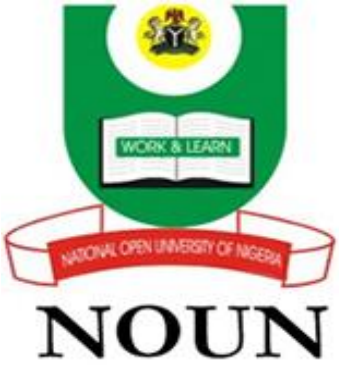

NATIONAL OPEN UNIVERSITY OF NIGERIA

ADVANCED MACROECONOMIC THEORY

ECO712

SCHOOL OF POSTGRADUATE STUDIES

FACULTY OF SOCIAL SCIENCES, DEPARTMENT OF ECONOMICS

COURSE GUIDE

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CONTENTS

INTRODUCTION

The course, Advanced Macroeconomics Theory (ECO 712) is a semester core course which carries three credit units for Postgraduate Diploma level in economics department and those that may choose it as service course, in the School of Postgraduate studies, at the National Open University, Nigeria. This coursework will be useful in your academic pursuit and help to gain in-depth insight in Advanced Macroeconomic theory.

This course is simplified for easy assimilation for the student of postgraduate diploma who might have little or no knowledge of economics at post-secondary level. However, for student to assimilate faster, practice question would be given at the end of each unit, this will also prepare the student for the semester examination. Also, some general guidelines are suggested for easy assimilation and time management required of learner on each unit in order to achieve the optimum course aims and objectives successfully. It also provides you with some guidance on your Tutor Marked Assignments (TMAs) as contained herein.

Course Contents

The course is made up of twenty-one units (seven modules) spread across twenty-one lectures weeks and covering areas such as the Revision of income determination from simple closed economy to a four-sector economy; Detailed theories of consumption and investment functions; The classical and Keynesian theories, the theory of inflation; Business cycles and forecasting; The relation of these issues to leading problems in public policy; The rationale for the existence of the public sector, formulation of national economic policy; Planning principles and analysis; Policy objectives, instruments and implementation, Balance of payments equilibrium and disequilibrium; balance of payments adjustment mechanism; devaluation, contemporary issues in public policy in Nigeria.

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 Advanced 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 (if any) with the new ideals. 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. Furthermore, the course is prepared in such a way to give deep insight about macroeconomic analysis and policy development for the pursuance of a master degree in Economics.

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

Explaining what macroeconomic entails.
Establishing distinction between Macroeconomics and Microeconomics
Understanding clearly the Concept of Saving, Consumption and Investment
Discussing income determination from simple closed economy to a four-sector economy national income models with special reference to classical and Keynesian models.
The classical and Keynesian theory of interest rate determination
Explaining the theory of inflation; Business cycles and forecasting
The rationale for the existence of the public sector, formulation of national economic policy through Macroeconomic Policy objectives, and instruments
Critical analysis of Keynesian, monetarist and Post-Keynesian theories, the Demand for, and Supply of money and their impact on effectiveness of Monetary and Fiscal policies,
Explaining the theory of Economic Growth and Development
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 called 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: An Overview of Macroeconomics Analysis
Unit 2: Distinction between Macroeconomics and Microeconomics
Unit 3: Essential tools of Macroeconomics analysis

Unit 4 Macro-Statics, Comparative Static and Macro-Dynamics

Module 2

Unit 1: The Conceptual Analysis of Consumption Expenditure
Unit 2: The Consumption function and Graph (Curve)
Unit 3: Determinants of Consumption Expenditure
Unit 4: Derivation of Consumption function from a given savings function

Module 3

Unit 1: The Conceptual Analysis of Savings
Unit 2: The Savings function and Graph
Unit 3: Determinant of Savings
Unit 4: Derivations of Saving Function from Consumption

Module 4

Unit 1: The Conceptual Analysis of Investment Expenditure
Unit 2: The Investment function and Graph (Curve)
Unit 3: Types of Investment
Unit 4: Determinants of Investment

Module 5

Unit 1: An Overview National Income Models
Unit 2: The Classical Models (Closed Economy & Open Economy)
Unit 3: The Keynesian Models (Closed Economy & Open Economy)
Unit 4: The Multiplier Concept
Unit 5: Determination of National Income Equilibrium
Unit 6: Conceptual Definition of National Income Accounting

Module 6

Unit 1: Money and the Barter System
Unit 2: Brief historical evolution of Money
Unit 3: Features and functions of Money
Unit 4: Types and Nature of Money

Module 7

Unit 1: An Introduction to the Concepts and Theories of Demand for Money and Supply of Money
Unit 2: Some Selected Theories of Demand for Money
Unit 3: Central Bank and Money Supply Policy

Module 8

Unit 1: The Classical theory of Interest rate Determination
Unit 2: The Keynesian theory of Interest Rate Determination
Unit 3: The Post-Keynesian Theory of interest rate Determination

Module 9

Unit 1: Macroeconomic Policy: Overview
Unit 2: Macroeconomic Policy Objectives Instruments and Targets
Unit 3: Internal and External Balance

Module 10

Unit 1: Concept of Economic growth
Unit 2: Distinction between Economic Growth and Development
Unit 3: Arithmetic of Growth.
Unit 4: Major characteristics of Less Developed and Developed Country
Unit 5: Some selected Growth Theories
Unit 6: Developmental Objectives
Unit 7: Reasons why Economic Growth may not lead to Development

The **first module** (unit 1-4) presents the general background on course macroeconomic overview; distinction between macro-and microeconomics; basic tools of macroeconomics analysis. The **second module** (unit 5-8) explains the concept of consumption, consumption function and graph, derivation of consumption function from a given saving function and the determinant of consumption.

The **third module** (unit 9-12) explores the concept of saving, saving function and graph, derivation of saving function from consumption function and the determinants of saving. While the **module 4** (unit 13-16) covers detail description of investment concept, investment function and graph and the determinants of investment. The **fifth module** (17-22**)** 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 **sixth module** (23-26) 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. However, the **seventh module** (27-30) discusses the theory of money demand and supply; and the interest rate determination. The **eight module** exposed the Classical and Keynesian theories of interest rate determination as well as the post- Keynesian theory of interest rate determination.

The **night module** (31-33) reflects on macroeconomics policy objectives, instrument and target and its effect on the internal and external balances. The last module i.e. **tenth module** (33-40) considered the theory of economic growth and development and drew distinction between economic growth and development and lastly discuss 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 exercise, conclusion, summary and references. Other areas border on the Tutor-Marked Assessment (TMA) questions.

Some of the self-assessment exercise 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 references and other (on-line and off-line) resources for further reading. They are meant to give you additional information if only you can lay your hands on any of them. You are required to study the materials; practise the self-assessment exercise and tutor-marked assignment (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

For further reading and more detailed information about the course, the following materials are recommended:

Attah B.O et-al, (2011); **Anatomy of Economic Principles, Q&A (Macroeconomics),** Raamson Printing Press, Oke-Afa, Isolo, Lagos, Nigeria

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

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

Bakare I.A.O et-al, (1999): **Principles and Practice of Economic (Macro Approach),** Raamson Printing Press, Mushin, Lagos, Nigeria

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

Fashina E.O, (2000); **Foundations of Economic 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 Economic,** Vrinda Publications (P) Ltd. Delhi, India

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

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

Assignment File

There are assignments on this course and you are expected to do all of them by following the schedule prescribed for them in terms of when to attempt them and submit same for grading by your tutor. The marks you obtain for these assignments

will count toward the final mark you obtain for this course. Further information on assignments will be found in the Assignment File itself and later in this Course Guide in the section on Assessment.

There are four assignments in this course. The four course assignments will cover:
Assignment 1 - All TMAs' question in Units 1 – 16 (Module 1-4)
Assignment 2 - All TMAs' question in Units 17 – 30 (Module 5 - 7)
Assignment 3 - All TMAs' question in Units 31 – 40 (Module 8 & 10)

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

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

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

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

Tutor-Marked Assignments (TMAs)
There are three 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 is it 3 or 4.

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 set 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 (the three tutor assignments marked)	30%
Final Examination	70%
Total	**100%**

Course Overview

The table presented below indicate the units, number of weeks and assignments to be taken by you to successfully complete the course, Macroeconomic Theory (ECO712).

Unit	Unit Title	Week's Activity	Assessment (end of unit)
	Course Guide		
1-4	An Introduction to Macroeconomics Analysis	Week 1	
5-8	Conceptualisation of Consumption Model,-Classical View	Week 2	
9-12	Conceptualisation of Savings Function, The classical view	Week 3	
13-14	Conceptualisation of Investment Function.	Week 4	
15-17	The Determinants and Types of Investments	Week 5	
18-19	The National Income Models :The Classical & Keynesian	Week 6	
20-21	The Concept of multiplier	Week 7	Assignment 1
22	Determination of National Income equilibrium	Week 8	
23	Money; the barter system and the evolution	Week 9	
24	Features, functions and types of money	Week 10	
25	The Macroeconomics policy – An Introduction	Week 11	
26	The Macroeconomics objectives, instruments and targets	Week 12	
27	Internal and External balance	Week13	
28 - 31	Theory of demand for Money and supply of Money	Week 14	Assignment 2
32	Theory of Interest rate Determination	Week 15	
33	The theory of Inflation and Money Value	Week 16	
34	Concept of Economic growth and development	Week 17	
35	Distinction between economic growth and development	Week 18	
36	Major characteristics of less developed and developed economy	Week 19	

37	Some selected Growth theories	Week 20	
38	Developmental objectives	Week 21	
39	Reasons why economic growth may not lead to development	Week 22	Assignment 3
			Final Examination

How to Get the Most from This Course

In distance learning the study units replace the university lecturer. This is one of the great advantages of distance learning; you can read and work through specially designed study materials at your own pace and at a time and place that suit you best. Think of it as reading the lecture instead of listening to a lecturer. In the same way that a lecturer might set you some reading to do, the study units tell you when to read your books or other material, and when to embark on discussion with your colleagues. Just as a lecturer might give you an in-class exercise, your study units provides exercises for you to do at appropriate points.

Each of the study units follows a common format. The first item is an introduction to the subject matter of the unit and how a particular unit is integrated with the other units and the course as a whole. Next is a set of learning objectives. These objectives let you know what you should be able to do by the time you have completed the unit. You should use these objectives to guide your study. When you have finished the unit you must go back and check whether you have achieved the objectives. If you make a habit of doing this you will significantly improve your chances of passing the course and getting the best grade.

The main body of the unit guides you through the required reading from other sources. This will usually be either from your set books or from a readings section. Some units require you to undertake practical overview of historical events. You will be directed when you need to embark on discussion and guided through the tasks you must do. The purpose of the practical overview of some certain historical economic issues are in twofold. First, it will enhance your understanding of the material in the unit. Second, it will give you practical experience and skills to evaluate economic arguments, and understand the roles of history in guiding current economic policies and debates outside your studies. In any event, most of the critical thinking skills you will develop during studying are applicable in normal working practice, so it is important that you encounter them during your studies.

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

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

Read this Course Guide thoroughly.

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

the beginning of each unit) and the course objectives (listed in this Course Guide).

Tutors and Tutorials

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

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

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

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

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

Summary

This course, Advanced Macroeconomic Theory (ECO712), exposes the users to macroeconomics fundamentals such as National income models, concepts of saving, consumption and investment, as well as issues binding on macroeconomic policy objectives, instrument and target. The other aspects include concepts of money, barter system, and evolution of the fiat money. The uses of the instruments to anchor the targets to achieve 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 anything you learn in the course to term papers writing in other economic development courses. We wish you success with the course and hope that you will find it both interestingly intuitive and obligingly useful.

MODULE ONE

Unit 1: An Overview of Macroeconomics Analysis
Unit 2: Distinction between Macroeconomics and Microeconomics
Unit 3: Essential tools of Macroeconomics analysis
Unit 4 Macro-statics, Comparative Static and Macro-Dynamics

UNIT 1: AN OVERVIEW OF MACROECONOMICS ANALYSIS

Contents

1.0 Introduction

The main aim of this study unit is to look into 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

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; and
- Know various contributors to macroeconomic evolution;

3.0 Contents

3.1: Conceptualisation of Macroeconomic analysis

The concept of Macroeconomics was first introduced by Ragnar Frisch during the period of great economic depression in 1933, which was global.

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

Conceptually, 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 of 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.

Student Assessment Exercise

i. Explain in the detail the meaning of macroeconomics.

3.2 Features and Nature of Macroeconomics

The features or qualities of macroeconomics is encompasses in it 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 affects 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.

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

Student Assessment Exercise

i. Explain what is meant by the characterization of macroeconomics.

4.0 Conclusion

In this unit, we conclude that in everyday usage, macroeconomic involves anything that connect or concern the entire economy, which is the "elephant economy". We equally conclude the nature of macroeconomics has to do with what macroeconomics entails, that is the characterization of macroeconomic theories.

5.0 Summary

The unit vividly looked at the composition of macroeconomics and discussed in detail the characterization of the macroeconomic theory, that is, what macroeconomics includes and precludes

6.0 Tutor-Marked Assignment

1. Conceptualise the macroeconomics model and theory
2. Explain in details the scope of macroeconomics analysis.

3. Differentiate the between macro-economy and macroeconomics

7.0 References/Further Readings

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

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

Bakare I.A.O et-al, (1999): **Principles and Practice of Economic (Macro Approach),** Raamson Printing Press, Mushin, Lagos, Nigeria

UNIT 2: DISTINCTION BETWEEN MACROECONOMIC AND MICROECONOMICS

CONTENTS

1.0 Introduction

Essentially, this study unit attempts to conceptually differentiate the main two branches of economic theory, 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 at all levels of economic activities. 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 various definitions of macroeconomics and microeconomics;
- Understand clearly concepts and analysis of both theories and principles; and
- Understand and distinguish between macroeconomics and microeconomics.

3.0 Contents

3.1 Conceptualisation of Microeconomics 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.

Student Assessment Exercise

i. Explain microeconomics concept in a clear terms.

3.2 Conceptualisation of Macroeconomics 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.

Student Assessment Exercise

i. Clearly explain the concept of macroeconomics analysis

3.3 Distinction between Microeconomics and Macroeconomics

Microeconomics studies economic unit such as consumers firms 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 involves in general, the totality (aggregate) of the entire elephant economy. However, 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- fall under the sphere of 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 areas of economic analysis, which are regarded as necessary apparatus in the investigation of economic problems. They have both theoretical and practical importance in the areas of:

- Understanding the working of the whole economy.
- Providing tools for economic policies.
- Efficient allocation and employment of resources.
- Business decisions
- Understanding the problems of taxation.
- International trade and balance of payment.
- Examining the condition of economic welfare.
- Economic and social prediction of events.
- 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 studies of the elephant leg, tummy, tusk, and tail are microeconomics studies.

Student Assessment Exercise

i. Differentiate between microeconomics and macroeconomics concepts in clear terms

4.0 Conclusion

In this unit, we conclude that, macroeconomic involves anything that connects or concerns the entire economy, which is the "elephant economy", while microeconomics entails study of the same 'elephant economy', its units or parts. It is observable that the macroeconomic study is achievable through units study that is microeconomic study (microeconomic foundations).We however, differentiated clearly between macroeconomics and microeconomics.

5.0 Summary

This unit looked at the composition of macroeconomics and microeconomics and differentiates clearly between the two concepts and discussed in detail the characterization of the two.

6.0 Tutor-Marked Assignment

1. Vividly explain microeconomic concept and theory.
2. Discuss macroeconomic concept and theory.
1. Differentiate between macroeconomics and microeconomics.

7.0 References/Further Readings

Attah B.O et-al, (2011); **Anatomy of Economic Principles, Q&A (Macroeconomics),** Raamson Printing Press, Oke-Afa, Isolo, Lagos, Nigeria

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

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

Bakare I.A.O et-al, (1999): **Principles and Practice of Economic (Macro Approach),** Raamson Printing Press, Mushin, Lagos, Nigeria

UNIT 3 BASIC TOOLS OF MACROECONOMICS ANALYSIS

CONTENTS

1.0 Introduction

This study unit (study unit three, module one) emphasizes the important of basic tools of macroeconomics analysis, the students are, however introduced to these tools of analysis in other to have the full grasp of the entire course work because most of the latter work would be based on the understanding of these basic tools of analysis.
The basic macroeconomics tools are the instruments through which the study is analysed explicitly to the understanding of the learners. These include verbal statement, 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; and
- Understand and have the ability to employ these tools to their economic analysis.

3.0 Contents

3.1 Statement

The use of words is often the easiest way of presentation. It has the advantage of making discussion in economics available to wide audience. Verbal statement consist of words in tape or class room teaching delivery. Verbal statement could involve different kind of 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) on-line, which could also be real time or offline. The former imply receiving online lectures as at when the lectures are being delivered by the lecturer, in which real time participation is expected. The teacher ask the question and the students answer the question at the same time and vice versa. On the other hand, the offline imply that, the teacher leaves the lecture material on line for student to learn and ask question that are not replied almost immediately.

Student 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 provide 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 curves show the relationship between quantity and price of the commodity. This is illustrated below;

The Demand Curve

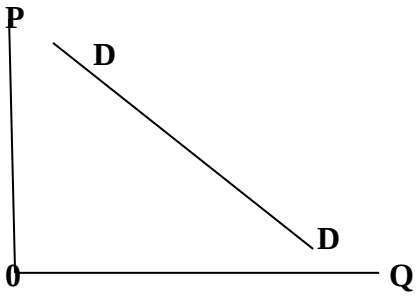


FIG. 1

The Supply Curve

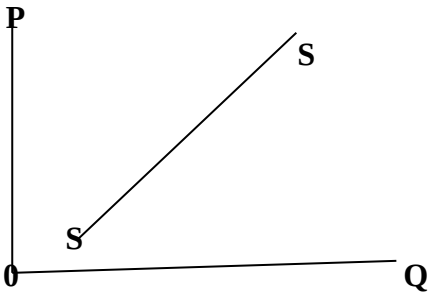


FIG. 2

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

The illustrations above confirms the fact that a clearer picture of a concept is viewed from a graph or curve. That is there is a negative relationship between demand and price while positive relationship exists between supply and price.

Student Assessment Exercise

i. How could graph be used for illustration.

3.3 Equations / Models

Complex relationships such as three or more dimensional relation are expressed in mathematical language- algebraic statement of functional relationship. However, for ease of presentation variables are often reduced to two so that they would be shown on graphs.
An algebraic statement could be made from illustration of demand and supply curves above.
For instance figure 1 could be algebraically represented as; Qd = f (P) meaning quantity demanded of a commodity depend on the price of that commodity, implicitly. However, it could be explicitly written as Qd = a –bP , meaning that negative relationship exist between quantity demanded of a commodity 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 2 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 a seller would be willing to sell more at a high price than at a low price.

Student Assessment Exercise

i. Explain mathematically the inverse relationship between quaintly demanded and price.

4.0 CONCLUSION

We conclude here that microeconomics and macroeconomics concepts are two ways of looking at the same things, 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. consumers businesses (firms), and government). On the whole both analyse economic problems either from the units view point from the point of view of the whole economy.

5.0 SUMMARY

This module discussed the macroeconomics concept in its entirety and relates it to microeconomics to bring a clearer picture of the distinction between the two. It further gives relevant examples on both macroeconomics and microeconomics concepts and finally discussed the basic tools of macroeconomic analysis with definitions and examples.

6.0 TUTOR MARKED ASSIGNMENT

i. Clearly distinguish between Microeconomics and Macroeconomics 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 et-al, (2011); **Anatomy of Economic Principles, Q&A (Macroeconomics),** Raamson Printing Press, Oke-Afa, Isolo, Lagos, Nigeria

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

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

Bakare I.A.O et-al, (1999): **Principles and Practice of Economic (Macro Approach),** Raamson Printing Press, Mushin, Lagos, Nigeria

UNIT 4: MACRO-STATIC, COMPARATIVE STATICS AND MACRO-DYNAMICS.

CONTENTS

1.0 Introduction

This study unit (study unit four, module one) introduces the concepts of macro-dynamics and macro-statics analysis as an important aspect of macroeconomics analysis. This is because all macroeconomics analyses can either be statics (as the propagated by the early schools, such as Classical, the Neoclassical etc.) or dynamics. While the statics sees the aggregate economy as a still picture at equilibrium, which could be spontaneously changed by any kind of macroeconomic shocks (comparative static) the dynamics analysis consider major changes or processes undergone before equilibrium could be achieved. As stated earlier the comparative statics involves movement from one stable equilibrium to the other.

2.0 Objectives

At the end of this Unit, you should be able to:

- Understand the macroeconomic static analysis;
- Understand the macroeconomic comparative static analysis;
- Understand the macroeconomic dynamics analysis; and
- Distinguish among the aforementioned macroeconomic analysis.

3.0 Contents

3.1 Macro-Statics Analysis

The word ‘statics’ is coined from the Greek word “statike” which implies getting to a standstill. In economics, it means a state of rest where there is no movement, often referred to as static equilibrium. It further implies a state characterised by movement to a particular level without any further change**.** According to Clark, it is a state where five kinds of changes are conspicuous by their absence. These are; the size of the

population, the supply of capital, methods of production, and forms of business organisation and wants of the people remain constant, but the economy continues to work at a steady pace.

In macro-static analysis there is no consideration for time element. Furthermore, all macroeconomic variables are adjudged to the same point of time. Also static economy is also called a timeless economy. Static economy, according to Hicks, is one where we do not trouble about timing or dating**.** Macro-static analysis explains the static equilibrium position of the economy.

This is best explained by Prof. Kurihara in his words: “If the object is to show a 'still picture' of the economy as a whole, the macro static method is the appropriate technique. Also according to Marshal, the expression static economics should be applied, Static economy is thus a timeless economy where no changes occur and it is necessarily in equilibrium.

In macroeconomic static analysis, 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**.**

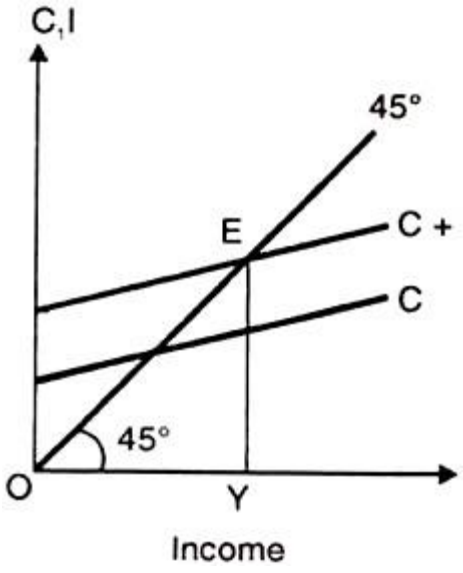


Fig: 1

It simply shows a timeless identity equation without any adjusting mechanism. In this static Keynesian model, the level of national income is determined by the interaction of aggregate supply function and the aggregate demand function.

In Figure 1, 45° line represents the aggregate supply function and C + I line, the aggregate demand function. 45° line and C + I curve intersect at point E. It is the point of effective demand which determines level of national income.

Student Assessment Exercise

i. In Marshal's view explain the term Macro-static analysis.

3.2 Comparative Statics Analysis

Comparative statics is a method of economic analysis which was first used by a 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 it out; this method of procedure is known as Comparative Statics**."**

In the same vein, comparative statics is the method of analysis in which different equilibrium situations are compared. The distinction between static, comparative static and dynamic situations is explained with the help of the accompanying illustration

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 path of movement between the two equilibrium points, that is 

.

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. In other words, we simply compare the equilibrium position A with the equilibrium position B.

At this juncture it is imperative to discuss the importance and the limitations of macroeconomic comparative static analysis;

Importance of Comparative Statistics:

1. This method is important in analysing the effects of causes which bring about disturbances.

2. It re-establishes stability in the process of change. If there are some changes in economic variables due to either external or internal shocks that lead to the process of continuing changes, it is unpredictable to establish when this process of change will end. In such a situation, macro-comparative statics can show the direction of change by pointing towards some definite points of equilibrium. Thus this analysis provides certainty in an uncertain situation**.**

Limitations of Macro-Comparative Statics Analysis:

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.

Student Assessment Exercise

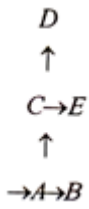
i. Clearly explain the term comparative static economy
ii. Discuss the process of adjustment from one equilibrium to the other in a static state

3.3 Macro-Dynamics Analysis

Macroeconomic dynamics is the study of change, of acceleration (increase) or deceleration (decrease). Macro-Dynamics is primarily concerned with states of disequilibrium in macroeconomic analysis and with change. It is the analysis of the process of change which continues through time or over time.

An economy may change through time in two ways: without changing its pattern and by changing its pattern. Economic dynamics relates to the latter type of change. However, if there is a change in population, capital formation, techniques of production, forms of business organisation and tastes of the people—in any one or all of them—the economy will assume a different pattern, and the economic system will change its direction.

In the following simple illustrative diagram, given initial values of the economy at point A, ordinarily, 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 preceded 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.



Given the following concluding illustration, economic dynamics is, concerned with time-lags, rates of change, and past and expected values of the variables. In a dynamic economy, data change and the economic system take time to adjust it accordingly. Dynamic analysis can be explained in terms of macro- and micro-dynamic models.

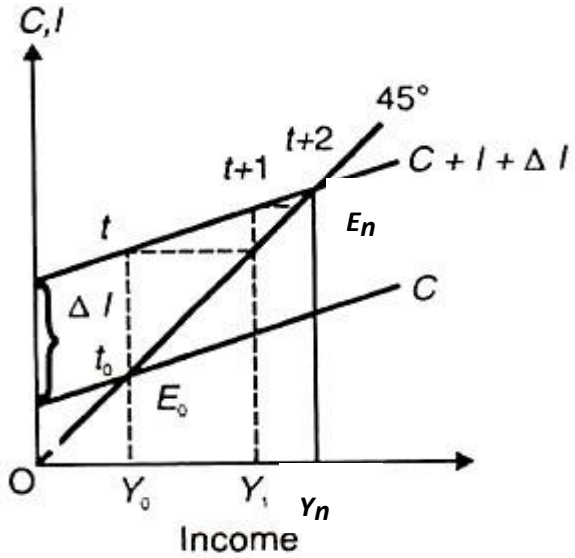


Fig: 2

Macro-Dynamics:

According to Kurihara, "'Macro-dynamics' treats discrete movements or rates of change of macro variables." This method separates the process of trial and error into a series of continuously changing reactions and indicates, step by step, what cause is and what effect is. It describes the changing universe as it is related to previous or subsequent adjustments, it analyses the discrete and continuous changes of aggregates, the sequence of cause-and-effect events arising from some initial shocks and the time-paths of macro-variables and aggregative relationships. Thus, the macro-dynamic

method enables 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 (the investment multiplier) where consumption is a function of the income of the preceding period, i. e. C_t =f(Y) and investment is a function of time and of constant autonomous investment DI, i.e., I_t =f (ΔI). In Figure 2, C+I is the aggregate demand function and 45° line is the aggregate supply function.

If we begin in period t_0 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+1+ΔI. But in period t, consumption lags behind, and is still equal to the income at E_o.

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+ΔI 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.

3.5 Distinction between Macro-Statics and Macro-Dynamics

1. Time Element:

In macro-static economic analysis time element has nothing to do. In static economics, all economic variables refer to the same point of time. Static economy is also called a timeless economy. Static economy, according to Hicks, is one where we do not trouble about dating. On the other hand, in dynamic economics, time element is highly imperative. In macro-dynamic analysis all quantities must be dated, which imply the consciousness of time variant. However, all economic variables refer to the different points of time.

2. Process of Change:

Another difference between macro-static economics and macro-dynamic economics is that macro-static analysis does not show the path of change. It only tells about the conditions of equilibrium, while macro-dynamic economic analysis shows the path of change. Static economics is called a 'still picture' whereas the dynamic economics is called a 'movie' of the market.

3. Equilibrium:

Static economics studies only a particular point of equilibrium. But dynamic economics studies the process by which equilibrium is achieved. As a result, there may be equilibrium or may be disequilibrium. Therefore, static analysis is a study of equilibrium only whereas dynamic analysis studies both equilibrium and disequilibrium.

4. Study of Reality:

Static analysis is far from reality while dynamic analysis is nearer to reality. Static analysis is based on the unrealistic assumptions of perfect competition, perfect knowledge, etc. Here all the important economic variables like fashions, population, models of production, etc. are assumed to be constant. On the contrary, dynamic analysis takes these economic variables as changeable/

In sum, one can say that macro-static and macro-dynamic are approaches to the study of economic analysis, therefore they are not competitive but rather complementary of each other. Macro-Statics is simpler and easier while dynamics is nearer to reality. It is useful to study some economic problems through the static analysis while others may be studied through the dynamic approach.

Student Assessment Exercise

i. Explain mathematically the time path to new equilibrium in Keynesian Model
ii. Differentiate Macro-Dynamics from Macro-Statics

4.0 CONCLUSION

We conclude here that microeconomics and macroeconomics concepts are two ways of looking at the same things, 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 units (i.e. household, businesses (firms), and government). The macro-static and macro-dynamic are approaches to the study of economic analysis, therefore they are not competitive but rather complementary of each other.

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 on both macroeconomics and microeconomics concepts and finally discuss the basic tools of macroeconomics analysis with definitions and examples.

6.0 TUTOR MARKED ASSIGNMENT

i. Clearly distinguish between Macro-static and Macro-static

ii. Enumerate and explain various significance of comparative macro-static analysis.

iii. Juxtapose the relevance of each of the the macro analyses discussed in this module

7.0 REFERENCES

Attah B.O et-al, (2011); **Anatomy of Economic Principles, Q&A (Macroeconomics),** Raamson Printing Press, Oke-Afa, Isolo, Lagos, Nigeria

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

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

Bakare I.A.O et-al, (1999): **Principles and Practice of Economic (Macro Approach),** Raamson Printing Press, Mushin, Lagos, Nigeria

MODULE TWO

Unit 1: Consumption Concept
Unit 2: Determinants and derivation of consumption function
Unit 3: Theories of Consumption.

Unit 1: CONSUMPTION CONCEPT

CONTENTS

1.0 INTRODUCTION

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

2.0 OBJECTIVES

At the end of this module students should be able to:

i. Understand the concept of consumption;
ii. Identify and explain both consumption function and graph;
iii. Derive consumption function from a given saving function; and
iv. Determine those factors that influence consumption expenditures.

3.0 CONTENTS

3.1: AN INTRODUCTION TO THE CONCEPT OF CONSUMPTION EXPENDITURE

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 the level of income among other factors and based on this fact, the consumption function was established. Factors the consumption function is a algebraic or functional relationship between consumption expenditure by household and the level of disposable income of

individual house hold. 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 equals gross income which is represented by (Y). In such a 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 $C = a + bY$

Student Assessment Exercise

i. Explain the concept of consumption.

3.2: THE CONSUMPTION FUNCTION AND GRAPH

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. We will define disposal income as gross personal income less personal income tax. For the simplest consumption function, there are two components 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;

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

Where C = consumption expenditure: Y_d = disposable income and;

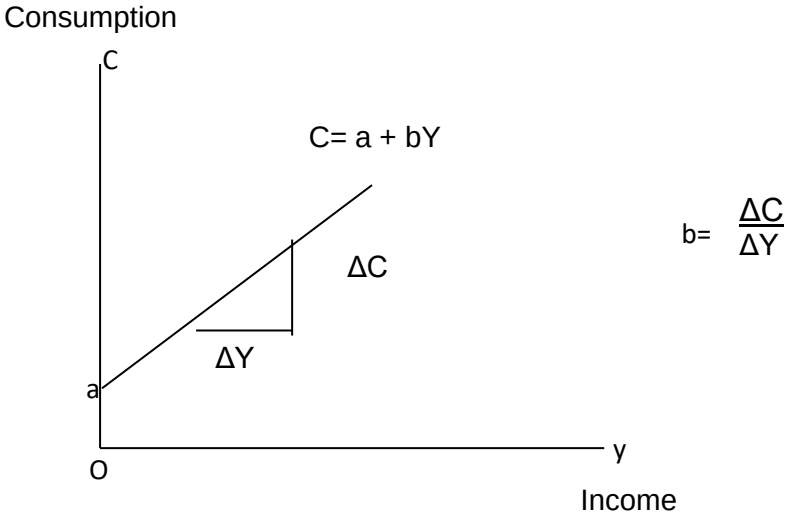
The consumption function in this form is a linear function (a straight line) and it is interpreted as follows:

"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 is otherwise known as marginal propensity to consume(MPC), that is a fraction of disposable income consumed at a particular period of 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 equal to unity.

The Consumption Curve (Graph)



From the above diagram, the positively sloped curve represent 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' represent the consumption level not related to household level of income, it is always above the origin. On the other hand the letter 'b 'represent the slope which is the marginal propensity to consume (MPC). It simply shows a change in consumption level as a result of a change in the level of household disposable income.

Self-Assessment Exercise

i. Differentiate between consumption graph and function

3.3: RELATIONSHIP BETWEEN CONSUMPTION, SAVING 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 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 depend 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.

Self-Assessment Exercise

i. Establish relationship among income, consumption and saving

4.0 CONCLUSION

In this unit we conclude that consumptions 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. Finally, both saving and consumption share income in certain proportion

5.0 SUMMARY

This unit discussed the concept of consumption in its entirety and established the relationship between consumption, saving and the level of income. The level of income determines both consumption and saving. If consumption increases, saving falls and vice versa both are the units and aggregate levels.

6.0 TUTOR MARKED ASSIGNMENT

i. Differentiate between consumption and saving.
ii. Explain the relationship between consumption and saving

7.0 REFERENCES

Attah B.O et-al, (2011); **Anatomy of Economic Principles, Q&A (Macroeconomics),** Raamson Printing Press, Oke-Afa, Isolo, Lagos, Nigeria

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

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

Bakare I.A.O et-al, (1999): **Principles and Practice of Economic (Macro Approach),** Raamson Printing Press, Mushin, Lagos, Nigeria.

UNIT 2: DETERMINANTS AND DERIVATION OF CONSUMPTION FUNCTION FROM A GIVEN SAVING FUNCTION.

CONTENTS

1.0 INTRODUCTION

Here students are introduced to the concepts of consumption and its determinants, it explains in general form, what consumption expenditure involve and clearly differentiates consumption function from saving function and the derivation of the former from the latter. This unit also exposes some calculations and derivations.

2.0 OBJECTIVES

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

i. Understand the concepts of consumption;
ii. Identify and explain both consumption function and its graph/curve;
iii. Derive consumption function from a given saving function; and
iv. Determine those factors that influence consumption expenditures.

3.0 CONTENTS

3.1: DERIVATION OF CONSUMPTION FUNCTION GIVEN A 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.

Or C+5=rd

Since Yd = C + S

Therefore, $C = Y_d - S$

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

$C = Y_d + 25 - 0.3Y_d$

Collect like terms:

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

$C = 25 + 0.7Y_d$

Self-Assessment Exercise

i. Differentiate between bY and b from the above analysis
ii. Differentiate between b and 1 - b

3.2: DETERMINANTS OF CONSUMPTION

There are 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, eg. Cars, television, etc. all worthy of years of service then 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.

i. **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:** Households'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 imply government spending and the means through which revenues are generated (taxes). If taxes are raised, disposable income will be reduced and by implication consumption will also reduced and vice versa.

Self-Assessment Exercise

i. List and explain various determinants of consumption expenditure.

3.5 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 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. Establish 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.

4 SUMMARY

This unit looked at concept of consumption and its determining factors. It also expresses consumption, both numerically (function) and graphically (curve). We also, derived consumption function from a given savings function and explain the relationship between consumption and saving.

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.

7.0 REFERENCES

Bakare I.A.O et-al, (1999): **Principles and Practice of Economic (Macro Approach),** Raamson Printing Press, Mushin, Lagos, Nigeria

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

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

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

UNIT 3: THEORIES OF CONSUPMTION

CONTENTS

1.0 INTRODUCTION

Here students are introduced to the various theories of consumption. The students are introduced 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 students should be able to:

i. Understand the theories of consumption;
ii. Differentiate among all consumption theories;
iii. Compare the theories; and
iv. Determine those factors that influences consumption.

3.0 CONTENTS

3.1 AN INTRODUCTION TO THE THEORIES OF THE CONSUMPTION FUNCTION

Keynes in his general theory postulated 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 are not equal. 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 the long-run

Self Assessment Exercise

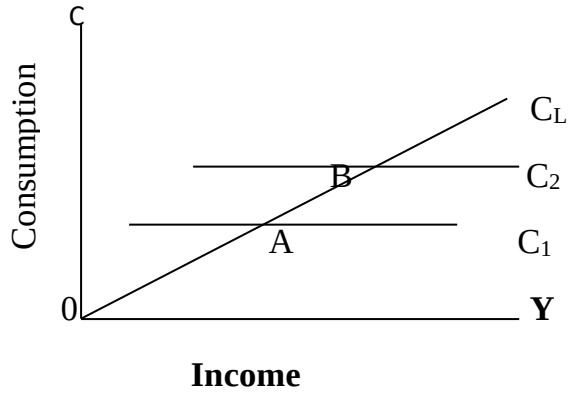
i. List the consumption function theories known to you.

3.2 THE ABSOLUTE INCOME HYPOTHESIS

Keynes's consumption income relationship is known as the absolute income hypothesis. It 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 showed that in the long run it is 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 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 essentials tends to shift the consumption function upward. Third, since the post-war period, there has been an increase in 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 earn but they do consume commodities. Consequently, the increase in their numbers has tended to shift 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."



The absolute income hypothesis is explained in the 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 points 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 writes: "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 neighbours and associates. Thus consumers' preferences are interdependent. It is, however, differences in relative income that determine the consumption expenditure in a community. The rich will have a lower *APC* because he the 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 of 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 the whole at the higher absolute level of income would be constant.

The second part of the Duesenberry theory is the "past peak 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 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 dis-saves 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 hypotheses in the following form:

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 permanents 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

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.''

Current income being the consumer's measured income or current income 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 fall 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 is planned to consume during the period in question. Measured consumption is also divided into permanent consumption (Cp) and transitory consumption (Ct).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 Life 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 spend will depend on weather 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 in the early years of his life he has little asset and during his late years his labour income is low. It is, however, the middle of 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 a succinct 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 theorist sees different factor as been the major influence of consumption at any particular period.

5.0 SUMMARY

This unit looked at the concept of consumption and its determining factors, in relation to the various theories of consumption expenditure function and summarised that in

accordance to different theorist, the 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 hypotheses.
iv. Enumerate and explain relationship between absolute income hypothesis and relative income hypothesis.

7.0 REFERENCES

Bakare I.A.O et-al, (1999): **Principles and Practice of Economic (Macro Approach),** Raamson Printing Press, Mushin, Lagos, Nigeria

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

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

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

MODULE THREE

Unit 1: Concept of Saving:
Unit 2: Determinant and Derivation of Saving Function.

UNIT 1: AN INTRODUCTION TO THE CONCEPT OF SAVING

CONTENTS

1.0 INTRODUCTION

Here students are introduced to the concepts of saving and its determinants. It explains in general form, what saving involves 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 students should be able to:

i) Understand the concept of saving;
ii) Identify and explain both the saving function and curve; and
iii) Understand the relationship among saving, consumption and investment

3.0: CONTENTS

3.1: AN INTRODUCTION TO THE CONCEPT OF SAVING

Saving can be defined as part or fraction of disposable income kept aside in the fractional banking system for either future use or to generate additional wealth (interest). 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 important to note 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. Savings in aggregate term is the total amount saved by all individual households in the economy. It is a linear summation of all household savings in a country. Algebraically, $S = f(Y)$; $S = Y - C$

Meaning that, income saved, is current income not consumed.

Self-Assessment Exercise

i. In a clear term, explain saving concept.

3.2: THE SAVING FUNCTION AND CURVE.

The saving function is a mathematical expression of saving and its primary determinant, it is given below;

$S = f(Y)$ ……(1)

$S = -a + (1-b)\ Yd$ ……(2) or

$S = -a + (1-b)Y$……(3)

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

The second function imply a situation in which saving depend on net the 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 imply 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 3.1: The Saving Curve

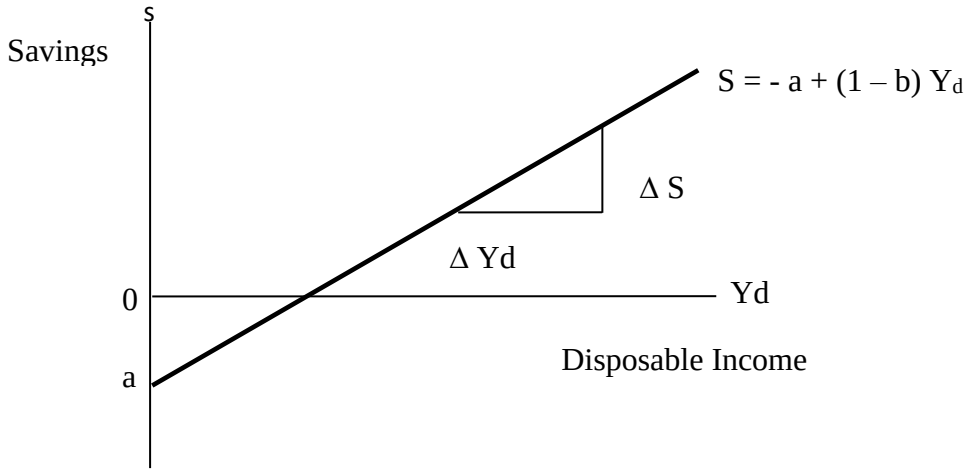


Figure 3.1 shows the saving function. The line labelled **$S = -a + (1-b)\ Y_d$** is the saving function. This function relates saving to the level of disposable income.

Self-Assessment Exercise

i. In a clear term, explain saving concept and draw a saving curve.

3.3 RELATIONSHIP BETWEEN SAVING, CONSUMPTION AND INVESTMENT.

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 to consumption and investment. These three 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

C = f(Y) 2

I = f(Y) .....3 or I = f(r) 4

Y = C + I 5

Y = C + S 6

C + 5 = C + 1 ……..... 7

S = I ……. 8

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 and saving equal to investment

Self-Assessment Exercise

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

4.0 CONCLUSION

We introduced the students 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 looked at the concept of saving and its determining factor. In addition, it established the relationship between saving, consumption and investment.

6.0 TUTOR MARKED ASSIGNMENT

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

7.0 REFERENCES

Bakare I.A.O et-al, (1999): **Principles and Practice of Economic (Macro Approach),** Raamson Printing Press, Mushin, Lagos, Nigeria

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

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

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Unit 2: THE DETERMINANTS AND DERIVATION OF SAVING.

CONTENTS

1.0 INTRODUCTION

This unit introduces the student to the algebraic derivation of saving function from consumption function and vice versa. It also explained the determinants factors of saving. Also, the unit 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. Know those factors that determine saving; and
iv. Understand relationship between saving and investment.

3.0 CONTENTS

3.1: DERIVATION OF SAVING FUNCTION - GIVEN CONSUMPTION FUNCTION

Introduction

Saving: This is income not spent on current consumption. It is the act of postponing current consumption for future date. Aggregate savings can be described as the summation of household savings and firm savings or undistributed profit of the firm.

Mathematically

$S = Y - C$

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 $Y = Y_d$…… (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. In a clear term, explain saving concept and derive saving function from a hypothetical consumption function.

3.2: DETERMINANTS OF SAVING

The determinants of savings are replica to those of factors that determine consumption except in some few cases which are explained by the last two factors.

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 saving and vice versa.

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, eg. cars, television, etc. all worthy of years of service then 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.

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

Inflation Expectations: Households's expectations 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.

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

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

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.

Return on investment; the higher the return on investment, the higher will be saving level and vice versa.

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

Self Assessment Exercise

Explain the determinants of saving

4.0 CONCLUSION

This unit 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 others of factors that influence the aggregate level of saving.

5.0 SUMMARY

This unit looked at concept of saving and its determining factors, it also expresses saving, both algebraically (function) and graphically (curve). We also derive savings function from a given consumption function.

6.0: TUTOR MARKED ASSIGNMENT

i. Define saving
ii. List and explain the components of a saving function
iii. Given that $C = 5 + 0.6Y_{d,}$ derive the saving function and illustrate with a curve.
iv. Differentiate between saving function and curve.

7.0 REFERENCES

Bakare I.A.O et-al, (1999): **Principles and Practice of Economic (Macro Approach),** Raamson Printing Press, Mushin, Lagos, Nigeria

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

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

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MODULE FOUR

Unit 1: Concept of Investments
Unit 2: Types and Determinants 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 students 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; and
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 exist in stock market. But this is not real investment because it is simply a transfer of existing assets, hence it is called financial investment and it does not affect aggregate spending. In Keynesian terminology, investment refers to real investment which increases the capital stock of the economy. 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 we 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 existence."

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 more 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 $1_t = K_t - K_{t-1.}$

Self Assessment Exercise

i. Explain clearly you understanding of business investment expenditure

3.2 INVESTMENT FUNCTION AND GRAPH

Figure 4.1: The investment Curve

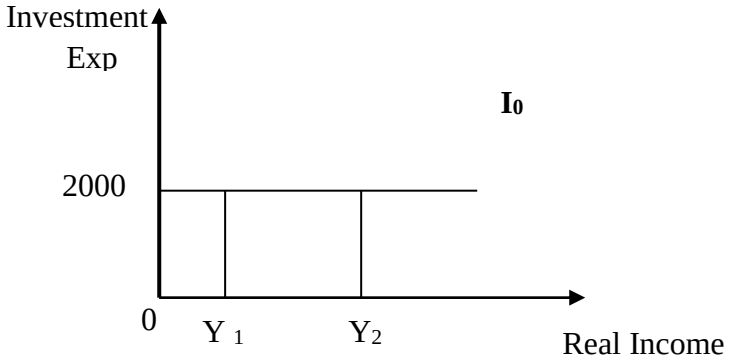

Figure 4.1 shows that the level of investment spending is autonomous. i.e. it remains at the same level irrespective of income levels. Suppose I_0 = 2000 and Y_1 and Y_2, I_0 remains at 2000, this means that investment spending is independent of income changes, ceteris paribus.

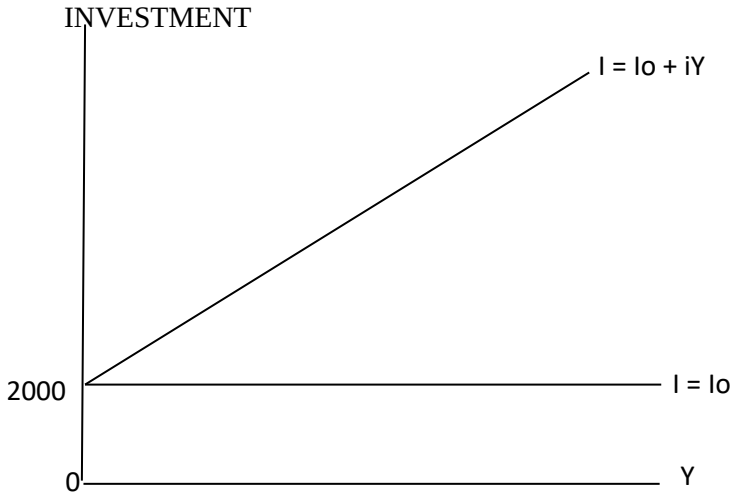

Figure 4.2: The total investment Curve (**induced plus autonomous investment**)

The figure 4.2 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 influenced by the level the of income, both on aggregate and individual household level. Saving is primarily determined by the 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 eqns 3 and 4 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, since Y=Y

$C + I = C + S$ 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 classical Saving – Investment equality.

Self Assessment Exercise

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

4.0 CONCLUSION

This unit discussed the concept of investment expenditure exposing different definitions of investment as well as the determinants of investment. Also two major types of investment were discussed and the functional forms of these two types of investment were explained with curves.

5.0 SUMMARY

This unit looked at concept of investment which include the explanation of investment expenditure and graphical illustration of investment function. It equally proved 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

Bakare I.A.O et-al, (1999): **Principles and Practice of Economic (Macro Approach),** Raamson Printing Press, Mushin, Lagos, Nigeria

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

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

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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 explores the determinants 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; and
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 also increases. 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 4.2. 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 $\Delta I/\Delta Y = I_3a/Y_2Y_3$.

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 influenced 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 projects 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 indicates that at all levels of income 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.

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 devoted towards 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.

3.2.1 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 marginal efficiency of capital (*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 a rise in money wage rate and other wage rate and other factor prices, the demand for goods will rise which will in turn raise the inducement to invest. Inducement to invest 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 encouraged investment in this and related industries. For example, the invention of television must have encouraged 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 types 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 to invest 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 discouraged 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 inducements to 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 and inducement to invest is raised 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.

3.8 THEORETICAL DETERMINANT 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 while making any investment decision. They are the cost of the capital asset, the expected rate of return

from it during its lifetime, and the market rate of interest. Keynes sums up these factors 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 words of Kurihara, "it is the ratio between the prospective yields (y) to 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 efficiency 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 in a capital asset.

Keynes relates the prospective yield of a capital asset to its supply price and defines the *MEC* as "equal as 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." This can be expressed as:

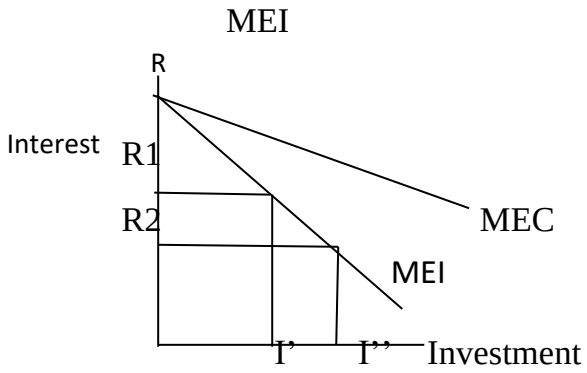
$$S_p=\frac{R1}{(1+i)}+\frac{R2}{(1+i)2}+\cdots+\frac{Rn}{(1+i)n}$$

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, except the rate of interest. Like the *MEC,* it is the rate which equates the supply price of a capital asset to its prospective yield. The investment on an asset will be made depending upon the interest rate involved in getting funds from the market. If the rate of interest is high, investment will be 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 of interest and the MEI. The horizontal axis measures the amount of investment. The MEI and MEC' 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. Panel (B) shows 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.



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.

Marginal and Average Propensity to Invest

Marginal Propensity to invest is the ratio of change in investment to change in income. The marginal propensity to invest shows how much of an additional unit of income will be used for investment purposes. Typically, investment increases when income increases and vice versa, while Average Propensity to Invest is the ratio of total investment expenditures (I) to disposable income (DI), or API = I / DI.

Self Assessment Exercise

i. Explain the difference between MEC and MEI.

4 CONCLUSION

This unit looked at the concept of investment expenditure and its determining factors. It also explained the functional relationship between investment and income level, which is elastic in nature. This functional relationship is expressed both algebraically (function) and graphically (curve).

5.0 SUMMARY

This unit explored the major types of investment expenditure and equally examined the determinants of investment. 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. Explain what is meant by average and marginal propensity to invest

6.0 REFERENCES

Bakare I.A.O et-al, (1999): **Principles and Practice of Economic (Macro Approach),** Raamson Printing Press, Mushin, Lagos, Nigeria

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

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

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

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 students should be able to:

i. Understand the concepts of Investment Expenditure;
ii. Explain different investment theories; and
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*,

$$K_t^* = vY_t \text{ .... } 1$$

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

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

$$I_{nt} = v(Y_t - Y_{t-1}) \text{ .... } 3$$

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

$\Delta Y_t = Y_t - Y_{t-1}$ 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.

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

The Koyck's Approach

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

Accordingly,

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

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

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

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

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

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

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

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

Multiplying by λ we have

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

...

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

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

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

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

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,

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

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

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

$$K_t^* = f\ (\pi_{t-1}) \quad \ldots\ldots 23$$

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 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:

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

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,

$$\pi = aY - bK \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots 25$$

Taking account of lags, this becomes

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

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

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

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,

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

It is derived as under:

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

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

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

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

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

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

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)]

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

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

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

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

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

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

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

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

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

5.0 TUTOR MARKED ASSIGNMENT

i. Explain any theory of investment 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.

6.0 REFERENCES

Bakare I.A.O et-al, (1999): **Principles and Practice of Economic (Macro Approach),** Raamson Printing Press, Mushin, Lagos, Nigeria

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

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

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

MODULE FIVE

Unit 1: National Income Models
Unit 2: The Classical and Keynesian Model
Unit 3: Concept of Multiplier

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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.

2.0 OBJECTIVES

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

i) Understand the concepts of National Income Models;
ii) Understand and explain all National income concepts; and
iii) Understand those factors that determine National Income Accounting.

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 is also referred to as a two sector economy made up of households and firms. The Aggregate expenditure (AE) 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 for the illustration of these models.

Self Assessment Exercise

i. Differentiate between a closed and an open economy

3.2: NATIONAL INCOME CONCEPT: SOME CONCEPTUAL DEFINITIONS

GROSS DOMESTIC PRODUCT (GDP)

GROSS DOMESTIC PRODUCT (GDP) is the value of all final outputs produced in an economy regardless of the nationality of the producer. GDP is only concerned with geographical boundary known as country and its productive capacity. For instance output produced in Nigeria by non Nigerians is part of Nigerian GDP.

GROSS NATIONAL PRODUCT (GNP)

GROSS NATIONAL PRODUCT (GNP) is the value of all goods and services produced by the citizens 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 factor inputs-land, - labour, capital and entrepreneurship. The earnings accruable to these factor inputs is national income: 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 Nigerian Social Insurance Trust Fund (N.S. I.T.F), National Housing Fund (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.S.I.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

5.0 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 explained to the understanding of the students.

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.

7.0 TUTOR MARKED ASSIGNMENT

i. define the following;
a. Gross Domestic Product
b. Gross National Product
c. Net National Product
d. National Product
e. Personal Product
ii. Evaluate the major divergence between classical and keynesian models.
iii. 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.

8.0 REFERENCES

Bakare I.A.O et-al, (1999): **Principles and Practice of Economic (Macro Approach),** Raamson Printing Press, Mushin, Lagos, Nigeria

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

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

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

UNIT 2: THE CLASSICAL AND KEYNESIAN MODELS

CONTENTS

1.0 INTRODUCTION

This unit introduces the concept of National Income Models exclusively. We equally explored the relationship between the Classical and Keynesian Models.

2.0 OBJECTIVES

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

i. Understand the concepts of National Income Models;
ii. Understand Classical and Keynesian Models; and
iii. Understand the relationship between Classical and Keynesian Models

3.0 CONTENTS

3.1 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.

$Y = C + I$ …….5.1

$C = a + bY_d \quad a > 0: 0 < b < 1$ …….5.2

$I = I_o$…….5.3

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

Equation 5.1 becomes;

$Y = a + bY + I_0$…….5.4

Through collection of like terms equation 5.4 becomes;

$Y - bY = a + I_0$…….5.5

Factor out Y from LHS to have;

$Y(1-b) = a + I_0$…….5.6

$Ye = \frac{a+1_0}{1-b}$ or $\frac{1}{1-b}(a+I_0)$ ----------

Self Assessment Exercise

i. Evaluate the classist exclusion of variable **G**

3.2 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 tend 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

$Y = C + I + G$ ……5.8

$C = a + bY_d \quad a > 0: 0 < b < 1$……5.9

$Y_d = Y - T$……5.10

$T = T_0 + tY \quad T_0 > : 0 < 1 < 1$……..…5.11

$I = I_o$ …….....5.12

$G = G_o$ …….5.13

Equation (5.10) explains that disposable income is income less personal income tax, while equation (5.11) describes the linear tax function representing level of tax revenue for the economy.

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

$Y = C + I + G$ ……5.14

$Y = a + bY_d + I_0 + G_0$ ……...5.15

$Y = a + b(Y-T) + I_0 + G_0$ …….5.17

$Y = a + bY - bT + I_0 + G_0$ ……..5.18

Collect like terms to have;

$Y - bY = a - bT + I_0 + G_0$ …….5.19

$Ye=\frac{a-bT+1_0+Go}{1-b}$ or $\frac{1}{1-b}$ (a-bt+1_0+Go) 5.20

Equation 5.20 is the required equilibrium national income in Keynesian term.

Self Assessment Exercise

i. Justify the inclusion of variable G in the Keynesian model

3.3 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 cannot 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 level playing ground.

On the other hand, in the Keynesian thinking during a crisis period the system needs a bail out and the only way out was for the government to be involve in the economic activities, to rescue the economy by simply increasing the level of per capita income through employment generation and smoothening of consumption expenditure which was hitherto in grievous 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. Examine the relationship between Classical and Keynesian models.

4.0 CONCLUSION

This unit looked at concept of classical and Keynesian models and critically appraised 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 Classical and Keynesian model and explained the area of divergence between the two models. It also examined the relationship between them as well as justified the importance of these models in macroeconomic analysis.

TUTOR MARKED ASSIGNMENT

i. Explain the Classical model.

ii. Examine the inclusion of Gas done by Keynes and the impact of that on the Nigerian economy.
iii. Differentiate between Classical and Keynesian models.

9.0 REFERENCES

Bakare I.A.O et-al, (1999): **Principles and Practice of Economic (Macro Approach),** Raamson Printing Press, Mushin, Lagos, Nigeria

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

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

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UNIT 3: THE CONCEPT OF THE MULTIPLIER

CONTENTS

3.0 Main Contents

3.1 An Introduction to the Concept of the Multiplier

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 the

right hand side (RHS) of equation 5.7 and 5.21. It should be noted that this is often referred to as Income, Government and Investment multiplier. However, when tax is involved the multiplier becomes tax multiplier i.e. $k_t = \frac{1}{1-bt+b}$.

$k = \frac{1}{1-b}$ 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 with respect to (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 partial derivative of equation 6 w. r. t. I by holding a and G constant.

Similarly;

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

3.2 The Geometrical Illustration of the Multiplie

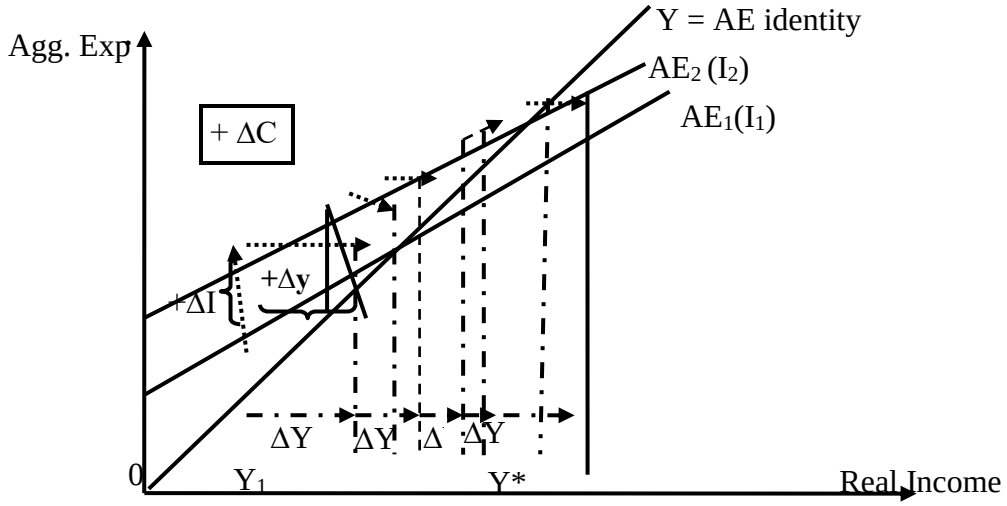

Figure 5.1: A Diagrammatic Illustration of the Multiplier Process

Figure 5.1 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 a change in income denoted as ΔY. This sets in motion another chain of reactions a change income denoted as ΔY 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 the multiplier

3.3 Algebraic Determination of the Multiplier

We will employ equation 1.14 for the illustration.

$$Y = \frac{1}{1 - b(1 - t) + m}(a - bT_0 + I_0 + G_0 + X_0 - M_0) \quad \text{.....9}$$

Equation has two main components. The expression for the multiplier $\frac{1}{1 + b(1-t) + m}$

and the autonomous components ($a - bT_0 + 1_0 + G_0 + X_0 - M_0$).

From equation 1, if any of the autonomous components changes for example Investment, income will change by

$$\Delta Y = \frac{1}{1 - b(1 - t) + m} (\Delta 1_0) \qquad (10)$$

From equation 10 the changes in Y with respect to I could be expressed as.

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

Equation 11 is the investment spending multiplier. The value of equation 11 is the number of times by which a change in investment will be multiplied to obtain the resultant change in income.

Self Assessment Exercise

Given the following equation determine the multiplier $Y = C + I + G + X - M$,

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

4.0 Conclusion

This unit look that the concept of multiplier and how it is derived for both closed and open economy as well as its geometrical illustration

5.0 Summary

The unit exposed the concept of multiplier its geometrical illustration as well as the algebraic determination.

6.0 Tutor Marked Assignment

i. What is the multiplier?
ii. Derive the multiplier for a closed economy with government..

7.0 REFERENCES

Bakare I.A.O et-al, (1999): **Principles and Practice of Economic (Macro Approach),** Raamson Printing Press, Mushin, Lagos, Nigeria

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

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

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

MODULE SIX

Unit 1: Money and Barter System
Unit 2: Evolution of Money
Unit 3: Nature and Types of money
Unit 4: An Introduction to Demand and Supply Money

UNIT 1: MONEY AND BARTER SYSTEM

CONTENTS

1.0 Introduction

This unit introduces the learner to the concept of money, its evolution through barter system. It also discusses the problem encountered by the barter system which led to the evolution of money. Moreover, this unit will look at the relationship between barter system and counter trade.

2.0 Objectives

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

i) Define money and barter system;
ii) Discuss the problems encountered in the barter system; and
iii) Explain the relationship, if any, between barter system and counter trade.

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 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, as 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.

3.2 The Barter System

Before the invention of fiat money in the forms of currency notes and coins trade had been conducted by barter, that is, exchange of commodities for commodities. However, the advanced stages of barter witnessed exchange through the use of commodity monies such as cowries, shells, cow, manilas, iron bars, salt and pepper etc. The problems associated with the system 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 exchanged 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 to 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 are 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:** The distance to be covered before exchange could take place was unimaginable, coupled 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 products as a panacea to other problems encounter during trade.

Self Assessment Exercise

i. List and explain the problems associated with barter system.

3.2 Barter Vs Counter Trade

Barter is form of counter trade, 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, belief and cultural background (not in all cases) but not with other countries does not other countries, in which case, it does not involve exports and import then it becomes counter trade. Both barter and counter trade still exist up till date but in a minimal 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**.**

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". However barter system is a kind of counter trade since the two involve exchange of commodities for commodities or services.

5.0 Summary

This unit explored the barter system and it attendant problems. It also examined the evolution of fiat money and explained the relationship between counter trade and barter trade.

6.0 Tutor-Marked Assignment

i) What do you understand by barter system, and what are its allied problems?
ii) Examine the nexus between the barter system and counter trade.

7.0 References/Further Readings

Bakare I.A.O et-al, (1999): **Principles and Practice of Economics (MacroApproach),** Raamson Printing Press, Mushin, Lagos, Nigeria

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

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

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UNIT 2: THE EVOLUTION OF MONEY

CONTENTS

1.0 Introduction

This unit explained the historical background to the discovery and uses of money as a medium of exchange and discusses its characteristics and functions. The functions performed by modern money cum its qualities offset the problems encountered during the barter system.

2.0 Objectives

i) Explain historical phases through which money evolved.
ii) Clearly explain features and functions of money.

3.0 Main Contents

3.1 Historical Background of the Evolution of Modern Money

The origin of money can be traced back to barter system and its attendant 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 lack of double coincidence of wants, no standard measurement, specialization problem, problem of weight, indivisibility of some products, distance and transportation problems.

However, these problems put together made the exchange system too cumbersome. This led to the realization that some commodities that are often demanded, could serve as a medium of exchange, so people started to exchange their products for these commodities to later exchange for the products of their choice. These commodities referred to as third commodities 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 additional commodities as money (i.e. commodity money). This commodity money include cowries, elephant tusk, hide and skin etc. It later led to discovery of precious metals as money (metallic money).The metallic money retained its use value as commodity as well as 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 issued whose value is attach against the gold deposited. Most people that deposited gold did usually come back for this gold but rather made use of the gold smith receipt in transacting business. When the 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 it is been recognised by the authority.

Self Assessment Exercise

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

3.2 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 serve as a relief from the obstacles of trade by barter. The functions of money include:

a) **A medium of exchange**: Money facilitates 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. This enabled man to overcome the problem of lack of double coincidence of want.

b) **A unit of account:** Money serves as a unit of account in terms of which goods and services 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 allows 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 for goods and services. Under the barter system, articles of trade are easily perishable and cannot be stored for future transactions.

e) **A standard for 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 which was not possible under the barter system.

Self Assessment Exercise

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

3.3 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 times.

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 and check counterfeits.

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.

4.0 Conclusion

This unit concludes that the advent of fiat money was the beginning of solution to the problem of barter system and that for anything to be considered as money, it most exhibit some certain characteristics.

6.0 Summary

This unit explored the evolution of modern day money and shows the students the various phases what is known today as money went through. 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) Give an account of the evolution of money

ii) Differentiate between features and functions of money and list the elements of each.

7.0 References/Further Readings

Bakare I.A.O et-al, (1999): **Principles and Practice of Economic (Macro Approach),** Raamson Printing Press, Mushin, Lagos, Nigeria

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

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

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UNIT 3: NATURE AND TYPES OF MONEY

CONTENTS

1.0 Introduction

Under this unit students are made to understand that there are different types of money and that some money do have use and face value (commodity money) while others 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

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

i) Differentiate between commodity money and fiat money;
ii) Explain different types of money; and
iii) Establish relationship between inflation and quantity of money.

3.0 Main Contents

3.1 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 debt 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.

3.2 TYPES OF MONEY

The three main types of money are classified as:

a. **Paper money and coins:** These are issued exclusively by the Apex 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 deposits. 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, etc. What constitute quasi – money varies from one country to another

Self Assessment Exercise

i. Differentiate between Near Money and Bank Deposit.

3.3: 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 productive capacity of the economy, imported commodities (if goods or services are from an importing country suffering from chronic inflation), high cost of production and so on and so forth. However, inflation affects 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 serves 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 has served as a store of value, however, during inflation such value will be eroded.

Therefore it is obvious that inflation affects the value of money through the price system- a system in which the value of goods and services are determined in a market place through the forces of demand and supply.

Self Assessment Exercise

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

4.0 Conclusion

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.

6.0 Tutor-Marked Assignment

ii. Write short notes on the following;

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

ii. Explain the relationship between inflation and money.

7.0 References/Further Readings

Bakare I.A.O et-al, (1999): **Principles and Practice of Economic (MacroApproach),** Raamson Printing Press, Mushin, Lagos, Nigeria

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

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

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

UNIT 3: AN INTRODUCTION TO 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 are explicitly discussed.

2.0 Objectives

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

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

3.0 Main Contents

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 referred to as base money, and DD is demand deposit 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.

Self Assessment Exercise

i. Differentiate between M_1 and M_2 supply of money.

3.2 DEMAND FOR MONEY

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 Transaction Motive: 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 equipment's, etc. The transaction 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 theory 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 as 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 times money changes hand. It measures 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 in 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.

Self Assessment Exercise

i. Explain the equation of exchange by Irvin Fisher.

3.0 Conclusion

This unit examined the demand for money and supply of money and concluded that the demand for money is endogenously determined while the supply of money is exogenously determined.

4.0 Summary

This unit looked at the determining factors of both demand for money and supply of money. What determines demand could be found in the system, that is endogenous, while what determine supply of money is only known to the monetary authorities, that is exogenous.

6.0 Tutor-Marked Assignment

i) Differentiate between demand for money and supply of money.

ii) List and explain all motives for holding money according to J. M. Keynes

iii) Evaluate the quantity theory assertions

iv) Differentiate between transaction and precautionary motives.

v) Differentiate between demand for and supply of money.

7.0 References/Further Readings

Bakare I.A.O et-al, (1999): **Principles and Practice of Economic (Macro Approach),** Raamson Printing Press, Mushin, Lagos, Nigeria

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

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

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

MODULE SEVEN

UNIT 1: Concepts and Theories of Money Demand and Supply
UNIT 2: Some Selected theories of Demand for Money
Unit 3: Central Bank and Money Supply

CONTENTS

1.0 Introduction

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

2.0 Objectives

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

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

3.0 Main Contents

3.1 The Demand for Money

Generally, money is an indispensable tool in every economy, and it is the main element in describing economic and non economic goods in an economy. However, the demand for money is endogenously determined while supply is exogenously determined; meaning that, the demand for money is strongly linked to the level of economic activities while supply of money is solely determined by the country's monetary authority. The demand for money arises from two important functions of money i.e. money acts as a medium of exchange and store of value. Thus individuals and businesses wish to hold money partly in cash and partly in the form of assets. There are two views that explain changes in the demand for money. The first is the "scale" view which is related to the impact of the income or wealth level. The higher the income level, the greater will be the demand for money. The second is the

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

Self Assessment exercise:

What is demand for money? Why do People demand for it?

3.2 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 extent, income level influences the liquidity preference of an 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 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 a 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 opposite effect. The time lag between income received and when expenditure takes place also determine the transaction balance or cash balance. Income and expenditure are not done simultaneously, therefore the level of individual transaction influence the amount of cash balance held at any point in time.

Self Assessment exercise

The level of income plays a major role in determining the amount of money people hold at any particular time. Is this statement correct or not.

3.3 The Supply of Money

The supply of money is a stock at a particular time and it is the total amount of money in the economy. It is exogenously determined that is solely determined by the country's monetary authority. There are three alternative views regarding the definition or measures of money supply. The first view is the Keynesian thought which stresses the medium of exchange function of money. To this view, money supply is defined as currency with the public and demand deposits with commercial banks. Demand deposits are savings and current accounts deposits with commercial banks. Therefore, demand deposits with commercial banks plus currency with the public are denoted as M_1 and this is regarded as a narrower definition of money supply.

The second definition is broader and associated with the Modern Quantity theorists headed by Friedman and he defined money supply as M_1 plus time deposits of commercial banks, and this is known as M_2. This stresses the store of value function of money.

The third definition is the broadest and is associated with Gurley and Shaw. They include in the supply of money M_2 plus deposits of savings banks, building societies, loan associations and deposits of other credit and financial institutions.

Self Assessment exercise

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

3.4 Determinants of Supply of Money

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

1. The Required Reserve Ratio: The required reserve ratio (or minimum cash reserve ratio or the reserve deposit ratio) is the ratio of cash to current and time deposit liabilities which is determined by law. Every commercial bank is required to keep a certain percentage of its 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 amount of money with commercial banks and reduced the amount commercial Central Banks can lend out lending purposes can lend out.

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. This influences the reserves of commercial banks this and 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, to both governments and private individuals/institutions 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 banking 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 reserve 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. Thus the money supply is not only exogenous controllable item but also an endogenously determined item.

6. The velocity of circulation of money also affects the money supply. If the velocity of money in circulation increases, the bank credit may fall even after a decrease in the money supply. The Central Bank has little control over the velocity of money which may adversely affect bank credit.

Self Assessment exercise

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

4.0 Conclusion

This unit discussed the forces that came to play in determining how much money an economy need, and who is responsible for the supply of such money needed by the three economic agents.

5.0 Summary

The demand for money and supply of money are well explained in this unit, while the supply of money is exogenously determined the demand for money is determined within the economic activities by the economic agents.

6.0 Tutor-Marked Assignment

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

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

7.0 References/Further Readings.

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

Bakare I.A.O et-al, (1999): **Principles and Practice of Economic (Macro Approach),** Raamson Printing Press, Mushin, Lagos, Nigeria

Fashoro S.I. (1996): **Principles of Economic (Macro Perspective), Analysis in the Nigeria Context,** TIMIgrafik Production, Lawanson – Surulere, Lagos.

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

UNIT 2: SOME SELECTEDTHEORIES OF DEMAND FOR MONEY

CONTENTS

1.0 Introduction

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

2.0 Objective

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

3.0 Main Contents

3.1 The Classical Approach:

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

$$MV = PT$$

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

PT represents the demand for money which depends upon the value of the transaction to be undertaken in the economy and is equal to a constant fraction of those transactions. MV represents the supply of money which is given and in equilibrium equals the demand for money. The demand for money in Fisher's approach is a constant proportion of the level of transactions, which in turn bears a constant relationship to the level of national income. Also, the demand for money is linked to the volume of trade going on in an economy at any time, i.e. people hold money to buy goods. But people also hold money for other reasons, such as to earn interest and to provide against unforeseen events. It is therefore, not possible to say that V will remain constant when M is changed. Fisher's theory does not clarify whether to include as money such items as time deposits or savings deposits that are not available to pay debts without first being converted into currency.

Self Assessment exercise

What determine value of money, according to Fisher?

3.2 The Cambridge Approach

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

$$Md = kPY$$

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

Self Assessment exercise

Interpret the equation of the cash balances approach Md = kPY.

3.3 The Keynesian Approach - Liquidity Preference

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

i) The Transactions Demand for Money

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

ii) The Precautionary Demand for Money

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

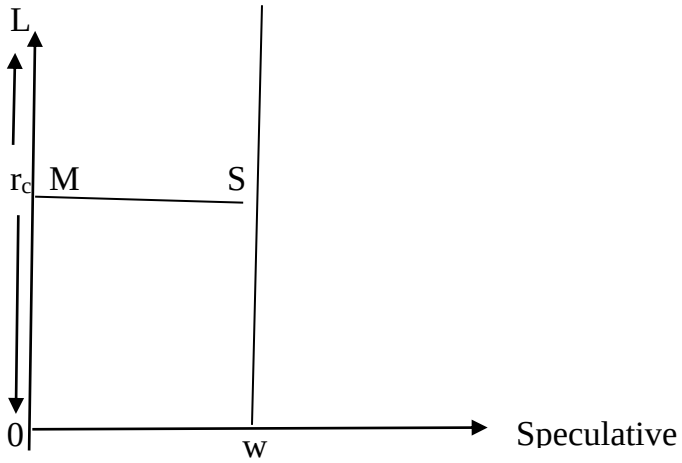
unexpected profitable deals availability of cash, the cost of holding liquid assets in bank reserves etc.

ii) The Speculative Demand for Money

The Speculative (or asset or liquidity preference) demand for money is held for speculative purposes and thus arises from the store of value function of money. Money held for speculative purposes is a liquid store of value which can be invested at an opportune moment in interest bearing bonds or securities. According to Keynes it is expectations about changes in bond prices or in current market rate of interest that determine the speculative demand for money, Keynes talked about a normal or critical rate of interest (r_c). If the current rate of interest (r) is above the critical rate of interest, investors expect it to fall and bond prices to rise. They will buy bonds to sell them in future when their prices rise in order to gain, thereby at such times, the speculative demand for money would fall. Conversely, if the current rate of interest happens to be below the critical rate, investors expect it to rise and bond prices to fall. They will therefore, sell bonds in the present if they have any, the speculative demand for money would increase. Thus, when $r > r_c$, an investor holds all his liquid assets in bonds and when $r < r_c$ his entire holdings go into money. But when $r = r_c$, he becomes indifferent to hold bonds or money.

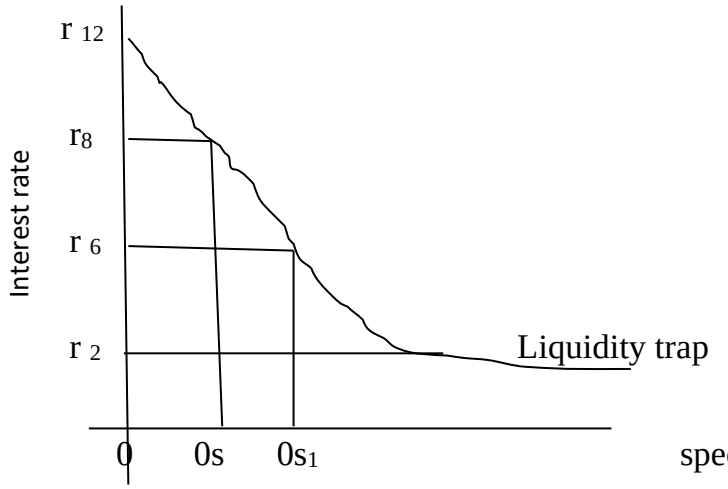
The relationship between an individual's demand for money and the rate of interest is shown in figure 3.3.1

Figure 3.3.1: Speculative demand and rate of interest



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

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



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

Self Assessment exercise:

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

3.3 Relationship between Classical and Keynesian Approaches

The relationship between Classical and Keynesian approaches to national income models is that, the Classical undermined the importance of government as an active economic agent which was chiefly recognized by the Keynesian economists. This singular act helped the global economy from being drown in the 1930s which was tagged "Keynesian Revolution"

Self Assessment exercise:

i) Differentiate between Classical and Keynesian Models.

4.0 Conclusion

This unit explained the Classical model and the Keynesian model as an independent schools of thought with distinct contribution, however there exist a big relationship between the two models**.**

5.0 Summary

The unit elaborates that Keynesian explanation is an expansion of the Classical school, meaning that the Keynesian model was created on the Classical foundation. A good understanding of the Classical model will aid the understanding of the Keynesian model

6.0 Tutor-Marked Assignment

a) According to Keynes there are three main motives why people hold cash, what are these motives and what factors can influence each of the motives.

b) Critically examine the Keynesian theory of money and prices.

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

7.0 References/Further Readings.

Fashoro S.I. (1996): **Principles of Economics (Macro Perspective), Analysis in the Nigeria Context,** TIMIgrafik Production, Lawanson – Surulere, Lagos.

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

UNIT 3: CENTRAL BANK AND MONEY SUPPLY

CONTENTS

1.0 Introduction

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

2.0 Objectives

The following are to be understood by the students

i) Understanding how Central Bank came into existence
ii) Understand the traditional and monetary function of Central Bank
iii) Explain the role of Central Bank in the supply of money in Nigeria.

3.0 Main Contents

3.1 Brief Historical Background of Central Bank of Nigeria

The West African Currency Board (WACB) was established in 1912 by the British Colonial Government to serve as the Central Bank of West African Countries. Among its function was to issue the West African pound to serve as legal tender in Gambia, Sierra Leone, Ghana and Nigeria. The reserves of the countries are managed by the WACB who invest these reserves in instruments at the money market in London. The balance of payment equilibrium was among the focused point of the bank during this period and it was able to maintain it in all West African economies.

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

Self Assessment exercise

Briefly narrate the historical background of Central Bank of Nigeria.

3.2 Traditional functions of Central Bank

The Central Bank performs the following functions;

a) **Currency issue and distribution:** The Central Bank is the only institution empowered by law to issue currency notes and coins that are used as a medium of exchange in the country, The monopoly power of issuing legal tender currency is important to control the supply of money in order to prevent inflation.

b) **The Bankers' Bank:** The Central Bank provides facilities for other banks especially commercial banks to keep their cash reserve and clear their balance through the clearing house. It also grants loans to or discount the bills of commercial banks when they are short of fund, hence the Central Bank is referred to as 'lender of last resort'.

c) Banker **to the government:** The Central Bank keeps the account of the government and all its corporations and agencies. It receives all payment due to the government, as well as undertakes borrowing on behalf of the government through the issuance of short term and long term securities e.g treasury bills, treasury certificates and long term securities e.g development stocks. The Central Bank is also responsible for the management of domestic and external debts of the government.

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

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

f) Supervision of the banking system: The Central Banks in a number of developing countries have been entrusted with the responsibility of developing a strong banking system to meet the expanding requirements of agriculture, industry, trade and commerce. Accordingly, the Central Bank possess some additional powers of supervision and control over commercial banks and other financial institutions. It issue licences to these finance houses, regulate their branch expansion, see to it that every bank maintains the minimum paid up capital and reserves as provided by the law, they inspect or audit the accounts of banks, it approve the appointment of chairmen and directors of banks in accordance with the rules and qualifications. It controls and recommend merger of weak banks in

order to avoid their failures and protect the interest of depositors. It also publishes periodical reports relating to different aspects of monetary and economic policies for the benefit of banks and the public. It engages in research and trains banking personnel.

Self Assessment exercise

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

3.3 Monetary function of Central Bank

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

These involve selective credit controls and direct action.

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

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

Self Assessment exercise

What do you understand by the monetary functions of the Central Bank?

3.4: The Central Bank and Money Supply

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

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

- **Monetary Targeting**

The CBN seeks to achieve the ultimate objectives of policy through a monetary framework that targets monetary aggregates/intermediate variables. The CBN monetary programme sets explicit targets for broad money (M2), the key intermediate benchmark variable and base money as the operating variable. The factors, which influence the expansion or contraction of money stock, include aggregate bank credit to the private sector and credit to government, net foreign assets and “other” domestic assets (net) of the banking system. The target for the intermediate variable (M2) is determined with reference to the programmed inflation rate, external reserves

accretion and real GDP growth targets. The link between the ultimate goals of price stability, the intermediate targets of money stock (M2) and indicator variables like the inflation rate are not usually so direct, but there is a wide consensus about the relative effect of the proximate variables on the ultimate goals. The question then arises as to, how does the CBN prepare its monetary programme? Prior to 1992, monetary and exchange rate policies were conducted through direct administrative control of the nominal interest rate, imposition of ceilings on interest rate and credit expansion, sectoral allocation of bank credit, foreign exchange control and quantitative restrictions. Though the reforms of 1986 liberalized the sector by adopting a flexible exchange rate regime and removing various forms of non-market interventions in the financial markets, the conduct of, monetary policy did not become fully market determined until 1993 when the use of open market operations (OMO) was introduced. Since 1993, the conduct of monetary policy hinged on a formal programme that sought to contain the growth rate of nominal money stock to programme targets through the injection and absorption of reserve money. In order to enhance the effectiveness of monetary policy, it complements the use of OMO with other instruments, including cash reserve requirement, which specifies the proportion of deposit liabilities of the banks that should be kept as cash reserves at the CBN; discount window operations, for the purpose of discounting or repurchasing of securities, and by implication the injection or withdrawal of reserves into / from the system; and finally the Minimum Rediscount Rate. The nominal anchor of CBN's interest rate policy, used to signal the direction of interest rate changes. The other

instrument used as the need arises include the transfer of public sector accounts in and out of the CBN.

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

Self Assessment exercise:

i. What is monetary targeting?

4.0 Conclusion

The unit has shown that the Central bank is the apex bank in Nigeria and in every other countries and that it is saddled with a number of responsibilities to have a sound and stable economy.

5.0 Summary

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

6.0 Tutor-Marked Assignment

a) Discuss the Traditional Functions of the Central Bank.

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

c) What are the monetary targeting of the Central Bank of Nigeria

7.0 **References/Further Readings**.

Accounting Technician Scheme West African (ATSWA) Study Pack, Economics, Part 1, Published by Association of Accountancy Bodies in West Africa (ABWA), Abuja, Nigeria.

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

Joseph Sanusi, (2002); **Nigeria's Macroeconomic Position: Controlling the Money Supply;** A presentation at the meeting of the Honorary Presidential Advisory Council on Investment in Nigeria (HPACI), London, UK, July 2002.

MODULE EIGHT

Unit 1: An Introduction to the Theories of Interest Rate: The Classical Theory of Interest Rate.
Unit 2: The Loanable Funds and Keynesian Theories of Interest Rate.
Unit 3: Shortfalls of the Classical, Loanable Funds and the Keynesian Theories of Interest Rates
Unit 4: The Modern Theory of Interest Rate (The IS-LM Model)

UNIT 1: AN INTRODUCTION TO THE THEORIES OF INTEREST RATE: The Classical Theory of Interest rate

CONTENTS

1.0 INTRODUCTION

This unit discusses the Classical theory of interest rate as well as expose the origin of the theory of interest rate

2.0 OBJECTIVES

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

i. Understand the exigency of interest rate theory; and
ii. Understand the Classical explanation of the theory of interest rate.

3.0 CONTENTS

3.1: INTRODUCTION TO THEORY OF INTEREST RATE.

The theory of interest rate is dated back to the early medieval period but it was mostly popularised by the work of the simple Classical model, where interest rate was seen as a reward for postponement of current consumption. 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.

Self Assessment Exercise

i. Discuss the exigency of the theory of interest rate

3.2: THE CLASSICAL THEORY OF INTEREST RATE

The classical theory of interest rate is associated with the names of David Ricardo, Marshall, A.C. Pigou, Cassels, Walras, Taussing and Knight. This theory is also known as the real theory of interest rate because in determination of interest rate only real factors like productivity and thrift are considered and monetary factors are not given any importance. According to the classical theory, the rate of interest rate is determined by the intersection of demand for and supply of investment (or capital). Interest is the price of investment because firms borrow money for investment. Thus, investment depends on interest rate.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.

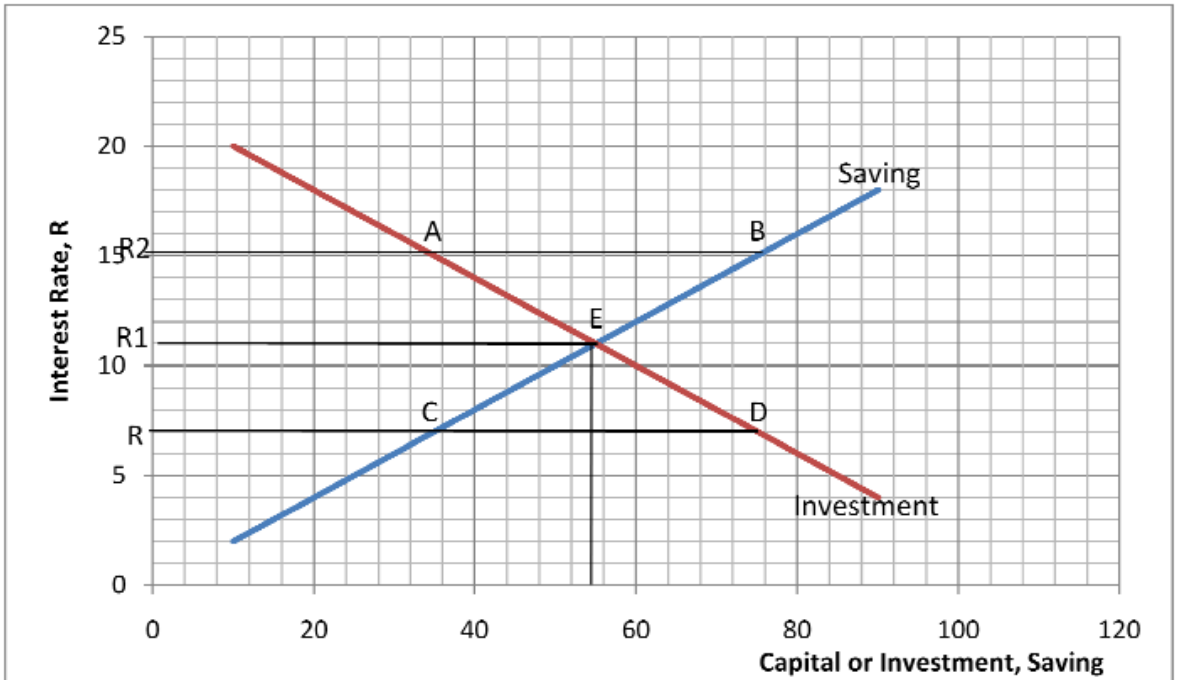
Demand side. The demand for capital consists of the demand for productivity and consumption purposes. Ignoring the latter, capital is demanded by the investors because it is productive. But the productivity of the capital is subject to the law of variable proportion. Additional unit of capital are not 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 ₦100,000 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 downward 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 of the community. Some people save irrespective of the rate of irrespective 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 interest is 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.

Using graphical illustration, the Classical interest rate model or theory can be explained in term of basic price mechanism (forces of demand and supply) as shown below;

Figure 8.1: Classical Theory: Determination of Interest Rate



In classical theory saving is an increasing function of rate of interest, which may be written as S (r), and investment is a declining function of rate of interest, which may be written as I (r). Thus, rate of interest determining equilibrium in classical theory will be given by;

$S(r) = I(r)$ 1

The saving curve is moving upward because saving is directly related to interest rate. For example, when interest rate is increasing from R to R1, saving is also increasing from C to E (see Figure 8.1). This shows that as rate of interest increases saving also increases and when rate of interest decreases saving also decreases. The investment demand curve is moving downward because investment is a declining function of interest rate so that when rate of interest increase demand for investment falls down and vice versa.

It must be noted here that saving in the classical theory of interest refers to supply of capital. In other word, saving in this theory does not refer to money but to those goods and service which instead of being consumed are employed for productive purposes. It is on account of this fact that the classical theory is also referred to as the real theory of interest.

Self Assessment Exercise

i. Discuss the Classical theory of rate of interest
ii. Name at least two Classical economists that contributed to interest rate theory

4.0 CONCLUSION

This unit concludes that classical interest rate theory is one of the earlier interest rate theories.

5.0 SUMMARY

This unit looked at theories of interest rate with particular reference to the Classical theory of interest rate,

6.0: TUTOR MARKED ASSIGNMENT

i. What do you understand by price of saving
ii. Explain the Classical theory of interest rate
iii. Graphically illustrate the Classical interest rate theory

7.0 REFERENCES

Bakare I.A.O et-al, (1999): **Principles and Practice of Economics (Macro Approach),** Raamson Printing Press, Mushin, 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

UNIT 2: THE LOANABLE FUNDS AND KEYNESIAN THEORIES OF INTEREST RATE.

CONTENTS

1.0 INTRODUCTION

This unit discusses some of the important theories of interest rate such as the loanable funds and the Keynesian. Their relationships are also examined in this unit.

2.0 OBJECTIVES

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

i. Understand the analysis of loanable funds theory of interest rates;

ii. Describe the Keynesian view of interest rate determination; and

iii. Understand the interrelationship between the two theories.

3.0 CONTENTS

3.1 NEO-CLASSICAL THEORY OF INTEREST OR THE LOANABLE FUNDS THEORY OF INTEREST

Loanable funds theory is a reformulation of the classical saving and investment theory of interest. It incorporates monetary factors with the non-investments of saving and investment. This loanable funds theory is associated with the name of Wickells with several other Swedish economists and the British economists such as D. H. Robertson. This theory is an improvement over the old classical theory of interest. The loanable funds theory is based on the following assumptions:

1. It is based on constant level of income corresponding to a constant level of employment (i.e., full employment);
2. Resources in the economy are fully employed;
3. The market for loanable funds is full integrated and characterized by perfect mobility of funds throughout the market;

4. There is perfect competition in the market so that lenders and borrowers are price takers; and only one pure rate of interest prevails in the market;
5. The theory uses partial-equilibrium approach in which all factors other than the rate of interest that might influence the demand or supply of loanable funds are assumed to be held constant. In other words it assumes that the rate of interest does not interact with other macro variables, among others.

The Neo-Classical or the loanable funds theory explains the determination of interest in terms of demand and supply of loanable 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 analyse the forces behind the demand and supply of loanable funds.

Demand for Loanable Funds. The demand for loanable funds has primarily three sources: government, businessmen and consumer who need them for purpose of investment, hoarding and consumption. The government borrows funds for construction of 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 loanable funds on scooters, houses, etc. individual borrowings are also interest elastic. The tendency to borrow is more at a lower rate of interest than at a higher rate 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 loanable 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 are 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
iii. Explain clearly what is meant by indeterminate

3.2 THE KEYNES THEORY OF INTEREST RATE OR THE LIQUIDITY PREFERENCE THEORY OF INTEREST RATE

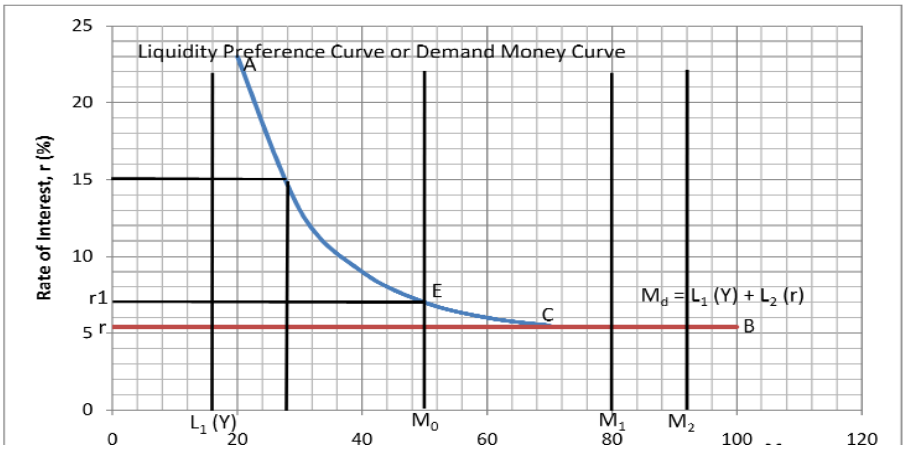
The rate of interest, according to Keynes, is a purely a monetary phenomenon, are ward for parting with the liquidity, and the rate of interest is determined in the money market by the intersection of demand for and supply of money. According to loanable funds theory of interest, the rate of interest is determined by the intersection of supply of savings and demand for investment. Loanable funds theory of interest is different from classical theory of interest in the sense that it includes bank loans, dishoarding, and disinvestment besides savings in supply of loanable funds. With this background in mind let us move to study the Keynes theory of liquidity preference.

In J. M. Keynes classic work, "The General Theory of Employment, Interest and Money (1936)," Keynes offered his view of how the interest rate is determined in the short run. That explanation is known as the theory of liquidity preference because it posits that the interest rate adjusts to balance the supply and demand for the economy's most liquid asset – money. The theory of liquidity preference posits that the interest rate is one determinant of how much money people choose to hold. The reason is that the interest rate is the opportunity cost of holding money: it is what you forgo by holding money in liquid or cash, which does not bear interest rate. When the interest rate rises, people want to hold less of their wealth in the form of money/liquid/cash.

According to Keynes, rate of interest will be determined at the point where demand for money (M^d) equals supply of money (M^S). This can be written as,
$M^d = M^S$
Keynes said that the money was demanded for three motives:

i) the transaction motive;
ii) the precautionary motive; and
iii) The speculative motive.

d. Figure 8.2: Determination of the Rate of Interest – Keynes Liquidity Preference Theory



Money supply however is exogenously supplied by the monetary authority and equilibrium is reached at every point where money demand (M^d) is equal money supply (M^s). According to Keynes there is a limit to which continuous increase in autonomous money supply will reduce the rate of interest as indicated on the graph at point C through point B. These points at which interest Rate couldn't fall further is referred to as liquidity trap according to J.M. Keynes

Self Assessment Exercise

i. Explain what is meant by liquidity preference theory
ii. Is income a major determinant of rate of interest in Keynes Parlance?
iii. Explain clearly what is meant by liquidity trap.

4.0 CONCLUSION

This unit concludes that Keynesian interest rate theory is a monetary phenomenon and that the loanable funds theory of interest rate or the Neo-Classical interest rate theory is an extension of the classical interest rate theory

5.0 SUMMARY

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

6.0: TUTOR MARKED ASSIGNMENT

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

7.0 REFERENCES

Bakare I.A.O et-al, (1999): **Principles and Practice of Economic (Macro Approach),** Raamson Printing Press, Mushin, Lagos, Nigeria

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

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

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

UNIT 3: SHORTFALLS OF THE CLASSICAL, LOANABLE FUNDS AND THE KEYNESIAN THEORIES OF INTEREST RATES

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

2.0 OBJECTIVES

At the end of this unit, the students 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; and
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 of 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 latter, 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 N 100,000 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 demand 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 of the community. Some people save irrespective 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 interest is 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

iii. Discuss the Classical 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 analyzes the force behind the demand and supply of loanable funds.

Demand for Loanable Funds. The demand for loanable funds has primarily three sources: government, businessmen and consumer who need them for purpose of investment, hoarding and consumption. The government borrows funds for construction of 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 rate 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 are 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

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

3.4 INDETERMINANCY OF THE CLASSICAL, THE LOANABLE FUNDS AND THE KEYNESIAN THORIES 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 indeterminate nature of this theory.

In the classical formulation, since savings depend 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 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 determinate, it 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 quantity 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.

Self Assessment Exercise

i. Write short notes on modern theory of interest

5.0 CONCLUSION

This unit conclude that earlier interest rate theories are indeterminate but the modern theory which make 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

iv. What do understand by price of saving?
v. List and explain any three theories of interest rate
vi. Give reason why some theories are assumed to be indeterminate.

vii. Explain the difference between Classical and Keynesian theory of interest rate.

7.0 REFERENCES

Bakare I.A.O et-al, (1999): **Principles and Practice of Economics (Macro Approach),** Raamson Printing Press, Mushin, 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

MODULE NINE

Unit 1: Macroeconomic Policy Framework
Unit 2: Macroeconomics Policy Objectives, Instrument and Targets.

UNIT 1: MACROECONOMIC POLICY FRAMEWORK

CONTENTS

1.0 Introduction

The concept of macroeconomic policy strategy is here introduced to students under which the two main policies (i.e. fiscal and monetary) being used by various economies is introduced to the students.

2.0 Objectives

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

i) Explain what is meant by macroeconomic policy framework; and
ii) Differentiate between monetary policy and fiscal policy.

3.0 Main Contents

3.1 MACROECONOMIC POLICY (Overview)

Macroeconomic policy refers to program through which government uses instrument to try to regulate or modify the economic affairs 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 the recently adjudged fifth objective is equitable income the redistribution. The study shall assess the objectives of macroeconomic policy and the problem that arise when these objectives come into conflict with each other.

Self Assessment Exercise

In your own opinion why do economies need macroeconomic policy?

3.2 THE FISCAL POLICY

Fiscal policy refers to government deliberate use of budgetary tools to regulate economic activities. Budget is the annual financial statement of government proposed expenditure and expected revenue. Fiscal activities is the use of fiscal tools or instrument to allocate or re-allocate financial resources in an economy within a span. 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 to raise in aggregate demand. An increase in aggregate demand will lead to increased productive capacity and use of resources. This will increase employment opportunities. Fiscal policy of reduction in government expenditure and or increase in taxes will reduce the disposable income of the consumers. This will reduce aggregate demand and reduce inflationary pressure. The institution charged with this responsibility of the government is The Ministry of Finance.

Self Assessment Exercise

i. What is fiscal policy and what are the instruments used?

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 the 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 refers to Balance of payment equilibrium and 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 reduction in interest rate, purchase of treasury bills and reduction of minimum reserve requirement can be used to solve the problem of unemployment.

Self Assessment Exercise

i. What is monetary policy?

5.0 Conclusion

This unit has 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 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.

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

7.0 References/Further Readings

Bakare I.A.O et-al, (1999): **Principles and Practice of Economic (Macro Approach),** Raamson Printing Press, Mushin, Lagos, Nigeria

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

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

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

UNIT 2: MACROECONOMIC POLICY OBJECTIVES, INSTRUMENTS 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 students 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; and
iv) Annex macroeconomic objectives from monetary and fiscal point of view.

3.0 Main Contents

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 macroeconomic 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. 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 resulted from rigidity in the wage structure and interference in the working of the market system in the form of trade union legislation, minimum wage legislation, etc full employment existed when everybody accepts the preventing wage rate of wages. Those who are not prepared to work at 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 competition- there will always be at work a strong tendency for wage rate to be so related to demand that everybody is employed".

According to Keynes, full employment means the absence of involuntary unemployment. In other word, full employment is a situation in which everybody who want 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 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 unemployment 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 policy makers favour this policy because fluctuations in prices bring uncertainty 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 price 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 through this system a country's productive resources are just distributed to where they are mostly needed (efficient and effective distribution) without considering what happens 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 MACROECONOMIC 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 are 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 7.1 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. Tax imposition and government spending are basically fiscal policy instruments. A reduction in tax coupled 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

3.3 The Macroeconomic Policy Targets.

The **policy targets** are the specific values which a government attaches to its various objectives of macroeconomic 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 instruments 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. It can use also such fiscal policy instruments as tax rates, budgetary policy, compensatory fiscal policy, etc.

Self Assessment Exercise
i. Explain in details the macroeconomic targets.

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.

❖ **Full Employment and Economic Growth**

Majority of economists hold the view that there is no inherent conflict between full employment and economic growth. Full employment is consistent with 4per cent unemployment in the economy. So the relationship between full employment and growth is positive. Period of high growth are associated with low level of unemployment. And period of low growth with rising unemployment i.e low employment.

❖ **Economic Growth and Price Stability**

There is conflict between the goals of economic growth and price stability. The rise in prices is inherent in the growth process. The demand for goods and services rises as a result of stepping 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 price 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 terms 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 reduce 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 is 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 to attain balance of payment equilibrium. However, if the government tries to remove unemployment and allow some inflation within the economy, they 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.

4.0 Conclusion

This unit explored macroeconomic situation and reflect on the policy framework, policy objectives, and targets and concluded that for macroeconomic stability, application of both fiscal and monetary policy is the panacea.

5.0 Summary

The unit surveyed macroeconomic environment which necessitated discussion on macroeconomics policy framework - policy objectives, instrument, targets and strategies. We equally examined the trade off that exist among macroeconomic policy objectives because achieving the five goals simultaneously is not economically possible considering the policy instruments at the disposal of economic managers. 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

Bakare I.A.O et-al, (1999): **Principles and Practice of Economic (Macro Approach),** Raamson Printing Press, Mushin, Lagos, Nigeria.

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

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

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

MODULE TEN

Unit 1: 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; and
iii) Understand reasons why economic growth may not lead to economic development.

3.0 Main Contents

3.1 Concept of Economic Growth and Development

Economic growth is defined as the expansion in a nations real output or it can be defined 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 capita 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 capita 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 sectoral 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-sectoral 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 services 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?

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 is income. It is in this that national product (output) is 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 subtract 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 residents outside 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 factor payment is almost always positive for developing countries on account 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.

3.3.1 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 $1 + gy = \dfrac{1 + gY}{1 + gn}$

$1 + gy = \dfrac{1 + 0.08}{1 + 0.035}$

$1 + gy = \dfrac{1.08}{1.035}$

$1 + gy = 1.043$

$gy = 1.043 - 1$

$gy = 0.043$

$gy = 4.3\%$

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 surveyed the concept of economic growth and development, it differentiated between economic growth and development as well as the measurement of growth.

5.0 Summary

The unit review concepts of economic growth and development and those issues that are highly related to it such as the distinction between economic growth and economic development,

6.0 Tutor-Marked Assignment

i) Differentiate the between economic growth and economic development.

ii) Given that economy grows at 12% and population grows at 9%, calculate per capita growth of income.

7.0 References/Further Readings

Bakare I.A.O et-al, (1999): **Principles and Practice of Economic (Macro Approach),** Raamson Printing Press, Mushin, Lagos, Nigeria

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

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

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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 cannot lead to economic development. Moreso, some growth theories will also be discussed.

2.0 Objectives

At the end of this unit, students will be able to:

i) Analyse different theories of economic growth;
ii) Explain basic characteristics of developing nations ; and
iii) Know the reason why economic growth cannot lead to economic development.

3.0 Main Contents

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 underemployment, 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 capita 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 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. For many less developed countries a significant factor contributing to the persistence low levels of living, rising unemployment and growing income inequality is the highly unequal distribution of economic and political power between the rich and poor nations.

Dependence and Vulnerability in International Relations

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 which serve to inhibit the development of poor nations, 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 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?

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 what obtains in less developed economies disused in section 3.1

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 all over the world are classified into developed, developing or Less Developed Countries (LDCs).

The circumstances or situation whereby economic growth will fail to promote economic development are explained below:

- Inadequate growth in comparison with population.
- Widening inequality in the distribution of income.
- Imbalance in inter sectoral 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% per annum the growth rate in the income of the majority can be calculated using the formula below:

Imbalance in Sectoral 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, the country may not witness development. Moreso, if the per capita income increases only from expansion in the oil and industrial sectors, development cannot be said to have occurred because poor health could lead to dehumanising ailments such as typhoid, tuberculosis, etc. which hinder 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 go a long way to retard 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 fellow human beings, must not be impatient. Man must be kind hearted and discipline himself. In contrast to these, in Nigeria, there is high desire for wealth, examination malpractices, cult practices, injustice, lack of accountability and transparency, undue favouritism, red tapism, 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 and other LDCs.

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?

4.0 Conclusion

The unit surveyed the major characteristics of developed and less developed countries and examined the main reasons why a country may witness growth and not development, and concluded that less developed economies are highly vulnerable to international competitiveness and the disturbances in the global economy

5.0 Summary

The unit reviewed the major features of both developed and less developed countries and explores the reasons why growth may not lead to economic development.

6.0 Tutor-Marked Assignment

i) Differentiate between developed and less developed economies

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

Bakare I.A.O et-al, (1999): **Principles and Practice of Economic (Macro Approach),** Raamson Printing Press, Mushin, Lagos, Nigeria

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

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

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

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 cannot lead to economic development. Moreso, some growth theories will also be discussed.

2.0 Objectives

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; and
iii. Know the reason why economic growth cannot lead to economic development.

3.0 Main Contents

3.1 ROSTOW STAGES OF GROWTH

W. Rostow divided the phases of development into 5 evolutionary stages, viz:

i) Primitive stage ii) Pre-condition for take off (iii) The take off stage (iv) Drive to maturity v)The age high of mass consumption**.**

i) **Primitive stage:** According to him this stage marked 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 for take off:** Also known as the transitional stage, it 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) **The take off stage:** 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, coupled with high investment rate which must range between 10% to 15% of national income.

iv) **The Drive to maturity:** Here development has become internalized. This imply that some investment activities in a country have become highly improved thereby generating high level of returns.

v) **The Age of High Mass Consumption**: This stage encourages large scale production facilitated by improvement in the level of nations 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.

3.1.1 CRITICISMS OF THE W.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 1980s 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 Exercise

i. Critically examine the W. Rostow growth theory
ii. Examine the criticisms of the theory.

3.2 THE INTERNATIONAL DEPENDENCY MODEL

The international dependency model is divided into three 1) Classical dependence model and 2) political economy of international dependence model; and 3) the false paradigm model?

i) **Classical Dependence Model**: 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.

2. **Political Economy of International Dependence Model**

The political economy of international dependency model was best illustrated by the argument of Weisskoof (1992) who contends that the relationship between countries (developed) such as USA, Britain, France etc and (under-develop) Nigeria, Gambia , Libya, Brazil etc has impoverished the latter and according to him, he articulated the effect of such relationship as follows:

i) Factor bias effect

ii) capital flight syndrome

iii) International demonstration effect, and

iv) Brain drain effect.

3**) False Paradigm Model**

False-paradigm Model argued that the underdevelopment is due to faulty and inappropriate advice, sometimes over synthesised parametric econometric solution is provided by well-meaning but often uninformed, biased, and ethnocentric international (often western) expert advisers to developing countries. Here, IMF and World Banks took a lot of blame from the advocators of this model. Joseph Stiglitz in Making Globalization Works and Jeffrey Sachs in The End of Poverty documented some cases where inappropriate advices were given by expert advisers from developed countries to developing nations

Self Assessment Exercises

i. Evaluate the classical international dependence model

ii. Examine the criticism of the theses.

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 50-67 per cent then 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 a deepening of 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), food, security, reduction in the 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 requirements. 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 Exercise

i. What are developmental objectives?

4.0 CONCLUSION

This unit concludes that there cannot be development without growth and that the achievement of growth itself does not guarantee development.

5.0 SUMMARY

The unit explored some growth theories, that is Rostow stages of growth and international dependence theories and finally looked at the major developmental objectives.

TUTOR MARKED ASSIGNMENT

i. Discuss W. W. Rostow's stages of growth

ii. What are the developmental objective(s) that is (are) crucial to the development of the Nigerian economy?

iii. Discuss linear stages of growth theory, which of the stages is Nigeria now?

iv. Comment on dependence development thesis.

REFERENCES

Bakare I.A.O et-al, (1999): **Principles and Practice of Economics (Macro Approach),** Raamson Printing Press, Mushin, Lagos, Nigeria

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

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