Parity does not Determine Exchange Rate.** The equilibrium exchange rate may not be determined by the purchasing power parity between the two countries. Rather, a sudden increase in the demand for goods of one country may raise the demand of its currency on the part of the other country. This will lead to rise in the exchange rate.
11. **Neglect of Elasticity's of Reciprocal Demand.** According to Keynes, one of the serious defects of this theory is that it fails to consider the elasticity's or reciprocal demand between the two trading countries.
12. **It is One-Sided.** Ragner Nurske points out that the theory is one sided in that it is based exclusively on changes in relative prices and neglects all factors that influence the demand for foreign exchange. The theory treats demand as a function of price but neglects the influence of aggregate income and

expenditure on the volume and value of foreign trade, these are important factors which affect the exchange rate of a country.

13. **No Direct Relation between Exchange rate and Purchasing Power.** The theory assumes direct relation between exchange rate and purchasing powers of two currencies. In reality, there is no such relation between the two.
14. **Static Theory.** This is a static theory because it assumes no changes in tastes, incomes, technology, tariffs, etc. These make the theory unrealistic.
15. **Long Run Theory.** This Theory is applicable in the long run and falls to determine exchange rate in the short run.
16. **Relevant for Bilateral Trade.** The theory is relevant only for bilateral exchange rate determination and fails to determine exchange rate in the present multilateral trade relation.
17. **Not Possible to Compute Equilibrium Exchange Rate.** According to Halm "Purchasing Power parities cannot be used to Compute Equilibrium exchange rates or to gauge with precision deviations from International payments equilibrium".

Self Assessment Exercise:

How will you differentiate the purchasing power parity theory from the mint parity theory?

3.3 The Balance of Payment Theory

According to this theory, under free exchange rates, the exchange rate of currency depends upon its balance of payments. A favourable balance of payments raises the exchange rate; while an unfavourable balance of payments reduces the exchange rate. Thus the theory implies that the exchange rate is determined by the demand for the supply of foreign exchange.

The demand for foreign exchange arises from the debit side of the balance of payments. It is equal to the value of payments made to the foreign country for goods and services purchased from it plus loans and investments made abroad. The supply of foreign exchanges arises from the credit side of the balance of payments. It equals all payments made by the foreign country to our country for goods and services purchased from us plus loans disbursed and investments made in this country. The balance of payments if debits and credits are equal. If debits exceed credits, the balance of payments is unfavourable. On the contrary, if credits debit is favourable. When the balance of payments is unfavourable. It means that the demand for foreign currency is more than its supply. This causes the external value of the domestic currency to fall in relation to the foreign currency. Consequently, the exchange rate falls. On the other hand, in case the balance of payments is favourable, the demand for foreign currency is less than its supply at a given exchange rate. This causes the external forces value of the domestic currency to rise in relation to the foreign currency. Consequently, the exchange rises.

When the exchange rate falls below the equilibrium exchange rate in a situation of adverse balance of payments, exports increase and the adverse balance of payments is eliminated, and the equilibrium exchange rate is re-established. On the other hand, when under a favourable balance of payment situation, the exchange rate rises above the Equilibrium exchange rate, export decline, the favourable balance of payments disappears and the equilibrium exchange rate is re-established. Thus at any point of time, the rate of exchange is determined by the demand for the supply of foreign exchanges as represented by the debit and credit side of the balance of payments. "Any change in the conditions of demand or of supply reflects itself in a change in the exchange rate, and at the ruling rate the balance of payments balances from day today or from moment to moment."

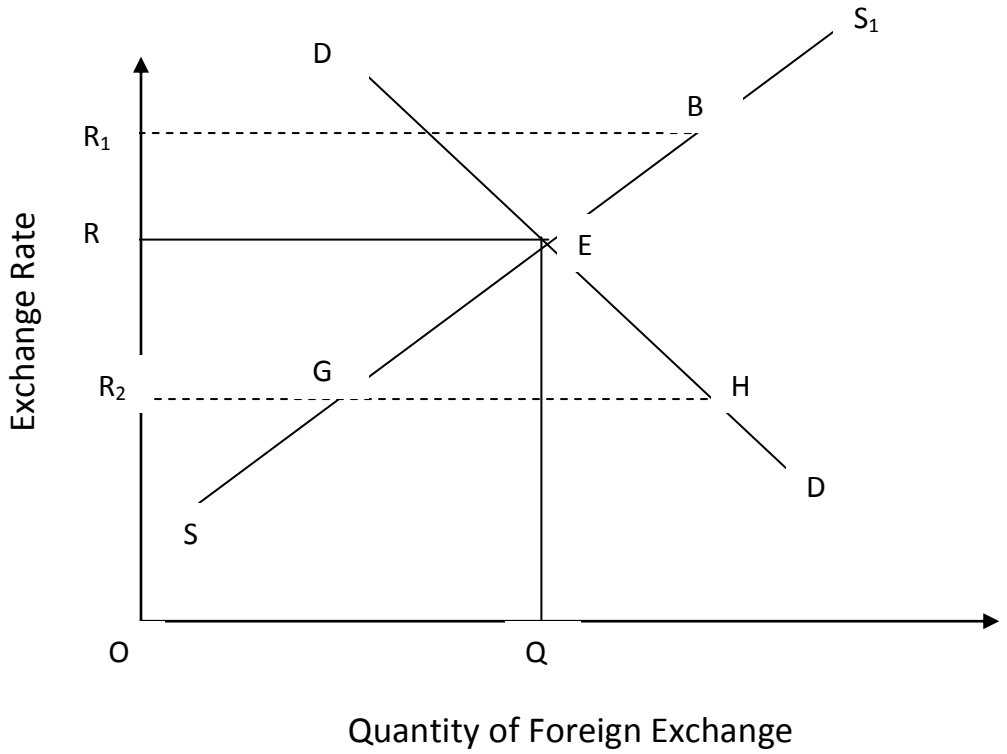

Figure 6.2c Balance of Payment Theory of Equilibrium Exchange Rate

The determination of exchange rate under the balance of payments theory is illustrated in Figure 6.2c DD is the Demand curve for foreign currency. It slopes downward to the left because when the rate of exchange rises, the demand for foreign exchange which slopes upwards from left to right. This is because when the exchange rate falls, the amount of foreign currency offered for sale will be less, and vice versa. The two curves intersect at E where OR equilibrium exchange rate is determined. At this rate, the quantity of foreign exchange demanded and supplied equals OQ. E is also the point where the balance of payments.

Suppose the exchange rate rises to OR_1. The demand for foreign exchange R_1A is less than its supply R_1B. It means that there is a favourable balance of payments. When the exchange rate is more than equilibrium rate, exports decline and import increase. Consequently, the demand for foreign exchange will rise and the supply will fall. Ultimately, the equilibrium rate OR will be restored where demand and supply of foreign exchange equals at point E. in the opposite case, when the exchange rate falls below the equilibrium rate to OR_2, the demand for foreign exchange rate falls below the equilibrium rate to OR_2, the demand for foreign exchange R_2H is greater than its supply R_2G ($R_2H > R_2G$). it implies an unfavourable balance of payments. But fall in the exchange rate lead to increase in exports and decline in imports. As a result, the demand for foreign currency starts falling and the supply starts rising till the equilibrium exchange rate OR is re-established with the equity of demand and supply of foreign exchange at point E.

However, it is the shape of the demand and supply curves of foreign exchange rate. For this purpose, four elastic ties are relevant: (i) the foreign elasticity or demand for exports. (ii) The domestic elasticity of supply for exports, (ii) the domestic equilibrium exchange rate tends to be stable if the demand elasticises are high and the supply elasticises are low.

However, according to this theory, the demand- and supply of foreign exchange are determined by factors that are independent of changes in the exchange rate. Such factors are interest on foreign loans, reparation payments, etc. Further, the demand for many items that enter into import trade is perfectly inelastic so that exchange rate changes do not affect them at all. Raw materials come in this category which is required to be imported from certain countries whatever their prices.

Criticisms:

The balance of payment theory has been criticised by economists on the following counts:

1. **Balance of Payments Independent of Exchange Rate:** The main defect of the theory is that the balance of payments is independent of the exchange rate. In order words, the theory states that the balance of payments determines the exchange rate. This is not wholly true because it is changes in the exchange rate that bring about equilibrium in the balance of payments.
2. **Neglects the Role of Price Level.** The theory neglects the role of the price level in influencing the balance of payments of a country and hence it's exchange rate. But the fact is that price changes do affect the balance of payments and exchange rates between countries.
3. **No Free Trade and Perfect Competition.** The theory is based on assumption of free trade and perfect competition. This is unrealistic because free trade is

4. not practised these days. Government impose a number of restrictions to reduce imports and adopt measures to encourage exports. This is how they try to correct disequilibrium in the balance of payment.
5. **Truism.** This theory presupposes that there is an equilibrium exchange rate where balance of payments equilibrium. In fact, exchange rates between countries continue to prevail under conditions of surplus or deficit in the balance of payments and there is no tendency for the balance of payments to be in equilibrium over the long run.
6. **Demand for imported Raw Materials not Inelastic.** The theory has been criticised for the assumption that the demand for imported raw materials is inelastic. There are no raw materials in the world the demand for which is perfectly inelastic.

Self Assessment Exercise:
A favourable balance of payments raises the exchange rate while an unfavourable balance of payment reduces the exchange rate" Discuss.

4.0 Conclusion

The mint parity theory has long been discarded ever since the gold standard broke down. No country is on the gold standard now. There are neither free movement of gold nor gold parties. So this theory has only an academic interest.

Haberler finds the theory of purchasing power parity useful, because according to him, "While the price levels of different countries may diverge, their price systems are nevertheless interrelated and interdependent, although the relation need not be that of quality. Also, the exchange rate can always be established at any desired level of appropriate changes in the volume of money".

5.0 Summary

The balance of payment is superior to the other theory, despite its criticisms, the balance of payments theory is the most satisfactory explanation of the determination of exchange rate. It studies the problem of determination of exchange rate under the framework of the general equilibrium analysis in terms of demand and supply. It studies the actual forces which lie behind the demand and supply of foreign exchange, such as the current account and the capital account of the balance of payments. An important implication of the theory is that adjustments in balance of payments can some currency in case of deficit and surplus in balance of payments respectively. That is why; it is regarded superior to the mint parity and purchasing power parity theories of exchange rate.

6.0 Tutor-Marked Assignment

1. Explain the theoretical difference(s) between purchasing power parity and balance of payment theory of foreign exchange rate
2. Examine the theoretical superiority of balance of payment theory over mint parity theory
3. Graphically discuss balance of payment theory of exchange rate.
4. Explain clearly with example, what is meant by Purchasing power parity

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UNIT 3: Exchange Rate System

CONTENTS

1.0 Introduction

In the previous unit we discussed the various theories relating to the determination of exchange rate regimes. This unit will attempt to discuss the exchange rate adjustment policies that have been changing from time to time with the establishment of IMF.

2.0 Objective

The objective of this unit is to;

- Analysis the fixed exchange rate policy
- Critically examine the operation of the flexible exchange rate policy
- Understanding the how the multiple exchange rate system is operated.

3.0 Main Content

3.1 Fixed Exchange Rate System

Under fixed or pegged exchange rates all exchange transactions take place at an exchange rate that is determined by the monetary authority. It may fix the exchange rate by legislation of intervention in currency markets. It may buy or sell currencies according to the needs of the country in currency markets. It may buy or sell currencies according to the needs of the country or may take policy decision to appreciate or depreciate the national currency. The monetary authority (central bank) holds foreign currency reserves in order to intervene in the foreign exchange market, when the demand and supply of foreign exchange (say pounds) are not equal at the fixed rate.

The following arguments are usually advanced for and against the system of fixed exchange rates.

Merits for Fixed Exchange Rates

Fixed exchange rates have the following advantages:

1. **Based on Common Currency:** The case of fixed exchange rate between different countries is based on the case for a common currency within a country. A country having a common currency with a fixed value of its currency in relation to other countries. Thus fixed exchange rates encourage international trade by making prices of goods involved in trade more predictable. They promote economic integration. As pointed out by Johnson, "The case for fixed rates if part of a more general argument for national economic policies conducive to international economic integration."
2. **Encourage Long Term Capital Flows.** The second argument for a system of fixed exchange rates is that it encourages long-term capital flows in an orderly and smooth manner; there is no uncertainty and risk resulting from a regime of fixed exchange rates.
3. **No fear of Currency Fluctuations.** There is no fear of currency depreciation, or appreciation under a system of fixed exchange rates. For instance, it removes fear that holding large quantities of foreign currency might lead to losses, if a currency's value drops. Thus it creates confidence in the strength of the domestic currency.
4. **No Adverse Effect of Speculation.** There is no fear of any adverse effect of peculation on the exchange rate, as speculative activities are controlled and prevented by the monetary authorities under a regime of fixed exchange rates.
5. **Disciplinary.** Another advantage claimed by a system of fixed exchange rates is that it serves as an 'anchor' and imposes a discipline on monetary authorities to follow responsible financial policies with countries. "Inflation will cause balance of payments deficits and reserve loss. Hence the authorities will have to take counter-measures to stop inflation. Fixed exchange rates should, therefore impose 'discipline on government and stop them from pursuing inflationary policies which are out of tune with the rest of the world."
6. **Best for Small Countries.** Johnson favours fixed exchange rates in the 'banana republics' where foreign trade plays a dominant role. Flexible exchange rates in them lead to inflation and depreciation when the exchange rate falls.
7. **Less Inflationary.** It leads to greater monetary discipline and so less inflationary pressure.
8. **Certainty.** Fixed exchange rate create certainty about foreign payments among exporters and importers if goods because they know what they have to receive or pay in foreign exchange.
9. **Suitable for Common Currency Areas:** This system is suitable for common currency areas such as Euro, Dollar, etc. Where fixed exchange rates promote growth of world trade.
10. **Promotes Money and Capital Markets.** It promotes the development of international money and capital markets and helps the flow of capital among nations.

11. **Multilateral Trade.** This system encourages multilateral trade globally among countries because countries have no fear of wide fluctuations in exchange rates.
12. **International Monetary Co-operation.** The system of fixed exchange rates promotes international monetary co-operation and so helps in the smooth working of the international monetary system under such institutions as IMF, World Bank, Euro-Market.

Merits against Fixed Exchange Rates

The following arguments are advanced against a system of fixed exchange rates

1. **Sacrifice of Objectives.** The Principle defect in the operation of a system of fixed exchange rate is the sacrifice of the objectives of full employment and stable prices at the alter of stable exchange rates. For example, balance of payments adjustment under fixed exchange rates of a surplus country can take place through a rise in prices. This is bound to impose large social costs within the country.
2. **Unexpected Disturbances.** Under this system, the effect unexpected disturbances in the domestic economy are transmuted abroad. "While a country may be protected by fixed exchange rate from the full consequences of domestic disturbances and policy mistakes, it has to bear a share of the burden of the disturbances and mistakes of others. For to the extent that excess demand 'leaks out' of the country where it was originally created. It 'leaks in' (via a balance of payments surplus) to that country's trading partners.
3. **Heavy Burden.** Under it, large reserves of foreign currencies are required to be maintained. Countries with balance of payments deficits must have large reserves if they must hold authorities for managing foreign exchange reserves.
4. **Mal-allocation of Resources.** This system requires complicated exchange control measures which lead to mal-allocation of the economy's resources.
5. **Complex System.** This system is very complex because it requires high skilled administrators to operate it. It is also time consuming and may lead to uncertain result. There is always the possibility of mistakes in policy formulation and implementation.
6. **Comparative Advantage Unclear.** Under this system, the comparative advantage of a country is not clear. For Instance, the exchange rate may be so low that a product may seem very cheap to the other country. Consequently, the country may export that commodity in which it has no comparative advantage. On the contrary with a very high exchange rate, the country may possess comparative advantage in a product.
7. **Fixed Exchange Rate not Always Possible.** Another Problem relates to the stability of the exchange rate. The exchange rate of a country vis-à-vis another country cannot remain fixed for sufficiently long period. Balance of payments problems and fluctuations in international commodity prices often compel countries to bring changes in exchange rates. That it is not possible to have rigidly fixed exchange rates
8. **Balance of Payment Disequilibrium Persists.** This system fails to solve the problem of balance of payments of disequilibrium. It can be tackled only temporarily because its permanent solution lies in monetary, fiscal and other measures.
9. **Dependence on International Institutions.** Under this system, a country mostly depends upon international institutions for borrowing and lending foreign currencies.

10. **Problems of International Liquidity.** To expand it trade, a country must have adequate international liquidity. To maintain a fixed exchange rate, the country must have sufficient reserves of foreign currencies to avoid balance of payments disequilibrium. On the other hand. Excessive international liquidity is also not good for the country because the resulting extra demand may lead to international inflation.

Self Assessment Exercise:
Give arguments for and against a system of fixed exchange rates.

3.2 Floating or Flexible Exchange Rate System

Flexible, floating or fluctuating exchange rates are determined by market forces. The monetary authority does not intervene for the purpose of influencing the exchange rate. Under a regime of freely fluctuating exchange rates. If there is an excess supply of a currency, the value of that currency in foreign exchange markets will fall. It will lead to depreciation of the exchange rate. Consequently, equilibrium will be restored in the exchange market. On the other hand, shortage of a currency will lead to appreciation of exchange rate thereby leading to restoration of equilibrium in the exchange market. These market forces operate automatically without any intervention on the part of monetary authority.

Merits for Flexible Exchange rates

The following advantages are claimed for a system of flexible exchange rates:

1. **Simple Operation.** A system of flexible exchange rates is simple in the operative mechanism. The exchange rate moves automatically and freely to equate supply and demand, thereby clearing the foreign exchange market. It does not allow a deficit or surplus to build up and eliminates the problem of scarcity or surplus of any one currency. It also avoids the need to induce changes in prices and incomes to maintain or restore equilibrium in the balance of payments.

2.Smoother Adjustments. Under it, the adjustment is continual. The adjustments in the balance of payments are smoother and painless as compared with the fixed exchange rate adjustments. In fact, flexible exchange rates avoid the aggravation of pressures on the balance of payments and the periodic crises that follow disequilibrium in the balance of payments under a system of fixed exchange rates. There is an escape from the various corrective measures that are adopted by the government whenever the exchange rate depreciates or appreciates.

3. **Autonomy of Economic Policies.** Under this system, autonomy of the domestic economic policies is preserved. Modern governments are committed to maintain full employment and promote stability with growth. They are not required to sacrifice these objectives of full employment and economic growth in order to remove balance of payments disequilibrium under a regime of flexible exchange rates.

4. Disequilibrium in the Balance of Payments Automatically Corrected. Since under a system of flexible exchange rates disequilibrium in the balance of payments is automatically corrected, there is no need to accommodate gold movements and capital flows in and out of the countries.

5. No Need of Foreign Exchange Reserves. There is no need for foreign exchange reserves where exchange rates are moving freely. A deficit country will simply allow its currency to Depreciate in relation to foreign currency instead of intervening by supplying foreign exchange reserves to the other country to maintain a stable exchange rate.

6. Removes problems of International Liquidity. A system of flexible exchange rates removes the problem of international liquidity. The shortage of international liquidity is the result of pegged exchange rate and intervention by monetary authorities to prevent fluctuations beyond narrow limits. When exchange rates are flexible, speculators will supply foreign exchange to satisfy private liquidity needs. Individuals, traders, bankers, governments and others would, of course, continue to hold liquid asset in form of gold or foreign exchange, but these holdings would be working reserve for purpose other than the maintenance of a fixed external value of the country's currency.

7.No Need of Borrowing and lending Short- term Funds. As a corollary to the above, when foreign exchange rate move freely, there is no need to have international institutional arrangement like the IMF for borrowing the lending short- term fund to remove disequilibrium in the balance of payments.

8. Effective Monetary Policy. The system of flexible exchange rates re- enforces the effectiveness of monetary policy. If a country wants to increase output, it will lower interest rate under a regime of flexible exchange rate, the lowering of interest rates will result in an overflow of capital, a rise in thy spot rate for the currency which will, in turn, cause exports to rise and import to fall. The increased exports will tend to raise domestic prices, or income or both. Thus a favourable trade balance will reinforce the expansionary effects of lower interest rate on domestic spending, thereby making monetary policy more effective. The above process will be reversed if the country wants to fight inflation by raising interest rates. Thus a country uses monetary policy to achieve domestic objectives rather than external balance.

9.Mistakes Avoided. As a corollary, with automatic adjustments of balance of payments there is no possibility of making monetary, fiscal and administrative policy mistakes.

10. Does not Require Complicated Trade Restrictions. A system of flexible exchange rates does not require the introduction of complicated and expensive trade restrictions and exchange controls. Thus the cost of foreign exchange restrictions is removed.

11. No Need of Forming Custom Union and Currency Areas. Under this system, the world can get rid of competitive exchange rate depreciation and tariff warfare among nations and there shall be no need forming custom unions and currency areas which are the concomitant result of the system of fixed exchange rates.

12. Economical. This system is very economical because it does not require idle holding of foreign currencies. Rather a country can use its foreign reserve to meet us immediate requirement

13.Promote International Trade. This system promotes international trade because it maintains the exchange rates at their natural level through continuous market adjustments. Thus there is no danger of over- valuation or under- valuation of a country's currency.

14.Insulation from International Economic Events. Under this system, a country is protected against international economic fluctuations and shocks by making adjustments in its exchange rates.

15. Comparative advantage. Under this system, the exchange rates are always in equilibrium. It is, therefore, possible to assess the comparative advantage of a country in a particular commodity.

Merits against Flexible Exchange Rates

The following arguments are against a system of flexibility exchange rates.

1. **Mal allocation of Resources.** Critics of flexible exchange rates point out that market mechanism may fail to bring about an appropriate exchange rate. The equilibrium exchange rate in the foreign market at a point of time may not give correct signal to concerned parties in the country. This may lead to wrong decisions and malallocation of resources with the country.

2. Official Intervention. It is difficult to define a freely flexible exchange rate. It is not possible to have an exchange rate where there is absolutely no official intervention. Government may not intervene directly in the foreign exchange market, but domestic monetary and fiscal measures do influence foreign exchange rate. For instance, if domestic saving domestic investment, it means that the country is a net investment abroad. The outflow of capital will bring down the exchange rate. All this may be due to the indirect impact of government policies. Further, in the absence of any undertaking among governments about exchange rate manipulation, the system of flexible exchange might lapse into anarchy, for every company would like to establish favourable exchange rates with other countries. This may lead to retaliation among nations and result in war of exchange rates with disruptive effects on trade and capital movements. Thus some sort of understanding or agreement concerning exchange rates is implied in regime of flexible exchange rates.

3. No justification. As a corollary, there is no justification for a government to leave the determination of exchange rates to international market forces when prices, rent, wages, interest rates, etc, are often controlled by the government.

4. Exchange risks and uncertainty. Another disadvantage of this system is that frequent variation in exchange rates, create exchange risks, breed uncertainty and impede international trade and capital movements. For instance, an Indian who imports from Japan and promises to pay back in yen runs the risk that the rupee price of yen will rise above expected levels. And the Japanese exporter who sells for rupees runs the risks that the yen price of rupees will fall below expected levels. Similarly, exchange risks may be even more serious for long-term capital movements. This is because under a system of

flexible exchange rates borrowers and lenders will be discouraged to enter into long-term contacts and the possibility of varying burden for servicing and repayment may be prohibitive. But Sodersten has shown how flexible exchange rates increase uncertainty for traders and have a dampening effect on the volume of foreign trade. Assume that a country is under a regime of flexible exchange rates, the general price level is stable and the balance of trade is in equilibrium. Suppose the demand for the country's export decreases, this leads depreciation of the country's exports decreases, this leads to depreciation of the country's currency which, in turn, raises import prices and brings a fall in imports. Consequently, importers will be adversely affected. At the same time, exporters will gain with the increase in the prices of export goods. But the volume of exports will decline whereby they will also be losers. Opposite will be the consequences when consequences when currency appreciates. Suppose there is an abnormal inflow of short-term capital to country *A*'s in terms of foreign currencies, thereby lowering the levels of output, employment and income in its export industries. The rise of exchange rates will also lower the costs of imports, thus discouraging output and employment in *A*'s import competing industries. Thus importers and exporters will be at a disadvantage and the volume of trade will decline.

5. Adverse Effect of Speculation. Under this system, speculation adversely influences fluctuations in supply and demand for foreign exchange. Critics argue on basis on empirical evidence that speculation is destabilising which means it aggravates fluctuation in exchange rate. ``it is often said that speculation see a decline in the exchange rate as a signal for further decline, and that their actions will cause the movement in the exchange rate to be larger than it would be in absence of speculation. In such a case, speculation is destabilising. Sodersten points out that the limited experience from the 1920s seems to show that speculation at that time was destabilising. Since floating rates became common in 1973, fluctuations in exchange rate have been large. It seems that some of the excessive fluctuations have been caused by destabilising speculation". Such fluctuations increase uncertainties in trade and reduce volume of foreign trade further.

6. Encouragement to Inflation. This system has inflationary bias. Critics argue that under a system of flexible exchange rates, a depreciation of exchange rates leads to a vicious circle of inflation. Depreciation leads to a rise in import prices thereby making import goods more expensive. This leads to cost-push inflation. At the same time, exports prices rise in the cost of living, money wages rise which, in turn, intensify inflation. But an appreciation of currency is unlikely to lead to a reduction in wages and prices when imports prices fall. This is because wages and prices are sticky downwards. This leads to an asymmetry which produces that Triffin calls *ratchet effect* that imparts an inflationary bias to the economy.

7. Breaks The World Market. This systems break up the world market. There is no one money which serves as a medium of exchange, unit of account, store of value and a standard of deferred payment. Under it, the world market for goods and capital would be divided. Resources allocation would be vastly sub-optimal.in fact, such a system clearly would not last long, according to kindle Berger.

8. Failure to solve balance of payments deficit of LDCs. LDCs are faced with the perpetual problem of deficit in their balance of payments because they import raw materials, machinery, capital equipment, etc for their development. But their exports are limited to primary and other products which fetch low prices in world markets. Their balance of payment deficit can be removed in a system of flexible exchange rates if there is continuous deprecation of the counter's currency.

This is illustrated in Fig.4 where *D* is country's demand curve for foreign exchange and S is the supply curve for foreign exchange. To begin P is the point where OE exchange rate is determined. Suppose disequilibrium develops in the balance of payments of the LDC in relation to the pound currency area. This is shown by the shift in the demand curve form D to D1 and the deficit equals PP. This means an increase in the demand for pounds and depreciation of the currency (say Rupee) of the LDC. Now the exchange rate of Rs.-£ rises to OE1. This process of depreciation of the LDC currency continues with the rise in the exchange rate to OE2 and so on. Such a policy of continuous depreciation adversely affects trade and development process in LDCs.

Self Assessment Exercise:

Do you favour flexible or fixed exchange rates? Give reasons for your answer.

3.3 Multiple Exchange Rate system

It is a system under which a country adopts different rate of exchange for import and export of different commodities. A country may adopt controlled rate of exchange with some countries and free exchange rate with others. The exchange rate does not fluctuate but several fixed exchange rate and their categories that may exist. Completely free and floating exchange rate may also be possible for certain transaction with some countries. The objectives of multiple exchange rates are to obtain the maximum foreign exchange by maximizing export and minimizing import to correct the balance of payments deficit.

Merits

The main merits of multiple exchange rates system are as follows:

1. **Promotion of Exports**: Even though devaluation may also be used for promotion export but it makes imports costly and export cheaper. But under the multiple exchange rates system, the best exchange rate can be obtained for different exports and imports. The country can obtain full advantages of elasticises of demand and supply which are favourable to it. Thus this system is more effective than devaluation.
2. **Import Profitable:** A developing country has little to export but it has to import capital goods, raw-materials, technical know- how and even consumption goods on a large scale. Its imports have an inelastic demand. So it wants to enlarge the import of above goods and restricts that of luxury and other consumer goods to raise its development potential.

3. **Correcting Balance of Payment Deficit:** The above discussion makes it obvious that under the multiple exchange rates system maximum foreign exchange may be earned from export and minimum possible payments can be made for import. Thus the balance of payments deficit can be corrected.
4. **For Particular Country.** Specially in a situation where a country has a balance of payments surplus but deficit with a particular country, the deficit can be controlled by lowering the exchange rate of the of commodity exported to imported from that particular country. Thus the problem of deficit or surplus in balance of payments can be solved through multiple exchange rates system.
5. **Capital Formation.** Capital goods and necessary inputs can be imported at cheaper rates through the system of multiple rates. On the other hand, high earnings may also be utilised for capital formation.
6. **Capital Flows.** Multiple exchange rates may be very helpful to achieve a higher capital inflow from one country and to restrict capital outflow to another country. In such case, a higher rate of exchange would be applicable to the former and a lower exchange to the latter. It may also be used for channelizing foreign capital into favourable lines of production.
7. **Helpful for Weak Industries.** Weak or declining industries can be lifted with the help of multiple exchange rates system. They may get protection or export subsidies and import capital goods, raw materials and technical know-how at some preferential and favourable rate of exchange under this system.
8. **Diversifying the Economy.** The system encourages the diversification of industries through favourable exchange rates. It provides protection to weak industries from foreign competition. It can help in developing new export goods industries, processing and defence industries. Commodities of mass consumption can also be produced. Thus is can diversify the economy and raise output, employment and income in the economy.
9. **Maximising Revenues.** The multiple exchange rates system enable the government to earn more revenues. Since this system encourages the expansion and diversification of industries, and increases output, employment and income, the government earns larger revenues from excise duties, sales tax, corporation tax, personal taxes, etc.
10. **Favourable Terms of Trade.** A country may secure more favourable terms of trade under this system. That is why it can be used for keeping prices of export goods at a higher level and prices of import article at a lower level.
11. **Improvement of Standard of Living.** Since the import of capital goods, raw materials, etc. Can be obtained at low price under this system, their cost of production is low. Similarly, essential consumer goods for mass consumption are imported cheap. These tend to reduce the cost of living and raise the standard of living of the people.

Demerits

The multiple exchange rates system has the following demerits:

1. **Administrative Difficulties.** In this system, large number of different exchange rate exist for large variety of goods and for different countries. To administer them requires large administrative machinery. This involves a complex exchange control system which leads to administrative inefficiencies, red-tapism and corruption.
2. **Discriminatory.** This systemis discriminatory because it discriminates between commodities, industries, sectors, region and countries. The same commodity may be exported to a country at a different rate than to another country. This is likely to lead to retaliation by the other country and so adversely affect their trade and political relations.
3. **Harmful for Domestic Industries.** A country may import commodities at cheap rates from abroad which may harm the domestic industries as they cannot face foreign competition.
4. **Not Helpful for Export.** If the demand for export is elastic or if export have inelastic supply in the domestic market or if foreign importers form a monopsony or oligopoly, multiple exchange rate will be of no help to the country in increasing its exports.
5. **Black Marketing.** This system leads to black marketing of foreign exchange. Importers buy foreign exchange at lower rates because the exchange rate for essential imports is low. But they sell foreign exchange at high rate in the foreign exchange market.
6. **Limits to Different Rates.** It is not possible for the monetary authority to fix different exchange rates for large number of exportable and importable commodities. So they are classified in small categories or groups. Their classification may be arbitrary and lead to corruption for every exporter or importer would like to have his commodity in the favourable exchange rate category.
7. **Less Effective in BOP.** The multiple exchange rate system is less than quantitative restrictions like export and import licences, exchange controls, etc. In reducing BOP deficit.
8. **Accumulation of Inventories.** This system leads to accumulation of inventories. When exporters do not export their goods in anticipating of more favourable exchange rates being announced by the monetary authority, it leads to stock-piling of goods in godowns. This adversely affect production and leads to losses.
9. **Not a Sufficient System.** The multiple exchange rates system is not sufficient for economic development of LDCs. In such countries, the demand for essential imports is inelastic so the exchange rate for their imports cannot be lowered. On the other hand, their capacity to export is limited. So they cannot increase the exchange rates for their exports. That is why such countries suffer from shortage of foreign exchange.

Self Assessment Exercise:
Give reasons for adoption of multiple exchange rate..

4.0 Conclusion

On the whole, unlike floating and fixed exchange rate, the multiple exchange rates system leads to mal-allocation of resources, reduces economic efficiency and gains from trade of the country adopting it. That is why, this system is no longer in use.

5.0 Summary

The unit established and explain the system and policy of exchange rate and give reasons for adopting any of these systems as well as their limitations and shortcomings.

6.0 Tutor-Marked Assignment

1. Explain what is meant by the following exchange rate system
i. Fixed Exchange Rate System
ii. Floating Exchange Rate system
iii. Multiple Exchange Rate System
2. Discuss the limitations of multiple Exchange Rate System.
3. List and explain the argument for and against flexible exchange rate system

7.0 References/Further Reading

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