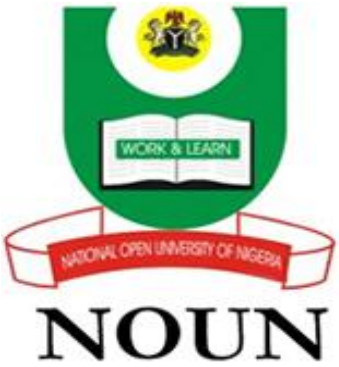


NATIONAL OPEN UNIVERSITY OF NIGERIA

MACROECONOMICS THEORY

ECO 341

SCHOOL OF ARTS AND SOCIAL SCIENCES

COURSE GUIDE

Course Developer:

BAKARE-AREMU, Tunde Abubakar
Economics Department, University of Lagos, Akoka, Yaba, Lagos.

NATIONAL OPEN UNIVERSITY OF NIGERIA

National Open University of Nigeria
Headquarters
14/16 Ahmadu Bello Way
Victoria Island
Lagos
Abuja Annex
245 Samuel Adesujo Ademulegun Street
Central Business District
Opposite Arewa Suites
Abuja
e-mail: centralinfo@nou.edu.ng
URL: www.nou.edu.ng

First Printed
ISBN:

Printed by ……..
For
National Open University of Nigeria *Multimedia Technology in Teaching and Learning*

CONTENT

INTRODUCTION

The course, Macroeconomics Theory (ECO301) is a 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 undergraduate to gain in-depth insight in Macroeconomic theory.

This course guide is built on prerequisite knowledge (i.e some fundamental bedrock that is expected to have been learnt in the previous levels), 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. It suggests some general guidelines for the amount of time required of you on each unit in order to achieve the course aims and objectives successfully. It also provides you 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 lecture weeks and covering areas such as the concept of saving, consumption and investment, national income models, classical and Keynesian models, theory of money, macroeconomic policy models, theory of prices level, internal and external balance and lastly economic growth theory.

Course Aims and Objectives

The course aims to give users in-depth understanding of the macroeconomic theoretical background and prepare the student with policy mix with which macroeconomic disequilibrium could be tackled. Also, the course is prepared in a way in which the users would easily augment their previous knowledge with new ideas. 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 macroeconomics entails.
ii. Establishing distinction between macroeconomics and microeconomics
iii. Understanding clearly the concept of saving, consumption and investment
iv. Discussing national income models with special reference to classical and Keynesian systems.
v. Explaining the theory of economic growth and development
vi. Discussing the evolution of money-barter trade and counter trade overview.

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 (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

MODULE / STUDY UNIT

There are 21 units in this course which should be studied carefully and diligently.

Module 1

Unit 1: Macroeconomics Concept: An Overview
Unit 2: Basic Tools of Macroeconomic Analysis.
Unit 3: Macro Statics, Macro Dynamics and Comparative Statics

Module 2

Unit 1: The Concept of Consumption and Saving: Introduction
Unit 2: Determinants and Derivations of Consumption and Saving functions and Graph (Curves)
Unit 3: The Theories of Consumption
Unit 4: The Theories of Interest Rate

Module 3

Unit 1: Concept of Investment: An Introduction
Unit 2: Types and Determinants of Investment.
Unit 3: Some Selected Theories of Investment.

Module 4

Unit 1: National Income Models: An Overview
Unit 2: Concept of Multiplier
Unit 3: Inflationary and Deflationary Gaps

Module 5

Unit 1: Money and the Barter System
Unit 2: Evolution and Nature of Money
Unit 3: Demand and Supply of Money
Unit 4: Commercial Bank and Money Creation.

Module 6
Unit 1: Macroeconomic Policy Framework
Unit 2: Macroeconomic Policy objectives, Instruments and Targets.
Unit 3: Internal and External Balance

Module 7
Unit 1: Concept of Economic Growth and Development
Unit 2: Some Characteristic of Growth
Unit 3: Some selected Growth Theories

The **first module** (unit 1-3) presents the general background on the course; distinction between macroeconomics and microeconomics; basic tools of macroeconomics analysis. The **second module** (unit 4-7) explains the concept of consumption, consumption function, derivation of consumption function from a given saving function and the determinant of consumption and explores the concept of saving, saving function, derivation of saving function from consumption function and the determinants of saving. While **module 3** (unit 8-10) covers detailed description of investment concept, investment function and graph and the determinants of investment. The **fourth module** (unit 11-13) intuitively explain the National Income models, defines various National Income concepts , differentiate between Classical National Income models and Keynesian National income models. It also introduces the student to the concept of income multiplier, tax multiplier and equilibrium National Income determination.

The **fifth module** (14-17**)** explains the concept of money with special reference to barter trade, it gives succinct analysis of the evolution of money and describes features and functions of money and finally explain the various types of money. The **sixth module** (unit 18-20) reflects on macroeconomics policy objectives, instruments and target and internal and external balance. While the last module (i.e. module seven) (unit 21-23) considered the theory of economic growth and development and distinguished between economic growth and development and lastly discusses some selected and relevant economic growth theories.

Each study unit will take at least 30 minutes, and it include the introduction, objective, main content, self-assessment exercises, conclusion, summary and references. Other areas are the Tutor-Marked Assignment (TMA) questions. Some of the self-assessment exercises will necessitate discussion, brainstorming and argument with some of your colleagues. You are advised to do so in order to understand and get acquainted with the course work.

There are also textbooks under the reference and other (on-line and off-line) resources for further reading. They are meant to give you additional information if you can obtain any of them. You are required to study the materials; practise the self-assessment exercises and tutor-marked assignments (TMA) questions for greater and in-depth understanding of the course. By doing so, the stated learning objectives of the course would have been achieved.

References and Other Resources

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

Assignment File

There are assignments in 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 – 3 (Module 1 & 2)
Assignment 2 - All TMAs' question in Units 1 – 3 (Module 3 & 4)
Assignment 3 - All TMAs' question in Units 1 – 5 (Module 5)
Assignment 4 - All TMAs' question in Unit 1- 3 (Module 6 &7)

Presentation Schedule

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

Assessment

There are two types of assessments for 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 encouraged 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 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 assignments 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 materials, and when to embark on discussion with your colleagues. Just as a lecturer might give you an in-class exercise, your study unit 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 role 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 exercise 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 the 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 through each 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 its return before starting on the next unit. 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 I (ECO 341), exposes the users to macroeconomics fundamentals such as National Income models, concepts of saving, consumption and investment, as well as issues to do with macroeconomic policy objectives, instruments and targets. The other aspects include concepts of money, barter system, and evolution of the fiat money. The use of the instrument to anchor the targets to achieved macroeconomic equilibrium i.e. internal and external balance.

On successful completion of this course, you would have developed critical 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 what you learn in the course to term papers written in other economics courses. We wish you success with the course and hope that you will find it both interestingly intuitive and obligingly useful.

MODULE ONE

Unit 1: Macroeconomics Concept: An Overview
Unit 2: Basic tools of macroeconomics analysis
Unit 3: Macro Statics, Macro Dynamics and Comparative Statics.

UNIT 1: OVERVIEW OF MACROECONOMICS CONCEPT

CONTENTS

1.0 Introduction

The main aim of this study unit is to examine the meaning of macroeconomics theory and analysis. However, the exigency of macroeconomics theory and principle are clearly explained in this study unit (study unit one/module one).

In addition to the meaning of macroeconomics, students are also exposed to the nature and features of macroeconomics studies. Essentially, this study unit equally attempts to conceptually differentiate the two concepts of economic theory and principles; that is, microeconomics and macroeconomics. Students are expected to have clearer understanding of these economic concepts,

However, these concepts are divergent but yet converge, this is to say that, these concepts differ in analyses, principles, theories and applications but yet apply to achieve same goals, that is, optimization of economic activities at all levels. Conceptually, economics theory and principles are divided into two broad branches, microeconomics and macroeconomics.

2.0 Objectives

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

- Understand the definitions and meaning of macroeconomics
- Understand characteristics and nature of macroeconomics
- Know various contributors to macroeconomic evolution
- Understand the various definitions of macroeconomics and microeconomics

- Understand clearly concepts and analysis of both theories and principles

3.0 Contents

3.1: Macroeconomics Concepts: An Overview

Macroeconomics concept was introduced by Ragnar Frisch in 1933 during the period of great economic depression, which was globally applies to be relations among broad economic aggregates.

In 1936, Macroeconomics was brought into prominence through the agitations and questioning of John Maynard Keynes in his work titled; *The General Theory on Employment and Money*. This break through subsequently gave rise to the Keynesian cross which is now referred to as Keynesian Economics.

The term Macroeconomics can be defined as the study of aggregate variables in an economy such as total consumption level, autonomous investment and government expenditure. That is, it studies all the sectors of the whole economy. In a clear term, it is the study of the 'elephant' economy, that is, the study of the aggregation of the entire economy.

Self Assessment Exercise

i. Explain in the detail the meaning of macroeconomics.

3.2 Features and Nature of Macroeconomics

The characteristics or features of macroeconomics are encompassed in its summative or aggregative impact on variables that concern the entire geographical boundary called nation or country. The study of macroeconomics generally involves the study of a number of variables that affect the whole elephant economy. Such variables include, among others, the rate of inflation i.e. changes in general price level, population and other demographic issues, public finance, national income accounting and determination, employment and wage determination, international trade and balance of payment issues, foreign exchange and domestic currency value stabilization, economic planning issues and economic growth and development, to mention but a few.

The nature, like feature, is the general outlook of macroeconomic conditions which encompasses the characterization of the entire system. In a nut shell, the nature of macroeconomics includes the macroeconomics variables and policy objectives.

Self Assessment Exercise

i. Explain in the detail, the characterization of macroeconomics.

3.3 Macroeconomics versus Microeconomics

Macroeconomics Concepts and Analysis

Macroeconomics is the study of the economy as a whole. In macroeconomics emphasis is on aggregate economic variables such as the economy's level of employment, total output and income, total money supply, overall government spending, the levels of taxes, investment and saving and so on. It follows that macroeconomics explores the problems of unemployment, inflation, external disequilibrium, sluggish economic growth, general poverty and inequality in the macro-economy.

Microeconomics Concept and Analysis

Microeconomics is concerned with specific segments of the economy, particularly the behaviour of individual, consumers and firms, and of groups of firms in industries. As a branch of economics, it examines how resources are organised, controlled and rewarded in various economic activities, as well as how relative prices of goods and services are determined. The main topics falling within microeconomics include the theory of price and wage determination, the theory of consumer behaviour, the theory of production and welfare.

Differentiation between Macroeconomics and Microeconomics

Microeconomics studies economic units such as household, firm and government. Any economics study that has to do with sub-aggregate and independent units in an economy is termed microeconomics. Therefore any economics study that is related to how market operates, organisation of firms into industries, public finance by sector and general behaviour of household consumers and producers are embedded in microeconomics studies. On the other hand, the study of macroeconomics involved the totality (aggregate) of the entire economy. Any study that is related to population, national income, taxation, inflation, aggregate money supply and demand, unemployment, international trade and policies that regulate the workability of the entire economy is covered under macroeconomics.

Although, microeconomics pre-empts decision making, but all decision that are made collectively by government are made under macroeconomics framework.

Both macroeconomics and microeconomics are important for economic analysis, which are regarded as necessary apparatus of thought. They have both theoretical and practical importance in the area of :

- Understanding the working of the whole economy.
- Providing tools for economy policies.
- Efficient allocation and employment of resources.
- Business decision
- Understanding the problems of taxation.
- International trade and balance of payment.
- Examining the condition of economic welfare.
- Economic and social prediction.

- Construction and use of model for actual economic phenomena.
  In a nutshell, if an economy is likened to an elephant, the study of the entire elephant is macroeconomics study while, the study of the elephant leg, tusk, and tail are microeconomics studies.

Self Assessment Exercises

i. Differentiate between microeconomics and macroeconomics concepts in clear terms
ii. Explain microeconomics concept in clear terms.
iii. Explain macroeconomics concept in clear terms

3.4 Limitations of Macroeconomics

There are certain limitations of macroeconomics analysis and these are as follows:
1. Fallacy of Composition: In macroeconomic analysis the aggregate economic behaviour is the sum of individual activities. But what is true of individuals is not necessarily true of the economy as a whole. For example, if total savings in the economy increase, it will bring about a depression unless the savings is invested. If the individual depositor withdraws funds simultaneously, there will be a run on the banks and the banking system will be adversely affected.

2. It regards the aggregate as homogenous: Macroeconomic analysis regards the aggregates as homogenous without caring about their internal composition and structure. The average wage in a country is the sum of wages in all occupations, i.e. wages of clerks, typists, teachers, nurses, etc. But the volume of aggregate employment depends on the relative structure of wages rather than on the average wage. For instances, if wages of nurses increase but that of typists fall, the average may remain unchanged. But if the employment of nurses fall a little and that of typists rises, aggregate employment would increase.

3. Aggregate variables may not be necessarily important: The aggregate variables which form the economic system may not be of much significance. For instance, the national income of a country is the total of all individual incomes. A rise in national income does not mean that individual income has risen. The increase in national income might be the result of the increase in the incomes of a few rich people in the country. Thus a rise in the national income of this type has little significance from the point of view of the community.

4. Indiscriminate use of Macroeconomic analysis: An indiscriminate and uncritical use of macroeconomics in analysing the problems of the real world can often be misleading. For example, if the policy measures needed to achieve and maintain full employment in the economy are applied to structural unemployment in individual firms and industries, they become irrelevant. Also,

measures aimed at controlling general prices cannot be applied with much advantage for controlling prices of individual products.

5. Statistical and conceptual difficulties: The measurement of macroeconomic concepts involves a number of statistical and conceptual difficulties. These problems relate to the aggregation of microeconomic variables. If individual units are similar, aggregation does not present much difficulty. But if microeconomic variables relate to different individual units, their aggregation into one macroeconomic variable may be wrong.

Self Assessment Exercise
List and explain limitations of macroeconomics

4.0 Conclusion

In this unit, we conclude that in everyday usage, macroeconomics involves anything that connects or concerns the entire economy, which is the "elephant economy". We equally conclude that the nature of macroeconomics has to do with what macroeconomic entails, that is the characterization of macroeconomic theories, while microeconomics entails study of the same 'elephant economy' but in units or parts. It is observable that the macroeconomic study is achievable through unit study that is microeconomic study. We however, differentiated clearly between macroeconomics and microeconomics.

5.0 Summary

The unit vividly looked at composition of macroeconomics and discusses in details the characterization of the macroeconomic theory, that is, what macroeconomic include and precludes. This unit also looked at composition of macroeconomics and microeconomics concepts and differentiates clearly between the two concepts and discusses in details the characterization of the two.

6.0 Tutor-Marked Assignment

1. Vividly explain macroeconomic concept and theory.
2. List and explain various topics that could be discussed under macroeconomic concepts.
3. Define macro economy as different from macroeconomic
4. Vividly explain microeconomic concept and theory.
5. Discuss macroeconomic concept and theory.
6. Differentiate between macroeconomics and microeconomics.

7.0 References/Further Readings

Attah B.O, Bakare, T.A. & Daisi, O.R., (2011); **Anatomy of Economics Principles, Q&A (Macroeconomics),** Raamson Printing Press, Oke-Afa, Isolo, Lagos, Nigeria

Amacher, R and Ulbrich, H, (1986); **Principles of Economics,** South Western Publications Co. Cincinnafi, Oliso

Bakare –Aremu T.A, (2013); **Fundamental of Economics Principles (Macroeconomics),** Raamson Printing Press, Oke-Afa, Isolo, Lagos, Nigeria

Familoni K.A, (1990); **Development in Macroeconomics Policy,** Concept Publications, Lagos, Nigeria

Fashina E.O, (2000); **Foundations of Economics Analysis (Macro Theories),** F.E.F International Company, Ikeja, Lagos, Nigeria

Jhingan M.L, (2010); **Macroeconomics Theory, 12th edition,** Vrinda Publications (P) Ltd. Delhi, India

Jhingan M.L, (2010); **International Economics,** Vrinda Publications (P) Ltd. Delhi, India

Lipsey R.G, (1979); **An Introduction to Positive Economics,** Hayper & Raw, London

Umo J.U, (1986); **Economics; An African Perspectives ,** Johnwest, Lagos Nigeria.

UNIT 2 BASIC TOOLS OF MACROECONOMICS ANALYSIS

CONTENTS

1.0 Introduction

This study unit (study unit two, module one) emphasizes the important of basic tools of macroeconomics analysis, the students are, however introduced to these tools of analysis in order to have the full grasp of the entire course work because most of the latter discussion would be based on the understanding of these basic tools of analysis.
The basic macroeconomics tools imply the instrument through which the study is analysed explicitly to the understanding of the learners. These include verbal statements, graphs and equations or mathematical models.

2.0 Objectives

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

- Know the various tools of macroeconomic analysis.
- Distinguish among these tools of macroeconomic analysis
- Understand the rudiments of macroeconomic tools
- Understand and have the ability to employ these tools for economic analysis

3.0 Contents

3.1 Verbal Statement or Prose

The use of words is often the easiest way of presentation. It has the advantage of making discussion in economics available to a wide audience. Verbal statement consists of words in tape or class room teaching delivery. Verbal statement could involve different methods; it could be one to one, one to many or many to one, in teacher - student arrays. Fundamentally, verbal learning also includes virtual learning, lecturer (teacher) given lectures (teachings) online, which could also be real time or offline. The former implies receiving online lectures as at when the

lectures are being delivered by the lecturer, in which real time participation is expected, teacher asks questions from students answering the question at the same time and vice versa. On the other hand, the offline imply that the teacher leaving lecturing material for student to learn and ask question that are not replied immediately.

Self Assessment Exercise

i. Explain verbal statement as a tool of macroeconomic analysis.

3.2 Graphs

Graphs are used as a further aid to understanding economic discussion. Moreover, it provides a clear picture of the relationship between two economic variables because of their visual appeal. The easiest graphical analyses in economics include that of demand and supply curves. The two curve shows relationship between quantity and price of the commodity, this is illustrated below;

The demand curve **The supply curve**

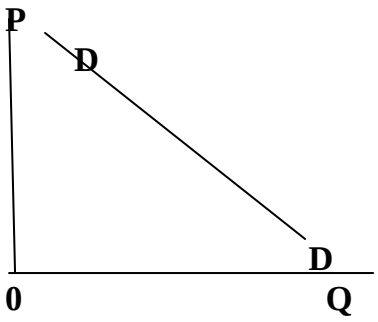


FIG. 1.2.1a

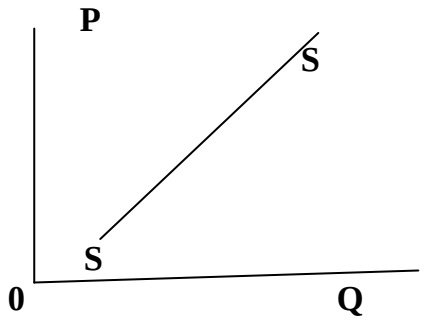


FIG.1.2.1b

The figures show the relationships that exist between quantity of a commodity demanded and supplied and the price adjustment. Figure 1.2.1a show that more is demanded at a lower price and less at a higher price while figure 1.2.1b implies that supplier would be willing to sell more at a high price than at lower price.

The illustration above confirms the fact that a clearer picture of concept is view from a graph or curves. There is a negative relationship between demand and price while positive relationship exists between supply and price.

Self Assessment Exercise

i. How could graph be used for illustration?

3.3 Equations / Models

Complex relationships of a multi-dimensional nature are expressed in mathematical language; algebraic statement of functional relationship. However, for ease of presentation variables are often reduced to two so that they could be shown on graphs.
An algebraic statement could be made from illustration of demand and supply curves in figure 1.2.1a and 1.2.1b.
For instance figure 1.2.1a could be algebraically represented as; Qd = f (P) meaning quantity of a commodity demanded depends on the price of that commodity, implicitly. However, it could be explicitly written as Qd = a –bP , meaning that a negative relationship exists between quantity of a commodity demanded and its price. i.e. people tend to demand more at a low price than at a high price, *ceteris paribus*. On the other hand figure 1.2.1b could be also implicitly written as Qs = f (P), still meaning that quantity supply of a commodity is a function of its price, and could be explicitly written as Qs = -a + bP, meaning that seller would be willing to sell more at a high price than at a low price.

Some Mathematical Concepts

Variable

A variable refers to a quantity that may assume any value in the context of a particular problem. Symbols are often used to denote variables. In economics, the two types of variables often considered are the *continuous* variable and *discrete* variable. The continuous variables are one that assumes any value within a specified interval of real numbers. Examples include all non-countable numbers between 3 and 6. Some of these may differ by very small (infinitesimal) amounts, e.g. 3.00036. The discrete variable, on the other hand assumes values within a countable range. An example is the number of integers between 10 and 20 (are 11) which are countable.

Dependent and independent variables: The variables to which we assign value are called *independent* variables, and the variables whose values are determined by the independent variables are called *dependent* variables. Thus, if the functional relationship is Y = *f*(X), i.e. Y depends on X, then X is the independent variable and Y is a dependent variable.

Exogenous and Endogenous Variables: The *endogenous* variable in an economic model is the one that is explained within the model. The *exogenous* variable is the one that affects the endogenous variable but is determined from outside the model.

Using the population case again, if we hypothesize that the population of Nigeria is determined by the food supply, the endogenous variable is population and the exogenous variable is the availability of food. Food supply, although determined

from outside the model, has impact on the population. Notice that population itself is assumed to have no impact on food supply, since population is being explained in the model. Another name for an exogenous variable is the autonomous variable. Note also that in the relationship Y = *f*(X), Y is endogenous while X is exogenous variable.

Functions

If two variables-say X and Y- are related in such a way that when the value of X is given, the value of Y is determined, we say that Y is a function of X. that means that Y depends on X. This is written as Y= f(X), where *f* is the notation of function and means 'depends on'. Suppose P stands for the population of Nigeria and Q stands for food supply produced. We can say that P = *f* (Q), i.e. the population of Nigeria depends on food supply, or population is a function of food supply.

Increasing Function: If Y is a function of X and Y increases as X increases, or Y decreases as X decreases, we say that Y is an increasing or direct function of X. In our population example above, if P increases with Q, then we can say that population is an increasing or direct function of food supply.

Decreasing Function: If Y increases as X decreases or Y decreases as X increases, Y is said to be a decreasing function of X. Alternatively, we can say that Y is an indirect or inverse function of X. If, for instance, population (P) increases when food supply (Q) decreases, we can say that population is a decreasing or indirect function of food supply.

A Rectangular Coordinate System

Graphs of functional relationships between two variables can be drawn or demonstrated using the rectangular coordinate system (see Fig. 2.1). If two straight lines are drawn in a given plane, one vertically and the other horizontally, they will intersect at a point called *origin* (0).

The vertical line, called they *y*-axis, and the horizontal line, called the *x* –axis, have divided the space into four quadrants numbers in an anti-clockwise direction as I, II, III and IV. The value of *x* is generally written before that of *y*. The first quadrant has positive values for both *x* and *y* (+, +). The second quadrant has negative values for x and positive values for y (-, +). The third quadrant has negative values for both *x* and *y* (-, -) while the fourth quadrant has positive *x* and negative *y* (+, -).

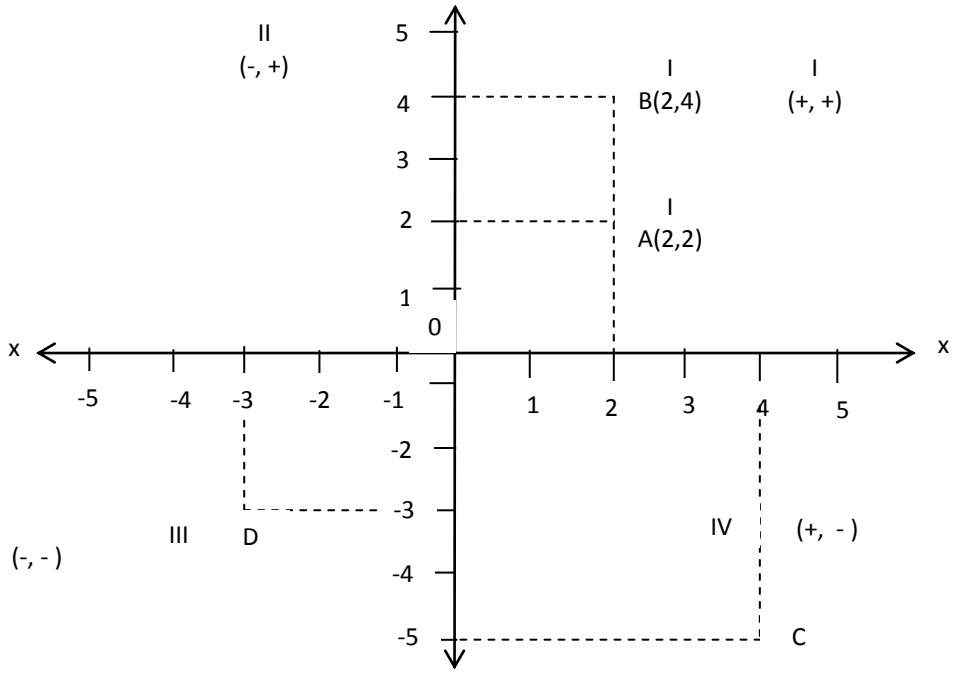


Fig. 1.2.2 The rectangular coordinate system

Since most values in economics at this level of analysis are often positive, we use the first (positive) quadrant in showing economic relationships.

Any point in each of the quadrants has coordinates, i.e. numbers representing that point. Thus, the coordinates of point A are 2 units from the *x*-axis and 2 units from the *y*-axis. This is written as A(2, 2). The coordinates of point B are 2 units from the *x*-axis and 4 from the *y*-axis, written as B (2,4). As earlier stated, notice that the horizontal (x-axis) coordinate is often written before the vertical (*y*-axis) coordinates. Can you read off the coordinates associated with points C and D in Fig. 1.2.2? We shall now see how simple graphs can be drawn on quadrant I.

Self Assessment Exercise

i. Explain mathematically, what is meant by inverse relationship

4.0 CONCLUSION

We conclude here that microeconomics and macroeconomics concepts are two ways of looking at the same thing, that is both micro and macroeconomics study the economic activities of every economy, but while one looks at aggregate (macroeconomics), the other(microeconomics) looks at the individual economic unit (i.e. household, businesses (firms), and government).

5.0 SUMMARY

This module discussed the macroeconomics concept in its entirety and relates it to microeconomics to bring a clearer picture between the two. It further gives

relevant examples of both macroeconomic and microeconomics concepts and finally discusses the basic tools of macroeconomic analysis with definitions and examples.

6.0 TUTOR MARKED ASSIGNMENT

i. Clearly distinguish between microeconomic and macroeconomic concepts.
ii. Enumerate and explain various tools of macroeconomic analysis.
iii. Can internet be a source of interaction between learner and teacher. Discuss with examples

7.0 REFERENCES

Attah B.O, Bakare, T.A. & Daisi, O.R., (2011); **Anatomy of Economics Principles, Q&A (Macroeconomics),** Raamson Printing Press, Oke-Afa, Isolo, Lagos, Nigeria

Amacher, R and Ulbrich, H, (1986); **Principles of Economics,** South Western Publications Co. Cincinnafi, Oliso

Bakare –Aremu T.A, (2013); **Fundamental of Economics Principles (Macroeconomics),** Raamson Printing Press, Oke-Afa, Isolo, Lagos, Nigeria

Bakare I.A.O, Daisi, O.R., Jenrola, O.A., & Okunnu, M.A., (1999): **Principles and Practice of Economics (Macro Approach),** Raamson Printing Press, Mushin, Lagos, NigeriaDennis R. A. et-al; International Economics, Mcgraw Hill Irwin, 8th edition.

Familoni K.A, (1990); **Development in Macroeconomics Policy,** Concept Publications, Lagos, Nigeria

Fashina E.O, (2000); **Foundations of Economics Analysis (Macro Theories),** F.E.F International Company, Ikeja, Lagos, Nigeria

Jhingan M.L, (2010); **Macroeconomics Theory, 12th edition,** Vrinda Publications (P) Ltd. Delhi, India

Jhingan M.L, (2010); **International Economics,** Vrinda Publications (P) Ltd. Delhi, India

Lipsey R.G, (1979); **An Introduction to Positive Economics,** Hayper & Raw, London

Umo J.U, (1986); **Economics; An African Perspectives ,** Johnwest, Lagos Nigeria.

UNIT 3: Macro Statics, Macro Dynamics And Comparative Statics.

CONTENTS

1.0 Introduction

This study unit looks into the meaning of macro statics, macro dynamics and comparative statics analysis. However, economic statics is the study of relations between economic variables *at a point of time,* whereas economic dynamics explains the relationship of economic variables *through time*.

In addition to the analysis of macro statics and macro dynamics, comparative statics also explain a particular phenomenon that stand between time variant and time invariant as discussed hereafter.

2.0 Objectives

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

- Understand the definitions and meaning of macro statics.
- Understand the definitions and meaning of macro dynamics.
- Understand the definitions and meaning of comparative statics.
- Distinguish between the three concepts of macro statics, macro dynamics and comparative statics.

3.0 Contents

3.1: Macro Statics

The word 'statics' is derived from the Greek word *statike* which means bringing to a standstill. In physics, it means a state of rest where there is no movement. In economics, it implies a state characterised by movement at a particular level without any change. It is a state, according to Clark (1998), where five kinds of changes are conspicuous by their absence. The size of population, the supply of capital, methods of production, forms of business organisation and wants of the

people remain constant, but the economy continues to work at steady pace. "It is to this active but unchanging process", he writes "that the expression static economics should be applied." Static economy is thus a timeless economy where no changes occur and it is necessarily in equilibrium. Indices are adjusted instantaneously; current demand, output and prices of goods and services. As pointed out by Prof. Samuelson (1978): "Economic statics concerns itself with the simultaneous and instantaneous or timeless determination of economic variables by mutually interdependent relations." There is neither past nor future in the static state. Hence, there is no element of uncertainty in it. Prof. Kuznets (1967), therefore, believes that "static economics deals with relations and processes on the assumption of uniformity and persistence of either the absolute or relative economic quantities involved".

Macro-statics explains the static equilibrium position of the economy. This is best explained by Professor Kurihara in these words, "If the object is to show a 'still picture' of the economy as a whole, the macro-static method is the appropriate technique. For this technique is one of investigating the relations between macro-variables in the final position of equilibrium without reference to the process of adjustment implicit in that final position." Such a final position of equilibrium may be shown by the equation.

$Y = C + I$

where Y is the total income, C is the total consumption expenditure and I, the total investment expenditure. It simply shows a timeless identity equation without any adjusting mechanism. This macro-static model is illustrated in Figure 1.3.1. According to this static Keynesian model, the level of aggregate supply function and the aggregate demand function, in the figure, 45^0line represents the aggregate supply function and income line, the aggregate demand function, 45^0 line and C+I curve intersect at point E, the point of effective demand which determines OY level of national income

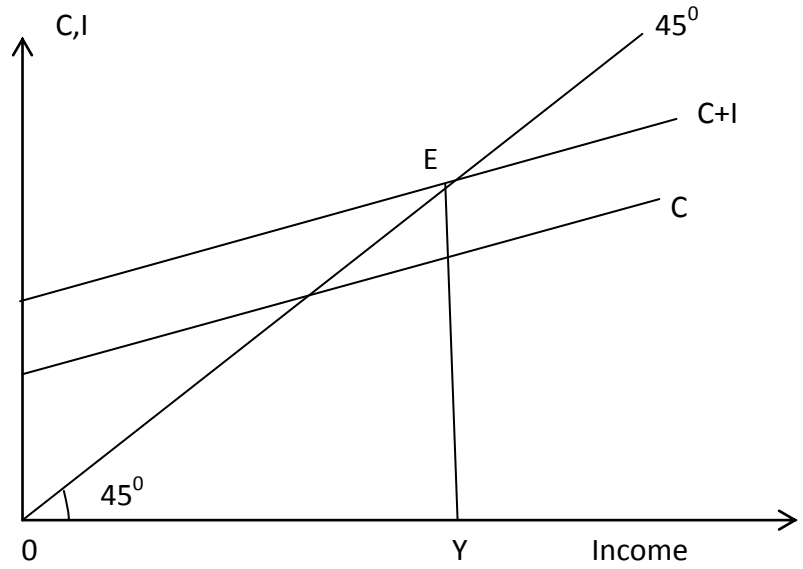


Fig: 1.3.1 Aggregate Consumption Curve

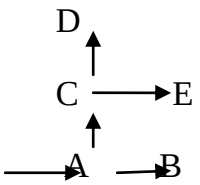
Thus, economic statics refers to a timeless economy. It neither develops nor decays. It is like a snapshot photo from a 'still camera which would be the same whether the previous and subsequent positions the economy were subject to change or not.

Self Assessment Exercises

i. Discuss the macro statics concept in relation to time.
ii. With the aid of a suitable diagram, clearly analyse macro statics concept.

3.2 Macro Dynamics

Economic dynamics, on the other hand, is the study of change, of acceleration or deceleration. It is the analysis of the process of change which continues *through time.* An economy may change through time in two ways: (a) without changing its pattern, and (b) by changing its pattern. Economic dynamics relates to the latter type of change. If there is a change in population capital, techniques of production, forms of business organization and tastes of the people any one or all of them, the economy will assume a different pattern, and the economic system will changes its direction.



In the above diagram, given initial values of the economy, it would have proceeded along the path AB, but suddenly at A the indices change the pattern, and the direction of the equilibrium changes towards C. Again, it would have proceeds to D but at C the pattern and direction is changed to E. Thus, economic

dynamics studies the *path* from one equilibrium position to another: from A to C and from C to E. Economic dynamics is, therefore, concerned with time-lags, rates of change, and past and expected values of the variables. In a dynamic economy data changes and the economic system takes time to adjust itself accordingly. According Kurihara, "Macro dynamics treats discrete movements or rates of change of macro-variables enable one to see a 'motion-picture' of the functioning of the economy as a progressive whole.

The macro-dynamic model is explained in terms of the Keynesian process of income propagation where consumption is a function of the income of the preceding period, i.e $C_t = f(Y_{t-I})$ and investment is a function of time and of constant autonomous investment ΔI, i.e., $I = f(\Delta I)$. In Figure 1.3.2; C + I is the aggregate demand function and 45^0 line is the aggregate supply function. If we begin in period t_0 where with an equilibrium level of income OY_0, investment is increased by ΔI, then in period *t* income rises by the amount of the increased investment (from t_0 to *t*). The increased investment is shown by the new aggregate demand function $C + I + \Delta I$. But in period *t*, consumption lags behind, and is still equal to the income at E_0. In period $t+I$, consumption rises and along with the new investment, it increases income still higher to OY_1. This process of income propagation will continue till the aggregate demand function $C + I + \Delta I$ intersects the aggregate supply function 45^0 line at E_n in the *nth* period, and the new equilibrium level is determined at OY_n. The curved steps t_0 to E_n show the macro-dynamic equilibrium path.

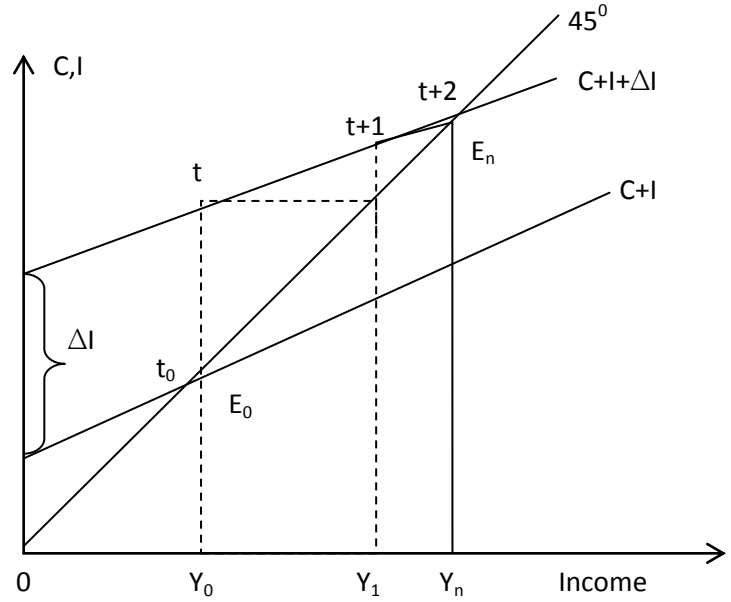


Fig: 1.3.2 Aggregate Consumption with changes in Investment

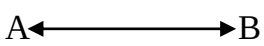
Self Assessment Exercises

i. Discuss the macro dynamics concept in relation to time.
ii. With the aid of a suitable diagram, clearly analyse macro dynamics concept.

3.3 Comparative Statics

Comparative statics is a method of economic analysis which was first used by the German economist, F. Oppenheimer in 1916. Schumpeter described it as "an evolutionary process by a succession of static models." In the words of Schumpeter, "whenever we deal with disturbances of a given state by trying to indicate the static relations obtaining before a given disturbance impinged upon the system and after it had time to work itself out. This method of procedure is known as Comparative Statics. To be precise, comparative statics is the method of analysis in which different equilibrium situations are compared.

The distinction between static, comparative static and dynamic situation is explained with the help of the accompanying diagram.



If the economy is working at situation *A* where it is producing at a *constant rate* without any change in the variables, it is a static state which is functioning *at a point* of time. When the economy moves from the equilibrium point A to point B *through time*, it is economic dynamics which traces out the actual path of movement of the economy dynamics which traces out the actual path of movement of the economy between the two static equilibrium points. Comparative statics, on the other hand, is related to *once-over change* from point A to point B in which we do not study the forces behind the movement between the two points. Thus comparative statics is not concerned with the transitional period but "involves the study of variations in equilibrium positions corresponding to specified changes in underlying data." The Keynesian employment, income and output analysis is based on the theory of shifting equilibrium wherein it compares different equilibrium levels of income. According to Kurihara, Keynes made no attempt to show the process of transition from one position of equilibrium to another. He simply used comparative statics analysis.

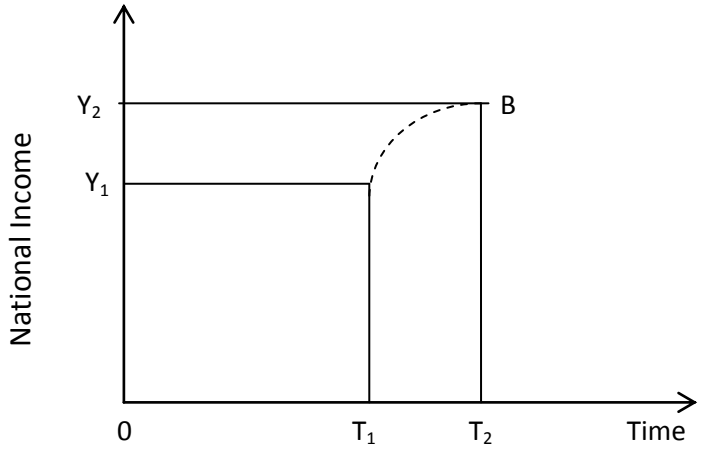


Fig: 1.3.3 Comparative Statics of Income

Figure 1.3.3 explains two different levels of income, OY_2 at OT_2 time and OY_1 at OT_1 time. Independent of each other, both the income levels relate to economic statics. But income at OY_2 level is higher than at OY_1 level. This is comparative statics which compares two static levels of income as against dynamic economics which traces out the path AB, showing increase in income.

Limitations.

However, comparative statics has the following limitations.

1. Its scope is limited for it excludes many important economic problems. There are the problems of economic fluctuations and growth which can only be studied by the method of dynamic economics.
2. Comparative statics is unable to explain the process of change from one position of equilibrium to another. It "gives only a partial glimpse of the movements, for we have only the two 'still pictures' to compare, whereas dynamics would give us a movie".
3. We are not sure when the new equilibrium will be established because this method neglects the transitional period. This makes comparative statics an incomplete and unrealistic method of economic analysis.

Self Assessment Exercises

i. Discuss the comparative statics concept in relation to time.

ii. With the aid of a suitable diagram, clearly analyse comparative statics concept.

4.0 Conclusion

No doubt economic dynamics is the antithesis of economic statics, yet the study of dynamic economics is a necessary adjunct to the hypothetical static analysis to enable economics formulate generalisation. The *raison d'etre* of all static

investigations is the explanation of dynamic change. On the other hand, dynamic economics is made up of static situations. If economic dynamics is the running picture of the working of the economy, economic static relates to the 'still', the stationary position of the economy. Thus, both economic dynamics and economic statics are essential for the study and solution of economic problems.

5.0 Summary

To sum up our discussion on macro statics, macro dynamics and comparative statics thus: Economic statics is the study of relations between economic variables *at a point of time,* whereas economic dynamics explains the relationship of economic variables *through time*. In a static economy there is movement but no change in economic phenomena while in dynamic economics, the fundamental forces themselves change. The former studies movement around the point of equilibrium, but the latter traces the path from one point of equilibrium, to the other, both backward and forward. On the other hand, comparative statics studies and compares two statics equilibrium positions. If savings at a point of time are S_1 and at another moment time S_2, this is once over change which is *comparative statics.* But if a given rise in savings leads to increase in investment, output, incomes and to a further rise in savings, this sequence of interdependent events of continuous changes is dynamic in nature.

6.0 Tutor's Marked Assignment

i. Discuss the macro dynamics concept in relation to time.
ii. With the aid of a suitable diagram, clearly analyse macro dynamics concept.
iii. Discuss macro dynamics and "timelessness"
iv. Clearly differentiate between macro statics and macro dynamics
v. Examine the relationship among macro dynamics, macro statics and comparative statics.

7.0 REFERENCES

Attah B.O, Bakare, T.A. & Daisi, O.R., (2011); **Anatomy of Economics Principles, Q&A (Macroeconomics),** Raamson Printing Press, Oke-Afa, Isolo, Lagos, Nigeria

Amacher, R & Ulbrich, H, (1986); **Principles of Economics,** South Western Publications Co. Cincinnafi, Oliso

Bakare –Aremu T.A, (2013); **Fundamental of Economics Principles (Macroeconomics),** Raamson Printing Press, Oke-Afa, Isolo, Lagos, Nigeria

Bakare I.A.O, Daisi, O.R., Jenrola, O.A., & Okunnu, M.A., (1999): **Principles and Practice of Economics (Macro Approach),** Raamson Printing Press,

Mushin, Lagos, NigeriaDennis R. A. et-al; International Economics, Mcgraw Hill Irwin, 8th edition.

Familoni K.A, (1990); **Development in Macroeconomics Policy,** Concept Publications, Lagos, Nigeria

Fashina E.O, (2000); **Foundations of Economics Analysis (Macro Theories),** F.E.F International Company, Ikeja, Lagos, Nigeria

Jhingan M.L, (2010); **Macroeconomics Theory, 12th edition,** Vrinda Publications (P) Ltd. Delhi, India

Jhingan M.L, (2010); **International Economics,** Vrinda Publications (P) Ltd. Delhi, India

Lipsey R.G, (1979); **An Introduction to Positive Economics,** Hayper & Raw, London

Umo J.U, (1986); **Economics; An African Perspectives ,** Johnwest, Lagos Nigeria.

MODULE TWO

Unit 1: The Concept of Consumption and Savings
Unit 2: Determinants and derivation of consumption and Savings function
Unit 3: Theories of Consumption.
Unit 4: Theories of Interest Rate

Unit 1: THE CONCEPT OF CONSUMPTION AND SAVINGS

CONTENTS

1.0 INTRODUCTION

Here students are introduced to the concepts of consumption and its determinants. The section explains in general form, what consumption expenditure involves and clearly differentiates consumption function from saving function and the derivation of the former from the latter. This unit essentially explains consumption function, graph and its determinant with special reference to calculations and derivations.

Also, students are introduced to the concepts of Saving and its determinants, it explains in general form, what saving involve and clearly differentiates saving function from saving curve and the derivation of saving function from a given Consumption function. This essentially explains saving function, graph and its determinant with special reference to calculations and derivations.

2.0 OBJECTIVES

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

i. Understand the concepts of consumption and saving
ii. Identify and explain both consumption and saving functions
iii. Derive consumption function from a given saving function.
iv. Determine those factors that influence consumption expenditures.
v. Determine those factors that influence saving function
vi. Understand the relationship among saving, consumption and investment

3.0 CONTENT

3.1: Concept of Consumption And Saving

Planned consumption expenditure (C) is made up of planned expenditure by households on durable and non-durable goods and services, for example, household expenditure on plantain, cars, shoes, etc.

It should be noted that consumption is largely influenced by level of income among other thing. Based on this fact, the consumption function was established. The consumption function is a algebraic or functional relationship between consumption expenditure by household and the level of disposable income of individual household. Mathematically, consumption is expressed as a function of disposable income. i.e. $C = F(Y_d)$. Disposable Income is the personal income (Y) less personal Income tax (T) i.e. $Y_d = Y - T$. In the absence of government, it is expected that disposable income be equals gross income which is represented by (Y), in such case consumption will be a function of gross income and not net income(disposable income) as explained above. Then it is written algebraically and implicitly as $C = f(Y)$ and explicitly as $C = a + bY$

Saving on the other hand can be defined as part or fraction of disposable income kept aside in the national banking system for either future use or to generate additional wealth (interest). Therefore, saving is said to be function of income (i.e. $S=f(Y_d)$), meaning that amount to be saved depend on the net income of every individual. It is noteworthy that the word saving is conceptually different from savings, while the former imply the 'act' of keeping money, the latter imply collections of the wealth been kept for a given period of time. Saving in aggregate term is the total amount saved by all individual household in the economy. It is a linear summation of all household saving in a country. Algebraically, $S = f(Y)$; $S = Y - C$
Meaning that, income saved, is current income not consume.

Self Assessment Exercise

- **i.** Clearly explain saving concept.
- **ii.** Explain the concept of consumption.

3.2: The Consumption and Saving Functions

The consumption Function

Consumption Function- It is the functional relationship between consumption expenditure and disposable income. It can also be described as a mathematical expression of household spending in relation to its level of income. Disposal income is gross personal income less personal income tax. For the simplest consumption function, there are two arguments namely, the non income induced consumption (also called autonomous consumption) and income induced consumption (i.e fraction of disposable Income desired to consume), disposable income is the main determinant of the level of consumption.

This consumption function is given by;

$C = a + bY_d$ $a > 0; \quad 0 < b < 1$

Where C = consumption expenditure and Y_d = disposable income

The consumption function in this form is a linear function (a straight line) and it is interpreted as follows:

"a" measures consumption expenditure when income is zero (0). This is called autonomous consumption. It is independent of the level of disposable income (i.e. transfer payments). It is the intercept of the consumption function.

"bY" is income induced consumption expenditure. This is the proportion of consumption expenditure that depends on level of disposable income.

"b" this is the slope of the function, it otherwise known as marginal propensity to consume(MPC), that is fraction of disposable income consumed at a particular period in time, this is affected or influenced by many factors. It should be noted that MPC is always less than unity but greater than zero, the sum of MPC and marginal propensity to save (MPS) is unity.

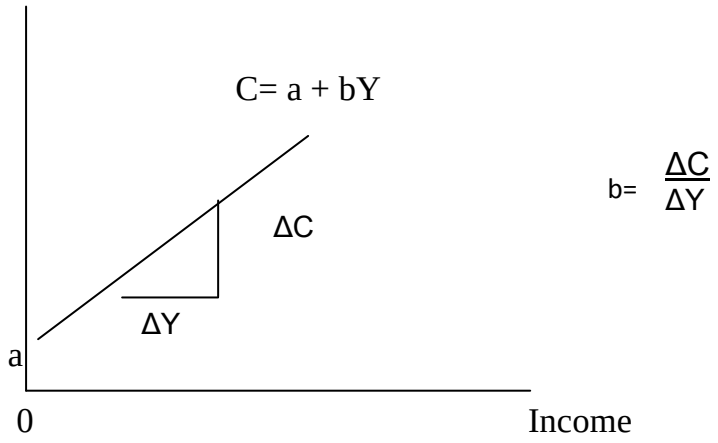


Fig: 2.1.1a: The Consumption Curve

From the above diagram, the positively sloped curve represents the consumption curve, meaning that household consumption expenditure is positively related to the level of income i.e. the higher the level of income, the higher the household consumption level and vice versa. The letter 'a' represents the consumption level not related to household level of income; it is always above the origin. On the other hand the letter 'b' represents the slope which is the marginal propensity to consume (MPC). It simply implies a change in consumption level as a result of a change in level of household disposable income.

The Saving Function and Curve

The saving function is a mathematical expression of saving and its primary determinant. It is given below as;

$S = f(Y)$ …… (1)

$S = -a + (1-b)\ Yd$ …… (2) or

$S = -a + (1-b)Y$…… (3)

The first function implies that saving depend on level of income, that is individual saving ability depends on individual income and same applies to aggregate.

The second function implies a situation in which saving depends on net income otherwise known as disposable income i.e $Y_d = Y-T$ (gross income less personal income tax), while the last being the third function implies a situation where $T = 0$.

"-a" is the non income induced saving or autonomous saving, that is , saving at zero level of disposal income (dis-saving). **"(1-b)"** is the marginal propensity to save (MPS). **"$(1-b)Y_d$"** is the income induced saving.

Figure 2.1.1b: The Saving Curve

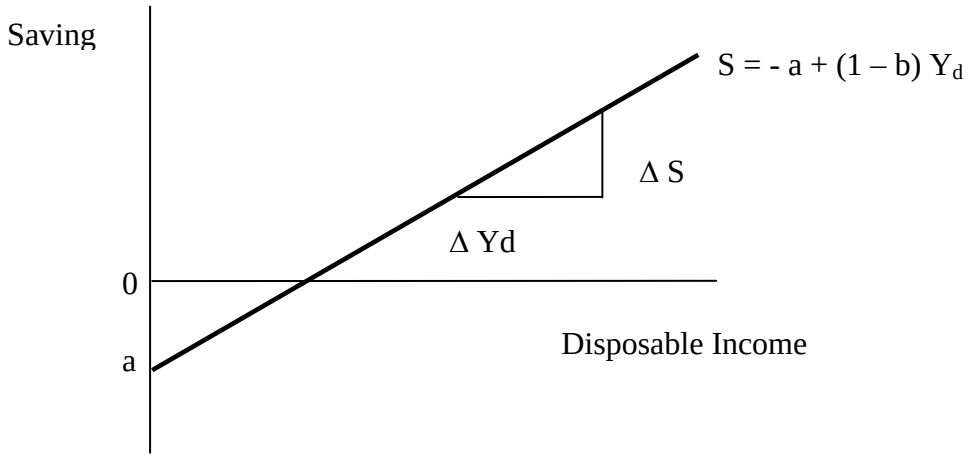


Figure 2.1.1b shows the saving function. The line labelled **$S = -a + (1-b)\ Y_d$** is the saving function. This function relates saving to the level of disposable income.

Self Assessment Exercise

i. In clear term, explain saving concept and derive saving function from an hypothetical schedule

ii. Differentiate between consumption curve and function

3.3: Relationship among Consumption, Saving. Investment and Income Level

Income has been theoretically established to be the major determinant of both saving and consumption. From the classical school through Keynesian down to monetarist, there is agreement that consumption and saving are largely

dependent on the level of income. That is any level of income earned could either be saved or consumed or be shared in certain proportion which varies between individuals and the economy. These proportions of income that could be saved or consumed are called or known as marginal propensity to save or marginal propensity to consume respectively. In the light of the above explanation, it could be deduced that any amount spent by any individual or economy depends on his (its) net worth which is known in the literature as disposable income (GDP). In the same vein, any amount saved by any individual or economy also depend on his (its) net worth, invariably level of income dictates the individual and aggregate level of both saving and consumption. That is, algebraically;

$C = f(Y)$ and $S = f(Y)$

Then both saving and consumption are theoretically linked to level of income at both individual and aggregate level in such a way that an increase in one will mean a decrease in the other.

In the same vein, Saving, Consumption and Investment are jointly influenced by the level of income, both on aggregate and individual household level. Saving is primarily determined by level of income, same as consumption and investment. These three variables are linked together through aggregate level of income or household income on a microeconomic level.
The algebraic relationship can be explained as follows:

$S = f(Y)$ 1
$C = f(Y)$ 2
$I = f(Y)$ .....3 or $I = f(r)$ 4
$Y = C + I$ 5
$Y = C + S$ 6

From the above, equation 1 ... 3, imply that, saving, consumption and investment are respectively a function of income, while equation 5 and 6, simply expressed the fact that income earned is either consumed or invested, similarly, income earned is either consumed or saved.

Self Assessment Exercise

i. Clearly show the relationship between saving, consumption and investment.
ii. Establish relationship among income, consumption and saving

4.0 CONCLUSION

In this unit we conclude that consumption both on aggregate and individual level are largely determined by the level of disposable income on individual term and on aggregate income on macro or country wide. We also established that both saving and consumption are invariably determined by the level of income among others. It was also concluded here that both saving and consumption shared level of income in no certain proportion.

Also the students are introduced to the concept of saving, explained the similarities and dissimilarities between saving and consumption as well as graphical illustration of the saving function..

5.0 SUMMARY

This unit discussed the concept of consumption and established relationship between consumption, savings and level of income .relates it to microeconomics to bring a clearer picture between the two. It further gives relevant examples on both macroeconomic and microeconomics concepts and finally discusses the basic tools of macroeconomics analysis with definitions and examples.
This unit equally looked at concept of saving and it determining factors, in addition, it establishes relationship between saving, consumption and investment

6.0 TUTOR MARKED ASSIGNMENT

i. Clearly distinguish between consumption and savings concepts.
ii. Enumerate and explain various factors that could influence savings.
iii. Explain various factors that could influence consumption at a particular time
iv. Define consumption concept.
v. List and explain components of consumption function.

7.0 REFERENCES

Attah B.O, Bakare- Aremu, T.A. & Daisi, O.R., (2011); **Anatomy of Economics Principles, Q&A (Macroeconomics),** Raamson Printing Press, Oke-Afa, Isolo, Lagos, Nigeria

Amacher, R & Ulbrich, H, (1986); **Principles of Economics,** South Western Publications Co. Cincinnafi, Oliso

Bakare –Aremu T.A, (2013); **Fundamental of Economics Principles (Macroeconomics),** Raamson Printing Press, Oke-Afa, Isolo, Lagos, Nigeria

Bakare I.A.O, Daisi, O.R., Jenrola, O.A., & Okunnu, M.A., (1999): **Principles and Practice of Economics (Macro Approach),** Raamson Printing Press, Mushin, Lagos, NigeriaDennis R. A. et-al; International Economics, Mcgraw Hill Irwin, 8th edition.

Familoni K.A, (1990); **Development in Macroeconomics Policy,** Concept Publications, Lagos, Nigeria

Fashina E.O, (2000); **Foundations of Economics Analysis (Macro Theories),** F.E.F International Company, Ikeja, Lagos, Nigeria

Jhingan M.L, (2010); **Macroeconomics Theory, 12th edition,** Vrinda Publications (P) Ltd. Delhi, India

Jhingan M.L, (2010); **International Economics,** Vrinda Publications (P) Ltd. Delhi, India

Lipsey R.G, (1979); **An Introduction to Positive Economics,** Hayper & Raw, London

Umo J.U, (1986); **Economics; An African Perspectives ,** Johnwest, Lagos Nigeria.

UNIT 2: Determinant and Derivation of Consumption and Saving Functions

CONTENTS

1.0 INTRODUCTION

Here students are introduced to the concepts of consumption and its determinants. It explains in general form, what consumption expenditure involves and clearly differentiates consumption function from saving function and the derivation of former from the latter.

This unit also introduce the students to the algebraic derivation of saving function from consumption function and vice versa. It also explained the determining factors of saving and it shows relationship between saving and investment.

2.0 OBJECTIVES

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

i. Recognize both saving and consumption functions.
ii. Derive saving function from consumption function
iii. Derive consumption function from a given saving function.
iv. Determine those factors that influence consumption expenditures.
v. Identify those factors that determine saving.
vi. Understand the relationship between saving and investment

3.0 CONTENTS

3.1: Derivation of consumption and saving function.

Derivation of Consumption Function from a given Saving Function

Given a saving function $S = -\alpha + sY_d$; to derive consumption function we will reflect on the classical assumptions and model that;

$Y = C + S$ ……1 or

$Y_d = C + S$……..2 considering the equation (2)

$C = Y_d - S$ but $S = -\alpha + sY_d$ ……..3

Therefore, $C = Y_d - (-\alpha + sY_d)$ …… 4

$C = Y_d + \alpha - sY_d$ ……5

Collect like terms;

$C = \alpha + Y_d - sY_d$ 6

$C = \alpha + (1 - s) Y_d$……7

Recall that 1- s = 1 – MPS = MPC = b; therefore,

$C = \alpha + b Y_d$ ……8 QED

Numerical Example

Given the following saving function $S = - 25 + 0.3Y_d$, derive the consumption function.

Since $Y_d = C + S$

Therefore, $C = Y_d - S$

$C = Y_d - (-25 + 0.3Y_d)$

$C = Y_d + 25 - 0.3Y_d$

Collect like terms:

$C = 25 + (1 - 0.3)Y_d$

$C = 25 + 0.7Y_d$

Derivation of Saving Function from a Consumption Function

Mathematically the saving function can also be derived from the consumption functions

$S = Y - C$

Since $C = a + by$

Therefore;

$S = Y - (a + bY)$

$S = Y - a - bY$

$S = -a + Y - bY$

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

If $1 - b = \beta$

Then

$S = -a + \beta Y$

Numerical example;

Given a consumption function $C = 25 + 0.75Y_d$

Recall that $S = Y - C$ ……..(1)
Therefore; $S = Y - (25 + 0.75Y_d)$ …….(2)
$S = Y - 25 - 0.75Y_d$ …….. (3);
Let $Y = Yd$……(4)
Therefore equation 3 becomes;
$S = Y - 25 - 0.75Y$……...(5)
Collect like terms from eqn. 5 above, to have,
$S = -25 + Y - 0.75Y$ …….(6)
Factor out Y in eqn. 6 above, to have;
$S = -25 + (1 - 0.75)Y$ ……(7)
$S = -25 + 0.25Y$ …….(8)
The equation (8) above is the required saving function.

Self Assessment Exercise

i. Differentiate between bY and b from the above analysis
ii. Differentiate between b and 1 - b
iii. Clearly explain saving concept and derive saving function from a hypothetical schedule.

3.2: Determinants of aggregate saving and consumption expenditure

There are a number of factors that determine or influence household level of consumption. These include, among others, the following;

i) The level of disposable income
ii) Stock of durable goods on hand
iii) Wealth
iv) Expectations
v) Total household indebtedness
vi) The price level
vii) Government fiscal policy

i. The level of disposable income: The level of income is the basic determinant of how much households will consume. An increase in disposable income will increase consumption expenditure and vice versa.

ii. Stock of durable goods on hand: In an economy, the stock of durable goods on hand determines the amount of current consumption. If consumers in an economy find themselves well supplied with various durable goods, e.g. cars, television, etc. all worthy of years of service than the current level of consumption may fall. This is because many households will be out of the market for such products with the result that

consumers will be willing to spend less at each level of disposable income.

iii. Wealth: This refers to the stock of accumulated purchasing power stored up from the past. For example, savings done in the past can be used to finance current consumption. The higher an economy's wealth, all other things being equal the higher will be current consumption.

iv. Expectations: Household's anticipation regarding future prices of goods, their nominal income and the availability of goods may have an impact on their current spending. Anticipation of rising prices and product shortages tend to cause more spending.

v. Total household indebtedness: Debts are paid with current income. If in an economy total household debts are huge there is the likelihood that current level of consumption expenditure will be low and vice versa

vi. Level of prices: In an economy, the higher the level of prices the lower the volume of real consumption expenditure

vii. Government fiscal policy: Fiscal policy in its simplest form implies government spending and means through which revenue are generated (taxes). However, if taxes are raised, disposable income will reduce and by implication consumption will also reduce and vice versa.

Determinants of Saving

The determinants of saving are replica of those of factors that determine consumption except in some few cases.

i. The level of disposable income: The level of income is the basic determinant of how much households will consume or save. An increase in disposable income will increase consumption expenditure and vice versa.

ii. Stock of durable goods on hand: In an economy, the stock of durable goods on hand determines the amount of current consumption. If consumers in an economy find themselves well supplied with various durable goods, e.g. cars, television, etc. all worthy of years of service than the current level of consumption may fall. This is because many households will be out of the market for such products with the result that consumers will be willing to spend less and save more at each level of disposable income.

iii. Wealth: This refers to the stock of accumulated purchasing power stored up from the past. For example, savings done in the past, the higher this wealth the lower is the willingness to save further and vice versa.

iv. Inflation Expectations: Household's anticipation regarding future prices of goods, their nominal income and the availability of goods may have an impact on their current saving. Anticipation of rising prices and product shortages tend to cause less saving.

v. Total household indebtedness: Debts are paid with current income. If in an economy total household debts are huge there is the likelihood that current level of saving will be low and vice versa

vi. Level of prices: In an economy, the higher the level of prices the lower the volume of saving.

vii. Interest rate: The higher the money market rate of interest the higher would be the level of saving, because current consumption could be postpone for more wealth.

viii. Return on investment: The higher the return on investment the lower will be saving level and vice versa.

ix. Government Fiscal Policy: The direction of fiscal policy to a great extend has impact on current saving, for instance contractionary fiscal policy will reduce disposable income and as a result reduce saving.

Self Assessment Exercise

i. List and explain various determinants of consumption expenditure.

3.3 Relationship between Consumption and Saving

The main relationship between saving and consumption is that the income level is shared between the two. Every level of income is either saved or consumed, so income is the major factor that influences the both of them.

Algebraically, $C = f(Y)$ and also $S = f(Y)$

i.e. $Y = C + S$ therefore; $C = Y - S$ while also $S = Y - C$

Saving is always equal to income less consumption and consumption is also always equal income less saving..

Self Assessment Exercise

i. Show the relationship between consumption and saving

4.0 CONCLUSION

We explained various determinants of consumption expenditure as well as algebraic derivation of consumption expenditure from a given saving function and conclude that income is a major determinant of consumption expenditure.

This unit also concludes that saving function could be derived from a given consumption function and vice versa. We equally conclude that all things being equal other than income level there are numbers of factors that influence the aggregate level of saving.

5.0 SUMMARY

This unit looked at concept of consumption and its determining factors, it also expresses consumption, numerically (function). We also, derive consumption function from a given savings function and explain the marginal propensity to consume.

It also looked at concept of saving and its determining factors, it also expresses Saving, algebraically (function). We also, derive savings function from a given consumption function and explain the marginal propensity to save.

6.0 TUTOR MARKED ASSIGNMENT

i. Define consumption
ii. List and explain components of consumption function
iii. Given that $S = -25 + 0.6Y_d$ derive the consumption function and illustrate the result on a curve.
iv. Define Saving
v. List and explain components of Saving function
vi. Given that $C = 5 + 2/3Y_d$ derive the Saving function and illustrate the result on a curve.
vii. Differentiate between saving function and curve.

7.0 REFERENCES

Attah B.O, Bakare, T.A. & Daisi, O.R., (2011); **Anatomy of Economics Principles, Q&A (Macroeconomics),** Raamson Printing Press, Oke-Afa, Isolo, Lagos, Nigeria

Amacher, R and Ulbrich, H, (1986); **Principles of Economics,** South Western Publications Co. Cincinnafi, Oliso

Bakare –Aremu T.A, (2013); **Fundamental of Economics Principles (Macroeconomics),** Raamson Printing Press, Oke-Afa, Isolo, Lagos, Nigeria

Bakare I.A.O, Daisi, O.R., Jenrola, O.A., & Okunnu, M.A., (1999): **Principles and Practice of Economics (Macro Approach),** Raamson Printing Press, Mushin, Lagos, NigeriaDennis R. A. et-al; International Economics, Mcgraw Hill Irwin, 8th edition.

Familoni K.A, (1990); **Development in Macroeconomics Policy,** Concept Publications, Lagos, Nigeria

Fashina E.O, (2000); **Foundations of Economics Analysis (Macro Theories),** F.E.F International Company, Ikeja, Lagos, Nigeria

Jhingan M.L, (2010); **Macroeconomics Theory, 12th edition,** Vrinda Publications (P) Ltd. Delhi, India

Jhingan M.L, (2010); **International Economics,** Vrinda Publications (P) Ltd. Delhi, India

Lipsey R.G, (1979); **An Introduction to Positive Economics,** Hayper & Raw, London

Umo J.U, (1986); **Economics; An African Perspectives ,** Johnwest, Lagos Nigeria.

UNIT 3: Theories of Consumption

CONTENTS

1.0 INTRODUCTION

Here students are introduced to the various theories of investment. The students are equipped with a clear analysis of consumption expenditure theories. The following theories are simplified for easy understanding of the student; absolute income hypothesis, relative income hypothesis, permanent income hypothesis, and life cycle income hypothesis.

2.0 OBJECTIVES

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

i. Understand the theories of consumption
ii. Differentiate among the consumption theories
iii. Compare the theories
iv. Determine those factors that influence consumption theoretically.

3.0 CONTENTS

3.1 Theories of the Consumption Function

Keynes in his general theory postulated the aggregate current disposal income. The relation between consumption and income is based on his psychological law of consumption which states that when income increases, consumption expenditure also increases but by a smaller amount. In other words, the consumption expenditure increases (or decreases) with increase or (decrease) in income but not proportionally. This notion of disproportional consumption functions implies that in the short-run average and marginal propensities to consume do not coincide. Rather *MPC < APC,* and that the marginal propensity to consume is positive but less than unity (0<MPC<1). Lastly, the Keynesian consumption function is assumed to be stable both in the short-run and long-run

Self Assessment Exercise

i. Explain what you understand by Keynes consumption function .

3.2 THE ABSOLUTE INCOME HYPOTHESIS

Keynes's consumption income relationship is known as the absolute income hypothesis which states that when income increases, consumption also increases but less than the increase in income, and vice- versa. This means that consumption income relationship is non proportional. James Tobins and Arthur Smithies tested this hypothesis in separate studies and came to the conclusion that the short run relationship between the consumption and income is non-proportional but the time- series data show the long run to be proportional. The latter consumption income behavior results through an upward shift or "drift" in the short run non-proportional consumption function due to factors other than income. These factors are discussed as under.

First, professor Tobin introduced asset holding in the budget studies of Negro and white families to test this hypothesis. He came to the conclusion that the increase in the asset holdings of families tends to increase their propensity to consume thereby leading to an upward shift in their consumption function. Second, since the end of the Second World War, a verity of new household consumer goods has come into existence at a rapid rate. The introduction of such essential tends to shift the consumption function upward. Third, since the post-war period, there has been an increase in tendency toward urbanization. This movement of population from rural to urban areas has tended to shift the consumption function upward because the propensity to consume of the urban wage earners is higher than that of the farm workers. Fourth, there has been a continuous increase in the percentage of old people in the total population over the long run though the old people do not people do not earn but they do consume commodities. Consequently, the increase in their numbers has tended to shift their consumption function upward.

"Factors, Like these, according to the absolute income theory have caused the consumption function to shift upward by roughly the amount necessary to produce a proportional relationship between consumption and income over the long run and thus to prevent the appearance of what would otherwise be the non-proportional relationship that would be expected on the basis of the income factors alone."

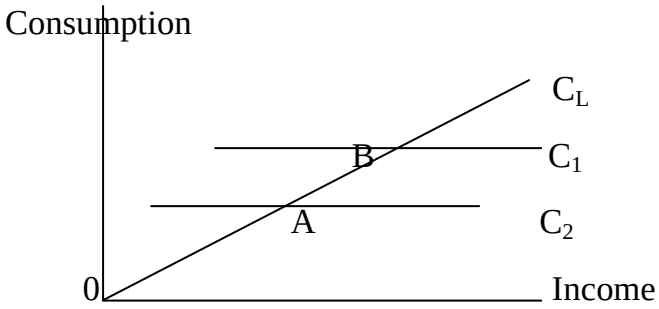


Fig: 2.3.1 Consumption function reflecting absolute income

The absolute income hypothesis is explained in figure above, where C_L is the long run consumption which shows the proportional relationship between consumption and income as we move along the long run curve. For instance, the APC and MPC are equal at point A and B on the curves C1 and C2 are short run consumption functions.

Self Assessment Exercise

i. Give critical account of absolute income hypothesis.

3.3 THE RELATIVE INCOME HYPOTHESIS

The relative income hypothesis of James Duesenberry is based on the rejection of the two fundamental assumption of the consumption theory of Keynes. Duesenbery state that (1) every individual's consumption behaviour is not independent but interdependent of the behaviour of every other individual and (2) that consumption relations are irreversible and not reversible in time.

In formulating his theory of the consumption function, duesenberry write: "A real understanding of the problem of consumer behaviour must begin with a full recognition of the social character of consumption pattern. By the "social character of consumption pattern" he means the tendency in human being not only "to keep with the Joneses" but also to surpass the Joneses. In other words, the tendency is to strive constantly towards a higher consumption level and to emulate the consumption patterns of one's rich neighbors and associates. Thus consumers' prefaces are interdependent. It is, however, differences in relative income that determine the consumption expenditure in a community. A rich person will have a lower *APC* because he will need a smaller portion of his income to maintain his consumption pattern. On the other hand, a relatively poor man will have an higher *APC* because he tries to keep up with the consumption standard of his neighbour or associates. This provides the explanation for the constancy of the long-run *APC* because lower and higher *APC*s would balance out in the aggregate. Thus even if the absolute size of income in a country increases, the *APC* for the economy as a whole at the higher absolute level of income would be constant.

The second part of the Duesenberry theory is the "past peak of income" hypothesis which explains the short run fluctuation in the consumption function and refutes the Keynesian assumption that consumption relations are reversible.

The hypothesis states that during a period of prosperity; consumption will increase and gradually adjust itself to a higher level than for a family to reduces its expenditure from a higher level than for a family to refrain from making high expenditure in the first place." Thus as income falls, consumption declines but proportionately less than the decrease in income because the consumer dissaves to sustain consumption. On the other hand, when income increases during the recovery period, consumption rises gradually with a rapid increase in saving.

Duesenberry combines his two related hypothesis in the following form: $\frac{R1}{(1+i)} + \frac{R2}{(1+i)2} + \cdots + \frac{Rn}{(1+i)n}$

Where C and Y are consumption and income respectively, t refers to the current period and the subscript (0) refers to the previous peak, a is a constant relating to the positive autonomous consumption and n is the consumption function.

Self Assessment Exercise

i. Give critical account of relative income hypothesis.

3.4 THE PERMANENT INCOME HYPOTHESIS

Another solution to the apparent contradiction between the proportional long-run and non- proportional short-run consumption function is Friedman's permanent income hypothesis. Friedman reject the use of "current income" as the determinant of consumption expenditure and instead divides both consumption and income into "permanent" and "transitory" component so that $Y = Y_p + Y_t$

$C = C_p + C_t$ and were P refers to permanent and t refers to transitory income Y and consumption C.

Permanent income is defined as "the amount a consumer unit could consume (or believe that it could) while maintaining its wealth intact." It is the main income of a family unit which in turn depends on its time-horizon and farsightedness. "it includes non-human wealth that it owns, the personal attributes of earners in the unit . . . the attributes of the economic activity of the earners, such as the occupation followed, the location of economic activity ,and so on.''

Y is the consumer's measured income or current income; it can be larger or smaller than his permanent income in any period. Such differences between measured and permanent income are due to the transitory component income (Y_t).Transitory income may rise or fall with windfall gains or losses and cyclical variation. If the transitory income is positive due to a windfall gain, the measured income will rise above the permanent income. If the transitory income is negative due to theft, the measured income falls below the permanent income. The transitory income can also be zero in which case measured income equals permanent income.

Permanent consumption is defined as the value of the services that it is planned to consume during the period in question. Measured consumption is also divided into permanent consumption (C_p) and transitory consumption (C_t).Measured

consumption (or current consumption) may deviate from or equal permanent consumption depending on whether the transitory consumption is positive, negative or zero, Permanent consumption is a multiple (k) of permanent income, Y_a.

$$C_p = kY_p'$$

And $K = f(r, w, u)$

Therefore, $C_p = K(r, w, u)\, Y_p$

Where k is a function of the rate of interest (r), the ratio of property and non-property income to total wealth or national income (w), and the consumer's propensity to consume (u).The equation tells that over the long period consumption increases in proportion to the change in Y_p. This is attributable to a constant k ($=C_p|Y_p$) which is independent of the size of income .Thus k is the permanent average propensity to consume.

Self Assessment Exercise

i. Explain in detail your understanding of permanent income hypothesis.

3.5 THE LIFE CYCLE HYPOTHESIS

Ando and Modigliani formulated a consumption function which is known as the Cycle Hypothesis. According to this theory, consumption is a function of lifetime expected income of the consumer available to him, the rate of return on capital, the spending plan, and the age at which the plan is made. The present value of his income (or resources) includes income from assets or property and from current and expected labour income.

Before discussing the life cycle hypothesis, its assumption should be noted (1) there is no change in price level during the life of the consumer. (2) The rate of interest remains stable. (3) The consumer does not inherit any assets and his assets are the result of his own savings.

The aim of the consumer is to maximize his utility over his life time which will, in turn, depend on the total resources available to him during his life time. Given the life span of an individual, his consumption is proportional to these resources. but the proportion of resources that the consumer plans to will depend on whether the spending plan is formulated during the early or latter years of his life. As a rule an individual's average income is relatively low at the beginning of his life. This is because the early years of his life he has few assets and during his late years his labour income is low. It is, however, the middle of his life that his life that his income both from asset and labour is high. As a result, the consumption level of the individual throughout his life is somewhat constant or slightly increasing.

Self Assessment Exercise

i. Give the analysis of life cycle income hypothesis

4.0 CONCLUSION

We explained various theories of consumption function starting from absolute income hypothesis through relative income hypothesis and permanent to life cycle income hypothesis. The conclusion here is that individual theorists concluded that different factor has been the major influence of consumption at any particular period.

5.0 SUMMARY

This unit looked at concept of consumption and its determining factors, in relation to various theories of consumption expenditure function. And summarises that in accordance to different theorists, that different factors all together influence consumption at any point in time.

6.0 TUTOR MARKED ASSIGNMENT

i. Define consumption theory
ii. List and explain components of consumption function according to absolute income hypothesis.
iii. Compare and contrast permanent and life cycle income hypothesis.
iv. Enumerate and explain relationship between absolute income hypothesis and relative income hypothesis.

7.0 REFERENCES

Attah B.O, Bakare, T.A. & Daisi, O.R., (2011); **Anatomy of Economics Principles, Q&A (Macroeconomics),** Raamson Printing Press, Oke-Afa, Isolo, Lagos, Nigeria

Amacher, R and Ulbrich, H, (1986); **Principles of Economics,** South Western Publications Co. Cincinnafi, Oliso

Bakare –Aremu T.A, (2013); **Fundamental of Economics Principles (Macroeconomics),** Raamson Printing Press, Oke-Afa, Isolo, Lagos, Nigeria

Bakare I.A.O, Daisi, O.R., Jenrola, O.A., & Okunnu, M.A., (1999): **Principles and Practice of Economics (Macro Approach),** Raamson Printing Press, Mushin, Lagos, NigeriaDennis R. A. et-al; International Economics, Mcgraw Hill Irwin, 8th edition.

Familoni K.A, (1990); **Development in Macroeconomics Policy,** Concept Publications, Lagos, Nigeria

Fashina E.O, (2000); **Foundations of Economics Analysis (Macro Theories),** F.E.F International Company, Ikeja, Lagos, Nigeria

Jhingan M.L, (2010); **Macroeconomics Theory, 12th edition,** Vrinda Publications (P) Ltd. Delhi, India

Jhingan M.L, (2010); **International Economics,** Vrinda Publications (P) Ltd. Delhi, India

Lipsey R.G, (1979); **An Introduction to Positive Economics,** Hayper & Raw, London

Umo J.U, (1986); **Economics; An African Perspectives ,** Johnwest, Lagos Nigeria.

Unit 4: The Theories of Interest Rate

CONTENTS

1.0 INTRODUCTION

This unit discusses some of the important theories of interest rate such as the classical, the loanable funds, the Keynesian, and the modern theory of interest are also examined in this unit.

2.0 OBJECTIVES

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

i. Recognize both saving and consumption functions.
ii. Derive saving function from consumption function
iii. Know those factors that determine saving.
iv. Understand relationship between saving and investment.

3.0 CONTENTS

3.1: INTRODUCTION TO THEORY OF INTEREST RATE.

Of all the theories discussed below, the Keynesian liquidity preference theory that determines the interest rate by the demand for and supply of money is stock theory. It emphasises that the rate of interest is a purely monetary phenomenon. It is a stock analysis because its takes the supply of money as given during the short run and determines the interest rate by liquidity preference or demand for money. On the other hand the loanable funds theory is a flow theory that determines the interest rate by the demands for and supply loanable funds. It involves the linking of the interest rate with the dis-savings, investment and hoarding of funds on the demand side with savings, dishoarding and bank money on the supply side. These are all flow variables. Hicks and Hansen have reconciled and synthesized these stocks and flow theories in a general

equilibrium framework and presented a determinate theory of interest rates in terms of the IS-LM formulation.

3.2: THE CLASSICAL THEORY OF INTEREST

According to the classical theory, rate of interest is determined by the supply and demand of capital. The supply of capital is governed by the time preference and the demand for capital by the expected productivity of capital. Both time preference and productivity of capital depend upon waiting or saving or thrift. The theory is therefore, also known as the supply and demand theory of savings.

Demand side. The demand for capital consists of the demand for productivity and consumptive purpose. Ignoring the letter, capital is demanded by the investors because it is productive. But the productivity of the capital is subject to the law of variable proportion. Additional unit of capital are not as productive as the earlier unit. A stage comes when the employment of an additional unit of capital in the business is just worthwhile and no more. Suppose an investor invest Rs 1, 00,000 in a factory and expects a yield of 20%. Another instalment of an equal amount would not be as productive as the first one and might bring in 15%. While a third instalment might yield 10%. If he has borrowed the money at 10% he will not venture to invest more. For the rate of interest is just equal to the marginal productivity of capital to him. It shows that at a higher rate of interest the demand for capital is low and it is high at a lower rate of interest. Thus the demand is inversely related to the rate of interest and the demand schedule for capital or investment curve slope down ward from left to right. There are, however, certain other factors which govern the demands for capital, such as the growth of population, technical progress, process of rationalization, the standard of living of the community, etc.

Supply side. The supply of capital depends upon savings, rather upon the will to save and the power to save and the community. Some people save irrespectively of the rate of interest. They would continue to save even if the rate of interest were zero. There are others who save because the current rate of interest is just enough to induce them to save. They would reduce their savings if the rate of induced to save if the rate of interest were raised. To the last two categories of savers, saving involves a sacrifice, abstinence or waiting when they forgo present consumption in order to earn interest. The higher the rate of interest, the larger will be the community savings and more will be the supply of funds. The supply curve of capital or the savings curve thus moves upward to the right.

Self Assessment Exercise

i. Discuss the classist theory of rate of interest

3.3 THE LOANABLE FUNDS THEORY OF INTEREST

The neo-classical or the loan able funds theory explains the determination of interest in terms of demand and supply of loan able funds or credit.

According to this theory, the rate of interest is the price of credit which is determined by the demand and supply of ‘credit’, or saving plus the net increase

in the amount of money in a period, to the demand for 'credit', or investment plus net 'hoarding' in the period." Let us analyze the force behind the demand and supply of loanable funds.

Demand for Loanable Funds. The demand for loan able funds has primarily tree sources: government, businessmen and consumer who need them for purpose of investment, hording and consumption. The government borrows funds for construction public works or for war preparation. The businessmen borrow for purchase of capital goods and for stating investment projects. Such borrowing is interest elastic and depends mostly on the expected rate of profit as compared with the rate of interest. The demand for loan able funds on scooters, houses, etc. individual borrowings are also interest elastic. The tendency to borrow is more at a lower rate of interest that at a higher in order to enjoy their consumption soon. Since this demand for funds is mostly met out of past savings or through dis-savings,

Supply of Loanable Funds. The supply of loan able funds comes from savings dishoarding and bank credit. Private individuals and corporate savings are the main sources of savings. Though personal savings depends upon the income level yet taking the level of income as given they regarded as interest elastic. The higher the rate of interest, the greater will be the inducement to save and vice versa. Corporate savings are the undistributed profits of firm which also depends on the current rate of interest to some extent. If the interest rate is high it will act as a deterrent to borrowing and thus encourage savings.

Total Demand for Money

If the total liquid money is denoted by *M*, the transactions plus precautionary motive by M_1 and the speculations motive for holding by M2, then M=M1+M2. Since M1=L1(y) and M2=L2 **(r),** the total liquidity preferences functions is expressed as M=L(Y,r).M1 is idle or passive money. Though M_1 is a function of income and M_2 of the rate of interest, yet they cannot be held in water-tight compartments. Even M_1 is interest elastic at high interest rates.

Self Assessment Exercise

i. Explain what is meant by loanable fund theory
ii. Is income a major determinant of rate of interest

3.4 Indeterminancy of The Classical, the Loanable Funds and the Keynesian Theories of Interest

Keynes criticized the classical theory of interest for being indeterminate because it failed to relate the rate of interest with the income level. To Hansen, "Keynes's criticism of the classical theory applies equally to his own theory" and to the loanable funds theory. Here, we illustrate the in determinant nature of this theory.

In the classical formulation, since savings depends upon the level of income, it is not possible to know the rate of interest unless the income level is known before

hand. And the income level cannot behold. And the income level cannot be known without already knowing the rate of interest. A lower rate of interest will increase investment, output employment, income and savings. So, for each income level a separate supply curve will have to be drawn.

The same reasoning applies to the loanable funds formulations on the rate of interest. The supply schedule of loanable funds is composed of savings dishoarding and bank money supply. Since savings vary with past income and new money and activated balance with the current income, it follows that the total supply schedule of loanable funds also varies with income. Thus this theory is indeterminate unless the income level is already known.

Self Assessment Exercise

i. explain clearly what is meant by indeterminate

3.5 Modern Theory of Interest

We have seen above that no single theory of interest is adequate and determinate. An adequate theory to be determinant must take into consideration both the real and monetary factors that influence the interest rate. Hicks has utilized the Keynesian tools in a method of presentation which shows that productivity, thrift, liquidity preference and money supply are all necessary elements in a comprehensive and determinate interest theory. According to Hansen, "An equilibrium condition is reached when the desired volume of cash balance equals the quantity of money, when the marginal efficiency of capital is equal to the rate of interest and finally, when the volume of investment is equal to the normal or desired volume of saving. And these factors are interrelated ," Thus in the modern theory of interest, savings, investment, liquidity preference and the quality of money are integrated at various levels of income for a synthesis of the loanable funds with the liquidity preference theory. The four variable of the formulation have been combined, to construct two new curves, the IS curve representing flow variable of the loanable funds formulation (or the real factors of the classical theory) and the LM curve representing the stock variable of liquidity preference formulation. The equilibrium between IS and LM curves provides a determinate solution.

The IS/LM model was born at the econometric conference held in Oxford during September, 1936. Roy Harrod, John R. Hicks, and James Meade all presented papers describing mathematical models attempting to summarize John Maynard Keynes' *General Theory of Employment, Interest, and Money*. Hicks, who had seen a draft of Harrod's paper, invented the IS/LM model (originally using the abbreviation "LL", not "LM"). He later presented it in "Mr. Keynes and the Classics: A Suggested Interpretation".

Hicks later agreed that the model missed important points of Keynesian theory, criticizing it as having very limited use beyond "a classroom gadget", and criticizing equilibrium methods generally: "When one turns to questions of policy, looking towards the future instead of the past, the use of equilibrium

methods is still more suspect." The first problem was that it presents the real and monetary sectors as separate, something Keynes attempted to transcend. In addition, an equilibrium model ignores uncertainty – and that liquidity preference only makes sense in the presence of uncertainty "For there is no sense in liquidity, unless expectations are uncertain." A shift in one of the IS or LM curves will cause a change in expectations, which shifts the other curve. Most modern macroeconomists see the IS/LM model as being - at best - a starting approximation for understanding the real world.

Although generally accepted as being imperfect, the model is seen as a useful pedagogical tool for imparting an understanding of the questions that macroeconomists today attempt to answer through more nuanced approaches. As such, it is included in most undergraduate macroeconomics textbooks, but omitted from most graduate texts due to the current dominance of real business cycle and new Keynesian theories.

The **IS–LM model** is also a macroeconomic tool that demonstrates the relationship between interest rates and real output, in the goods and services market and the money market. The intersection of the IS and LM curves is the "general equilibrium" where there is simultaneous equilibrium in both markets. Two equivalent interpretations are possible: first, the IS-LM model explains changes in national income when the price level is fixed in the short-run; second, the IS-LM model shows why the aggregate demand curve shifts. Hence, this tool is sometimes used not only to analyse the fluctuations of the economy but also to find appropriate stabilisation policies.

FORMATION

The model is presented as a graph of two intersecting lines in the first quadrant.

The horizontal axis represents national income or real gross domestic product and is labelled *Y*. The vertical axis represents the real interest rate, *i*. Since this is a non-dynamic model, there is a fixed relationship between the nominal interest rate and the real interest rate (the former equals the latter plus the expected inflation rate which is exogenous in the short run); therefore variables such as money demand which actually depend on the nominal interest rate can equivalently be expressed as depending on the real interest rate.

The point where these schedules intersect represents a short-run equilibrium in the real and monetary sectors (though not necessarily in other sectors, such as labor markets): both the product market and the money market are in equilibrium. This equilibrium yields a unique combination of the interest rate and real GDP.

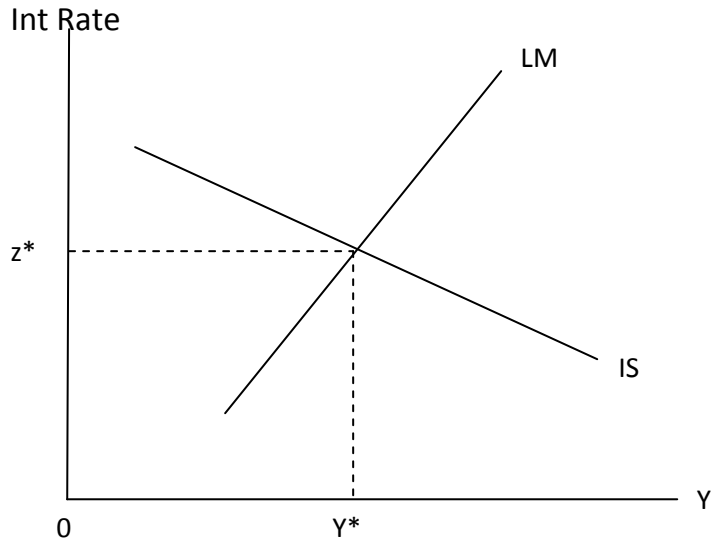


Fig. 2.4.1 The IS-LM Framework

THE EXPLANATION OF IS CURVE AND FUNCTION

For the investment—saving curve, the independent variable is the interest rate and the dependent variable is the level of income. (Note that economics graphs like this one typically place the independent variable (interest rate, in this example) on the vertical axis rather than the horizontal axis.). The IS curve is drawn as downward-sloping with the interest rate (i) on the vertical axis and GDP (gross domestic product: Y) on the horizontal axis. The initials IS stand for "Investment and Saving equilibrium" but since 1937 have been used to represent the locus of all equilibria where total spending (consumer spending + planned private investment + government purchases + net exports) equals an economy's total output (equivalent to real income, Y, or GDP). To keep the link with the historical meaning, the IS curve can be said to represent the equilibria where total private investment equals total saving, where the latter equals consumer saving *plus* government saving (the budget surplus) *plus* foreign saving (the trade surplus). In equilibrium, all spending is desired or planned; there is no unplanned inventory accumulation. The level of real GDP (Y) is determined along this line for each interest rate.

Thus the IS curve is a locus of points of equilibrium in the "real" (non-financial) economy. Each point on the curve represents the equilibrium between the Savings and Investment (S=I).

Given expectations about returns on fixed investment, every level of the real interest rate (i) will generate a certain level of planned fixed investment and other interest-sensitive spending: lower interest rates encourage higher fixed investment and the like. Income is at the equilibrium level for a given interest rate when the saving that consumers and other economic participants choose to do out of this income equals investment (or, equivalently, when "leakages" from the circular flow equal "injections"). The multiplier effect of an increase in fixed investment resulting from a lower interest rate raises real GDP. This explains the downward slope of the IS curve. In summary, this line represents the causation

from falling interest rates to rising planned fixed investment (etc.) to rising national income and output.

The IS curve can also be summarised as follows; it is defined by the equation where Y represents income, C represents consumer spending as an increasing function of disposable income (income, Y, minus taxes, T(Y), which themselves depend positively on income), I, represents investment as a decreasing function of the real interest rate, G represents government spending, and NX(Y) represents net exports (exports minus imports) as an increasing function of income (increasing because exports are increasing function of income). In this equation, the level of G (government spending) is presumed to be exogenous, meaning that it is taken as a given.

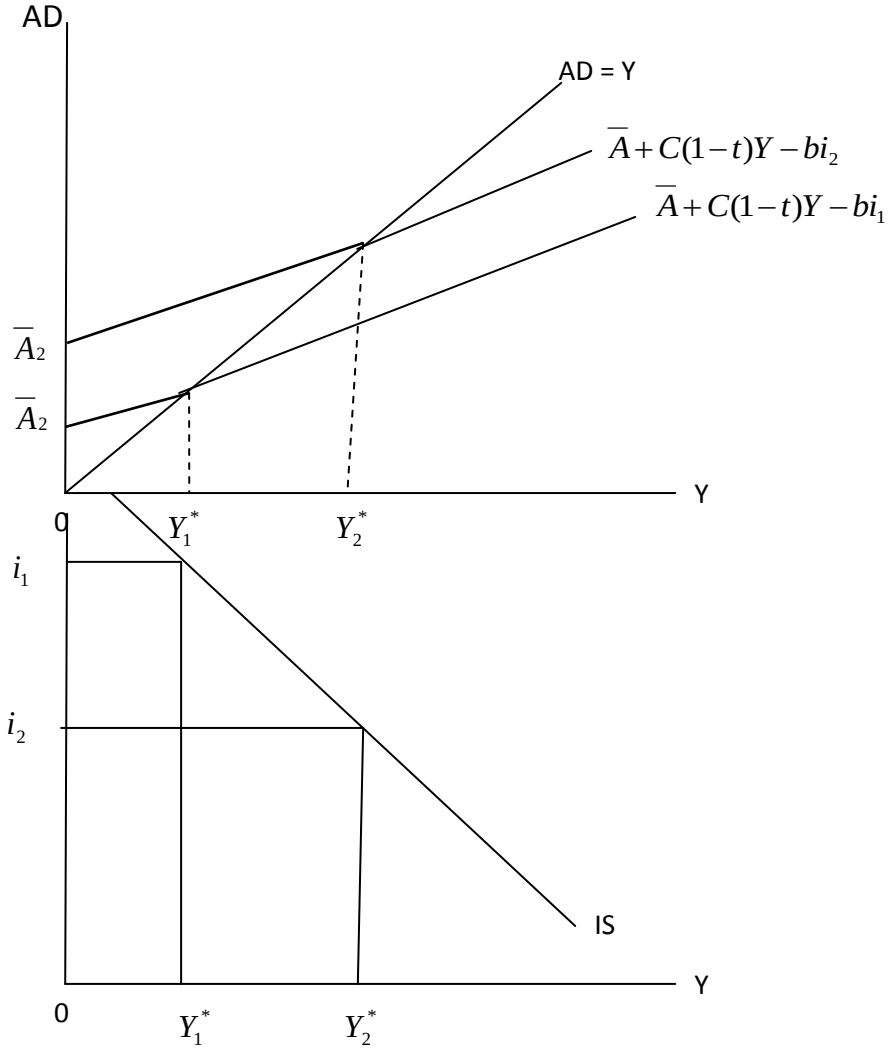


Fig 2.4.2 The Formation of IS

THE EXPLANATION OF LM CURVE AND FUNCTION

For the liquidity preference and money supply curve, the independent variable is "income" and the dependent variable is "the interest rate." The LM curve shows the combinations of interest rates and levels of real income for which the money market is in equilibrium. It is an upward-sloping curve representing the role of finance and money.

The LM function is the set of equilibrium points between the liquidity preference (or demand for money) function and the money supply function (as determined by banks and central banks). Each point on the LM curve reflects a particular equilibrium situation in the money market equilibrium diagram, based on a particular level of income. In the money market equilibrium diagram, the liquidity preference function is simply the willingness to hold cash balances instead of securities. For this function, the nominal interest rate (on the vertical axis) is plotted against the quantity of cash balances (or liquidity), on the horizontal. The liquidity preference function is downward sloping. Two basic elements determine the quantity of cash balances demanded (liquidity preference) and therefore the position and slope of the function:

Transactions demand for money: this includes both (a) the willingness to hold cash for everyday transactions and (b) a precautionary measure (money demand in case of emergencies). Transactions demand is positively related to real GDP (represented by Y,and also referred to as income). This is simply explained – as GDP increases, so does spending and therefore transactions. As GDP is considered exogenous to the liquidity preference function, changes in GDP shift the curve. For example, an increase in GDP will increase transactions which will increase the demand for money for given interest rates, and cause the Liquidity preference curve to shift to the right. Imply willingness to hold cash instead of securities as an asset for investment purposes. Speculative demand is inversely related to the interest rate. As the interest rate rises, the opportunity cost of holding cash increases – the incentive will be to move into securities.

The money supply function for this situation is plotted on the same graph as the liquidity preference function. The money supply is determined by the central bank decisions and willingness of commercial banks to loan money. Though the money supply is related indirectly to interest rates in the very short run, the money supply in effect is perfectly inelastic with respect to nominal interest rates (assuming the central bank chooses to control the money supply rather than focusing directly on the interest rate). Thus the money supply function is represented as a vertical line – money supply is a constant, independent of the interest rate, GDP, and other factors. Mathematically, the LM curve is defined by the equation , where the supply of money is represented as the real amount M/P (as opposed to the nominal amount M), with P representing the price level, and L being the real demand for money, which is some function of the interest rate i and the level Y of real income. The LM curve shows the combinations of interest rates and levels of real income for which money supply equals money demand—that is, for which the money market is in equilibrium.

For a given level of income, the intersection point between the liquidity preference and money supply functions implies a single point on the LM curve: specifically, the point giving the level of the interest rate which equilibrates the money market at the given level of income. Recalling that for the LM curve, the interest rate is plotted against real GDP (whereas the liquidity preference and money supply functions plot interest rates against the quantity of cash balances),

an increase in GDP shifts the liquidity preference function rightward and hence increases the interest rate. Thus the LM function is positively sloped.

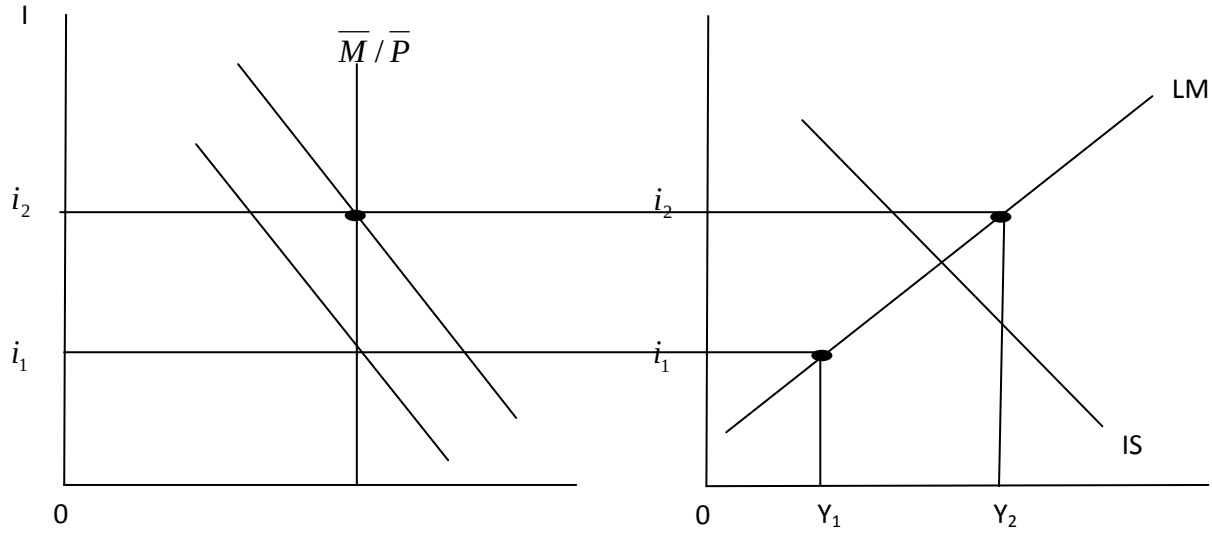


Fig. 2.4.3: The Formation of LM

Self Assessment Exercise

i. In a clear term, explain what is meant by IS-LM

4.0 CONCLUSION

This unit conclude that earlier interest rate theories are indeterminate but the modern theory which makes use of IS-LM model is adequate and determinate.

5.0 SUMMARY

This unit looked at theories of interest rate which include classical theory of interest rate, the loanable fund theory, Keynesian liquidity theory and the modern theory of rate of interest.

6.0: TUTOR MARKED ASSIGNMENT

i. What do understand by price of saving
ii. List and explain any three theories of interest rate
iii. Give reason why some theories are assumed to be indeterminate.
iv. Explain the difference between classical and Keynesian theory of interest rate.

7.0 REFERENCES

Attah B.O, Bakare, T.A. & Daisi, O.R., (2011); **Anatomy of Economics Principles, Q&A (Macroeconomics),** Raamson Printing Press, Oke-Afa, Isolo, Lagos, Nigeria

Amacher, R and Ulbrich, H, (1986); **Principles of Economics,** South Western Publications Co. Cincinnafi, Oliso

Bakare –Aremu T.A, (2013); **Fundamental of Economics Principles (Macroeconomics),** Raamson Printing Press, Oke-Afa, Isolo, Lagos, Nigeria

Bakare I.A.O, Daisi, O.R., Jenrola, O.A., & Okunnu, M.A., (1999): **Principles and Practice of Economics (Macro Approach),** Raamson Printing Press, Mushin, Lagos, NigeriaDennis R. A. et-al; International Economics, Mcgraw Hill Irwin, 8th edition.

Familoni K.A, (1990); **Development in Macroeconomics Policy,** Concept Publications, Lagos, Nigeria

Fashina E.O, (2000); **Foundations of Economics Analysis (Macro Theories),** F.E.F International Company, Ikeja, Lagos, Nigeria

Jhingan M.L, (2010); **Macroeconomics Theory, 12th edition,** Vrinda Publications (P) Ltd. Delhi, India

Jhingan M.L, (2010); **International Economics,** Vrinda Publications (P) Ltd. Delhi, India

Lipsey R.G, (1979); **An Introduction to Positive Economics,** Hayper & Raw, London

Umo J.U, (1986); **Economics; An African Perspectives ,** Johnwest, Lagos Nigeria.

MODULE THREE

Unit 1: Concept of Investment
Unit 2: Types and Determinant of Investment
Unit 3: Some Selected Theories of Investment

UNIT 1: CONCEPT OF INVESTMENT

CONTENTS

1.0 INTRODUCTION

This unit discusses the concept of investment with special reference to graphical and functional analysis. It also explored the relationship between the saving function and the investment function.

2.0 OBJECTIVES

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

i. Recognize both saving and investment function.
ii. Understand Relationship between investment and saving.
iii. Know those factors that determine investment.
iv. Understand the functional and graphical illustration of investment.

3.0 CONTENTS

3.1: INVESTMENT CONCEPT: AN OVERVIEW

In ordinary parlance, investment means to buy shares, stocks, bonds and security which already existing in stock market. But this is not real investment because it is simply a transfer of existing assets. Hence this is called financial investment which does not affect aggregate spending. In Keynesian terminology, investment refers to real investment which added to capital equipment. It leads to increase in level of income and production by increasing the production and purchase of capital goods. Investment thus includes new plants and equipment, construction of public work like dams, roads, building, etc., net foreign investment, inventories, and stocks and shares of new companies. In the words of Joan Robinson, "by investment is meant an addition to capital, such as occurs when a new house is built or a new factory is built. Investment means making an addition to the stocks of goods in existences."

Capital, on the other hand, refers to real assets like factories, plants equipment, and inventories of finished and semi-finished goods. It is any previously produced input that can be used in the production process to produce other goods. The amount of capital is a stock concept.

To be more precise, investment is the production or acquisition of real capital assets during any period of time. To illustrate, suppose the capital assets of a firm on 31 march 2010 are N100 and it invest at the rate of 10% during the year 2010-2011. At the end of the following year (31 march 2011), its total capital will be in year t, then $1_t = K_t - K_{t-1.}$

Moreover, when consider the relationship between investment and interest rate, in Classist term, it could be found that there exist an inverse relationship between investment and interest rate, that is, when interest rate is low investment will be high and vice versa, this is known as marginal efficient of investment (MEI), that is, rate of investment returns is subject to law of variable proportion. However, when this is held constant there would be shift in investment curve owing to other factors other than rate of interest.

Shifts in investment demand

The investment demand function was drawn on the assumption that other non-interest determinations of investment are held constant. Let us now relax that assumption and examine forces that can shift MEI either to the left or to the right. The factors include:

Stock of Capital Goods Already on Hand

If a firm is operating with excess capacity or has accumulated some inventory, it is not likely to increase its demand for investment. This is because any short-term increase in demand can be met either by running down the inventory or using the excess capacity to increase production. In general, possession of a

stock of capital goods will tend to shift MEI to the left, and the lack will shift it to the right.

Cost of New Capital Goods

The purchase,, maintenance and operating costs of capital goods will affect the rate of profit, hence shift the investment demand curve. If these costs are high, investment will be discouraged and if they are low, investment will be encouraged.

Taxes

Tax is a cost of business. High profit tend to discourage investment while a reduction in taxes tends to encourage investment.

Expectations

Business typically undertake investment under uncertainty. The uncertainty is particularly relevant when some projects take a considerable length of time to mature. A person's perception of the economic future greatly influences the willingness to invest. Optimizing in terms of political stability, increase in demand, etc., tends to increase investment. Pessimism tends to reduce willingness to invest.

Technological Change

Changes in technology through new discoveries, inventions and innovations encourage new investments. For example, the introduction of high yielding cereals and tree crops has encouraged more farmers to invest in modern farming in Nigeria.

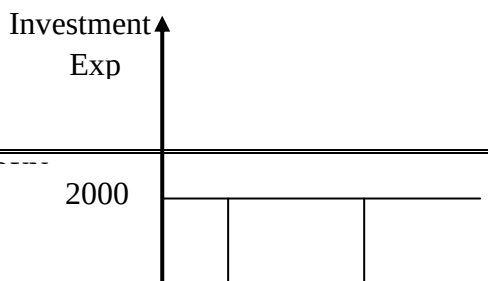
Increase in GDP

Investment is linked to GDP growth since it depends on aggregate demand. Thus, a fast growth in GDP will exert pressure on aggregate demand, which in turn will encourage investment. In this case, the growth in investment demand is often faster than the growth in output. This relationship is referred to as *the acceleration principle.* A low growth rate, however, will cause investment demand to shift to the left.

Self Assessment Exercise

i. Explain clearly you understanding of Business investment expenditure

3.2 INVESTMENT FUNCTION AND GRAPH



I_0

Fig: 3.1.1a The Investment Curve

Figure 3.1.1a shows that the level of investment spending is autonomous. i.e. it remains at the same level irrespective of income levels. Suppose $I_0 = 2000$. At Y_1 and Y_2, I_0 remains at 2000. This means that investment spending is independent of income changes, ceteris paribus.

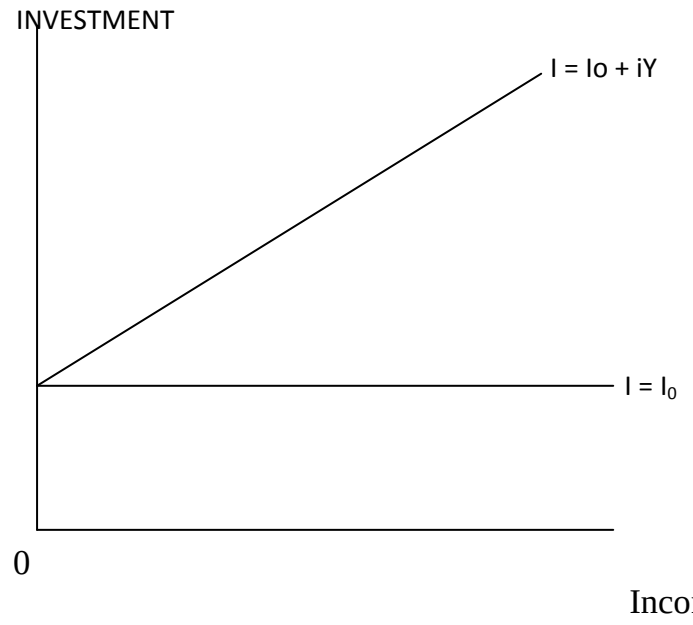


Figure 3.1.1b: The total investment Curve (**induced plus autonomous investment**)

The figure 3.1.1b above, represent the total or aggregate investment where I_0 is the autonomous and iY is the induced investment that is income elastic.

Self Assessment Exercise

i. Graphically explain and illustrate the investment function

3.3 Relationship between Savings and Investment.

Saving and Investment are jointly influence by the level of income, both on aggregate and individual household level. Saving is primarily determined by level of income, same to investment. These two variables are majorly linked together through aggregate level of income or household income on a microeconomic level.

The algebraic relationship can be explained as follows:

S = f(Y) 1

I = f(Y, r) 2

Y = C + I 3

Y = C + S 4

From the above, equation 1 ... 3, imply that, saving, consumption and investment are respectively a function of income, while equation 5 and 6, simply expressed the fact that income earned is either consumed or invested, similarly, income earned is also consumed or saved.

Equality of Saving and Investment

Equate equation 3 and 4 above to have the following;

C + I = C + S 5

Collect like terms to have the following equation;

C – C = S – I .....6 then

0 = S – I .....,7 therefore

S – I = 0 imply S = I.....8

Equation 8 is the require classical saving – Investment equality.

Self Assessment Exercise

i. In a clear term establish relationship between saving, consumption and investment.

4.0 CONCLUSION

This unit discussed the concept of investment expenditure to the students, under which different definitions of investment is put into use as well as the determinants of investment. Also two major types of investment were discussed and the function forms of these two types of investment were explained with curves. Students are also introducing to the concepts of average and marginal propensity to invest

5.0 SUMMARY

This unit looked at concept of investment which include the explanation of investment expenditure concept and graphical illustration of investment function. It equally proof the classical equality of saving and investment at equilibrium.

6.0: TUTOR MARKED ASSIGNMENT

i. What is aggregate investment expenditure
ii. Evaluate the relationship between saving and investment
iii. Explore the classical equilibrium of saving and investment.
iv. Explain the difference between $I = I_0$ and $I = iY$

7.0 REFERENCES

Attah B.O, Bakare, T.A. & Daisi, O.R., (2011); **Anatomy of Economics Principles, Q&A (Macroeconomics),** Raamson Printing Press, Oke-Afa, Isolo, Lagos, Nigeria

Amacher, R and Ulbrich, H, (1986); **Principles of Economics,** South Western Publications Co. Cincinnafi, Oliso

Bakare –Aremu T.A, (2013); **Fundamental of Economics Principles (Macroeconomics),** Raamson Printing Press, Oke-Afa, Isolo, Lagos, Nigeria

Bakare I.A.O, Daisi, O.R., Jenrola, O.A., & Okunnu, M.A., (1999): **Principles and Practice of Economics (Macro Approach),** Raamson Printing Press, Mushin, Lagos, NigeriaDennis R. A. et-al; International Economics, Mcgraw Hill Irwin, 8th edition.

Familoni K.A, (1990); **Development in Macroeconomics Policy,** Concept Publications, Lagos, Nigeria

Fashina E.O, (2000); **Foundations of Economics Analysis (Macro Theories),** F.E.F International Company, Ikeja, Lagos, Nigeria

Jhingan M.L, (2010); **Macroeconomics Theory, 12th edition,** Vrinda Publications (P) Ltd. Delhi, India

Jhingan M.L, (2010); **International Economics,** Vrinda Publications (P) Ltd. Delhi, India

Lipsey R.G, (1979); **An Introduction to Positive Economics,** Hayper & Raw, London

Umo J.U, (1986); **Economics; An African Perspectives ,** Johnwest, Lagos Nigeria.

Unit 2: TYPES AND DETERMINANT OF INVESTMENT

CONTENTS

1.0 INTRODUCTION

This unit discusses the concept of investment with special reference to graphical and functional analysis. It also explored the determinant of investment function.

2.0 OBJECTIVES

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

i. Understand the concepts of Investment Expenditure
ii. Explain clearly the two types of investment.
iii. Identify and explain the function and curves of the investment types.
iv. Understand those factors that determine Investment expenditure.

3.0 CONTENTS

3.1: TYPES OF INVESTMENT

Induced Investment - Real investment may be induced investment, when it is profit or income motivated. Factors like price, wages and interest change which affect profits, influence induced investment. Similarly demand also influences it. When income increases, consumption demand also increases and to meet this, investment increase. In the ultimate analysis, induced investment is a function of income i.e. I = f(Y). It is income elastic. Meaning that it increases or decreases with the rise or fall in income as shown in figure 3.2. I_1 I_1 is the investment curve which shows induced investment at various levels of income. Induced investment is zero at Oy_1 income. When income rises to Oy_3' induced investment is I_3 Y_3. A fall in income to Oy_2 also reduces induced investment to I_2 Y_2.

Induced investment may be further divided into (i) the average propensity to invest, and (ii) the marginal propensity to invest:

(i) The Average propensity to invest is the ratio of investment to income, i.e., I/Y. if the income is N40 and investment is N4, I/Y =4/40=0.1, in term of the above figure, the average propensity to invest at OY_3 income level is I_3Y_3/Oy_3.

(ii) The marginal propensity to invest is the ratio of change in investment to the change in income, i.e. $\Delta I/\Delta Y$. if the change in investment, ΔI = N2 and the change in income, Y = N10, then $\Delta I/\Delta Y = 2/10 = 0.2$, in figure 4.2 $\Delta I/\Delta Y=I_3a/Y_2Y_3$.

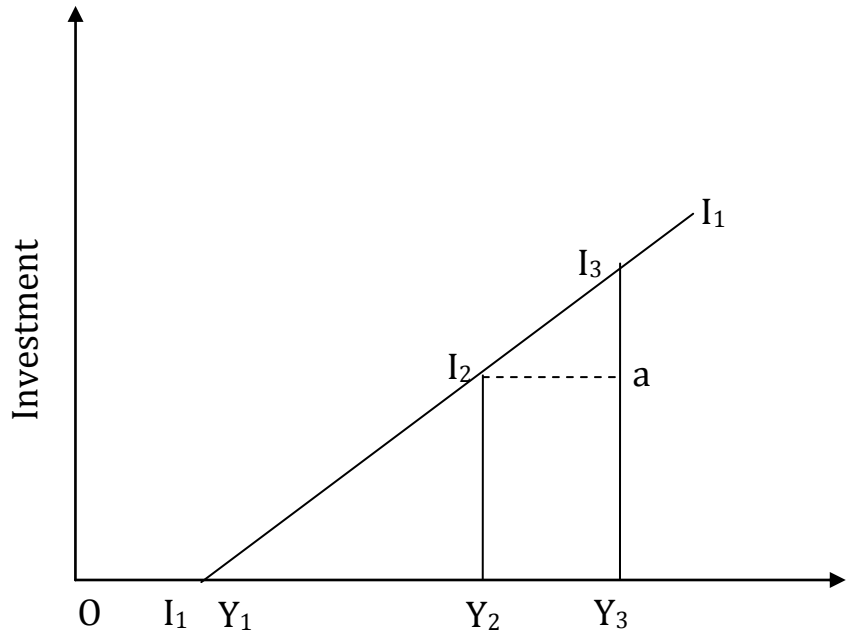


Fig: 3.1.2 The Investment Curve with change in Income

Autonomous investment - Autonomous investment is independent of the level of income and is thus income inelastic i.e. it has low or no responses to changes in income. It is influenced by exogenous factors like innovations, inventions, growth of population and labour force, researches, social and legal institutions, weather changes, war, revolution, etc. but it is not influence by change in

demand. Rather, it influences the demand, investment in economic and social overhead weither made by the government or the private enterprise is autonomous. Such investment includes expenditure on building, dams, roads, canals, schools, hospitals, etc. since investment on these project is generally associated with public policy, and autonomous investment is regarded as public investment. In the long-run, private investment of all types may be autonomous because it is influenced by exogenous factors. Diagrammatically, autonomous investment is shown as a curve parallel to the horizontal axis as curve in figure 4.2, it indicate that all levels of income at the amount of investment OI_1 remains constant. The upward shift of the curve to I_2I_2" indicates an increased steady flow of investment at a constant rate OI_2 at all levels of income. However, for purpose of income determination, the autonomous investment curve is superimposed on the curve in a 45^o line diagram.

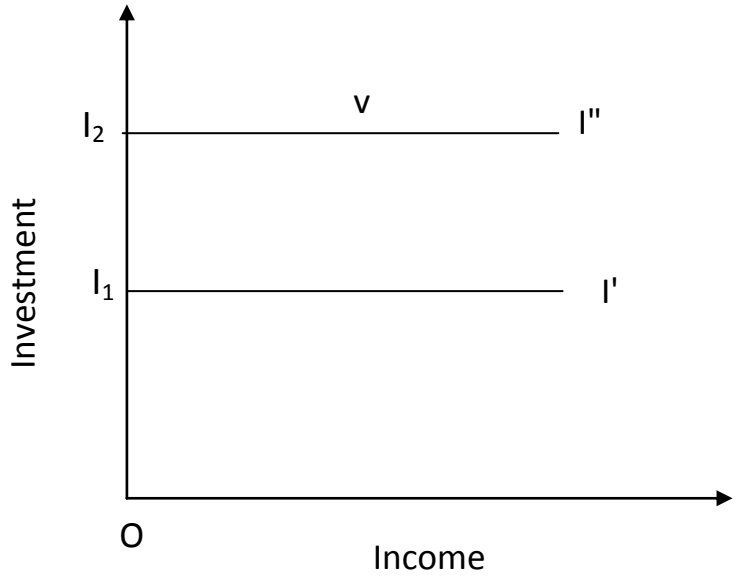


Fig: 3.1.3 Change in Autonomous Investment Expenditures Curve

Self Assessment Exercise

i. Explain clearly you understanding of Business investment expenditure

3.2 DETERMINANTS OF PLANNED INVESTMENT SPENDING

Planned Investment in this context is defined *as planned spending devoiced toward increasing or maintaining the stock of capital*. The determinant of investment spending are many but the first two enumerated below are the crucial ones.

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

Factors other than the Interest Rate Affecting Inducement to Invest

There are a number of factors other than the rate of interest which affect the inducement to invest. They are as follow:

(1) *Element of uncertainty.* According to Keynes, the *MEC* is more volatile than the rate of interest. This is because the prospective yield of capital asset depends upon the business expectations. These business expectations are very uncertain. "They may change quickly and drastically in response to the general mood of the business community, rumors, news of technical developments, political events, even directors' ulcers may cause a sudden rise or fall of the expected rate of yield".

(2) *Existing stock of capital goods*. If the existing stock of capital goods is Large, it would discourage potentials investors from entering into the making of goods. Again, the induced investment will not take place if there is excess or idle capacity in the existing stock of capital asset. In case the exiting stock of machine is working to its full capacity, an increase in the demand for goods manufactured by them will raise the inducement to invest. But it is capital stock which influences the *MEC*. The *MEC* and the capital stock are inversely related

(3) *Level of income*. If the level of income rises in the economy through rise in money wage rate and other wage rate and other factor price, the demand for goods will rise which will in turn rise the inducement to investment will fall with the lowering of income levels.

(4) *Consumer demand.* The present and future demand for the product greatly influences the level of investment in the economy. If the current demand for consumer goods is increasing rapidly more investment will be made. Even if we take the future demand for the products, it will be considerably influenced by their current demand and both will influence the level of investment. Investment will be low if demand is low, and vice versa.

(5) *Liquid assets.* The amount of liquid asset with the investor also influences the inducement to invest. If they possess large liquid assets, the inducement to invest is high. This is especially the case with those firms which keeps large reserve funds and undistributed profits. On the contrary, the inducement to invest is low for investors having little as liquid assets.

(6)*Inventions and innovations*. Inventions and innovation tend to raise the inducement to invest. If inventions and technological improvement lead to more efficient method of production which reduces cost, the MEC of new capital asset will rise. Higher MEC will induce firm to make large investment in the new capital asset and related one. The absence of new technologies will induce low inducement to invest. An innovation also includes the opening of new areas. This requires the development of means of transport, the construction of housing etc., leading to new investment opportunities. Thus inducement to invest rises.

(7) *New products.* The nature of new products in term of safe and cost may also influence their MEC and hence investment. If the sale product of a new product are high and expected revenue more than the costs, the MEC will be high which will encourage investment in this and related industries. For example, the invention of television must have encourage the electronics industry to invest in this capital asset and use them to produce television set, if they had expected profits to be higher than costs. Thus lower maintenance and operating cost in the case of new product are important in increasing the inducement to invest.

(8) *Growth of population*. A rapidly growing population means a growing market for all types of goods in the economy. To meet the demand of an increasing population in all brackets, investment will increase in all type of consumer goods industries. On the other hand, a declining population results in a shrinking market for goods thereby lowering the inducement to invest.

(9*) State policy.* The economic policies of the government have an important influence on the inducement in the country. If the state levies heavy progressive taxes on corporations, the inducement to invest is low, and vice versa. Heavy indirect taxation tends to raise the price of commodities and adversely affect their demand thereby lowering the inducement to invest, and vice versa. If the state follow the policy of nationalization of industries, the private enterprise would be discourage to invest. On the other hand, if the state encourages private enterprise by providing credit, power and other facilities, inducement to invest will be high

(10*) Political climate*. Political condition also affect the o invest. If there is political instability in the country, the inducement to invest may be affected adversely. In the struggle for power, the rival parties may create unrest through hostile trade union activities thus creating uncertainty in business. On the other hand a stable government creates confidence in the business community to invest is raised. Similarly the danger of a revolution or war with sum other country has an adverse effect on the inducement to invest, whereas peace and prosperity tends to raise it.

Other determinants of investment include the following;

i) Level of national income
ii) Business climate
iii) Technological progress
iv) Government policies on wages and salaries and taxation

Self Assessment Exercise

i. Explain various determinant of investment expenditure.

3.3 THEORETICAL DETERMINANTS OF INVESTMENT

The decision to invest in a new capital asset depends on whether the expected rate of return on the new investment is equal or greater or less than the rate of interest to be paid on funds needed to purchase this asset. It is only when the expected rate of return is higher than the interest rate that investment will be made in acquiring new capital assets.

In reality, there are three factors that are taken into consideration n while making any investment decision. They are the cost of the capital asset, the expected rate of return from it during his lifetime, and the market rate of interest, Keynes sums up this factor in his concept of the marginal efficiency of capital *(MEC*).

Marginal Efficiency of Capital.(MEC) - The marginal efficiency of capital is the highest rate expected from an additional unit of a capital asset over its cost. In the word of Kurihara, "it is the ratio between the prospective yields (y) is the aggregate net return from an asset during its life-time, while the supply price (p) is the cost of producing this asset. If the supply price of a capital asset is N20,000 and its annual yield is N2,000, the marginal efficient of this asset is $\frac{2000}{20000} x \frac{100}{1} = 10\, percent$. Thus the marginal efficiency of capital is the percentage of the profit expected from a given investment on a capital asset.

Keynes relates the prospective yield of a capital asset to its supply price and defines the *MEC* as "equal as equal to the rate of discount which would make the percentage value of the series of annuities given by the return expected from the capital asset during its life just equal to its supply price." 1 this can be express as:

$$\text{sp} = \frac{R1}{(1+i)} + \frac{R2}{(1+i)2} + \cdots + \frac{Rn}{(1+i)n}$$

Where sp is the supply price or the cost of the capital asset, R1, R2….. Rn are the prospective yield or the series of expected annual return from the capital asset exactly equal to the present value of the expected yield from it.

The Marginal Efficiency of Investment (*MEI*)

The *MEI* is the rate of return expected from a given investment on a capital asset after covering all its cost, expect the rate of interest. Like the *MEC,* it the rate which equates the supply price of a capital asset to its prospective yield. The on an asset will be made depending upon the interest rate involve in getting funds from the market. If the rate of interest is high, investment is at a low level. A low rate of interest leads to an increase in investment. Thus the *ME*I relates the investment to the rate of interest. The MEI schedule shows the amount of investment demanded at various rate of interest. That is why, it is also called investment demand schedule or curve which has a negative slope

To what extent the falls in the interest rate will increase investment depends upon the elasticity of the investment demand curve of the *MEI* curve. The less elastic is the *MEI* curve, the lower is the increase in investment as a result of fall in the rate and the Marginal efficiency of investment. The horizontal axis measures the amount of investment; the *MEI* and *MEI*' are investment demand curves. The *MEI* curve in panel (A) is less elastic so investment increase by *I'I*' which is less than the increase in investment I_1I_2 show in panel (B) were the *MEI* curve is elastic. Thus given the shape and position of the MEI curve, a fall in **th**e interest rate will increase the volume of investment.

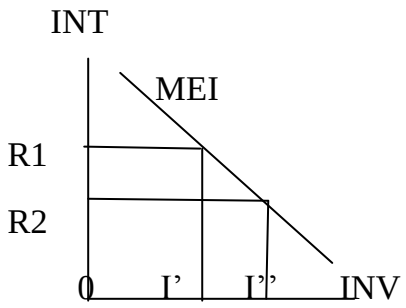


Fig 3.1.4 : Marginal Efficiency of Investment

On the other hand, given the rate of interest, the higher the *MEI*, the larger shall be the volume of investment. The higher marginal efficiency of investments implies that the *MEI* curve shift to the right. When the existing capital assets wear out, they are replaced by new ones and level of investment increases.

Self Assessment Exercise

i. Explain the difference between MEC and MEI.

4.0 CONCLUSION

This unit looked at concept of investment expenditure and its determining factors, it also explain functional relationship between investment and income level, which is elastic in nature. This functional relationship is express both algebraically (function) and graphically (curve). We also, explain the concept of average and marginal propensity to invest.

5.0 SUMMARY

This unit explore the major types of investment expenditure and equally examined the determinants of investment both psychological and theoretical. The study unit also expresses relationship between saving and investment.

6.0 TUTOR MARKED ASSIGNMENT

i. Explain what is meant by investment in Keynesian context.
ii. List and explain components of investment expenditure function
iii. Given that I = 20 + 2/3Y decompose this investment function and illustrate each component.
iv. Differentiate between Average and Marginal propensity to invest with numerical examples.

7.0 REFERENCES

Attah B.O, Bakare, T.A. & Daisi, O.R., (2011); **Anatomy of Economics Principles, Q&A (Macroeconomics),** Raamson Printing Press, Oke-Afa, Isolo, Lagos, Nigeria

Amacher, R and Ulbrich, H, (1986); **Principles of Economics,** South Western Publications Co. Cincinnafi, Oliso

Bakare –Aremu T.A, (2013); **Fundamental of Economics Principles (Macroeconomics),** Raamson Printing Press, Oke-Afa, Isolo, Lagos, Nigeria

Bakare I.A.O, Daisi, O.R., Jenrola, O.A., & Okunnu, M.A., (1999): **Principles and Practice of Economics (Macro Approach),** Raamson Printing Press, Mushin, Lagos, NigeriaDennis R. A. et-al; International Economics, Mcgraw Hill Irwin, 8th edition.

Familoni K.A, (1990); **Development in Macroeconomics Policy,** Concept Publications, Lagos, Nigeria

Fashina E.O, (2000); **Foundations of Economics Analysis (Macro Theories),** F.E.F International Company, Ikeja, Lagos, Nigeria

Jhingan M.L, (2010); **Macroeconomics Theory, 12th edition,** Vrinda Publications (P) Ltd. Delhi, India

Jhingan M.L, (2010); **International Economics,** Vrinda Publications (P) Ltd. Delhi, India

Lipsey R.G, (1979); **An Introduction to Positive Economics,** Hayper & Raw, London

Umo J.U, (1986); **Economics; An African Perspectives ,** Johnwest, Lagos Nigeria.

Gordon, Robert J. (2009). *Macroeconomics* (Eleventh ed.). Boston: Pearson Addison Wesley. ISBN 9780321552075.

UNIT 3: SOME SELECTED THEORIES OF INVESTMENT

CONTENTS

1.0 INTRODUCTION

This unit discusses the concept of investment theories in which the amounts of investable funds are related to the level of interest rate and income.

2.0 OBJECTIVES

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

i. Understand the concepts of Investment Expenditure
ii. Explain different investment theories.
iii. Relate investment at a certain time to level of profit..

3.0 CONTENTS

3.1 THE ACCELERATOR THEORY OF INVESTMENT

The accelerator principle states that an increase in the rate of output of a firm will require a proportionate increase in its capital stock. The capital stock refers to the desired or optimum capital stock, K*. Assuming that capital-output ratio is some fixed constant, v, the optimum capital stock is a constant proportion of output so that in any period *t*,

$K_t^* = vY_t$ …….. *1*

Where K_t^* is the optimal capital stock in period *t*, *v* (the accelerator) is a positive constant, and Y_t is output in period *t.*

Any change in output will lead to a change in the capital stock. Thus

$K_t^* - K^*_{t-1} = v\,(Y_t - Y_{t-1})$ ……2 and

$I_{nt} = v\,(Y_t - Y_{t-1})$ …… 3

$[\because I_{nt} = K_t^* - K^*_{t-1}] = v\,\Delta Y_t$ ……*4* where

$\Delta Y_t = Y_t - Y_{t-1}$ and I_{nt} is net investment.

In the above equation, the level of net investment is proportional to change in output. If the level of output remains constant ($\Delta Y = 0$), net investment would be zero. For net investment to be a positive constant, output must increase.

Self Assessment Exercise (SAE)

i. Discuss major determinant of investment in accordance to accelerator theory

3.2 THE FLEXIBLE ACCELERATOR THEORY OR LAGS IN INVESTMENT

The flexible accelerator theory removes one of the major weaknesses of the simple acceleration principle that the capital stock is optimally adjusted without any time lag. In the flexible accelerator, there are lags in the adjustment process between the level of output and the level of capital stock. This theory is also known as *the capital stock adjustment model*. The theory of flexible accelerator has been developed in various forms by Chenery, Goodwin and Koyck. But the most accepted approach is by Koyck. Junankar has discussed the lags in the adjustment between output and capital stock. He explains them at the firm level and extends them to the aggregate level. Suppose there is an increase in the demand for output. To meet it, first the firm will use its inventories and then utilise its capital stock more intensively. If the increase in the demand for output

is large and persists for some time, the firm would increase its demand for capital stock. This is the *decision-making lag*. There may be the *administrative lag* of ordering the capital. As capital is not easily available and in abundance in the financial capital market, there is the *financial lag* in raising finance to buy capital. Finally, there is the *delivery lag* between the ordering of capital and its delivery. Assuming "that different firms have different decision and delivery lags then in aggregate the effect of an increase in demand on the capital stock is distributed over time … This implies that the capital stock at time *t* is dependent on all the previous levels of output, i.e.

$K_t = f(Y_t, Y_{t-1}, ..., Y_{t-n})$." …… 5

The Koyck's Approach

Koyck's approach to the flexible accelerator assumes that the actual capital stock depends on all past output levels with weighs declining geometrically.

Accordingly,

$K_t = v\,(1-\lambda)(Y_t + \lambda\, Y_{t-1} + \lambda^2\, Y_{t-2} + \ldots \lambda^n\, Y_{t-n})$ ……. 6 …

Where, $0 < \lambda < 1$. If there is no change in income and it is equal to $\bar{Y}$, the expected volume of output also remains unchanged, then

$$\bar{K} = v\,(1-\lambda)(\bar{Y} + \lambda\,\bar{Y} + \lambda^2\,\bar{Y} + \ldots + \lambda^n\,\bar{Y})$$

$= v\,(1-\lambda)\,\bar{Y}\,(1 + \lambda + \lambda^2 + \ldots + \lambda^n)$…….. 7

Where $(1 + \lambda + \lambda^2 + \ldots + \lambda^n) = 1/(1-\lambda)$ are the weights in geometric series and equation (7) becomes

$\bar{K} = v\bar{Y}\,(1-\lambda)\,x\frac{1}{(1-\lambda)}$…… 8

Or $K = v\bar{Y}$ …… 9

If equation (6) is valid, then K_{t-1} is also true. Therefore, we can rewrite equation (6) as

$K_{t-1} = v(1-\lambda)\,(Y_{t-1} + \lambda\, Y_{t-2} + \lambda^2\, Y_{t-3} + \ldots + \lambda^n\, Y_{t-n-1})$ ……. 10

Multiplying by λ we have

$\lambda\, K_{t-1} = v(1-\lambda)\,(\lambda\, Y_{t-1} + \lambda^2\, Y_{t-2} + \lambda^3\, Y_{t-3} + \ldots + \lambda^n\, Y_{t-n-1})$ …… 11

…

Subtracting equation (10) from equation (6), we get

$K_t - \lambda K_{t-1} = v(1-\lambda)(Y_t + \lambda^{n+1} Y_{t-n-1})$ 12

Since the term λ^{n+1} tends to zero, the above equation becomes

$K_t - \lambda K_{t-1} = (1-\lambda) vY_t$ 13

or $K_t = (1-\lambda) vY_t + \lambda K_{t-1}$ 14

This process of rewriting equation (6) as equation (11) is called the *Koyck transformation*.

Net investment is the change in the stock of capital, $K_t - K_{t-1}$. Therefore, subtract K_{t-1} from both sides of the equation to get the expression net investment,

$K_t - K_{t-1} = (1-\lambda) vY_t + \lambda K_{t-1} - K_{t-1}$ 15

$I_{nt} = (1-\lambda) vY_t + K_{t-1}(\lambda - 1)$

or $I_{nt} = (1-\lambda) vY_t - (1-\lambda)K_{t-1}$ 16

The net investment ($K_t - K_{t-1}$) is called the *distributed lag accelerator* which is inversely related to the capital stock of the previous period and is positively related to the output level. On the other hand, gross investment equals net investment plus depreciation. Depreciation is proportional to the capital stock and is estimated by $I_{gt} = \delta K_{t-1}$. By adding this to net investment, gross investment is

$I_{gt} = I_{nt} + \delta K_{t-1}$ 17

By substituting the value of I_{nt} in the above equation, we have

$I_{gt} = (1-\lambda) vY_t - (1-\lambda) K_{t-1} + \delta K_{t-1}$..... 18

$I_{gt} = (1-\lambda) vY_t + K_{t-1}(\lambda - 1 + \delta)$ 19

The above equation reveals that "gross investment will rise when the level of income rises because in that case more capital is required. It also shows that the existing capital stock K_{t-1} plays a dual role. Since the term $\lambda - 1$ is negative, a large existing capital stock implies excess capacity and therefore less investment. On the other hand, δ is positive so that the larger the existing capital, the greater the required amount of replacement investment."

In the long run equilibrium, the capital stock reaches its optimal so that

$K_t* = K_t = K_{t-1}$ …… 20

Substituting equation (14) in equation (11), we have

$K_t* = vY_t$ …… 21

Substituting equation (15) in equation (12) we get

$$I_{nt} = (1 - \lambda) K_t * - (1 - \lambda) K_{t-1}$$

or $I_{nt} = (1 - \lambda)(K_t * - K_{t-1})$ ……..…. 22

This equation represents the *flexible accelerator* or the *stock adjustment principle*. This suggests that "net investment is some fraction of the difference between *planned* capital stock and *actual* capital stock in the previous period …. The coefficient $(1 - \lambda)$ tells us how rapidly the adjustment takes place. If $\lambda = 0$ [i.e. $(1 - \lambda) = 1$] then adjustment takes place in the unit period"..

Self Assessment Exercise (SAE)

i. Differentiate between accelerator theory and flexible accelerator theory.

3.3 FINANCIAL THEORIES OF INVESTMENT

Some economists have laid emphasis on the effects of financial factors on investment and by implication on economic growth. These include Profits Theory of Investment and the Cash-Flow Theory of Duesenberry among others.

3.3.1 THE PROFITS THEORY OF INVESTMENT

The profits theory regards profits, in particular undistributed profits, as a source of internal funds for financing investment. Investment depends on profits and profits, in turn, depend on income. In this theory, profits relate to the level of current profits and of the recent past. If total income and total profits are high, the retained earnings of firms are also high, and vice versa. Retained earnings are of great importance for small and large firms when the capital market is imperfect because it is cheaper to use them. Thus if profits are high, the retained earnings are also high. The cost of capital is low and the optimal capital stock is large. That is why firms prefer to reinvest their extra profits for making investments instead of keeping them in banks in order to buy securities or to give dividends to shareholders. Contrariwise, when their profits fall, they cut their investment projects. This is the *liquidity version* of the profits theory.

Another version is that the optimal capital stock is a function of expected profits. If the aggregate profits in the economy and business profits are rising, they may

lead to the expectation of their continued increase in the future. Thus expected profits are some function of actual profits in the past,

$K_t^* = f\ (\pi_{t-1})$…… 23

Where K_t^* is the optimal capital stock and $f\ (\pi_{t-1})$ is some function of past actual profits.

Edward Shapiro has developed the profits theory of investment in which total profits vary directly with the income level. For each level of profits, there is an optimal capital stock. The optimal capital stock varies directly with the level of profits. The interest rate and the level of profits, in turn, determine the optimal capital stock. For any particular level of profits, the higher the interest rate, the smaller will be the optimal capital stock, and vice versa.

3.3.2 DUESENBERRY'S FINANCIAL THEORY OF INVESTMENT

Duesenberry in his book Business Cycles and Economic Growth has presented another variant of the financial theory of investment, known as the cash-flow theory. In his version, he integrates the profits theory and the acceleration theory of investment. He emphasizes that the aggregate cash flow is the main determinant of investment. Duesenberry has based his theory on the following propositions: (1) Gross investment starts exceeding depreciation when capital stock grows (2) Investment exceeds savings when income grows (3)The growth rate of income and the growth rate of capital stock are determined entirely by the ratio of capital stock to income. Duesenberry regards investment as a function of income (Y), capital stock (K), profits (π) and capital consumption allowances (R). All these are independent variables and can be represented as

$I = f\ (Y_{t-1}, K_{t-1}, \pi_{t-1}, R_t)$ …… 24

Where *t* refers to the current period and (t – 1) to the previous period. According to Duesenberry, profits depend positively on national income and negatively on capital stock,

$$\pi = aY - bK \quad \text{……25}$$

Taking account of lags, this becomes

$$\pi_t = aY_{t-1} - bK_{t-1} \quad \text{……26}$$

Where π_t refers to profits during period *t*, Y_{t-1} *and* K_{t-1} are income and capital stock of the previous period respectively and *a* and *b* are constants. Capital consumption allowances are expressed as

$$R_t = kK_{t-1} \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots 27$$

The above equation shows that capital consumption allowances are a fraction (k) of capital stock (K_{t-1}).

Duesenberry's investment function is a modified version of the accelerator principle,

$$\boldsymbol{I_t = \alpha Y_{t-1} + \beta K_{t-1}} \quad \ldots (1)$$

Where investment in period *t* is a function of income (Y) and capital stock (K) of the previous period (t – 1). The parameter ($\boldsymbol{\alpha}$) represents the effect of changes in income on investment, while the parameter ($\boldsymbol{\beta}$) represents the influence of capital stock on investment working through both the marginal efficiency of investment and profits.

Since the determinants of investment also affect consumption, the consumption function can be written as,

$$\boldsymbol{C_t = f(Y_{t-1} - \pi_{t-1} - R_{t-1} + d_t)}$$

Where d_t stands for dividend payments in period *t*. Since $\pi = f(Y, K)$, $R = kY$ and $d = f(\pi)$, these independent variables can be subsumed under *Y* and *K*. Thus

$$\boldsymbol{C_t = \alpha Y_{t-1} + bK_{t-1}} \quad \ldots (2)$$

The parameter (*a*) in equation (2) is MPC and it also reflects increase in profits. This increase is reduced by the effect of profits on dividends and the effect of changes in dividends on consumption. The influence of changes in capital stock on consumption is reflected by the parameter (*b*).

The capital stock is represented by the following equation which is an identity,

$$\boldsymbol{K_t = (1-k)K_{t-1} + I_t}$$

It is derived as under:

$$\boldsymbol{K_t = K_{t-1} + (I_t - R_t)}$$

$$\boldsymbol{R_t = kK_{t-1}}$$

$$\boldsymbol{K_t = K_{t-1} + I_t - kK_{t-1}}$$

$$\boldsymbol{\therefore\ K_t = (1-k)K_{t-1} + I_t}$$

$\because \boldsymbol{I_t = \alpha Y_{t-1} + \beta K_{t-1}}$

The capital stock equation can be written as

$$K_t = (1-k)K_{t-1} + \alpha Y_{t-1} + \beta K_{t-1}$$

$= [(1-k)K_{t-1} + \beta K_{t-1}] + \alpha Y_{t-1}$

$= K_{t-1}[(1-k) + \beta] + \alpha Y_{t-1}$

Or $K_{t-1} = K_{t-2}[(1-k) + \beta] + \alpha Y_{t-2}$ … (3)

The national income identity can be written as

$$Y_t = I_t + C_t$$

$= \alpha Y_{t-1} + \beta K_{t-1} + aY_{t-1} + bK_{t-1}$ [From equations (1) and (2)]

$= [\alpha Y_{t-1} + aY_{t-1}] + [\beta K_{t-1} + bK_{t-1}]$

$= (\alpha + a)Y_{t-1} + [\beta + b)K_{t-1}$ …(4)

By substituting the value of K_{t-1} in equation (4), we get

$Y_t = (\alpha + a)Y_{t-1} + [\beta + b)\{K_{t-2}[(1-k) + \beta] + aY_{t-2}\}$

$= (\alpha + a)Y_{t-1} + [\beta + b)\{\alpha Y_{t-2} + [(1-k) + \beta] + K_{t-2}$
… (5)

Again, the national income equation (4) can be written as:

$Y_{t-1} = (\alpha + a)Y_{t-2} + [\beta + b)K_{t-2}$

Or $(\beta + b)K_{t-2} = Y_{t-1} - (\alpha + a)Y_{t-2}$

Having obtained the value of K_{t-2}, substitute it in equation (5),

$Y_t = (\alpha + a)Y_{t-1} + \alpha[\beta + b)Y_{t-2} + [(1-k) + \beta]\{Y_{t-1} - (\alpha + a)Y_{t-2}\}$

By taking common factors, we have

$Y_t = [(\alpha + a)Y_{t-1} + (1-k+\beta)Y_{t-1}] + [\alpha(\beta + b)Y_{t-2} - (\alpha + a)(1-k+\beta)]Y_{t-2}$

$= [(\alpha + a) + (1-k+\beta)]Y_{t-1} + [\alpha(\beta + b) - (\alpha + a)(1-k+\beta)Y_{t-2}]$
… (6)

This is a generalized version of a multiplier-accelerator process.

Next Duesenberry compares his formulation with a simple multiplier-accelerator process. In a simple model of the multiplier-accelerator, investment equation takes the following form

$$I_t = \alpha Y_{t-1} - K_{t-1}$$

Whereas in his model, the investment equation is in this form

$$I_t = \alpha Y_{t-1} + \beta K_{t-1}$$

Where the value of parameter β = -1 and investment is regarded as net investment so that k = 0. Depreciation is not considered. The influence of changes in capital stock on consumption is also neglected so that b = 0.

Substituting all these values in equation (6), we obtain the simple form of the equation for the multiplier-accelerator process. Thus

$$\alpha(\beta + b) - \alpha(-1)$$

$Y_t = [(\alpha + a) + (1 - 0 - 1)]\, Y_{t-1} + [\alpha(-1 + 0) - (\alpha + a)(1 - 0 - 1)]\, Y_{t-2}$

Or $Y_t = (\alpha + a) Y_{t-1} + \alpha(-1) Y_{t-2}$

To conclude, Duesenberry's cash-flow version of the financial theory and the acceleration theory are surely not as remote in ultimate derivation as they are usually made to appear … Although the simple acceleration principle makes no reference to the price and profit system, this is merely a short-cut. The technological relationships that underlie the accelerator actually guide behaviour through their effect on prices, costs, volume, and ultimately profits. And profits affect firm's ability to finance investment both directly through cash flow and indirectly by improving the borrowing capacity of profitable firms".

Self Assessment Exercise (SAE)

i. Discuss Duesenbbery financial theory.
ii. Explain clearly the profit concept of financial theory.

4.0 CONCLUSION

This unit looked at concept of investment expenditure and those theories that served as the foundation or bedrock of investment analysis, it also explain that some of the theories are indeterminate because of the exclusion of income level in determining the level of investment at any given point in time.

5.0 SUMMARY

This unit explore the major theories of investment expenditure and equally examined the determinants of investment theoretically through the selected theories discussed. The study unit also expresses relationship between rate of interest, level of income and investment.

6.0 TUTOR MARKED ASSIGNMENT

i. Explain any theory of your choice.
ii. Evaluate the Koyck investment model
iii. Differentiate between financial theories of investment and the accelerator theory.
iv. Examine the similarities and dissimilarities between accelerator theory and flexible accelerator theory.

7.0 **REFERENCES**

Attah B.O, Bakare, T.A. & Daisi, O.R., (2011); **Anatomy of Economics Principles, Q&A (Macroeconomics),** Raamson Printing Press, Oke-Afa, Isolo, Lagos, Nigeria

Amacher, R and Ulbrich, H, (1986); **Principles of Economics,** South Western Publications Co. Cincinnafi, Oliso

Bakare –Aremu T.A, (2013); **Fundamental of Economics Principles (Macroeconomics),** Raamson Printing Press, Oke-Afa, Isolo, Lagos, Nigeria

Bakare I.A.O, Daisi, O.R., Jenrola, O.A., & Okunnu, M.A., (1999): **Principles and Practice of Economics (Macro Approach),** Raamson Printing Press, Mushin, Lagos, NigeriaDennis R. A. et-al; International Economics, Mcgraw Hill Irwin, 8th edition.

Familoni K.A, (1990); **Development in Macroeconomics Policy,** Concept Publications, Lagos, Nigeria

Fashina E.O, (2000); **Foundations of Economics Analysis (Macro Theories),** F.E.F International Company, Ikeja, Lagos, Nigeria

Jhingan M.L, (2010); **Macroeconomics Theory, 12th edition,** Vrinda Publications (P) Ltd. Delhi, India

Jhingan M.L, (2010); **International Economics,** Vrinda Publications (P) Ltd. Delhi, India

Lipsey R.G, (1979); **An Introduction to Positive Economics,** Hayper & Raw, London

Umo J.U, (1986); **Economics; An African Perspectives ,** Johnwest, Lagos Nigeria.

MODULE FOUR

Unit 1: National Income Models
Unit 2: Concept of Multiplier
Unit 3: Inflationary and Deflationary Gaps

UNIT 1: NATIONAL INCOME MODELS

CONTENTS

1.0 INTRODUCTION

This unit introduces the concept of National Income Models exclusively,. We equally explored the conceptual definitions of national income accounting. This unit equally, introduce the concept of National Income Models exclusively,. We equally explored the conceptual definitions of national income accounting.

2.0 OBJECTIVES

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

i) Understand the concepts of National Income Models.
ii) Understand and explain all National income concepts.
iii) Understand those factors that determine National Income Accounting
iv) Understand the concepts of National Income Models.
v) Understand Classical and Keynesian Model.
vi) Understand the relationship between Classical and Keynesian Model.

3.0 CONTENTS

3.1: National Income Models: An overview

National income models are Structural equations that represent aggregate spending or expenditures in an economy. It is an obvious method of calculating

national income. The models of aggregates expenditure include the following among others.

A closed economy without government: This also referred to as a two sector economy made up of households and firms. In this economy AE = Y = C + I

A closed economy with government: This is made up of households, firms and government. Aggregate expenditure is the sum of C, I and G. AE = Y = C + I + G.

An open economy: This is made up of households, firms, government and the foreign sector (X-M). AE = Y = C + I + G + (X-M).

We shall here examine only classical and Keynesian closed economy in illustration of these models.

The Classical Models

Classical Economics is the school of economics thought before the appearance of Keynes' work, propounded 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 classicals believed that supply (aggregate production) determines national income and full employment is assured in the 1930s this way of thinking ran into problems. This led to the Keynesian economics.

$Y = C + I$ ……4.1

$C = a + bY_d \quad a > 0: 0 < b < 1$ ……4.2

$I = I_o$……4.3

Note $Y_d = Y$ in the absence of G, T = 0

Equation 5.1 becomes;

$Y = a + bY + I_0$……4.4

Through collection of like terms equation 4.4 becomes;

$Y - bY = a + I_0$……4.5

Factor out Y from LHS to have;

$Y(1-b) = a + I_0$……4.6

$Ye = 1/1-b * a + I_0$……..4.7

The Keynesian Models

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.

An open economy is represented by the equations below

$Y = C + I + G$ ……4.8

$C = a + bY_d \quad a > 0: 0 < b < 1$……4.9

$Y_d = Y - T$……4.10

$T = T_0 + tY \quad T_0 > : 0 < 1 < 1$……..…4.11

$I = I_o$ ……..…4.12

$G = G_o$ ……4.13

Equation (4.10) explains that disposable income is income less personal income tax, while equation (4.11) describes the linear tax function representing level of tax revenue for the economy.

The equilibrium income in the Keynesian model can then be achieves through the following process;

$Y = C + I + G$ ……4.14

$Y = a + bY_d + I_0 + G_0$ ……...4.15

$Y = a + b\,(Y-T) + I_0 + G_0$ ……4.16

$Y = a + bY - bT + I_0 + G_0$ ……..4.17

Collect like terms to have;

$Y - bY = a - bT + I_0 + G_0$ ……4.18

$Y(1 - b) = a - bT + I_0 + G_0$ ……4.19

$Y_e = 1/(1-b) * a - bT + I_0 + G_0$ 4.20

Equation 4.20 is the require equilibrium national income in Keynesian term.

The Relationship between Classical and Keynesian Models

The relationship that exist between classical and Keynesian models can be seen from theoretical perspective, that is application of theory to real life situation, although divergence do exist between the two but the foundation on which the two models was built was laid by the classical school which Keynes himself was a student.

The classist believed that involvement of government in business should be minimal if not zero, they asserted that government has no business with businesses, because they are of the opinion that government can not do it efficiently, therefore, they should leave businesses to private sector where the capitalist belong, the private sector has proven to be efficient in discharging business responsibilities while government should regulate the business environment to a levelled playing ground.

On the other hand, in the Keynesian thinking during a particular trough, the system need a bail out and the only way out was for the government to involve in the economic activities, to rescue the continuous browbeaten economy by simply increase the level of per capita income through employment generation and smoothening of consumption expenditure which was hitherto in gracious decline.

In a nutshell both models are very important in macroeconomic because the combination of the two would yield the best result since there is existence of both market and state failure in allocating some certain resources.

Self Assessment Exercise

i. Differentiate between a close and an open economy
ii. Examine the relationship between classical and Keynesian models
iii. Justify the inclusion of variable G in the Keynesian model
iv. Evaluate the classist exclusion of variable G
v.

3.2: NATIONAL INCOME CONCEPT: SOME CONCEPTUAL DEFINITION

GROSS DOMESTIC PRODUCT (GDP)

GROSS DOMESTIC PRODUCT (GDP) -: is the value of all final outputs produce in an economy regardless the nationality of the producer. GDP is only concern with geographical boundary known as country and it productive capacity, for instance output produce in Nigeria by non Nigerian is part of Nigeria GDP.

GROSS NATIONAL PRODUCT (GNP)

GROSS NATIONAL PRODUCT (GNP) is the value of all goods and services produce by the citizenry of a country, it is calculated by adding the value of net output from abroad (or net income from abroad) to GDP. That is, GNP = GDP + I_n, where I_n is the net income from abroad

Net National Product (NNP)

Net National Product (NNP) is the value of gross national product less depreciation or capital consumption allowance. It is derived by subtracting

capital consumption allowance (Depreciation) from the value of gross national product (GNP), that is, NNP = GNP – DEPRECIATION

From the expenditure NNP can be defined as the summation of Net private investment (Gross Private Investment minus capital consumption allowance) and all other expenditures.

National income (NI)

National Income is the summation of all earnings accruable to all factors inputs-lands, -labour, Capital and entrepreneurship, the earning accruable to these factors inputs are: NI=NNP

Personal Income (PI).

Personal income can be defined as all incomes accruable to an individual. As we already know that not all incomes earned are received due to payments for N.LS.T.F, NHF, etc. and there some income not earned or worked for but are received such as payments made to compensate disaster victims. Therefore, personal income can be defined as the income that accrues to an individual after due adjustment in Income Earned but not received (IENR) and Income Received not Earned (IRNE).

That is, PI = NI - IERN + IRNE, similarly PI = NI plus subsidies (transfer payment) minus N.I.S.T.F or NHF and company income tax, Undistributed profits and withholding tax.

PI may be greater than, equal to or less than NI depending on the value of transfer payment and the income earned but not received.

Disposable income (Y_d)

Disposable income (Y_d) is defined as an individual take – home – payment, that is what is left in the hand of individual or pocket of individual after the deduction of personal income tax, that is $y_d = PI – t_p$ {where t_p=personal income tax}.

Self Assessment Exercise

i. Differentiate between GDP and GNP
ii. Differentiate between NI and PI

3.3 Income and Employment determination in Keynesian Model

There are basically two traditional approaches to the study of this problem: the aggregate demand-supply approach and the withdrawal-injection approach.

Aggregate Demand-Supply Approach

Let us start by making a few assumptions and defining the relevant terms as aids to our understanding. We assume that:

1. The economy under consideration has no external economic transaction (i.e. it is a closed economy having no trade with the outside world);
2. It has no government, hence there is no taxation or government expenditure;
3. All investments are carried out by the business sector while savings is carried out by the household;
4. The price level remains constant so that we are dealing with real variables: actual output and real income.

These assumption are obviously unrealistic but, just as we used simplifications in our discussion on the methodology of economic science in previous module, we need them in order to make the main theoretical results more easily understood.

Aggregate demand (AD) refers to the total spending of all economic agents (households, firms and government). In our simple model, we define AD as the sum of consumption and investment expenditures (1). Thus, AD = C + I.

Aggregate supply (AS) refers to the total output of goods and service generated by the economy through the utilization of factors of production. AS can be looked upon as real income or output, hence it represents the economy's net domestic products (NDP).

Equilibrium in the Keynesian Model – A tabular analysis

Consider Table 4.1.1 depicting the trends of some macroeconomic variables in a hypothetical African economy called Zamba. Note that savings, consumption and investment columns are labeled as 'planned'

Table 4.1.1 Trend of some macroeconomic variable in Zamba (hypothetical)

Possible employment (thousand)	**Level of net domestic product (NDP) in mill ₦**	**Planned savings in million ₦ (S)**	**Planned consumption in million ₦ (C)**	**Planned investment in million ₦ (I)**	**Aggregate demand million ₦ (AD) = C + I**	**Aggregate supply million ₦ (AS) = Y**	**Comparison of AD and AS**
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
50	400	-100	500	300	800	400	AD > AS Y increasing
60	800	0	800	300	1100	800	AD > AS Y increasing
70	1200	100	1100	300	1400	1200	AD > AS Y increasing
80	1600	200	1400	300	1700	1600	AD > AS Y increasing
90	2000	300	1700	300	2000	2000	AD = AS Y equilibrium
100	2400	400	2000	300	2300	2400	AD < AS Y decreasing
110	2800	500	2300	300	2600	2800	AD < AS Y decreasing
120	3200	600	2600	300	2900	3200	AD < AS Y

							decreasing

Since taxes and government expenditures are not included in this model by assumption, net domestic product (NDP) is, therefore, equal to disposable income (Y). An inspection of columns 3 and 4 in Table 3.1 will reveal that both savings and consumption are positively related to income. That is to say, both of them vary in the same direction as income. Investment of ₦300 million is autonomous, i.e. given from outside to the economic system.

Following the movements of AD and AS, it is clear that equilibrium in the national income of Zamba is attained on column 7, i.e. at the ₦2,000 million income level where both aggregate demand and aggregate supply are equal. Above and below this level, some inconsistencies between aggregate demand and aggregate supply are bound to take place, giving rise to the movement of the NDP in a particular direction. For example, national income is increasing as AD exceeds AS up to row 5, when they are equal. This defines the equilibrium position. Below this, AD is less than AS, thereby setting forces that tend to reduce national income towards the ₦2,000 million level.

Note that what really happens when AD falls short of AS is that the income that Zambans are willing to spend is less than the goods and services produced in the economy. Rational investors will, therefore, cut back on their production, try to reduce their inventories and stop planning for future expansion since the market is not good. The trend will be a backward movement towards the equilibrium. The reverse process occurs when AD > AS: business optimism will encourage more investment and national income will move in an outward direction towards equilibrium.

It must here be emphasized that equilibrium in this simple Keynesian model is attained when income flows generated by all producers are entirely spent in buying the output flows generated by all producers are entirely spent in buying the output flows produced in the economy. In short, equilibrium is reached when aggregated demand is equal to aggregate supply. In terms of our familiar symbols, equilibrium income (Y*) is reached if and only if Y* = C = I or AS = AD.

The Withdrawal-Injection Approach

Withdrawal refers to the process whereby the effect of some relevant variable leak out of, or is taken away from the income-expenditure stream. Such a leakage tends to reduce the size of the national income. Examples of withdrawal variables include savings, imports, and taxation. Analysis here will only be based on savings as a withdrawal item.

Injection refers to a process by which a variable is introduced, or added to the income-expenditure stream. Such injection tends to boost the national income and employment. Examples of injection variables include investment expenditure and income from exports. The only injection variable to be used for this analysis is investment. The main advantages of the withdrawal-injection approach are

i. it explains why aggregate demand is not equal to aggregate supply at all level of income except equilibrium;

ii. it underscores the point that even though national income (Y) is identically equal to output (Q), income itself can be spent on investment (I) or savings (S). Symbolically, Q $\equiv$ Y = I + S. If some income is saved, it constitutes a withdrawal from the system and if it is invested. it supplement the income stream.

Equilibrium of the withdrawal-injection is achieved when planned savings is equal to planned investment, i.e. I = S. This is necessitated by the point that what is withdrawn from the income stream must be offset by what is injected into it in order to maintain aggregate balance.

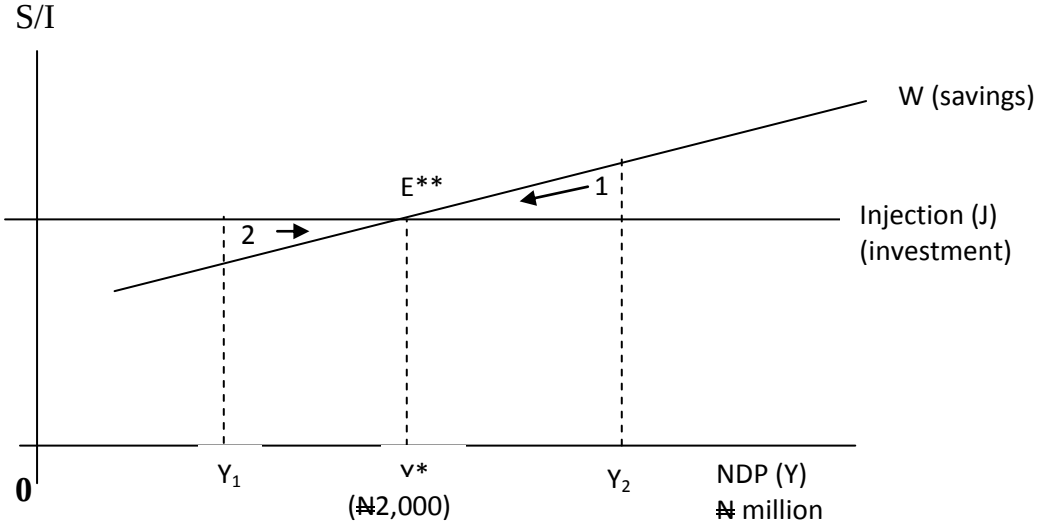


Fig. 4.1.1 Withdraw and Injection Approach

Self Assessment Exercise

i. Explain the Keynesian AD and AS approach in determine equilibrium income
ii. Use injection and withdrawer approach to explain Keynesian equilibrium.
iii. Explain the equilibrium through aggregate demand and supply to a layman.

3.4 National income equilibrium using savings investment approach.

The Algebraic Approach

Consider the equilibrium that Y = C + I. Let the consumption function be written as C = A_0 + B_1Y, where A_0 is autonomous consumption ad B_1 is the MPC. Let

autonomous investment be written as $I = I_0$. This means that the given investment is fixed at I_0. To find the national income equilibrium, remember the consideration that equilibrium income Y* is found whenever aggregate supply and demand are equal, i.e. $Y^* = C + I$. Work towards this by substituting the C and I values as written above into the initial equation. Thus, we have $Y = A_0 + B_1Y + I_0$. Transpose Y terms to the left-hand side to obtain $Y - B_1Y = A_0 + I_0$. By factoring out Y and solving Y* we get.

$(I - B_1) Y = A_0 + I_0$

$$Y^* = \frac{A_0 + I_0}{I - B_1}$$

This equation yields a quick formula for calculating the equilibrium of the national income when A_0 I_0 and B_1 are given. To translate this formula into words, we say that equilibrium of the national income (Y*) is obtained by dividing the different between I and MPC into the sum of autonomous consumption A_0 and autonomous investment I_0. Let us take the following numerical illustration. Suppose.

I_0 = ₦800 million

C = 300+ 75Y

Find the equilibrium income (Y*)

Solution: Substitute the values in C and I_0, into the equilibrium condition Y = C + I; collect terms, transpose, and solve for Y* as follows:

Y = C + I

= 300 + 0.75Y + 800

Y – 0.75Y = 300+ 800

(1 – 0.75) Y = 1100

$Y^* = \frac{1100}{0.25}$ = ₦4,400 million

It will be seen that the algebraic approach enables the calculation of national income equilibrium in specific (quantitative) terms which can be of immense use in practical policy making. Note that this algebraic approach is particularly handy when more variable (exogenous and endogenous) are brought into the analysis.

Self Assessment Exercise

i. given the classical two model Y = C + I; where C = 450 + .9Y and I = 950
ii. What is the value of multiplier above
iii. Explain the process of equilibrium income.

4.0 CONCLUSION

This unit examined the concept of national income models and equally explored some conceptual definition of related variables to calculation of national income, in effect various derivations were clearly explain to the understanding of the students. This unit equally looked at concept of classical and Keynesian models and critically appraise each of the model by examining the similarities and the differences in them. While also justifying the relevance of the two models to macroeconomic situations.

5.0 SUMMARY

This unit explored the main macroeconomic models and their derivatives in the national income account, it should be noted that both national income models and national income accounting are two way of looking at the same thing. The unit also explored the classical and Keynesian model and explain the area of divergence between the two models. It also examines the relationship between them as well as justifying the importance these models in macroeconomic analysis.

6.0 TUTOR MARKED ASSIGNMENT

i. Explain the classical model.
ii. Examine the inclusion of G as done by Keynes and the impact of that on the Nigerian economy.
iii. Differentiate between classical and Keynesian models.
iv. Define the following;
    a. Gross Domestic Product
    b. Gross National Product
    c. Net National Product
    d. National Product
    e. Personal Product
v. Evaluate the major divergence between classical and Keynesian models.
vii. Explain the following with example;
    a. income earned not received and income received not earned.
    b. disposable income and personal income
    c. personal product, personal income and personal expenditure.

7.0 REFERENCES

Attah B.O, Bakare, T.A. & Daisi, O.R., (2011); **Anatomy of Economics Principles, Q&A (Macroeconomics),** Raamson Printing Press, Oke-Afa, Isolo, Lagos, Nigeria

Amacher, R and Ulbrich, H, (1986); **Principles of Economics,** South Western Publications Co. Cincinnafi, Oliso

Bakare –Aremu T.A, (2013); **Fundamental of Economics Principles (Macroeconomics),** Raamson Printing Press, Oke-Afa, Isolo, Lagos, Nigeria

Bakare I.A.O, Daisi, O.R., Jenrola, O.A., & Okunnu, M.A., (1999): **Principles and Practice of Economics (Macro Approach),** Raamson Printing Press,

Mushin, Lagos, NigeriaDennis R. A. et-al; International Economics, Mcgraw Hill Irwin, 8th edition.

Familoni K.A, (1990); **Development in Macroeconomics Policy,** Concept Publications, Lagos, Nigeria

Fashina E.O, (2000); **Foundations of Economics Analysis (Macro Theories),** F.E.F International Company, Ikeja, Lagos, Nigeria

Jhingan M.L, (2010); **Macroeconomics Theory, 12th edition,** Vrinda Publications (P) Ltd. Delhi, India

Jhingan M.L, (2010); **International Economics,** Vrinda Publications (P) Ltd. Delhi, India

Lipsey R.G, (1979); **An Introduction to Positive Economics,** Hayper & Raw, London

Umo J.U, (1986); **Economics; An African Perspectives ,** Johnwest, Lagos Nigeria.

Gordon Robert J. (2009). *Macroeconomics* (Eleventh ed.). Boston: Pearson Addison Wesley. ISBN 9780321552075.

UNIT 2: THE CONCEPT OF MULTIPLIER

CONTENTS

3.0 Main Content

3.1 The Concept of Multiplier - Introduction

Equilibrium national income changes if injections and/ or leakages change. Under this section we introduce you to the concept of Multiplier. This analyses the magnifying effects of changes in leakages and/or injections on equilibrium level of income. Multiplier can be defined as a process through which any changes in the aggregate expenditure (spending), affect the equilibrium level of income. It can also be said to be a scalar through which national income parameter is multiply to give equilibrium level of income. The scalar is often represented by $k = \frac{1}{1-b}$ which can be seen in RHS of equation 4.7 and 4.20. It should be noted that this is often refer to as Income, Government and Investment multiplier. However, when tax is involved the multiplier becomes (i.e. tax multiplier) $k_t = \frac{1}{1-bt+b}$.

The multiplier principle

Consider the components of aggregate demand expressed as:

Y = C + I + G + En, where, as defined previously,

Y = disposable income

C = consumption expenditure

I = investment expenditure

G = government expenditure

En = net exports, i.e. export less imports.

Any increase or decrease in the magnitude of any of the variables in the right-hand side of this equation will have some effects on disposable income. More specifically, an increase in either consumption, investment, government expenditure or net exports will have an expansionary effect on income and employment. Conversely, any decrease in any of these variables will have a contractionary effect on both income and employment. These effects are based on what is referred to as the multiplier principle.

To sharpen our understanding of the multiplier concept, let us focus on investment alone for the time being. In other words, let us study the meaning and working of the investment multiplier.$k = \frac{1}{1-b}$ `is derived by differentiating the

classical and Keynesian model with respect to income, investment and government expenditures. It can be illustrated as follows;

Y = C + I + G 1

C = a + bY 2

Therefore, equation 1 becomes;

Y = a + bY + I + G.....3

Collect like terms, to have;

Y - bY = a + I + G 4

Y(1 - b) = a + I + G 5

Make Y the subject and differentiate w r t , I and G

Y = a + I + G / 1+ b 6

$\frac{\Delta Y}{\Delta I} = \frac{1}{1-b}$ .....7 equation 7 is achieved through first derivative of equation 6 w r t I by holding G and a constant.

Similarly;

$\frac{\Delta Y}{\Delta G} = \frac{1}{1-b}$ .....8 through first derivative of 6 w r t G holding a and I constant.

Self Assessment Exercise

i. Determine the income multiplier (k) given that Y= C + I + G and that I and G are autonomous, while C = a + bY

3.2 The Geometrical Illustration of Multiplier

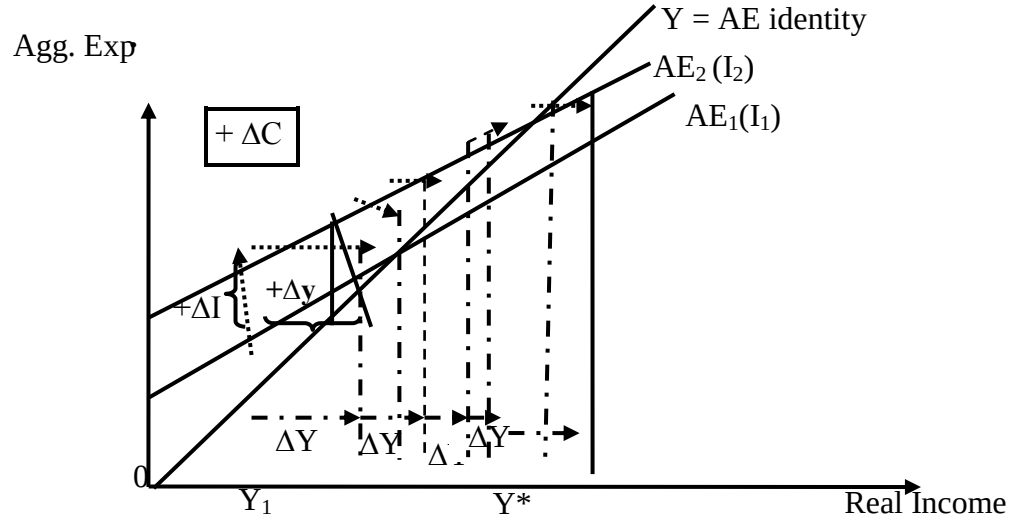


Figure: 4.2.1 Diagrammatic Illustration of the Multiplier Process

Figure 4.2.1 depicts the working of the multiplier. The initial change was an increase in investment expenditure depicted as **(+ΔI).** 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 shown in the diagram. 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* corresponding to aggregate expenditure AE_2.

Self Assessment Exercise

i. Draw a diagram to illustrate the concept of multiplier

3.3 Algebraic Determination of the Multiplier

We will employ equation for the illustration.

$$Y = \frac{1}{1 - b(1 - t) + m} (a - bT_0 + I_0 + G_0 + X_0 - M_0) \quad \text{.....} \quad 10$$

Equation 10 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 above, if any of the autonomous components changes for example Investment, income will change by

$$\Delta Y = \frac{1}{1 - b(1 - t) + m} (\Delta 1_0) \qquad (11)$$

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

$$\frac{\Delta Y}{\Delta I} = \frac{1}{1 - b\,(1 - t) + m}$$

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.

Alternative Explanation to multiplier concept

The multiplier (k) is a number by which an initial change in investment (ΔI) is multiplier to obtain the final effect on the national income (Y).

Example 1:

Suppose an investment of ₦200 million brings about an increase in income of ₦1,000 million, the multiplier is.

m = 5 = ₦1.000

200 This is because 5 x ₦200million = ₦1.000 million

Example 2:

If the increase in income, given the same level of investment, is ₦1,500 million, the multiplier is 7.5 (i.e. ₦1,500/200).

The crucial question is, why does a given change in the level of investment bring about a multiplier work? We shall examine this important question by the use of numerical illustrations.

The working of the multiplier: A numerical illustration

To explain the working of the multiplier, let us make two simple assumptions

(a) that our small economy of Zamba decides to invest N100 million annually

(b) that the MPC of Zamba is 0.75, This means that for every hundred naira received, 75 naira is spent and 25naira is saved.

let us assume that this economy has neither government nor external trade transactions.

If ₦100 million is invested in the Zamban economy annually, it will give rise to several rounds of expenditure, and each expenditure round will induce yet another expenditure round. Let us trace the details of this process of induced expenditure by examining Table 4.2.1 below;

Table 4.2.1: The multiplier process in Zamba (hypothetical)

Period of expenditure	Increase in income, ΔY ₦ million	Increase in consumption with MPC = 0.75 ₦ million	Increase in savings with MPS = 0.25 ₦ million
Period one	100.00	75.00	25.00
Period two	75.00	56.25	18.75
Period three	56.25	42.00	14.00
Period four	42.00	31.50	10.50
Other subsequent periods	126.75	94.25	31.25
Total	400.00	300.00	100.00

It will be apparent from table 4.1 that the ₦100 million initial investment gives rise directly to a ₦100 million increase in income in the first round. Part of this income will be consumed and part of it saved. The part consumed is obtained by multiplying the income by the MPC, i.e. ₦100 million x 0.75 = ₦75 million (column 3). The part saved is ₦100 – 75 = ₦25million or ₦100 million x MPS = (0.25), column 4.

The second period of expenditure is the income of ₦75 million obtained from increased in consumption. Using the same process of multiplying this by the MPC of 0.75 and MPS of 0.25, the actual values for consumption and savings, respectively, will be found in Period 2, columns 3 and 4.

In general, each income period gives rise to an expenditure period as well as a savings period. Finally, the process of spending and re-spending will yield an income several times the initial amount. In our case, the ultimate amount will be ₦400 million. This is the multiplier effect of the yearly expenditure of ₦100. What is the value of the multiplier in this case?

Note that from the multiplier effect of ₦400 goes to savings. Thus, the total reflects the size of both the MPC and the MPS. Note also that the final increment in income (the multiplier effect) is the multiplier of the reciprocal of MPS. This gives a clue on how to obtain the multiplier effect of any increase in investment. Simply multiply the change in investment by the MPS turned upside down. Using our case as an illustration, we have 100 x 4/1 = ₦400 million.

Self Assessment Exercise

i. Given the following equation determine the multiplier Y= C + I + G + X – M,

where $C = a + bY_d$, $Y_d = Y - T$, $I = I_o$, $T = T_o + tY$, $G = G_0$, $X = X_o$, $M = M_o$.

4.0 Conclusion

This unit concludes that every economy has its definite marginal propencity to consume which is the main factor that determine the multiplier process, the larger the MPC the better

5.0 Summary

This unit looked at the concept of multiplier both algebraically and graphically and used these economic tools to explain in a clear term how multiplier process works. in addition, we used numerical analysis for better understanding.

6.0 Tutor-Marked Assignment

i. Given the following equation determine the multiplier Y= C + I + G + X – M,
where $C = a + bY_d$, $Y_d = Y - T$, $I = I_o$, $T = T_o + tY$, $G = G_0$, $X = X_o$, $M = M_o$.
ii. Generate a multiplier process given that initial National income increase by 200m and that MPC for the economy is 0.9.
iii. graphically explain the concept of multiplier.
iv. Discuss the multiplier effect of continuous increase in tax revenue base without a corresponding increase in the level of income

7.0 References/Further Readings

Attah B.O, Bakare, T.A. & Daisi, O.R., (2011); **Anatomy of Economics Principles, Q&A (Macroeconomics),** Raamson Printing Press, Oke-Afa, Isolo, Lagos, Nigeria

Amacher, R and Ulbrich, H, (1986); **Principles of Economics,** South Western Publications Co. Cincinnafi, Oliso

Bakare –Aremu T.A, (2013); **Fundamental of Economics Principles (Macroeconomics),** Raamson Printing Press, Oke-Afa, Isolo, Lagos, Nigeria

Bakare I.A.O, Daisi, O.R., Jenrola, O.A., & Okunnu, M.A., (1999): **Principles and Practice of Economics (Macro Approach),** Raamson Printing Press, Mushin, Lagos, NigeriaDennis R. A. et-al; International Economics, Mcgraw Hill Irwin, 8th edition.

Familoni K.A, (1990); **Development in Macroeconomics Policy,** Concept Publications, Lagos, Nigeria

Fashina E.O, (2000); **Foundations of Economics Analysis (Macro Theories),** F.E.F International Company, Ikeja, Lagos, Nigeria

Jhingan M.L, (2010); **Macroeconomics Theory, 12th edition,** Vrinda Publications (P) Ltd. Delhi, India

Jhingan M.L, (2010); **International Economics,** Vrinda Publications (P) Ltd. Delhi, India

Lipsey R.G, (1979); **An Introduction to Positive Economics,** Hayper & Raw, London

Umo J.U, (1986); **Economics; An African Perspectives,** Johnwest, Lagos Nigeria.

Gordon Robert J. (2009). *Macroeconomics* (Eleventh ed.). Boston: Pearson Addison Wesley. ISBN 9780321552075

UNIT 3: FULL EMPLOYMENT, INFLATIONARY AND DEFLATIONARY GAPS

CONTENTS

1.0 INTRODUCTION

This unit introduces the concept of full employment equilibrium, inflationary and deflationary gaps. it explain in a clear term, using graphical illustration for each of the aforementioned concepts. the unit examined various equilibrium level within the capitalistic economy as explain by both Keynesian and classical economists.

2.0 OBJECTIVES

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

i) Understand the concepts full employment equilibrium.
ii) Understand and explain inflationary gap.
iii) Understand the deflationary gap.
iv) Know those factors that can bring about both inflationary and deflationary gaps.
v) Understand and explain graphically, the concepts of inflationary and deflationary gaps.
vi) Understand difference between full employment equilibrium, inflationary and deflationary gaps.
vii) Understand and explain factor(s) that could bring about change from one equilibrium to the other.
viii) Examine inflationary and deflationary gaps in the light of macroeconomic imbalances

3.0 CONTENTS

3.1: Full Employment Equilibrium

Consider first the case where the economy is at full employment equilibrium. We illustrate this in Fig. 4.3(a) In this case, aggregate demand (AD) is equal to

aggregate supply (AS) and full employment equilibrium is Y_f^*. The economy's resources are fully utilized. Deviations from this norm cause problems of inflation or deflation.

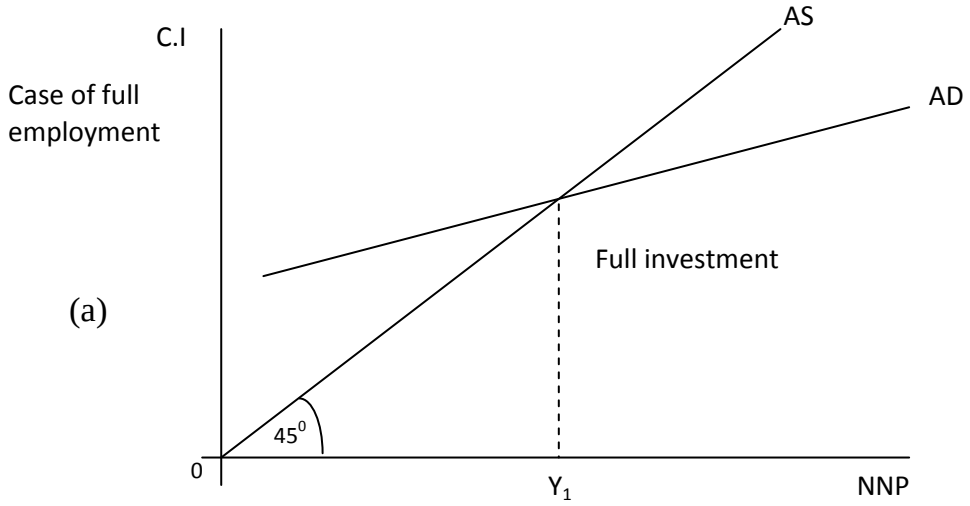


Fig 4.3.1(a) Full Employment Equilibrium

Self Assessment Exercise

i. Graphically explain the full employment equilibrium.

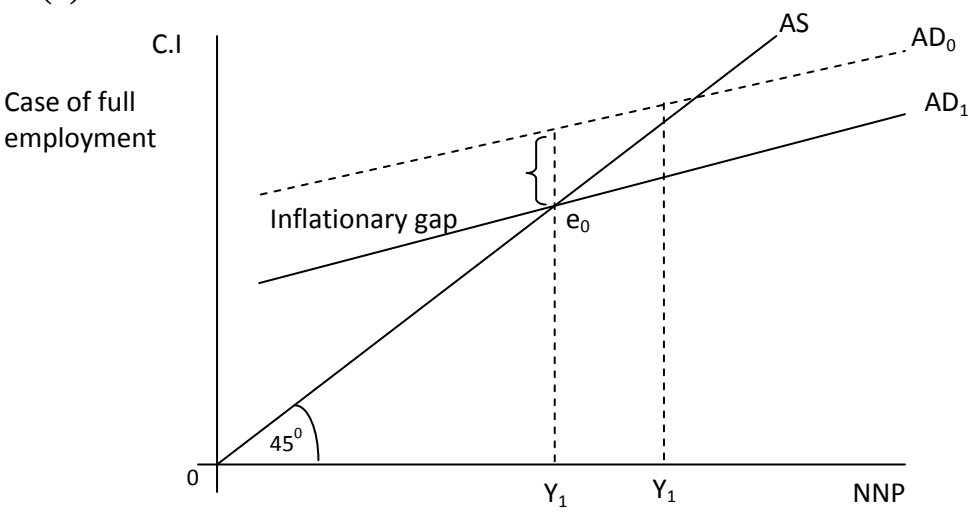
ii. Does full employment really exists.

3.2 Inflationary Gaps

Recall that the basic thrust of Keynesian economics as discussed earlier is to demonstrate that, in a capitalistic system, the economy can achieve equilibrium at any point within the system. This means that one can talk about full employment equilibrium, less than full employment equilibrium, more than full employment equilibrium. These ideas can be analyzed in terms of two basic concepts: the inflationary and deflationary gaps. Let us defined and graphically illustrate each of these terms.

The inflationary gap is the amount by which aggregate demand exceeds aggregate supply at full employment (Y_f^*). It is often characterized by an increase in general price levels and constant real output. This gap can be removed by policies that move AD down to e_0 as shown in panel (b). We shall consider such policies in subsequent chapters.

(b)



Inflationary gaps fig. 4.3.1(b)

Self Assessment Exercise

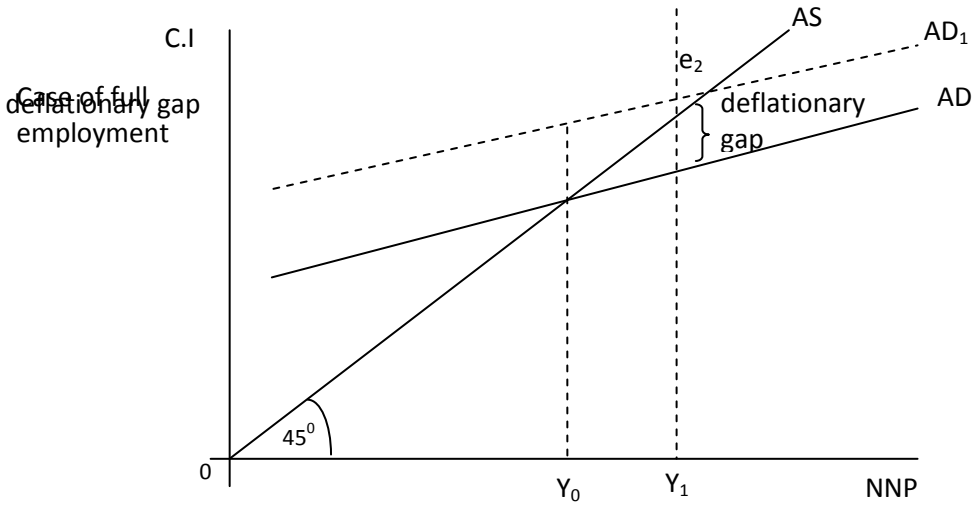
i. Graphically explain the inflationary gap

ii. What factor could necessitate inflationary gap

3.3 Deflationary Gap

The deflationary gap measures the amount by which aggregate demand falls short of aggregate supply at the full employment equilibrium position (Y_f^*). This gap is sometimes called a recessionary gap and is shown in panel (c) of Fig. 4.3b. It is often characterized by declining prices, unemployment and increased accumulation of inventory. To remove this gap, the policy thrust would be to shift AD up to e_2.

It should be noted that the concepts of inflationary and deflationary gaps are rather extreme and simplistic ways of depicting inflationary and deflationary phenomena. In real life economy, things are much more complex. The notions are useful, however, as benchmarks for policy analysis of deviation from the full employment norm. in subsequent chapters we shall analyse the monetary and fiscal tools for dealing with these problems.



Deflationary gaps fig. 4.3.1(c)

Self Assessment Exercise

i. Graphically explain the inflationary gap

ii. What factor could responsible for the inflationary gap

4.0 Conclusion

This unit concludes that every economy is faced with different level of equilibrium which could result to any of the aforementioned gaps but could also be resolve through application of macroeconomic tools.

5.0 Summary

This unit looked at the concept of full employment equilibrium amidst inflationary and deflationary gaps. The unit further explained through graphical illustration the process that the two gaps (i.e. inflationary and deflationary gap) involves in a clear cut terms.

6.0 Tutor-Marked Assignment

i. Graphically, explain the concept of full employment equilibrium.
ii. Explain in a clear term perhaps with graphical illustration what is meant by inflationary and deflationary gaps.
iii. Differentiate between full employment equilibrium, inflationary and deflationary gaps.
iv. Discuss the factor that could bring about situation of both inflationary and deflationary gaps
v. Examine inflationary and deflationary gaps in the light of macroeconomic imbalances

7.0 References/Further Readings

Attah B.O, Bakare Aremu, T.A. & Daisi, O.R., (2011); **Anatomy of Economics Principles, Q&A (Macroeconomics),** Raamson Printing Press, Oke-Afa, Isolo, Lagos, Nigeria

Amacher, R and Ulbrich, H, (1986); **Principles of Economics,** South Western Publications Co. Cincinnafi, Oliso

Bakare –Aremu T.A, (2013); **Fundamental of Economics Principles (Macroeconomics),** Raamson Printing Press, Oke-Afa, Isolo, Lagos, Nigeria

Bakare I.A.O, Daisi, O.R., Jenrola, O.A., & Okunnu, M.A., (1999): **Principles and Practice of Economics (Macro Approach),** Raamson Printing Press, Mushin, Lagos, NigeriaDennis R. A. et-al; International Economics, Mcgraw Hill Irwin, 8th edition.

Familoni K.A, (1990); **Development in Macroeconomics Policy,** Concept Publications, Lagos, Nigeria

Fashina E.O, (2000); **Foundations of Economics Analysis (Macro Theories),** F.E.F International Company, Ikeja, Lagos, Nigeria

Jhingan M.L, (2010); **Macroeconomics Theory, 12th edition,** Vrinda Publications (P) Ltd. Delhi, India

Jhingan M.L, (2010); **International Economics,** Vrinda Publications (P) Ltd. Delhi, India

Lipsey R.G, (1979); **An Introduction to Positive Economics,** Hayper & Raw, London

Umo J.U, (1986); **Economics; An African Perspectives ,** Johnwest, Lagos Nigeria.

Gordon Robert J. (2009). ***Macroeconomics*** **(Eleventh ed.). Boston**: Pearson Addison Wesley. ISBN 9780321552075

MODULE FIVE

Unit 1: Money and Barter System
Unit 2: Evolution and Nature of money
Unit 3: Demand and Supply of Money
Unit4: Commercial Bank and Money Creation

UNIT 1: MONEY AND BARTER SYSTEM

CONTENTS

1.0 Introduction

This unit introduces the learner to concept of money, its evolution through barter system, it also discuss the problem encountered by the barter system which lead to the evolution of money. Moreover, this unit looks at the relationship between barter systems and counter trade. It equally explained the uses of money as a medium of exchange and discusses its characteristics and functions. The functions perform by modern money cum its qualities offset the problems encountered during the barter systems.

2.0 Objectives

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

i) Define money and barter system.
ii) Discuss the problem encountered in the barter system
iii) Explain the relationship if any between barter system and counter trade.
iv) Discuss the features and functions of money

3.0 Contents

3.1 Conceptual Definition of Money

L.V. Chamdler in 'the economics of money and banking' 1973, defines money as what the law says it is. He said a thing is likely to have difficulty in achieving general acceptability in payments if the law prohibits its use for this purpose. However, he argues, that legal definitions are unsatisfactory for purposes of economic analysis. This is because people may refuse to accept what is legally defined as money for exchange of goods and services. On this basis, he concludes that legal provisions are necessary but not sufficient to determine things that do or do not serve as money.

It is the functional or operational definition of money that counts in economic analysis. Therefore, money has been defined as anything that is generally acceptable in payment and generally used as a medium of payment or exchange no matter what its legal status. All coins and paper money are generally acceptable and endorsed with full legal status for the settlement of debts. Also, money is the modern medium of exchange and the standard unit in which prices and debts are expressed. The Central bank of Nigeria (CBN) controls the behaviour of money and credit in order to influence the balance of saving and investment expenditure and hence the rate of price level.

Therefore, in conclusion money, is defined in economics, is anything that is readily and widely accepted as a medium for exchange of goods and services or in settlement of debts. Money plays a crucial role in the economic system of any country. It is a means for promoting specialization and exchange on which modern economic activity is based.

Self Assessment Exercise

i. Differentiate between the legal definition of money and the functional definition of money.

ii. Can we say that, money is what money can buy? If so, what perspective of definition is that?

iii. Examine the definition of money from its source.

3.2 The Barter System

Before the invention of fiat money in the forms of currency notes and coins as we know now, trade had been conducted by barter, that is, exchange of commodities for commodities, however, an advance stages of barter witness exchange through the use of commodity monies such as cowries, shells, cow, manilas, iron bars, salt and pepper etc. the **barter system** refers to a situation where goods are directly exchanged for goods. The problems associated with the systems are:

a. **Double coincidence of wants:** It entails finding a person who has what you want and requires what you have. That is, someone who does not only need what you have but also have what you need. For example, a person who has rice and needs yam must search for

another person who has yam and needs rice. This process is too cumbersome and leads to time wastage.

b. **No common unit of measure:** It was difficult to arrive at a uniform or an easily acceptable exchange rate (i.e. what quantity of a particular commodity would be exchange for certain quantity of another commodity) between different commodities.

c. **The absence of storing wealth or value:** under the barter system it is difficult to store wealth because most articles of trade, especially agricultural products are easily perishable.

d. **Difficult in making deferred payment:** as a result of exchange rate problem, the barter system does not lend itself easily tom the credit system i.e. to make a good or service available to somebody now for the payment to be made at a future date.

e. **Problem of bulkiness and indivisibility of some goods:** some goods are often too bulky to be carried from one place to the other, and are not capable of being divided into smaller units to facilitate transactions.

f. **Indivisibility of some product:** Some products were too wholesome to be divided for exchange to take place. For instance an exchange of tuber of yams and meat from cow.

g. **Transport and weight problem:** This distance to be covered before exchange could take place was unimaginable couple with the weight of the product made the process too cumbersome.

h. **No specialization:** During the period people tend to engage in production of many product as a panacea to other problems encounter during trade.

Self Assessment Exercise

i. List and explain the problems associated with barter system.
ii. Does the barter system solve its problem?

3.3 Barter vs Counter Trade

Barter is form of counter trades, others include switch trade and offset trade. Counter trade is a system in which two or more countries involve in exchange of commodities for commodities or goods for services and vice versa. Mostly barter exist among local people who have common tradition, believe and cultural background (not in all cases) but once it extent to other countries, in which case, it has involve export and import then it becomes counter trade. Both barter and counter trade still exist up till date but in a minima quantum. An example of

counter trade is the case of Congo and China in which the former rely on the later for infrastructural development in exchange for metals. Counter trade could take any form but it involves a memorandum of understanding between the countries signing the agreement.

Self Assessment Exercise

I. Examine the relationship between counter and barter trade**.**
II. Does counter trade involve physical cash?
III. How does equilibrium reached in counter trade?

3.4 Function and Features of Money

The Functions of Money

The **functions of money** can be seen from the major problems of barter system been solved by the modern day money. These functions serves as relieve from obstacles of trade by barter. These are what money could be used for or what it does, they include the following:

a) **A medium of exchange**: Money facilitate the exchange of goods and services because people exchange the goods and services they produce for money and then use the money realised to buy other goods and services they want, which was hitherto not possible during barter and enabled man to overcome the problem of double coincidence of want.

b) **A unit of Account:** Money serves as a unit in term of which goods and service could be expressed and recorded

c) A measure of value: Money serves as a unit in which the value of goods and services could be established. This allow us to compare any two or more goods or services.

d) **A store of value**: Money is a good store of value providing purchasing power in a general form that can be used to meet future needs of goods and services. Under the barter system, articles of trade are easily perishable and cannot be stored for future transaction.

e) **A standard of deferred payment**: Money makes it possible for people to enter into contract, such as lending and enjoyment of services for fixed amount of money payable at future date. The exchange rate problem makes this impossible under the barter system.

The Features of Money

The features of money are basically major qualities that anything called money is expected to possess. These features or qualities are otherwise known as attributes or characteristics of money. They include the following among others;

i) **General acceptability:** It must be acceptable by all economic agents in the country in which it is used in payment for goods and services, and in settling debts and obligations at all time.

ii) **Divisibility:** It should be available in units of a standard sufficiently divisible to facilitate the purchase and sale of goods and services over a wide range of prices.

iii) **Durability:** It should be able to last for a long time without losing its value. This is the reason why high quality papers are used to print paper currency and precious metals are used in minting coins.

iv) **Portability:** Money should be conveniently carried about for easy transfer to other people during transactions.

v) **Homogeneity**: One unit of money must be the same in all respect (i.e. identical) everywhere throughout the country. This will promote general acceptability.

vi) **Relatively Scarce**: It must be unique, not something that can be found easily anywhere and it must not be supplied in excess so as not to lose its value whereby it will not be able to serve effectively as a store of value and a standard of deferred payment.

vii) **Malleability:** This is a characteristic of coin – money. The precious metal use for money must be re-coinable when the need arise

Self Assessment Exercise

i. Discuss some of the characteristics of Money.

ii. What are the functions of money in a modern economy?

iii. Which of the function of money is (are) synonymous to problem of inflation?

iv. Examine the most important of the function of money

v. Which of the qualities of money is related to inflation?

vi. In your own Opinion, what is(are) the reason(s) for rejection of coin-money in Nigeria

4.0 Conclusion

The introduction of money has enabled man to overcome the problems associated with the barter system or rather has put barter system into "extinction". And that barter system is a kind of counter trade since the two include exchange of commodities for commodities or services. The unit also sufficiently enumerates and explained the several function money performs and that for anything be considered as money it most exhibit some certain characteristics.

5.0 Summary

This unit explored the barter system and it attendant problems, it also examine the evolution of fiat money and explained the relationship between counter trade and barter trade. It also explained the features and functions of money. In sum, this unit explored the role of money in every modern economy.

6.0 Tutor-Marked Assignment

i) What do you understand with barter system, what are its allied problems?
ii) Examine the nexus between the barter systems and counter trade.
iii) What are the functions of money in a modern economy?
iv) Which of the function of money is (are) synonymous to problem of inflation?
v) Examine the most important of the function of money
vi) Which of the qualities of money is related to inflation?
vii) In your own Opinion, what is(are) the reason(s) for rejection of coin-money in Nigeria
viii) Would there be problem of inflation in the absence of money?
ix) Evaluate the role of money in any economy.
x) Is money a source of vice or virtue?

7.0 References/Further Readings

Attah B.O, Bakare, T.A. & Daisi, O.R., (2011); **Anatomy of Economics Principles, Q&A (Macroeconomics),** Raamson Printing Press, Oke-Afa, Isolo, Lagos, Nigeria

Amacher, R and Ulbrich, H, (1986); **Principles of Economics,** South Western Publications Co. Cincinnafi, Oliso

Bakare –Aremu T.A, (2013); **Fundamental of Economics Principles (Macroeconomics),** Raamson Printing Press, Oke-Afa, Isolo, Lagos, Nigeria

Bakare I.A.O, Daisi, O.R., Jenrola, O.A., & Okunnu, M.A., (1999): **Principles and Practice of Economics (Macro Approach),** Raamson Printing Press, Mushin, Lagos, NigeriaDennis R. A. et-al; International Economics, Mcgraw Hill Irwin, 8th edition.

Familoni K.A, (1990); **Development in Macroeconomics Policy,** Concept Publications, Lagos, Nigeria

Fashina E.O, (2000); **Foundations of Economics Analysis (Macro Theories),** F.E.F International Company, Ikeja, Lagos, Nigeria

Jhingan M.L, (2010); **Macroeconomics Theory, 12th edition,** Vrinda Publications (P) Ltd. Delhi, India

Jhingan M.L, (2010); **International Economics,** Vrinda Publications (P) Ltd. Delhi, India

Lipsey R.G, (1979); **An Introduction to Positive Economics,** Hayper & Raw, London

Umo J.U, (1986); **Economics; An African Perspectives ,** Johnwest, Lagos Nigeria.

Gordon Robert J. (2009). ***Macroeconomics*** **(Eleventh ed.). Boston**: Pearson Addison Wesley. ISBN 9780321552075

UNIT 2: THE EVOLUTION AND NATURE OF MONEY

CONTENTS

1.0 Introduction

This unit explained the historical background to the discovery of modern money through explicit explanation of different historical phases. This unit would equally make students to understand that, there are different types of money and that some money do have used and face value (commodity money) while other only have face value but no use value (fiat money). The unit also establish that inflation does affect some functions of money and that it affect economic decision making.

2.0 Objectives

Student should be able to;

i) Explain historical phases through which money evolved.
ii) Clearly explain nature and types of money.
iii) Understand what is meant by commodity money.
iv) Understand the different between commodity money and fiat money
v) Understand metallic money and its variants
vi) Explain effect of inflation on money.
vii) Differentiate between commodity money and fiat money.
viii) Explain different types of money.
ix) Establish relationship between inflation and quantity of money

3.0 Main Content

3.1 Historical Background of the Evolution of Modern Money

The origin of money can be traced back to barter system and its attendance problems. Barter trade is a trade where products are exchange for products. Because of this nature of trade, a number of limiting problems are inevitable, such problems include double coincidence of wants, no standard measurement,

specialization problem, problem of weight, indivisibility of some products, distance and transportation problem.

However, these problems put together made the exchange system too cumbersome, therefore this led to realization that some commodities that are often demanded, so people started to exchange their product for these commodities to later exchange for the product of their choice. These commodities are referred to as third commodities which include salt, pepper and palm oil etc. These third commodities vary from one society to another and it paved way for acceptance and recognition of some addition commodities as money (i.e. commodity money). This commodity money include cowries, elephant tusk, hide and skin etc this later led to discovery of precious metals as money (metallic money) the metallic money retain its use value as commodity and still use for exchange of goods and services. These precious metals include gold, silver and bronze. This afterwards metamorphosed to fiat money (i.e. modern day money) through the activities of the gold smith in the then roman empire who accepts deposit of gold and in return a receipt is issue whose value is attach against the gold deposited but alas! Most people that deposit gold don't usually come back for this gold but rather make use of the gold smith receipt in transacting business. When authority discovered this they started issuing more receipts that are not backed-up with gold, this was the genesis of fiat money-money that does not have any commodity value except is been recognised by the authority.

Self Assessment Exercise

i. Explain in brief the historical background to the evolution of money.

ii. What was the first phase in solving problem limitating against barter trade?

iii. Account for modern money discovery

iv. Evaluate metallic money as a commodity money.

v. What is intrinsic value or used value?

vi. What is face value? Is the face value of commodity money differs from fiat money. Justify your answer.

3.2 Nature of Money

The nature of money is usually discussed under three headings:

a. **Legal tender:** money which by nature must be accepted in payment for goods and in discharge of debts obligations. Currency notes and coins are legal tender in all modern economies.

b. **Fiat money:** money that is not a commodity and it is not redeemable in any commodity. What gives such money value and acceptability is their being declared as legal tender by the government. Money in the form of currency notes fit into this description.

c. **Token money:** this refers to money whose face value is greater than the actual value of the material of which it is made. In most economies, coins are token money, whose value as metal is less than their monetary value, same apply to naira notes (Nigerian case).

Self Assessment Exercise

i. Discuss the meaning and nature of money.
ii. Fiat and token money mean the same, discuss.
iii. Examine legal tender in the light of intrinsic value
iv. Should a country use real gold as coin? Under what condition could this be done.

3.3 TYPES OF MONEY

The three main types of money are classified as:

a. **Paper money and coins:** These are issued exclusively by the Central Bank of a country. For example, Naira and Kobo are issued by the Central Bank of Nigeria, Cedis and Pesewas by Bank of Ghana, pound sterling and pence by Bank of England, etc. paper money (or currency notes) and coins are legal tender, hence, they command general acceptability in all transactions.

b. **Bank deposits:** These are money deposited with financial institutions, especially commercial banks and the central bank. The three types of depo money are:

   i. **Demand deposits:** it is a deposit of funds (usually paper money and coins) with a bank which are withdrawable or transferable without prior notice by writing a cheque. Such deposits are held in **current account** of the customer, and a fee is charged for processing the cheque.

   ii. **Saving deposit:** it is a deposit of fund with a bank which can be withdrawn with or without a notice of withdrawal. Saving deposits are held in **savings account** and they yield interest for the depositor.

   iii. **Time deposit:** it is deposits of fund that cannot legally be withdraw from the bank without at least 30 days notice of withdrawal. Time deposits are held in **fixed deposits accounts** open for depositors and they yield comparable higher interests.

c. **Quasi – money or near money**: these are assets which adequately serve as a store of value but do not fulfil the medium of exchange function. Examples include saving and time deposits, stock and shares, postal and

money orders, treasury bills, treasury certificate, call money, vouchers, etc. what constitute quasi – money varies from one country to another

Self Assessment Exercise

i. Differentiate between Near Money and Bank Deposit.

ii. What other name is given to demand deposit?

iii. What is metallic money?

iv. Explain the different between paper money and coin

v. what determine the value of money.

3.4: INFLATION AND MONEY

Inflation is defined as the continuous and general rise in price level due to a number of factors namely; the volume of money in circulation in relation to productivity capacity of the economy, imported commodities (if goods or services are from an importing country suffering for chronic inflation), high cost of production and so on and so forth. However, inflation affect price level but price level are measured in monetary terms, hence the link between inflation and money.

Inflation affects two major functions of money, namely, standard for deferred payment and store of value, as explained earlier in this module that money made it possible for someone to work today and receive payment in the future date or to sell today and receive payment for the goods in future date, but with inflation money losses it value, meaning that, what an individual effort worth as at the date the work was done or goods were sold is not the same with what the payment the individual eventually received at that future date. Also money serve as store of value, that is , selling a property that is not needed at a particular time and keeping the worth till when it would be needed again, in that wise, money as served as store of value, however, during in inflation such value will be eroded.

Therefore it is obvious that inflation affect the value of money value through the price system- a system in which the value of goods and services and determine in a market place through the forces of demand and supply. By implication, if the volume of money is greater than the available goods and services, market prices rises unjustifiable and money loses its purchasing power-the loss in the purchasing power of money is otherwise known as inflation. Therefore inflation and money are linked through prices of goods and services that are determined in the market place.

Self Assessment Exercise

i. Establish the link between inflation and money in an economy.

ii. Advent of money is the source of inflation . Discuss.

iii. Value of money and inflation are inversely related. Discuss.

iv. Evaluate the relationship among these variables, Money, Inflation rate and prices.

v. Explain the impact of inflation on purchasing power.

4.0 Conclusion

This unit concludes that advent of fiat money was the beginning of solution to the problem of barter system. Also this unit explored the types and nature of money and relate inflation to money through the price system. We therefore conclude that inflation majorly affects two functions of money, namely, standard for deferred payment and store of value.

5.0 Summary

The main discussion of this unit is basically on the different nature and types of money in the economy. It also revealed that, it is necessary for the government to ensure consistency between the quantity of money and the amount of goods and services available in the economy in order to reduce inflation and promote price stability and rapid economic growth. This unit equally, explores the evolution of modern day money and show the students various phases of what is known today as money went through.

6.0 **Tutor-Marked Assignment**

i. Give an account of the evolution of money

ii. Differentiate between feature and function of money and list the element of each.

iii. Write short note on the following;

a. Token money
b. Fiat money
c. Commodity money
d. Nature of money
e. Types of money.

iv. Explain the relationship between inflation and money.

v. Value of money and inflation are inversely related. Discuss.

vi. Evaluate the relationship among these variables, Money, Inflation rate and prices.

vii. Explain the impact of inflation on purchasing power.

viii. What other name is given to demand deposit?

ix. What is metallic money?

x. Explain the different between paper money and coin

xi. What determine the value of money?

xii. What was the first phase in solving problem limitating against barter trade?

xiii. Account for modern money discovery

xiv. Evaluate metallic money as a commodity money.

xv. What is intrinsic value or used value?

xvi. What is face value? Is the face value of commodity money differs from fiat money. Justify your answer.

7.0 References/Further Readings

Attah B.O, Bakare, T.A. & Daisi, O.R., (2011); **Anatomy of Economics Principles, Q&A (Macroeconomics),** Raamson Printing Press, Oke-Afa, Isolo, Lagos, Nigeria

Amacher, R and Ulbrich, H, (1986); **Principles of Economics,** South Western Publications Co. Cincinnafi, Oliso

Bakare –Aremu T.A, (2013); **Fundamental of Economics Principles (Macroeconomics),** Raamson Printing Press, Oke-Afa, Isolo, Lagos, Nigeria

Bakare I.A.O, Daisi, O.R., Jenrola, O.A., & Okunnu, M.A., (1999): **Principles and Practice of Economics (Macro Approach),** Raamson Printing Press, Mushin, Lagos, NigeriaDennis R. A. et-al; International Economics, Mcgraw Hill Irwin, 8th edition.

Familoni K.A, (1990); **Development in Macroeconomics Policy,** Concept Publications, Lagos, Nigeria

Fashina E.O, (2000); **Foundations of Economics Analysis (Macro Theories),** F.E.F International Company, Ikeja, Lagos, Nigeria

Jhingan M.L, (2010); **Macroeconomics Theory, 12th edition,** Vrinda Publications (P) Ltd. Delhi, India

Jhingan M.L, (2010); **International Economics,** Vrinda Publications (P) Ltd. Delhi, India

Lipsey R.G, (1979); **An Introduction to Positive Economics,** Hayper & Raw, London

Umo J.U, (1986); **Economics; An African Perspectives ,** Johnwest, Lagos Nigeria.

Gordon Robert J. (2009). ***Macroeconomics*** **(Eleventh ed.). Boston**: Pearson Addison Wesley. ISBN 9780321552075

UNIT 4: DEMAND AND SUPPLY OF MONEY

CONTENTS

1.0 Introduction

This unit introduces the students to the theory of demand for and supply of money, both Keynesian liquidity preference and quantity theory of money were explicitly discussed.

2.0 Objectives

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

i) Differentiate between money supply and demand for money.
ii) Explain the motives why people hold money.
iii) Understand the quantity theory of money.

3.0 Main Content

3.1 SUPPLY OF MONEY

The concept of **money supply** or money stock refers to the total amount of money in the economy, for purposes of policy various definitions or variants of money supply (e.g. M_1, M_2, etc.) are adopted in every economy and these vary from one country to the other.

Generally, the narrow money definitions refers mainly to the money used as medium of exchange (i.e. M_1= C + DD), where M1imply narrow money, C = money in circulation outside banking system, it is otherwise refer to as based money, while the broad money or broad definitions include money being used as both medium of exchange and store of value (i.e. $M_2 = M_1 + SD + TD$). Here SD and TD mean savings deposit and time deposit.

In every country, the Central Bank always state which definitions of money it is adopting at any particular time and for which purpose. The quantity of money in

an economy has direct effect on the price level and therefore on the value of money. Hence, to promote price stability and economic growth, the total money supply is subject to government control through the Central Bank in every modern economy.

DETERMINANTS OF SUPPLY OF MONEY

The determinants of money supply are both exogenous and endogenous which can be described broadly as the minimum cash ratio, the level of bank reserves and the desire of the people to hold currency relative to deposits.

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 less amount 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

i. Differentiate between M_1 and M_2 supply of money.
ii. What are the component of each of (M_1) and (M_2)
iii. What factors determine supply of money?

3.2 DEMAND FOR MONEY (The Liquidity Preference)

Demand for money is sometimes referred to as **liquidity preference in Keynesian context,** and it mean the desire of people to hold their resources or wealth in the form of cash i.e. currency notes and coins, instead of interest – yielding assets. The British economist John Maynard Keynes (1883 – 1946) identified three reasons for cash balances or why people hold money.

i) The Transactions Motives: This represents cash balances held in order to carry out ordinary, everyday transactions. For example, individual persons need to hold money to buy food, cloth, pay bus fares, and so on. Similarly, business organizations need money to pay wages and electricity bills, buy raw materials, vehicles and equipments, etc. the transactions demand for money is directly

related to income, and inversely related to the rate of interest that could be earned from holding interest – yielding assets in the alternative.

ii) The Precautionary Motive: This refers mostly to the desire to hold cash balances as a precaution against unexpected events. For instance, people hold money to provide them with some degree of security against sudden illness, accidents, fire and flood disasters, etc. while firms hold money against unpredictable occurrences such as sudden breakdown of vehicles, equipment, and so on. The main factor influencing this motive is the level of income.

iii) The Speculative motive: This refers mostly to the desire to hold cash balances in order to make speculative dealing in the bond or securities (interest – yielding assets) markets. The demand for money for speculative purposes is interest –elastic. The higher the rate of interest, the lower the demand for the speculative cash balances. Thus, there is an inverse relationship between the price of bond and interest rate. This motive otherwise referred to as **asset motive** for holding money, is a decreasing function of the rate of interest and it is also influenced by incomes.

Lord Keynes refers to the money held for transaction and precautionary motive as **active balances,** and that which is held for speculative motive as **idle balances.** The total demand for money is found by the summation of transactions, precautionary, and speculative demands.

Self Assessment Exercise:

i. Briefly explain the reasons why people desire to hold money.

3.3 The quantity theory of money.

The theory suggests the existence of a direct relationship between money supply and the average price level in the macro economy. Specifically the quantity theory of money states that the price level is strictly proportional to the money supply.

The quantity of money which was pioneered by the 18th century economists including Adam Smith and David Hume, was modified and popularized in 1911 by the American Economist, Irvin Fisher (1867 – 1947) in what is known as **equation of exchange:**

$MV = PQ$……………………………………….(1)

Where M = Total money supply

V = velocity of circulation of each unit of money

P = average price level

Q = real national output

The assumptions of the theory are that:

i. The velocity of money in circulation (**V**) is fixed.
ii. The real GNP denoted (P**Q**) is fixed in the short – run.
iii. The money stock (**M**) is determined from time to time by the country's monetary authorities.
iv. The economy is at full employment level.

Given the above assumptions, the equilibrium price level (**P**) is determined by the money stock (**M**) as expressed in equation (1)

$$\mathbf{P}=\frac{MV}{Q} \text{ ……..(2)}$$

$$v=\frac{PQ}{M} \text{…. ……..(3)}$$

Equation (2) which represents the quantity theory of money is obtained by making **P** the subject of the relation in equation (1). It follows, for example. That 5 per cent increase in money stock will cause average price level in the economy to rise by 5 per cent. Since both Q and v are fixed, in the case of Q full employment is assumed. Thus, inflation is conceived as a monetary phenomenon.

Also eqn. (3) represent the money velocity which imply number of time money changes hand, it measure how enterprising a nation is.

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.

The weakness of the quantity theory of money lies in the underlying assumptions, especially the assumption of fixed output and fixed velocity of money circulations which are unrealistic.

However, the theory provides a guide to the government to regulate money supply along the rate of changes in national output so as to avoid the problems of inflation.

DETERMINANTS 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.

vi) The time lag between income is received and 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

i. Explain the equation of exchange by Irvin Fisher.

4.0 Conclusion

This unit examined the demand for money and supply for money and conclude thus that demand for money is endogenously determine while the supply of money is exogenously determine.

5.0 Summary

This unit looked at the determining factors of both demand for money and supply of money, what determine demand could be found in the system, that is endogenous, while what determine supply of money is only known to the monetary authority that is exogenous.

6.0 Tutor-Marked Assignment

i) Differentiate between demand for money and supply of money.
ii) List and explained all motives for holding money according to J. M. Keynes
iii) Evaluate the quantity theory assertions
iv) Differentiate between transactional and precautionary motives.
v) Differentiate between demand for and supply of money.

7.0 References/Further Readings

Attah B.O, Bakare, T.A. & Daisi, O.R., (2011); **Anatomy of Economics Principles, Q&A (Macroeconomics),** Raamson Printing Press, Oke-Afa, Isolo, Lagos, Nigeria

Amacher, R and Ulbrich, H, (1986); **Principles of Economics,** South Western Publications Co. Cincinnafi, Oliso

Bakare –Aremu T.A, (2013); **Fundamental of Economics Principles (Macroeconomics),** Raamson Printing Press, Oke-Afa, Isolo, Lagos, Nigeria

Bakare I.A.O, Daisi, O.R., Jenrola, O.A., & Okunnu, M.A., (1999): **Principles and Practice of Economics (Macro Approach),** Raamson Printing Press, Mushin, Lagos, NigeriaDennis R. A. et-al; International Economics, Mcgraw Hill Irwin, 8th edition.

Fashina E.O, (2000); **Foundations of Economics Analysis (Macro Theories),** F.E.F International Company, Ikeja, Lagos, Nigeria

Jhingan M.L, (2010); **Macroeconomics Theory, 12th edition,** Vrinda Publications (P) Ltd. Delhi, India

Jhingan M.L, (2010); **International Economics,** Vrinda Publications (P) Ltd. Delhi, India

Lipsey R.G, (1979); **An Introduction to Positive Economics,** Hayper & Raw, London

Umo J.U, (1986); **Economics; An African Perspectives ,** Johnwest, Lagos Nigeria.

Gordon Robert J. (2009). ***Macroeconomics*** **(Eleventh ed.). Boston**: Pearson Addison Wesley. ISBN 9780321552075

UNIT 5: COMMERCIAL BANK AND CREDIT CREATION ACTIVITY

CONTENTS

1.0 Introduction

This unit introduces the students to the commercial banking as a bedrock of all financial institutions and medium through which monetary policy is transmitted to the public. This is because commercial bank is a retail bank with widest coverage in terms of customer and dealings. The unit equally explored the money creation activity of commercial bank as well as their financial intermediation functions.

2.0 Objectives

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

i. Understand the role of deposit money bank in an economy.
ii. Understand how commercial bank creates money.
iii. Understand the financial intermediation function of commercial bank.
iv. Explain the process of achieving monetary policy through commercial bank

3.0 Main Content

3.1 Commercial Banking

Commercial banks are the key institutional mechanism through which money performs it numerous functions in any economy. It is, therefore, important to examine the specific role of commercial banks in a given economy. This will serve to clarify the process of monetary management. The commercial bank is also known as deposit money bank because they are retail bank who accept deposit from all and sundry. Commercial banks are also known as fractional banking system because commercial banks create money and that a fraction of deposit is kept to meet the deposit liability. This fraction gives insight to the monetary authority on the **base money**

Commercial banks offer a variety of services to the individual, the company, the government and the community. These functions include; the acceptance of

deposit of money and other valuables, lending money to customers including governments, serving as agent of monetary transactions to the customers; offering economic intelligence services and keeping customers' accounts.

Self Assessment Exercise

i. Explain the functions perform by deposit money bank.
ii. What is commercial banking?
iii. Explain process involve in lending money to customer

3.2: Credit Creation in Modern Banking

One of the major disguising characteristics of commercial banks, among other financial institution, is that it can create money. This literally implies that it can increase the supply of money by granting loans or credit.

Historically, this practise can be traced to the early goldsmiths who learned that they could lend out part of the gold that has been deposited with them. This was possible since the entire gold deposit look alike and since gold is a homogenous commodity, one person's gold on deposit could be retrieved by the owner on the presentation of the receipt (certificate), but it did not have to be very same gold which have been deposited. Since not all the depositors were likely to demand their gold at the same time, the goldsmiths realized they could make fast money through prudent lending of a fraction of the gold for safe keeping. Let us now work through carefully how a Morden commercial bank creates money by an efficient of the early goldsmith's principle of fractional lending. The following assumption will enable us see without complications, how this process of money creations works:

a. We assume that there are 10 commercial banks in hypothetical economy named Bakare city. This assumption is to enable us deal with a realistic situation where there can be many banks in an economy.
b. All commercial banks in Bakare city are required to keep a certain percentage of deposit with them as cash. This is the cash. Specify to be reserve ratio which we shall specify to be 10%.
c. There is no leakage of currency either outside the economy or into non-bank savings, transaction purposes, etc.
d. Each commercial bank stands ready to grant loans to its eligible customers on request.

With the above assumption we are going to trace what happen when Alhaja Surukat Adewale, on her death, leaves the sum of #50,000 under her pillow for her granddaughter, Dalat. Table 5.5.1 shows the process of money creation that starts as Dalat removes this money from her grandmother's pillow for deposit in the commercial bank, which we will call the Bank of the Patriots (BOP).

Table 5.5.1: Multiple expansion of credit in Bakare city (hypothetical)

Stage of Deposit Bank	New Cash Deposited (#)	Required Cash Reserve(10%in #)	Potential Demand Deposit created by new Loans
Stage I (Bank of patriot)	50000.00	5000.00	45000.00
Stage II (Bakky International Bank)	45000.00	4500.00	40500.00
Stage III (Thrift Commercial Bank)	40500.00	4050.00	36450.00
Stage IV (first Bank of NOUN)	36450.00	3645.00	32805.00
Other stages and commercial bank	32805.00	3280.50	29524.50
Total	500,000.00	100000.00	400000.00

Alternatively, credit creation could be calculated by using a formula related to that of sum to infinity of a series, which is given by $M_c = A/R$ or $A/1 - r$

Taking the above situation into consideration:

A = Initial deposit

R = Statutory Reserve Requirement.

r = Excess Reserve

$M_c = A/R = 50000/0.1 = 500,000.00$

Or

$M_c = A/1 - r = 50,000/1- 0.9 = 500,000.00$

Note: that excess reserve = 1 - R

Factors Affecting the Creation of Credit

In real life, the deposit expansion multiplier will not yield the theoretical number suggested above. Chances are high that the numbers will be less than that obtained by the reciprocal of the reserve ratio. In effect, therefore, the actual credit created will be less than the potential limit. Why would this be the case? The following are the main reasons.

Central Bank's Control via the Reserve Ratio: the reserve requirement ration is the fraction of every deposit that commercial bank is required by law through the central bank to keep in its vault in other to meet the deposit liabilities of the

bank. However, the higher the reserve requirement ratio the less the banking system create money and vice versa.

Currency Drain From the Banking System: it is expected that all transaction should be done through the banking system through the use of cheque but some transaction are actually done outside the banking system, therefore the more transaction are done outside the banking system the less the system create money and vice versa.

Bank's unwillingness to lend: for optimum money multiplier the banking system must be willing to give loan, all things being equal.

Government Credit Guidelines: credit guidelines is the government control over disbursement of funds by banking system and this has a lot to do with money creation by the banking system.

Unwillingness on the part of the Public to Borrow: creation of money by the banking system is also limited by the fact that the public may not be willing to take loan, if the public has no or little interest in taking loan from the banking system, the system will not be able to create sufficient credit.

Self Assessment Exercise

i. What are the factor that limitate against credit creation..
Ii. List and explain the assumption of money multiplier.
iii. Is it possible for all transaction to be done through the banking system.?
iv. Differentiate between reserve requirement and excess reserves
v. calculate the money that would be created by the fractional banking system with initial deposit of #16,000 and a statutory reserve requirement of 25%

3.3: Financial Intermediation Function of Commercial bank.

Financial intermediation involves credit mobilization and disbursement activity of the banking system. Commercial bank is a money market where short and medium loan are traded. Commercial banks do not print money they give as loan but rather mobilize deposit from customer (savers) and give same to another set of customers (lenders). The later is equally known as deficit spending unit while the former is known as surplus spending unit. The deficit spending unit (business men) has a lot to do with funds but not readily available to them while the surplus spending unit have the money but don't have any business idea at hand, the commercial bank stand as intermediary between these two groups and by so doing discharging financial intermediation function through mobilization of funds from SSU and disbursement of same to DSU. Now commercial banks stand between SSU and DSS at a price know as interest. The bank issue two types of rates, saving or deposit rate for savers, that is, owner of funds and charge lending rate from the user of funds (lenders). The deposit rate is much lower than the lending rate and the different between the two rates is the gain to the "intermediators", that is, the commercial banks. The diagram below explicitly shows the process of financial intermediation.

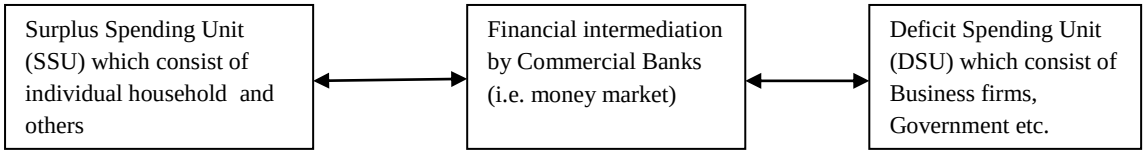


Fig: 5.5.2 Commercial banks Financial Intermediation Processes

Self Assessment Exercise

i. Explain the process of financial intermediation.
ii. Differentiate between DSU and SSU
iii. Define financial intermediation
iv. list the composition of both DSU and SSU
v. use suitable diagram to explain financial intermediation processes.

4.0 Conclusion

This unit examined the fractional banking system's money creation or credit multiplier processes as well as other function performed by commercial bank, most especially the money creation activities of the banking system. The unit also discuss various limitations to money creation activities and finally conclude that as much as the banking system would have loved to create money some technical limitation are bound.

5.0 Summary

This unit discussed money creation activity of the fractional banking system and the limiting factors to the activity, it also emphasised on other traditional function of the commercial banks. The unit examine the financial intermediation function of commercial bank and explain from mobilization of funds from the surplus spending unit to disbursement of funds to the deficit spending units on prices called the interest rates.

6.0 Tutor-Marked Assignment

i. Explain the process of financial intermediation.
ii. Differentiate between DSU and SSU
iii. Define financial intermediation
iv. List the composition of both DSU and SSU
v. Use suitable diagram to explain financial intermediation processes
vi. List and explain the assumption of money multiplier.
vii. Is it possible for all transaction to be done through the banking system?
viii. Differentiate between reserve requirement and excess reserves
ix. Calculate the money that would be created by the fractional banking system with initial deposit of #16,000 and a statutory reserve requirement of 25%.
x. Explain the functions perform by deposit money bank.
xi. What is commercial banking?
xii. Explain process involve in lending money to customer

7.0 References/Further Readings

Attah B.O, Bakare, T.A. & Daisi, O.R., (2011); **Anatomy of Economics Principles, Q&A (Macroeconomics),** Raamson Printing Press, Oke-Afa, Isolo, Lagos, Nigeria

Amacher, R and Ulbrich, H, (1986); **Principles of Economics,** South Western Publications Co. Cincinnafi, Oliso

Bakare –Aremu T.A, (2013); **Fundamental of Economics Principles (Macroeconomics),** Raamson Printing Press, Oke-Afa, Isolo, Lagos, Nigeria

Bakare I.A.O, Daisi, O.R., Jenrola, O.A., & Okunnu, M.A., (1999): **Principles and Practice of Economics (Macro Approach),** Raamson Printing Press, Mushin, Lagos, NigeriaDennis R. A. et-al; International Economics, Mcgraw Hill Irwin, 8th edition.

Familoni K.A, (1990); **Development in Macroeconomics Policy,** Concept Publications, Lagos, Nigeria

Fashina E.O, (2000); **Foundations of Economics Analysis (Macro Theories),** F.E.F International Company, Ikeja, Lagos, Nigeria

Jhingan M.L, (2010); **Macroeconomics Theory, 12th edition,** Vrinda Publications (P) Ltd. Delhi, India

Jhingan M.L, (2010); **International Economics,** Vrinda Publications (P) Ltd. Delhi, India

Lipsey R.G, (1979); **An Introduction to Positive Economics,** Hayper & Raw, London

Umo J.U, (1986); **Economics; An African Perspectives ,** Johnwest, Lagos Nigeria.

Gordon Robert J. (2009). ***Macroeconomics*** **(Eleventh ed.). Boston**: Pearson Addison Wesley. ISBN 9780321552075

MODULE SIX

Unit 1: Macroeconomic Policy Framework

Unit 2: Macroeconomics Policy Objectives, Instrument and Targets.

Unit 3 Internal and External Balances

UNIT 1: MACROECONOMIC POLICY FRAMEWORK

CONTENTS

1.0 Introduction

The concept of macroeconomic policy strategy is here introduce to student, under which the two main policies (i.e. fiscal and monetary policies) being used by various economies is introduced to the student. The study shall assess the objectives of macroeconomics policy and the problem that arise when these objectives come into conflict with each other.

2.0 Objectives

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

i) Explain what is meant by macroeconomic policy framework.
ii) Differentiate between monetary policy and fiscal policy.
iii) Understand the working of monetary and fiscal policy transmission mechanism
iv) Understand the relationship between fiscal and monetary policy.
v) Understand different instrument and their applications
vi) Understand the effect of a sound monetary institutions and fiscal discipline.

3.0 Main Content

3.1 MACROECONOMIC POLICY (Overview)

Macroeconomic policy refers to program through which government uses policy instrument to regulate or modify the economic affair of the country in keeping with certain objectives. In other words, it "attempts to assess the behaviour of the economy as a whole and to seek ways in which its aggregate performance might

be improved." These are achieved through certain instrument and objectives of macroeconomic policy. Its two main instruments are monetary and fiscal policy, and its four major objectives are full employment, price stability, economic growth, and balance of payments equilibrium and recently adjudge fifth objective is equitable income redistribution. The study shall assess the objectives of macroeconomics policy and the problem that arise when these objectives come into conflict with each other.

Self Assessment Exercise

i. In your own opinion why do any economy need macroeconomic policy?

ii. Examine the impact of macroeconomic framework on achievement of economy stability

iii. Differentiate between policy framework and policy objectives

3.2 THE FISCAL POLICY

Fiscal policy refers to government deliberate use of budgetary tools to regulate the economic activities. Budget is the annual financial statement of government proposed expenditure and expected revenue. Fiscal activities is the use fiscal tools or instrument to allocate or re-allocate financial resources in an economy within a span of a year, it involves government spending or expenditure and revenue through taxation. Fiscal policies of increase in government expenditure and or reduction in taxes are used to solve problem of unemployment and the effects of tax reduction or increased government expenditure is rise in aggregate demand. An increase in aggregate demand will lead to increased productive capacity and used of resources. This will increase employment opportunities. Fiscal policy of reduction in government expenditure and or increase in taxes will reduce the disposable income with the consumers. This will reduce aggregate demand and reduce inflationary pressure. The institution charge with this responsibility is the government through the ministry of finance. It should be noted that fiscal policy thrust stream from governmental budgetary allocation, which in Nigeria today, there are eight hundred and eleven (811) budget being read on annual basis, this could over shoot or under shoot the desire of the central government whose budget is paramount to the macroeconomic stability, however, other government budget such as thirty six states, seven hundred and seventy four local governments and one federal capital territory will also have enormous influence on the direction of the aggregate economy.

Self Assessment Exercise

i. What is fiscal policy and what are the instruments used?
ii. Examine the Nigeria federalism in the light of 811 budget being read every year.
iii. What can be done in your own view to converge the all budgetary allocation in the country?
iv. Enumerate and explain reasons why each government must have its own budgets

v. Explicitly explain what a good budget must contain.

3.3 THE MONETARY POLICY

Monetary Policy is the deliberate use of monetary instruments (direct and indirect) at the disposal of monetary authorities such as central bank in order to achieve macroeconomic stability - Macroeconomic stability refers to achievement of internal and external Balance - Internal Balance here refers to:- price stability (Low inflation) - Low unemployment - High and stable Economic growth - External balance - Balance of payment equilibrium - Exchange rate stability. Monetary policies can also be used to solve the problems of inflation and unemployment. Inflationary pressure can be tackled using contractionary monetary policies e.g. increased interest rate and or sales of government treasury bills in the open market. For expansionary monetary policies increased interest rate, purchase of treasury bills and reduction of minimum reserve requirement can be used to solve the problem of unemployment. Both contractionary and expansionary are applied in accordance to the perceived macroeconomic problem to seek lasting solution and achieve macroeconomic equilibrium. Every monetary authority must ensure that macroeconomic stability is achieved at all time and must project what some macroeconomic indicator should be at any particular point in time. However, if in reality the economy is moving away from its projected path, then monetary authority will swing into action to to correct the abnormality and redirect the economic towards achieving set priority and equilibrium, it should be noted that achievement of monetary policy is largely dependent on the financial sector development and stability.

Self Assessment Exercise

i. What is monetary policy?
ii. What are major tools of monetary policy?
iii. Who are the key players in discharge monetary policy responsibility?
iv. Analyze the monetary policy transmission mechanism of using interest regulation to target inflation.

4.0 Conclusion

This unit is explained the macroeconomic policy instrument, the unit mainly looked at fiscal and monetary policy instrument. The fiscal policy has to do with government policy of taxation and spending to regulate the economic activities, while the monetary policy has to do with regulating the economy through the adjustment of monetary variables by the monetary authorities.

5.0 Summary

This unit explored the macroeconomic policy objectives and explain in the details the monetary and fiscal policies adjustments and their transmission mechanisms, the unit equally explored the fundamentally the players involve in the stabilization of macroeconomic stabilization.

6.0 Tutor-Marked Assignment

i) Differentiate between monetary and fiscal policy.
ii) List and explain the instruments of monetary and fiscal policies.
iii) Evaluate macroeconomic policy objectives
iv) Who are the key players in discharge monetary policy responsibility?
v) Analyze the monetary policy transmission mechanism of using interest regulation to target inflation.
vi) What can be done in your own view to converge the all budgetary allocation in the country?
vii) Enumerate and explain reasons why each government must have its on budgets.
viii) Explicitly explain what a good budget must contain.
ix) Explain what is meant by macroeconomic policy framework.
x) Differentiate between monetary policy and fiscal policy.
xi) Understand the working of monetary and fiscal policy transmission mechanism
xii) Understand the relationship between fiscal and monetary policy.
xiii) Understand different policy instruments and their applications

xiv) Who are the key players in the monetary policy regulation and implementation?
xv) Who are the key players in the fiscal policy regulation and implementation?
xvi) What does the CBN monetary policy committee do?

7.0 References/Further Readings

Attah B.O, Bakare, T.A. & Daisi, O.R., (2011); **Anatomy of Economics Principles, Q&A (Macroeconomics),** Raamson Printing Press, Oke-Afa, Isolo, Lagos, Nigeria

Amacher, R and Ulbrich, H, (1986); **Principles of Economics,** South Western Publications Co. Cincinnafi, Oliso

Bakare –Aremu T.A, (2013); **Fundamental of Economics Principles (Macroeconomics),** Raamson Printing Press, Oke-Afa, Isolo, Lagos, Nigeria

Bakare I.A.O, Daisi, O.R., Jenrola, O.A., & Okunnu, M.A., (1999): **Principles and Practice of Economics (Macro Approach),** Raamson Printing Press, Mushin, Lagos, NigeriaDennis R. A. et-al; International Economics, Mcgraw Hill Irwin, 8th edition.

Familoni K.A, (1990); **Development in Macroeconomics Policy,** Concept Publications, Lagos, Nigeria

Fashina E.O, (2000); **Foundations of Economics Analysis (Macro Theories),** F.E.F International Company, Ikeja, Lagos, Nigeria

Jhingan M.L, (2010); **Macroeconomics Theory, 12th edition,** Vrinda Publications (P) Ltd. Delhi, India

Jhingan M.L, (2010); **International Economics,** Vrinda Publications (P) Ltd. Delhi, India

Lipsey R.G, (1979); **An Introduction to Positive Economics,** Hayper & Raw, London

Umo J.U, (1986); **Economics; An African Perspectives ,** Johnwest, Lagos Nigeria.

Gordon Robert J. (2009). ***Macroeconomics*** **(Eleventh ed.). Boston**: Pearson Addison Wesley. ISBN 9780321552075

UNIT 2: MACROECONOMICS POLICY OBJECTIVES, INSTRUMENT AND TARGETS.

CONTENTS

1.0 Introduction

Under this unit macroeconomic policy objective, instruments (tools) and targets are explicitly explained to the student understanding. It is however, expected of the students to be able to adjust any of the macroeconomic variables to achieve a given macroeconomic objective.

2.0 Objectives

This unit will enable the student to:

i) Differentiate between macroeconomic policy objectives, targets, and instruments.
ii) Use a set of instruments to align a target and achieve a given objective.
iii) Differentiate between monetary and fiscal policy instruments and targets.
iv) Annex macroeconomic objectives from monetary and fiscal point of view.

3.0 Main Content

3.1 The Macroeconomic Policy Objectives

a) **Full employment**

Full employment has been ranked among the foremost objectives of economic policy. But there is no unanimity of views on the meaning of full employment. Prof. Ackley regards it as a "slippery concept." But the credit of popularizing goes to Keynes, and since the Second World War it has been accepted as one of the important goals of macro economics policy.

The classical economists always believed in the existence of full employment in the economy. To them full employment was a normal situation and any deviation from this was regarded as something abnormal. According to pigou, the tendency of the economic system was to automatically provide full

employment in the labour market. Unemployment was a normal situation and any deviation from this was regarded as something abnormal. According to pigou the tendency of the economic system was to automatically provide full employment in the labour market, employment resulted from rigidity in the wage structure and interference in the working of market system in the form of trade union legislation, minimum wage legislation, etc. full employment existed when everybody who are the running rate of wages which's to be employed. Those who are not prepared to work and the existing wage rate are not unemployed in the pigovian sense because they are voluntarily unemployed. However, no possibility of involuntarily unemployment in the sense that people are prepaid to work but they could not find work. According to pigou, with perfectly free completion- there will always be at work a strong tendency for wage rate to be so related to demand that everybody is employed". However, the classical view of full employment is consistence of the sum amount of frictional, voluntary, seasonal, and structural.

According to Keynes, full employment means the absence of involuntary unemployment. In other word, full employment is a situation in which everybody who wants to work gets work. Full employment so defined is consistent with frictional and voluntary unemployment. Keynes assumed that with a given organization, equipment and techniques, real wages and the volume of out-put (and hence of employment)are uniquely co-related, so that, in general an increase in employment can only occur to the accompaniment of a decline in the rate of wages. Thus the problem of full employment is one of maintaining adequate effective demand Keynes gave an alternative definition of full employment at another place in his general theory thus: "it is a situation in which aggregate employment is inelastic in response to an increase in the effective demand for its out-put. "It means that the test of full employment is when any further increase in effective demand is when increase in effective demand is not accompanied by any increase in output. Since 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 full 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.

According to Professor W.W. Hart attempting to define full employment raises many people's blood pressure. Right so because there is hardly any economist who does not define it in his own way. Lord Beveridge in his book full employment in a free society defined it as a situation where there was more vacant job than unemployed 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 the full employment is not always full. There is always a certain amount of frictional in the economy even when there is full employment. He estimated frictional unemployment of 3% in a full employment situation for England. But his pleading for more vacant jobs than the unemployed cannot be accepted as the full employment level. According to the America economic association committee, "full employment is a situation where all qualified person who want job at current wage rate find full-time

jobs." It does not mean unemployment is zero. Here again like Beveridge, the committee considered full employment to be consistent with some amount of unemployment.

b) **Price stability or low inflation**

One of the policy objectives of monetary and fiscal policy are to stabilise the price level. Both economists and payment favour this policy because fluctuations in prices bring uncertainty and instability to the economy. Rising and falling prices bring uncertainly and instability to the economy. Rising and falling prices bring uncertainty and instability to the economy. Rising and falling prices are both bad because they bring unnecessary loss to some and undue advantage to others. Again they are associated with business cycles. So a policy of prices stability keeps the value of money stable, eliminates cyclical fluctuations, brings economic stability, helps in reducing inequalities of income and wealth, secures social justice and promotes economic welfare.

However, there are certain difficulties in pursuing a policy of stable price level. The first problem relates to the type of price level to be stabilised. Should the relative or general price level be stabilised, or the wholesale or retail of consumer goods or producers goods? There is no specific criterion with regards to the choice of a price level which would include consumers' goods prices as well as wages." but this will necessitate change in the quantity of money and not by as much as is implied in the stabilisation of consumer's goods price.

c) **Economic Growth and Development**

One of the most important objectives of macroeconomics policy in recent years has been the rapid economic growth of an economy. Economic growth is defined as "the process whereby the real per capital income of a country increases over a long period of time." economic growth is measured by the increase in the amount of goods and services produced in a country. A growing economy produces more goods and services in each successive time period. Thus growth occurs when an economy's productive capacity increases which, in turn, is used to produce more goods and services. In its wider sense, economic growth implies raising the standard of living of the people, and reducing inequalities of income distribution. All economists agree that economic growth is a desirable goal for a country. But there is no agreement over for instance the annual growth rate which an economy should attain.

d) **Balance of Payment Equilibrium**

Another objectives of macroeconomic policy since the 1950s has been to maintain equilibrium in the balance of payments. The achievement of this goal has been necessitated by the phenomenal growth in the world trade as against the growth of international liquidity. It is also recognised that deficit in the balance of payment will retard the attainment of other objectives. This is because a deficit in the balance of payment leads to sizeable outflow of gold. But "it is not clear what constitute a satisfactory balance of payment position but clearly a country with a net debt must be at a surplus to repay the debt over a reasonably short period of time. Once any debt has been repaid and an

adequate reserve attain, zero balance maintenance over time would meet the policy objective.

e) **Equitable Income Redistribution**

Generally, market system does not distribute income equitably because through this system country productive resources are just distributed to where they are mostly needed (efficient and effective distribution) without considering what happen to the rest of the economy. The result of this is the skewness in national resources distribution. To correct for this defect, government need to step-in using mainly fiscal policy to redistribute income in order to promote general well being by using the tax instrument to collect from those who earn more and give to those that earn less through provision of social safety net..

Self Assessment Exercise:

i. List and explain macroeconomic policy objectives known to you

3.2: THE MACROECONOMICS POLICY INSTRUMENTS

This is divided into namely;

A) The Monetary Policy Instruments and,
B) The Fiscal Policy Instruments.

A) The Monetary Policy Instruments.

There are basically two types of monetary instruments namely: **Direct** and **Indirect**

- **Direct** monetary policy instruments is characterized by the use of: Credit ceiling, sectoral credit allocation, administrative control of interest and exchange rates, Moral suasion, movements of governments account in and out of the DMBs, issuance of stabilization securities etc. while

- **Indirect** Monetary Policy Instruments are market-based instruments and therefore, require a well developed and functional financial market. These Instruments include Open Market Operations, Liquidity Ratios, Cash Reserve ratios, Discount window operations, Expanded Discount Window operations (EDW) –Dec 2008 – Jul. 2009, Minimum Rediscount Rate MRR- up to Dec. 2006, Monetary Policy Rate – Dec 2006 to date

Table 6.2.1 Monetary Policy Strategy			
Tools of the CBN	**Operating Targets**	**Intermediate Targets**	**Goals**
Open Market Operation	Reserve Aggregates (reserves, non borrowed reserves, monetary base, non borrowed based)	Monetary Aggregates (M1,M2,M3)	High employment
Discount policy	Interest rate (short- term such as federal funds rate)	Interest rate (short - and long term)	Price stability
Reserve Requirement			Financial market stability
			Economic growth

B) **The Fiscal Policy Instruments –**

The budgetary tools are basically the fiscal instruments. As defined earlier budget is an annual financial statement of government expected revenue and proposed expenditures. Like monetary policy, fiscal policy could be expansionary or contractionary both are referred to as discretionary policy. Taxation imposition and government spending are basically fiscal policy instruments. A reduction in tax couple with a 'fat' government spending imply an expansionary fiscal policy , the opposite is contractionary fiscal policy. These policies are applicable to different macroeconomic situations.

Self Assessment Exercise:

i. Give a solution to inflation using both fiscal and monetary policy

ii. Which of the tools you used above is most potent and why?

3.3 The Macroeconomics Policy Targets.

The policy targets are the specific values which a government attaches to its various objectives of macroeconomics policies. For instance, the government may have the following policy objectives: (1) to achieve full employment at the rate of 3 per cent unemployment; (2) to achieve price stability at annual inflation rate of 5 per cent per annum; and (3) to attain the growth rate of 5 per cent per annum for the economy. Thus the policy targets of the government are 3 per cent unemployment rate, 5 per cent inflation rate and 5 per cent growth rate per year. On the other hand, policy instrument are those exogenous variables that can be directly influenced by the government. The government can influence macroeconomic policies by such instruments of monetary policies as bank rate, changes in reserve ratios, open market operations, selective credit controls, etc. similarity; it can use such fiscal policy instruments as tax rates, budgetary policy, compensatory fiscal policy, etc.

Self Assessment Exercise

i. Explain in details the macroeconomic targets.

ii. Differentiate between macroeconomic policy targets and objectives

3.4 Conflict or Trade-Off in Policy Objectives

The five policy objectives discussed above are not always complementary to one another but rather, they conflict. If a government tries to fulfil one objective, some other moves away. It has to sacrifice one objective in order to attain the other. It is, therefore, not possible to fulfil all these policy objectives simultaneously. The different policy objectives are:

- **Full Employment and Economic Growth**

The majority of economic hold the view that there is no inherent conflict between full employment and economic growth. Full employment is consistent with 4 percent unemployment in the economy, so the relationship between full employment and growth. Period of high growth are associated with low level of unemployment and period of low growth with rising unemployment.

- **Economic Growth and Price Stability**

There is conflict between the goals of economic growth and prices stability. The rise in prices is inherent in the growth process. The demand for goods and services rises as a result of steeping up of investment on a large scale and consequent increase in incomes, this leads to inflationary rise in prices especially when the level of full employment is reached. In the long run, where new resources are developed and growth leads to the production of more commodities, the inflationary rise in prices will be checked. But the rise in prise will be there with the growth of the economy and it will be moderate and gradual.

- **Full Employment and Price Stability**

One of the objectives of macroeconomics policy in the 1950s was to have full employment with price stability. But the studies of Philips, Samuelsson, Solow and others in the 1960s established a conflict between the two objectives. These finding are explained in term of Philip curve. They suggest that full employment can be attain by having more inflation and that price stability can be achieved by having unemployment to the extent of 5 to 6 per cent.

- **Full Employment and Balance of Payment**

There is a major policy conflict between full employment and balance of payment. Full employment is always related to balance of payment deficit. In fact, the problem is one of maintaining either internal balance or external balance. If there is a balance of payment deficit, then a policy of reducing expenditure will reduced import but it will lead to unemployment in the country. If the government raises aggregate expenditure in other to increase employment, it will increase the demand for imports thereby creating disequilibrium in the balance of payments. It is only when the government adopts expenditure –switching policies such as devaluation that this conflict can be avoided but that too temporarily.

- **Price Stability and Balance of Payments**.

There appears to be no conflict between the objectives of price stability and balance of payment in a country. Fiscal and monetary policies aim at controlling inflation to discourage imports and encourage exports and thus they help in attain balance of payment equilibrium. However, if the government tries to remove unemployment and allow some inflation within the economy, there will discourage exports and encourage imports, thereby leading to disequilibrium in the balance of payment. But this may not happen if prices also rise by the same rate in other countries of the world.

Self Assessment Exercise

i. Enumerate and explain macroeconomic policy objectives
ii. Why is achievement of price stability seldom lead to unemployment?
iii. Examine the relationship between price stability and balance of payment (BOP)

4.0 Conclusion

This unit explores the macroeconomics situation and reflect on the policy frame work, policy objectives, and targets and conclude that for macroeconomic stability, application of both fiscal and monetary policy is the panacea.

5.0 Summary

The unit survey macroeconomic environment which necessitates discussion on macroeconomics policy framework - policy objectives, instrument, targets and strategies. We equally examined the trade off that existed among macroeconomic policy objectives because achieving the five goals simultaneously is not economically possible considering the policy instruments at the disposal of economic manager. The students were made to know that policy is applied in an economic discretionally –having to do with the current situation which could be expansionary or contractionary.

6.0 Tutor-Marked Assignment

i) What are macroeconomic policy objectives?
ii) Discuss conflicts that exist among various macroeconomic objectives.
iii) Distinguish among macroeconomic policy objectives, instruments and targets
iv) Write short note on the following;

a. Direct monetary policy instruments
b. Indirect monetary policy instruments
c. Contractionary fiscal policy
d. Contractionary monetary policy
e. Expansionary policy

v) Proffer policy recommendation(s) for an economy with chronic inflation and adverse balance of payment problems.

7.0 References/Further Readings

Attah B.O, Bakare, T.A. & Daisi, O.R., (2011); **Anatomy of Economics Principles, Q&A (Macroeconomics),** Raamson Printing Press, Oke-Afa, Isolo, Lagos, Nigeria

Amacher, R and Ulbrich, H, (1986); **Principles of Economics,** South Western Publications Co. Cincinnafi, Oliso

Bakare –Aremu T.A, (2013); **Fundamental of Economics Principles (Macroeconomics),** Raamson Printing Press, Oke-Afa, Isolo, Lagos, Nigeria

Bakare I.A.O, Daisi, O.R., Jenrola, O.A., & Okunnu, M.A., (1999): **Principles and Practice of Economics (Macro Approach),** Raamson Printing Press, Mushin, Lagos, NigeriaDennis R. A. et-al; International Economics, Mcgraw Hill Irwin, 8th edition.

Familoni K.A, (1990); **Development in Macroeconomics Policy,** Concept Publications, Lagos, Nigeria

Fashina E.O, (2000); **Foundations of Economics Analysis (Macro Theories),** F.E.F International Company, Ikeja, Lagos, Nigeria

Jhingan M.L, (2010); **Macroeconomics Theory, 12th edition,** Vrinda Publications (P) Ltd. Delhi, India

Jhingan M.L, (2010); **International Economics,** Vrinda Publications (P) Ltd. Delhi, India

Lipsey R.G, (1979); **An Introduction to Positive Economics,** Hayper & Raw, London

Umo J.U, (1986); **Economics; An African Perspectives ,** Johnwest, Lagos Nigeria.

Gordon Robert J. (2009). ***Macroeconomics*** **(Eleventh ed.). Boston**: Pearson Addison Wesley. ISBN 9780321552075

UNIT 3 INTERNAL AND EXTERNAL BALANCE.

CONTENTS

1.0 Introduction

The unit explored the concept of internal and external equilibrium or balance as relate to macroeconomic stability. The internal balance refers to internal stability such as low inflation, low unemployment and equitable income distribution while external balance or equilibrium refers to external stability such as balance of payment and equilibrium exchange rate. The unit also shed light on macroeconomic adjustment under fixed exchange rate on both external and internal equilibrium, it equally explain the adjustment process and changes in macroeconomic variables, for instance what happens when government spending brings disequilibrium to AS and AD, i.e. an outwards shift to the IS, prices rises and real money supply or demand falls, thereby lead to a backward shift to LM which resulted to an increase in rate of interest.

2.0 Objectives

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

i) Explain what is meant by internal balance.
ii) Explain what is meant by external balance.
iii) Understand linkages between internal and external balance.
iv) Understand instrument of internal equilibrium.
v) Understand instrument of external equilibrium.
vi) Explain how monetary and fiscal policy could be used to achieve both internal and external balance (equilibrium)
vii) Understand factors that could generate disequilibrium to both internal and external balance.
viii) Understand fiscal and monetary behaviour and direction of shift in IS and LM curve shift.
ix) Understand the resultant effect(s) of any policy adjustment.

3.0 Main Contents

3.1: Internal Balance or Equilibrium

Internal balance in economics is a state in which a country maintains full employment and price level stability. It is a function of a country's total output,

$II = C (Y_f - T) + I + G + CA (E \times P^*/P, Y_f - T; Y_f^* - T^*)$

Internal balance = Consumption [determined by disposable income] + Investment + Government Spending + Current Account (determined by the real exchange rate, disposable income of home country and disposable income of the foreign country). **Internal Balance** can also be explain as macroeconomic situation, where Aggregate Demand equals Aggregate Supply (potential output). And there is full employment in the labour market. With sluggish wage and price adjustment, lower AD causes a recession. Only when AD returns to potential output is internal balance restored.

Internal Balance under Fixed Exchange Rate System

An internal equilibrium is achieved at the full employment and stable prices. If there is an inflationary pressure or unemployment, the economy will require further adjustment in prices or move toward the full employment output level..

(i) product market:

$y(1 - b + m) = a + i(\bar{r}) + g + x$; b = Marginal Propensity to Consume, m = Marginal Propensity to Import.

(ii) money market:
$m^s = l(r) + ky$; l(r) = liquidity balance, ky = transactions balance ($k > 0$, not capital-labor ratio)..

An internal equilibrium is attained when the output is at the full employment level. An increase in g shifts the IS curve to the right, thereby raising the interest rate. Moreover, because the economy is fully employed, real output cannot increased beyond y^F. Thus, an increase in g increases inflationary pressure, thereby raising domestic price, which shifts the LM curve to the left. Thus, along the IE function, government spending and interest rate are directly related. That is, in order to maintain the full employment rate of output, any increase in government spending must be accompanied by a rise in the interest rate.

What happens to the money supply? It does not stay put. The aggregate output demand (at the intersection of IS' and LM) exceeds the full employment output y^F. Accordingly, price level rises, which reduces the real money supply (M^S/P), thereby shifting the LM curve to the left to LM' and raising the domestic interest rate.

Self Assessment Exercise

i. Explain what is meant by internal equilibrium to an economy

ii. What are the major factors responsible for internal equilibrium?

iii. Use both fiscal and monetary policy instrument to restore internal balance.

iv. Examine the existence of sudden upsurge to an equilibrating economy.

3.2: External Balance or Equilibrium

External balance signifies a condition in which the country's current account, its exports minus imports, is neither too far in surplus nor in deficit. It is signified by a level of the current account which is consistent with the maintenance of existing (or growing) levels of consumption, employment and national output over the long term. It is notated by
XX = CA (EP*/P, Y-T, Y_f* - T*)
External balance = the right amount of surplus or deficit in the current account.
Maintaining both internal and external balances requires use of both monetary policy and fiscal policy. That is one reason why floating exchange rates may be superior to fixed exchange rates. Under fixed exchange rates, governments are not usually free to employ monetary policy. Under floating rates, countries can use both.

External Balance – this refers to the Current Account balance. The country is neither under spending nor overspending its foreign income. For a floating exchange rate, the total balance of payments is always zero. Since the balance of payments is the sum of the current, capital, and financial accounts, saying the current account is in balance then also implies that the sum of the capital and financial accounts are in balance.

External Balance under Fixed Exchange Rate System

$BP = X(p^{-},e^{+},y^{*+}) - M(p^{+},e^{-},y^{+}) + F(r^{+})$

An external equilibrium refers to a balance of payments equilibrium of an open economy. Note that when an open economy achieves an external equilibrium, output y is not necessarily at the full employment rate.
As g increases, output y also increases (through the multiplier effect), which in turn creates a current account deficit. To offset this, under the fixed exchange rate system, the capital account has to improve, which can be realized by an increase in the interest rate. (If the exchange rates are allowed to move freely, the market will find the equilibrium value of e).

Thus, an external equilibrium requires a positive relationship between government expenditure and interest rate.It is generally believed that EE function (curve) is steeper than the IE curve in the (g,r) space.

Self Assessment Exercise

i. Explain what is meant by external equilibrium to an economy

ii. What are the major factors responsible for external equilibrium?

iii. Use both fiscal and monetary policy instrument to restore external balance.

iv. Examine the existence of sudden external shock to an equilibrating economy.

3.3: Links between Internal and External Balance or Equilibrium

Internal balance or equilibrium is the most desirable of every economy and essence of having ministry of economic planning (as the case in Nigeria) notwithstanding, external balance is equally very desirable but internal first. Some economies have little or no worries about external balance because their international component of trade and fund transfer is negligible this imply modern autarky - a situation where an economy is closed has no economic relationship with rest of the world but because in reality the such an economy hardly exist then the definition change to the former. It is noteworthy that aggregate domestic absorption, i.e. $Y = C + I + G$ ----------(1) equation is known as aggregate domestic absorption (A) and also mean a closed economy. That is, $Y = A$ --------(2) . However, if $Y = C + I + G + (X - M)$ ---------- (3) which imply a movement from autarky, then $Y = A + (X - M)$ ----------(4), if A is taken to the LHS the equation (4) become, $Y - A = X - M$ ----------(5) or in a layman language, aggregate supply less aggregate demand equate export less import (net export), meaning that internal balance will lead external balance ceteris paribus. Alternatively, we can say that equilibrium exist both internally and externally if equation (5) equals zero i.e. $Y - A = X - M = 0$ ----------(6)

Self Assessment Exercise

i. Differentiate between external equilibrium to an economy

ii. What are the major factors could cause external disequilibrium?

iii. What does equation (6) stand for?

iv. Suppose LHS of equation (5) is greater than the RHS, what policy could restore equilibrium.

iv. Reverse the case in question (iv) above.

4.0 Conclusion

The unit survey the concept of internal and external equilibrium and sufficiently explain factor that can bring about disequilibrium and how equilibrium could also be restored through the use of both fiscal and monetary policy. The unit equally recognized that major imbalance could be brought about through fiscal indiscipline or recklessness and monetary misapplication.

5.0 Summary

The unit review concepts of internal and external balance and reiterate that imbalance or disequilibrium could be as a result of both internal and external shocks and that stability could be restored through application of fiscal and monetary policies.

6.0 Tutor-Marked Assignment.

i. Differentiate between external equilibrium to an economy

ii. What are the major factors could cause external disequilibrium?

iii. What does equation (6) stand for?.

iv. Suppose LHS of equation (5) is greater than the RHS, what policy could restore equilibrium.

v. What are the major factors responsible for internal equilibrium?

vi. Use both fiscal and monetary policy instrument to restore internal balance.

vii. Examine the existence of sudden upsurge to an equilibrating economy.

viii. What are the major factors responsible for internal equilibrium?

ix. Use both fiscal and monetary policy instrument to restore internal balance.

x. Examine the existence of sudden upsurge to an equilibrating economy.

7.0 References/Further Readings

Attah B.O, Bakare, T.A. & Daisi, O.R., (2011); **Anatomy of Economics Principles, Q&A (Macroeconomics),** Raamson Printing Press, Oke-Afa, Isolo, Lagos, Nigeria

Amacher, R and Ulbrich, H, (1986); **Principles of Economics,** South Western Publications Co. Cincinnafi, Oliso

Bakare –Aremu T.A, (2013); **Fundamental of Economics Principles (Macroeconomics),** Raamson Printing Press, Oke-Afa, Isolo, Lagos, Nigeria

Bakare I.A.O, Daisi, O.R., Jenrola, O.A., & Okunnu, M.A., (1999): **Principles and Practice of Economics (Macro Approach),** Raamson Printing Press, Mushin, Lagos, NigeriaDennis R. A. et-al; International Economics, Mcgraw Hill Irwin, 8th edition.

Familoni K.A, (1990); **Development in Macroeconomics Policy,** Concept Publications, Lagos, Nigeria

Fashina E.O, (2000); **Foundations of Economics Analysis (Macro Theories),** F.E.F International Company, Ikeja, Lagos, Nigeria

Jhingan M.L, (2010); **Macroeconomics Theory, 12th edition,** Vrinda Publications (P) Ltd. Delhi, India

Jhingan M.L, (2010); **International Economics,** Vrinda Publications (P) Ltd. Delhi, India

Lipsey R.G, (1979); **An Introduction to Positive Economics,** Hayper & Raw, London

Umo J.U, (1986); **Economics; An African Perspectives ,** Johnwest, Lagos Nigeria.

Gordon Robert J. (2009). ***Macroeconomics*** **(Eleventh ed.). Boston**: Pearson Addison Wesley. ISBN 9780321552075

MODULE SEVEN

Unit1: Concept of Economic Growth and Development.
Unit 2: Some Characteristics of Development.
Unit 3: Some Selected Growth Theories.

UNIT 1: CONCEPT OF ECONOMIC GROWTH AND DEVELOPMENT. CONTENTS

1.0 Introduction

The concept of economic growth and development are clearly explained here with clear cut distinction between the two concepts. In addition to this, some selected growth theories were analysed and explained. We give a comprehensible analysis of growth arithmetic and enumerate and explain main features of developed and developing countries, and analyse reason why economic growth may not lead to development.

2.0 Objectives

At the end of this unit student should be able to;
i. Explain what is meant by Economic growth and Development.
ii. Differentiate between economic growth and economic development.
iii. Understand reasons why economic growth may not lead to economic development.

3.0 Main Content

3.1 Concept of Economic Growth and Development

Economic growth is defined as the expansion in a nations real output or it can be define as the expansion in a nations capability to produce goods and services its people want. Economic growth also refers to an increase in real aggregate output (real GDP) reflected in increased real per capital income. The rate of economic growth is measured as the percentage increase in real GDP overtime. Economic growth can equally be defined as increase in a nation's output which is identifiable by sustainable increase in real per capita income (Bakare-Aremu, T.A).

Economic development on the other hand is a sustainable increase in real GDP that implies increased real per capital income, better education and health as well as environmental protection, legal and institutional reforms and an efficient production and distribution system for goods and services (Fashola, M.A).

Self Assessment Exercise

i. What is Economic Growth and how is it different from Economic development?

3.2 Distinction between Economic Growth and Development

The terms growth and development are often misused by laymen to mean the same thing. But this is not so. 'The summary below focuses on the distinction between growth and development.

Fashola (1998) argues that economic growth is an aspect of economics that deals with national income objectives; whereas development incorporates other objectives such as: equitable welfare distribution, national self reliance, balance sectorial development, balanced regional development; ecological balance, social and environmental stability, among others.

Todaro (1977) contends that growth stimulates improvement in incomes and output while development involves radical changes in institutional, social and administrative *structure*, as well as in popular attitudes and sometimes even customs and beliefs.

Schumpeter (1934) stresses that growth is a gradual and steady change in the long run which comes about by a general increase in the rate of savings and population. Development on the other hand is a discontinuous and spontaneous change in the stationary state which forever alters and displaces the equilibrium state previously existing.

Maddison (1970) was of the opinion that the raising of the income levels in rich countries is economic growth. But the achievement of the same objective in underdeveloped countries is economic development.

Kindleberger (1965).advances that economic growth means more output while development implies both more output and changes technical and Institutional management by which it is produced and distributed.

Bakare (1999) perceives development as the process of optimizing the resources of a nation to meet the needs of the people and their enlightened aspiration and endowing them with the capacity to sustain their achievement. It need be stated that growth is a necessary but not a sufficient condition for attaining development. Without growth there cannot be development. But without development, there can be growth.

Bakare-aremu (2009) defined Economic growth as a continuous increase in National output which is identifiable by sustainable increase in real Per capita income which translates to general wellbeing of an average citizen. However, when this leads to structural positive transformations then development is implied.

It is also necessary to note that the existence of growth in a country may not lead to development in a situation where there is growing income inequality which can strengthen abject poverty. More so, inter-sectorial imbalance will not promote development because an increase in national output not accompanied by equitable distribution of income will create setback for sectors such as housing, utilities, health "Services, food production, transport and communication. As such development cannot be sustained because diseases, mortality rate, starvation, misery, and industrial inefficiency cannot be eradicated. Other reasons why economic growth may not lead to development can be attributed to environmental degradation, moral, intellectual and spiritual decadence; these would be discussed in the latter study unit.

Self Assessment Exercise

i. What are the major difference between economic growth and economic development?

ii. Can there be development without growth?

3.3 Measurement and Arithmetic of Growth

Economic growth concerns the relative change in the real value to volume of goods and services produced by a country for final demand (i.e. demand by households, consumers, governments, capital formation and net exports); represent the national product, national output, or national income. At market value, national output represents revenue or earnings by the business (or production) sector. Such earnings are ultimately income to the factors of production, namely; wages to labour, rent to land and real estate interest to capital and profit to entrepreneurship or the business. So output in monetary value in income. It is in this that national product (output) in the things same and national income.

In precise terminology, we speak of Gross Domestic Products (GDP) and Gross National Products (GNP) in volume of national income. GDP refers to the market disposable value of output produced within the country i.e. produced domestically. On the other hands, GNP refers to total income occurring to the nation or at the disposal of the nation. Therefore, to obtain the GNP, we subtraction GDP, all incomes that are repatriated abroad to foreign owned factors of production (such as interest on foreign loan, dividends to foreign shareholders, and part salaries repatriated abroad on account of expatriate personnel) and add all incomes from abroad on account of the citizens of or residents in the country. What is subtracted is referred to as factors payments to abroad (FP) and what is added is referred to as factors income (FI).

The difference between factor payments to and incomes from abroad is the net factor payments (NFP). A net factors payment is almost always positive for developing countries on account or substantial foreign investment, foreign equity ownership, and-management by expatriates of the modern sector of their economies.

Thus we can state:

GNP = GDP - FP + Fl ……(1)

= GDP - (FP - FI)……...(2)

= GDP - NFP …… (3)

GNP is almost always significantly smaller than GDP

GNP is more relevant than GDP for measuring economic growth since GNP is the nationally available income to the people and hence more related to their material welfare as opposed to GDP which is income generated within the country but partly belonging to the people of other countries who partly own the resources employed in generating the GDP. Since the average income of the people is more significant than total income, as far as economic welfare is concerned, GNP per head of the population is preferred to total GNP for the purpose of measuring economic growth.

Other measures of economic growth are the volume of electricity generated per head, total energy consumed per head, and index of industrial production net of population growth. These measures may be more reliable than per capital GNP, because the internal measurement is compounded by the changing price levels which have to be estimated and adjusted for in evaluating the real GNP or GD P at constant prices of a given year.

Arithmetic of Growth

The illustration below stand for standard arithmetic of growth;

$gy = g_y - g_N$ or $gy = 1 + g_y / 1 + g_n$

e.g If growth rate per capital GNP is defined mathematically as;

$gy = g_Y - g_N$ or

$1 + gy = 1 + g_y \div 1 + gn$

i) What does g_y and g_n stand for

ii) Calculate gy when $g_y = 8\%$ and $g_n = 3.5\%$

Solution

ai) gy is the growth rate of GNP and gn is growth rate of population

ii) $gY = 8\%$

$gn = 3.5\%$

Therefore $gy = gy = gn$

$gy = 8\% - 3.5\%$

$gy = 4.5\%$

or $1 + gy = \frac{1 + gY}{1 + gn}$

$$1 + gy = \frac{1 + 0.08}{1 + 0.035}$$

$$1 + gy = \frac{1.08}{1.035}$$

$1 + gy = 1.043$

$gy = 1.043 - 1$

$gy = 0.043$

$gy = 4.3\%$

Self Assessment Exercise

Suppose GDP increase by 15% and price level by 45%. Calculate the real growth rate in the economy.

4.0 Conclusion

The unit survey the concept of economic growth and development, it differentiate between economic growth and development as well stating the major characteristics of the developed and underdeveloped or developing countries.

5.0 Summary

The unit review concepts of economic growth and development and those issues that are highly related to it such as theories of growth, distinction between economic growth and economic development,

6.0 Tutor-Marked Assignment

i) Differentiate between economic growth and economic development.

ii) Given that economic grow at 12% and population grow at 9%, calculate per capita growth of income.

iii) Examine the Rostow stages of growth.

7.0 References/Further Readings

Attah B.O, Bakare, T.A. & Daisi, O.R., (2011); **Anatomy of Economics Principles, Q&A (Macroeconomics),** Raamson Printing Press, Oke-Afa, Isolo, Lagos, Nigeria

Amacher, R and Ulbrich, H, (1986); **Principles of Economics,** South Western Publications Co. Cincinnafi, Oliso

Bakare –Aremu T.A, (2013); **Fundamental of Economics Principles (Macroeconomics),** Raamson Printing Press, Oke-Afa, Isolo, Lagos, Nigeria

Bakare I.A.O, Daisi, O.R., Jenrola, O.A., & Okunnu, M.A., (1999): **Principles and Practice of Economics (Macro Approach),** Raamson Printing Press, Mushin, Lagos, NigeriaDennis R. A. et-al; International Economics, Mcgraw Hill Irwin, 8th edition.

Familoni K.A, (1990); **Development in Macroeconomics Policy,** Concept Publications, Lagos, Nigeria

Fashina E.O, (2000); **Foundations of Economics Analysis (Macro Theories),** F.E.F International Company, Ikeja, Lagos, Nigeria

Jhingan M.L, (2010); **Macroeconomics Theory, 12th edition,** Vrinda Publications (P) Ltd. Delhi, India

Jhingan M.L, (2010); **International Economics,** Vrinda Publications (P) Ltd. Delhi, India

Lipsey R.G, (1979); **An Introduction to Positive Economics,** Hayper & Raw, London

Umo J.U, (1986); **Economics; An African Perspectives ,** Johnwest, Lagos Nigeria.

Gordon Robert J. (2009). ***Macroeconomics*** **(Eleventh ed.). Boston**: Pearson Addison Wesley. ISBN 9780321552075

UNIT 2: SOME CHARACTERISTIC OF DEVELOPMENT

CONTENTS

1.0 Introduction

The main focus of this unit is to discuss the features of less developed and developed countries and in the process bringing into the attention of the student some of the reason why economic growth can not lead to economic development. More so, some growth theories will also be discussed.

2.0 Objective

At the end of this unit student will be able to:

i) Analyse different theories of economic growth.
ii) Explain basic characteristics of developing nations.
iii) Know the reason why economic growth can not lead to economic development.

3.0 Main Content

3.1 Major Characteristics of less developed countries

The common characteristics of developing nations could be discussed under the following six sub -headings, which are: low levels of living, low level of productivity, high rates of population growth and dependency burdens, high and rising levels of unemployment and under -employment, substantial dependence on agricultural production and primary products exports, and dominance, dependence and vulnerability in international relations. These are discussed below.

- **Low levels of livings:** In developing nations, general-levels of living tend to be very low for the vast majority of people. This is true not only in relation to their counterparts in rich nations but often also in relation to small elite groups within their own societies. These low levels of living are manifested quantitatively and qualitatively in the form of:

(a) Low income (poverty);
(b) Inadequate housing;
(c) Poor health facilities;
(d) Limited or no education;
(e) High infant mortality;
(f) Low life and work expectancy; and
(g) In many cases a general sense of malaise and hopelessness.

The Gross National Product (GNP) per capital tend to be very low for most developing countries. It is often used as a summary index of the relative economic well beings of the people in different nations. The GNP itself is the most commonly used measure of the overall level of economic activity.

Also there is relative slower growth rate in the GNP per capita of developing countries when compared to their developed counterpart. Not only these, the absolute income gap between rich and poor nations continues to widen.

- **Low level of productivity:** In addition to low levels of living, developing." countries are characterized by relatively a low levels of labour productivity. The level of labour productivity (i.e. output per worker) is extremely low compared with those in developed countries.

  To raise productivity, domestic savings and foreign finance must be mobilized to generate new investment in physical capital goods and also to build up the stock of human capital (e:g. management skills) through investment in education and training.

- **High rates of population growth and dependency burdens:** The population rate of developing nations is high when compared to the developed nations. This could be accounted for by low birth rate and a striking increase in crude birth rate for developing countries.

  Death rates in the third world countries are also high relative to the more developed nations' but because of the improved health conditions and the control of major infectious diseases, the less developed countries and developed countries death rates differences are substantially small than the corresponding differences in birth rates.

  The major implication of high less developed countries birth rates is that children under the age 15 are more in less developed countries than in developed countries. Therefore most active labour in less developed countries has to support children more than in developed countries. On the other hand, the proportion of people over the age 65 and above are more in developed countries. Older people as well as children are often referred to as an• economic/dependency burden in the sense that they are non-productive members of the society and therefore must be supported financially by a country's labour force.

  The overall dependency burden is more in less developed countries than in developed countries. Therefore, the less developed countries would not only

contend with high rates of population growth but they also must struggle with greater dependency burden than the rich nations.

❖ High and Rising Levels of Unemployment and Under-Employment:

One of the principal manifestations of factors contributing to the low levels of living in 'developing nations is their relatively inadequate or inefficient utilization of labour in comparison with the developed nations.

Under-utilization is manifested in two forms; first, it occurs as under-employment of those people who are working less than they could. Under-employment also include those who are normally working full time but whose productivity is so low that a reduction in hours would have a negligible impact on total output.

The second form is open unemployment of those who are able and often eager to work but for whom no suitable jobs are available. Substantial dependence on agricultural production and primary products exports: The vast majority of people in third world nation's lives and work in rural areas. Almost 80 per cent are rural based, compared with less than 35 per cent in economically developed nations. Similarly, 66 per cent of the labour force is engaged in agriculture, compared with only 21 per cent in developed nations. Agriculture contributes about 32 per cent of the GNP of developing nations versus only 8 per cent of the GNP of developed nations.

The basic reason for the concentration of people and production in agricultural and other primary production activities in developing countries is the simple fact that at low level of income the first priorities of any person are food, clothing and shelter.

Agricultural productivity is low not only because of large numbers of people in relation to available land but also because less developed countries agriculture is often characterized by primitive technologies, poor organization and limited physical inputs.

PRODUCTION = Limited Land + Insufficient Capital + Primitive Technology+ Poor Organization Dominance, Dependence and Vulnerability in International Relations: For many less developed countries a significant factor contributing to the persistence low levels of living, rising unemployment and growing income inequality is the highway unequal distribution of economic and political power between the rich and poor nations.

These unequal strengths are manifested not only in the dominant power of rich nations to control the pattern of international trade but also in their ability often to dictate the terms' of technology, foreign aid and private capital transferred to developing nations.

Another important aspect of international transfer process serve to inhibit the development of poor nations very significantly contributing to the persistence underdevelopment is the transfer of values attitudes institutions, standard of behaviour, structures, cultures, etc. from developed to developing nations. All these usually stimulate corruption and economic plunder by the privilege minorities.

Finally, the penetration of rich countries attitudes, values and standards also contribute to a problem widely recognised and referred to as the international brain drain - the migration of professional and skilled personnel who were often educated in the developing countries at great-expenses to the various these nations e.g. doctors, nurses, engineers, lecturers, economists, etc.

Self Assessment Exercise

i. Highlight the major features of less developed countries.
ii. What do you understand by basic developmental objectives.
iii. Appreciate government activities in building the economic.

3.2 Major Characteristics of developed countries

The common characteristics of developed nations could be discussed under the following six sub -headings, which are: High levels of standard of living, High level of productivity, low rates of population growth, low levels of unemployment and under-employment, high and sophisticated technology. These are discussed below.

High levels of standard of livings: In developed world, general-levels of livings tend to be very high for the vast majority of people. These high levels of living are manifested quantitatively and qualitatively in the form of:

(h) Higher per capita income ;
(i) adequate housing;
(j) Rich health facilities;
(k) High and affordable education;
(l) Low infant mortality;
(m) High life expectancy;

Others characteristics are direct opposite of the less developed economies

Self Assessment Exercise

i. Highlight the major features of developed countries.
ii. Differentiate between developed and developing nations

3.3 Reasons Why Economic Growth May Not Lead to Development

According to Bakare (1998), economic development is a gradual process and as such one can discuss it in terms of relativity. It is on this basis that countries over the world are classified into developed, developing or Less Developed Countries (LDC).

The circumstances or situation whereby economic growth win fail to promote economic development can be stated and explained below:

- Inadequate growth in comparison with population.
- Widening inequality in the distribution of income.
- Imbalance in inter-sectorial development.
- Environmental degradation and ecological disturbances,
- Moral, intellectual, spiritual and social decadence.

- Economic dependence.

Inadequate Growth in Comparison with Population

If economic growth is not growing significantly relative to population, it may fail to promote economic development. For example, an economic growth of 3 - 4% in comparison with population growth of 10% due to relaxation of immigration law may not enhance development. Summarily:

G (GNP) > G (POP) = Development.

G (GNP) = G (POP) = No Development.

G (GNP) < G (POP) = Under Development

Where:

G	Growth
GNP	Gross National Product
POP	Population
>	Greater than
<	Less than

Income Distribution: Even if the growth in GDP exceed the population growth and income is not well distributed, the unequal income distribution will lead to widening gap between the rich and the poor, therefore, violating one of the objectives of economic development.

Hypothetically, let us assume that the richest people in an economy constitute 10% of the whole population and their income can be increased' by 50%. If the economy grows at 7% P. A., the growth rate in the income of the majority can be calculated using the formula below:

Imbalance in Sectorial Development

The industrial sector, the oil sector among others may be in a country, but when facilities such as housing, health, water, law and order, among others are not developing, may not witness development. Moreso, if the per capital increases from expansion in the oil and industrial sectors, not cannot be said to have occurred because poor health could lead to dehumanising ailments such as typhoid, tuberculosis, etc. which hinders development.

Environmental Degradation and Ecological Disturbances

When ecological balance is disturbed, through oil spillage, air, water and land pollution and industrial pollution through puffing of toxic gas, carbon monoxide, lead etc. It may cause health problems such as migraine, high blood pressure, cancer, etc.

When there is ecological disturbance such as blockage of water canals, etc., it makes it impossible for water to enter and this way cause flooding. Cutting of too many trees cause desert encroachment. These goes to long way to development.

Moral, Intellectual, Spiritual and Social Decadence

We must be compassionate, be objective, not violent, seek for intellectualism, etc. We must be considerate to our e must not be impatient. Man must be kind

hearted and discipline himself. In contrast to these, in Nigeria, there is high desire examination malpractices, cult practices, injustice, lack of accountability and transparency, undue favouritism, redtappism, among others. All these cannot promote development.

Economic Development Dependence

In international trade relations, the third world is worse off as they are exporters of primary products which are highly income inelastic while the manufactured products they import have high income elasticity. Thus, the price of primary products does not increase rapidly and at times faces price fluctuation. The poor economic relations is the case of Nigeria

Self Assessment Exercise

i. Highlight the major features of less developed countries.
ii. What are the reasons why economic growth may not lead to economic development.

3.4 The Core Values and Objectives of Development.

The Core Values of Development

The core values of development are three and with them it is possible, to define or broadly conceptualize what we mean when we talk about development as the sustained elevation of an entire society and social system towards a "better" or "more humane" life? What constitutes the good life is a question as old as philosophy, one that must be periodically re-evaluated and answered afresh in the changing environment of world society. The appropriate answer for developing nations today is not necessarily the same as it would have been in previous decades. But at least three basic components or core value serves as a conceptual basis and practical guideline for understanding the inner meaning of development. These core values - sustenance, self esteem, and freedom represent common goals sought by all individuals and societies. They relate to fundamental human needs that find their expression in almost all societies and cultures at all times. Let us therefore examine each in turn.

Sustenance: The Ability to Meet Basic Needs All people have certain basic needs without which life would be impossible these life -sustaining basic human needs includes foods, shelter, and protection. when any of this is absent or in critically short supply, a condition of absolute underdevelopment exist a basic function of all economic activity , therefore is to provides as many people as possible with means of overcoming the helplessness and misery arising from lack of food , shelter, health, and protection. To this extent, we may claim that economic development is a necessary condition for improvement in the quality of life that is development. Without sustained and continuous economic progress at the individual as well as societal level, the realization of the human potential would not be possible. one clearly has to "have enough in order t be more." rising per capital incomes, the elimination of absolute poverty, greater employment opportunities, and lessening income inequalities therefore constitute the necessary but not the sufficient condition for development.

Self- Esteem (To be a Person): A second universal component of the good life is self-esteem - a sense of worth and self-respect, of not being use by tools by other for their own ends. All people and societies seek some basics form of self-esteem, although they may call it authenticity, identity, dignity, respect, honour, or recognition. The nature and form of this self-esteem may vary from society to society and from culture to culture. However, with the proliferation of the "modernizing values" of developed nations , many societies in developing countries that have had a profound sense of their own worth suffers from serious cultural confusion when they come in contact with economically and technologically advanced societies. This is because national propensity has become an almost universal measure of worth. Due to significance attached to material values in developed nations, worthiness and esteem are nowadays increasingly conferred only on countries that posses economic wealth and technological power those that have "developed".
As Denis Goulet put it, "Development legitimized as a goal because it is an important, perhaps even an indispensable, way of gaining esteem.

Freedom from Servitude (To be able to choose): A third and final universal value that we suggest should constitute the meaning of development is the concept of humane freedom here is to be understood in the sense of emancipation from alienating material condition of life and from social servitude to nature, other people, misery, oppressive institution, and dogmatic beliefs, especially that poverty is predestination. Freedom involved expanded range of choice for societies and their members together with a minimization of external constraint in the pursuit of some social goal we call development. Amartya Sen write of "Development as freedom." W. Arthur Lewis stressed the relationship between economic growth is not the wealth increases happiness, but that it in increase the range of human choice." wealth can enable people to gain greater control over nature and the physical environment (e.g. through the production of food, clothing, and shelter) than they would have it if they remained poor. It also give them freedom to choose greater leisure, to have more goods and services, or to deny this importance of these materials wants and to choose to live a life of spiritual contemplation. The concept of humane freedom should also encompass various component of political freedom, including, but not limited to personal security, the rule of law, freedom of expression, political participation, and equality of opportunity. although attempt to rank countries with freedom indexes have proved highly controversial, studies co reveal that some countries that have achieved high economic growth rates or high incomes, such as china, Malaysia, Saudi Arabia, And Singapore, have not achieved as much on human freedom criteria.

The Core Objectives of Development.
From the foregoing it could be said that, development is both a physical reality and a state of mind in which society has, through some combination of social, economic, and institutional process, secured the means for obtaining a better life. Whatever the specific component of this better life, development in all societies must have at least the following three objectives

1. To increase the availability and widen the distribution of basic life-sustaining goods such as food, shelter, health, and protection
2. To raise levels of living, including, in addition to higher incomes, the provision of more jobs, better education, and greater attention to cultural and human values, all of wish will serve not only to enhance materials well-being but also to generate greater individuals and national self-esteem.
3. To expand the range of economic and social choice available to individuals and nations by freeing them from servitude and dependence not only in relation to other people and nation-state but also to the forces of ignorance and human misery.

Self Assessment Exercise

i. Highlight the major core values of development.
ii. Differentiate each from another.
iii. What are the basic objectives of development

3.5 SOME BASIC INDICATORS OF DEVELOPMENT

Income is an important indicator of development, it is also important to go beyond income, even as adjusted for purchasing power parity, to get a board picture of a national's development levels.

In the first column of table 7.2.1, incomes are measured at market or official exchange rates and suggest that income of a person in the united state is 363 times that of a person in the democratic republic of Congo! But again, this is literally unbelievable, as many services cost much less in the DRC than in the united state. The PPP rates gives a better sense of the amount of goods and services that could be bought evaluated at U.S. price and suggest that real U.S. Income are closer to 58 times of the DRC- still a level of inequality that stretches the imagination. Overall, the average real income per capita of those in high-income countries is more than 13 times that of those in low - income countries.

Besides average incomes, it is necessary to evaluate a nation's average health and education attainments. Table 7.2.1 shows some basics indicators of income, health (life expectancy, the rate of undernourishment, the underr-5 mortality rate, and crude birth rate), and education (male and female adult literacy). Life expectancy is the average numbers of years newborn children would live if subjected to the mortality risks prevailing for their cohort at the time of their birth. Under nourishment means not consuming too little food to maintain normal levels of activity; it is what is often called the problem of hunger. High fertility can be both a cause and consequence of underdevelopment, so the birth rate is reported as another basic indicator. Male female literacy are the fraction reported or estimated to have basic abilities to read and write ; functional literacy is generally lower than the rate reported numbers.

Table 7.2.1 shows these data for low -, lower-middle -, upper-middle-, and upper-, income country groups. The table also shows average from five developing regions (East Asia and the pacific, Latin America and the Caribbean, the Middle East and North Africa, South Asia, and Sub-Saharan Africa) and

from six illustrative countries: the DRC, India, Egypt, Brazil, Malaysia and the United States.

NOTE that in addition to big differences across these income groupings, the low income countries are themselves a very diverse group with greatly differing development challenges, as the differences between India and the DRC illustrate. Although the DRC and Indian are both low - income countries, India's real income is nearly five times that of the DRC. Its overall life expectancy is a full 20 years longer. While nearly three - quarters are undernourished in the DRC, about one fifth are undernourished in India of every 1,000 live births 205 of these children will die before their fifth birthday in the DRC, compared with 75 in India. And the birth rate is about twice as higher level of both male and female literacy than Indian does. If India appears to do better overall, both face enormous development challenge as seen by comparing these statistics even to upper-middle - income Malaysia

Table 7.2.1 Commonality and Diversity: Some Basic Indicators

Country or Group	**2006 income per capital (U.S.$)**	**2005 PPP (U.S.$)**	**Life Expectancy (year)**	**Prevalence of undernourishment (%)**	**Under-5 mortality per 1,000 live births**	**Crude birth rate**	**Adult literacy Male**	**Female**
Income Group								
Low	585	2,486	59	24	114	29	71	50
Lower middle	1,923	6,314	70	11	39	16	93	85
Upper middle	5,634	10,931	71	4	27	16	96	93
High	35,264	32,550	79	3	7	10	99	98
Country								
Dem. Rep. Congo (LIC)	120	720	44	74	205	50	81	54
India (LIC)	730	3,460	64	20	74	24	73	48
Egypt (LMC)	1,260	4,440	71	4	33	26	83	59
Brazil (LMC)	3,550	8,230	71	7	33	20	88	89
Malaysia (UMC)	4.970	10.320	74	3	12	21	92	85
United States (HI)	43,560	41,950	78	<2.5	7	14	99[a]	99[a]
Region								

East Asia and the Pacific	1,630	5,914	71	12	33	15	95	87
Latin America and the Caribbean	4,045	8,116	72	10	31	20	91	89
Middle East and North Africa	2,198	6,084	70	7	53	24	81	61
South Asia	692	3,142	63	21	83	25	70	45
Sub-Saharan Africa	746	2,004	47	30	163	40	70	53

Source: Data from world bank, World Development Indicators, 2007 (Washington, D.C.: World Bank, 2007), various tables. UNDP estimates. Micheal P. Todaro and Stephen C. Smith (Economic Development)

4.0 Conclusion

The unit survey the major characteristics of developed and less developed countries and examine the main reason why a country may witness growth and not development. And conclude that less developed economies are highly vulnerable to international competitiveness.

5.0 Summary

The unit review the major features of both developed and less developed countries and explores reasons why growth may not lead to economic development.

5.0 Tutor-Marked Assignment

i) Differentiate between developed and less developed economic.

ii) List and explain major characteristics of less developed countries

iii) Enumerate and explain reasons why economic growth may no lead to development

7.0 References/Further Readings

Attah B.O, Bakare, T.A. & Daisi, O.R., (2011); **Anatomy of Economics Principles, Q&A (Macroeconomics),** Raamson Printing Press, Oke-Afa, Isolo, Lagos, Nigeria

Amacher, R and Ulbrich, H, (1986); **Principles of Economics,** South Western Publications Co. Cincinnafi, Oliso

Bakare –Aremu T.A, (2013); **Fundamental of Economics Principles (Macroeconomics),** Raamson Printing Press, Oke-Afa, Isolo, Lagos, Nigeria

Bakare I.A.O, Daisi, O.R., Jenrola, O.A., & Okunnu, M.A., (1999): **Principles and Practice of Economics (Macro Approach),** Raamson Printing Press, Mushin, Lagos, NigeriaDennis R. A. et-al; International Economics, Mcgraw Hill Irwin, 8th edition.

Familoni K.A, (1990); **Development in Macroeconomics Policy,** Concept Publications, Lagos, Nigeria

Fashina E.O, (2000); **Foundations of Economics Analysis (Macro Theories),** F.E.F International Company, Ikeja, Lagos, Nigeria

Jhingan M.L, (2010); **Macroeconomics Theory, 12th edition,** Vrinda Publications (P) Ltd. Delhi, India

Jhingan M.L, (2010); **International Economics,** Vrinda Publications (P) Ltd. Delhi, India

Lipsey R.G, (1979); **An Introduction to Positive Economics,** Hayper & Raw, London

Umo J.U, (1986); **Economics; An African Perspectives ,** Johnwest, Lagos Nigeria.

Gordon Robert J. (2009). ***Macroeconomics*** **(Eleventh ed.). Boston**: Pearson Addison Wesley. ISBN 9780321552075

Unit 3: SOME SELECTED GROWTH THEORIES

CONTENTS

1.0 Introduction

The main focus of this unit is to discuss the features of less developed and developed countries and in the process bringing into the attention of the student some of the reason why economic growth can not lead to economic development. Moreso, some growth theories will also be discussed.

2.0 Objective

At the end of this unit student will be able to:

i. Analyse different theories of economic growth.

ii. Explain basic characteristics of developing nations.

iii. Know the reason why economic growth can not lead to economic development.

3.0 Main Content

3.1 ROSTOW STAGES OF GROWTH

W. Rostow divided the phases of development into 5 evolutionary stages which are:

i) Primitive stage ii) Pre-condition to development (iii) take off to development (iv) drive to maturity v) High mass consumption**.**

i) **Primitive stage:** According to him this stage maked the beginning of traditional business such as blacksmith, farming, subsistence market economy, among others. The technology adopted at this stage was simple and the size of the market was relatively smaller.

ii) **Pre-condition to development:** This deals with the breakdown of tradition and cultural rigidities that could militate against development e.g. ethnic war, intolerance, superstition, human sacrifices etc. This stage imply that for development to be achieved there must be exchange of

ideas, inter ethnic marriage, sharing of asset particularly land, exchange of goods and services, mobilization of resources from areas of surpluses to areas of shortages.

iii) **Take off to Development:** This is the stage where infrastructures such as effective and efficient communication system; transportation system, health facilities, portable water supply, among others are laid down, couple with high investment value which must range between 10% and 15% of national income.

iv) **Drive to maturity:** Here development has become internalized. This implies that some investment activities in a country have become improved thereby generating high level of return.

v) **High mass consumption**: This stage encourages large scale production facilitated by improvement in the level of nation's technology. It involves allocation of huge amount of money for a nations research institutes to develop her technological resource base as a means of meeting up the primary needs of the society and international demands.

CRITISMS OF THE W. ROSTOW THEORY OF DEVELOPMENT

i) Traditional society is not an essential requirements for development, for instance countries such as US, Canada, New Zealand etc were born free of traditional societies and they derived pre-condition from Britain a country already developed,.

ii) He only observed successful countries that passed through development stages. For example Nigeria performed well in the first three stages of development enunciated by Rostow between 1970s and late 19890s but unable to move to the last two stages of development largely due to

a) Enormous income inequality distribution
b) Mismanagement on the part of government officials
c) Adoption of more cultural technology
d) Poor maintenance of infrastructures, among others

Self Assessment Exercises

i. Critically examine the W. Rostow growth theory
ii. Examine the criticism of the theory.

3.2 THE INTERNATIONAL DEPENDENCE REVOLUTION

During the 1970s, international-dependence models gained increasing support, especially among developing- country intellectuals, as a result of growing disenchantment with both the stages and structural- change models. while this theory to a large degree went out of favour during the 1980s and 1990s, version of it have enjoyed a resurgence in the early years of the twenty- first century, as some of it view have been adopted, albeit in modified form, by theorist and leaders of the ant globalization movement. Essentially, international

dependence models review developing countries as beset by institutional, politics, and economic rigidities, both domestic and international, and caught up in a **dependence** and **dominance** relationship with rich countries. With this general approach are three major streams of thought: the neo-colonial dependence models, the false -paradigm models, and the dualistic-development thesis.

THE NEOCOLONIAL DEPENDENCE MODELS

The first major stream, which we call the Neo colonial dependence models, is an indirect outgrowth of Marxist thinking. it attribute the existence and continuance of underdevelopment primarily to the historical evolution of a highly unequal international capitalist system of rich country - poor country relationships. whether because rich nations are intentionally exploitative or unintentionally neglectful, the coexistence of rich and poor nations in an international system dominated by such unequal power relationship between the centre (the developed countries) and the periphery (the LDCs) renders attempts by poor nations to be self-reliant and independent difficult and sometimes even impossible. Certain groups in the developing countries (including landlords, entrepreneur, military rulers, merchants, salaried public officials, and trade union leaders) who enjoy high incomes, social status and political power constitute a small elite ruling class whose principal interest, knowingly or not, is in the perpetuation of the international capitalist system of inequality and conformity in which they are rewarded. Directly and indirectly, they serve (are dominated by) and are rewarded by (are dependent on) international special- interest power groups, including multinational corporations, national bilateral - aid agencies, and multilateral assistance organizations like the world bank or international monetary fund (IMF), which are tied by allegiance or funding to the wealthy capitalist countries.

In addition, it is believed that the economic changes in third world countries depend on industrial activities of the advanced countries. Basically the interaction between the less developed countries and the developed countries exist in terms of laws deliberately set up by the colonial imperialist to render the third world countries highly import, technological, economical, political and culturally dependent. In this wise, the survival of the less developed countries since the colonial era to date is still largely tied to the control of the developed countries of the world.

Weisskoof (1992) contends that the relationship between countries such as USA, Britain, France etc and Nigeria, Gambia etc has impoverished the latter and according to him, he articulated the effect of such relationship as follows:

a) Factor bias effect 2) capital flight syndrome 3) International demonstration effect and 5) Brain drain effect.

The False Paradigm Model

A second and less radical international dependence approach to development, which we might call the **false - paradigm models,** attributes underdevelopment

to faulty and inappropriate advice provided by well- meaning but often uninformed, biased, and ethnocentric international "expert" advisers from developed- country assistance agencies and multinational donor organizations. These experts are said to offer complex but ultimately misleading models of development that often leads to inappropriate or incorrect policies. Because of institution factors such as the central and remarkably resilient role of traditional social structure (tribe, caste, class, etc.) the higher unequal ownership of land and other property right, the disproportionate controls by local elites over domestic and international financial assets, and the very unequal access to credit, these policies, based as they often are on main street, neo classical (or perhaps Lewis-type surplus-labour or Chenery type structural change) models, in many cases merely serve the vested interest of existing power groups, both domestic and international.

In addition, according to this argument, leading intellectuals, trade unionist, high-level government economist, and other civil servants all get their training in developed country institution where there are unwittingly served an unhealthy dose of alien concept and elegant but in applicable theoretical models, having little or no useful of knowledge to enable them to come to grips in an effective way with real development problem , they often tend to become unknowing or reluctant apologists for the existing system of elitist policies and institutional structures. In university economics courses, for example, this typically entails he perpetuation of teaching of many "irrelevant" western concepts and models, while in government policy discussions, too much emphasis is placed on attempts to measure capital-output ratios, to increase savings and investment ratios, to privatize and deregulate the economy, or to maximize GDP growth rates. As a result, proponents argue that desirable institutional and structural reforms, many of which we have discussed, are neglected or give only cursory attention.

The Dualistic - Development Thesis

Implicit in structural- change theories and explicit in international - dependence theories is the notion of a world of dual societies, of rich nations and poor nations and, in the developing countries, pocket of wealth within broad areas of poverty. **Dualism** is a concept widely discussed in development economic. It represents the existence and persistence of substantial and even increasing divergences between rich and poor nations and rich and poor people on various levels. Specifically, the concept of dualism embraces four key arguments.

1. Different set of conditions, of which some are "superior" and others "inferior," can coexist in a given space. Examples of this element of dualism includes Lewis's notion of the coexistence of Modern and traditional methods of production in urban and rural sectors: the coexistence of wealthy, highly educated elites with masses of illiterate poor people; and the dependence notion of the coexistence of powerful and wealthy industrialized nations with weak, impoverished peasant societies in the international economy.
2. This coexistence is chronic and not merely transitional. it is not due to a temporary phenomenon, in which case time could eliminate the

discrepancy between superior and inferior elements. In other words, the international coexistence of wealth and poverty is not simply a historical phenomenon that will be rectified in time. Although both the stage-of - growth theory and the structural- change models implicitly make such an assumption, to proponents of the dualistic development thesis, the facts of growing international inequalities seems to refute it.

3. Not only do the degrees of superiority of inferiority fail to show any signs of diminishing, but they even have an inherent tendency to increase. For example, the productive gap between workers in developed countries and their counterparts in most LDCs seems to widen with each passing year.
4. The interrelations between the superior and inferior elements are such that the existence of the superior elements does little or nothing to pull up the inferior element, let alone "trickle down" to it. In fact it may actually serve to push it down- to "develop its underdevelopment"

Self Assessment Exercises

i. evaluate the classical international dependence model
ii. Examine the criticism of the theories.

3.3 DEVELOPMENTAL OBJECTIVES.

The development objectives popularly pursued by most countries are:

- **Growth in income:** The growth in income will be desirable if it ranges between 67 per cent than the national income will double, at 10 per cent, the average income will double, but this is not sustainable.
- **Equitable distribution of income:** The income generated should be equitably distributed to every region, sector, classes, etc. This should aim at bridging the gap between the poor and the rich. Otherwise, there will be deepening poverty which may cause violence, unrest, conflict, civil war, etc.
- **Employment promotion:** There must be provision of jobs for the skilled, semi-skilled and unskilled labour to reduce the incidence of social menace (e. g. armed robbery) in the society.
- **Self reliance:** There must be improvement in. balance of payment (BOP), external economy, food, security, reduction in stock of external debt. This also extend to strategic needs such as energy, security, defence, etc. (to protect territorial integrity).
- **Price stability:** There should be negligible inflation. No price fluctuation. The prices of goods and services should be stable over a period of time.
- **Balanced development:** There must be balance in the nation, in the sectorial units, there must be balance. Not necessarily at the same rate but it should meet the need for development requirement. There should be regional balance to reduce rural- urban migration.
- **Environmental preservation and maintenance of ecological balance:**

This implies that residential environment must be free of oil spillage, air pollution, etc. The drainage system must also be efficient to prevent flooding of water.

Self Assessment Exercises

i. what are developmental objectives.

4.0 CONCLUSION

This unit conclude that there cannot be development without growth and that presence of growth itself does not guarantee development. Whatever their ideological differences, the advocates of the neo-colonial-dependence, false - paradigm, and dualism models reject the exclusive emphasis on traditional neoclassical economic theories design to accelerate the growth of GDP as the principal index of development. They question the validity of Lewis - type two sectors models of modernization and industrialization in light of their questionable assumption and recent- developing-word history. They further reject the claims made by Chenery and others that there exist well -defined empirical patterns of development that should be pursued by most poor countries on the periphery of the world economy. Instead, dependence, false-paradigm, and dualism theorist place more emphasis on international power imbalances and on needed fundamental economic, political, and institutional reforms, both domestic and worldwide. In extreme cases, they call for the outright expropriation of privately owned assets in the expectation that public asset ownership and control will be a more effective means to help eradicate absolute poverty, provide expanded employment opportunities, lessen income inequalities, and raise the level of living (including health, education, and cultural enrichment) of the masses. Although a few radical neo-Marxists would even go so far as to stay that economic growth and structural change do not matter, the majority of thoughtful observers recognize that the most effective way to deal with these diverse social problems is to accelerate the pace of economic growth through domestic and international reforms accompanied by a judicious mixture of both public and private economic activity.

5.0 SUMMARY

The unit explored the some growth theories, that is Rostow stages of growth and international dependence theories and finally looked at the other major developmental objectives.

6.0 TUTOR MARKED ASSIGNMENT

i. Discuss W. Rostow's stages of growth

ii. What are the developmental objective(s) that is (are) crucial to the development of Nigerian economy

iii. Discuss linear stages of growth theory, which of the stages is Nigeria now?

iv. Comment on dependence development thesis.

7.0 **REFERENCES**

Attah B.O, Bakare, T.A. & Daisi, O.R., (2011); **Anatomy of Economics Principles, Q&A (Macroeconomics),** Raamson Printing Press, Oke-Afa, Isolo, Lagos, Nigeria

Amacher, R and Ulbrich, H, (1986); **Principles of Economics,** South Western Publications Co. Cincinnafi, Oliso

Bakare –Aremu T.A, (2013); **Fundamental of Economics Principles (Macroeconomics),** Raamson Printing Press, Oke-Afa, Isolo, Lagos, Nigeria

Bakare I.A.O, Daisi, O.R., Jenrola, O.A., & Okunnu, M.A., (1999): **Principles and Practice of Economics (Macro Approach),** Raamson Printing Press, Mushin, Lagos, NigeriaDennis R. A. et-al; International Economics, Mcgraw Hill Irwin, 8th edition.

Familoni K.A, (1990); **Development in Macroeconomics Policy,** Concept Publications, Lagos, Nigeria

Fashina E.O, (2000); **Foundations of Economics Analysis (Macro Theories),** F.E.F International Company, Ikeja, Lagos, Nigeria

Jhingan M.L, (2010); **Macroeconomics Theory, 12th edition,** Vrinda Publications (P) Ltd. Delhi, India

Jhingan M.L, (2010); **International Economics,** Vrinda Publications (P) Ltd. Delhi, India

Lipsey R.G, (1979); **An Introduction to Positive Economics,** Hayper & Raw, London

Umo J.U, (1986); **Economics; An African Perspectives,** Johnwest, Lagos Nigeria.

Gordon Robert J. (2009). ***Macroeconomics*** **(Eleventh ed.). Boston**: Pearson Addison Wesley. ISBN 9780321552075