



# ECO202

## Principles of

# ECONOMICS II

## Course Manual

**ODL Edition**

Adeola F. Adenikinju Ph.D.

# **Principles of Economics II**

## **ECO202**



**University of Ibadan Distance Learning Centre**  
**Ibadan Open and Distance Learning Course Series Development**  
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# Vice-Chancellor's Message

The Distance Learning Centre is building on a solid tradition of over two decades of service in the provision of External Studies Programme and now Distance Learning Education in Nigeria and beyond. The Distance Learning mode to which we are committed is providing access to many deserving Nigerians in having access to higher education especially those who by the nature of their engagement do not have the luxury of full time education. Recently, it is contributing in no small measure to providing places for teeming Nigerian youths who for one reason or the other could not get admission into the conventional universities.

These course materials have been written by writers specially trained in ODL course delivery. The writers have made great efforts to provide up to date information, knowledge and skills in the different disciplines and ensure that the materials are user-friendly.

In addition to provision of course materials in print and e-format, a lot of Information Technology input has also gone into the deployment of course materials. Most of them can be downloaded from the DLC website and are available in audio format which you can also download into your mobile phones, IPod, MP3 among other devices to allow you listen to the audio study sessions. Some of the study session materials have been scripted and are being broadcast on the university's Diamond Radio FM 101.1, while others have been delivered and captured in audio-visual format in a classroom environment for use by our students. Detailed information on availability and access is available on the website. We will continue in our efforts to provide and review course materials for our courses.

However, for you to take advantage of these formats, you will need to improve on your I.T. skills and develop requisite distance learning Culture. It is well known that, for efficient and effective provision of Distance learning education, availability of appropriate and relevant course materials is a *sine qua non*. So also, is the availability of multiple platform for the convenience of our students. It is in fulfillment of this, that series of course materials are being written to enable our students study at their own pace and convenience.

It is our hope that you will put these course materials to the best use.



**Prof. Isaac Adewole**

*Vice-Chancellor*

# Foreword

As part of its vision of providing education for “Liberty and Development” for Nigerians and the International Community, the University of Ibadan, Distance Learning Centre has recently embarked on a vigorous repositioning agenda which aimed at embracing a holistic and all encompassing approach to the delivery of its Open Distance Learning (ODL) programmes. Thus we are committed to global best practices in distance learning provision. Apart from providing an efficient administrative and academic support for our students, we are committed to providing educational resource materials for the use of our students. We are convinced that, without an up-to-date, learner-friendly and distance learning compliant course materials, there cannot be any basis to lay claim to being a provider of distance learning education. Indeed, availability of appropriate course materials in multiple formats is the hub of any distance learning provision worldwide.

In view of the above, we are vigorously pursuing as a matter of priority, the provision of credible, learner-friendly and interactive course materials for all our courses. We commissioned the authoring of, and review of course materials to teams of experts and their outputs were subjected to rigorous peer review to ensure standard. The approach not only emphasizes cognitive knowledge, but also skills and humane values which are at the core of education, even in an ICT age.

The development of the materials which is on-going also had input from experienced editors and illustrators who have ensured that they are accurate, current and learner-friendly. They are specially written with distance learners in mind. This is very important because, distance learning involves non-residential students who can often feel isolated from the community of learners.

It is important to note that, for a distance learner to excel there is the need to source and read relevant materials apart from this course material. Therefore, adequate supplementary reading materials as well as other information sources are suggested in the course materials.

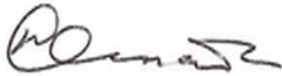
Apart from the responsibility for you to read this course material with others, you are also advised to seek assistance from your course facilitators especially academic advisors during your study even before the interactive session which is by design for revision. Your academic advisors will assist you using convenient technology including Google Hang Out, You Tube, Talk Fusion, etc. but you have to take advantage of these. It is also going to be of immense advantage if you complete assignments as at when due so as to have necessary feedbacks as a guide.

The implication of the above is that, a distance learner has a responsibility to develop requisite distance learning culture which includes diligent and disciplined self-study, seeking available administrative and academic support and acquisition of basic information technology skills. This is why you are encouraged to develop your computer skills by availing yourself the opportunity of training that the Centre’s provide and put these into use.

In conclusion, it is envisaged that the course materials would also be useful for the regular students of tertiary institutions in Nigeria who are faced with a dearth of high quality textbooks. We are therefore, delighted to present these titles to both our distance learning students and the university's regular students. We are confident that the materials will be an invaluable resource to all.

We would like to thank all our authors, reviewers and production staff for the high quality of work.

Best wishes.

A handwritten signature in dark ink, appearing to read 'Bayo Okunade', with a stylized flourish at the end.

**Professor Bayo Okunade**

Director

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# About this course manual

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Principles of Economics II ECO202 has been produced by University of Ibadan Distance Learning Centre. All Economics course manuals produced by University of Ibadan Distance Learning Centre are structured in the same way, as outlined below.

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## How this course manual is structured

### The course overview

The course overview gives you a general introduction to the course. Information contained in the course overview will help you determine:

- If the course is suitable for you.
- What you will already need to know.
- What you can expect from the course.
- How much time you will need to invest to complete the course.

The overview also provides guidance on:

- Study skills.
- Where to get help.
- Course assessments and assignments.
- Activity icons.

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We strongly recommend that you read the overview *carefully* before starting your study.

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### The course content

The course is broken down into study sessions. Each study session comprises:

- An introduction to the study session content.
- Learning outcomes.
- Content of study sessions.
- A study session summary.
- Activities and/or assignment, as applicable.
- Assessments
- Bibliography

## Your comments

After completing this course, Principles of Economics II, we would appreciate it if you would take a few moments to give us your feedback on any aspect of this course. Your feedback might include comments on:

- Course content and structure.
- Course reading materials and resources.
- Course assessments.
- Course assignments.
- Course duration.
- Course support (assigned tutors, technical help, etc).
- Your general experience with the course provision as a distance learning student.

Your constructive feedback will help us to improve and enhance this course.

## Course overview

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### Welcome to Principles of Economics II ECO202

This course examines the characteristics and determinants of aggregate economic variables, such as aggregate employment, output, income, growth, international trade etc. Our emphasis in this course will be on macroeconomics - the totality of the economy.

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### Principles of Economics II ECO202—is this course for you?

ECO202 is a compulsory course that provides good background of macroeconomics to the 200 level economics student as well as other students outside the field desirous to have a firm knowledge of macroeconomics.

It is important that you know the components of aggregate demand and their influence on the level and behaviour of national income; the role of money and banking in the economy and how monetary policies are used to control the economic activities; and the role of international trade in the global economic systems.

---

### Course outcomes



Outcomes

Upon completion of you will be able to:

- *compute* national income.
- *point out* the causes of recession or boom in an economy.
- *discuss* the main schools of thought in economics, and the contributions of each school to the advancement of the subject.
- *highlight* the types of economic systems present in the world, their features and basic differences.

---

## Timeframe



How long?

This is a one semester course.

45 hours of formal study time is required.

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## Study skills



As an adult learner your approach to learning will be different to that from your school days: you will choose what you want to study, you will have professional and/or personal motivation for doing so and you will most likely be fitting your study activities around other professional or domestic responsibilities.

Essentially you will be taking control of your learning environment. As a consequence, you will need to consider performance issues related to time management, goal setting, stress management, etc. Perhaps you will also need to reacquaint yourself in areas such as essay planning, coping with exams and using the web as a learning resource.

Your most significant considerations will be *time* and *space* i.e. the time you dedicate to your learning and the environment in which you engage in that learning.

We recommend that you take time now—before starting your self-study—to familiarize yourself with these issues. There are a number of excellent web links & resources on this Course Website. Go to “Self-Study Skills” menu in course website.

---

## Need help?



Help

As earlier noted, this course manual complements and supplements ECO202at UI Mobile Class as an online course.

You may contact any of the following units for information, learning resources and library services.

**Distance Learning Centre (DLC)**

University of Ibadan, Nigeria

Tel: (+234) 08077593551 – 55

(Student Support Officers)

Email: [ssu@dlc.ui.edu.ng](mailto:ssu@dlc.ui.edu.ng)

**Head Office**

Morohundiya Complex, Ibadan-

Ilorin Expressway, Idi-Ose,

Ibadan.



**Information Centre**  
20 Awolowo Road, Bodija,  
Ibadan.

**Lagos Office**  
Speedwriting House, No. 16  
Ajanaku Street, Off Salvation  
Bus Stop, Awuse Estate, Opebi,  
Ikeja, Lagos.

For technical issues (computer problems, web access, and etcetera),  
please send mail to [webmaster@dlc.ui.edu.ng](mailto:webmaster@dlc.ui.edu.ng).

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## Academic Support



A course facilitator is commissioned for this course. You have also been assigned an academic advisor to provide learning support. The contacts of your course facilitator and academic advisor for this course are available at [onlineacademicsupport@dlc.ui.edu.ng](mailto:onlineacademicsupport@dlc.ui.edu.ng)

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## Activities



This manual features “Activities,” which may present material that is NOT extensively covered in the Study Sessions. When completing these activities, you will demonstrate your understanding of basic material (by answering questions) before you learn more advanced concepts. You will be provided with answers to every activity question. Therefore, your emphasis when working the activities should be on understanding your answers. It is more important that you understand why every answer is correct.

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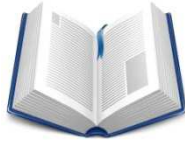
## Assessments



There are three basic forms of assessment in this course: in-text questions (ITQs) and self assessment questions (SAQs), and tutor marked assessment (TMAs). This manual is essentially filled with ITQs and SAQs. Feedbacks to the ITQs are placed immediately after the questions, while the feedbacks to SAQs are at the back of manual. You will receive your TMAs as part of online class activities. Feedbacks to TMAs will be provided by your tutor in not more than 2 weeks expected duration. Schedule dates for submitting assignments and engaging in course / class activities is available on the course website. Kindly visit your course website often for updates.

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## Bibliography



### Reading






For those interested in learning more on this subject, we provide you with a list of additional resources at the end of this course manual; these may be books, articles or websites.

# Getting around this course manual

## Margin icons

While working through this course manual you will notice the frequent use of margin icons. These icons serve to “signpost” a particular piece of text, a new task or change in activity; they have been included to help you to find your way around this course manual.

A complete icon set is shown below. We suggest that you familiarize yourself with the icons and their meaning before starting your study.

			
Activity	Assessment	Assignment	Case study
			
Discussion	Group Activity	Help	Outcomes
			
Note	Reflection	Reading	Study skills
			
Summary	Terminology	Time	Tip



# Study Session 1

## Distinction between Microeconomics and Macroeconomics

### Introduction

In this Study Session we will discuss the transition from microeconomics to macroeconomics. Hence we highlight the differences between micro- and macroeconomics.

### Learning Outcomes



#### Learning Outcomes

When you have studied this session, you should be able to:

- 1.1 *point out* the distinctions between the two aspects of economics.
- 1.2 *highlight* the goals of macroeconomics.
- 1.3 *highlight* why macroeconomists sometimes disagree.

## 1.1 Relationship and Differences between Microeconomics and Macroeconomics

### Microeconomics

The study of economic behaviour of individual agents, households, firms, and government.

In **microeconomics**, the focus of analysis is the individual. In other words, microeconomics is concerned with the study of economic behaviours of the individual agents in the economy. In **macroeconomics**, however, the focus shifts to the aggregate. The focal point then becomes the economy as whole and not individual parts of it.

### Microeconomics

studies aggregate economy as a whole.

In reality, there is a thin dividing line between micro and macroeconomics. However, it is still possible to show some differences between the two. These differences include:

1. Microeconomics offers a detailed treatment of one aspect of the economic system but ignore its interaction with the rest of the economy. On the other hand, macroeconomics looks at the interdependency among all sectors of the economy for policy analysis.
2. While in microeconomics, we are concerned with optimization decisions households, and firms, in macroeconomics we are more concerned with general national issues, such as total employment; money and banking; aggregate national output; the general price level; etc.
3. In terms of output, microeconomics deals with total output in each market, while macroeconomics is interested in the aggregate output in the economy.
4. Macroeconomics focuses on the growth of the total economy while microeconomics takes a more disaggregated approach by looking at changes in output in the individual market.
5. In microeconomics, the study of equilibrium conditions are analysed

at a particular period. But it does not explain the time element. Therefore, microeconomics is considered as a static analysis. On the other hand, macroeconomics is based on time lags, rates of change and past and expected value of the variables.

This rough division between micro and macro economics is not rigid, for the parts affect the whole and the whole affects the part. Just as we noted earlier, there is a very strong inter-dependency between micro and macroeconomics. Presently, the branch of economics called General Equilibrium Theory seeks to bring together the two aspects of economics. Interestingly also, because macroeconomics focuses more on the economy as a whole, it receives greater attention from the people since its subject matter affects their lives directly or indirectly; for example, high inflationary rate, unemployment rate, recessions in the economy, balance of payment problem, etc.

### ITQ

#### Question

Mr Bright just read an article recently published in a daily that inflation rate has risen from 5% to 8%. This will bring about a drastic reduction in his consumption bundle. Characterise the branch of economics by which the effects can be studied more analytically.

#### Feedback

This is a macroeconomic issue. An increase in inflation rates erodes the purchasing power of money. And if not met by a proportional increase in income will lead to a reduction in consumption of aggregate households in the economy.

### 1.1.1 Dependence of microeconomic theory on macroeconomics

Take for instance, when aggregate demand rises during a period of prosperity, the demand for individual products also rises. If this increase in demand is due to a reduction in the rate of interest, the demand for different types of capital goods will go up. This will lead to an increase in the demand for the particular types of labour needed for the capital goods industry. If the supply of such labour is less elastic, its wage rate will rise. The rise in wage rate is made possible by increase in profits as a consequence of increased demand for capital goods. Thus, a macro economic change brings about changes in the values of micro economic variables- in the demand for particular goods, in the wage rate of particular industries, in the profits of particular firms and industries, and in the employment position of different groups of workers.

### 1.1.2 Dependence of macroeconomic theory on microeconomics

On the other hand, macroeconomic theory is also dependent on microeconomic analysis. The total is made up of the parts. National income is the sum of the incomes of individuals, households, firms and industries. Total savings, total investment and total consumption are the

result of the savings, investment and consumption decisions of individual industries, firms, households and persons. The general price level is the average of all prices of individual groups and services. Similarly, the output of the economy is the sum of the output of all individual producing units. Thus, the aggregates and averages that are studied in macroeconomics are nothing but aggregates and averages of the individual quantities which are studied in microeconomics.

## ITQ

### Question

In what instance can we say macroeconomic theory depends on microeconomics? Provide a vivid example on the linkage between microeconomic theory and macroeconomics.

### Feedback

Macroeconomics is the study of aggregate economy. As a result, it studies aggregate behaviour of an economic variable. National income as a (macro) economic variable is the sum of the incomes of individuals, households, firms, and industries.

Whereas, microeconomics studies the welfare impact of a change in an economic variable on an individual. An increase in overall national income generates an increase in consumption level of households. This leads to higher production on the part of firms.

## 1.2 Macroeconomic Goals and Performances

There are certain goals which every economy desires to achieve. These are:

1. high levels of employment and production;
2. stable prices;
3. economic growth; and
4. equity in distribution of income.

### 1.2.1 Employment and Production

As earlier noted, high Levels of Employment and Production is a goal of macroeconomics. Gross output in an economy is produced by a combination of labour and capital, which are employed in the production process. The output of an economy would be maximised if all its factors of production are all employed and are also efficiently used. Unfortunately, this is not always obtainable. Modern economics is characterized by gross unemployment and underemployment of factors of production, which therefore keep level of output permanently below potential or maximum output level. Therefore, it is one of the goals of macroeconomics to see how available level of output can be brought close to its potential level by minimising unemployment and underemployment of the main factors of production.

### 1.2.2 Stable Prices

Every country seeks to control rapid increases or fluctuations in its price level. This is because rising or fluctuating prices of goods and services may keep products out of the hands, of those who would otherwise be able to obtain them and, in so doing, change the distribution of the goods and services produced by the firms in the economy. Periods of rising prices are usually associated with the period of inflation. Inflation occurs when there is a general increase in the price level. As we shall see later, inflation produces many negative effects and only little positive effect on an economy. For instance, it reduces the purchasing power of those on fixed incomes like the pensioners. Additionally, inflation may also reduce levels of savings in the economy, since much money would now be required by households to make their basic purchases.

However, despite the debilitating effects of inflation, many countries have found it difficult to control the rapid rate of inflation in their domestic economies.

### 1.2.3 Economic Growth

This is the third macroeconomic goal. Economic growth refers to increases in the real output level. However, a major limitation of this growth is that it only recognises changes in output level but neglects other welfare indicators, like, literacy level, life expectancy level, leisure, poverty level, etc. In addition, it ignores the ever-increasing pollution and other social costs that may be associated with increasing output levels. Despite its limitations, economy growth is still commonly accepted to reflect welfare level and every country desires a marked increase in her economy growth rate.

### 1.2.4 Distribution of Income

This is another area which has increasingly crept into the realm of macro-economics. It is now a stated macroeconomic objective of every country to promote equity in distribution of income, which is associated with increasing rate of economic growth.

#### ITQ

##### Question

Highlight prominent macroeconomic goals which every economy seeks to achieve

##### Feedback

- ✓ High levels of employment and production;
- ✓ Price stability;
- ✓ Economic growth; and
- ✓ Equity in distribution of income.



### 1.3 Causes of Divergent Views by Macroeconomists

From the foregoing, it is clear that macroeconomics is the result of a sustained process of construction, of an interaction between ideas and events. What macroeconomists believe today is the result of an evolutionary process in which they have eliminated those ideas that failed and kept those that appear to explain reality well.

This does not mean that macroeconomics today is ‘right.’ Surely, new event will lead macroeconomists to question some of their thinking: some may even lead to radical rethinking. Nor does it imply that the lessons of history and the interactive process between ideas and events are so strong that all macroeconomists agree on everything. They disagree on many issues, although often less so than is commonly perceived. When they disagree, they do so for two very different reasons.

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**Hint**

Macroeconomists sometimes disagree due to considerations for economic objectives and economic instruments

---

First, even when they share the same view of the way the economy works, they often disagree on the weight they assign to different objectives. Some economists are willing to reduce income inequality even if some of the means needed to achieve is more important. Some economists put more weight on fighting high unemployment than on fighting inflation because they see unemployment as a major social evil. Others put more weight on fighting inflation, which they see as more dangerous to society. Often, lines of disagreement run along political lines. For instance, in the United States, Democrats, and economists with Democratic leanings, usually care more about income inequality and unemployment; Republicans, and economists with Republican leanings, usually care more about growth and fighting inflation, which they see as more dangerous to society. The measures that both groups recommended differ accordingly. As long as people (and these economists) have different values, these disagreements will remain.

Second, reality often does not speak strongly enough to make all economists agree. In contrast to researchers in most other applied sciences, economists cannot do controlled experiments. For instance, when an engineer wants to find out how the temperature affects the conductivity, of a material, he builds an experiment in which he changes the temperature, making sure that everything else remains the same, and looks at the change in conductivity. But macroeconomists who want to find out for example, how changes in the money supply affect aggregate activity cannot perform such controlled experiments; they cannot make the world stop while they ask the Central Bank of a country to change the money supply. Or, can they?

Typically changes in the money supply coincide with myriad other events, ranging from changes in tax legislation, to strike, to unusual weather, and so on. Thus, to isolate the effect of the change in the money supply on output, economists must, when they look at their data, control the other variables that moved at the same time. This is difficult enough, and it is because of this difficulty, that different economists looking at the same episode can reach different conclusions. Looking at the same

episode, one economist can see a strong effect of money on activity, while another sees a weaker effect.

The availability and the study of more and more episodes, and the use of better and better techniques to examine the data, narrow such differences of opinion over time. For example, there is large agreement about the effects of money on economic activity, if not about the specific channels through which these effects take place. But disagreements do and will still remain.

### ITQ

#### Question

Macroeconomists sometimes hold divergent views concerning certain economic decisions. Provide an economic scenario of that possibility.

#### Feedback

The disagreement among macroeconomists is sometimes due to consideration of economic objectives and economic instruments. For example, achieving high employment and low inflation could be a tall order in an economy. Therefore, an economy faces trade off between the two policy options as they cannot be achieved simultaneously. The option the economy pursues depends on the weight and value attached to each of the two policies.

---

## Study Session Summary



### Summary

In this Study Session, you learnt the difference between micro and macroeconomics. While microeconomics is concerned with economic behaviours of individual agents in the economy, macroeconomics is more concerned with the totality of the economy and therefore addresses such national issues, as unemployment, economic growth etc. Dependence of the two theories; microeconomics and macroeconomics on each other was also brought to the fore by noting that the total is made up of the parts. Also, the reasons why economists sometime disagree on economic issues were given in this Study Session.

## Assessment



### Assessment

#### **SAQ 1.1 (tests Learning Outcome 1.1)**

How will you distinguish between microeconomics and macroeconomics?

#### **SAQ 1.2 (tests Learning Outcome 1.2)**

The aim of every economy is to achieve certain macroeconomic goals. Can you highlight these goals?

#### **SAQ 1.3 (tests Learning Outcome 1.3)**

The disagreement among macroeconomists is as a result of several factors. In view of your level of understanding in macroeconomics, provide policy stance where macroeconomists disagree and reason for disagreement.

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# Study Session 2

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## Unemployment

### Introduction

As noted in our previous Study Session, macroeconomics deals with three main variables - employment, output and the general price level. In this Study Session we will look at unemployment. Ordinarily, you know that the employed refers to people who are doing some work for a living. This naturally includes those who are self-employed. Conversely, the unemployed are those who are willing to work but are not currently employed. In the rest of this Study Session, we shall look more closely at causes of unemployment and policies which could be used to address the problem of unemployment.

### Learning Outcomes



#### Learning Outcomes

When you have studied this session, you should be able to:

2.1 *define* and *use* correctly the term in bold:

- unemployment.

2.2 *explain* causes of unemployment.

2.3 *present* how to control unemployment.

### 2.1 Meaning of Unemployment

One of the major problems confronting every modern economy is that of unemployment. It is an economic condition in which the number of people who are willing and able to work but are without a job. Unemployment is a stock concept measured at a point in time; it is an indication of the resources of the country that is presently unutilised.

The implications of unemployment in an economy are grievous. First, it implies that the economy is operating at below full employment level in which case it means that the society is foregoing some potential output. Second, it will increase the pressure on those who are presently working since they have to cater for their unemployed relatives or in some cases part of their taxes will be used to provide for the unemployed. Third, it could also lead to increment in social menace such as armed robberies, prostitution, etc.

#### 2.1.1 Voluntary versus Involuntary Unemployment

Keynes distinguishes between voluntary and involuntary unemployment. Voluntary unemployment occurs when the unemployed is unwilling to take up the available job at the going wage rate. Involuntary unemployment occurs when a person is willing to accept a job at the going wage rate but could not find one.



### What determines whether a worker is defined as unemployed or not?

Until the 1940s in the United States and until more recently in most other countries, the number of people registered in unemployment offices was the only available source of data on unemployment, and only those workers who were registered in unemployment offices were counted as unemployed. This system led to a poor measure of unemployment. How many of the truly unemployed actually registered varied both across countries and across time. Those who had no incentive to register, for example, those who had exhausted their unemployment benefits – were unlikely to take the time to come to the unemployment office; thus, they were not counted. Countries with less generous unemployment benefit systems were likely to have fewer unemployed registering; thus, those countries had smaller measure of unemployment rates.

Today, most countries rely on large surveys of households to compute the unemployment rate. In the United States, this survey is called the current population survey (CPS), and it relies on interviews of 60,000 households every month. The survey classified somebody as employed if he or she has a job at the time of the interview; it classifies somebody as unemployed if he or she does not have a job and has been looking for work in the last four weeks. Most other countries use a similar concept of unemployment, although the definition of what “looking for work” means exactly varies across countries. In the United States in 1994, estimates based on the CPS survey showed that on the average over the year, 123 million people were employed and 8 million people were unemployed. The unemployment rate was thus  $8/(123 + 8)$ , or 6.1 percent.

Note an important characteristic of the definition of the unemployment rate. Only those looking for work are counted as unemployed; those who are not looking are counted as not in the labour force. But when unemployment is high, many of those without jobs simply give up looking for work and thus are no longer counted as unemployed. These people are known as discouraged workers. To take an extreme case, if all workers without a job gave up looking, the unemployment rate would equal zero, and the unemployment rate would be a very poor indicator of what is happening in the labour market. This extreme case does not hold, but a milder version is present. Typically, high unemployment is associated with many workers dropping out of the labour force. Equivalently, a high employment rate is typically associated with a low participation rate, defined as the ratio of the labour force to the total population of working age. Since the start of economic reform in Eastern Europe in the early 1990s, unemployment has increased, often dramatically. But equally dramatic has been the drop in participation rates. In Poland, for example, 70% of the decrease in employment in 1990 was accounted for by early retirements—in other words, by people dropping out of the labour force.

### ITQ

#### Question

Mrs Becky turns down an offer of paid employment with a take home of

20,000 Naira per month. This is not unconnected with the fact that her husband pays her monthly allowance amount to 22,000 Naira. Characterise Mrs. Becky nature of unemployment.

#### Feedback

Since the incentive to take paid employment for Mrs Becky is lower than her reservation wage, she is better off not working at all considering her higher monthly allowance over wage offer. The type of unemployment faced by her could be characterised by Voluntary unemployment.

### 2.1.2 Unemployment Rate

The labour force is defined as the sum of those employed and those unemployed:

$$L = N + U$$

$$\text{Labor force} = \text{Employment} + \text{Unemployment}$$

The unemployment rate in turn is defined as the ratio of the number of unemployed to the labour force.

$$u = U/L$$

$$\text{unemployment rate} = \frac{\text{Unemployment}}{\text{Labour force}}$$

#### ITQ

##### Question

If the labour force and total employment in an economy are 100,000 and 80,000 respectively. Calculate the unemployment rate.

##### Feedback

Total unemployment = Labour force – Total employment i.e

$$\text{Total unemployment} = 100,000 - 80,000 = 20,000$$

Unemployment rate = total unemployment/labour force i.e

$$\text{Unemployment rate} = 20,000/100,000 = 0.2$$

Therefore, unemployment rate is 20% in this economy.

## 2.2 Types and Causes of Unemployment

In discussing the causes of unemployment, it is useful to distinguish different kinds of unemployment.

### 2.2.1 Frictional unemployment

This is the amount of unemployment that is associated with normal turnover of labour. It is unemployment that occurs in the course of leaving one job and finding another.

### 2.2.2 Structural unemployment

Structural changes in an economy can be a cause of unemployment. The

process of economic development implies changes in input and output mix. While the demand for some products will be increasing, others will be decreasing. However, it might take sometimes for workers who are laid-off in the declining industry to learn the required skills to cross over to the growing industry. Essentially, structural unemployment thus occurs when there is a mismatching between the unemployed and the available jobs in terms of regional location, required skills, or any relevant dimension.

### 2.2.3 Deficient demand unemployment

Unemployment that occurs because there is insufficient aggregate demand to purchase full employment output is called deficient demand unemployment. It is measured by the excess of the supply of workers looking for jobs over the number of jobs available. It will be positive when there is deficient aggregate demand and negative when there is excess aggregate demand.

### 2.2.4 Search unemployment

This occurs among people who could find work of the type for which they are fitted but who remained unemployed in order to search for a better offer than they have received so far.

### 2.2.5 Seasonal unemployment

This results from seasonal fluctuations in demand for labour. For example, employment in ice factories is only for the summer; similarly, ice-cream sellers remain unemployed during winter. The same is the case with agricultural workers who remain employed during harvesting and sowing seasons and remain idle for the rest of the year.

## ITQ

### Question

Enumerate different kinds of unemployment.

### Feedback

There are different kinds of unemployment listed below:

- Frictional unemployment
- Seasonal unemployment
- Deficient-demand unemployment
- Structural unemployment
- Search unemployment

### Question

Unemployment associated with low level of demand can be categorised by \_\_\_\_\_

### Feedback

Deficient-demand unemployment

## 2.3 Control of Unemployment

The best remedy for unemployment is an understanding of the nature and causes of such unemployment. In other words, one needs an understanding of the type of unemployment before appropriate control measures can be taken. For instance, frictional unemployment is inevitable in any economy. However, any policy measure that makes moving between jobs easier and quicker can, however, reduce the volume of frictional unemployment somewhat.

Structural unemployment may be checked by policies of retraining and relocating labour as part of a general effort to facilitate the adjustment of labour supplies to changing patterns of demand

Unemployment that is due to deficient aggregate demand can be resolved by increasing aggregate demand. This can be done by any expansionary fiscal (e.g. increasing government expenditure) or monetary (e.g. reducing interest rates) policies.

Genuine search unemployment may be reduced, first, by making it easier for individuals to locate job vacancies and second, by increasing the possibility that individuals will accept an offer received earlier in their search period. The first can be done, for example, by the provision of market information on job availability; the second requires increasing the cost of search to the unemployed individual, for example, by reducing unemployment benefits.

### ITQ

#### Question

Suggest a way frictional unemployment can be tackled from the economic point of view

#### Feedback

Frictional unemployment can be reduced by adopting policy measure that allows free movement of workers from one place another.

## Study Session Summary



### Summary

In this Study Session, you learnt that unemployment refers to people who are willing to work but are currently unemployed. There are various types of unemployment. These include frictional unemployment, structural unemployment, deficient demand unemployment, search unemployment and seasonal unemployment. Given the negative effects of unemployment on the economy, several control measures are often undertaken by the government to reduce it. However, the particular measure *chosen will depend on the type of unemployment being addressed*.



## Assessment



### Assessment

#### **SAQ 2.1 (tests Learning Outcome 2.1)**

Demonstrate your understanding of the concept “unemployment”

#### **SAQ 2.2 (tests Learning Outcome 2.2)**

Unemployment in an economy is multifaceted and caused by many factors. Highlight the types of unemployment with vivid explanation

#### **SAQ 2.3 (tests Learning Outcome 2.3)**

In an economy that is characterised by high unemployment, suggest ways of improving employment in this economy.

## Study Session 3

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### National Income Accounting

#### Introduction

In the previous Study Session, we discussed unemployment. Here, we will explore basic concepts and computations in national income accounting and examine how to determine national income.

#### Learning Outcomes



##### Learning Outcomes

When you have studied this session, you should be able to:

3.1 *define* and *use* correctly the following basic concepts often used in national income accounting:

- **national income**
- **gross domestic product**
- **gross national product**
- **net national product**
- **personal income**
- **disposable income**

3.2 *point out* the major limitations of using GNP and GNP as a measure of welfare.

3.3 *compute* national income accounting.

3.4 *calculating* Nominal and Real GDP.

3.5 *determine* national income.

#### A Review on Gross Domestic Product and Gross National Product

##### Hint

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We noted in ECO102 Study Session two, Gross domestic product (GDP) measures the value of output produced by factors of production in the domestic economy over a period of time, regardless of those who own these factors. Again, you would recollect that the concept of GDP is a flow. It measures output over a period of time.

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For the purposes of computation, we recognize final goods and services. This is to avoid the problem of double counting and unnecessary exaggeration of the value of goods and services produced.

In addition, GDP only takes into cognizance payments earned as a result of only goods and services produced while payments not made in respect of produced goods and services are not counted. Such uncounted payments are known as transfer payments.

When GNP is measured at current money value, its value is going to be affected by the price level. It is possible for the value of GNP to double between two years, but this does not imply that welfare level has increased. If the price level also doubles over the two years then the value

of GNP has not changed in the two years. Thus, when GNP is valued at the current price level, it is referred to as nominal or GNP at current prices. On the other hand, GNP which has been corrected for changes in the price level is called GNP at real prices or alternatively as real GNP. It is the actual measure of changes in welfare level over a given period.

### 3.1 Definitions of Relevant Concepts

#### National Income

This is the total amount paid to factors of production - land, labour, capital and entrepreneur. It is derived from GNP by subtracting from the latter indirect business taxes and depreciation.

#### Gross Domestic Product (GDP)

This is the monetary value of all goods and services produced in an economy, irrespective of the nationalities of those who produced them, over a given period of time, usually a year.

#### Gross National Product (GNP)

This is the monetary value of goods and services produced by the nationals of a country whether resident within or outside the country. It is simply GDP plus income from abroad (i.e. income earned by nationals of the country resident abroad minus income of foreigners resident within the country).

#### Net National Product (NNP)

This is GNP minus depreciation. It is the value of national product after making allowances for the depreciation of the capital used to produce the output.

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#### Hint

Besides, NI, GNP and NNP, other important national accounting concepts include personal income and disposable income.

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#### Personal Income

This is the total amount an average individual receives as income. It differs from national income in two ways. First, some people who have a claim on income do not actually receive it. For example, although all the profit of a firm belongs to the owners, not all of this is eventually paid out to them. Second, some people receive income that is not obtained in exchange for services rendered.

To reconcile personal income and national income, you subtract corporate profits from national income, and add dividends to the result. Then you must deduct contributions for social insurance and add government and business transfer payments.

#### Disposable Income

This is simply the take home pay of workers. It means the actual income which can be spent on consumption of individuals and families. The whole of the personal cannot be spent on consumption, because it is the

incomes that accrue before direct taxes have actually being paid. Therefore, in order to obtain the disposable income, direct taxes are deducted from personal income. Thus Disposable income = personal income – direct taxes

## ITQ

### Question

Given the following data:

GDP = 30,000; Income received by nationals abroad = 10,000; Income received by foreigners in Nigeria = 2,000; depreciation = 500; Direct tax = 100; undistributed profit = 200; Transfer payment = 400. Calculate

a) Gross National Product (GNP); (b) Net National Product (NNP); (c) Personal income (PI); (d) Disposable income (DI) for Nigeria

### Feedback

- a)  $GNP = GDP + \text{income received by nationals} - \text{income received by foreigners in Nigeria}$   
 $GNP = 30,000 + 10,000 - 2,000 = 38,000$
- b)  $NNP = GNP - \text{Depreciation} = 38,000 - 500 = 37,500$
- c)  $PI = NNP + \text{Transfer payment} - \text{undistributed profit}$   
 $PI = 37,500 + 400 - 200 = 37,700$
- d)  $DI = PI - \text{Direct tax} = 37,700 - 100 = 37,600$

## 3.2 Measuring GNP

There are three basic approaches to measuring GNP. There are:

1. The Expenditure Approach
2. The Income Approach
3. The Output Approach

We shall examine the above approaches serially.

### 3.2.1 The Expenditure Approach

This involves adding together all the expenditure on final goods and services. Economists distinguish among four categories of expenditure:

1. **Personal Consumption Expenditure:** These include the spending by households on durable goods, non-durable goods and services. Personal consumption expenditure usually accounts for the greatest proportion of total expenditure.
2. **Gross Private Domestic Investment:** These consist of all investment spending by firms in the economy. Three broad types of expenditures are included in this category.
  - i. all final purchases of tools, equipment and machinery;
  - ii. all construction expenditures including expenditure on residential houses; and
  - iii. the change in total inventories.
3. **Government Purchases of Goods and Services:** This includes the

expenditures of the Federal, State and Local Governments in the performance of their functions. However, it excludes transfer payments, since they do not arise from production processes.

4. **Net Exports:** This is simply the difference between the country's exports and her imports.



Tip

Using the expenditure approach, GNP can be summarised as:

$$\begin{aligned}
 GNP = & \\
 & \text{Personal Consumption Expenditure} + \\
 & \text{Gross Private Domestic Investment} + \\
 & \text{Government Purchases of Goods and Services} + \\
 & \text{Net exports}
 \end{aligned}$$

### 3.2.2 The Income Approach

To use this approach, we simply sum up all the incomes earned by factors of production - labour, capital, land and entrepreneur, for their contribution to production of the year's output. This income is of various types, they are:

1. **Compensation of Employees:** This is the largest of the income categories. It includes the wages and salaries that are paid by firms and government agencies to supplier of labour. In addition, it comprises a variety of supplementary payments by employers for the benefit of their employees, such as payments into public and private pension schemes and welfare funds.
2. **Rents:** In the present context, rent is defined as payment to households for the supply of property resources. For example, it includes house rents received by landlords.
3. **Interest:** This includes payment of money by enterprises to suppliers of money capital. Interest paid by the government on treasury bill, savings, bonds and other securities are excluded on the grounds that they are not payments for current goods and services. They are regarded as transfer payments.
4. **Proprietors' Income:** This consists of net income of unincorporated businesses. In other words, it consists of the net income of proprietorships and partnerships.
5. **Corporate Profits:** This is the net income of corporations. This is made of three parts:
  - i. dividends received by stockholders;
  - ii. retained earnings; and
  - iii. the amount paid by corporation as income taxes.

All the items discussed above are forms of income. In addition, there are two non-income items, depreciation and indirect business taxes, that must be added to the sum of the income items to obtain GNP.



Tip

On the basis of income approach, GNP via the income approach can be summarized as:

$$\begin{aligned}
 GNP = & \text{Compensation of Employees} + \text{Rent} + \text{Interest} \\
 & + \text{Proprietors' Income} + \text{Corporate profits} \\
 & + \text{Depreciation} + \text{Indirect Business Taxes.}
 \end{aligned}$$

### 3.2.3 The Output or Value-Added Approach

This is simply the monetary value of all the value-added to every sector in the economy. In other words, it is the monetary value of the contributions of all the output of goods and services by various sectors, in the economy. It should be noted that the emphasis is on value-added. Value-added is the amount of value added by a firm or industry to the total worth of the product.

#### ITQ

##### Question

Given the following Nigerian data:

Private consumption (PC) = 5000; Private investment (PI) = 3000; Rent = 500; Interest = 1000; Government consumption (GC) = 4000; Export (EX) = 2000; Import (IMP) = 2500. Compute Gross National Product using expenditure approach

##### Feedback

$GNP = PC + PI + GC + EX - IMP = 5000 + 3000 + 4000 + 2000 - 2500 = 11,500$

## 3.3 Limitations of GNP and NNP

There are certain limitations in the use of GNP and NNP as measures of economic well-being or for the purpose of international comparison of well-being. Some of these limitations are:

1. **Population:** GNP and NNP are not very meaningful unless one knows the size of the population of the country in question. For instance, a country's GNP may be \$50 billion but have a population of 500 million while another country may have a \$20 billion but with a population of 10 million. Clearly, the second country, though with a smaller GNP has a higher standard of living. To make inter-country comparison more meaningful, per capita income (PCI) - GNP divided by the population - is often used.
2. **Leisure:** GNP and NNP do not take into account leisure. Usually, as people become more affluent, they substitute leisure for increased production. Yet, this increase in leisure time which contributes to increased well-being does not show up in GNP and NNP. Neither do the personal satisfaction (or displeasure) people get from their jobs.
3. **Quality Changes:** GNP and NNP do not take into account changes in the quality of goods, unless its price reflects the improvement. For example, for a brand new type of drug, if the output and cost of the new drug is the same as the old drug, GNP will not increase, even though the new drug is twice as effective as the old one.
4. **Value and Distribution:** Both GNP and NNP say nothing about the social desirability of the composition and distribution of the nation's output. Each good and service produced is valued at its price. If the price of a bible is N100 and that of a pornographic book is N100, both are valued at N100.00 each and entered into GNP computation without revealing their relative importance. The two measures do

not reveal how the goods and services produced are distributed in the society. Are they evenly distributed? Or distributed in favour of the rich? GNP is silent on these questions.

5. **Social Cost:** GNP and NNP do not reflect some of the social cost, arising from the production of goods and services. In particular, they do not reflect environmental cost of production activities.

## ITQ

### Question

Why is Gross National Product not a good measure of standards of living?

### Feedback

Gross National Product is not a good measure of economic well-being as it does not take into account some of these measures:

- Population, Leisure, Quality changes, Value and distribution, and Social cost

## 3.4 Calculating Nominal and Real GDP

**Nominal GDP:** This is simply the sum of the quantities of final goods produced times their current price. A warning is in order here. People often use the word *nominal* to denote small amounts. Economists use *nominal* for variables expressed in units of the currency of the relevant country.

Nominal GDP increases over time for two reasons. The first is that the production of most goods increases over time. The second is that the naira price of most goods also increases over time. We produce more and more goods each year, and their naira price increases each year as well. If our intention is to measure production and its change over time, we need to eliminate the effect of increasing prices. For this purpose, economists focus on real rather than nominal GDP.

To construct real GDP, we first choose a base year; we then construct real GDP in any year as the sum of quantities produced times their price in the base year. An example will help here. Suppose that an economy produces two goods, potatoes and cars. In year 0- which we shall take as the base year – it produces 100,000 pounds of potatoes and sells them at ₦100 a pound, and 10 cars that sell for ₦400, 000 a car. One year later, in year one, it produces and sells 100, 000 pounds of potatoes at a price of ₦120 a pound, and 11 cars at ₦400, 000 a car. Nominal GDP in year 0 (base year) is thus equal to ₦5, 000,000 and nominal GDP in year 1 equal to ₦230, 000. This information is summarized in Table 3.1.

The increase in nominal GDP from year 0 to year 1 is equal to  $\frac{₦230,000 - ₦5,000,000}{₦5,000,000} = 17$  per cent. But what is the increase in real GDP? Let us take year 0 as the base year – that is, let's add quantities in both year 0 and 1 using year 0 prices for potatoes and cars. Because we take year 0 as the base year, real GDP is equal to nominal GDP in year; real and nominal GDP are always equal in the base year. In year 1, real

GDP is constructed to using year 1 quantities and year 0 prices, so that it is equal to  $(100,000 \times \text{N}100) + (11 \times \text{N}400,000) = 14,400,000$ . The increase in real GDP is the equal to  $\text{N}400,000/\text{N}14,000,000$  or 2.86 per cent.

**Table 3.1** Nominal GDP in Year 0 and in Year 1.

<b>Year 0</b>				
	<b>Quantity</b>		<b>N Price</b>	<b>N Value</b>
Potatoes	100,000	X	100	= 10,000,000
Cars	10	X	400,000	= <u>4,000,000</u>
Nominal GDP				<u>14,000,000</u>

<b>Year 1</b>				
	<b>Quantity</b>		<b>N Price</b>	<b>N Value</b>
Potatoes	100,000	X	120	= 12,000,000
Cars	11	X	400,000	= <u>4,400,000</u>
Nominal GDP				<u>16,400,000</u>

Instead of using year 0 as the base year, we could have used year 1, or indeed any other year. The choice of the base year will typically affect the measure of real GDP growth. For example, if we had used year 1 as the base year, real GDP in year 0 would be equal to  $(100,000 \times \text{N}120) + (10 \times \text{N}400,000) = \text{N}16,000,000$ . By construction, real and nominal GDP would be the same in year 1, both equal to  $\text{N}16,400,000$ . The increase in real GDP would be equal to  $\text{N}400,000/\text{N}16,000,000$ , thus 2.5 percent. It would thus be smaller than the increase in real GDP we obtained using year 0 as the base year.

## ITQ

### Question

Distinguish between Nominal and Real Gross Domestic Product

### Feedback

Nominal GDP is the market value of all final goods and services produced in an economy over a period of time usually a year. Whereas, Real GDP measures the final basket of goods and services produced in a particular year under consideration.

## 3.5 Determination of National Income

In most countries today, an examination of the country's GNP for various years will show the fluctuations which take place in these countries. A period of rising GNP followed by another period of declining GNP and so on; however, these fluctuations, cause serious strains on the economy. In this section, we will highlight why NI fluctuates. In addition, we will explore how to determine NI in various types of economics.

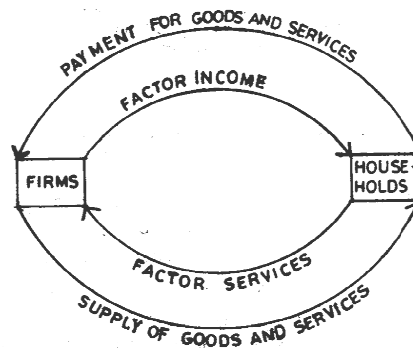
### 3.5.1 The Circular Flow of Income

The circular flow of income shows the transaction between the agents in



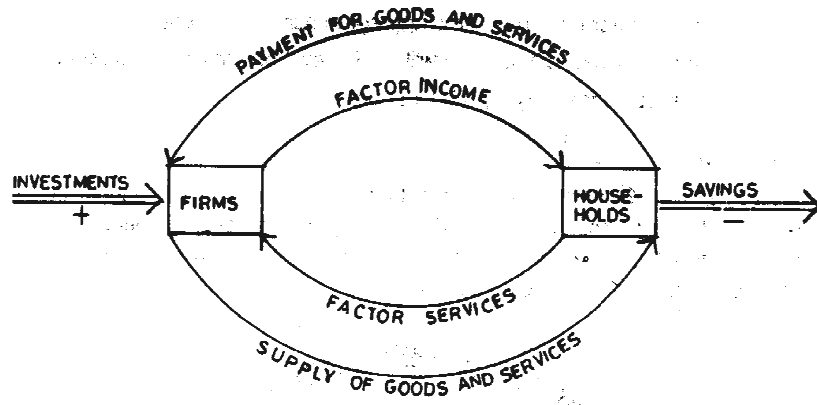
the economy. For instance, in a closed economy if we assume there are two economic agents, i.e. the household and the firms, the circular flow of income in that economy can be depicted as follows:

**Fig 3.1** Circular flow of income in a two sector closed economy.



In the above economy, firms purchase factors of production from the households and for these they pay incomes to the households. This first part of the relationship is depicted by the inner flows in the figure above. On its own part, the households buy goods and services from the firms and for these they make payments to the firms. Since we assume that there is no leakage in the economy, then all sides of the transactions must be equal. This means that the income earned by households must be equal to the value of output produced by the firms.

**Fig 3.2** Circular flow of income with injections and leakages



However, if we introduce leakages and injections into our circular flow of income via savings and investment, then the circular flow in income would be altered as illustrated in Fig. 3.2

In the economy illustrated by the Fig. 3.2, we assume that households do not spend all their income on current consumption of goods and services but save part of it. The amount saved then constitutes a leakage from the system. On the other side, firms do not sell all their output to households, some are investment goods. This represents an injection into the circular flow. An injection is an addition to the income of domestic firms which does not arise from expenditure of the households or an addition to the income of households that does not arise from the sale of factor services to the firms.

## ITQ

## Question

The conditions necessary for closure in the circular flow of income are that \_\_\_\_\_ and \_\_\_\_\_.

## Feedback

Injection equals leakage and expenditure equals income

### 3.5.2 Components of Aggregate Demand

In a closed economy and in the absence of government, there are two sources of demand. These are:

- a) Consumption demand, and
- b) Investment demand.

This can be represented as

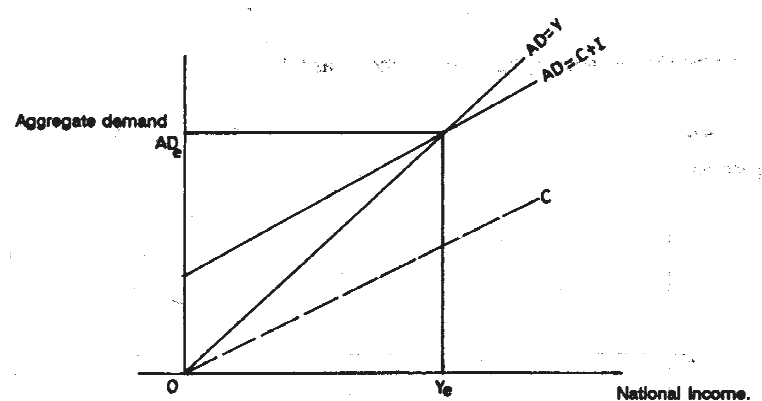
$$AD = C + I$$

Where AD is aggregate demand; C is consumption demand; and I is investment

- a) **Consumption demand:** This is the total amount of money spent by households on goods and services consumed in the economy. Such goods and services range from cars and foods to theatre performances and electricity. This consumption purchases account for the highest proportion of aggregate demand.
- b) **Investment demand:** This consists of firms, desired or planned additions to boost their physical capital (factories and machines) and to their inventories. Inventories are goods being held for future production or sale.

Aggregate demand can be illustrated by the following diagram.

**Fig 3.3** Aggregate demand curve in the absence of government and external sectors.



#### CASE A: Equilibrium National Income in a Closed Economy (without the Government)

Earlier on in this Study Session, we introduced injections in form of investment and withdrawal via saving into circular flow of income in a closed economy. The two are however carried out by different agents in the

economy. However, in such an economy, equilibrium national income occurs where savings equal investment, that is, withdrawal equals injection. When savings exceed investment, income falls, this will lead to a reduction in households saving and this will continue until the two are equal. The opposite holds when investment exceeds savings.

The equality between savings and investment could be demonstrated either statistically or graphically.

Statistically, national income  $Y$  is equal to consumption expenditure  $C$ , plus investment expenditure  $I$ .

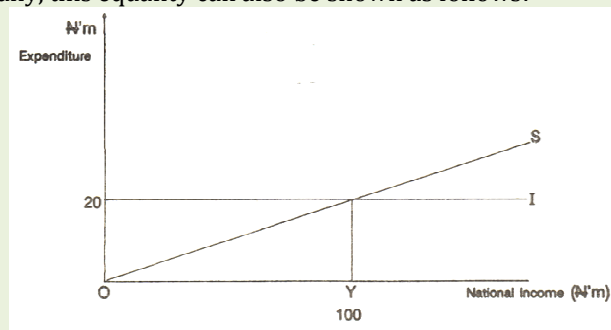
$$\text{i.e. } Y = C + I \dots\dots\dots (1)$$

$$\text{From (1) } I = Y - C \dots\dots\dots (2)$$

But, we know that income minus consumption is equal to savings; therefore, equation (2) can be written as

$$I = S \dots\dots\dots (3)$$

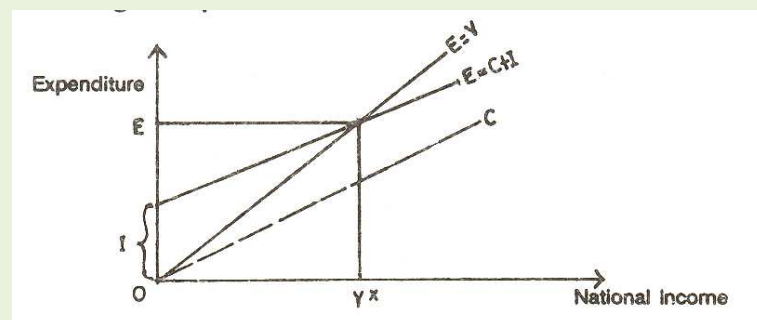
Geometrically, this equality can also be shown as follows:



**Fig 4.4** Equilibrium output level at which planned investment equals planned savings

In the figure above, savings and investments are equal when investment is ₦20m. The equilibrium national income at this point is ₦100m. The investment curve is a horizontal line because we assume it is exogenously determined, that is, fixed irrespective of the level of national income. On the other hand, the savings function is an upward straight line because we assume savings to be a fixed proportion of a given level of national income.

**The income – Expenditure Approach:** This is another graphical method for showing the equilibrium level of national income. This is illustrated below:



**Fig 4.5** Determination of national Income via the Income-expenditure approach

The 45° line shows the equality between actual expenditure and actual income. Points above or below the line shows a combination for which expenditure exceeds income or expenditure is less than income

respectively. In this figure, the equilibrium level of income is determined at the point of interaction of the aggregate expenditure function and the 45° line. At this point, the aggregate demand will just be sufficient to buy up the total of all goods produced. Any other point leads to disequilibrium.

### Case B: Equilibrium National Income in a closed economy but with the presence of the Government

At this juncture, we recognize the presence of the third economic agent, the government in our analysis. The introduction of the government into the economy brings into our analysis another type of withdrawal variable (i.e. taxes) and injection variable (i.e. government expenditure).

The introduction of these variables, however, did not alter the basic conditions for equilibrium in the economy. The equilibrium conditions still require the equality of total withdrawals and total injections. Thus, the equilibrium condition in this economy can be statistically stated as:

$$\begin{aligned} \text{Injection (I)} &= \text{Withdrawal (W)} \\ \text{Or } I + G &= S + T \quad \text{where } I = \text{Investment expenditure} \\ &\quad G = \text{Government expenditure} \\ &\quad S = \text{Savings} \\ &\quad T = \text{Taxes} \end{aligned}$$

**The Income-expenditure Approach:** In this economy, we now alter the component of our aggregate demand by now including government expenditure; thus,  $AD = C + I + G$ .

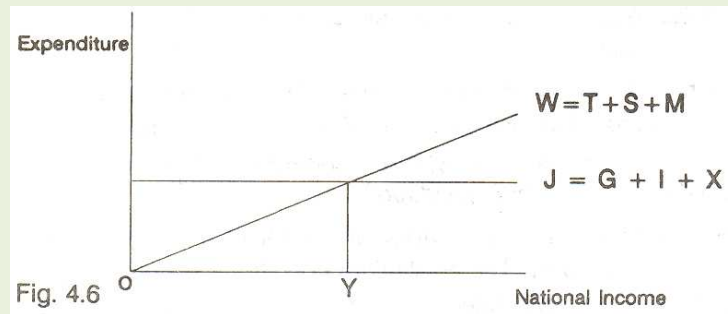
National income will be in equilibrium if aggregate desired expenditure is equal to national income because in that case, desired purchase will be exactly equal to total production.

### CASE C: Equilibrium National Income in the Open Economy.

We now relax our assumption of a closed economy by allowing for the influence of foreign trade, that is, imports and exports. The introduction of imports and exports introduces additional variables into our analysis. We now have new form of withdrawal, i.e. Imports and another new injection which is exports. *Import constitutes a withdrawal because money spent on import goes out of the economy and hence constitutes a leakage to the system. On the other hand, export constitutes an injection into the economy from the sale of exports.*

#### 1. Equilibrium in terms of Withdrawal and Injections

Again, we assume that like other previous injections, export (x) is fixed, while import like other withdrawals, is allowed to change proportionally with income. The resulting equilibrium is shown below



**Fig. 4.6** Equilibrium in terms of withdrawal and injections

If withdrawals are less than injections, there will be a net expansionary force in the economy; income will rise. This will also make tax, savings and imports rise. The expansion will come to a halt when total withdrawals have risen to the level of total injections and vice versa.

National income will be in equilibrium when total desired withdrawals equal total desired injections. Thus, the equilibrium condition is, once again,  $W = I$ . That is,

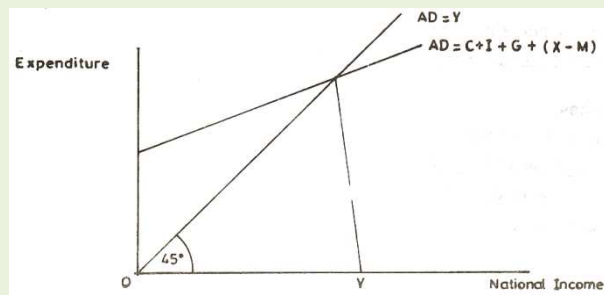
$$S + T + M = I + G + X.$$

## 2. The Income-Expenditure Approach in an Open Economy

In the open economy, aggregate expenditure includes expenditure by foreign firms, households and governments on domestically produced goods and services. This implies that aggregate expenditure includes export values. At the same time, some consumption expenditure made by domestic households, firms, and some government expenditure may go to purchase goods and services produced in foreign countries. Hence, import values must be excluded from aggregate expenditure. Thus, we have

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

Once again, national income will be in the equilibrium when aggregate desired expenditure is equal to national income. When this is true, total desired purchases will just be equal to total production.



**Fig 4.7** Equilibrium nation income through the Income- expenditure approach

## ITQ

### Question

Specify an equilibrium condition in an open economy using injections-withdrawal approach

**Feedback**

Like the closed economy, equilibrium in an open economy is achieved at the equality of injections and leakages. The constituents of injections in an open economy are Investment (I), Government expenditure (G), and Export (X). While leakages are Savings(S), Taxes (T), and Import (M). Algebraically we have,

$$S+T+M = I+G=X$$

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## Study Session Summary



### Summary

In this Study Session, you explored the main concepts commonly applied in national income accounting. National income is simply the total income earned by all the factors of production over a given period of time, usually a year. There are three basic approaches to measuring GNP. These include the expenditure approach, the income approach and the output approach. You were further told that these three approaches would give the same value for national income after making appropriate adjustments..

In the course of this Study Session, you also learnt how equilibrium levels of national income are determined in different economic systems. The equilibrium conditions in all these different economic systems are basically the same. These equilibrium conditions require that: the total withdrawals in the economy must be equal to the total injections into the economy, and that geometrically, the equilibrium level of income is determined at the point at which aggregate expenditure function intersects the 45 line.

## Assessment



### Assessment

#### SAQ 3.1 (tests Learning Outcome 3.1)

Demonstrate your understanding of the following National Accounting concepts

- national income
- gross domestic product
- gross national product
- net national product
- personal income
- disposable income

#### SAQ 3.2 (tests Learning Outcome 3.2)

State the major limitations of using GNP and NNP as measure welfare.

#### SAQ 3.3 (tests Learning Outcome 3.3)

Given the following Nigerian data for the year 2014:

Private consumption (PC) = 5000; Private investment (PI) = 3000; Rent (R) = 500; Interest (I) = 1000; Government consumption (GC) = 4000; Proprietors' income (PI) = 2000; Export (EX) = 2000; Import (IMP) = 2500. Compute Gross National Product using income approach.

#### SAQ 3.4 (tests Learning Outcome 3.4)

Gross Domestic Product in 1960, 1961, and 1962 are 2000, 3000, and 4000 respectively. Price level accordingly are 4, 5, and 6 Naira. Calculate real GDP for 1962 using 1960 as the base year.

#### SAQ 3.5 (tests Learning Outcome 3.5)

How is National income determined in a closed economy?

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# Study Session 4

## Consumption Function

### Introduction

In this Study Session, we will examine one of the components of aggregate expenditure - the consumption function. The shape of this function is very important for analyzing the impact of government policies on the economy. Hence, we shall discuss the important theories of consumption and also the various factors that affect the consumption function.

### Learning Outcomes



#### Learning Outcomes

When you have studied this session, you should be able to:

- 4.1 *highlight* the importance of consumption function in macroeconomics.
- 4.2 *discuss* the three important theories of the consumption function.
- 4.3 *highlight* the factors which influence the shape of the consumption function.

### 4.1 Determinant of Consumption

**Disposable income** The income that remains once consumers have received transfers from the government and paid their taxes.

The main determinant of consumption is surely income, or more precisely **disposable income**. When disposable income goes up, people buy more goods; when it goes down, they buy fewer goods. These are other variations that affect consumption; for the moment, we shall ignore them.

Let  $C$  denote consumption and  $Y_D$  denote disposable income. We can write

$$C = c(Y_D)_{(+)}$$

This is just a formal way of stating that consumption is a function of disposable income. The function  $C(Y_D)$  is called the consumption function. The positive sign below  $Y_D$  means a positive relation between disposable income and consumptions; It captures the fact that when disposable income increase, so does consumption. Economists call such an equation a behavioural equation, to indicate that the equation captures some aspect of behaviour-in this case, the behaviour of consumers.

It is often useful to be more specific about the form of the function-for example, to assume that the function is linear. Here is such a case. It is reasonable to assume that the relation between consumption and disposable income is given by:

$$C = c_0 + c_1 Y_D$$

We are assuming now that the function is a linear relation: it is characterized by two parameters,  $C_0$  and  $C_1$ . Let's look at each in turn. The parameter  $C_1$  is called the marginal propensity to consume. It gives the effect on consumption of an additional naira of disposable income. If  $C_1$  is equal to 0.7, then an additional naira of disposable income increases consumption by  $N1 \times 0.7 = 70$  percent. A natural restriction on  $C_1$  is that it



be positive: An increase in disposable income is likely to lead to an increase in consumption. Another natural restriction is that  $C_1$  be less than 1: people are likely to consume only part of any increase in income, and to save the rest.

The parameter  $C_0$  has a simple interpretation. It is what people would consume if their disposable income in the current year were equal to zero. A natural restriction is that if current income is equal to zero, consumption is still positive. This implies that  $C_0$  is positive. How can people have positive consumption if their income is equal to zero? This is made possible either by dissaving, borrowing or both. This means that a consumer can either lean back on what he had saved before or actually go on borrowing.

### ITQ

#### Question

Mrs Jummy receives a monthly income of N10, 000. His average propensity to consume is 0.9. By how much will his consumption drop when his income falls by 10%?

#### Feedback

With a fall in income by 10%, his new income is  $10000 - (10000 \times 0.1) = 9000$  Naira

Therefore, his consumption will fall by  $1000 \times 0.9 = 900$

## 4.2 Theories of Consumption Function

### 4.2.1 The Keynesian Theory

The basic hypothesis of the Keynesian theory of the consumption function is that current consumption is related to current income. Algebraically, this implies that:

$$C = f(Y)$$

Where: C is current consumption and Y is current income.

However, more appropriately, the Y in the function is supposed to be  $Y_d$ , that is, disposable income.

To fully expose his hypothesis, Keynes introduced two other concepts: the average and the marginal propensity to consume. Average propensity to consume (APC) is the proportion of income spent on consumption. In other words, it is the ratio of consumption expenditure to total income i.e.  $APC = C/Y$ . Marginal propensity to consume (MPC), on the other hand, measures the relation between changes in consumption,  $\Delta C$  and changes in income,  $\Delta Y$ . It is the ratio of  $\Delta C$  to  $\Delta Y$  (i.e.  $MPC = \Delta C / \Delta Y$ ).

Two basic hypotheses provide the core of the Keynesian theory of the consumption function:

1. There is a break-even level of income at which  $APC = 1$ . Below this level, APC is greater than unity and above it APC is less than unity.
2. The MPC is greater than zero but less than unity for all levels of

income (see the figures below).



The Keynesian theory as enunciated above relates current consumption to current income. However, empirical studies carried out by researchers have not supported this theory. This has led to several modifications of the hypothesis as discussed below.

#### 4.2.2 The Permanent Income Hypothesis (PIH)

This theory was developed by Professor Milton Friedman. The hypothesis makes two important assumptions. First, people's income fluctuates; second, people dislike fluctuating consumption. Thus, people will always try to minimize the effect of fluctuation in income on their consumption.

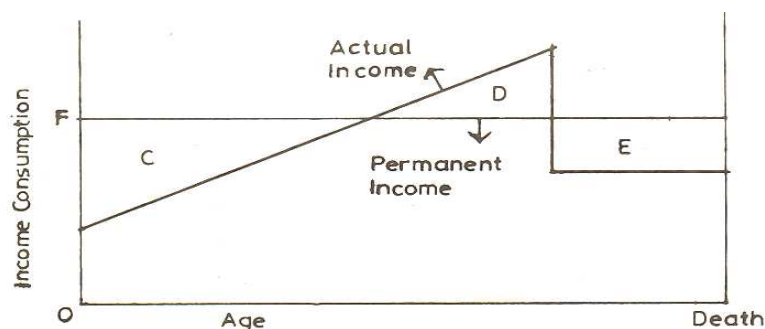
Friedman believes that people's consumption is influenced by their permanent income, rather than current income as argued by Keynes. Thus, during period of temporary increase in their income, households do not increase their consumption by the same proportion. This is because they perceive such increment as temporary. Therefore, they will save most of this temporary extra income and put money aside to see them through the year when income is usually low. People will only increase their level of consumption if their permanent income has significantly increased

#### 4.2.3 The Life-Cycle Hypothesis (LCH)

This was jointly developed by Professors Franco Modigliani and Albert Ando. The theory is very similar to the PIH. The theory assumes that people have a clear conception about what their income will be over their lifetime and on that basis form a lifetime consumption plan.

Just like the permanent income hypothesis, the life cycle hypothesis suggests that it is average long run income rather than current income that is likely to determine the total demand for consumer spending. The LCH is illustrated in Fig 4.1.

**Fig 4.1** Household actual income



The Figure shows a household actual income over its lifetime. OF is the household's permanent income. OF is also the maximum amount that the household could spend on consumption each year without accumulating debts that are passed on to future generation. If the interest rates were zero, permanent income would just be the sum of all expected income divided by the number of expected years of life or simply put average income over one's life span.

#### 4.2.4 The Absolute Income Hypothesis (AIH)

Keynes' consumption income relationship is known as the absolute income hypothesis, which states that when income increases consumption also increases, but by less than the increase in income, and vice versa. This means that the consumption income relationship is non proportional. James Tobin and Arthur Smithies tested this hypothesis in separate studies and came to the conclusion that the short run relationship between consumption and income is not proportional, but the time series data show the long run relationship to be proportional. The latter consumption income behaviour results through an upward shift or "drift" in the short run non proportional consumption function due to factors other than income.

#### 4.2.5 The Relative Income Hypothesis (RIH)

This theory was developed by James Duesenberry. It is based on the rejection of the two fundamental assumptions of the consumption theories of Keynes. Duesenberry states 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 patterns. By the social character of consumption patterns, he means the tendency in human beings not only to keep up with 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.



**Note**

##### Implications of the Theories

1. The effect of changes in income on consumption. The major implication of these theories is that, changes in a household current income will affect actual consumption only, so far as they affect its permanent income.
2. Implications on the behaviours of the economy: The theories also hold that actual consumption is not much affected by temporary changes in income.
3. The theories lay stress on factors other than income, which affect the consumer behaviour

## ITQ

**Question**

Mr Lekan Omotayo receives a monthly income of N10, 000. His average propensity to consume is 0.9. How much does he save annually?

**Feedback**

His monthly consumption amount to =  $10,000 \times 0.9 = 9000$

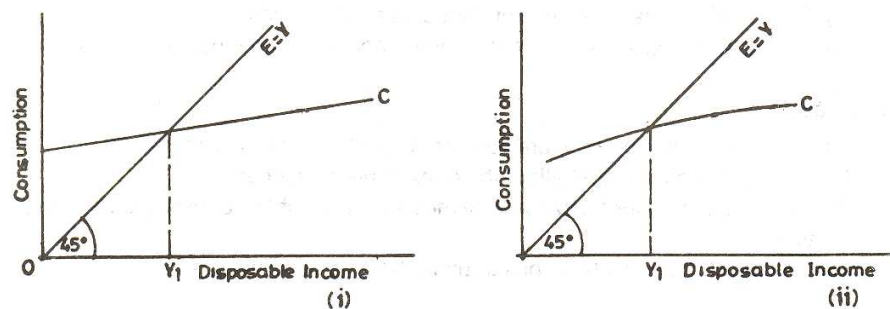
He saves  $(10,000 - 9000)$  Naira per month. His annual savings, therefore, is  $1000 \times 12 = 12,000$  Naira.

### 4.3 Factors Influencing Consumption

Empirical studies suggest that many factors influence consumption. The first and arguably the most important factor is the disposable income of the people. The figures below show the positive relationship between the two variables:

**Fig 4.2** The two possible stages for a consumption function:

- The MPC is constant but the APC declines:
- Both the APC and MPC decline as disposable income increases.



The above relationship between consumption and disposable income assumes other factors affecting consumption are constant. Some other factors would however cause a shift in the consumption function. These factors are the following:

- Changes in income Distribution:** If households have different MPC, aggregate consumption depends not on aggregate income but also on the distribution of this income among households. Changes in the distribution of income will cause a change in the aggregate level of consumption expenditure associated with any given level of national income.
- Changes in the Terms of Credit:** Many durable consumer goods are purchased on credit. If credit becomes more difficult or more costly to obtain, many households may postpone their planned credit-financed purchases. There would then be a temporary reduction in current consumption expenditure until the necessary extra savings are accumulated.  
Monetary authority can by controlling the cost and availability of credit shifts the consumption function and thus affects aggregate demand.
- Changes in Existing Stock of Durable Goods:** It is now recognized that any period in which durables are difficult or impossible to purchase and monetary savings are accumulated, it is

likely to be followed by a sudden outburst of expenditure on durables. Therefore, this will shift upwards the consumption function.

4. **Changes in Price Expectation:** If households expect inflation to occur, they would be willing to purchase durable goods, which they would otherwise not have bought for another one or two years. In such circumstances, purchases made now yield savings over purchases in the future.
5. **Government Policy:** Changes in government policies can also affect the relation between national income and disposable income; for example, by altering tax rates. An increase in income tax rate will, for example, reduce the amount of disposable income that reaches the hands of the households out of any level of national income. This will therefore make the consumption function curve to shift downwards.

### ITQ

#### Question

Which among these is not a factor that influences consumption?

- a) changes in the term of credit
- b) government policy
- c) changes in technical aids

#### Feedback

Changes in the term of credit and government policy are factors that influence consumption.

## Study Session Summary



### Summary

In this Study Session, you examined the consumption function. This is the largest component of aggregate demand. Various theories have sprung up to explain the behaviour of this important function. There is the theory by Keynes (Absolute Income Hypothesis), which states that consumption depends on current income. Other theories, notably the Permanent Income Hypothesis, the Life-Cycle hypothesis and the Relative Income Hypothesis however argued that consumption is a function of permanent rather than current income.

## Assessment



### Assessment

#### **SAQ 4.1 (tests Learning Outcome 4.1)**

Given our discussion on macroeconomics, can you explain the importance of consumption function?

#### **SAQ 4.2 (tests Learning Outcome 4.2)**

Discuss any three important theories of consumption known to you.

#### **SAQ 4.3 (tests Learning Outcome 4.3)**

Highlight the factors which influence the shape of the consumption function.

# Study Session 5

## Investment

### Introduction

In the previous Study Session, we treated one of the major components of aggregate expenditure, the consumption function. In the present Study Session, we shall examine another component of aggregate expenditure, that is, investment. Furthermore, we shall look at the determinants of investment and also the accelerator principle.

### Learning Outcomes



#### Learning Outcomes

When you have studied this session, you should be able to:

- 5.1 *point out* the determinants of investment.
- 5.2 *discuss* how the accelerator principle operates and its limitation.
- 5.3 *analyse* the relationship between savings, investments and the rate of interest.
- 5.4 *discuss* the profits theory of investment.

### 5.1 Determinants of Investments

Several factors influence the level of investment in any country. Some of these factors are examined below.

#### 5.1.1 The Rate of Interests

This is perhaps the most important determinant of investment. Most investments are made with borrowed money for which the borrower must pay a market rate of interest. Thus, the decision to invest or not depends on whether the expected rate of return on new investment is greater or less than the interest rate that must be paid on the amount to be borrowed to acquire these assets.



Tip

Logically, the lower the rate of interest, the higher the amount of new investment that will be made. In a functional form, we expect a negative relationship between investment (I) and rate of interest (r)

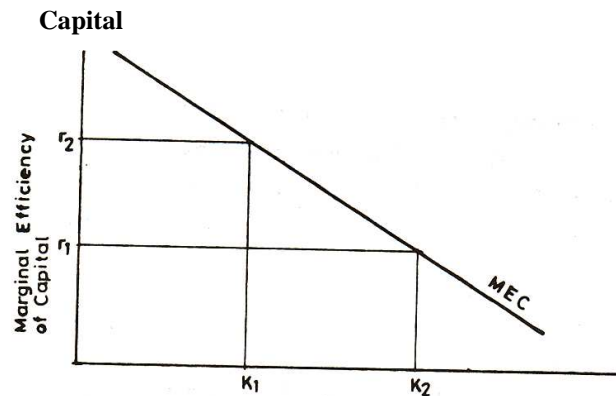
$$\text{i.e.} \quad I = 1/r \dots\dots\dots (1)$$

$$I = f(r) \dots\dots\dots (2)$$

#### Marginal Efficiency of Capital (MEC) and the Rate of Interest

The marginal efficiency of capital is the rate of returns on new investment. Sometimes, it is also referred to as "expected rate of return over cost" on new investment. At equilibrium, MEC and the rate of interest will be equal. This is because firm would continue to make new investments as long as the rate of return on the new investment is greater than the interest rates. Since capital is also subject to diminishing returns, we expect the rate of return on new investments or alternatively the MEC to fall as the stock of capital increases as shown in the curve below.

**Fig 5.1** New Investment Expenditure



The figure above confirms our proposition that the MEC is negatively related to the stock of capital. For instance, a fall in the rate of interest from  $r_2$  to  $r_1$  causes an increase in new investment expenditure from  $K_1$  to  $K_2$ .

### ITQ

#### Question

Interest rate is negatively related to investment. True or False

#### Feedback

True. If interest rate is high, people would be discouraged to borrow to finance investment activities thereby lowering the amount of investment in the economy.

### 5.1.2 The Level of Income

Research studies have shown that the level of income might be a better inducement to investment than the interest rate. This is because increase in income will lead to increase in demand for goods and services. Assured of the presence of a willing demand for their output, businessmen will undoubtedly be encouraged to increase their investment in order to cash on the potential increase in their profit level.

### ITQ

#### Question

The higher the level of income, the ---- the investment activities in an economy.

- a) lower
- b) higher
- c) neutral

#### Feedback

b) Higher. This is because an increase income stimulates overall demand which in turn spur investment activities in an economy.



### 5.1.3 Changes in Income

This is the accelerator theory. According to this theory, investment is related to the change in national income. When income is increasing, it is necessary to invest in order to increase the capacity to produce consumption goods. However, when income is falling, it may not even be necessary to replace old capital, as it wears out let alone to invest in new capital

In symbols,  $I = f(\Delta Y)$

This implies that investment depends on change in output.

#### How the Accelerator Principle Works

Let's assume that there is a particular constant stock needed to produce a given level of an industry's output. (The ratio of the value of capital to the annual value of output is called the capital - output ratio). With this assumption, suppose that the industry is producing at full capacity and the demand for its product increases. If the industry is to produce the higher level of output, its capital stock must increase. This necessitates new investment.

Table 5.1 provides a simple numerical example of the accelerator. We assume that it takes ₦5 of capital to produce ₦1.00 of output per year. In year one and two, there is no need for new investment. In year three, an increase of ₦10 of sales requires a new investment of ₦50. The same thing applies in year four; an increase of ₦20.00 of sales requires an additional investment of ₦100.00. As columns (3) and (5) show, the amount of new investment is proportional to the change in sales. When the increase in sales tapers off in years seven and nine, investment declines and eventually becomes zero in year ten.

**Table 5.1** An illustration of the accelerator theory of Investment

(1)	(2)	(3)	(4)	(5)
Year	Annual sales (₦)	Changes in sales	Required stock of capital assuming a capital output ratio of 5:1 (₦)	Net investment increases in required capital stock (₦)
1	100	0	500	0
2	100	0	500	0
3	110	10	550	50
4	130	20	650	100
5	160	30	800	150
6	190	30	950	150
7	220	30	1100	150
8	240	20	1200	100
9	250	10	1250	50
10	250	0	1250	0

This idea of accelerator principle that investment depends on the changes in demand represents an important source of instability in national income. It combines with the multiplier to generate economic cycles via the multiplier - accelerator model.

**Three general predictions of the accelerator are the following:**

1. Rising, rather than high levels of sales are needed to call forth net investment.
2. For net investment to remain constant, sales must rise by a constant amount per year.
3. The amount of net investment will be a multiple of an increase in sales because the capital-output ratio is greater than one.

### **Limitations of the Accelerator**

The accelerator model posits a mechanical and rigid response of investment to changes in sales. It does this by assuming a proportional relationship between changes in income and size of the desired capital stock, and by assuming a fixed capital-output ratio. Each of these assumptions is invalid to some degree.

In the short run, there are many reasons why investment may not conform to the rigid proportionality implied by the accelerator principle. The most obvious reason is that the adjustment of actual desired capacity is asymmetric with respect to positive and negative output changes. When the economy expands and actual capacity lags behind desired capacity, business firms expand their capital stock. On the other hand, no firm would deliberately destroy enough of its machine to bring actual capacity in line with desired levels when the economy enters a slump and demand declines.

### **5.1.4 Expectations**

Since present investments are usually made in expectation of future demand, the decision to invest depends on the hope about the future. When a firm has a high optimism about the future, it can embark on increased investments presently and vice versa. However, because of the uncertainty about the future, firms are usually very cautious about increasing the level of investment they made.

#### **ITQ**

##### **Question**

All but one are factors influencing the level of investment in any country

- a) The level of income
- b) Changes in income
- c) Changes in the rate of interest
- d) Changes in weather

##### **Feedback**

The answer is “b”- Changes in weather do not factor in production process especially manufactured goods. It is only in agricultural production that weather plays an important role.

## 5.2 Relationship between Savings, Investments and the Rate of Interest

There is a close interdependence between savings, investments and the rate of interest. We have mentioned in the earlier part of this Study Session that most of the funds used for investment purposes are borrowed from banks and other sources of credit schemes. Whenever the amount of funds presently available from all these sources is not enough to sustain the magnitude of investments the investors in the economy want to make, there will be competition for available funds. Since the market rate of interest is however determined by the forces of demand and supply, the excess demand in the market for funds will therefore push up the market rate of interest.

## 5.3 Financial Theories of Investment

Some economists have laid emphasis on the effects of financial factors on investment. But we shall study only the profits theory of investment.

### 5.3.1 The Profits Theory of Investment

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

Another version is that the optimal capital stock is a function of expected profits. If the aggregate profits in the economy and business profits are rising, they may lead to the expectation of their continued increase in the future. Thus, expected profits are some function of actual profits in the past.

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

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.

**Question**

The cost of borrowing for financing investment activities is known as \_\_\_\_\_.

**Feedback**

Interest rate.

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## Study Session Summary



### Summary

In this Study Session, you have learnt yet another component of aggregate expenditure, investment. In the process we defined what investment is all about; examined the factors that influence the level of investment in any country, as well as how the principle of accelerator works. We also looked into the relationship between savings, investment and the rate of interest. Finally, we discussed the profits theory of investment.

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## Assessment



### Assessment

**SAQ 5.1 (tests Learning Outcome 5.1)**

As a potential investor that intends to venture into soap making business, Point out likely factors that can influence the investment.

**SAQ 5.2 (tests Learning Outcome 5.2)**

Briefly discuss how the accelerator principle operates and its limitation.

**SAQ 5.3 (tests Learning Outcome 5.3)**

Justify the relationship (if any) between savings, investments and the rate of interest.

**SAQ 5.4 (tests Learning Outcome 5.4)**

Provide your understanding of the profits theory of investment.

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## Study Session 6

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### Government, Aggregate Demand and Fiscal Policy

#### Introduction

Government exerts a lot of influence on the circular flow of income. Through its control over taxes and spending decisions, the government also influences the behaviours of other economic agents, such as the households and the firms. Fiscal policy is the use of taxes and government spending decisions to influence the level of aggregate demand. Therefore, in this Study Session, we shall explore the roles of government in the economy, and how the government uses her fiscal power to influence the level of economic activity.

#### Learning Outcomes



##### Learning Outcomes

When you have studied this session, you should be able to:

6.1 *define* and *use* correctly the following terms in bold:

- aggregate demand
- fiscal policy

6.2 explain how the government uses its fiscal policy to influence aggregate demand.

6.3 state the difference between balanced and unbalanced budget.

#### 6.1 The Government and Aggregate Demand

The Aggregate demand (AD) can be defined as:

$$AD = C + I + G$$

Where C = Consumption demand

I = Investment demand

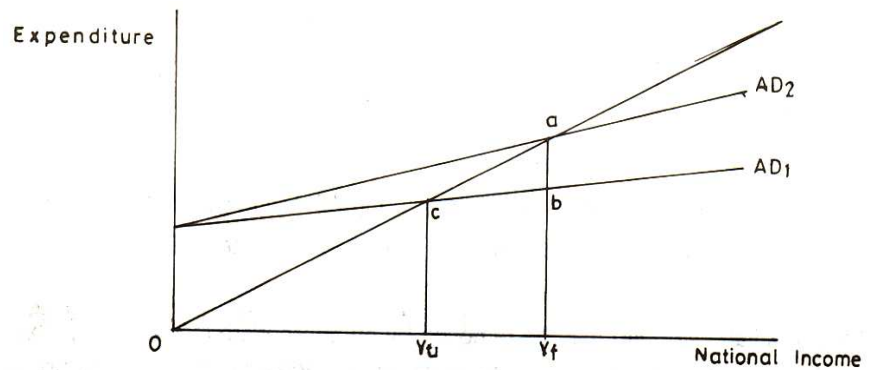
G = Government demand for goods and services

Since government demand is one of the components of aggregate demand, the government can use its tax policy and expenditure programmes to influence the level of aggregate demand in the economy. We shall now look at the effects of these tools of government on the level of aggregate demand.

##### 6.1.1 Effect of Taxes on National Income

The government can increase aggregate demand in order to close a deflationary gap by reducing the tax rates. This will have an indirect effect on the economy by increasing the level of aggregate disposable income. And, since consumption demand is a function of disposable income, this will boost domestic demand and thus lead to increase in aggregate demand.

**Fig 6.1** Using taxes to close deflationary gap



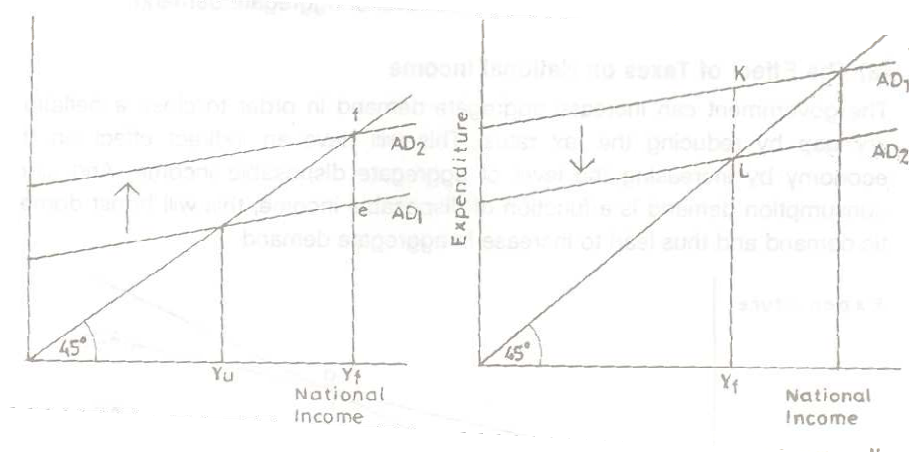
A change in tax rate will not shift the aggregate demand function but will only alter the slope of the function, since tax revenue will vary with national income. In Fig 6.1, reduction in tax rate has increased aggregate demand from  $AD_1$  to  $AD_2$  by changing the slope of the function. Thus, the deflationary gap can be closed.

### 6.1.2 Effect of Government Expenditure on National Income

An alternative way by which government can increase the aggregate level of economy is through its expenditure policy. If increased government expenditure is met by tax revenue, then the effect on aggregate demand will be minimal. This is because the increase in government expenditure would have been matched by an equivalent decrease in private expenditure. The reduction in private expenditure is called 'crowding-out effect'.

However, the effect of increase in government expenditure on aggregate demand function is different from the effect of taxes which we have just enunciated above. An increase in government expenditure will shift the aggregate demand function upwards, parallel to the former one.

**Fig 6.2**



**FIG. 6.2a** using government expenditure to eliminate a deflationary gap

**Fig 6.2b.** Using government expenditure to eliminate an inflationary gap

Thus, a deflationary gap may be removed by an appropriate increase in government expenditure or decrease in tax rates. An inflationary gap may

be removed by an appropriate decrease in government expenditure.

### Comparative Effects of Expenditure and Tax Changes

#### Hint

There is a difference in the comparative effect of government expenditure and tax revenue of the same amount on aggregate demand. This is because increase in government expenditure will have immediate and direct effect on aggregate demand; the same is not true of taxes. A reduction in taxes of equal amount will not have same amount of effect on aggregate demand because only part of extra income realized from reduction in taxes will be spent. For instance, if government expenditure is raised by ₦100, 000 to close a deflationary gap, and given that the multiplier is two, the final rise in national income is ₦200, 000. On the other hand, if government cuts income tax rates sufficiently to reduce its revenue by ₦100, 000 households will have an extra ₦100,000 of disposable income. Consumption expenditure will, however rise, by less than ₦100, 000 because only part of the extra income will be spent. If marginal propensity to consume is 0.75, then the final rise in national income will be ₦150, 000.

#### ITQ

##### Question

In a recession, government through its active fiscal stabilization can stimulate demand. True or False?

##### Feedback

True. In a recession, governments by pursuing expansionary fiscal policy can increase aggregate demand thereby cushion the effects of the downturn in the economy.

## 6.2 Theory of Fiscal Policy

### 6.2.1 Balanced and Unbalanced Budgets

People formerly believed that a prudent government must always balance its budget. But nowadays, it is generally accepted that a government can run an unbalanced budget in order to stabilize the economy. For example, a government can run a deficit budget to stimulate the economy during period of recession.

#### Note

- A budget is regarded as balanced when its current revenue is equal to current expenditure.
- A budget is said to be unbalanced when there is budget deficit or surplus.
- Budget surplus occurs when government revenue exceeds its expenditure.
- A budget deficit occurs when government revenue falls short of its expenditure.

A budget can be financed either by raising taxes or through borrowing. When government spends more without raising its taxes, its extra expenditure is said to be deficit financed. This deficit can be met by



increase in borrowing either from the central bank of the state or from the private sector of the economy.

### Balanced Budget Multiplier

What would be the effect of balanced budget spending on aggregate demand? A natural assumption would be that an equivalent increase in government spending and taxes would leave aggregate demand and equilibrium output unchanged. But this is not true. Let's assume that government finances a new expenditure of N300, 000 by tax revenue of equal amount. Although, this implies that the budget is balanced, but we shall soon see that this action has positive effect on aggregate demand. The increase of N300, 000 in government spending raises aggregate demand by N300, 000. But since the marginal propensity to consume (MPC) out of disposable income is less than 1 (say 0.7) this reduction in income by N300, 000 reduces consumption demand by only N210, 000 ( $0.7 \times 300,000$ ).

Thus, the initial effect of tax and spending package is to increase aggregate demand by N300, 000 because of government spending but reduce it by only N210, 000 because higher taxes reduce consumption demand. Thus, a balanced aggregate demand has increased aggregate demand by N90, 000 (i.e.  $N300, 000 - N210, 000$ ). This example illustrates the principle of balanced budget multiplier, which states that an increase in government spending, accompanied by an equal increase in tax, results in an increase in output.

### ITQ

#### Question

What are the sources available to government for financing budget deficits?

#### Feedback

The sources are:

- The central bank
- The private national borrowers
- Multilateral agencies/institutions

### 6.2.2 Tools of Fiscal Policy

These tools can be classified into automatic and discretionary measures.

#### Automatic Tools of Fiscal Policy: Built-in Stabiliser

Automatic stabilizers are mechanisms in the economy that reduces the response of national income to shock. They are automatic since they are already built-in into the functioning of the economy and, thus, they do not require deliberate intervention to make them work. Thus, they tend to cause injections as income falls or withdrawals as national income rises and vice-versa, without the government making policy decisions to bring about these changes. Examples of automatic stabilizers include taxes,

national insurance or progressive taxes. These yield increases when national income rises and decreases when it falls, thereby respectively bringing about expansionary and inflationary forces on the economy.

### **Active or Discretionary Fiscal Policy**

Although the automatic stabiliser are always at work, government can embark on active or discretionary fiscal policies which alter spending levels or tax rates in order to stabilise the level of aggregate demand. While built-in stabilisers are often designed for short term minor fluctuations, discretionary fixed policies are used to cater for persistent fluctuation or gap in the economy.

### **Countercyclical Fiscal Policy: Automatic and Discretionary Changes**

It may be inferred from the relationship between (a) Public expenditure and GNP; (b) taxation and GNP; that a countercyclical fiscal policy would require increase in public expenditure and reduction in taxation to fight depression, and reduction in public expenditure and increase in taxation to controlling inflation. In other words, fighting depression would require deficit budgeting and control inflation requires surplus budgeting

Some of the budgetary changes are automatic and some are discretionary. The automatic budgetary adjustment takes place only when fiscal policy has built-in flexibility. The automatic budgetary changes should follow the change in GNP. Built-in flexibility in the fiscal policy implies that as GNP falls, both income and consumption decline.

Consequently, the revenue from both direct and indirect taxes declines. Government establishment and committed expenditure remaining the same, public expenditure exceeds its revenue, and the budget automatically runs into deficit. This effect is more quick and powerful in the countries, which provide unemployment allowances and other relief benefits. When GNP increases, tax base expands and tax revenue increases. Expenditure level remaining the same, the budget automatically shows surplus.

The deficit surplus resulting from fluctuation in GNP works as automatically stabiliser of the economy. However, it is generally believed that automatic stabilizers prove to be adequate and serve useful purpose only for short-term fluctuations in the economy. Automatic stabilizers prove generally to be inadequate to control the economic fluctuations of larger amplitude; under such conditions, discretionary changes in budget become necessary.

The discretionary changes in the budget refer to the changes in the tax structure, and in the level and pattern of public expenditure by the government on its own discretion. Discretionary changes include change in tax rate structure, abolition of existing taxes, imposition of new taxes, increasing and decreasing the public expenditure, changing the pattern of public expenditure, etc. Discretionary changes are so designed as to arrest the inflation and deflationary trends in the economy and to mitigate the destabilising forces, such as, increase or decrease in aggregate demand.

### Problems in Formulating Counter- Cyclical Fiscal Policy

Formulating a counter-cyclical fiscal policy is not a straight forward affair. It involves certain complications, which should be born in mind while devising the tax and expenditure policy to stabilise the economy. Eckstein has pointed out some complications as follows.

1. All expenditures do not have the same multiplier effect. For example, transfer payments by the government do not create a direct demand for goods and services. Some public expenditure (e.g. free education and hospital facilities) replaces the private expenditure.
2. Not all tax – changes have the same multiplier effect. For example, taxes paid by the upper incomes groups have lower multiplier effect than those paid by lower income groups. This is because of the differences in their marginal propensity to consume (MPC). The multiplier effects of indirect taxes are not clearly known.
3. Deficit financing through public borrowing may reduce private investment. This kind of deficit financing reduces the multiplier effect.
4. There are practical difficulties in relation to the assessment of time lags and accuracy of forecasts. Therefore, there is uncertainty in relation to effectiveness of fiscal policy.

#### ITQ

##### Question

Why is tax regarded as automatic stabiliser?

##### Feedback

Automatic stabilizers are mechanisms in the economy that reduces the response of national income to shock. They are automatic since they are already built-in into the functioning of the economy and, thus, they do not require deliberate intervention to make them work. Tax as automatic stabiliser helps prevent national income to fall sharply in a recession. It serves as a cushion against shock that affects the economy.

## Study Session Summary



### Summary

You have learnt in this Study Session that government exerts important influence on the national economy, through the manipulation of its fiscal policy. The government can increase or decrease aggregate demand in order to close a deflationary and inflationary gap respectively. There are two types of fiscal policy. There is the automatic stabiliser and there is also the active or discretionary policy. While the former is used for short term fluctuations in the economy, the latter takes care of the more persistent fluctuations. We also hinted at some problems likely to be encountered in formulating counter-cyclical fiscal policy

## Assessment



### Assessment

#### SAQ 6.1 (tests Learning Outcome 6.1)

Demonstrate an understanding of the following concept:

- aggregate demand
- fiscal policy

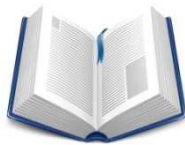
#### SAQ 6.2 (tests Learning Outcome 6.2)

Provide a short explanation on how government uses its fiscal policy to influence aggregate demand.

#### SAQ 6.3 (tests Learning Outcome 6.3)

Can you differentiate between balanced and unbalanced budget?

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## Study Session 7

### Price Level, Money and Banking System

#### Introduction

In this Study Session, we shall explore the history and the role of money in the economy. Money performs useful functions in the economy which make it indispensable for the functioning of the economy. Just as it has its advantages, money has also brought about the problem of inflation into the modern society. Inflation is seen by many people today as the number one public enemy.

We will also examine a related system to Money, banks. While money is the medium through which economic exchanges take place, banks serve as a useful medium through which those who need money are brought into contact with those who have money, which they do not presently need. In this session, we will examine various categories of the banking system such as commercial banks, specialised banking institutions, and the third main element which is the Central Bank.



#### Learning Outcomes

When you have studied this session, you should be able to:

7.1 *explain* the following terms in bold:

- **money**
- **price level**

7.2 *highlight* the role of money in the economy.

7.3 *explain* the demand for money.

7.4 *analyse* the relationship between demand for money and the demand for bonds.

7.5 *present* how inflation can be controlled.

7.6 *explain* how banks create money.

7.7 *state* the functions of the banking system

7.8 *discuss* how the Central Bank controls money supply in an economy.

#### 7.1 Money

**Money** is anything generally acceptable as a means of payment for goods and services and for the settlement of debts. Money performs various functions, and different kinds of money vary in the degree of efficiency with which they can fulfil these functions.

##### 7.1.1 Functions of Money

These functions include the following:

1. **The Medium of Exchange:** This is the most important function performed by money. Money allows the complexity of modern economy based on specialisation to be possible. This removes barter, which is the system of exchanging goods for goods directly. This is a cumbersome system in which every transaction requires a double coincidence of wants.
2. **Unit of Account:** Money provides a common denominator by which

all other commodities are expressed. Therefore, this makes it very easy to record economic transactions, involving different commodities. As a unit of account, money allows for the formation of prices which can then be used for recording transaction entries in books of accounts.

3. **A Store of Value:** Possession of money confers purchasing power on the holder who can then decide either to spend it now or save for future transactions. More importantly, money as a store of value introduces flexibility into the money economy. It is now possible to sell goods today, store the money until one needs it later on. However, for money to be able to function effectively as a store of value, then it must have a stable value. Rapid fluctuation in the general price level reduces the usefulness of money as a store of value.
4. **A Standard of Deferred Payment:** Money also allows for the practice of credit system in an economy. In other words, it is possible to buy now and pay later or alternatively speaking, to sell now and collect money later on. However, this is impossible in a barter economy. This decoupling of purchase/sales and payments provide much of the development, which characterises our economy today. It is a fact that many companies borrow from banks or make use of credit facilities to be able to function effectively.

### ITQ

#### Question

The function of money that makes it easier to record transactions efficiently is \_\_\_\_\_.

#### Feedback

Unit of account

### 7.1.2 Demand for Money

Money could either be held as liquid cash or be used to purchase income earning assets which would generate some rates of return. The holding of money therefore have an opportunity cost which is the rate of Interest that could have been earned if the money were used to purchase income earning assets such as treasury bills. The total amount of money balances that everyone wishes to hold for all purposes is called the Demand for Money.

#### Determinants of Demand for Money

There are generally three purposes for holding money. These are transactive motive, precautionary motive and speculative motive. The three motives are discussed fully below.

##### Transactive Demand for Money

This is the total amount of money that people want to hold in order to carry out their day-to-day activities such as settling their bills. The transactive demand for money arises because of the time difference between the receipts and expenditures of households and firms. For instance, while workers are paid wages and salaries at the end of the

month they often need money to meet some financial commitments between one period of salary payment and another period. Money held for this purpose depends on two factors.

1. the size of national income measured at current prices; and
2. the time span between one payment period and another

### Precautionary Demand for Money

This refers to the money held for the purposes of meeting unexpected contingencies. Life is often full of uncertainty. Unexpected business opportunities may arise, for which a firm may need money to take advantage. If the firm has not made adequate provisions for such an occurrence, then it may not be able to benefit from such unexpected opportunities.

The demand for money for this purpose however depends on the rate of interest. The higher the rate of interest, the higher the opportunity cost of holding money and invariably the less the amount of money held for precautionary motive. However, the total amount of money held for this purpose varies directly with the size of the national income.

### Speculative Demand for Money

This is the money set aside for the purposes of speculative trading. For instance, if one thinks prices are now very low and may rise in the future, the tendency is to buy now and to postpone selling until prices rise and vice-versa. Hence, when prices are low, people will rush to purchase and this will therefore reduce money held for speculation. On the other hand, in a situation when prices have come down, large quantities of money may be held in anticipation of a more favourable change in price before they make their purchases in the future. The speculative demand for money also varies inversely with the rate of interest.



Note

It is very important to note the differences between the transactive, precautions and the speculative demands for money. Whereas, the transactive and precautionary motives emphasize the role of money as a medium of exchange, the speculative motive emphasizes its role as a store of wealth.

Let's formalize our discussion of the demand for money as follows.

Let "NWealth" represent the financial wealth of households in naira-thus, the naira sign. At a point in time, financial wealth is given. Households must choose how much to hold in money and how much to hold in bonds. Let their demand for money be denoted by  $M^d$  and their demand for bonds by  $B^d$  (the superscript d stands for demand). Whatever they choose, their decisions must be such that money and bond holding add up to their wealth:

$$M^d + B^d = \text{NWealth} \quad (7.1)$$

We just saw that an individual's money demand depends primarily on two variables, his level of transaction and the interest rate. This suggests that money demand for the economy as a whole depends on the overall level of transactions in the economy and on the interest rate. The overall level of transaction is hard to measure. But it is reasonable to assume that it is roughly proportional to nominal income-equivalently nominal output.

If nominal income increases by say, 10%, it is reasonable to think that the amount of transactions in the economy will also increase by roughly 10 percent. Thus, we write

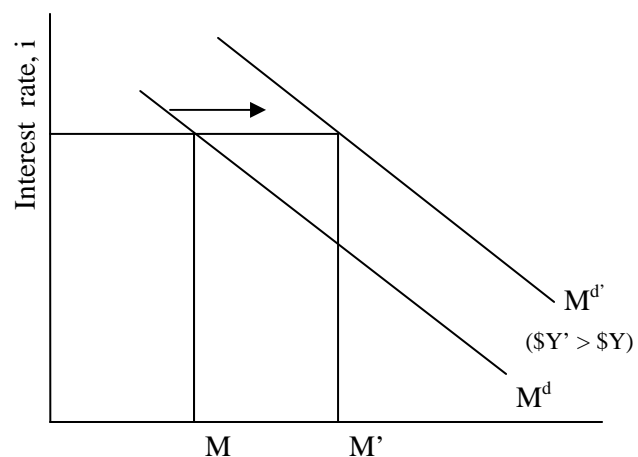
$$M^d = NYL(i) \quad (7.2)$$

This equation reads as “Money demand is equal to nominal income times a function of the interest rate, denoted  $L(i)$ .” This equation summarizes what we have said so far:

1. First, the demand for money increases in proportion to nominal income. If income doubles, increasing from  $NY$  to  $N2Y$ , then, the demand for money increases from  $NY L(i)$  to  $N2YL(i)$ ; thus it also doubles.
2. Second, the demand for money demands negatively on the interest rate. This relation is captured by the function  $L(i)$  and the negative sign under the interest rate, which indicates a negative relationship. This demand for money decreases when the interest rate increases.

The relation between the demand for money and the interest rate implied by the equation above is represented in Fig 7.1, the interest rate,  $i$ , is measured on the vertical axis. Money,  $M$ , is measured on the horizontal axis. The  $M^d$  curve represents the demand for money for a given level of nominal income,  $NY$ . It is downward sloping, because a lower interest rate leads to a higher demand for money. The  $M^d$  curve gives rate, say  $i$ , an increase in nominal income from  $NY$  to  $NY'$  increases the demand for money from, say,  $M$  to  $M'$ . Put another way, the demand for money shifts to the right, from  $M^d$  to  $M^{d'}$ . At any interest rate, the demand for money is larger than before the increase in nominal income.

**Fig 7.1** The demand for money



Money,  $M$

### 7.1.3 Demand for Bonds

Remember that the demand for money and the demand for bonds are not independent decision but that the two have to add up to financial wealth. We can thus look at the demand for bonds implied by the demand for money. From equations (7.1) and (7.2), the demand for bonds is given by

$$\begin{aligned} B^d &= N\text{Wealth} - M^d \\ &= N\text{Wealth} - NYL(i) \end{aligned}$$



An increase in wealth leads to a one-for-one increase in the demand for bonds. This conclusion comes from our assumption that the demand for money depends on income and the interest rate, not on wealth. Thus, an increase in wealth goes into higher bond holdings rather than into higher money holdings. An increase in income leads to an increase in the demand for money, and thus to a decrease in the demand for bonds. And an increase in the interest rate, which makes bonds more attractive, leads to an increase in the demand for bonds.

### ITQ

#### Question

State reasons people demand for money

#### Feedback

People according to Keynes, demand for money:

- For transactions purposes
- For speculative purposes;
- For precautionary purposes

## 7.2 Price Level

Right from the time of the classical economists, economy has been divided into two parts: the real part and the monetary part.

- Allocation of goods and services take place in the real sector. Only relative prices matter in this part of the economy.
- On the other hand, money prices or the price level is determined in the monetary sector of the economy. Here price level is determined by the quantity of money supply in the economy.

The classical economists have considered these two parts of the economy as independent of each other. Money has no impact on the real sector of the economy and thus has been considered as a veil behind which actual production takes place. This doctrine is referred to as the neutrality of money

### 7.2.1 Inflation

**Inflation** between two points in time is expressed as the percentage increase of the price index between these two points in time.

**Inflation** is a period of persistent increase in the general price level. **Deflation** represents the opposite. All economists agree that rapid inflation or deflation is harmful to an economy, and often many people get hurt as a result. Economists also agreed that inflation is a monetary affair. In other words, inflation arises because there is increase in demand of real goods, thereby leading to increase in prices. The effect of inflation on the economy depends on whether it is anticipated or not. When inflation is anticipated, the necessary cushions are already built into contract agreements etc. so that people are protected. Another example is the case of indexed wages.

### Effects of Inflation

- Inflation influences the allocation of resources in the economy by changing the structure of relative prices often in an absurd way. Since, prices are not rising in the same proportion; commodities which are enjoying higher relative prices will witness inflow of production resources, which might not necessarily be to the benefit of the society.
- Inflation also redistributes wealth from lenders to borrowers. Lenders suffer a loss on the real value of their money if they are paid back during the period of inflation. For instance, Mr. X lends Mr. Y ₦100, 000 at 5 percent interest for one year. If the price level rises by 10 per cent over the year, Mr. X has actually earned a negative rate on the actual amount loan (in terms of purchasing power) than the ₦100, 000 he lent to him at the beginning.
- Another major effect is on the fixed income of the people. This is because the purchasing power of their income falls during the periods of inflation.

However, inflation is not entirely a loss; some people actually gain out of it. Inflation might also lead to increase in total production considering the fact that producers gain from inflation and may therefore be encouraged to increase their production activities.

#### Hint

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Price index is calculated at *a particular point in time*, inflation is calculated *over a time period*, typically one year

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### Causes of Inflation

As we noted earlier in this Study Session, inflation cannot be permanently sustained without an increase in money supply. Thus, all the permanent causes of inflation are money-related.

- The first cause of inflation is an appreciable increase in the quantity of money supply. When the government prints more money in order to finance a deficit budget or to prosecute a war, this will have the effect of increasing aggregate money supply, and therefore, the general price level.
- Another cause of inflation is often excessive demand over supply. That is increase in demand without a corresponding increase in supply. The increase in aggregate demand might be caused by increase in wages of workers as we had in Nigeria during the Udoji Award. The consequent increases in cash balance with the workers will cause a rightward shift in aggregate demand and with a fixed supply curve, the price level will increase.
- The third cause of inflation is cost-push Inflation. This is a result of increase in production costs to producers who then review upwards the prices of their products in order to still make profit. A common example of this is the increase in exchange rate of Naira to dollars. Many firms in Nigeria depend on imported inputs to produce. Hence, when the exchange rate increases from about ₦1.00 = \$1.00 to ₦7.00 = \$1.00, there will be a corresponding sevenfold increase in their production costs. Thus, they were forced to increase the prices of their output because of the change in the exchange rate.

## Control of Inflation

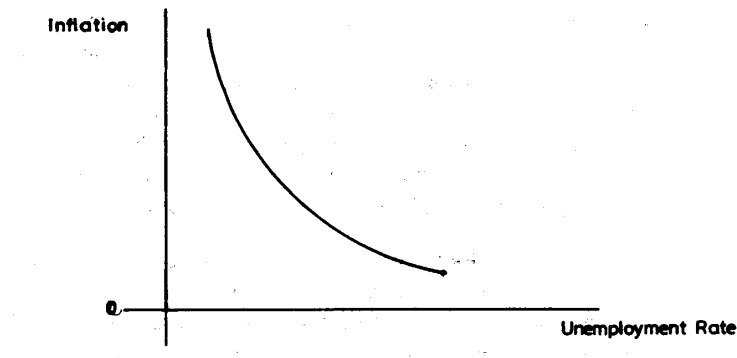
The control of inflation is always hinged on the cause of the inflation. For instance, for a money-induced inflation, efforts should be made to reduce aggregate money supply. The Central Bank of Nigeria has, for sometime now, been trying to reduce the supply of money in the economy through credit squeeze on the commercial banks.

Fiscal policy could also be used to control inflation. The government could reduce its budget deficit or rather promote budgetary surplus.

Then through a combination of fiscal and monetary policies, it was thought that the government could reduce the rate of inflation for some level of unemployment.

Also relevant here is the famous Phillips curve. This curve was developed in 1958 by Prof. A. W. Phillips. This curve suggests that it is possible to trade-off more inflation for less unemployment or vice-versa.

**Fig 7.2** Philips Curve



### ITQ

#### Question

As a pensioner, you gain a lot when there is persistence increase in the price level. True or False?

#### Feedback

False. Pensioner receives a fixed level of income. And when inflation arises in an economy, it erodes the purchasing power of the income of the pensioner as they cannot bargain for increase in wages.

## 7.3 Banking System

### 7.3.1 Creation of Deposit Money

This is under the province of the commercial banks. They are able to do this because bank deposits need to be only fractionally backed up by notes and coins. We can illustrate how this process occurs by taking two hypothetical cases:

1. When there is only one commercial bank; and
2. Introduce complications caused by the existence of many independent banks.

### A Single Monopoly Bank

Assuming there is only one bank in an economy (with many branches) and assume that a deposit of ₦100, 000 is made by Mr. A. in cash. The transaction will be recorded on the books of the bank as follows:

**Table 7.1** A new deposit of ₦100, 000 is made

Liabilities		Assets	
Deposit	₦100,000	Cash	₦100,000

With this deposit, it is possible for the bank to create multiple deposits. Let us say that a deposit needs to be backed by a 10 per cent cash reserve. It is then possible for the monopoly bank to create further deposit of ₦90,000. Assume, by way of example that the bank loans ₦50,000 to a customer and buys ₦40,000 worth of bonds in the open market. This transaction will appear in the bank's books, once the borrower has written cheques on the loanable amount. This ₦90, 000 will now constitute additional money to the economy.

**Table 7.2** The ₦90, 000 is invested in loans and bonds with no cash drain.

Liabilities	Assets
Deposit s ₦100,000	Cash ₦10,000 Loans ₦ 50,000 Bonds ₦ 40,000

Thus, with a few strokes of the pen, the bank has created a further ₦90, 000 in deposit money with the original ₦100, 000 cash deposit.

### Hint

The above example is too simplistic considering that there are many banks in an economy. We shall now consider a more realistic example of many banks

### Many Banks

This analysis depends on a number of assumptions:

1. There are many banks in the system.
2. The legal reserve ratio is 10 per cent. This is the amount of cash reserve that is assumed to be held against deposit liabilities.
3. All banks in the system have made loans up to the limit set by the reserve requirement before the receipt of additional cash.
4. All funds, loans and cheques drawn on one bank are deposited in the same or another bank.
6. There is no cash drain on the system.

The process may be described as follows. The first bank, on receiving the ₦100, 000, places ₦10, 000 in the reserves and proceeds to lend the remaining ₦90, 000. This is lent to a customer, who later writes a cheque to a creditor for ₦90, 000. The receiver of the cheque then deposits it in a bank. The receiving bank proceeds to keep ₦9, 000 and lend out ₦81, 000. The money comes into the possession of another person, when it is spent by the borrower and the cheque deposited in a bank. The receiving bank keeps 10 per cent in the reserve and the rest is lent out. When the original cash receipt of ₦100, 000 has diffused itself throughout the

system, deposits will amount to ₦1, 000,000 (ten times the cash reserved) and loans up to ₦900, 000

**Table 7.3** The Process of Multiple Bank-Deposit Expansion through the Banking System

	(1) New Deposits(₦)	(2) Reserves(₦)	(3) Loans and/or investments(₦)
1st step	100,000	10,000	90,000
2nd step	90,000	9,000	81,000
3rd step	81,000	8,100	72,900
:	:	:	:
:	:	:	:
All Banks	1,000,000	100,000	900,000

This process of deposit creation is shown in schematic form in Table 9.3 Column 1 is the sum of geometric series.

This can be expressed as

$$100,000 + \frac{100,000}{10} + \frac{100,000}{10} (9) + \frac{100,000}{10} (9)^2 + \dots + \frac{100,000}{10} (9)^n$$

This could be reduced to

$$\frac{₦100,000}{1 - 9/10} = 1,000,000$$

### Limitations to the Credits Expansion of an Individual Bank

1. **Deposit:** The amount that an individual bank can lend is dependent on the amount customers have deposited with it.
2. **Legal reserve requirement:** This is inversely related to the amount of credit created.
3. The extent to which cheques are used for transactions in the economy.
4. As a member of a banking system, a bank cannot expand credit more rapidly than other members of the system. If it did, it would lose much of its reserves to other banks through the clearing house.

### ITQ

#### Question

Banks create money through the process of ----

- a) interest rate
- b) multiple deposit creation
- c) purchasing of treasury bills

#### Feedback

b) Multiple deposit creation. By creating deposit and lending activity, Banks add to the existing money stock through the process of multiplier.

### 7.3.2 The Central Bank

The Central Bank is the apex financial system in an economy. The Central Bank is the agent of monetary policy. This can be defined as the attempt to regulate the supply of money, the terms and availability of credit. However, the instrument by which the Central Bank performs its role varies from one country to another.

#### Functions of the Central Bank

1. **Banker to the Government:** Governments, like other economic agents, need to hold their funds in an amount into which they can make deposits and against which they can draw cheques. Such government deposits are usually held by the Central Bank.
2. **Manager of the Public Debt:** The Central Bank helps the government with its debt management. It helps the government in raising new funds and managing its debt instruments. For Instance, the Central Bank usually purchases any part of new issues of public debt that is not taken up by other lenders on the day of issue at what seems like a reasonable interest rate.
3. **Banker to Commercial Banks:** The Central Bank accepts deposits from commercial banks and will on order transfer these deposits among them. Central Banks also lend money to commercial banks when they are short of cash or in liquidity crises.
4. **Lender of Last Resort:** Commercial banks often have sudden needs for cash and one way of getting it is to borrow from the Central Bank. Central Bank is a lender of last resort because when other sources have failed the Central Bank would lend money to commercial banks with good investments but in temporary need of cash. Those commercial banks pay interest on the loan at a rate that used to be called the bank rate but is now called the minimum lending rate.
5. **Regulator of the Money Supply:** The Central Bank has great power to influence the money supply. By this power the Central Bank tries to control inflation in the economy.

#### Instruments used by the Central Bank

The Central Bank uses the following instruments to control Commercial Banks

1. **Currency Control:** In most countries, the Central Bank has the sole power to issue paper money. No attempt is made, however, to control the overall money supply by controlling the quantity of bank notes in circulation. Suppose that the public wishes to increase the fraction of total money supply it holds as notes and coins. Faced with a cash drain to the public, the commercial banks will withdraw deposits from the Central Bank and the bank will print the necessary bank notes.
2. **The Reserve Base:** Much more importantly than the currency control is the Central Bank's control over the reserves available to the banking system. The Central Bank requires commercial banks to

hold reserves against their deposit liabilities. These reserves are called the reserve base of the money supply. Through the manipulation of this reserve base, the Central Bank can influence the money supply in an economy.

### **Monetary Policy**

The Central Bank is responsible for the operation of monetary policy. One major objective of monetary policy is to influence the aggregate demand and through the national income, employment and prices. Another objective is to provide a cushion for the country's financial system from the kinds of panics and crashes that have caused occasional financial havocs.

The major tools of monetary policy have changed over the years. In the past, the Central Bank sought to influence the economy by influencing the term and availability of credit. It was believed that aggregate expenditure could be raised by making it easy to get credit on easy terms and vice-versa.

More recently, Central Banks have shifted emphasis to controlling the supply of money directly and expecting this to have a definite effect on the interest rate and the amount of loan-financed expenditure. There are several ways by which the Central Bank tries to achieve this. These include open market operations, bank rate, reserve requirements, moral suasion and credit guidelines.

### **Open Market Operations**

These involve the sale or purchase of government securities in the open market. Through this, the Central Bank would be able to influence commercial bank reserves and indirectly, the money supply in an economy. An open market operation is very effective, particularly, in countries with well developed money markets.

### **Bank Rate**

This is the price paid by the owner of securities to the Central Bank for converting the securities into cash. Interest rates charged by the banks follow the bank rate. Hence, by varying the bank rate, the central bank influences the availability and cost of credit and hence the money supply.

### **Reserve Requirement**

This is the ratio of its deposits that a commercial bank must keep in the form of cash and common interest earning balances with the Central Bank. This requirement reserve ratio pre-determines the maximum amount of credit that can be created by banking system. By the manipulation of the reserve requirement ratio, the Central Bank influences the money supply in the economy.

### **Moral Suasion**

A persuasive attempt by the Central Bank to the commercial banks to reduce the amount of their credit to the public. Credit guideline is also used to control the amount of credit given by the commercial banks and to which sectors of the economy it is given.



Tip

The Central Bank influences the quantity of money in circulation through such systems as varying the bank rate, the cash-deposit ratio, and moral suasion.

### 7.3.3 Money and Capital Markets

Where expenditure exceeds the receipts of firms or of the government, the deficits have to be bridged by borrowing. The institutions where funds are made available to firms and the government at a price- the rate of interest are the financial markets. Because finance is required by different types of firms, by the government and by nationalised industries, for different purposes and for different periods of time, there is a great variety in the types of loan available and in the institutions providing or arranging soft loans. Nevertheless, financial markets can be classified into two broad groups: The money markets (dealing in short-term loans) and the capital market (where medium and long term capital is raised). It must be stressed that neither the money market nor the capital market is a formal organisation where buyers and sellers meet regularly in a particular building to transact business. Instead, they are merely a collection of institutions which are connected, in the case of money markets, by dealings in bills of exchange and short term loans. In the case of capital markets, it is through channelling medium and long term finance to those requiring it.

Generally, money market comprises of:

- 1) the discount market (which in turn consists of institutions linked by dealings in bills discount houses; merchant banks, commercial banks and the central bank), bills of exchange are important source of short term finance – the commercial bills are for firms and treasury bills are for the government.
- 2) parallel money market which has developed to meet specific requirements of particular borrowers and lenders to make for the restrictions placed on bank lending.

The capital market consists of such institutions as the

- 1) insurance companies,
- 2) investments trusts,
- 3) unit trusts,
- 4) finance companies,
- 5) building societies, and etcetera.

#### ITQ

##### Question

In your own view, what are the functions perform by the Central Bank?

##### Feedback

We don't know what you have considered. But the central functions of central bank includes:



- Banker to the government
- Sole Issuance of currency notes
- Lender of the last resort
- Manager of the public debt
- Manager of foreign account
- Banker to the commercial banks

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## Study Session Summary



### Summary

In this Study Session, we noted that money is any generally accepted medium of exchange. It has four functions: a medium of exchange; a means of payment; a store of value; a unit of account and a standard of deferred payment. Money is demanded for three main reasons, for transaction, precautionary and lastly for speculative purposes.

You learnt that inflation is a period of general increase in price level. The control of inflation is also said to be a function of the causes of inflation. However, through a combination of monetary and fiscal policy, inflation can be reduced in the economy.

Finally, you examined the main institutions in the banking system and the operations of the institutions.

## Assessment



### Assessment

#### **SAQ 7.1 (tests Learning Outcome 7.1)**

Explain the following terms:

- **money**
- **price level**

#### **SAQ 7.2 (tests Learning Outcome 7.2)**

Critically assess the roles of money in an economy?

#### **SAQ 7.3 (tests Learning Outcome 7.3)**

What do you understand by the demand for money?

#### **SAQ 7.4 (tests Learning Outcome 7.4)**

Explain the link between demand for money and the demand for bonds.

#### **SAQ 7.5 (Tests Learning outcome 7.5)**

What do you understand by inflation and how can it be controlled?

#### **SAQ 7.6 (tests Learning Outcome 7.6)**

*How do you think Banks create money in an economy?*

#### **SAQ 7.7 (tests Learning Outcome 7.7)**

*State the functions of the banking system*

#### **SAQ 7.8 (tests Learning Outcome 7.8)**

*How does Central Bank control money supply in an economy?*

# Study Session 8

## International Trade

### Introduction

In the realm of trading for economic purposes, no country is an island. There are trade relations between one country and another. In this Study Session, we shall discuss the basic theories of international trade, the reasons why countries engage in trade and the barriers to international trade.

### Learning Outcomes



#### Learning Outcomes

When you have studied this session, you should be able to:

- 8.1 *point out* the reasons why countries engage in international trade.
- 8.2 *analyse* at least two theories of international trade.
- 8.3 *present* terms of trade.
- 8.4 *highlight* various restrictions to free flow of trade among nations.
- 8.5 *discuss* the classifications of balance of payments.
- 8.6 *show* how exchange rates are determined in the real world.

### 8.1 Rationale for International Trade

Just as individuals trade among themselves, nations also engage in trade with one another. This trade between one nation and the rest of the world is called **international trade**. Nations engage in trade for various reasons. In the first place, trade permits specialisation, and specialisation increases output. Because a country specialises in the goods it produces particularly well, it can trade them for goods that other countries are especially good at producing. Thus, both the country and her trading partner benefit.

In addition, some countries have more and better resources of certain types than others. Nigeria has oil; Canada has timber; and Japan has skilled labour force and so on. International differences in resource endowments, and in the relative quantity of various types of human and non-human resources, are important for specialisation.

#### ITQ

##### Question

Why does trade exist among countries?

##### Feedback

Trade exists among countries due to:

- Differences in resource endowments
- Specialisation in production

## 8.2 Theories of International Trade

### 8.2.1 Absolute Advantage

This theory was propounded by Adam Smith to explain the need for trade. This theory can be illustrated as follows: Assuming that there are two countries A and B, and also two commodities X and Y. With the same quantity of resources, if country A can produce more of commodity X than country B, then country A is said to have absolute advantage over country B in commodity X while country B has absolute disadvantage in commodity Y. The two countries would benefit from trade if country A has absolute advantage in commodity X while country B has absolute advantage in commodity Y.

A numerical example will suffice. Suppose Nigeria can produce 1 electronic computer or 10,000 cases of wine with 1 unit of resources. Suppose that Japan can produce 2 electronic computers or 5,000 cases of wine with 1 unit of resources. If Nigeria shifts 1 unit of its resources from producing computers to producing wine, it will increase its production of wine by 10,000 cases and reduce its production of computers by 1 computer. On the other hand, if Japan shifts one unit of its resources from production of wine to computers, it will increase the production of computer by 2 computers and reduce its production of wine by 5,000 cases of wine.

Table 8.1 shows the net effect of this shift in the utilisation of resources on world output of computers and wine.

Table 8.1

Case of Absolute Advantage		
Increase or decrease in output of:		
Wine (thousand of cases)	Computer	
Effect of Japan's shifting		
1 unit of resources from wine to computers	-5	+ 2
Effect of Nigeria shifting		
1 unit of resources from computers to wine	+ 10	-1
<b>Net effect</b>	<b>+5</b>	<b>+1</b>

Thus, we can see from the table that world output of both wine and computers have increased with trade. Therefore, in this situation, Nigeria should specialise in producing wines, while Japan must specialise in producing computers.

### 8.2.2 Comparative Advantage

This theory owes its origin to David Ricardo. This theory is an extension of the absolute advantage theory of trade. The theory maintained that even in a situation where a country has absolute advantage in producing the two commodities, over another country trade could still occur provided that there are differences in the relative efficiencies in producing the two goods in the two countries.

A numerical example will make this point clearer. Let us make

adjustment to our earlier example. Suppose Nigeria can produce 1 electronic computer or 4,000 cases of wine with 1 unit of resources while Japan can produce 2 electronic computers and 5,000 cases of wine with 1 unit of resources. In this case, Japan is a more efficient producer of both computers and wine. Nonetheless, as we shall see, world output of both goods will increase if Japan specialises in the production of computers and Nigeria specialises in the production of wine.

Table 8.2 demonstrates this conclusion. If 2 units of Japan resources are shifted from wine to computer production, 4 additional computers and 10,000 fewer cases of wine are produced. If 3 units of Nigeria resources are shifted from computer production to wine production, 3 fewer computers and 12,000 additional cases of wine are produced. Thus, the combined effect of this redeployment, of resources in both countries is to increase the world output of computers by 1 and to increase the world output of wine by 2,000 cases.

Table 8.2

Cases of Comparative Advantage		
Increase or decrease in output of:		
Wine (thousand of cases)	Computer	
Effect of Japan's shifting		
2 units of resources from wine to computers	-10	+ 4
Effect of Nigeria shifting		
3 units of resources from computers to wine	+ 12	-3
<b>Net effect</b>	<b>+2</b>	<b>+1</b>

We can see from the above that even though Japan is more efficient than Nigeria in the production of both computer and wine, world output of both goods will be maximised if Japan specialises in computers and Nigeria in wine. Basically, this is so because the degree of efficiency of Japan in the production of both goods differs. It is twice as efficient as Nigeria in producing computers but only 25 per cent more efficient than Nigeria in wine.

The theory of comparative advantage forms the basis of trade among nations. A nation has a comparative advantage in those products where its efficiency relative to other nation is highest. However, unlike the predictions of these two theories, what we have in real life is incomplete specialisation.

## ITQ

### Question

The theory of international trade that emphasises on trade in only commodities in which a country has lowest opportunity cost of production is known as \_\_\_\_\_.

### Feedback

The theory of comparative cost advantage

## 8.3 Terms of Trade

The phrase **terms of trade** is defined as the quantity of imported goods that a country can obtain in exchange for a unit of domestic goods. It is the ratio of the price of export to the price of import. In the above table it is possible for Japan to produce 2,500 cases of wines by giving up 1 computer. Thus, the ratio of domestic exchange should be 2,500: 1. Similarly Nigeria can exchange a case of wine for 1/4,000 of a computer by diverting its own resources from wine to computer. Thus, while Japan will not be willing to exchange one computer for less than 2,500 cases of wine, Nigeria will not be willing to exchange a case of wine for less than 4,000 of a computer.

But where will the price ratio lie between 2,500:1 and 4,000:1? The answer depends on world supply and demand for the two products, the stronger the demand for computers (relative to their supply), and the weaker the demand for wine (relative to its supply) the higher the price ratio and vice-versa.

## 8.4 Openness in Financial Markets

Openness in financial markets allows financial investors to hold both domestic and foreign assets, thus to diversify their portfolios, and to speculate on movements in foreign versus domestic interest rates, exchange rates, and so on. Given that buying or selling foreign assets implies, as part of the operation, buying or selling foreign currency (sometimes called foreign exchange), the size of transactions in foreign-exchange markets gives a sense of the importance of international financial transactions. In 1994 the daily volume of foreign-exchange transactions in the world was \$1 trillion, of which 80%-about \$800 billion-involved dollars on one side of the transaction.

Most of the transactions are associated not with trade, but with purchases and sales of financial assets. The volume of transactions in foreign exchange markets is not only high but also rapidly increasing. For a country as a whole, openness in financial markets has an important implication. It allows the country to run trade surpluses and trade deficits. Recall that a country running a trade deficit is buying more from the rest of the world than it is selling to rest of the world. Thus, it must borrow the difference. It does so by making it attractive for foreign financial investors to increase their holding of domestic assets, in effect to lend to the country.

### ITQ

#### Question

Openness in financial market is peculiar to a closed economy. True or False?

#### Feedback

False. Openness in financial markets allows financial investors to hold both domestic and foreign assets, thus to diversify their portfolios, and to speculate on movements in foreign versus domestic interest rates, exchange rates, and so on. Therefore, it is a defining characteristics of an

open economy.

## 8.5 Barriers to International Trade

In this section, we shall discuss the various restrictions to free flow of trade among nations. The restrictions are collectively called barriers to trade and they include tariffs, quotas, export subsidies, licenses, etc. The net effect of these barriers is that they make domestic prices to be different from international market prices.

Despite the advantages to be derivable from free trade, experience has shown that not everyone benefits equally from free trade. Thus, for various reasons ranging from reasonable to spurious ones, countries impose restrictions on free trade. Such restrictions include tariffs, quotas, subsidies and other non-tariff barriers.

**Tariff** can be defined as a tax, which the government imposes on imports. Usually, the purpose of a tariff is to cut down on imports in order to protect domestic industries and workers from foreign competition. A secondary purpose however is to generate revenue for the government. On the other hand, **quotas** refer to the maximum amount of certain commodities that can be imported annually into the country.

Finally, **export subsidies** represent another means by which governments try to give their domestic industries an advantage in international competition. Such subsidies may take the form of outright cash disbursements, tax exemptions, etc. Other non-tariff barriers to free trade include **licensing** requirements and unreasonable product quality standards. By granting few licenses to import from other countries and by imposing unrealistically stringent product quality standards, government discourages imports.

A world of free trade would be one with no tariffs, quotas or any other restrictions on importing or exporting. In such a world, a country would import all those commodities that it could buy from abroad at a delivered price lower than the cost of producing them at home.

Now suppose that a country imposes a 20 per cent tariff on all imports. This does not prohibit trade but by making all imported goods more expensive, it affects the profit margin of imports. Any foreign goods that enjoy a cost advantage of less than 20 per cent are now effectively prohibited; while imported goods that enjoy cost advantage in excess of 20 per cent will still be in demand, but because their domestic price has increased, a smaller quantity will be demanded than if there were no tariff.

### Arguments for Tariffs and Quotas

1. The most frequent cited non-economic reason for tariff is national defence. Because of the sensitivity of some industries to the economy, tariffs as barrier may protect them against foreign competition.
2. Another reason for tariffs is the need to protect infant industries. It is argued that because some industries are new they cannot withstand foreign competition. Foreign firms, the argument goes, are experienced and enjoy economies of scale which enable them to

charge lower prices than domestic industries that are still very new. While it may look reasonable, this argument is however widely abused. It has provided a cover for inefficient firms to continue to operate. Many of these firms even after decades of their establishment continue to claim that they are 'infants'.

3. Tariffs are sometimes imposed to protect domestic jobs and to reduce unemployment at home. This argument is however criticised on the ground that it can lead to retaliation from other countries. It is maintained that without tariffs, government can still achieve this objective through monetary and fiscal tools.

## ITQ

### Question

State three reasons for imposing tariffs

### Feedback

- To maintain national security and defence.
- To protect infant industries
- To protect domestic jobs and reduce unemployment rate

## 8.6 The Balance of Payments

Trade transaction that takes place between individuals gives rise to two things: first the exchange of physical goods or services and second, the exchange of money between the transactions. As it happens in the case of individuals so it is with international trade.

The exchange of commodities between one nation and her trading partners necessitates the payment by the nation to her trading partners. A record which summarizes such payments is called **balance of payments**.

This refers to the record of transactions between one country and her trading partners. In order to know what is happening to the course of international payments, governments keep track of the actual transactions among countries. Every transaction, whether of imports or exports is recorded and classified according to the payments or receipts that would typically arise from it. Any item that gives rise to the purchase of foreign currency (e.g. paying for imports) is recorded as a debit on the balance of payment accounts and any item that gives rise to the sale of foreign currency (through exports) is recorded as a credit.

One feature of balance of payments account is that it always balances. While it is possible for holders of naira to want to purchase more dollars in exchange for naira, than holders of dollars want to sell in exchange for naira, it is not possible for holders of naira actually to buy more dollar than dollar holders wish to sell. Every dollar that is bought must be sold by someone, and every dollar that is sold must be bought by someone. Since the dollars actually bought must be equal to the dollars actually sold, the payments made between countries must balance; even though, desired payments may not. This tool of international trade is divided into three.



### **8.6.1 The Current Account**

This records all transactions in goods and services. Goods (visibles) are goods that can be seen when they cross international borders, e.g. cars, oil, cocoa, and groundnut.

Services (invisibles) are things that we cannot see, such as insurance and freight haulage, and tourist expenditures. Other items under invisibles are interest and dividends. When the country receives dividends and interests on loans and investment in foreign countries, these are credited in her balance of payments and vice-versa.

### **8.6.2 The Capital Account**

This records transaction related to movement of long and short term capital. Capital movements may be divided in several ways. One important division is between direct and portfolio investment. Direct foreign investment occurs when firms transfer funds in order to create new capital in foreign countries. Portfolio investment, however, occurs when equities or bonds are purchased. If for example, a Nigerian saver buys a share issued by an American Company, this is a portfolio investment, and it represents a debit item on the Nigerian balance of payments.

Capital movements may also be classified according to their term. Purchase of bonds in another country may be termed long term capital outflow. However, a deposit may be classified as short term since the foreign bank has the obligation to pay the deposit on demand.

### **8.6.3 Official Financing**

This represents transactions involving the Central Bank of the country whose balance of payments is being recorded. There are three ways in which credit items may occur on the official financing account. First, the Central Bank may borrow from IMF. This represents a capital inflow and is thus a credit item on the balance of payments. Second, the bank may borrow from other Central Banks. Third, the bank may run down its official reserves of gold and foreign exchange. This is a credit item because it gives rise to the selling of foreign exchange and a purchase of naira.

The fundamental relation among the three main divisions is that their sum must be equal to zero. That is the balances on the current, capital and official settlement account must be zero.

Why this it is possible and what happens in most cases is that a country might have surplus or deficit in the current account. A deficit occurs when the value of the country's imports exceeds her exports. This deficit must however be matched by a net surplus on capital plus official settlement accounts which means borrowing abroad or running down exchange reserves.

In normal terms, when we speak of balance of payment deficit or surplus, we refer to a balance on some parts of the accounts. Usually, we refer to the balance on current plus capital account.

Balance of payment deficits has been the bane of many developing

countries including Nigeria. It has led to increasing foreign indebtedness of these countries and a massive depletion of their foreign reserves. Ways by which deficit on the balance of payments is resolved include devaluation of local currency, borrowing from IMF and other international organisations, depletion of foreign reserves, import restrictions, and export promotion.

Table 8.3

<b>A Hypothetical Balance of Payments for Nigeria, (N'b)</b>	
Visible Export.	55.54
Visible Import.	-53.32
Invisibles:	
Credit.	30.56
Debit	-28.70
1. Current account balance	4.08
Net investment in Nigeria	-6.31
Net trade credit	-1.42
Net financial transactions	5.99
2. Capital Account balance	-1.74
3. Balancing item	-3.42
4. Balance of payments (A) + (B) + (C)	= -1.18
5. Official Financing	1.18



### Reading Activity

*Allow 15 minutes*

Study the article below.

#### The Choice between Domestic and Foreign Assets

Openness in final markets implies that financial investors face the choice of holding domestic versus foreign assets.

It might appear that we have to think about at least two new decisions, the choice of holding domestic versus foreign money, and the choice of holding domestic versus foreign interest-paying assets. But remember why people hold money: to engage in transactions. For somebody who lives in Nigeria, whose transactions are thus mostly or fully in naira, there is little point in holding foreign currency: It cannot be used for transactions, and if the goal is to hold foreign assets, holding foreign currency is clearly less desirable than holding foreign bonds, which pay interest. Thus, the only new choice we have to think about is that between domestic and foreign interest-paying assets. Let's think of them for the time being as domestic and foreign one-year bonds. Consider, for example, the choice between U.S. and German one-year bonds. Suppose that you decide to hold U.S. bonds. Let  $i_t$  be the one-year U.S. nominal interest rate in year  $t$ . Then, as Table 12.1 shows, for every dollar you put in U.S. bonds, you will get  $(1 + i_t)$  dollars next year.

Suppose you decide instead to hold German bonds. To buy German bonds, you must first buy DM. Let  $E_t$  be the nominal exchange rate between the dollar and the DM. Thus, for every dollar you get  $(1/E_t)$  DM. Let  $i_t^*$  denote the one-year nominal interest rate on German bonds (in

DM). When next year comes, you will have  $(1/E_t) (1 + i_t) E_{t+1}$  dollars next year for every dollar you invest. This set of steps is represented in the second part of Table 8.4 below.

**Table 8.4** Expected Returns from Holding One-Year U.S. or German Bonds

U.S. bonds	Year $t$ \$1	→	Year $t+1$ $\$(1 + i_t) = \$(1/E_t) (1 + i_t^*) (E_{t+1}^e)$
German bonds	\$1 ↓ $DM(1/E_t)$	→	↑ $DM (1/E_t) (1 + i_t^*)$

In assessing the attractiveness of German bonds, you cannot look just at the German and U.S. interest rates between this year and the next. Let's assume that you and other financial investors want to hold only the assets with the highest rate of return. In that case, if both German and U.S. bonds are to be held, they must have the same expected rate of return, so that the following arbitrage relation must hold:

$$1 + i_t = (1/E_t) (1 + i_t^*) (E_{t+1}^e) \quad (8.1)$$

Equation (8.1) is called the uncovered interest parity relation, or simply the interest parity condition

The assumption that financial investors will hold only the bonds with the highest expected rate of return is obviously too strong, for two reasons. First, it ignores transaction cost: Going in and out of German bonds requires three separate transactions, each with a transaction cost. Second, it ignores risk: The exchange rate a year from now is uncertain; thus, holding German bonds is more risky, for a U.S. investor, than holding U.S. bonds. But as a characterisation of capital movements among the major world financial markets, it is not far off. Small changes in interest rates and rumors of impending appreciation or depreciation can lead to movements of billions of dollars within minutes. For the rich countries of the world, the arbitrage assumption in equation (8.1) is a good approximation of reality. Other countries whose capital markets are smaller and less developed, or that have various forms of capital controls, have more leeway in choosing their domestic interest rate than is implied by equation (8.1).

To get a better sense of what arbitrage implies, rewrite equation (8.1) as

$$1 + i_t = (1 + i_t^*) (1 + (E_{t+1}^e - E_t)/E_t) \quad (8.2)$$

This gives a relation between the domestic nominal interest rate, the foreign nominal interest rate, and the expected rate of depreciation. Remember that an increase in  $E$  is a depreciation, so that  $(E_{t+1}^e - E_t)/E_t$  is the expected rate of depreciation of depreciation in domestic currency. (If the domestic currency is expected to appreciate, then this term is negative).

## ITQ

### Question

Capital movements among countries are recorded in the current account in the balance of payment. True or False?

### Feedback

False. A section of account under balance payments that records such transactions is known as “capital account”.

## 8.7 The Theory of Exchange Rates

So far in this Study Session, we have examined international trade and the balance of payments. In this section, we will be more concerned with the medium of exchange in international trade that is, foreign currency.



Since the currency of the country will not usually be accepted by people in other countries, there must be an accepted means by which one country's currency can be converted into another for the purposes of economic transactions. This is the realm of foreign exchange transaction.

**Exchange rate** simply refers to the price at which a country purchases foreign currency and sells her currency respectively. Alternatively, it is the price of one currency in terms of another country's currency, for example, ₦118 to \$1.00.

### 8.7.1 Determination of Exchange Rates

In today's world, exchange rates are determined in highly competitive free markets by the forces of demand and supply, and these rates change often to reflect the underlying demand and supply relations.

For the purpose of illustration, we assume two countries model - Nigeria and America. Therefore, in this market, there are only two groups of private traders: people who have naira and want dollars, trade with people who have dollars and want naira. Also for the moment, we assume that the Central Bank of Nigeria does not intervene in the market.

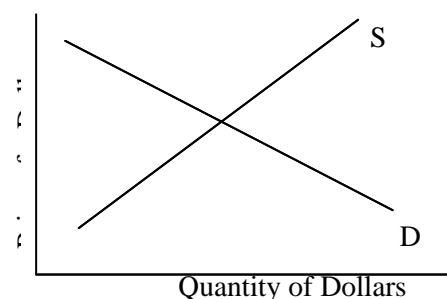
#### The Demand for Dollars

The demand for dollars arises because holders of naira wish to make payments in dollars; this arises from imports of American goods and services into Nigeria and from capital movement from Nigeria to America.

#### The Supply of Dollars

Dollars are offered in exchange for naira because holders of dollars wish to make payments in naira. The supply of dollars on the foreign exchange market arises because of Nigerian exports of goods and services to America and because of capital movements from America to Nigeria.

**Fig 8.1** The determination of the equilibrium exchange rate under competitive conditions



The demand for dollars is downward sloping. This indicates that as the dollar becomes cheaper, holders of naira will demand more dollars in order to buy American goods. The supply curve for dollars is upward sloping. This indicates that as naira becomes cheaper, holders of dollars

will offer more dollars in order to buy naira with which to buy Nigerian commodities.

The equilibrium exchange rate is determined at the point of intersection between the demand for dollar and supply of dollars. Assume that the current price of dollars is too low, say N30 to a dollar. At this exchange rate, the demand for dollars exceeds the supply. Thus, some people who require dollars to make payments to America will be unable to obtain them and the price of dollars will be forced up. The value of the dollar vis-à-vis the naira will appreciate or, alternatively put, the value of Naira vis-à-vis the dollar will depreciate.

### Causes of Change in Exchange Rate to Change

1. **Differing Rate of Inflation:** All things being equal, the exchange rates of countries with high inflation will be depreciating, while those countries with low inflation, rate will be appreciating.
2. **Capital Movement:** Major capital flows can exert major influences on exchange rates, appreciating the currencies of capital importing countries and depreciating the currencies of capital exporting countries.
3. **Structural Changes:** At the existing price levels, an economy can undergo structural changes that affect the exchange rate. If the structural changes have a positive impact on cost structure (i.e. reducing cost of production, for example, through innovation), the value of the currency might appreciate or vice- versa.

### 8.7.2 Central Bank's Management of the Exchange Rate

In the previous sub-section, we considered exchange rates that are determined purely by market forces of demand and supply. However, in reality, we know that only very few countries allow its exchange rate to be left solely to market forces. More often, countries through their central authorities influence the exchange rates of their countries.

#### Fixed Exchange Rates

Under the Bretton Woods system that lasted from 1944 until the early 1970's, governments did not allow their currencies to fluctuate freely on exchange markets. Usually, the rates were fixed within very narrow margins. Each government stated an official price for its currency (usually in terms of dollars) which was called the currency's par-value. The Central Bank then entered the market, buying and selling whatever quantities of foreign exchange necessary to maintain this par-value. Such an exchange rate is called a fixed or pegged exchange rate. When it is changed, the country's currency is said to be devalued or revalued in case of a fall or a rise in its par-value, respectively.

An example will suffice here. Assume the fixed exchange rate is ₦70.00 to \$1. However, for some reasons, the demand for dollars increases such that it is greater than its supply to the market. Normally, we expect the exchange rate to change: to prevent this, the Central Bank might enter into the exchange market and sell sufficient dollars to make demand equal to supply at the fixed exchange rate.

### Flexible Exchange Rates

Even with the collapse of Bretton Woods Agreement, when countries no longer fix the par-value of their currencies, they still try to influence the exchange value of their currencies. They use various tools to achieve this.

- First, the bank can attempt to influence the long term equilibrium exchange by various forms of payment restrictions thereby curtailing the demand for foreign exchange.
- Second, the bank can attempt to smoothen out short and medium term fluctuations in the exchange rate by open market purchases and sales of foreign exchange.
- Third, through the manipulation of interest rate, the monetary authorities try to influence the flow of capital in and out of the country, thus influencing the exchange rates of their currencies.

### Nominal Exchange Rates

Nominal exchange rates between currencies are quoted in two ways:

1. the number of units of foreign currency you can get for one unit of domestic currency, or
2. the number of units of domestic currency you can get for one unit of foreign currency. Following the example given earlier, the nominal exchange rate between the dollar and the naira, (₦), is 118 ₦ for 1 dollar, or, equivalency, 0.008 dollar for 1 naira.

In this study, we shall define the nominal exchange rate as the number of units of domestic currency you can get for one unit of foreign currency or equivalently, as the price of foreign currency in terms of domestic currency, and we shall denote it by  $E$ . For example, when looking at the exchange rate between Nigeria and the United States from the viewpoint of the Nigeria (so that the naira is the domestic currency),  $E$  will denote the number of naira one can get for 1 \$-thus, from our exchange, 118. We shall then write if for short as the ₦/\$ (naira per \$) example rate. To convert ₦ into \$, simply divide by  $E$ . To convert \$ into naira, multiply by  $E$ .

Exchange rates between foreign currencies and naira change everyday, indeed every minute during the day. These changes are called nominal appreciations or nominal depreciations-appreciations or depreciations for short. An appreciation of the domestic currency is an increase in the price of the domestic currency in terms of a foreign currency. Given our definition of the exchange rate as the price of the foreign currency in terms of domestic currency, an appreciation corresponds to a decrease in the exchange rate,  $E$ .

This is more intuitive than it first seems: consider the naira and dollars (again from the viewpoint of the Nigeria). An appreciation of the naira (also called a naira appreciation) means that the naira's value goes up in terms of the dollars. Equivalently, the dollar is worth fewer naira, which is the same as saying that the exchange rate has decreased. Similarly, a depreciation of the naira (or naira depreciation) means that the naira is going down in terms of the dollars, and thus corresponds to an increase in  $E$ .

That an appreciation corresponds to a decrease in the exchange rate, and depreciation to an increase, will almost surely be confusing to you at first-it confuses many professional economists-but it will eventually become second nature as your understanding of open-economy macroeconomics deepens. Until then, you may find it useful to consult Table 13.1 below which summarises the terminologies.

**Table 8.5** Currency Appreciation and Depreciation

<b>Nominal exchange rate (E)</b>	Price of dollars in naira equivalently Number of naira per dollar (₦/\$)
<b>Appreciation of the naira</b> Value of naira increases	Price of dollars in naira decreases Equivalently: Number of naira per dollar decreases, i.e. <b>(E) decreases</b> .
<b>Depreciation of the naira</b> Value of naira decreases	Price of dollars in naira increases Equivalently: Number of naira per dollar increases, i.e. <b>(E) increases</b> .

## ITQ

### Question

If 150 Naira previously exchanged for 1 dollar and now 130 Naira to 1 dollar. Analyse the development in the context of exchange rate determination.

### Feedback

The development is an indication of appreciation of Naira against dollar. This means Naira has increased in value and can command more basket of goods and services in the international commodity market holding the view that price does not change.

## Study Session Summary



### Summary

In this Study Session, we examined the importance of international trade to the economic development of a state. In the process, we discussed two theories of international trade - the theory of absolute advantage and the theory of comparative advantage.

- The theory of absolute advantage states that a country should export those goods in which they have absolute advantage and import those in which they have absolute disadvantage.
- Richardian trade theory, however, states that comparative advantage rather than absolute advantage should inform the basis of trade.

You also studied barriers to international trade. We observed that despite the immense benefits that could be derived from international trade, many countries continue to impose barriers like tariffs and trade quotas on free flow of trade. Several reasons such as the need to generate revenue, protect infant industries, maintain national defence, and etcetera have been adduced for this.

You went further to explore the balance of payment as an important tool of international trade. In the process, we discussed the three discussions of the balance of payments: the current account, the capital account and official financing.

Lastly, you learnt that exchange rate is the price at which a country currency exchanges for another. In a purely competitive market, exchange rates are determined by the forces of demand and supply independent of any institutional interventions. There are three possible exchange rates. We have the floating, the managed and the fixed exchange rates.



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## Assessment



### Assessment

#### **SAQ 8.1 (tests Learning Outcome 8.1)**

Considering your knowledge in macroeconomics, provide justification on countries engagement in international trade.

#### **SAQ 8.2 (tests Learning Outcome 8.2)**

Explain any two theories of international trade.

#### **SAQ 8.3 (tests Learning Outcome 8.3)**

How can terms of trade be used to inform trade options among countries?

#### **SAQ 8.4 (tests Learning Outcome 8.4)**

Discuss the various restrictions placed on the free flow of trade among nations.

#### **SAQ 8.5 (Tests Learning outcome 8.5)**

Examine the classifications of balance of payments.

#### **SAQ 8.6 (Tests Learning outcome 8.6)**

How are exchange rates determined in the real world?

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## Bibliography



### Reading

<http://web.mit.edu/14.02/www/S05/Ch18.pdf>

## Study Session 9

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### Main Schools of Economic Thought

#### Introduction

The development of economics as a discipline has passed through several stages, from the Mercantilists through the Physiocrats to the Classical economists. From Marxist to Keynesians and to Monetarists, All these groups have influenced developments in the discipline. You will explore these stages alongside the contributions of some reputable economists such as Adam Smith, David Ricardo, Karl Marx, J.M. Keynes in this Study Session. Their ideas moulded the discipline as we have it today.

#### Learning Outcomes



##### Learning Outcomes

When you have studied this session, you should be able to:

9.1 *explain* the stages of history of economic thought vis-a-vis:

- pre-classical school
- classical school
- Marxian economy
- Keynesian school
- monetarist School

9.2 *discuss* the current developments in the field of economics.

#### 9.1 Overview of Pre-Classical School

The classical school represents the first serious school of economic thought. Prior to them, there had been some primitive schools of economic thought, such as the mercantilists, and the physiocrats.

##### 9.1.1 The Mercantilists

These were leading businessmen in their time. They were interested in a strong nation with vast army that would be able to protect their foreign business transactions. They were led by J. Child.

The mercantilists longed for specie that is precious metal which they believed could only be obtained through international trade. This school also favoured government intervention in the economy.

##### 9.1.2 The Physiocrats

The physiocrats were based in France, and they were a shade more advanced than the mercantilists. They believed in the natural order, that is, everything has been ordained by God. The physiocrats gave us the idea of surplus value which they believed could only be obtained from the agricultural sector. The major contribution of the physiocrats to economic thought is the idea of the circular flow of income. The circular flow income owes its origin to Dr. F. Quesnary who was also the leader of the physiocrats. They advocated for laissez faire, that is, free enterprise

and minimum government intervention in the economy.

### ITQ

#### Question

Which pre-classical school of economic thought emphasises economic principles based on natural or social order?

#### Feedback

Physiocrats, they believe in natural order ordained by God.

## 9.2 Classical School

The classical school can be sub-divided into two:

- a. The first is the traditional classicists consisting of Adam Smith, David Ricardo, Rev. Malthus, J.S. Mill etc. The second group consisted of the modern classicists or what is sometimes called neo-classicists. Economists in this group include Alfred Marshall, Irving Fisher, A. C. Pigou, etc. This latter school refined and built upon the main ideas of the traditional classicists.
- b. The two cornerstones of the classical school are the Say's Law of Market and the Quantity Theory of Money. The classicists believed in the existence of full employment in the economy and a situation of less than full employment was regarded as abnormal. Pigou maintained that unemployment results from the rigidity of the wage structure and interference in the working of free market system in the form of trade union legislation, minimum wage legislation, etc.

The classical analysis was based on the Say's law of market that "supply creates its own demand" The classicists thus ruled out the possibility of over production. This position was, however, attacked by Keynes who proposed the opposite view that demand creates its own supply. Unemployment results from the deficiency of effective demand because people do not spend the whole of their income on consumption.

The classicists also believed that savings and investments are always equal. According to them, savings and investments are functions of rate of interest. Any temporary difference between the two can be corrected through the mechanism of interest rates. For instance, when the rate of interest rises, savings rises and investment declines and this adjustment continues until the two are equal. Keynes again attacked the classical position. He argued that intended savings hardly equal intended investment, since both processes are undertaken by different groups of people. While households make savings decisions, investment decisions are made by the firms.

The classicists emphasized the importance of saving or thrift in capital formation, for economic growth. They believed that the more the savings of the people, the greater the capital formation and hence the faster the pace of economic growth. To Keynes however, savings was a private virtue and public vice. According to him, increases in savings reduce consumption, leading to a fall in effective demand and, therefore, a slump in the employment level.

The classicists artificially divided the economy into two - the monetary sector and the real sector. The monetary sector only helps in determining prices while production and consumption decisions are made in the real sector.

The above classicalist's position was demonstrated via the quantity theory of money. The quantity theory, as formulated by Irving Fisher, shows a proportional relationship between changes in money supply and changes in the price level. In the words of Fisher, "Other things remaining unchanged, as the quantity of money in circulation increases, the price level also increases in direct proportion and the value of money decreases and vice-versa". (*Fisher, the Purchasing Power of Money, Rev. Ed. 1926*).

The classicists emphasized the transactions demand for money and hence the demand for money in the economy depends upon the value of transactions undertaken in the economy.

Classical economics was based on the laissez faire policy of self-adjusting economic system with no government intervention. The government involvement in the economy should be limited to, maintenance of law and order, justice and provision of social infrastructures. According to them, the invisible hand will allocate goods and services in the economy unhindered.

The classical economics was a microeconomic analysis which the orthodox economists tried to apply to the economy as a whole. On the other hand, Keynes however had adopted the macro approach to economic problem.

### ITQ

#### Question

The classical saying that supply will always create its demand is attributed to \_\_\_\_\_.

#### Feedback

Jean Baptiste

## 9.3 Marxian Economy

The Marxian economy is based on the teachings and doctrines of Karl Marx (1818 - 1883). Karl Marx wrote his celebrated book 'Das Kapital' in which he exposes his doctrines.

"Marx contributed to the theory of economic development in three respects; namely, in broad respect of providing an economic interpretation of history, in the narrower respect of specifying the motivating forces of capitalist development, and in the final respect of suggesting an alternative path to planned economic development".

In interpreting history, he made use of the principle of dialectical materialism. He viewed historical events as the result of continuous struggle between different classes and the groups in the society. The main cause of this struggle is the conflict between 'the mode of production and

the underlying 'relations of production'. The mode of production refers to a particular arrangement of production in a society that determines the entire social, political and religious ways of living. The relations of production relate to the class structure in the society.

Marx uses his theory of surplus value as the economic basis of his theory. According to him capitalism is divided into two great classes: the workers who own nothing but their labour power and the capitalists who own the means of production. The capitalist purchase labour power at its own value which is the amount necessary for the maintenance of labour. According to Marx, the value of the commodities necessary for the sustenance of labour is never equal to the value of the produce of that labour. If a labourer works for a ten-hour day, but it takes him six hours to produce goods to cover his subsistence, he will be paid wages equal to six hours' labour. The difference worth four hours' labour goes into the capitalist's pocket in the form of net profit, rent and interest. Marx calls this unpaid work "surplus value".

The capitalist appropriates the surplus value produced by labour and then reconverts it into capitals since profits are determined by the amount of capital. The goal of the capitalist therefore is to accumulate and accumulate capital. The increasing accumulation of capital however forces the capitalist to introduce cost-saving techniques, like replacing labour with machines. This leads to the growth of industrial reserve army of the unemployed; on the one hand, and a reduction of the surplus value, on the other hand, since surplus value is generated by labour on what he called variable capital. This leads to what Marx refers to as the tendency for the falling rate of profit. The reduction in labour employed leads to over- production and under-consumption in the economy. This further exacerbates the falling rate of profit problem. A capitalist crisis has begun.

In each period of the crisis, the stronger capitalists expropriate the weaker capitalists and along with it grow the misery of the working class. It is this centralisation of capital on the one hand, and the growing misery of the workers on the other hand that finally provided the death knell of capitalist system and provided the impetus for the capitalism transformation to socialism. Poverty will disappear and the "dictatorship of the proletariat" will be established.

Marx prediction about capitalism has failed to come into being. There is no increasing misery of labour in the advanced capitalist societies as asserted by Marx. And technological development has not increased the industrial reserve army. Despite the fact that much of his prediction has not come to pass, Marx has made useful impact on the process of economic development. And, many countries today adhere to the economic formulations of Karl Marx.

## ITQ

### Question

Mention two ways Karl Marx contributed to the field of economics

**Feedback**

Marx contributed to the theory of economic development by:

- providing economic interpretation of history
- analysing theory of surplus value in more detail

## 9.4 Keynesian School of Economic Thought

Keynesian macroeconomics is named after one man, J.M. Keynes (1883-1946). His ideas were contained in the book, "The General Theory of Employment, Interest and Money" which he published in 1939.

Keynes was very critical of the classical economists. The Great Depression of 1929-1933 provided a basis for launching his attack on the classical position. Keynes rejected Say's Law of Market and showed how total demand for goods and services could differ from a country's productive capacity. The business cycle and fluctuations in prices, production and employment could not be reconciled with the classical idea that the total demand for goods always matches productive capacity.

Keynes also revolted against the classical approach dichotomy in which the physical and monetary aspects of the economy were treated in water-tight compartments. Keynes attempted the integration of both the physical and the monetary aspects in his analysis. According to Keynes, a meaningful discussion of aggregate level of output and employment is not complete without a complete theory of monetary economics. In a dynamic economy, expectations play a key role. Money serves as a subtle device to link the present to the future.

Rather than the full employment equilibrium position in the economy as enunciated by the classical school, Keynes stated that what is obtained in real life is unemployment equilibrium. This means that the economy always settles at less than full employment. Thus, the quantity theory of money of the classical school which postulated a direct relationship between the money supply and the price level in an economy may not always hold. This is because given the present employment in the economy, increase in the money supply rather than leads to increase in prices would result in increase in output and employment.

Keynesian macroeconomics concerns itself above all with the factors that determine demand. This is also a major difference with the classical theory. In the classical economics, more attention was focused on production, that is, to the supply side. In the classical way of thought, total demand adjusts to the supply, and in Keynes on theory, the opposite is the case. If there is inadequate demand, production falls because the level of expenditure is too low. This causes unemployment. This is where Keynes calls for government involvement in the economy to boost aggregate demand. Rather than advocating for minimal government intervention, Keynes called for maximum government involvement in the economy.

Keynes was also famous for his theory of multipliers. This is closely linked with the marginal propensity to consume. The multiplier is the multiple by which national income will change if an item of aggregate

demand is changed. However, the value of the multiplier would depend upon the value of marginal propensity to consume.

Keynes is also remembered for introducing other terms like liquidity preference, liquidity trap and marginal efficiency of capital into economics literature. His ideas and postulations were not entirely new. He owed some of them to the economists before him. The concept of marginal which he used could be traced to the neo-classicalists. And as far as the concept of multiplier is concerned, Keynes himself recognises he's indebted to Mr. R.F. Kahn.

Keynes contributed a lot to the development of economic thought. His reasoning proved very useful in both trade cycle theory and welfare economics. He also shed new light on the motive of holding money. He made a distinction between the three methods of holding money i.e. transactive, precautionary and speculative motives.

In post-Keynesian era, there has been prolific addition and refinement of the basic Keynesian idea. For instance, the concept of multiplier was extended by bringing in numerous variants of it, for example, the balanced budget multiplier, which sheds new light on fiscal policy. Most of these additions and refinements, however, owe their origin to the stimulations provided by Keynes's General Theory.

### ITQ

#### Question

Mention three different areas of economic reasoning Keynesian school differs from the Classicalists

#### Feedback

**Role of policy:** Keynesian school advocate active fiscal stabilisation policy in correcting short run fluctuation while the classical school maintains passive role for government in business cycles.

**Fluctuation in output:** Classical economists posit that fluctuation in output is a supply side issue while Keynesian school explains output fluctuation through demand side.

**Demand for money:** Interest rate is one of the determinants of demand for money according to the Keynesians. The classicalists however, only emphasise income as the major determinants of money demand. According to them demand for money is purely a function of income.

## 9.5 Monetarist School

The foremost exponent of this school is the Nobel laureate, Professor Milton Friedman of the Chicago University. He reformulated the Quantity Theory of Money. In his reformulation, Friedman asserted that money does matter. He regarded money as any durable commodity and the demand for it depends on the services which it can render to the holder. He posited that wealth can be held in five different forms:

- a. money;

- b. bonds;
- c. equities;
- d. Physical non-human good; and
- e. human capital.

The monetarists emphasize the role of money in explaining short term changes in national income. They argue that the role of money has been neglected by the Keynesians. Friedman was able to demonstrate that changes in the money supply cause changes in national income. Thus, monetarists believe that all recession and depression are caused by severe contraction of money and credit while booms and inflation are the outcome of excessive increase in the money supply.

While Keynes has argued that demand for money is a function of both the level of income and the rate of interest, the monetarists hold that the rate of interest plays no part in determining the demand for money. The demand for money is the transactive demand for money which is determined by the level of income.

The monetarists also hold that monetary policy is superior to fiscal policy. This is a direct anti-thesis of the Keynesian school. Instruments of monetary policy include bank rate, open market operation, changes in reserve ratios, selective credit control. They hold that against fiscal policy, monetary policy possesses greater flexibility and it can be implemented rapidly.

A major limitation of the monetary policy, however, is the long operation lag. Friedman himself admits that the time lag involved is so large that contra cyclical monetary policy might actually have a destabilising effect on the economy.

## ITQ

### Question

Do the Monetarists and the Keynesians hold the same view as regards to short term changes in national income?

### Feedback

The monetarists emphasize the role of money in explaining short term changes in national income. They argue that the role of money has been neglected by the Keynesians. Friedman was able to demonstrate that changes in the money supply cause changes in national income. Thus, monetarists believe that all recession and depression are caused by severe contraction of money and credit while booms and inflation are the outcome of excessive increase in the money supply.

## 9.6 Current Developments in the Field of Economics

Today, three groups dominate the research headlines; the new classical, the new Keynesians, and the new growth theorists. (Note the generous use of the word “new” unlike producers of laundry detergents, economics



stop short of using “new and improved”. But the subliminal message is the same.)

### **9.6.1 New Classical Economics and Real Business Cycle Theory**

The rational expectations critique was more than just a critique of Keynesian economics. It also offered its own interpretation of fluctuations. Instead of relying on imperfections in labour markets, on the slow adjustment of wages and prices, and so on to explain fluctuations, Lucas argued, macroeconomics should see how far they could go in explaining fluctuations as the effects of shocks in competitive markets with fully flexible prices and wages.

This is the research agenda that has been pursued by the new classical. The intellectual leader is Edward Prescott, and the models he and his followers have developed are known as real business cycle (RBC) models. These models assume that output is always at its natural level. Thus, all fluctuations in output are movements of the natural level of output, as opposed to movements away from the natural level of output.

Where do these movements come from? The answer proposed by Prescott is technological progress. As new discoveries are made, productivity increases, leading to an increase in output. The increase in productivity leads to an increase in the wage, which makes it more attractive to work and thus leads workers to work more. Productivity increases therefore lead to increases in both output and employment as we indeed observe in the real world.

The RBC approach has been criticized on many fronts. Technological progress is the result of very many innovations, each of which takes a long time to diffuse. It is hard to see how this process could generate anything like the large short-run fluctuations in output that we observe in practice. It is also hard to think of recessions at times of technological regress, times in which productivity and output both go down. Finally, as we have seen, there is very strong evidence that changes in money, which have no effect on output in RBC models, in fact, have strong effects on output in the real world.

Thus, at this point, most economists do not believe that the RBC approach provides a convincing explanation of major fluctuations in output. The approach has nevertheless proved useful. It has drilled in the correct point that not all fluctuations in output are deviations of output from its natural level. At a more technical level, it has provided a number of new techniques for solving complex models, which are widely used in research today. It is likely to evolve rather than disappear. Already, some recent RBC models have started introducing nominal rigidities, thus allowing for the effects of money on output.

### **9.6.2 New Keynesian Economics**

The term “new Keynesians” denotes a loosely connected group of researchers who share a common belief that the synthesis that has emerged in response to the rational-expectations critique is basically correct. But they also share the belief that much remains to be learned

about the nature of imperfections in different markets, and about the implications of those imperfections for macroeconomic evolutions.

One line of research has focused on the determination of wages in the labour market. One influential researcher in this area has been George Akerlof from Berkeley, which has explored the role of “norms”, the rules that develop in any organisation in this case, the firm, to assess what is fair or unfair. This research has led him and others to explore issues previously left to research in sociology and psychology and to examine their macroeconomic implications.

Another line of new Keynesian research has explored the role of imperfections in credit markets. Here, we have to assume that the effects of monetary policy work through interest rates, and that firms and people can borrow freely at the quoted interest rate. In practice, most people and many firms can borrow only from banks. And banks often turn down potential borrowers, despite their willingness to pay the posted interest rate. Why this happens, and how it affects our view of how monetary policy works, has been the subject of much research, in particular by Ben Bernanke of Princeton.

Yet another direction of research is **nominal rigidities**. Fischer and Taylor have shown that with staggering of wage or price decisions, output can deviate from its natural level for a long time. This conclusion raises a number of issues. If staggering is indeed responsible, at least in part, for fluctuations, why don't wage setters/price setters synchronise decision? Why aren't prices and wages adjusted more often? Why aren't all prices and wages changed, say, on the first of each month? In tackling these issues, Akerlof and N. Gregory Mankiw (from Harvard University) have derived a surprising and important result, often referred to as the **menu cost** explanation of output fluctuations.

Each wage or price setter is largely indifferent as to when and how often he changes his own wage or price for a retailer; changing the prices on the shelf every day or every week does not make much difference to profits). Thus, even small costs of changing prices such as those involved in printing a new menu, for example, may lead to infrequent and staggered price adjustment. In turn, this staggering leads to slow adjustment of the price level, and thus to large aggregate output fluctuations in response to movements in aggregate demand. In short, decisions that do not matter much at the individual level (how often to change prices or wages) lead to large aggregate effects (slow adjustment of the price level, and thus large effects of shifts in aggregate demand on output).

### 9.6.3 New Growth Theory

After being one of the most active topics of research in the 1960s, growth theory went into an intellectual slump. Since the mid 1980s, however, growth theory has made a strong comeback. The set of new contributions goes under the name of **new growth theory**.

Two economists, Robert Lucas (the same Lucas who spearheaded the rational expectation critique) and Paul Romer (from Berkeley), have played an important role in defining the issues. When growth theory faded in late 1960s, two issues were left largely unresolved. The first was

the determinants of technological progress. The second was the role of increasing returns to scale-whether, say, doubling capital and labour may actually lead to more than a doubling of output. These are the two major issues on which new growth theory has concentrated. Clearly, these propositions leave a lot of room for disagreement.

The major area of disagreement is in the length of the “short run”, the period of time over which aggregate demand affects output. At one extreme, real business cycle theories start from the assumption that output is always at its natural level: The short run is very short indeed... At the other, theories of hysteresis in unemployment imply that the effects of demand may be extremely long-lasting, that the short run may in fact be very long.

The other area of disagreement is in the role for policy. While conceptually distinct, it is largely related to the first. Those who believe that output returns quickly to its natural level are typically willing to impose tight rules on both monetary and fiscal policies, from constant money growth to the requirement of a balanced budget. Those who believe that the adjustment is slow typically believe in the need for more flexible stabilization policies.

Despite these disagreements, this core provides a framework in which to conduct and organize research. More important, it provides a framework to interpret events and discuss policy.

### ITQ

#### Question

Which new theory emphasise that output is always at natural rate and thus, all fluctuations in output are movements of the natural level of output, as opposed to movements away from the natural level of output?

#### Feedback

Real business cycle theory

## Study Session Summary



### Summary

In this Study Session, you have examined the main schools of economic thought; the mercantilists, the physiocrats, classical, Marxist, Keynesian and the monetarists. While the focus of the classicalists was on free trade and minimum government intervention in the economy, the mercantilists argued against free trade and with the Marxist economists, called for maximum government involvement in the economy. Also like the classicists, Keynes shifted attention from microeconomics analysis to macroeconomics. The monetarists emphasized the superiority of monetary policy to fiscal policy. As of recent times, three growth theorists dominate the research headlines; these are the new classical, the new Keynesians, and the new growth theorists.

## Assessment



### Assessment

#### SAQ 9.1 (tests Learning Outcome 9.1)

Explain the stages of history of economic thought as follows:

- pre-classical school
- classical school
- Marxian economy
- Keynesian school
- monetarist School

#### SAQ 9.2 (tests Learning Outcome 9.2)

Discuss the current developments in the field of economics.

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# Study Session 10

## Economic Systems

### Introduction

Economies of different countries of the world can be classified into three. The fundamental criteria for such classification are based on the role of the state in such countries and the method of allocation of resources within the country. In this Study Session, we shall explore the three basic economic systems and their examples.

### Learning Outcomes



#### Learning Outcomes

When you have studied this session, you should be able to:

- 10.1 *present* the features of the basic economic systems with concrete examples.

### 10.1 Distinctions in the Basic Economic Systems

Distinctions can be made among three basic economic systems:

- Command Economy.
- Market Economy.
- Mixed Economy.

The three economic systems relate to the means and methods by which different economies try to answer their socio-economic problems. It focuses on the means of ownership of resources, the role of the state, allocation of resources etc. within each economy. For proper elucidation of the major features of each of this system, we shall discuss them separately.

#### 10.1.1 The Command Economy

This refers to the economy system in practice in USSR, China and in most of the Eastern European countries. It is also variously referred to as socialism or communism.

In a command economy, the state plays the dominant role in answering the basic economic problems faced by the economy. Usually, the state owns the means of production. In other words, all enterprises and business ventures are owned by the state. Moreover, the state also imposes production quota on these enterprises.

The allocation of resources in a command economy is also done by the state. The state determines what to produce, the quantity, for whom and the price to charge for the commodities produced. Development plans are very common in the command economies. It expresses how the objectives and goals of the state and how those objectives could be

achieved. Development plans set targets to be achieved and all the state resources are mobilised to attain the set goals.

In most cases, goods are distributed to people via rationing by coupon. Weekly or monthly coupons are given out to households to enable them purchase fixed quantity of commodities at certain prices.

In command economy, the state also takes a visible role in the distribution of income. A stated the objective of a command economy is to promote equity in the distribution of income. The state determines the remuneration to households and many services such as housing are undertaken by the state to help the poor people.

Command economies also ensure a full utilisation of resources available in the economy. Employment of labour is guaranteed to all able-bodied people in the economy. Although western economists often alleged that what obtains is underdevelopment because labour is less than efficiently utilised. Development plans like we mentioned above is also used by the state to fully mobilise its resources for the goals of the society.

### ITQ

#### Question

Mention three features of a command economy

#### Feedback

- Resources are solely owned by government.
- Decision on what, and how to produce rest on government.
- Private individuals are prevented from owning factors of production.

### 10.1.2 The Market Economy

This is a complete anti-thesis of the command economy. This is the type of economy which is prevalent in Western European countries. It is also called a capitalist economy.

In a market economy, the slogans are laissez faire and minimum government intervention. In such economies, the forces of demand and supply are expected to allocate the available resources.

There is a strong faith in the price mechanism. The price mechanism which already embodies the scarcity concept determines what to produce, the quantity and for whom to produce. An increase in the price of a commodity is a signal for producers to increase the output. Moreover, goods are produced for those who are willing to pay the highest price for it.

Unlike in a command economy where the available output is distributed through rationing by coupons, in a market economy the price system distributes the output available. The forces of demand and supply determine the price of the commodity. Thus, those who can afford it would get it; others who cannot, would have to go without it.

The state in a market economy also concerns itself less with distribution of income. The means of production is generally owned by private

individuals. And the returns to each household depend on the resources owned by that household. While those who own much of these resources appropriate the bulk of the income in the economy, those with less resource go with corresponding low income. This is why there are wide income gaps among individuals in a market economy.

In a pure market economy, there is no room for economic plans. The presence of economic plans implies an active role for the government within the economy. This is however against the principle of a market economy. The role of the state is only limited to laying down general rules governing the agents in the economy. It is believed that the economic agents in the economy, in the pursuit of their individual goals, would inadvertently promote the goals of the society.

### ITQ

#### Question

Allocation of goods and services in a market economy is through ----

#### Feedback

Price mechanism

### 10.1.3 Mixed Economy

This is a hybrid of both a command economy and a market economy. In real life, only very few economies fit rigidly into the description of either a command or market economy. What we have is a mixture of the features of both systems. We can only talk in terms of approximation, i.e. closeness to either the market or the command economy.

Mixed economy is the most common economic system in developing countries. It is an economy in which the good features of both the command and market economies are incorporated. In such an economy, both the state and the individual or put more technically, both the private and public sectors join hands together and become partners-in-progress in solving the major economic problems of the society.

As we noted above, in a mixed economy, there is the active participation of the state. The role of the state goes beyond laying rules and regulations, to actually participating in the economy. Ownership of resources is jointly borne by both the state and private individuals. Thus, just as the state set up economic ventures either singularly or in partnership with the private sector, so also do the private entrepreneurs in the economy set up their own business ventures.

In a mixed economy, the state is the dominant participant. It usually prepares development plans; highlight the goals of the society and how resources of the society can be harnessed towards achieving such goals. It then becomes the duties of the state and the private sector to see how these goals are to be achieved.

The state in this type of the economy also concerns itself with the distribution of income. Through fiscal policy, and provision of services that benefit the poor people in the society, the state seeks to reduce inequality in income distribution and to raise the average standard of

welfare in the economy.

Although, there is a reliance on the price system to distribute the available output of goods and services in the economy, there are some cases when the state intervenes in the operation of this market system, through imposition of minimum or maximum price legislation.

### ITQ

#### Question

The distinctive characteristics of a mixed economy is -----

#### Feedback

Private entities and government join hands to solve economic problems in the society.

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## Study Session Summary



### Summary

In this Study Session, we noted that all economics of the world can be classified into any of the three basic economic systems, that is, command economy, market economy and mixed economy. Although there is no strict conformity of any country to either capitalism or socialism, the classification is still done on the basis of approximation of the country to any of the economic systems. It is apposite to say that almost all countries of the world are really mixed economy, combining the basic features of both capitalism and socialism.

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## Assessment



### Assessment

#### SAQ 10.1 (tests Learning Outcome 10.1)

With concrete examples, present the features of the basic economic systems.



## **Feedbacks on Self Assessment Questions**

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### **SAQ 1.1**

We noted that microeconomics is the study of economic behaviour of individual agents in the economy. Macroeconomics, however, studies aggregate economy as a whole. More broadly, the distinction between microeconomics and macroeconomics can be captured as discussed below:

1. Microeconomics offers a detailed treatment of one aspect of the economic system but ignore its interaction with the rest of the economy. On the other hand, macroeconomics looks at the interdependency among all sectors of the economy for policy analysis.
2. While in microeconomics, we are concerned with optimization decisions households, and firms, in macroeconomics we are more concerned with general national issues, such as total employment; money and banking; aggregate national output; the general price level; etc.
3. In terms of output, microeconomics deals with total output in each market, while macroeconomics is interested in the aggregate output in the economy.
4. Macroeconomics focuses on the growth of the total economy while microeconomics takes a more disaggregated approach by looking at changes in output in the individual market.
5. In microeconomics, the study of equilibrium conditions are analysed at a particular period. But it does not explain the time element. Therefore, microeconomics is considered as a static analysis. On the other hand, macroeconomics is based on time lags, rates of change and past and expected value of the variables.

### **SAQ 1.2**

We don't know what you have considered, but the macroeconomic goals that every economy seeks to achieve are:

1. High level of employment and production
2. Price stability
3. Economic growth.
4. Equity in distribution of income

### **SAQ 1.3**

Macroeconomists hold divergent views on some policy options due to consideration of economic objectives and economic instruments deploy. One of such policy stance macroeconomists disagree is in the area of policy option between high employment and low inflation. Since simultaneous achievement of both objective cannot be ensured, a trade off is made between them. Choosing either of the two policy objectives depends to a large extent on the weight and values decision makers place on them. A regime that target low unemployment will pursue expansionary policy (with its attendant high inflation) and vice versa.

**SAQ 2.1**

Unemployment is a situation where individuals who are able and willing to work at the prevailing wage do not get job. It comes in two forms which are Voluntary and Involuntary unemployment. Voluntary unemployment arises when an individual deliberately decides not to take up any paid employment. Involuntary unemployment occurs when individuals who are willing and able to work do not get job.

**SAQ 2.2**

Major causes of unemployment are discussed below:

1. **Frictional unemployment:** This type of unemployment arises as a result of frictions or constraints associated with movement of labour from one employment to another. This type of unemployment occurs when worker switches from one job to another.
2. **Deficient-demand unemployment:** This unemployment occurs as a result of low aggregate demand in an economy. When demand is at low ebb, productive activities are paralysed. Consequently, firms turn out lower output and lay off many workers especially unskilled and semi-skilled ones thereby causing unemployment.
3. **Structural unemployment:** This arises as a result of changes in the production techniques that render existing form of production obsolete with the advent of new technology. Workers without requisite skills to cope with the new technology will be retrenched thereby causing unemployment.
4. **Seasonal unemployment:** This type of unemployment is as a result of pattern of demand associated with seasonal activities. During festive periods, such as 'Christmas' and 'Ileya', demand for some certain goods and services is high and people are engaged a lot. After the festivals, demand falls or is zero leading to unemployment of some sections of workers.
5. **Residual unemployment:** This unemployment is caused by physical disabilities in people. Individuals with physical challenges have low tendency of finding paid employment as they are discriminated upon. These categories of individuals contribute to the pool of unemployment in an economy.

**SAQ 2.3**

Having caused by many factors, the best remedy for unemployment is an understanding of the nature and causes of such unemployment. In other words, one needs an understanding of the type of unemployment before appropriate control measures can be taken. For instance, frictional unemployment is inevitable in any economy. However, any policy measure that makes moving between jobs easier and quicker can, however, reduce the volume of frictional unemployment somewhat.

Structural unemployment may be checked by policies of retraining and relocating labour as part of a general effort to facilitate the adjustment of labour supplies to changing patterns of demand

Unemployment that is due to deficient aggregate demand can be resolved by increasing aggregate demand. This can be done by any expansionary fiscal (e.g. increasing government expenditure) or monetary (e.g.

reducing interest rates) policies.

Genuine search unemployment may be reduced, first, by making it easier for individuals to locate job vacancies and second, by increasing the possibility that individuals will accept an offer received earlier in their search period. The first can be done, for example, by the provision of market information on job availability; the second requires increasing the cost of search to the unemployed individual, for example, by reducing unemployment benefits.

### **SAQ 3.1**

**National income:** This is the total amount paid to factors of production - land, labour, capital and entrepreneur. It is derived from GNP by subtracting from the latter indirect business taxes and depreciation.

**Gross domestic product:** This is the monetary value of all goods and services produced in an economy, irrespective of the nationalities of those who produced them, over a given period of time, usually a year.

**Gross national product:** This is the monetary value of goods and services produced by the nationals of a country whether resident within or outside the country. It is simply GDP plus net factor income from abroad (i.e. income earned by nationals of the country resident abroad minus income of foreigners resident within the country).

**Net national product:** This is GNP minus depreciation or capital consumption allowance (or consumption of fixed capital). It is the value of national product after making allowances for the depreciation of the capital used to produce the output.

**Personal Income:** This is the total amount an average individual receives as income. It differs from national income in two ways. First, some people who have a claim on income do not actually receive it. For example, although all the profit of a firm belongs to the owners, not all of this is eventually paid out to them. Second, some people receive income that is not obtained in exchange for services rendered.

To reconcile personal income and national income, you subtract corporate profits from national income, and add dividends to the result. Then you must deduct contributions for social insurance and add government and business transfer payments.

**Disposable income:** This is simply the take home pay of workers. It means the actual income which can be spent on consumption of individuals and families. The whole of the personal cannot be spent on consumption, because it is the incomes that accrue before direct taxes have actually being paid. Therefore, in order to obtain the disposable income, direct taxes are deducted from personal income. Thus Disposable income = personal income – direct taxes

### **SAQ 3.2**

GNP is a less accurate measure of standards of living on the following grounds:

1. **Population:** GNP and NNP are not very meaningful unless one

knows the size of the population of the country in question. For instance, a country's GNP may be \$50 billion but have a population of 500 million while another country may have a \$20 billion but with a population of 10 million. Clearly, the second country, though with a smaller GNP has a higher standard of living. To make inter-country comparison more meaningful, per capita income (PCI) - GNP divided by the population - is often used.

2. **Leisure:** GNP and NNP do not take into account leisure. Usually, as people become more affluent, they substitute leisure for increased production. Yet, this increase in leisure time which contributes to increased well-being does not show up in GNP and NNP. Neither do the personal satisfaction (or displeasure) people get from their jobs.
3. **Quality Changes:** GNP and NNP do not take into account changes in the quality of goods, unless its price reflects the improvement. For example, for a brand new type of drug, if the output and cost of the new drug is the same as the old drug, GNP will not increase, even though the new drug is twice as effective as the old one.
4. **Value and Distribution:** Both GNP and NNP say nothing about the social desirability of the composition and distribution of the nation's output. Each good and service produced is valued at its price. If the price of a bible is N100 and that of a pornographic book is N100, both are valued at N100.00 each and entered into GNP computation without revealing their relative importance. The two measures do not reveal how the goods and services produced are distributed in the society. Are they evenly distributed? Or distributed in favour of the rich? GNP is silent on these questions.
5. **Social Cost:** GNP and NNP do not reflect some of the social cost, arising from the production of goods and services. In particular, they do not reflect environmental cost of production activities.

### SAQ 3.3

$$\text{GNP} = R + I + \text{PI} = 500 + 1000 + 2000 = 3,500$$

### SAQ 3.4

To calculate Real GDP for 1962 using 1960 as a base year, multiply the output recorded in 1962 by the price that prevailed in 1960. That is,

$$\text{Real GDP IN 1962} = 3000 \times 4 = 12,000$$

### SAQ 3.5

National income is the sum of income received by each factor of production such as rent received from lands, interest on capitals, wages and salaries of labour, and profits from enterprise.

### SAQ 4.1

- It shows functional relationship between an individual consumption and his income.

- By relating consumption with income, the effect of marginal change in consumption brought about by changes in income can be determined.
- Fair estimate of marginal propensity to consume serve to determine the effect of policy changes on individual consumption.

**SAQ 4.2****The Permanent Income Hypothesis (PIH)**

This theory was developed by Professor Milton Friedman. The hypothesis makes two important assumptions. First, people's income fluctuates; second, people dislike fluctuating consumption. Thus, people will always try to minimize the effect of fluctuation in income on their consumption.

Friedman believes that people's consumption is influenced by their permanent income, rather than current income as argued by Keynes. Thus, during period of temporary increase in their income, households do not increase their consumption by the same proportion. This is because they perceive such increment as temporary. Therefore, they will save most of this temporary extra income and put money aside to see them through the year when income is usually low. People will only increase their level of consumption if their permanent income has significantly increased.

**The Absolute Income Hypothesis (AIH)**

Keynes' consumption income relationship is known as the absolute income hypothesis, which states that when income increases consumption also increases, but by less than the increase in income, and vice versa. This means that the consumption income relationship is non proportional. James Tobin and Arthur Smithies tested this hypothesis in separate studies and came to the conclusion that the short run relationship between consumption and income is not proportional, but the time series data show the long run relationship to be proportional. The latter consumption income behaviour results through an upward shift or "drift" in the short run non proportional consumption function due to factors other than income.

**The Relative Income Hypothesis (RIH)**

This theory was developed by James Duesenberry. It is based on the rejection of the two fundamental assumptions of the consumption theories of Keynes. Duesenberry states 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 patterns. By the social character of consumption patterns, he means the tendency in human beings not only to keep up with 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.

### SAQ 4.3

1. **Changes in income Distribution:** If households have different MPC, aggregate consumption depends not on aggregate income but also on the distribution of this income among households. Changes in the distribution of income will cause a change in the aggregate level of consumption expenditure associated with any given level of national income.
2. **Changes in the Terms of Credit:** Many durable consumer goods are purchased on credit. If credit becomes more difficult or more costly to obtain, many households may postpone their planned credit-financed purchases. There would then be a temporary reduction in current consumption expenditure until the necessary extra savings are accumulated.  
Monetary authority can by controlling the cost and availability of credit shifts the consumption function and thus affects aggregate demand.
3. **Changes in Existing Stock of Durable Goods:** It is now recognized that any period in which durables are difficult or impossible to purchase and monetary savings are accumulated, it is likely to be followed by a sudden outburst of expenditure on durables. Therefore, this will shift upwards the consumption function.
4. **Changes in Price Expectation:** If households expect inflation to occur, they would be willing to purchase durable goods, which they would otherwise not have bought for another one or two years. In such circumstances, purchases made now yield savings over purchases in the future.
5. **Government Policy:** Changes in government policies can also affect the relation between national income and disposable income; for example, by altering tax rates. An increase in income tax rate will, for example, reduce the amount of disposable income that reaches the hands of the households out of any level of national income. This will therefore make the consumption function curve to shift downwards.

### SAQ 5.1

- a. **The rate of interest:** major investments are financed through borrowings. And the cost of borrowing to finance investment is the market rate of interest. A potential investor will consider the interest rate so as to calculate the viability of the business. If the interest rate is low, it creates an incentive to invest more.
- b. **The level of income:** Another factor under consideration is the level of income of a potential investor. The higher his income, the more investment activities he would engage in and the better plants he would purchase for soap making..
- c. **Changes in income:** changes in the level of income would likely result in changes overall economic activity and consequently, changes in investment level of an economy. An increase in income leads to higher propensity for investment.

### SAQ 5.2

Suppose there is a particular constant stock needed to produce a given level of an industry's output. (The ratio of the value of capital to the annual value of output is called the capital - output ratio). With this assumption, suppose that the industry is producing at full capacity and the demand for its product increases. If the industry is to produce the higher level of output, its capital stock must increase. This necessitates new investment.

### SAQ 5.3

There is a close interdependence between savings, investments and the rate of interest. Most of the funds used for investment purposes are borrowed from banks and other sources of credit schemes. Whenever the amount of funds presently available from all these sources is not enough to sustain the magnitude of investments the investors in the economy want to make, there will be competition for available funds. Since the market rate of interest is however determined by the forces of demand and supply, the excess demand in the market for funds will therefore push up the market rate of interest.

### SAQ 5.4

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

Another version is that the optimal capital stock is a function of expected profits. If the aggregate profits in the economy and business profits are rising, they may lead to the expectation of their continued increase in the future. Thus, expected profits are some function of actual profits in the past.

### SAQ 6.1

**Aggregate demand:** This is the summation of private consumption expenditures, government expenditures, investments, and net exports. It is the totality of a country's demand for basket of goods and services during a specified period of time usually a year.

**Fiscal policy:** This is the use of government revenue and expenditures to regulate the economy.

### SAQ 6.2

Government through its expenditure programme influence aggregate demand. By pursuing an expansionary fiscal policy, aggregate demand



curve is shifted up thereby increasing the level of economic activity. Also, by reducing tax on labour income, disposable income of households is increased thereby stimulating aggregate demand.

### SAQ 6.3

Balanced budget arises when government expenditures equal its revenue for a certain fiscal period or year. This means that government spending exactly offset its revenue with no surplus or deficit.

Unbalanced budget is a situation where government expenditure does not equal to its revenue. This occurs in form of budget surplus or deficit. While the former is an indication that government spends less than what it receive; the latter however, indicates the opposite.

### SAQ 7.1

**Money:** Money is anything that is generally acceptable as a medium of exchange or in settlement of debt. Money serves as a medium of exchange, store of value, and standards of deferred payment.

### SAQ 7.2

Money serves as a medium of exchange, store of value, and standards of deferred payment. These are discussed below:

1. **The Medium of Exchange:** This is the most important function performed by money. Money allows the complexity of modern economy based on specialisation to be possible. This removes barter, which is the system of exchanging goods for goods directly. This is a cumbersome system in which every transaction requires a double coincidence of wants.
2. **Unit of Account:** Money provides a common denominator by which all other commodities are expressed. Therefore, this makes it very easy to record economic transactions, involving different commodities. As a unit of account, money allows for the formation of prices which can then be used for recording transaction entries in books of accounts.
3. **A Store of Value:** Possession of money confers purchasing power on the holder who can then decide either to spend it now or save for future transactions. More importantly, money as a store of value introduces flexibility into the money economy. It is now possible to sell goods today, store the money until one needs it later on. However, for money to be able to function effectively as a store of value, then it must have a stable value. Rapid fluctuation in the general price level reduces the usefulness of money as a store of value.
4. **A Standard of Deferred Payment:** Money also allows for the practice of credit system in an economy. In other words, it is possible to buy now and pay later or alternatively speaking, to sell now and collect money later on. However, this is impossible in a barter economy. This decoupling of purchase/sales and payments provide much of the development, which characterises our economy today. It is a fact that many companies borrow from banks or make use of credit facilities to be able to function effectively.



### SAQ 7.3

The demand for money can be defined as the desired to hold a certain amount of money for financing transactions, investment purposes, and cushion against contingencies.

### SAQ 7.4

The demand for money and the demand for bonds are not independent decision but that the two have to add up to financial wealth. We can thus look at the demand for bonds implied by the demand for money. Since net wealth is the composition of the demand for money and the demand for bonds, the demand for bonds is given by:

$$\begin{aligned} B^d &= N\text{Wealth} - M^d \\ &= N\text{Wealth} - NYL(i) \end{aligned}$$

An increase in wealth leads to a one-for-one increase in the demand for bonds. This conclusion comes from our assumption that the demand for money depends on income and the interest rate, not on wealth. Thus, an increase in wealth goes into higher bond holdings rather than into higher money holdings. An increase in income leads to an increase in the demand for money, and thus to a decrease in the demand for bonds. And an increase in the interest rate, which makes bonds more attractive, leads to an increase in the demand for bonds.

### SAQ 7.5

Inflation is a gradual and persistent rise in the general price level without a proportional increase in output.

Inflation can be remedied through these methods:

- Reduction in money supply
- Reduction in government expenditure or planning budget surplus

### SAQ 7.6

Banks create money through multiple deposit creation and lending activity. By creating deposit, banks keep parts of customers' deposits and lend the rest to the public thereby causing money to be multiplied in the system.

### SAQ 7.7

Banking system perform the following function as itemised below:

- Mobilisation of savings
  - Creation of credit facilities
  - Promotion of banking habits among the customers
- Rendering essential services to customers

### SAQ 7.8

Central bank control money supply in the economy via the following process:

#### Open Market Operations

These involve the sale or purchase of government securities in the open market. Through this, the Central Bank would be able to influence commercial bank reserves and indirectly, the money supply in an economy. An open market operation is very effective, particularly, in

countries with well developed money markets.

**Bank Rate**

This is the price paid by the owner of securities to the Central Bank for converting the securities into cash. Interest rates charged by the banks follow the bank rate. Hence, by varying the bank rate, the central bank influences the availability and cost of credit and hence the money supply.

**Reserve Requirement**

This is the ratio of its deposits that a commercial bank must keep in the form of cash and common interest earning balances with the Central Bank. This requirement reserve ratio pre-determines the maximum amount of credit that can be created by banking system. By the manipulation of the reserve requirement ratio, the Central Bank influences the money supply in the economy.

**Moral Suasion**

A persuasive attempt by the Central Bank to the commercial banks to reduce the amount of their credit to the public. Credit guideline is also used to control the amount of credit given by the commercial banks and to which sectors of the economy it is given.

**SAQ 8.1**

Countries engage in trade between and among one another due to the following reasons

- Differences in resource endowment across nations
- Specialization in production

**SAQ 8.2**

**Absolute cost advantage:** This theory is propounded by Adam Smith where he states that a country should specialise in the production of goods and services she has an absolute cost advantage over her trading partner. According to him, a country has absolute advantage in a certain commodity over others if she can produce more of that commodity than her trading partner(s).

**Comparative cost advantage:** A country has comparative advantage over others if she has the lowest opportunity cost in producing the commodity.

**SAQ 8.3**

Terms of trade is the ratio of weighted import and export prices expressed in percentage. It is the ratio at which import exchanged for export in a particular economy. Terms of trade can be either favourable or unfavourable. Favourable terms of trade occurs when export prices is higher than import prices and vice versa.

**SAQ 8.4**

Barriers to free flow of trade among nations can be captured the discussions that follows

**Tariff:** This is a levy charge on imported goods and services. Different countries charge different tariffs or import duties so as to generate revenue and to protect local industries.

**Embargo:** This is a ban on certain imported commodities. Some goods

cannot be imported into the economy without necessary permit and documentation.

**Import quota:** This is a restriction on imported goods. It arises when a limit is set as to the quantity that can be imported to the economy.

### **SAQ 8.5**

#### **The Current Account**

This records all transactions in goods and services. Goods (visible) are goods that can be seen when they cross international borders, e.g. cars, oil, cocoa, and groundnut.

Services (invisibles) are things that we cannot see, such as insurance and freight haulage, and tourist expenditures. Other items under invisibles are interest and dividends. When the country receives dividends and interests on loans and investment in foreign countries, these are credited in her balance of payments and vice-versa.

#### **The Capital Account**

This records transaction related to movement of long and short term capital. Capital movements may be divided in several ways. One important division is between direct and portfolio investment. Direct foreign investment occurs when firms transfer funds in order to create new capital in foreign countries. Portfolio investment, however, occurs when equities or bonds are purchased. If for example, a Nigerian saver buys a share issued by an American Company, this is a portfolio investment, and it represents a debit item on the Nigerian balance of payments.

Capital movements may also be classified according to their term. Purchase of bonds in another country may be termed long term capital outflow. However, a deposit may be classified as short term since the foreign bank has the obligation to pay the deposit on demand.

#### **Official Financing**

This represents transactions involving the Central Bank of the country whose balance of payments is being recorded. There are three ways in which credit items may occur on the official financing account. First, the Central Bank may borrow from IMF. This represents a capital inflow and is thus a credit item on the balance of payments. Second, the bank may borrow from other Central Banks. Third, the bank may run down its official reserves of gold and foreign exchange. This is a credit item because it gives rise to the selling of foreign exchange and a purchase of naira.

The fundamental relation among the three main divisions is that their sum must be equal to zero. That is the balances on the current, capital and official settlement account must be zero.

### **SAQ 8.6**

Exchange rates are the rates at which one currency exchange for another. Exchange rates can either be fixed or be left entirely at the operation of market mechanism. Under fixed exchange rate regime, government determines how much its national currency exchange for other country's

currency. However, under flexible exchange rate, the determination of exchange rate among countries operates freely in exchange rate market.

### SAQ 9.1

#### Pre-classical school

- A) **The Mercantilists:** These were leading businessmen in their time. They were interested in a strong nation with vast army that would be able to protect their foreign business transactions. They were led by J. Child. This school also favoured government intervention in the economy.
- B) **The Physiocrats:** The physiocrats were based in France, and they were more advanced than the mercantilists. They believed in the natural order, that is, everything has been ordained by God. The physiocrats gave us the idea of surplus value which they believed could only be obtained from the agricultural sector. The major contribution of the physiocrats to economic thought is the idea of the circular flow of income. The circular flow income owes its origin to Dr. F. Quesnary. They advocated for laissez faire, that is, free enterprise and minimum government intervention in the economy.

#### Classical school

The classical school can be sub-divided into two:

- A) The first is the traditional classicists consisting of Adam Smith, David Ricardo, Rev. Malthus, J.S. Mill.
- B) The second group consisted of the modern classicists or what is sometimes called neo-classicists. Economists in this group include Alfred Marshall, Irving Fisher, A. C. Pigou.

The two cornerstones of the classical school are the Say's Law of Market and the Quantity Theory of Money. Some of the contributions of classical school to the field of economics are:

- i. They emphasized the importance of savings or thrift in capital formation for economic growth.
- ii. Full employment of resources in the production and allocation of goods services was also part of classical contribution.
- iii. Their economic analysis hinges on self-correcting mechanism that establishes automatic adjustment to economic phenomena.

#### Marxian economy

The Marxian economy is based on the teachings and doctrines of Karl Marx (1818 - 1883). Karl Marx wrote his celebrated book 'Das Kapital' in which he exposes his doctrines. Marx contributed to the theory of economic development in three respects namely:

- i. in broad respect of providing an economic interpretation of history,
- ii. in the narrower respect of specifying the motivating forces of capitalist development, and
- iii. in the final respect of suggesting an alternative path to planned economic development".

Other contributions of Marx to the field of economics are:

- i. He propounded the theory of surplus value which explains the divergence between productivity of labour and remuneration to labour
- ii. He contributed to economic development by providing interpretation to economic history.

### **Keynesian school**

Keynesian macroeconomics is named after J.M. Keynes (1883-1946). His ideas were contained in the book, "The General Theory of Employment, Interest and Money" which he published in 1939. Keynes' contributions to the field of economics are in the area of:

- Demand for money balances
- General theory of employment
- Income determination

### **Monetarist school**

The foremost exponent of this school is the Professor Milton Friedman. He reformulated the Quantity Theory of Money. In his reformulation, Friedman asserted that money does matter. He regarded money as any durable commodity and the demand for it depends on the services which it can render to the holder. The Monetarist school asserts that money matters in the determination of overall economic activity.

## **SAQ 9.2**

### **New Classical Economics and Real Business Cycle Theory**

The intellectual leader is Edward Prescott and Kinn Fydland and the models he and his followers have developed are known as real business cycle (RBC) models. These models assume that output is always at its natural level. Thus, all fluctuations in output are movements of the natural level of output, as opposed to movements away from the natural level of output. They ascribe role for technology in explaining economic growth.

### **New Keynesian Economics**

New Keynesians Economics seeks to validate most of the tenets of Keynesians propositions. Prominent among them are Geroqe Akerlof, Stanley Fisher, and Gregory Mankiw. Some of their works centre on:

- i. The imperfection in the market
- ii. Wage and price rigidity
- iii. Bounded rationality

### **New Growth Theory**

Gladiators in this theory of economic reasoning are Robert Lucas, and Paul Romer. They emphasized the role of expectations in the formulation of policy. Part of their contributions was also centre on the effectiveness of policy. Following Robert Lucas (1960), effectiveness of policy depends on agents' formulation of rational expectation of that policy.

### SAQ 10.1

Basic economic systems in operation in society are:

- Command economy
- Market economy
- Mixed economy

#### **Command economy**

This is an economic system where the ownership of means of production and distribution is entirely controlled by the government. It is a centrally planned economy where all resources belong to the government and decisions relating to what, and how to produce fall within the purview of government. Examples of command economies are China, Russia, North Korea etc

#### **Market economy**

In this economic system, ownership of means of production and distribution is being controlled by private individuals while government maintains law and order. In this economy, market allocates resources through price mechanism. There is freedom in consumption and production. Notable laissez faire or capitalist or market economies are United States of America, United Kingdom, France etc

#### **Mixed economy**

This is an economic system where private and government exist side-by-side in the determination of production and distribution of goods and services. Private individuals are allowed to own factors of production and engage in production of goods which government cannot produce efficiently. Examples of economies that practise mixed economic system are Nigeria, Ghana, etc

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