

# INTRODUCTION TO MACRO- ECONOMICS

## About this Introduction to macro- economics

The Introduction to Macroeconomic Module has been produced by National Institute of Public Administration (NIPA). All modules produced by the Institute are structured in the same way, as outlined below.

### The Module overview

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

- What you 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.
- Assignments and assessments
- Activity icons
- Units.

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

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### The Module content

The Module is broken down into ten (10) units. Each unit comprises of:

- An introduction to the unit content.
- Unit outcomes.
- New terminology.
- Core content of the unit with a variety of learning activities.
- A unit summary.
- Assignments and/or assessments, as applicable.

For those interested in learning more on this subject, we provide you with a list of additional resources at the end of this Introduction to Macro- Economics; these may be books, articles or web sites.

### Your comments

After completing this Introduction to Macro-Economics Module, 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:

- Content and structure.
- Reading materials and resources.
- Assignments and Assessments.
- Duration.
- Support (assigned tutors, technical help, etc.)

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

## **Welcome to Introduction to Macro- Economics Module**

This Introduction to Macro- Economics Module gives an in-depth knowledge of the use of economics to equip trainees with knowledge skills and attitudes that are essential for understanding economic issues.

### **Module learning outcomes**

Upon completion of this Module, you will be able to:



- Apply economic concepts in dealing with economic issues
- Determine national income
- Analyse inflation and unemployment
- Examine International Trade
- Apply money and banking concepts

### ***Time Frame***



Expected duration of this Module is 6 months

Formal study time required is 4 weeks before the beginning of the semester

Self-study time recommended is 4 hours per week

## 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 resources on the web. A few suggested links are:

- <http://www.how-to-study.com/>

The “How to study” web site is dedicated to study skills resources. You will find links to study preparation (a list of nine essentials for a good study place), taking notes, strategies for reading text books, using reference sources, test anxiety.

- <http://www.ucc.vt.edu/stdysk/stdvhlp.html>

This is the web site of the Virginia Tech, Division of Student Affairs. You will find links to time scheduling (including a “where does time go?” link), a study skill checklist, basic concentration techniques, control of the study environment, note taking, how to read essays for analysis, memory skills (“remembering”).

- <http://www.howtostudy.org/resources.php>

Another “How to study” web site with useful links to time management, efficient reading, questioning/listening/observing skills, getting the most out of doing (“hands-on” learning), memory building, tips for staying motivated, developing a learning plan.

The above links are our suggestions to start you on your way. At the time of writing these web links were active. If you want to look for more go to [www.google.com](http://www.google.com) and type “self-study basics”, “self-study tips”, “self-study skills” or similar.

## Need Help?



In case you need help, you can contact NIPA at the following website, phone number or you can email.

[www.nipa.ac.zm](http://www.nipa.ac.zm)

NIPA-Main Campus – Outreach Programmes Division

Phone Numbers:+260-211-222480

Fax:

e-mail address:opd@nipa.ac.zm

The teaching assistant for routine enquiries can be located from the Outreach Division from 08:00 to 17:00 or can be contacted on the numbers and email address indicated above.

### **Library**

There is a library located at the main campus along Dunshabe Road. The library opens Monday to Friday from 08:00 to 17:00.

### **Assignments**



There shall be two assignments given for this module.

The assignments should be sent by post or emailed to the provided email addressed to the Outreach Programmes Division – Nigeria Hall.

Assignments should be submitted to Outreach Programmes Division Registry.

### **Assessments**



There shall be a minimum of two (02) assessments given to the students undertaking this subject

These assessments shall be teacher marked assessments.

The assessments shall be determined and given by the course tutors after you have covered a number of topics

The teacher/tutor shall ensure that the assessments are marked and dispatched to the student.

## **Getting around the Introduction to Macro-Economics Module**

### **Margin icons**

While working through this Introduction to Macro-Economics module, 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 Introduction to Macro- Economics module.

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

			
<b>Activity</b>	<b>Assessment</b>	<b>Assignment</b>	<b>Case study</b>
			
<b>Discussion</b>	<b>Group activity</b>	<b>Help</b>	<b>Note it!</b>
			
<b>Outcomes</b>	<b>Reading</b>	<b>Reflection</b>	<b>Study skills</b>
			
<b>Summary</b>	<b>Terminology</b>	<b>Time frame</b>	<b>Tip</b>

## **Learning tips**

You may not have studied by distance education before. Here are some guidelines to help you.

### **How long will it take?**

It will probably take you a minimum of 90 hours to work through this study guide. The time should be spent on studying the module and the readings, doing the activities and self-help questions and completing the assessment tasks.

Note that units are not all the same length, so make sure you plan and pace your work to give yourself time to complete all of them.

### **About the study guide**

This study guide gives you a unit-by-unit guide to the module you are studying. Each unit includes information, activities, self-help questions and readings for you to complete. These are all designed to help you achieve the learning outcomes that are stated at the beginning of the module.

### **Activities, self-help questions and assessments**

The activities, self-help questions and assessments are part of a planned distance education programme. They will help you make your learning more active and effective, as you process and apply what you read. They will help you to engage with ideas and check your own understanding. It is vital that you take the time to complete them in the order that they occur in the study guide. Make sure you write full answers to the activities, or take notes of any discussion.

We recommend you write your answers in your learning journal and keep it with your study materials as a record of your work. You can refer to it whenever you need to remind yourself of what you have done.

### **Unit summary**

At the end of each unit there is a list of the main points. Use it to help you review your learning. Go back if you think you have not covered something properly.

## Studying at a distance

There are many advantages to studying by distance education – a full set of learning materials as provided, and you study close to home in your own community. You can also plan some of your study time to fit in with other commitments like work or family.

However, there are also challenges. Learning at a distance from your learning institution requires discipline and motivation. Here are some tips for studying at a distance.

1. **Plan** – Give priority to study sessions with your tutor and make sure you allow enough travel time to your meeting place. Make a study schedule and try to stick to it. Set specific days and times each week for study and keep them free of other activities. Make a note of the dates that your assessment pieces are due and plan for extra study time around those dates.
2. **Manage your time** – Set aside a reasonable amount of time each week for your study programme – but don't be too ambitious or you won't be able to keep up the pace. Work in productive blocks of time and include regular rests.
3. **Be organised** – Have your study materials organized in one place and keep your notes clearly labeled and sorted. Work through the topics in your study guide systematically and seek help for difficulties straight away. Never leave this until later.
4. **Find a good place to study** – Most people need order and quiet to study effectively, so try to find a suitable place to do your work – preferably somewhere where you can leave your study materials ready until next time.
5. **Ask for help if you need it** – This is the most vital part of studying at a distance. No matter what the difficulty is, seek help from your tutor or fellow students straight away.
6. **Don't give up** – If you miss deadlines for assessments, speak to your tutor – together you can work out what to do. Talking to other students can also make a difference to your study progress. Seeking help when you need it is a key way of making sure you complete your studies – so don't give up.

## Learning Outcomes:

After studying this unit, the learner will be able to:



- Explain the methods of calculating National Income
- Evaluate the usefulness of National Income Statistics
- Identify other sources of data on Macroeconomic activity

## **UNIT 1: INTRODUCTION TO NATIONAL INCOME ACCOUNTING**

### **1.0 Measuring National Economic Activity**

In order to understand macroeconomics, it is essential to know how measuring economic activity is done.

Measuring National Income can indicate how an economy is performing, as it shows the total value of the goods and services produced by an economy's resources, and the total incomes residents in an economy earn.

#### **1.1 Uses of National Income Accounting Measures**

- To assess the state of the economy, as a basis of economic planning
- To monitor the impact of government economic policies.
- Basis of National comparisons. It is desirable to be able to relate trends and progress in one country with developments in other countries.
- Use in international co-operation:
  - International economic planning through organizations such as the United Nations African Union, COMESA etc. Use National Income Statistics as a basis on which to base agreements relating to benefits and contributions.
  - To establish the material standard of living in an economy.
  - It makes it possible to measure the improvement (or deterioration) in National wealth and the standard of living.

#### **1.2 Calculation of National Income in Zambia**

The Zambian National Income Accounts are compiled by the National Accounts Branch of the Economic Statistics Division of the Central Statistics Office (CSO) under the Ministry of Finance and National Planning. The National Accounts Branch is responsible for:

- Preparation of preliminary and revised estimates of Gross Domestic Product (GDP).
- Development of Methodologies and procedures for estimating National accounts aggregates in conformity with internationally accepted guidelines and recommendations, e.g. the UN's.
- Conducting the National Income Inquiry.  
The primary sources of data for the compilation of Gross Domestic Product (GDP) of Zambia include (From CSO):
  - Census of Agriculture
  - Census of Industrial production
  - Census of Construction
  - National Income Inquiry covering the services sector



- The Government Accounts for community, social and personal services and government final consumption expenditure.
- The Household Budget Survey (HBS) for estimating household final consumption expenditure and the informal sector
- Imports and exports from the External Trade Statistics and transactions with the rest of the World from Balance of Payments Statistics.

Other sources of economic data:

- Census of production
- Family expenditure surveys
- Trade figures.

### 1.3 Gross Domestic Product (GDP)

National Income is defined as the total value of the goods and services produced by a country's resources over a year.

One measure of National Income is GDP. GDP is the Nation's total output of goods and services in an economy of a period of time, usually a year. If it is high, then it is assumed that people in that economy are enjoying a high standard of living.

The word gross is used to denote that GDP is calculated before allowing for depreciation charges.

The word domestic is used because only that output produced in the country is considered, as Government can influence only the domestic part of output.

$GDP - \text{depreciation} = \text{Net Domestic Product}$

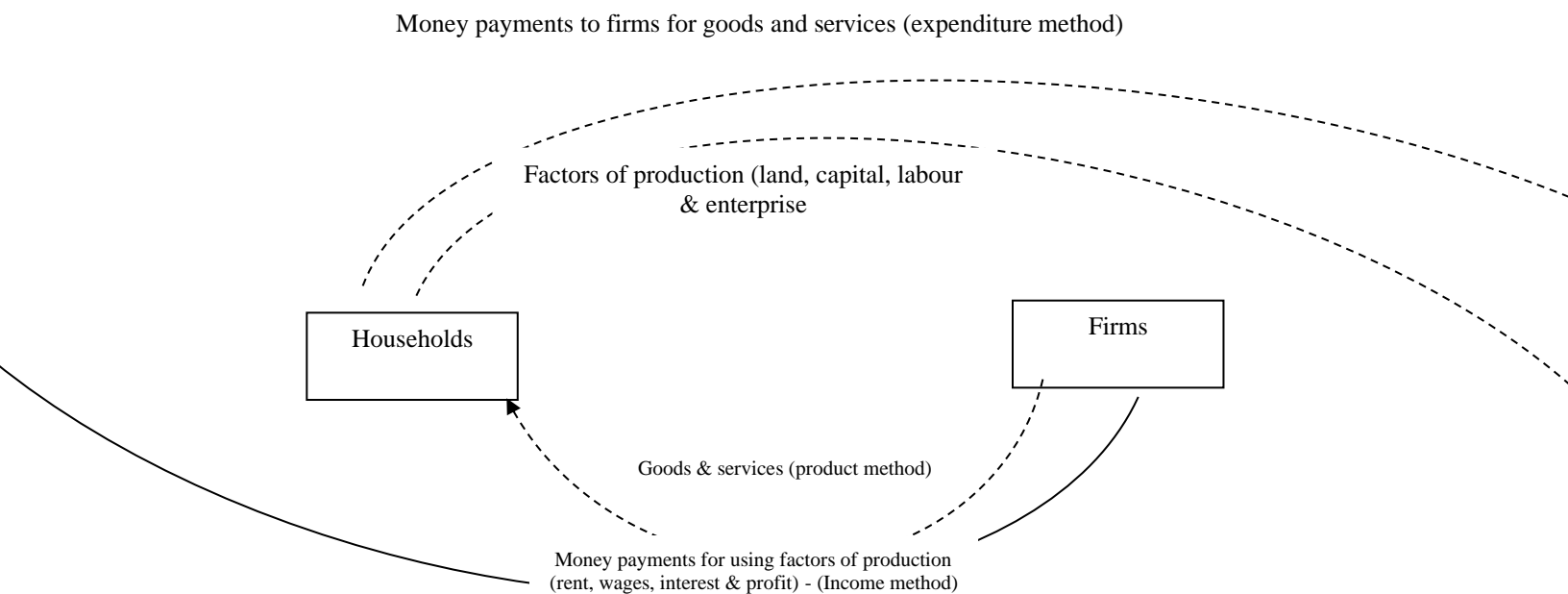
$GDP \div \text{population} = \text{GDP per capita}$

### 1.4 Assumptions in Measuring GDP of a closed Economy:

- No International Trade
- No government taxation
- Two economic agents of households and firms
- Firms produce and households consume
- All factors of production are owned by households which are rented by firms
- Firms produce all the goods and services which are all consumed by households
- The firms pay the households the factors of production rewards for using the households' factors of production.
- All incomes is spent by households on consumption and investment.

## 1.5 The Circular Flow of National Income

- By using the above assumptions, the circular flow of National Income can be constructed.
- The circular flow of National Income refers to the movement of money resulting from economic transactions between different groups of people in an economy.
- The circular flow of National Income shows how real resources and financial payments flow between firms and households.
- A simplified two-sector economy of firms and households model can be shown as follows:



- National Income (GDP) can be measured in three ways:
  - Product Method / Output Method:**  
This is calculated by totaling the final values of the goods and services produced by the various industries, public authorities etc. during the year.
  - Income Method:**  
This is found by totaling the various factors of production payment rewards such as Rent, Wages, Interest and Profit.
  - Expenditure Method:**

This is calculated by totaling the amount spent on final goods and services for consumption and investment purposes during the year.

It must be emphasized that the money values of output/product, income and expenditure methods are identical by definition as they simply measure the National Income in different ways, i.e. Production Method = Income Method = Expenditure Method.

- In practice, the three methods may not produce identical results due to omissions and errors in calculation.
- The three methods are usually balanced by introducing the balancing item.
- In practice, it is not necessary to use all the three methods. One method is sufficient.

### 1.6 Gross National Product (GNP)

- This is the total value of final goods and services produced in a year by a country's National (including profits from capital held abroad).
- Thus  $GNP = GDP + \text{Income of National from assets held abroad} - \text{income of Non-Nationals from assets held in the Nation}$ .
- GDP is a better measure of the state of production in the short-term.
- GNP is a better measure when analyzing sources and uses of Income.

### 1.7 The relationship between GDP, GNP and National Income

- Deduction for depreciation is known as Capital Consumption.
- The value of GNP less capital consumption is known as National Income (or Net National Product).
- Gross Capital Formation illustrates new investment. The difference between gross capital formation and capital consumption is Net Investment.
- The level of Net Investment in an economy is an indication of the productive potential of an economy.
- We would expect an economy with high Net Investment to have higher potential productivity going forward than one with low Net Investment.
- The relationship between GDP, GNP and National Income is therefore this:

GDP	
Plus Net property income from abroad	
Equals	GNP
Minus	Capital Consumption

Equals Net National Income or Net National Product

National Income is GNP minus an allowance for depreciation of the Nation's Capital.

### 1.8 Adjustments to GDP at Market Prices

It is important to note that GDP, GNP and National Income as defined above are expressed at Market Prices.

Since the prices of many goods and services are distorted by indirect taxes and some are distorted by subsidies we often wish to view the situation without these distortions and convert GDP at market prices to gross value added at basic prices (which used to be known as GDP at factor cost).

Thus Gross value added (GVA) at basic prices = GDP at Market Prices – Indirect taxes + subsidies.

Note: GVA at basic prices and GDP at factor cost are the same measure, although GVA at basic prices is now the official term.

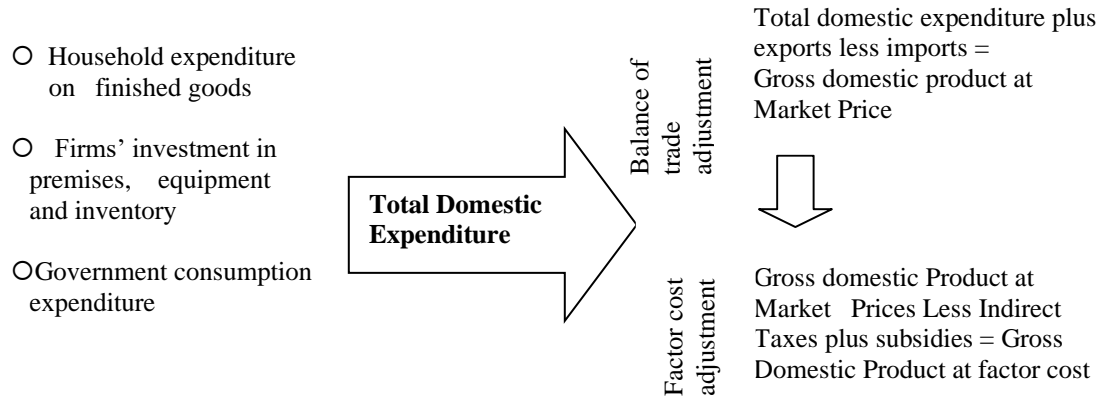
### 1.9 Summary of National Income Accounts

	+ Net Income from Abroad	GNI at Market Price	- Capital Consumption
Indirect Taxes – <u>Subsidies</u> GVA @ Basic Prices (GDP at Factor Cost)	GDP @ Market Prices		National Income @ Market Prices

1.10 **Disposable Income:** This is defined as income available to individuals after payment of personal taxes. It may be consumed or saved.

## 1.11 The three Approaches to National Income Accounting

### 1.11.1 The expenditure approach



Note: Transfer Payments (such as income support or state pensions) need to be excluded from government expenditure, because the government is effectively only transferring these payments from tax payers to the recipients.

### 1.11.2 The Income Approach

- Income from employment before PAYE and including employers' National Insurance contributions.
  - Income from self-employment
  - Pre-tax profits of companies
  - Pre-tax profits of public corporations
  - Pre-tax "surplus" of other government enterprises.
- Interest earned by individuals and companies on any investments they hold is included in the first two figures.
- These income components do not include two elements:  
Income from government pension or social security payments which are transfer payments
- Any value for work done by individuals for no monetary reward such as house wives, since they are not economic activities.

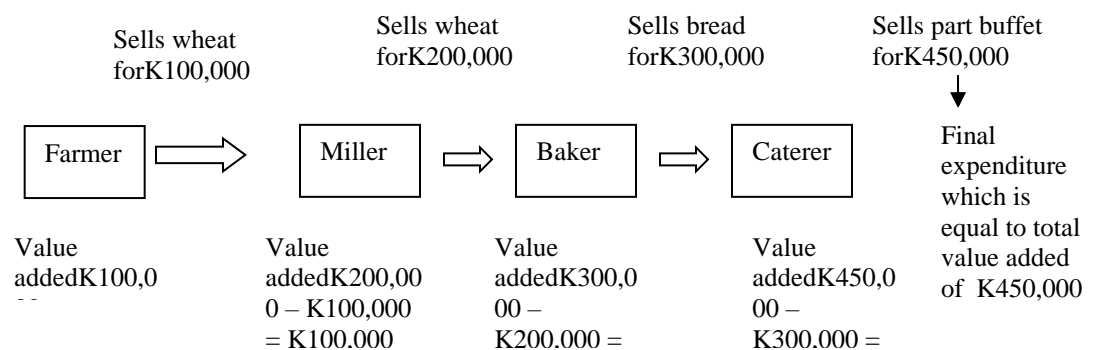
### 1.11.3 The output / product method

This method seeks to measure value of final products or value added method to avoid double counting.

#### Features of output approach

- Accounts broken down by industrial sector
- Useful in showing trends in contribution to National Income from different sectors of the economy
- No statistical discrepancy adjustment
- May understate the real output of the economy because it will exclude output which is not sold for at Market Price.
- The value of some goods and services (e.g. education, health) have to be estimated because they do not have a Market Price).

#### Value added method



Note: In measuring GDP by expenditure method, you can use either final value or added value method as they give the same result.

#### 1.11.4 Nominal and Real GDP

Nominal National Income measures the value of output during the year using the prices prevailing without adjusting for inflation rate. On the other hand a real GDP measures the value of output using the prevailing prices after adjusting for the inflation rate.

- It is the real GDP that measures the standard of living.
- $\text{Real GDP now} = \text{Nominal GDP now} \times \frac{\text{GDPdbase}}{\text{GDPdnow}}$
- Where

$\text{GDPdbase} = \text{GDP deflator in the base year (=100)}$

$\text{GDP dnow} = \text{GDP deflator for current year.}$

Note that the GDP deflator is not the same as the Consumer Price Index (CPI). E.g.

Nominal GDP = K6, 000 bn, the GDP

Deflator for the year is 130 (base = 100).

What is real GDP?

- $\text{Real GDP} = \text{K6,000} \times \frac{100}{130} = \text{K4,615bn}$

#### 1.11.5 Problems using GDP as a Measure of Standard of Living

- (a) Non Market Production:  
Work done where no charge is made like that of house wife, is not included in GDP.
- (b) The underground economy (Black Market Economy)  
Transactions in the underground economy are not reported, typically for tax evasion, or other illegal purposes, understating GDP.
- (c) Leisure and human costs: Increased Leisure time and improved safety conditions at work, are not reflected in GDP.
- (d) Quality variation and new good: improvement in the quality of goods and new goods not previously available are not taken into account.
- (e) Economic “bads” Harmful effects, such as pollution, are ignored in GDP.

- (f) Environmental factors: Good effects in environmental factors are ignored in GDP.
- (g) Culture: Good effects of culture are not captured in GDP.
- (h) Economic welfare: GDP does not measure economic welfare, which is an indicator of good standard of living, but rather measures the value of goods and services produced in the year.

## 1.12 National Income Determination

### 1.12.1 The Keynesian Approach

#### (a) Aggregate demand and aggregate supply

John Maynard Keynes (1883 – 1946) argued that demand and supply analysis could be applied to Macroeconomic activity as well as Microeconomic activity.

*Aggregate Supply (AS)* which means the total supply of goods and services in the economy, depends on physical production conditions – the availability and cost of factors of production and technical know-how. The aggregate supply curve will be upward sloping. This states that higher level of National Income and output can only be achieved at the expense of higher price levels. The main reason for this is a scarcity of factors of production causing prices in factor markets to rise.

*Aggregate Demand (AD)*: This is total planned demand in the economy for goods and services.

*Aggregate demand* is a concept of fundamental importance in Keynesian economic analysis. Keynes believed that National economy could be “managed” by taking measures to influence demand up or down particularly by the government known as “demand management”

*The equilibrium National Income* can be defined as the level of income at which aggregate planned expenditure (aggregate demand) is equal to aggregate income and output. Keynes argued that a National economy will thus reach equilibrium where the aggregate demand curve and aggregate supply curve intersect.

When the level of aggregate demand is lower than the level needed to generate that level of output that will employ all resources in the economy, there is deflationary gap in the economy. So the remedy is to increase Aggregate demand through fiscal Policy.

When aggregate demand rises to a level greater than that which will bring about the output level at which all resources are employed, we have inflationary gap.



(b) The government and the circular flow of income

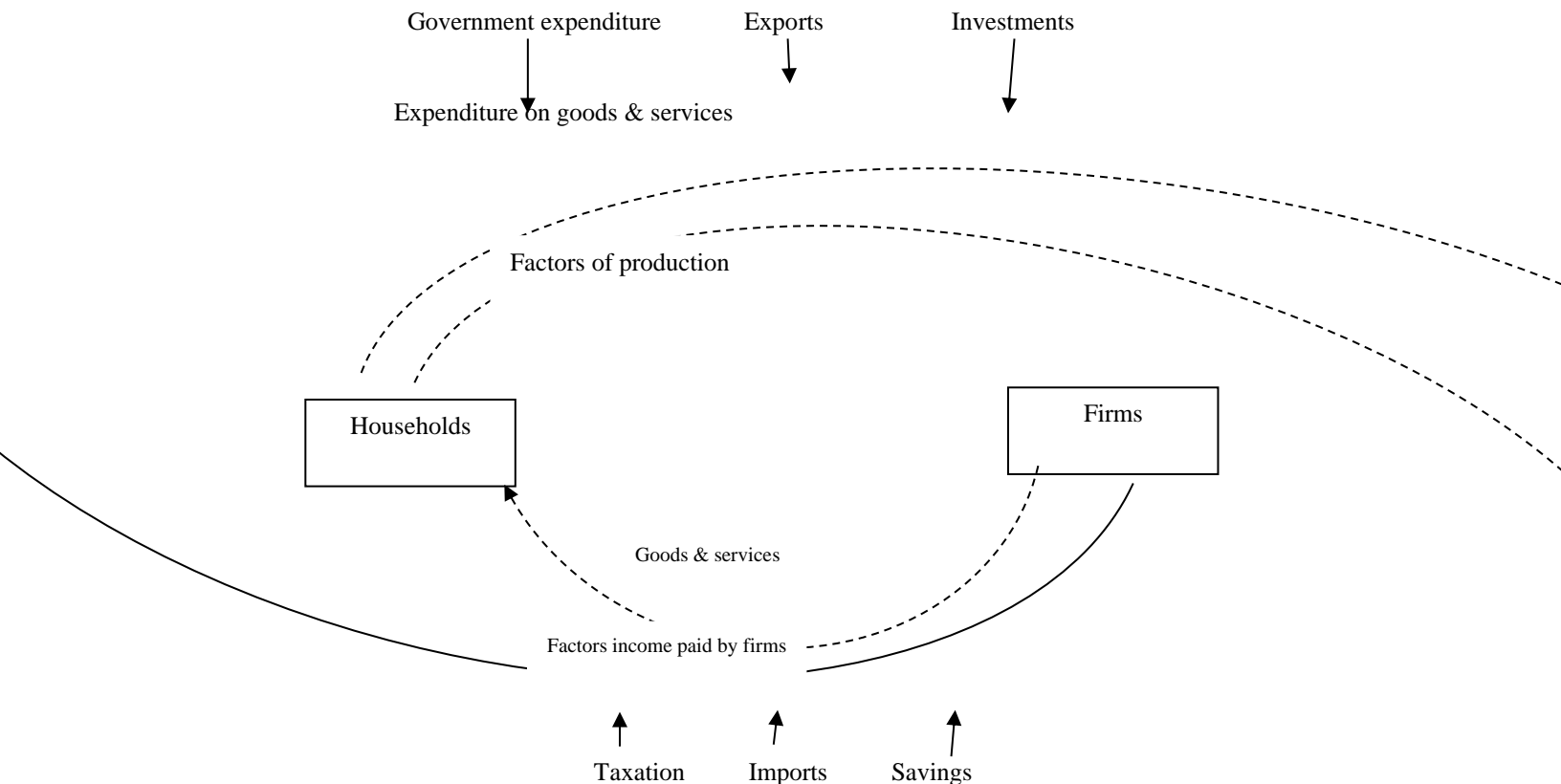
The government has several functions within the National economy, and so plays several different roles in the circular flow of income.

- (i) It acts as the producer of certain goods and services instead of privately owned firms.
- (ii) It acts as the purchaser of final goods and services.
- (iii) It invests by purchasing capital goods, e.g. building roads, schools, hospitals etc.
- (iv) It makes transfer payments from one section of economy to another, for example by taxing, paying pensions and other social security benefits.

(c) Withdrawals and injections into the circular flow of Income

The simplified diagram of the circular flow of income needs to be amended to allow for two things:

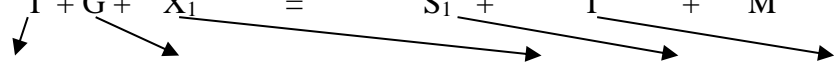
- Withdrawals (W) from the circular flow of income
- Injections (J) into the circular flow of income



- Injections refer to movements of income into the circular flow of income.
- Withdrawals refer to movements of income out of the circular flow of income
- Savings refer to income not spent
- Investments usually refer to the acquisition of assets (fixed assets)

The economy is said to be in equilibrium when injections (J) equal withdrawals (W).

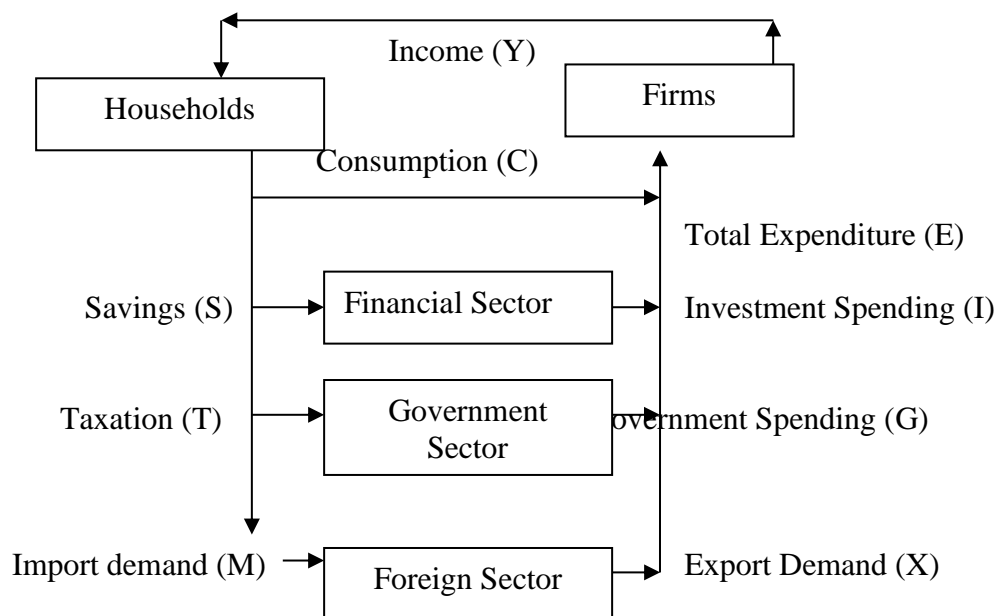
$$\text{i.e. } I + G + X_1 = S_1 + T + M$$


  
 (Investments) (Government Expenditure) (Exports) (Savings) (Taxation) (Import) respectively.

- If injections are greater than withdrawals, the level of National Income will rise.
- If withdrawals are greater than injections, then the level of National Income will fall.
- In short, National Income rises by increasing injections and reducing withdrawals.

(d) The Open Economy

This takes into account withdrawals and injections. This is an open economy, since it participates in foreign trade.



(e) Aggregate demand and National Income

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

Where E = Total National Expenditure

C = Total Domestic Consumption

I = Total Industrial Investment by Public and Private Sectors

Demand Management policies involve the manipulation of total National expenditure (E) by influencing C, I, G or Net Exports (X – M).

(f) Aggregate Demand Analysis:

Consumption, Savings and Investment

If we ignore G, T, X and M, households divide all their income between two uses: consumption and saving.

Provided that National Income is in equilibrium, we have:

$Y = C + S$  where  $Y$  = National Income,  
 $C$  = Consumption and  $S$  = Saving

Income ( $Y$ ) can only be either spent ( $C$ ) or saved ( $S$ ) in a closed economy.

(i) Savings:

Income that is not spent will be saved and income that is saved will eventually be invested (people who put money into interest bearing savings are not making any investment but the institutions such as banks use deposits to lend to investors).

(ii) Influences on Savings

- (1) How much income they are getting, and how much of this they want to spend on consumption.
- (2) How much income they want to save for precautionary reasons.
- (3) Interest rates. If the interest rates go up, we expect people to consume less and vice-versa.

➤ In conditions of equilibrium for National income:  $Y = C + S$  and,  $Y = C + I$ , and so,  $I = S$ . In the short run, however, savings and investment might not be equal and so there might be equilibrium.

(iii) The propensities to consume and Save

When a household has zero income, it will still spend. This spending can be financed by either savings or from welfare receipts. There is thus a constant, basic level of consumption which does not vary with the level of income. This is called autonomous Consumption.

Alongside with this level of autonomous consumption, there is also Non-autonomous consumption, in which the amount spent will vary according to the income earned. When the household receives an income, some will be spend and some will be saved.

The proportion of the income which is spent on Non-autonomous Consumption depends on the Marginal Propensity to Consume (MPC) while the proportion which is saved is determined by the marginal propensity to save (MPS).

$$\begin{aligned} \text{➤ } \text{MPC} &= \frac{\text{Change in Consumption}}{\text{Change in Income}} = \frac{\Delta C}{\Delta Y} \end{aligned}$$

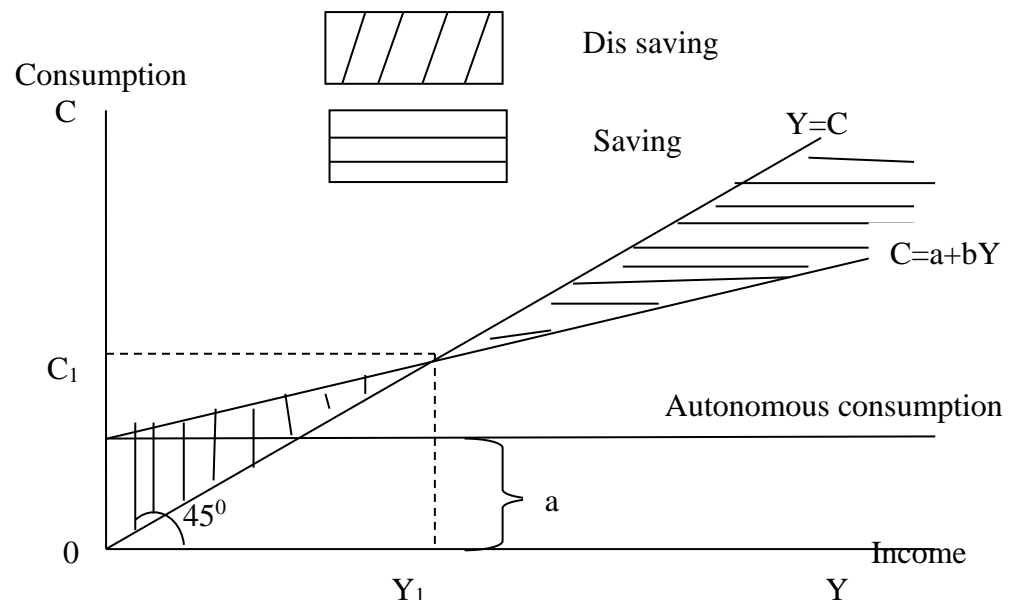
$$\text{➤ } \text{MPS} = \frac{\text{Change in Savings}}{\text{Change in Income}} = \frac{\Delta S}{\Delta Y}$$

E.g. A household's disposable income has increased from \$200 to \$250 per week, and consumption has increased from \$180 to \$220. What is MPC?

$$\text{MPC} = \frac{\Delta C}{\Delta Y} = \frac{40}{50} = 0.8$$

$$\text{MPC} + \text{MPS} = 1$$

- Taking autonomous and non-autonomous consumption combine to give total consumption. The gradient of the consumption function © reflects the MPC.



**Figure**

National economy as a whole will spend a fixed amount “a” plus a constant percentage (b% = MPC) of National Income Y.

The Consumption function by Keynes is  $C = a + bY$ , where C = Consumption,

a = autonomous consumption (or Y – intercept)  
b = Marginal Propensity to consume (MPC), and  
Y = National Income (or disposable income)

(g) Factors that influence the amount of consumption

- (i) Changes in disposable income, and the marginal propensity to consume
- (ii) Changes in the distribution of National Income
- (ii) Government Policy. Government can influence consumption levels through taxation and/or public spending.
- (iii) The development of major New Products, may create a significant increase in spending by consumers.
- (iv) Changes in interest rates will influence the amount of income that households decide to save and spend.
- (vii) Price Expectations. Expectations of price increases may increase current consumption and vice-versa.

(h) Factors that influence the amount of saving

- (i) The level of income
- (ii) Changes in interest rates
- (iii) Cost and availability of credit
- (iv) The level of inflation

(i) Marginal Propensity to withdraw (MPW)

The MPW is the proportion of National Income that is withdrawal from the circular flow of income.

$$MPW = MPS + MPT + MPM$$

(j) Factors that influence Investment

- (i) The rate of interest on capital
- (ii) The marginal efficiency of scale (MEC) invested. MEC calculates the exact rate of return which a project is expected to achieve i.e. the rate at which  $NPV = 0$
- (iii) Expectations about the future and business confidence
- (iv) The strength of consumer demand for goods
- (v) Opportunity cost of investment

(k) The Multiplier and the Accelerator

The Multiplier describes the process of circulation of income in the National economy, whereby an injection of a certain size, leads to a much larger increase in National Income.

- The ratio of the total increase in National income to an initial injection is called the Multiplier.

$$\text{Multiplier} = \frac{\text{Total Increase in National Income}}{\text{Initial Increase in National Income}}$$

$$\text{Multiplier} = \frac{1}{1 - \text{MPC}} \quad \text{or} \quad \frac{1}{\text{MPS}}$$

E.g. If the Marginal Propensity to Consume (MPC) = 80%, and the MPS = 20%.

$$\text{Multiplier} = \frac{1}{1 - .8} = \frac{1}{.2} = 5$$

- If initial investment = K20 billion

$$\begin{aligned} \text{New National Income} &= \text{Multiplier} \times \text{Initial Investment} \\ &= 5 \times \text{K20 billion} = \text{K100 billion} \\ &===== \end{aligned}$$

- The importance of the multiplier is that an increase in one of the components of aggregate demand will increase National Income by more than the initial increase itself.

- For an open economy:

$$\text{Multiplier} = \frac{1}{S + M + T} \quad \text{where}$$

S = Marginal Propensity to Save

T = Marginal Propensity to tax

M = Marginal Propensity to import

The multiplier as defined in this way may still be represented as below:

$$\begin{aligned} \text{Multiplier} &= \frac{1}{1 - \text{MPC}}, \text{ but this is now} \\ &\text{the same as } \frac{1}{\text{MPW}} \quad (\text{reflecting the Impact of withdrawals as a whole}) \end{aligned}$$

For example, if in a country the marginal propensity to save is 10% the marginal propensity to import is 45%, and the marginal propensity to tax is 25%, the size of the multiplier would be:

$$M = \frac{1}{0.1 + 0.45 + 0.25} = \frac{1}{0.80} = 1.25$$

- Note: The higher the MPC, the higher the multiplier.
- Limitations of the multiplier are:
  - (i) it is relevant to a demand-deficient economy with high unemployment of resources
  - (ii) The leakages from the circular flow of income might make the value of the multiplier very low
  - (iii) There may be a long period of adjustment before the benefits of the multiplier are felt.
  - (iv) If consumption is unpredictable, measures to influence National Income through the multiplier will be impossible to predict too.

The Accelerator Principle assumes that if there is a small change in the output of consumer goods, there will be a much greater change in the output of capital equipment required to make those consume goods. This change in the production of capital equipment (investment spending) speeds up the rate of economic growth, or slump.

The accelerator implies that investment, and hence National Income, remain high only as long as consumption is rising. The accelerator comes into effect as a consequence of changes in the rate of consumer demand.

(1) The Paradox of Thrift:

Thrift means saving, which is considered to be a virtue or good in economic development. Hence, the concept that saving is a leakage in the circular flow of National Income contradicts the common knowledge that saving is good for economic growth.



(M) The Business Cycle

Business cycles or trade cycles are the continual sequence of rapid growth in National Income, followed by a slow-down in growth and then a fall in National Income (recession). After this recession comes growth again, and when this has reached a peak, the cycle turns into recession once more.

Four main phases of the business cycle can be distinguished.

- Recession: Consumer demand falls and many investment projects already undertaken begin to look unprofitable.
- Depression: Recession can begin relatively quickly because of the speed with which the effects of declining demand will be felt by business suffering a loss in sales revenue. The general price level will begin to fall. Businesses and consumer confidence are diminished and investment remains low. Eventually, in the absence of any stimulus to aggregate demand, a period of depression sets in.
- Recovery: Government will try to limit the decline by boosting aggregate demand through Fiscal Policy reducing Taxation, lowering interest rates, or by raising Public expenditure. Recovery is when confidence returns. Output, employment and income will all begin to rise. Rising production, sales and profit levels will lead to optimistic business expectations, and new investment will be more readily undertaken.
- Boom: As recovery proceeds, the output level climbs above its trend path, reaching the boom phase. During the boom, capacity and labour will be fully utilized. This may cause bottlenecks in some industries which are unable to meet increases in demand. Inflation may creep in and this may lead the economy to recession if not well managed.

## **1.13 Fiscal Policy**

Fiscal Policy refers to the manipulation of government expenditure and taxation in the Management of the economy.

### **1.13.1 Government Expenditure**

Government expenditure may mean capital expenditure or revenue expenditure

Government capital expenditure refers to government spending on investment goods. This means spending on assets that last more than one year. This may include investment in hospitals, schools, equipment, roads etc.

Government current expenditure refers to government day to day spending on recurring items such as salaries, fuel, stationery etc., known as consumables and other everyday items that get used up as the good or service is provided.

The government as an instrument of economic policy uses fiscal policy, also known as budgetary policy, through the balance between government expenditure and revenue.

In order to reduce high levels of unemployment, or to stimulate recovery from a recession, the government, aims for a budget deficit or an expansionary fiscal policy.

An expansionary (or reflationary) fiscal policy could mean:

- Cutting levels of direct or indirect tax
- Increasing government expenditure

Reducing taxes causes government revenue to be lower than government expenditure, which results in a budget deficit, government borrowing covers the difference. The government needs to borrow money to finance its activities. This borrowing is referred to as the Public Sector Net Cash requirement (PSNCR). The PSNCR is the amount of money the government needs to borrow to meet the spending plans. The PSNCR is the amount that government spending exceeds the Tax revenue.

- Therefore, an increase in the PSNCR is a sign that the government is following an expansionary Fiscal policy in order to boost the economy.
- A prudent government, should ensure that the rate at which its PSNCR is increasing annually should not exceed the rate at which its GNP is growing.
- Budgetary policy can also be used to check for increase in inflation levels or an adverse balance of payment by aiming for a budget surplus or a contractionary fiscal policy.

- A contractionary (or deflationary) fiscal policy could mean:
  - Increasing taxation
  - Cutting government expenditure
- Reducing government expenditure while increasing taxes is what leads to a government surplus. The difference is the public sector net cash surplus.
- Note that a reduction in both government and consumption expenditure reduces the level of demand in the economy and help to reduce inflation.
- To focus on avoiding excessive fiscal deficits and debt by reducing government borrowing which in turn, contributes to a decline in interest rates, besides the reduced external debt servicing, may allow for an expansion of credit to the private sector, no crowding out effect.
- All in all, budget execution need to be improved, financial accountability and expenditure monitoring systems need strengthening, as well as strengthening the revenue base for a Nation to achieve sound sustainable economic management.

### **1.13.2Taxation**

Government revenue comes from taxation. Other reasons for taxation are:

To control the consumption of demerit goods like beer and cigarettes.

To protect infant, strategic and declining industries by introducing indirect taxes like customs duty.

To put into effect the “automatic” economic stabilizers particularly during economic recessions and booms.

To equitably distribute income and wealth in the economy.

(a) Principles of Taxation

The creation of tax system required an underlying set of principles to guide the types of taxes levied and the methods used to collect them.

Adam Smith described the four “canons” or principles of taxation. They are:

- (i) Equity: Taxes should be levied according to the ability of pay of the tax payer.
- (ii) Certainty: The tax should be unavoidable. Thus, the tax payer should know when the tax should be paid, how much should be paid and know which transactions rise to a tax liability.
- (iii) Convenience: The tax should be convenient to pay, not involving the tax payer in time consuming activities.
- (iv) Economical: The tax should be cheap to collect, such that the revenue collected should be far greater than the cost of collecting it.

(b) Classification of Taxes

- (i) Progressive Tax: This is a tax that takes an increasing proportion of income as income rises. Most direct taxes are progressive.
- (ii) Regressive Tax: This takes a higher proportion of a poorer person’s income. Most indirect taxes are regressive.
- (iii) Proportional Tax: This is when the tax is the same proportion on all incomes, whether large or small. It simply taxes the same proportion of one’s income. For example 10% of one’s income.

(c) Direct and Indirect Taxation

A direct tax is a tax on income, profit or wealth. It is paid direct to the revenue authorities by the tax payer. Examples of direct taxes are:

- Income tax (PAYE)
- Corporation tax
- Capital tax
- Inheritance tax
- Other taxes to the local government – like personal levy, motor vehicle duties

### **Advantages of direct taxes:**

- (i) The taxes are equitable
- (ii) Have an elastic and high yield increasing government revenue
- (iii) The taxes are certain
- (iv) Lead to equal distribution of income and wealth
- (v) They are “automatic economic stabilizers.”
- (vi) Not inflationary like indirect taxes

### **Disadvantages of direct taxes**

- (i) High rates acts as a disincentive to efficiency, effort and enterprise.
- (ii) High rate might also encourage migration of skilled man power to “tax havens.”
- (iii) High rates encourage tax avoidance and evasion, especially in the informal sector.

An Indirect tax is a tax on expenditure. Examples of indirect taxes are:

- Customs or import duties
- Excise duties, this is a tax on some locally produced products
- Value Added Tax.

### **The advantages of indirect taxes**

- (i) Revenue yield from indirect taxes help to avoid high direct taxes
- (ii) Payment is certain since they are difficult to avoid and to evade.
- (iii) Convenient to the tax payer since they are paid in small amounts and when an individual is in a position to buy the product.
- (iv) Economical in collection as enterprises collect on behalf of the government.
- (v) It is not harmful to effort and initiative like direct taxes. It is less painful since it is hidden in the price of a commodity or service.
- (vi) Indirect taxes are flexible instruments of policy as they can be easily adjusted to specific objectives of economic policy.

### **The disadvantages of indirect taxes:**

- (i) They are regressive ( a specific tax as a fixed unit or an advalorem tax as a fixed percentage without regard the income levels)
- (ii) They are not equitable.
- (iii) May evade indirect taxes like customs duty.

- (iv) May encourage inflation.
- (v) Possibly harmful to industry especially for goods with elastic demand.

### 1.13.3 Laffer Curve

Government revenue is mostly from taxes. A Laffer curve named after professor Art Laffer shows how tax revenue and tax rate are related.

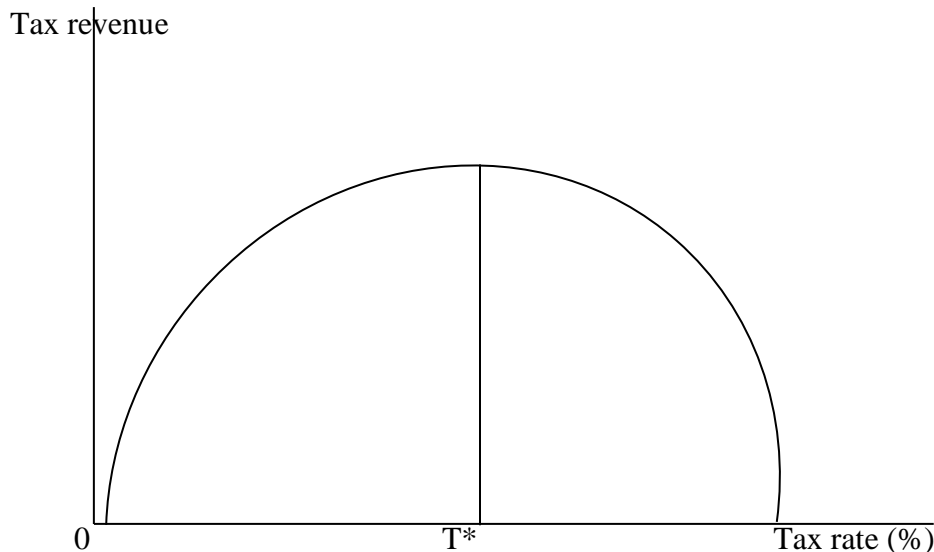
If the tax rate is 0%, then government revenue would be zero.

If the tax rate is 100%, again there would not be any government revenue as no one would be willing to work.

Laffer curve shows that the government can achieve very high tax revenue at two rates, 25% and 75%.

Given that a high tax rate discourages hard work and enterprise, the best option is a Tax rate of 25%.

Thus, lowering tax rates increases production and supply. This in turn increases the National Income.



T\* represents the optimum tax rate where the maximum amount of tax revenue can be collected.

### Unit Summary

Public Finance deals with finances of the Government, which is reflected in terms of expenditure and revenue.

## UNIT 2      **MAJOR ISSUES AND CONCERNS OF MACRO-ECONOMICS.**

**Macroeconomics is the study of the economy as a whole.** It is concerned with the analysis of the behaviour of the economic system in totality. It studies how the large aggregates such as total employment, national product or national income and the general price level are determined. Macroeconomics is concerned with the following issues:

### **(a) EMPLOYMENT AND UNEMPLOYMENT**

Macroeconomics tries to explain what determines the level of employment and national income in an economy.

### **(b) DETERMINATION OF GDP**

GDP is the value of all final goods and services produced in a country in a year. GDP shows the performance of the economy in a year and determines the overall living standards of the people in a country. The higher the per capita national income, the greater the amounts of goods and services available for consumption per individual on average.

When all resources in an economy are employed for production, the size of national income generated is called potential GDP or full-employment level of income.

### **(c) GENERAL PRICE LEVEL AND INFLATION**

Inflation is a generalized and persistent price rise in prices of goods and services. Macroeconomics tries to explain the causes and effects of inflation.

#### **(d) BUSINESS CYCLES**

Business cycles refer to fluctuations in output and employment with alternating periods of boom and recession. Macroeconomics tries to explain business cycles.

In boom periods both output and employment are at high levels, whereas in recession periods both output and employment fall and as a result, large unemployment comes to exist in the economy.

#### **(e) ECONOMIC GROWTH**

Macro-economic tries to explain what determines economic growth in a country. Economic growth means sustained increase in national (GNP) or per capita income over a sufficiently long-period of time. Economic growth depends on availability of national resources, growth of physical capital, human capital and progress in technology.

#### **(f) BALANCE OF PAYMENTS AND EXCHANGE RATES**

Balance of payments is a record of economic and financial transactions of one country with the rest of the world during a given period.

An exchange rate is the price for buying a foreign currency.

Macroeconomics tries to explain economic transactions between one country and other countries.

#### **(g) THE ROLE OF THE GOVERNMENT IN THE ECONOMY**

Macroeconomics recognizes the importance role of government in economic activities. The government uses fiscal policies, and monetary policies to influence the performance of the economy.



Fiscal policy refers to how government raises and spends its money. Monetary policy refers to the policies regarding growth of money supply, availability of credit and interest or cost of credit.

In macroeconomics we study fiscal and monetary policies of the government.

## **2.1 IMPORTANCE OF MACROECONOMICS**

- (a) Macroeconomics explains the factors which determine economic growth and employment.
- (b) It helps to understand business cycles.
- (c) It is used in formulating government policies.
- (d) Macroeconomics is used by business organizations to make decisions.

## **2.2 CONCEPTS OF NATIONAL INCOME**

### **(a) GROSS DOMESTIC PRODUCT**

It is the money value of all final goods and services produced by citizens and non-citizens. In other words the factors of production that produce GDP in a year are owned both by foreigners and citizens living in the country. In a national income accounting, we subtract the value of imports from the value of exports to arrive at net exports which are part of GDP.

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

### **(b) GROSS NATIONAL PRODUCT (GNP)**

The Gross National Product is defined as the total market value of all final goods and services produced in a year in a country plus or minus net property income from abroad (NPI) i.e.

$$GNP = C + I + G + NX + NPI$$

### **(c) NET NATIONAL INCOME**

Capital goods produced in a given year are used for the production of Gross national product. In the process of producing the GNP, capital goods wear out as a result of its consumption. This consumption of fixed capital due to wear

and wear and tear is called depreciation. When charges for depreciation are deducted from GNP we get Net national product.

$$NNP = GNP - \text{Capital Consumption}$$

#### **(d) NATIONAL INCOME (NI) OR NATIONAL INCOME AT FACTOR COST**

National income at factor cost which is also called national income is the sum of all incomes earned by resource suppliers for their contribution of land, labour, capital and entrepreneurial ability in producing national product. These are incomes earned by factors of production. Main source of income for labour are wages, firms earn profits, capital (finance capital) earn interest and land earns rent. Indirect taxes inflate national income while subsidies deflate national income.

Indirect taxes therefore have to be subtracted while subsidies should be added.

$$NI = \text{Rent} + \text{interest} + \text{profit} + \text{wages} \text{ minus indirect taxes plus subsidies.}$$

#### **(e) . PERSONAL INCOME (PI)**

Personal income is the sum of all incomes actually received by all individuals or households during a given year. Individuals and households earn income which include profits, interests, rent wages and transfer payments.

$PI = \text{Wages and salaries} + \text{rent} + \text{interest, profits plus transfer payments such as pension benefits and student allowances.}$  If we subtract personal taxes and other government obligations the result is disposable income.

## **2.3 MEASURING THE SIZE OF THE ECONOMY**

The question is how we assess the macro economic performance of the economy. That is which statistics we should use to measure the performance of the economy. This requires an understanding of national income accounting.

National income accounting is the system used to measure the aggregate income and expenditures for a nation.

### **(a) GROSS DOMESTIC PRODUCT**

The most widely reported measure of a nation's economic performance is gross domestic product (GDP). Gross domestic product is the market value of all final goods and services produced within a nation's geographic borders during a period of time, usually a quarter or a year. GDP excludes production abroad by the nation's businesses.

An alternative but less commonly used measure is that of Gross National Product (GNP). The GNP is the income accruing to a country's residents from the production of all final goods and services during a period of time, no matter whether the goods and services are produced within or outside the country.

GDP is important because it avoids the problem of using physical quantities to measure national output. GDP uses money to measure value rather than a list of products produced. In calculating GDP, the following points are important:

### **(b) SECOND HAND TRANSACTIONS**

GDP counts only new domestic production. Second hand transactions excluded.

For example GDP does not include the sale of used cars or sale of a house constructed some years ago. Such transactions are merely exchanges of ownership of previously produced goods and are not current production of new goods that add to the existing stock of cars and homes.

However, the sales commission or money paid to the sales person on account of the sale of a used car produced in the earlier period counts in current GDP, because the salesperson performed a service during the current period of time.

#### **(c) NON-PRODUCTIVE FINANCIAL TRANSACTIONS**

GDP does not include purely financial transactions such as giving private gifts, trading in financial securities such as stocks and bonds. Stock market transactions represent only the exchange of certificates of ownership (stocks) and not actual new production. But any brokerage charged would be included because it is a service performed during the current period of time. It is a service performed during the current period.

#### **(d) TRANSFER PAYMENTS**

A transfer payment is a payment received which is not in exchange for goods or services currently produced. In its broad sense, a transfer payment is simply a payment not worked for. Social welfare payments, veteran's benefits, unemployment benefits and student allowances are transfer payments. These transactions are not included in GDP because they do not represent production of any new or current output.

#### **(e) GOODS COUNTED IN GDP**

GDP counts final goods and services only. Including all goods and services produced would inflate GDP by double counting. That is many items would be counted more than once. Final products are finished goods and services produced for the ultimate or end user. Intermediate products are not included in GDP. Intermediate products are goods and services used as inputs into the production of final goods and services. In other words, intermediate products are not produced for consumption or use by the end user. But if there is excess production of intermediate goods, the unused or excess inventories enter GDP. Inventories include semi processed materials and components as well as unutilized raw materials. Residential homes built in a given year are considered as final goods and they enter the GDP.

### EXAMPLES

- a) Suppose a wholesaler sales window glass to a house builder. This transaction is not included in GDP. The glass is an intermediate good used in the production of the house. When a customer buys the house from the builder, the value of the glass is included as part of the selling price of the house, which is the value of a final good counted in the GDP.
- b) Transactions involving tubes and tires of motor vehicles are intermediate transactions and are not included in GDP, they add up to the value of the final product – the car.
- c) Transactions involving wheat flour are intermediate transactions and are not included in GDP, they add up to the value of the final products – wheat flour products.
- d) A wholesaler sells glass to a hardware shop. GPD does not include this transaction because the hardware shop is not the final or end user. When a customer buys the glass from the hardware shop to repair a broken a window, the final purchase price of the glass should be added to GDP as a consumer expenditure.

### **(e) THE CONCEPT OF VALUE ADDITION**

An important concept in macro economies is that of economic value added. Let us consider the following example:

<u>STAGE OF PRODUCTION</u>	<u>VALUE ADDED</u>		
Farmers sells raw wool to a whole seller @	K40	-	40
Whole seller sells raw material to manufacturer @	K150	-	110
Manufacturer sells suit to a retailer @	K300	-	150
Retailer sells the woolen suits customers @	<u>K420</u>	-	<u>120</u>

<b>Total</b>	<b>910</b>	<b>420</b>
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The sum of expenditures at various stages of production is K910. But the value of a final output which embodies the value at each stage of production is only K420. If we add all intermediates, GDP is inflated to K910. To avoid the problem of double counting we just sum up the values added at each stage of production or get the value from the last stage of production.

**(f) GDP AT FACTOR COST**

If we sum up the values added at each stage of production (minus Government taxes) we get what is called GDP at factor cost. In this example if we add:  $100 + 150 + 110 + 40$  we get 400 which is GDP at factor cost. But looking at it from the expenditure side, GDP at market prices is K420 since this is how much the end buyer paid for the suit. The difference between the two measurements is accounted for by indirect taxes. GDP at market prices contains indirect taxes.

## **2.4: METHODS OF MEASURING NATIONAL INCOME**

**There are three methods of measuring national income** namely the expenditure method, the output method and the Income method.

**(a) THE EXPENDITURE APPROACH**

**EXPENDITURE METHOD**

The expenditure approach measures GDP by adding all the spending for final products during a period of time. Total spending in the economy is referred to as aggregate demand (AD). Aggregate demand has four components namely consumption by individual consumers (C), private investment (I), Government expenditure (G) and net exports (NX). Aggregate demand, therefore, is expressed as follows:

$$AD = C + I + G + NX$$

The expenditure method is illustrated in the example below;

<u>ITEM</u>		<u>AMOUNT (BILLIONS)</u>	
Household consumption (C)	-	484	
- Gross but fixed investment	-	169.7	
- Private inventory investment	-	4.3	
Gross private domestic investment (I)		174.0	174.0
- Government consumption	-	147.1	
- Government investment	-	<u>29.5</u>	
Total Government Expenditure (G)	-	176.6	176.6
Gross national expenditure (C+ I+G)	-		835.0
Non export (X-M)	-		24.1
Gross domestic product (C + I + G + NX)	-		810.9

Components of the expenditure method, therefore include the following items:

#### **(i) HOUSEHOLD CONSUMPTION EXPENDITURE**

This comprises total spending by households for durable goods, non-durable goods and services.

#### **(II) GROSS PRIVATE DOMESTIC INVESTMENT (I)**

This includes all spending by the private sector on a new equipment and buildings or replacement of equipment or buildings. A distinction is often made between Gross investment and net investment. Gross investment is the sum of maintenance expenditure

and expenditure on new capital stock in the economy. Gross is total expenditure while Net investment is only that spending that actually increases the nation's capital stock.

For example, if a company spends 1 million on the company's fleet of trucks, but K800,000 of that is for repair works and the other K200,000 is for actual additional to the fleet. In this case Gross investment is 1 million kwacha while net investment is K200, 000. It is gross investment that is counted in GDP because net investment, is part of Gross investment.

In economics we use the term investment to refer to spending on physical products that are intended to be used as inputs in production process. Capital stock is used to refer to the existing stock of buildings, factories and machinery available to be used in production process. Investment is a flow while capital is a stock.

National accounts include the value of newly constructed residential houses. A new home is considered investment because

- (i) It provides services over time into the future.
- (ii) The owner can choose to rent it out for financial return

For cars the important issue is the use to which the car will be utilized. A motor car purchased by a firm to use in its business is investment even if it is just used to carry the CEO around. On the other hand a car purchased by a household to take the children to school is considered consumption expenditure because it is not used in the further production of output.

Net investment is the sum of two components;

- (1) Fixed investment expenditure for newly produced goods such as commercial and residential structures, machinery etc.
- (2) Spending on unsold or unused intermediate goods and raw materials



When firms have more goods on the shelves at the end of the year it means production was greater than consumption for those particular goods. The excess production is still part of production for that particular year and therefore, their value should be included in GDP.

### **(III) GOVERNMENT EXPENDITURE**

This category includes the value of all goods and services that the government (Central and Local Governments) purchases in a particular period. The government also spends money on capital projects such as highways, bridges, and Government buildings.

Consumption and gross investment expenditures by government (G) excludes transfer payments because they do not represent newly produced goods and services. Transfer payments such as social welfare benefits, pensions, student allowances and Central Government grants to Local Governments are simply a transfer of purchasing power from one section of the community to another.

### **(iv) NET EXPORTS**

The last GDP expenditure item is net exports, expressed in the formula  $(X-M)$ . Exports are expenditures by foreigners for locally produced goods and services. Imports are the kwacha amount of a nation's purchases from producers in other countries. Gross national expenditure  $(C + I + G)$  overstates the value of expenditure on locally produced goods and services by import value (M). GNE also does not include expenditure by foreigners on domestic production. To avoid understating or overstating expenditure on locally produced goods and services a net export value is calculated using the formula  $(X-M)$

### **(b) THE OUTPUT METHOD**

This method sums up the values of final output and services produced in a given year.

Steps involved are as follows:

- (1) Sum up all values of final goods and services
- (2) Plus/minus net property income from abroad

= Gross National product

(3) Less capital consumption (depreciation)

= Net national income

In applying this method care should be taken to avoid the problem of double counting. The problem of double counting can be avoided either by taking the value of output from the last stage of production or totaling the values added at each stage of production.

### **( c ) THE INCOME METHOD**

**This method adds up all incomes earned by income earners. There are three main income earners in an economy namely individual persons, companies and the Government. Only income from productive activities should be included. All transfer payments such as Government taxes and student allowances should be excluded. The Income method is summarized below:**

- (1) Add all labour income earned by individuals.
- (2) Add incomes earned by companies
- (3) Add incomes earned by government from commercial activities
- (4) Add depreciation. Depreciation is an income for replacing worn out machines but it is not reflected as income in the profit and income statement of companies. But it is income earned in producing GDP so it enters GDP
- (5) Add indirect taxes. Indirect taxes are supposed to reduce profits of companies but this does not happen because they are passed on to the customers or end users. Since to government they are transfer payments indirect taxes can only be added to incomes earned by companies.
- (6) Adding Items (1) to (6) = gross domestic income (GDI)
- (7) Add or subtract net property income from abroad = Gross National product.

## **2.3 PROBLEMS ASSOCIATED WITH THE MEASUREMENT OF NATIONAL INCOME**

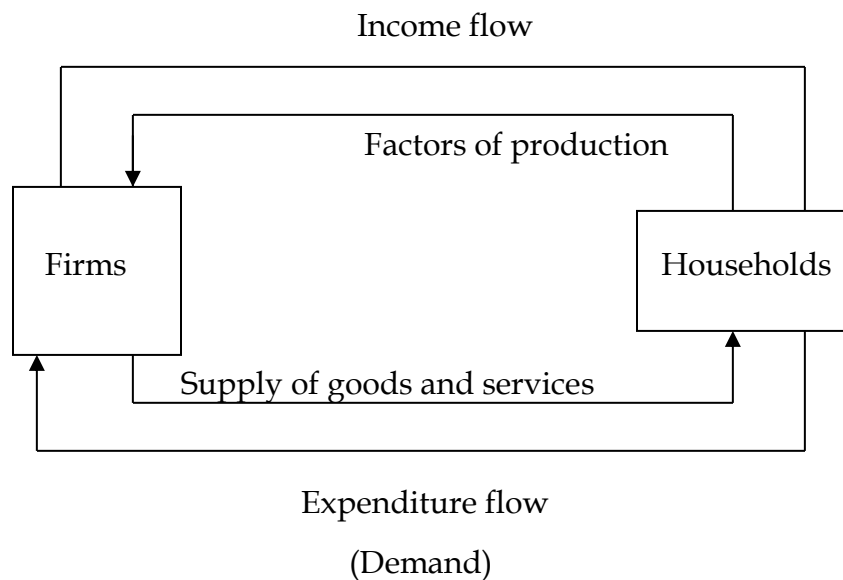
- (1) It excludes certain unpaid activities such as household production and do – it your self-home repairs and services.
- (2) It ignores income distribution in the nation.
- (3) GDP does not provide information on quality of goods and services.
- (4) GDP does not include the underground economy. (Illegal activities such as gambling, prostitution, illegal drugs). If the underground economy is big, GDP will understate on economy's performance.
- (5) Economic bads such as air, water deforestation, over fishing import costs on society that are not often included in private market prices. GDP fails to account for diminishing quality of life from the bads.
- (6) Difficulties in collecting data
- (7) Problems of taxes and subsidies. Taxes inflate GDP while subsidies deflate GDP. Taxes therefore are subtracted from GDP while subsidies enter the GDP.
- (8) The problem of using current prices. Current prices may inflate GDP due high inflation. National income expressed at current prices may be misleading because it does not indicate the real state of the economy. The GDP in Value may be rising when real GDP is falling.

## **2.4 THE CIRCULAR FLOW MODEL**

GDP consists of many components which include markets for products, markets for resources, consumers spending and earnings, private sector incomes and spending, government earnings and spending, exports and imports. One way to explain various components of GDP is to use the circular flow model. The circular flow model is a model which shows how various variables in the economy are related to each other. There are two types of circular flow of income models namely the closed model and the open model.

### (a ) CLOSED CIRCULOR FLOW MODEL

This is a model where there are only two actors only, the business sector and the households without government spending and international trade as shown in the figure below:



The lower half represents product markets in which households exchange money for goods and services produced by firms. The supply arrow represents all finished products and the value of services produced sold and delivered to consumers. The demand arrow represents consumption expenditures from households which becomes revenues to the firms. In this simple economy it is assumed that households spend all their income on goods and services supplied by firms i.e. there are no savings and imports.

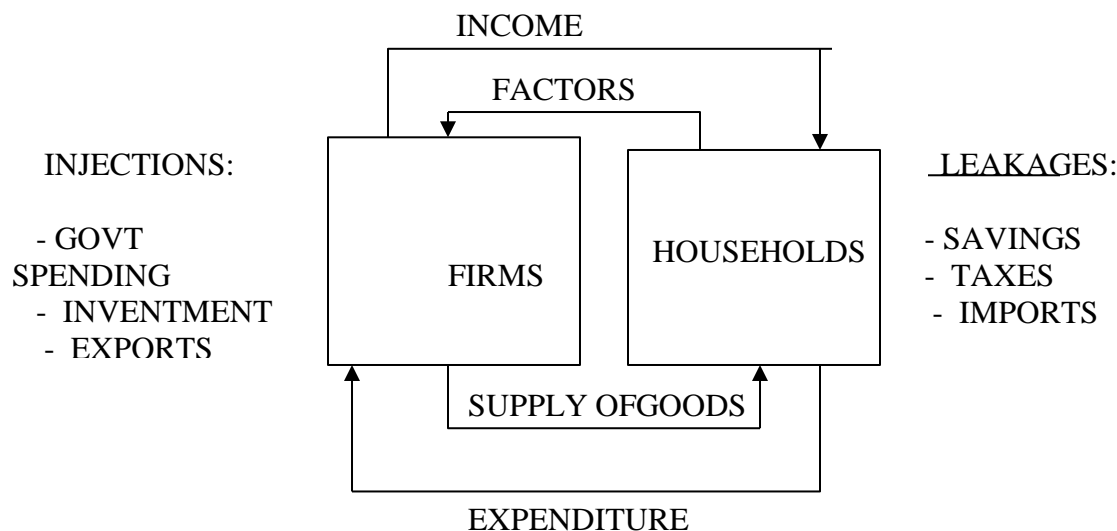
The upper half of the circular flow diagram consists of the factor markets, in which firms demand factors of production owned by the households – which are needed to produce the goods and services sold in the product market. It is assumed that firms buy factors of

production from households. Income earned by households is in form of wages, rents, interest and profits.

It also assumed that firms spend all their income earned on resources from the factor market.

### **(b ) THE FOUR-SECTOR ( OPEN) CIRCULAR FLOW MODEL**

The two sector model is too simplified when compared to what happens in the real world. To make the model a bit more realistic we have to include government and foreign trade and add leakages and injections as shown in the figure below:



### **LEAKAGES AND INJECTIONS**

The closed circular flow of income is an over simplified model because it assumes a closed economy in which income flows only between households and firms with no government and foreign trade activities. In reality income is lost from the circular flow in form of leakages and some income is gained through injections.

### **LEAKAGES**

A leakage is an amount of money that leaves the circular flow and it has the following effects:

- (1) It reduces the amount of money circulating in the economy.
- (2) It reduces the purchasing power in the economy.

- (3) It leads to excess supply or over production.
- (4) It leads to unemployment because when there is excess supply producers reduce production and reduce demand for factor of production.

There are three main leakages, namely savings, taxes and imports.

- (i) SAVINGS: Not all the earnings received by households is spent on consumption. Some of it is saved. Savings reduce the amount of money circulating in the economy.
- (ii) TAXES: The government takes some of the households' income in the form of taxes which cannot be spent on output produced by the firms.
- (iii) IMPORTS: Households spent some of their income on goods produced by other countries which reduces the amount of money circulating in the economy.

## INJECTIONS

An injection is an amount of money that enters the circular flow of income and it has the following effects:

- (1) It increases the amount of money circulating in the economy.
- (2) It increases the purchasing power in the economy.
- (3) They induce firms to expand production.
- (4) They increase demand for factors of production which reduce unemployment in the economy.

There are three main injections in the economy namely, government spending, investment and exports:

- (i) INVESTMENT: In the closed model it assumed that firms only produce goods and services for the households. In reality some firms produce capital goods for sale to other firms. Investment has the effect of expanding output and increasing employment of factors of production.
- (ii) EXPORTS: Exports are spending by foreigners on locally produced goods. Export earnings therefore increase the amount of money circulating in the economy.

- (iii) GOVERNMENT EXPENDITURE: Government spending on consumer goods and projects increases the amount of money circulating in the economy.

## 2.5 NATIONAL INCOME DETERMINATION

National income can be determined using the two sector, three sector and four sector models.

### Two sector model

In a two sector mode;

$$AD = C + I$$

National income (Y) is in equilibrium when it is equal to aggregate demand (AD). That is:-

$$Y = AD = C + I$$

$$Y = C + I$$

In a three sector model

$$AD = C + I + G$$

National income (Y) is in equilibrium when it is equal to AD. That is:

$$Y = AD = C + I + G$$

$$Y = C + I + G$$

In a four sector model

$$AD = C + I + G + NX$$

National income (Y) is in equilibrium when it is equal to AD. That is:

$$Y = AD = C + I + G + NX$$

$$Y = C + I + G + NX$$

### **SUMMARY**

<u>MODEL</u>	<u>NATIONAL INCOME EQUATION</u>
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Two sector model	$Y = C + I$
------------------	-------------

Three sector model	$Y = C + I + G$
--------------------	-----------------

Four sector model  $Y = C + I + G + NX$

Consumption (C) has two components namely autonomous consumption (a) and induced consumption ( $bY_d$ ). Where (b) is marginal propensity to consume and  $Y_d$  is disposable income. The consumption function, therefore, can be written as follows:

$$C = a + bY_d$$

To derive the national income function we just substitute the consumption function in the Y function and make Y the subject of the formula.

### (a) DERIVING THE NATIONAL INCOME FUNCTION IN A TWO SECTOR MODEL

$$Y = C + I$$

$$C = a + bY_d$$

Y = C + C

$$Y = a + bY_d + I$$

In a two sector model, government is assumed to be non-existent. Meaning that there are no government taxes. Without Government taxes  $Y_d = Y$ . Therefore,

$$Y = a + bY_d + I$$

$$Y = a + bY + I$$

Collect like terms together

$$Y - bY = a + I$$

Factorise the left side of the equation.

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

Divide on both sides by  $1 - b$ .

$$Y = \frac{1}{1-b} (a + I)$$

The same procedure can be used to derive the National income function (Y) in the three sector and four sector models.



In a two sector economy, the term  $\frac{1}{1-b}$

is called the investment multiplier. The investment multiplier can be used to calculate change in national income when there is a change in investment.

$$\Delta Y \text{ (caused by change in } I) = \frac{1}{1-b} (\Delta I)$$

If investment falls the value of  $\Delta Y$  will be negative.

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

The size of multiplier depends on the size of MPC. The bigger the multiplier the higher the value of multiplier as shown in the example below;

Find the value of multiplier when MPC is 0.8 and 0.75

$$\text{Value of multiplier} = \frac{1}{1-MPC} = \frac{1}{1-0.8} = \frac{1}{0.2} = 1 \times 10 / 0.2 \times 10 = 10/2 = 5$$

If MPC = 0.75, value of multiplier is

$$\text{equal to } \frac{1}{1-MPC} = \frac{1}{1-0.75} = \frac{1}{0.25} = 1 \times 100 / 0.25 \times 100 = 100/25 = 4$$

In a two sector model, National income is also in equilibrium when savings are equal to investments. Savings are leakages while investments are injections. National income therefore is in equilibrium when leakages are equal to injections i.e. in equilibrium

$$S = I$$

In a two sector model the savings and investment approach can also be used to calculate national income. National income is in equilibrium when savings are equal to investments or when leakages are equal to injections in the economy.

The following equations, therefore, can be used to find the value of National income in a two sector model:

$$(1) \quad Y = C + I$$

$$(2) \quad Y = \frac{1}{1-b} (a + I)$$

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

The formula to use will depend on information provided.

### Example 1

Suppose MPC is equal to 0.8 and investment increases by K100. Find the increase or change in National income (  $\Delta Y$  )

Solution

$\Delta Y$  = Investment multiplier times change in investment

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

$$= \frac{1}{1-0.8} (100)$$

$$= \frac{1}{0.2} (100) = \frac{100 \times 10}{0.2 \times 10} = \frac{1,000}{2} = 500,000$$

### Example 2

Suppose in an economy, autonomous investment (I) is K600 and the consumption function (C) is given as:

$$C = 200 + 0.8Y$$

Find the equilibrium level of income

### Solution

$$Y = C + I$$

$$C = 200 + 0.8Y$$

$$I = 600$$

$$Y = 200 + 0.8Y + 600$$

$$Y - 0.8Y = 200 + 600$$

$$Y(1 - 0.8) = 800$$

$$0.2Y = 800$$

$$Y = 800/0.2 = 800 \times 10/2 = 8000/2 = 4000$$

===

### Example 3

Suppose the consumption function of an economy is  $C = 0.8Y$ . Planned investment by firms for a year is K500.

Find the equilibrium level of income.

$$Y = C + I$$

$$C = 0.8Y$$

$$I = 500$$

$$Y = C + I$$

$$Y - 0.8Y = 500$$

$$Y(1 - 0.8) = 500$$

$$0.2Y = 500$$

$$Y = 500/0.2$$

$$= 500/0.2 = 500 \times 10 / .2 \times 10 = 5000/2 = 2,500$$

=====

### Example 4

Suppose the consumption function of an economy is given by;

$$C = 20 + 0.6Y$$

The investment function is given as;

$$I = 10 + 0.2Y$$

Find the equilibrium level of national income

### Solution

In this problem investment varies with income. But this does not change our method of determining equilibrium level of income.

$$Y = C + I$$

$$C = 20 + 0.6Y$$

$$I = 10 + 0.2Y$$

By substitution;

$$Y = C + I$$

$$Y = 20 + 0.6Y + 10 + 0.2Y$$

$$Y = 30 + 0.8Y$$

Collect like terms and solve for Y

$$Y - 0.8Y = 30$$

$$Y (1 - 0.8) = 30$$

$$0.2Y = 30$$

$$Y = 30/0.2 = 30 \times 10/0.2 \times 10 = 300/2 = 150$$

===

### Example 5

Suppose autonomous investment is equal to K200, and MPC = 0.75, autonomous consumption is 80

- (1) Find the savings function
- (2) Find the equilibrium level of income

### Solution

$$Y = C + S$$

$$C = a + bY$$

$$Y - a - bY = S$$

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

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

$$(i) \quad \text{Saving} = Y (1 - b) = MPC$$

Where b = MPC

a = autonomous consumption

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

$$= Y (1 - 75) - 80$$

$$= 0.25Y - 80$$

$$(ii) \quad \text{National income is in equilibrium when}$$

$$S = I$$

$$I = 200$$

$$S = 0.25Y - 80$$

Substituting the values of S and I in the equilibrium equation we have;

$$0.25Y - 80 = 200$$

$$0.25Y = 200 + 80$$

$$Y = 280/0.25 = 280 \times 100/25 = 1,120$$

=====

We can also use the formula

$$Y = 1/(1-b)(I + a) \text{ and get the same answer.}$$

$$= 1/(1 - 0.75)(200 + 80)$$

$$= (1/0.25)(280)$$

$$= 280 \times 100/0.25 \times 100 = 28000/25 = K1, 120$$

=====

### Example 6

Given the saving function (S) = -10 + 0.25Y investment (I) 50

- (i) Find the equilibrium level of income
- (ii) Find the level of consumption
- (iii) If investment increases by 5. What will be the new levels of income and consumption?

### Solution

According to saving – investment approach equilibrium level of national income is determined by equality between savings and investment i.e.

$$(i) \quad S = I$$

$$-10 - 0.2Y = 50$$

$$0.2Y = 50 + 10$$

$$0.2Y = 60$$

$$Y = 60 \times 10 / 2 = 300$$

$$\text{II } Y = C + S$$

$$Y - S = C$$

Or

$$C = Y - S$$

$$= 300 - (-10 + 0.2Y)$$

$$= 300 + 10 - 0.2 \times 300$$

$$= 310 - 60$$

$$= 250$$

===

- (iii) New level of income and consumption with the increase in investment by K5, the new investment will be equal to K55. Using the savings and investment approach, nation income is in equilibrium when  $S=I$ . therefore

Equate savings and investment and solve for Y

$$S = I$$

$$-10 + 0.2Y = 55$$

$$0.2Y = 55 + 10 = 65$$

$$Y = 65 = \frac{65 \times 10}{0.2} = \frac{650}{2} = 325$$

The new level of income is = 325

$$\text{Savings} = -10 + 0.2Y$$

$$\text{With new income: } S = -10 + 0.2 (325)$$

$$= -10 + 65$$

$$= 55$$

==

New investment = 55 and savings = 55

$$\begin{aligned}\text{New consumption (C)} &= Y - S \\ &= 325 - 55 \\ &= 270 \\ &===\end{aligned}$$

### Example 7

The following consumption function of an economy is given as;

$$C = 40 + 0.8Y$$

Where Y is national income

If the planned level of investment in a year is K75, what will be the equilibrium level of national income and consumption?

### Solution

Equilibrium level of national income is determined where

$$Y = C + I$$

$$\text{Now } C = 40 + 0.8Y$$

$$I = 75$$

$$Y = 40 + 0.8Y + 75$$

$$Y - 0.8Y = 40 + 75$$

$$Y(1 - 0.8) = 40 + 75$$

$$0.2Y = 115$$

$$Y = \frac{115 \times 10}{2} = 575$$

In equilibrium  $S=I$ . In equilibrium therefore

$$C = Y - S \text{ or } C = Y - I$$

$$C = Y - I = 575 - 75 = 500$$

=====

### Example 8

An economy's consumption function is given as

$$C = 60 + 0.75Y$$

- a. If investment in a year is K35 what will be the equilibrium level of income output?
- b. If full employment level of income (i.e. level of potential output is K460 what investment is required to ensure equilibrium at full employment.

### Solution (a):

Equilibrium level of national income is determined where

$$Y = C + I$$

$$Y = 60 + 0.75Y + 35$$

$$Y - 0.75Y = 60 + 35$$

$$Y (1 - 0.75) = 95$$

$$0.25Y = 95$$

$$Y = \frac{95 \times 100}{25} = 380$$

$$25 \quad \quad \quad ===$$

- (b) To ensure full-employment, investment should be equal to the savings at full-employment income.

In equilibrium  $I = S$

From the information given find the value of savings required.

$$Y_F = C_F + S_F$$

$$Y_F - C_F = S_F$$

Or

$$S_F = Y_F - C_F$$



$$S = Y_F - (60 + 0.75Y_F)$$

$$S = 460 - 60 - 0.75Y_F$$

$$S = 400 - 0.75Y_F$$

$$S = 400 - 0.75(460)$$

$$S = 400 - 345$$

$$S = 55$$

In equilibrium at full employment saving is equal to investment. Since saving is equal to K55 investment is also equal to K55

### **( b) NATIONAL INCOME DETERMINATION IN A THREE SECTOR MODEL**

In a three sector model  $AD = C + I + G$

In equilibrium National income (Y) is equal to Aggregate Demand (AD). That is

$$Y = AD = C + I + G$$

$$Y = C + I + G$$

If Government spends without raising taxes,  $G > T$ . The Government then has a budget deficit. Without government Tax the national income (Y) function can be derived as follows:-

$$Y = C + I + G$$

$$C = a + bY_d$$

Without Government Tax

$$Y_d = Y$$

$$C = a + bY$$

$$Y = a + bY + I + G$$

$$Y - bY = a + I + G$$

$$Y(I - B) = a + I + G$$

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

In a three sector model, the term  $1/1 - b$  represents the Government expenditure multiplier.

### **(b) NATIONAL INCOME WITH GOVERNMENT EXPENDITURE AND LUMP SUM TAX**

Government expenditure influences Aggregate Demand and National Income. Government expenditure maybe on consumption or infrastructure. The source of Government revenue is taxation (T). Taxation reduces AD and disposable income.

#### **LUMP SUM TAX**

A lump sum tax is a tax which does not vary with the level of income. It is a fixed tax.

Lump sum tax reduces disposable income ( $Y_d$ ) consumptions and savings

If Government expenditure is equal to tax revenue (T), then Government has a balanced budget. If government expenditure is less than Tax revenue, then the government has a budget surplus. If government expenditure is more than tax revenue then the government has a budget deficit.

.

### **(c) DERIVING THE NATIONAL INCOME FUNCTION WITH GOVERNMENT EXPENDITURE (G) AND LUMP SUM TAX (T)**

$$Y = C + I + G$$

$$C = a + bY_d$$

$$Y_d = Y - T$$

$$C = a + b(Y - T)$$

$$C = a + bY - bT$$

Substituting the consumption function in the National income function we get:

$$Y = a + bY - bT + I + G$$

Collect like terms together and solve for Y

$$Y - bY = a - bT + I + G$$

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

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

Where  $1/(1 - b)$  is government expenditure multiplier

Effect on consumption due to introduction of lump sum tax is given as:

$$-\Delta C = T \times MPC$$

The change in consumption is negative because taxes reduces AD and National income.

If lump sum Tax is reduced change in consumption is given as

$$+\Delta C = T \times MPC$$

The change in tax is positive because it increases AD and National Income

### Example

Suppose lump sum Tax = 500 and MPC = 0.75 then

$$-\Delta C = T \times MPC$$

$$= 500 \times 0.75$$

$$\Delta C = -375$$

===

It is negative because the increase in lump sum tax will reduce consumption.

### **LUMPSUM TAX MULTIPLIER**

**Lump sum tax is accompanied by a lump sum tax multiplier. A lump sum tax multiplier is a tax coefficient which measures the extent to which** consumption or national income are affected as a result of introducing lump sum tax.

Mathematically lump sum tax multiplier is expressed as:  $-\frac{b}{1-b}$

Where b is the marginal propensity to consume (MPC)

Change in national income ( $\Delta Y$ ) as a result of introducing lump sum tax is given as:

$$\Delta Y = - \frac{b}{1-b} (\Delta T) \text{ (if tax is increased)}$$

$$\Delta Y = \frac{b}{1-b} (\Delta T) \text{ (If tax is reduced)}$$

### BALANCED BUDGET

When government expenditure is equal to tax revenue (i.e.  $G = T$ ) the government budget is said to be balanced. The effect of a balanced budget on the equilibrium income is described by the balanced budget multiplier which is also called the balanced budget theorem. According to this theorem, balanced budget multiplier is always equal to one. the balanced budget multiplier is the sum of government expenditure multiplier and the lump sum tax multiplier.

$$\text{Government expenditure multiplier } (G_m) = \frac{1}{1-b}$$

$$\text{Lump sum tax multiplier } (T_m) = \frac{-b}{1-b}$$

$$\text{Balanced Budget multiplier (BBM)} = G_m + T_m$$

$$\begin{aligned} &= \frac{1}{1-b} + \frac{-b}{1-b} \\ &= \frac{1-b}{1-b} = 1 \end{aligned}$$

Suppose MPC is 0.8 the value of balanced budget multiplier

$$\begin{aligned} &= 1/(1-0.8) + (-0.8)/(1-0.8) \\ &= 1/(1-0.8) + (-0.8/1-0.8) \\ &= (1/0.2) - (0.8/0.2) \\ &= 5 - 4 = 1 \\ &===== \end{aligned}$$

The balanced budget multiplier therefore is a function of government expenditure multiplier and the lump sum tax multiplier.

### IMPORTANT EQUATIONS IN THE THREE SECTOR MODEL

- (1)  $Y = C + I + G$
- (2)  $Y = 1/(1-b) (a + I + G)$  (without Government Tax)
- (3)  $Y = a + b(Y - T) + I + G$  (with lump sum tax)
- (4)  $Y = 1/(1-b) (a - bT + I + G)$  - with lump sum tax.
- (5) Lump sum tax multiplier =  $-b/1-b$ . It is negative if tax is increased and positive if tax is reduced.
- (6)  $\Delta C = T \times MPC$ . It is negative if tax is increased and positive if tax is reduced.
- (7)  $\Delta Y = -b/1-b (\Delta T)$ . It is negative if tax is increased and positive if tax is reduced.
- (8)  $\Delta Y = 1/1-b (\Delta G)$ . It is positive if government expenditure is increased and negative if government expenditure is reduced.
- (9) Balanced budget multiplier =  $1/(1-b) + -b/(1-b) = 1$

#### Example 1

Suppose  $C = 20 + 0.8Y$

$$I = 50$$

$$G = 20$$

$$T = 10$$

Find National income for the economy.

$$Y = C + I + G$$

$$C = 20 + 0.8Y_d$$

$$= 20 + 0.8(Y - T)$$

$$= 20 + 0.8(Y - 10)$$

$$= 20 + 0.8Y - 8$$

$$Y = C + I + G$$

$$Y = 20 + 0.8Y - 8 + 50 + 20 \quad (\text{collect like terms})$$

$$Y - 0.8Y = 20 - 8 + 70$$

$$Y(1 - 0.8) = 12 + 70$$

$$Y(1 - 0.8) = 82$$

$$0.2Y = 82$$

$$Y = 82 \times 10 / 0.2 \times 10 = 820 / 2 = 410$$

Change in national income (Y) as a result of an increase in Tax ( $\Delta T$ ) is equal to  $\Delta T \times$

Lump sum multiplier =  $-b / 1 - b (\Delta T)$

If  $\Delta T = 10$  and  $MPC = 0.8$

$$\begin{aligned} \Delta Y &= -b / 1 - b \times \Delta T = -0.8 / 1 - 0.8 (10) \\ &= -0.8 / 0.2 (10) = -4 \times 10 = -40 \end{aligned}$$

An increase in tax of 10 causes a decrease in income of 40

If  $Y = 410$

New Equilibrium income is  $410 - 40 = 370$

$$\text{Lump sum tax multiplier} = -b / 1 - b = -0.8 / 1 - 0.8 = -0.8 / 0.2 = -4$$

If Government expenditure decreases by 10,  $G = -10$  the negative impact or decrease in national income will be as follows;

$$\Delta Y = -\Delta G \times \text{Government multiplier}$$

$$= -10 \times 1 / 1 - MPC$$

If  $MPC = 0.8$

$$\begin{aligned} \Delta Y &= -10 \times 1 / (1 - 0.8) = -10 \times 1 / 0.2 \\ &= -10 \times 5 = -50 \end{aligned}$$

If  $Y$  is K410 it will decrease by K50 i.e. new equilibrium national income is

$$K410 - K50 = K360$$

Government expenditure multiplier is

$$= \frac{1}{1-b} = \frac{1}{1-0.8} = \frac{1}{0.2} = 5$$

### Example 2

Suppose the macro-economic conditions of a country are given as;

$$C = 50 + 0.8Y_d$$

$$I = 100$$

$$G = T = 75$$

Find equilibrium income

SOLUTION

$$Y = C + I + G$$

$$C = 50 + 0.8Y_d$$

$$Y_d = Y - T$$

$$C = 50 + 0.8(Y - T)$$

$$= 50 + 0.8Y - 0.8T$$

$$= 50 + 0.8y - 0.8(75)$$

$$= 50 + 0.8Y - 60$$

$$= 50 - 60 + 0.8Y$$

$$= -10 + 0.8Y$$

$$Y = C + I + G$$

$$= -10 + 0.8Y + 100 + 75$$

$$Y = -10 + 175 + 0.8Y$$

$$Y - 0.8Y = 165$$

$$0.2Y = 165$$

$$Y = 165 \times 10 / 0.2 \times 10 = 1650 / 2 = 825$$

**(e) DETERMINATION OF NATIONAL INCOME WITH GOVERNMENT EXPENDITURE MULTIPLIER AND BALANCED BUDGET MULTIPLIER.**

When the Government budget is in balance National Income (Y) is determined as follows:

$$Y = \underbrace{\frac{1}{1-b}}_{\text{Government expenditure multiplier}} (a + I) + \underbrace{\frac{1}{1-b} + \frac{-b}{1-b}}_{\text{Balanced budget multiplier}} (G)$$

Government expenditure multiplier

Balanced budget multiplier

a = autonomous consumption

I = autonomous investment

But balanced budget is always = 1

Therefore:

$$Y = \frac{1}{1-b} (a + I) + 1 (G)$$

Example

Suppose

$$a = 50 ; I = 100 ; b = 0.8 ; G = 75$$

Solution

$$\begin{aligned} Y &= \frac{1}{1-b} (a + I) + 1 (G) \\ &= \frac{1}{1-0.8} (50 + 100) + 1 (75) \\ &= \frac{1}{0.2} (150) + 75 \\ &= 5(150) + 75 \\ &= 750 + 75 \\ &= 825 \end{aligned}$$

**(f) DETERMINATION OF NATIONAL INCOME IN THE THREE SECTOR ECONOMY WITH LUMP SUM TAX AND TRANSFER PAYMENTS**



Transfer payments are payments to the people by the Government for which it receives no service or goods in return from them.

Transfer payments are made by the Government to promote social welfare, and they include unemployment allowances, poverty relief grants, and old age pension and student allowances. The effect of transfer payments on consumption is opposite to taxation. Whereas taxes reduce disposable income and consumption, transfer payments increase aggregate disposable income and consumption.

If transfer payments are financed through tax then they become part of government expenditure (G) and imposition of additional tax to finance transfer payments become part of total lump sum tax (T) which reduces disposable income.

Since transfer payments increase disposable income of the people, they increase the consumption expenditure depending on their propensity to consume. That is

$$(i) \quad C = a + bY_d$$

$$(ii) \quad Y_d = Y - T + TR$$

Where T is lump sum tax and TR is transfer payments.

Substituting  $Y - T + TR$  for  $Y_d$

We get

$$C = a + b(Y - T + TR)$$

Substituting this consumption function in the national income function (Y) we get:

$$Y = a + b(Y - T + TR) + I + G$$

$$Y = a + bY - bT + bTR + I + G$$

$$Y - bY = a - bT + bTR + I + G$$

$$Y(1 - b) = a - bT + bTR + I + G$$

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

**(g) GOVERNMENT EXPENDITURE MULTIPLIER AND TRANSFER PAYMENT MULTIPLIER**

These two multipliers are different. The Government expenditure multiplier raises aggregate demand or (Y) directly by its full amount, while the transfer payment raises consumption demand by  $bTR$ , that is, less than the full amount of  $TR$  depending on the marginal propensity to consume. Change in consumption ( $\Delta C$ ) due to increase in  $TR = bTR$  where  $b = MPC$

Government expenditure multiplier =  $1/1 - MPC$

Transfer payment multiplier =  $b/1-b$

TR multiplier thus is equal to =  $\frac{MPC}{1 - MPC} = \frac{b}{1 - b}$

Transfer payment multiplier, therefore, is equal to lump sum tax multiplier when tax (T) is reduced.

Example

Suppose macroeconomic parameters of the economy are as follows:

$$C = 100 + 0.75 Y_d$$

$$I = 200; G = T = 100; TR = 50$$

Where  $G$  is government expenditure on goods and services,  $T$  is lump sum tax and  $TR$  are transfer payments.

- (1) Find the equilibrium level of income
- (2) Calculate government expenditure multiplier and transfer payment multiplier
- (3) If full-employment level of income is 1,600, how much government expenditure be increased to attain full employment.

**SOLUTION**

$$Y = C + I + G$$

$$= a + bY_d + I + G$$

With lump sum tax and transfer payments (TR)

$Y_d = Y - T + TR$ . Therefore,

$$Y = a + b(Y - T + TR) + I + G$$

Substituting the values of various parameters and variables we have;

$$Y = 100 + 0.75(Y - 100 + 50) + 200 + 100$$

$$= 100 + 0.75Y - 0.75 \times 100 + 50 \times 0.75 + 200 + 100$$

$$Y - 0.75Y = 100 - 75 + 37.5 + 200 + 100$$

$$Y(1 - 0.75) = 362.5$$

$$0.25Y = 362.5$$

$$Y = 362.5 \times 100 / 0.25 = 36250 / 25 = 1,450$$

$$\text{Government expenditure multiplier} = 1 / 1 - b = 1 / 1 - 0.75 = 1 / 0.25 = 4$$

$$\begin{aligned} \text{Transfer payments multiplier} &= b / 1 - b \\ &= MPC / 1 - MPC \\ &= 0.75 / 1 - 0.75 \\ &= 0.75 / 0.25 = 3 \end{aligned}$$

$$\text{The difference between GM and TRM} = 4 - 3 = 1$$

- (3) The equilibrium income 1,450 falls short of full employment income of 1,600 by  $1,600 - 1,450 = 150$

Change in Government expenditure required to achieve full employment income is given by

$$\Delta Y = G_m \times \Delta G$$

$$\frac{\Delta Y}{G_m} = \Delta G$$

$$\Delta G = \frac{\Delta Y}{G_m} \quad (G_m \text{ is government expenditure multiplier})$$

$$\Delta G = \frac{150}{4} = 37.5$$

=====

**(h) PROPORTIONAL INCOME TAX AND EQUILIBRIUM LEVEL OF NATIONAL INCOME**

A proportional income tax is a fixed percentage of income collected as tax, irrespective of the level of income. If an income tax at the rate of 25% is levied regardless of the level of income, then 25% is a proportional income tax. As in case of lump sum tax, the introduction of proportional income tax reduces the disposable income.

The higher the rate of proportional income tax, the greater the fall in consumption and the greater the decline in equilibrium level of national income, other things remaining constant.

Mathematically proportional income tax is expressed as  $tY$  where  $t$  is the rate or proportion of income which is payable as a tax. Proportional income tax maybe imposed alone in which case total tax  $(T) = tY$

Proportional tax may be imposed along with lump sum tax in which case total tax  $(T) = T + tY$

Suppose  $T = tY$  only and transfer payment (TR) is a component of government expenditure. The national income function can be derived as follows:

$$Y = C + I + G$$

$$C = a + bY_d$$

$$Y_d = Y - tY + TR$$

$$C = a + b(Y - tY + TR)$$

$$= a + by - btY + bTR$$

$$Y = C + I + G$$

$$Y = a + bY - btY + bTR + I + G$$

$$Y - bY + b tY = a + bTR + I + G$$

$$Y (1 - b + bt) = a + bTR + I + G$$

$$Y = \frac{1}{1-b+bt}(a + bTR + I + G)$$

$$Y = \frac{1}{1-b+bt}(a + I + G) \quad \text{- without transfer payments}$$

The term  $\frac{1}{1-b+bt}$  represents the proportional income tax multiplier

Example 1

Macro-economic parameters and variables of a country are given as follows;

$$C = 85 + 0.5Y_d$$

$$I = 85$$

$$G = 60$$

$$T = 40 + 0.25Y$$

- (i) Find equilibrium income and consumption
- (ii) How much does the government collect in net taxes when the economy is in equilibrium?
- (iii) What is the government budget deficit or surplus?

Solution

$$Y = C + I + G$$

$$C = 85 + 0.5Y_d$$

$$Y_d = Y - T$$

$$C = 85 + 0.5 [Y - (40 + 0.25Y)]$$

$$= 85 + 0.5 [Y - 40 - 0.25Y]$$

$$= 85 + 0.5Y - 20 - 0.125Y$$

$$= 85 - 20 + 0.5Y - 0.125Y$$

$$C = 65 + 0.375Y$$

$$Y = C + I + G$$

$$= 65 + 0.375Y + I + G$$

$$= 65 + 0.375Y + 85 + 60$$

$$Y - 0.375Y = 65 + 85 + 6$$

$$Y (1 - 0.375) = 210$$

$$Y (1 - 0.375) = 210$$

$$Y = 210/0.625 = 210 \times 1,000/0.625 = 210,000/625 = 336$$

$$\text{Equilibrium consumption} = 65 + 0.375Y$$

$$C = 65 + 0.375 (336)$$

$$= 65 + 126$$

$$= 191$$

===

(iii) Tax collected by government;

$$T = 40 + 0.25Y$$

$$= 40 + 0.25 \times 336$$

$$= 40 + 80$$

$$= 124$$

===

(iii) Government budget or surplus

Since Government expenditure (G) is less than tax revenue, there will be surplus budget. Budget surplus =  $124 - 60 = 64$

### Example 2

Macro-economic parameters and variables of an economy are given as follows;

$$C = 100 + 0.8Y$$

$$I = 150$$

$$G = 75$$

$$T = 0.25Y$$

- (a) Find the equilibrium level of income
- (b) What is the value of proportional tax multiplier?

### Solution

Reduced forms of the equation for equilibrium income with proportional tax is:

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

Given  $b = 0.8$ ,  $t = 0.25$ ,  $a = 100$ ,  $I = 150$  and  $G = 75$

Substituting these values in national equilibrium income equation we get:

$$\begin{aligned} Y &= 1/(1-b+bt)(a + I + G) \\ &= 1/(1-0.8+0.8 \times 0.25) (100 + 150 + 75) \\ &= 1/(1-0.8 + 0.2)(325) \\ &= 1/(1-0.6) (325) \\ &= 1/0.4 (325) \\ &= 2.5 (325) \\ &= 812.5 \end{aligned}$$

$$\begin{aligned} \text{The value of proportional tax multiplier} &= 1/(1-b + bt) \\ &= 1/(1-0.8 + 0.8 \times 0.25) \\ &= 1/(1- 0.6) = 1/0.4 = 2.5 \end{aligned}$$

### Example 3

For a closed economy without foreign trade macro-economic data is given as follows:

$$C = 50 + 0.8Y_d$$

$$I = 70$$

$$G = 200$$

$$TR = 100$$

Rate of income tax  $(T) = 0.2Y$

- (a) Write the reduced form of equation for equilibrium income

- (b) Find the equilibrium income
- (c) What is the value of proportional tax multiplier

- (a) The reduced form of the equation with transfer payment (TR) and proportional tax is :

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

Substituting the values of parameters and variables in the above equation we have:

$$Y = 1 / (1 - 0.8 + 0.8 \times 0.2) (50 + 0.8 \times 100 + 70 + 200)$$

$$Y = 1 / (1 - 0.64) (50 + 80 + 70 + 200)$$

$$= 1 / 0.36 (400)$$

$$= 400 \times 100 / .36 \times 100$$

$$= 40000 / 36 = 1111$$

$$\text{Equilibrium income} = 1111$$

===

The value of proportional tax multiplier is

$$= 1 / (1 - b + bt)$$

$$= 1 / (1 - 0.8 + 0.8 \times 0.2)$$

$$= 1 / (1 - 0.64) = 1 / 0.36 = 1 \times 100 / 0.36 \times 100 = 100 / 36 = 2.77$$

#### Example 4

Suppose the economic parameters and variables of an economy are given as

$$C = 250 + 0.75Y_d$$

$$G = 150$$

$$I = 80$$

$$\text{Taxes (T)} = 200$$



- Find (i) the equilibrium level of income (Y); (ii) consumption (C) (iii) and private sector saving (S)
- (iv) Using the value of tax multiplier how much will income increase if taxes are reduced by 30.

### Solution

$$Y = C + I + G$$

$$\begin{aligned} C &= 250 + 0.75Y_d \\ &= 250 + 0.75(Y - T) \\ &= 250 + 0.75(Y - 200) \\ &= 250 + 0.75Y - 0.75 \times 200 \\ &= 250 + 0.75Y - 150 \end{aligned}$$

$$Y = 250 + 0.75Y - 150 + 80 + 150$$

$$Y - 0.75Y = 250 - 150 + 80 + 150$$

$$Y(1 - 0.75) = 330$$

$$0.25Y = 330$$

$$Y = 330 / 0.25 = 330 \times 100 / 0.25 \times 100 = 33000 / 25 = 1\,320$$

$$\begin{aligned} \text{Consumption } C &= 250 + 0.75(Y - T) \\ &= 250 + 0.75(1\,320 - 200) \\ &= 250 + .75 \times 1320 - 0.75 \times 200 \\ &= 250 + 990 - 150 \\ &= \underline{1\,090} \end{aligned}$$

Disposable income = Consumption + Savings

$$Y_d = C + S$$

$$Y_d - C = S$$

$$S = Y_d - C$$

$$Y_d = Y - T$$

$$\begin{aligned}
 S &= (Y - T) - C \\
 &= (1\,320 - 200) - 1\,090 \\
 &= 1\,120 - 1\,090 \\
 &= \underline{30}
 \end{aligned}$$

The decrease in taxes will lead to increase in income by raising consumption expenditure

. Tax multiplier when taxes are reduced =  $b/1-b$

A decrease in Taxes amounting to 30 leads to an increase in national income  $(\Delta Y) = b/1 - b (\Delta T)$

$$\begin{aligned}
 &= 0.75/1-0.75 (30) \\
 &= 0.75/0.25 (30) \\
 &= 0.75 \times 100 / 0.25 \times 100 (30) \\
 &= 75/25 (30) \\
 &= 3 (30) = 90
 \end{aligned}$$

#### Examples 5

Suppose we have an economy characterized by the following functions;

$$C = 100 + 0.8Y_d$$

$$I = 100 ; G = 100 ; T = 100$$

- (a) Find the equilibrium level of income
- (b) How much increase in income will take place if Government expenditure on goods and services increases by 80
- (c) Find the lump sum tax multiplier and balanced budget multiplier
- (d) Find the equilibrium level of national income if  $T = 100 + 0.25Y$

- (a) equilibrium income:

$$\begin{aligned}
 Y &= C + I + G \\
 &= a + bY_d + I + G \\
 C &= a + b (Y - T)
 \end{aligned}$$

Substituting the value of a, b, T, I and G we have

$$\begin{aligned}
Y &= 100 + 0.8(Y - 100) + 100 + 100 \\
&= 0.8(Y - 100) + 300 \\
&= 0.8Y - 80 + 300 \\
&= 0.8Y - 80 + 300 \\
&= 0.8Y + 220 \\
Y - 0.8Y &= 220 \\
Y(1 - 0.8) &= 220 \\
0.2Y &= 220 \\
Y &= 220 / 0.2 = 2200 / 2 = \underline{1100}
\end{aligned}$$

(b) Government expenditure multiplier ( $G_m$ ) is

$$= 1 / 1 - b = 1 / 1 - 0.8 = 1 / 0.2 = \underline{5}$$

Increase in national income if Government expenditure increases by 60.

$$\begin{aligned}
\Delta Y &= G_m \times \Delta G \\
&= 5 \times 60 \\
&= 300 \\
&===
\end{aligned}$$

(c) Lump sum multiplier =  $-b / 1 - b$

$$= -0.8 / 1 - 0.8 = -0.8 / 0.2 = -4$$

===

Balanced budget multiplier =  $G_m + T_m = 5 + (-4)$

$$\begin{aligned}
&= 5 - 4 \\
&= 1 \\
&==
\end{aligned}$$

(d) The equilibrium level of national income when  $T = T + t_y = 100 + 0.25Y$

The value of  $T$  ( $= 100$ ) is a fixed lump sum tax which does not vary with income while  $tY$  will vary with level of income ( $Y$ ) depending on the value of  $t$ .

The value of national income incorporating Lump sum Tax ( $T$ ) and proportional tax ( $t$ ) is given as;

$$\begin{aligned}
 Y &= 1/(1-b + bt) (a - bT + I + G) \\
 &= 1/(1-0.8+0.25 \times 0.8) (100 - 0.80 \times 100 + 100 + 100) \\
 &= 1/(1- 0.8 + 0.2) (300 - 80) \\
 &= 1/(1-0.6) (220) \\
 &= 1/ 0.4 (220) = = 2.25 ( 220) = 550
 \end{aligned}$$

## **(I) DETERMINATION OF NATIONAL INCOME IN AN OPEN ECONOMY: THE FOUR SECTOR MODEL**

Foreign trade in goods and services affect the product market and influences the determination of national income since net exports ( $NX$ ) is a component of aggregate demand. The Keynesian model of determination of national income therefore can be extended by adding the component of foreign trade.

When we include net export ( $NX$ ) in our analysis we get the following equation for the equilibrium level of national income ( $Y$ ).

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

$$C = a + b (Y - T) = a + bY - bT$$

$$Y = a + bY - bT + G + NX$$

$$Y - bY = a - bT + I + G + NX$$

$$Y (1 - b) = a - bT + I + G + NX$$

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

Thus, the equilibrium level of income is the sum of all fixed autonomous expenditures i.e.  $(a - bT + I + G + NX)$  times the value of multiplier  $(1 / 1 - b)$

### THE FOREIGN TRADE MULTIPLIER

The import function (M) has two components, autonomous imports and induced imports. The import function therefore can be expressed as

$$M = M + mY$$

Where M represents autonomous imports, mY represents imports that are dependent on the level of income (Y) and m is the marginal propensity to import. As income increases, mY will also increase.

By incorporating the import function the four sector model can be derived as follows;

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

$$C = a + b (Y - T)$$

$$M = M + mY$$

Substituting the consumption function and import function in the income equation we get:

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

$$= a + b (Y - T) + I + G + [X - (M + mY)]$$

$$Y = a + bY - bT + I + G + X - M - mY$$

Collect like terms together

$$Y - bY + mY = a - bT + I + G + X - M$$

$$Y (1 - b + m) = a - bT + I + G + X - M$$

$$Y = 1 / (1 - b + m) (a - bT + I + G + X - M)$$

The term  $1/(1 - b + m)$  is called the foreign trade multiplier whose value is determined by marginal propensity to consume (b) and marginal propensity to import (m). Foreign trade multiplier is also known as open economy multiplier.

Change in any autonomous factor of the model such as X, G, I, a or M will cause a change in national income by the value of foreign trade multiplier  $1/(1 - b + m)$  times the change in the amount of the factor.

For example if exports increase by  $\Delta X$  national income will increase by

$$\Delta Y = 1/(1 - b + m)\Delta X$$

#### **(i) INCORPORATING PROPORTIONAL INCOME TAX IN THE FOUR SECTOR MODEL**

If proportional tax is incorporated in the four sector model only the term of foreign trade multiplier will change. The other terms of the model will remain the same.

If income tax is of the form  $T = T + tY$  where T is constant lump sum Tax, and t is proportional income tax, the value of foreign trade multiplier becomes:

$$\text{Foreign Trade Multiplier} = 1 / (1 - b + bt + m)$$

Where t is the proportional income tax rate. With proportional income tax, the equation for equilibrium income can be written as;

$$Y = 1 / (1 - b + bt + m) (a - bT + I + G + X - M)$$

## UNIT 3: ANALYSING MONEY, BANKING AND MONEY MARKETS

### 3.1 Introduction

#### Learning Outcomes

Upon completion of this unit the trainee should be able to:



- Analyse the barter system.
- Analyse the functions and characteristics of money.
- Analyse functions of commercial banks.
- Analyse money markets.

### 3.2 Terminology.



- Barter system: exchange of goods and services for goods and services.
- Money: anything which is generally acceptable for exchange.
- Quantity theory of money: a theory that explains the movements in the value of money over time.
- Reserve ratio: minimum amount kept by banks to meet depositors' needs.

It is not easy for one to give a satisfactory and concise definition of money but its importance is quite obvious. In our present day world, money is considered to be the life blood of all economic activities. The efficient operation of the modern economy would not be possible without the use of money in one form or other. The current banking system, the domestic and international trade, various government operations and indeed any other economic activity would be difficult to handle without the use of money as a measure of value and medium of exchange. The use of money made it possible to do away with the Barter system which involved the exchange of goods for other goods.

**Barter System:** Before the use of money as we know it today, various communities in the world used to exchange goods for goods and this system was known as Barter. However, with the growth and expansion in economic activities the barter system was found to be cumbersome and unsuitable due to the following disadvantages.

- a) It was difficult to determine the values of goods that were being exchanged. For instance when changing salt with say chickens, it was not easy to arrive at a value needed to exchange the two items. There was therefore a lot of haggling before the exchange could take place.

- b) A problem also arose when exchanging goods of varying sizes and quality. For instance if one had a cow but needed a loaf of bread.
- c) The exchange was dependent on what is called “double coincidence of wants”, meaning that the exchange of goods could only take place if the parties involved in the exchange transaction had identical requirements in terms of items needed and offered. For example if one had rice but needed meat, for exchange to take place he had to find someone with meat who was in need of rice but if this was not so then the transaction would not be done.

### **3.3 Origins of Money**

As economic activities and trade increased, it became inevitable and necessary to find an alternative medium of exchange. Initially various commodities were used (in different communities) such as cattle, salt, beads and metals like copper, iron, silver and gold but eventually the use of silver and gold became more acceptable and widespread because they were precious and durable. Normally silver and gold were produced in form of bars (ingots) but were later cut into smaller pieces to facilitate exchange of goods of varying sizes and this led to the development of coins. On the other hand, paper money (bank notes) originated from receipts of gold or silver which they had kept on behalf of their clients. Since these receipts presented the value of these metals they had a promise to pay the value of the metal on demand. Later these receipts began to circulate and were used as instruments of exchange and eventually led to the development of paper money.

### **3.4 Functions of Money**

Basically money performs four main functions as follows:

- i) A medium of exchange – this was the earliest function of money. It facilitates the exchange of goods and services meaning it makes it possible and easy to buy and sell goods and services.
- ii) Measure of value and unit of account – It serves as a stand for measuring value – it provides a means of determining the relative values of different goods and services in a uniform way. This means determining a rate of exchange between different kinds of goods. This makes it possible to price goods and services and provide the basis of making calculations and the preparation of financial records like profit and loss, balance sheet, etc.
- iii) A standard of deferred payments – This simply means that money makes it possible to enter into contractual or credit arrangements and pay later. It means making payments to be deferred from the present to some future date. In other words it makes borrowing and lending activities easy to do.



- iv) A store of value – Money is used as an alternative way of keeping wealth in form of cash or investment accounts. It is the most convenient way of keeping any income which is surplus to immediate needs. Money is a liquid asset that can instantaneously be converted to goods and services without any inconvenience.

### **Characteristics of Money**

For a commodity to serve as an effective medium of exchange (as money) it must have the following characteristics or attributes.

- i) It must be accepted as a legal tender in the community it is used (Acceptability).
- ii) Should easily be recognized
- iii) Should be uniform in appearance for it to be easily recognized
- iv) Must be fairly durable in quality and value (Durability).
- v) Capable of being divided into small units or denominations without affecting its value (Divisibility).
- vi) Should be light and easy to carry (Portability).
- vii) Must be scarce – must not be too plentiful (Scarcity).

### **3.5 Types of Money**

- i) Coins
- ii) Bank notes (paper money)
- iii) Bank Credit

When coins and bank notes are authorized by the Government they are known as legal tender.

If the coins and banks notes have their value based fully on the value of gold or silver such money is known as convertible currency. But money not backed by gold or silver but by government authority is known as fiduciary issue (inconvertible money). However all the currencies in the world are fiduciary as none of them are backed by gold or silver?

### **The Value of Money**

Generally the value of money is expressed in form of prices for goods and services. When prices go up it means the value of money has gone down and when prices reduce it means the value of money is rising. Trends over many years indicate that the value of money like any commodity is not constant but changes upwards or downwards.

The changes in prices have their own implications. When prices go up it hurts consumers but it means more revenue and profits for suppliers and this may help create job opportunities. On the other hand if prices go down consumers rejoice but suppliers suffer reductions in revenues and profits and in the process jobs may be lost.

### 3.6 The Quantity Theory of Money

This theory was introduced by classical economists in the 17<sup>th</sup> Century to explain the movements in the value of money. They noticed that there was a link between quantity of money and its value (or general level of prices). From this they concluded that changes in the value of money was caused by changes in its quantity or supply. This meant that if money supply was increased by say 20%, the value of money would go down by the same margin and vice versa.

However, this theory was criticized as being unrealistic because it had not taken into account other factors that influence changes in prices of goods such as fashion, weather conditions, seasonal variations, technological changes and their impact, demand for money, etc. But the theory created awareness that the supply of money needed to be managed carefully to avoid negative impact on the value of money.

#### i) Equation of Exchange

This theory which was proclaimed in the 20<sup>th</sup> Century went further than the quantity theory by stating that the value of money was influenced not only by the quantity of money but also by the rate at which money circulates or is spent (velocity) and the output of goods and services. It was expressed in form of an equation of exchange, thus:  $MV = PT$ .

M stands for quantity of money, V for velocity, P for price levels and T for goods and services during a given period.

From that equation,  $P = MV/T$  showing that price levels were affected by 3 factors, namely, quantity of money, velocity and output of goods and services. This theory too was not fully accepted.

The classical economists are of the view that inflation is due to over expansions of money supply by the government and that attempts to control inflation by any means other than the strict control of money supply will be doomed to failure.

The quantity theory of money explains the relationship between money supply and the general price level and is expressed as follows:-

$$MV = PT$$

Whereby:

M = Money supply

V = the velocity or speed of circulation of money

P = the price level

T = the volume of transactions

This equation is also known as the main equation of exchange. The left hand side of the equation represents the total amount of money used to finance transactions in a given period. Both sides therefore are equal.

According to this theory, there is a direct relationship between inflation or the general price level and the quantity of money. That is, if the quantity of money is increased by 15% prices would also increase by 15%.

The quantity theory of money supply is based on the following assumptions:-

- (a) That in the main equation of exchange, both  $V$  and  $T$  would be constant
- (b) The economy is at full capacity so that output cannot be expanded to respond to increased demand.

In reality, the velocity of money and the volume of transactions are never constant. They change from time to time. The economy also is never always at full capacity. There is always room to expand output to meet increasing demand.

### **Demand for Money**

Demand for money refers to the situation where there is desire to hold or keep money instead of investing it. The opportunity cost of holding money over a period is the interest income that is forgone. The question is why do people desire to hold money? People hold money because they get some benefits from doing so. In deciding how much to hold, people consider both the benefits and costs of holding money.

According to the famous economist, Lord Maynard Keynes of the United Kingdom, there are three motives for holding money, namely, the transaction motive, the precautionary motive and the speculative motive.

**The Transactions Motive:** People whether consumers or businessmen, keep a certain amount of money to carry out certain transactions associated with day to day requirements. These include the purchases of food, fuel, transport needs debt payments etc. In other words money is needed in order to acquire various items as and when needed.

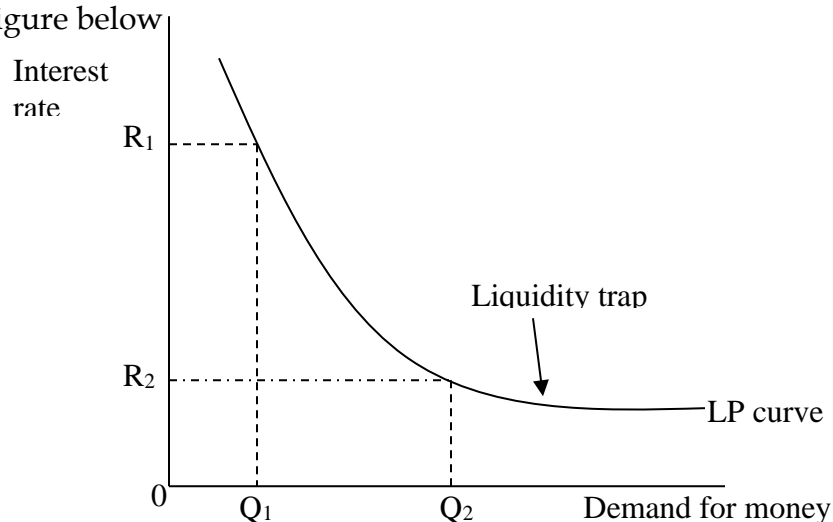
**The Precautionary Motive:** People keep money aside in order to meet the unforeseen and unplanned activities such as funerals, illness, accidents, loss of property through thefts or fires, etc.

**The Speculative Motive:** This is where money is kept in anticipation of making more money. Some people may expect interest rates or value of stocks or shares to rise in the future and therefore they keep money to take advantage of such trends to make more money in the future. Others keep money to participate in gambling with a view of making more money.

The speculative motive is prompted by opportunism and the chance to make profits from future uncertainties. Money held for this motive consists of funds which would normally be placed on the capital or money markets but which are kept liquid in the expectation that more profitable opportunities will arise in the future.

The speculative holding of money results into an opportunity cost, that is, the foregone interest that could have been received had the money been invested. There is, therefore, an inverse relationship between the rate of interest and the willingness to hold money for speculative purposes. The higher the interest rates the lower the willingness to hold money and vice versa. The speculative demand for money will, therefore, be high when interest rates are low and the desire to hold money will be low when interest rates are high.

If each individual liquidity preference is added together a liquidity preference curve can be drawn which represents the demand for money as shown in the figure below

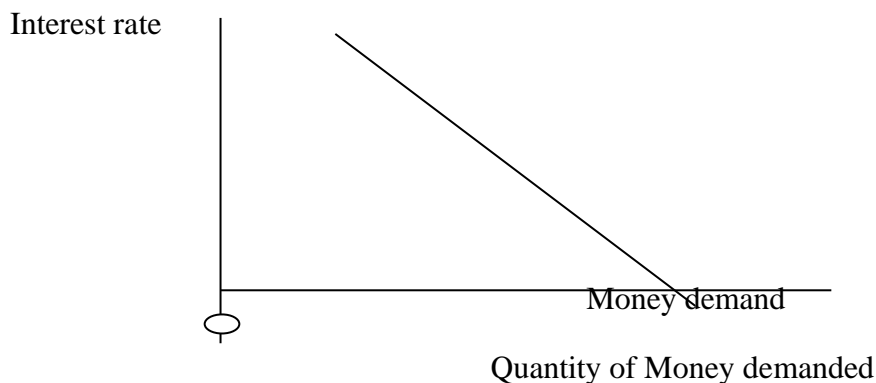


When the interest rate is high like at  $R_1$  speculative balances will be zero, that is only transactions and precautionary balances will be held. If the rate of interest is very low like at  $R_2$ , large speculative balances will be held. The horizontal portion of the liquidity preference curve is referred to as the LIQUIDITY TRAP. In this portion of the curve, the demand for speculative balances is perfectly elastic

With respect to interest rate.

Reductions in interest rate below the liquidity trap only increases people's desire to hold cash balances and a small increase in interest rate above the liquidity trap leads to a big drop in speculative balances. Below the liquidity trap an increase in money supply that is intended to lower the rate of interest and promote investments in the economy will not work because people will keep money in homes instead of putting it in banks.

### **The Money Demand Curve**



The above curve shows that the quantity of money demanded increases as interest rates decline. The interest rate is the opportunity cost of holding money. The money demand curve shows a relationship between the level of interest rates in the economy and the stock of money demanded at a given point in time. The higher the level of interest rates the greater the opportunity cost of holding money and the lower the quantity demanded.

### **THE SUPPLY OF MONEY**

The money supply is the stock of money existing at any particular time. It is basically made up of coins and bank notes in circulation as well as bank deposits. Money supply is measured either narrowly or broadly, with a very thin dividing line between the two.

**NARROW MONEY:** It comprises mostly notes and coins in circulation plus bank deposits. This is money that is available to finance current spending, money that is held for transaction purposes, thus highlighting the function of money as a medium of exchange.

**Broad Money:** This is narrow money plus savings. It also includes liquid assets. This involves the function of money as a medium of exchange as well as a store of value.

**Definition:** Money is anything that is generally accepted as payment in exchange for goods and services and for settling debt

### **COMPONENTS OF MONEY SUPPLY**

There are three components of money supply;

- (1) Bank notes and coins in circulation with the public
- (2) Demand deposits in bank accounts. This is money held in current accounts which is also referred to as sight deposits. These amounts do not earn interest and may be subject to charges. They are normally held for their convenience as a means of payment by cheques and they can be drawn on demand.
- (3) Savings and fixed deposits (TIME DEPOSITS) with COMMERCIAL BANKS. This is money held in fixed accounts. These accounts earn interest but cannot be transferred by cheques.

Adding the three components together gives the total money supply in the economy.

In banking, two terms are used in measuring money supply namely M1 and M2 as shown below:-

$$\begin{array}{lcl} (1) \text{ Notes and coins in circulation} & \left. \vphantom{\begin{array}{l} (1) \text{ Notes and coins in circulation} \\ (2) \text{ Demand deposits (sight depots)} \end{array}} \right\} & \\ (2) \text{ Demand deposits (sight depots)} & \left. \vphantom{\begin{array}{l} (1) \text{ Notes and coins in circulation} \\ (2) \text{ Demand deposits (sight depots)} \end{array}} \right\} & \text{M1} \\ (3) \text{ Savings and fixed deposits} & & \\ \text{(Time Deposits)} & \left. \vphantom{\begin{array}{l} (3) \text{ Savings and fixed deposits} \\ \text{(Time Deposits)} \end{array}} \right\} & \text{M2} \end{array}$$

M1 = Currency outside banks plus demand deposits

M2 = M1 plus savings and fixed deposits in commercial banks with maturity of less than one year.

### 3.7 CONCEPTS OF BANKING

The banking system being discussed here is made up of commercial banks and the Central Bank.

**Origin of Banking:** The banking system in Zambia is based on the British System. In England banking originated from the London goldsmiths, who, because of the nature of their business, had facilities or warehouses for storing valuables such as gold, silver and others. These goldsmiths accepted deposits of valuables from merchants who had no safe place in which to keep their valuables and charged them for looking after their valuables. Receipts were issued by goldsmiths to acknowledge the valuables they kept on behalf of their customers. Later these receipts began to circulate and were used as means of payments by merchants. These receipts eventually evolved into paper money or bank notes.

A financial system is made up of financial markets and financial institutions, it may also include formal and unregulated systems of finance, such as moneylenders, trade credit, micro finance and co-operative credit.

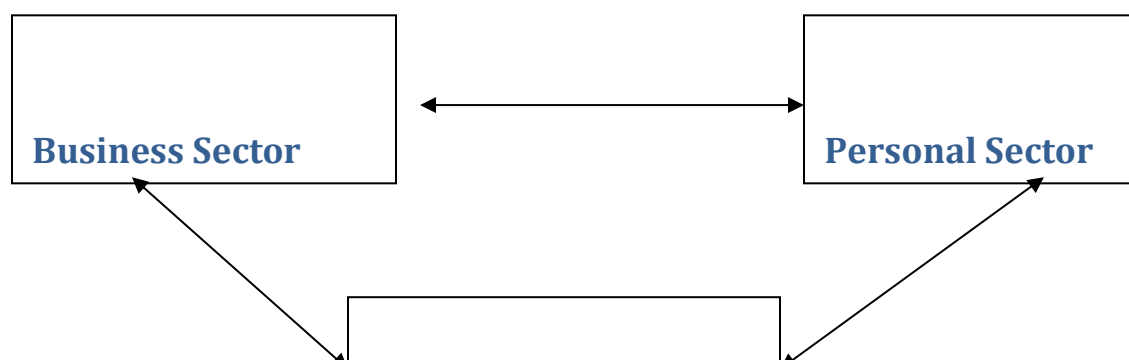
Financial markets are the capital market, the money market and the foreign exchange market. Financial institutions are commercial banks, building societies, insurance companies, national savings and credit bank etc.

A financial system brings in many benefits in the economy, it facilitates payments, raise the level of savings and investment. Capital is accumulated and allocated to uses where there are highest returns. The system helps to provide a means of transferring and distributing risk across the economy. Risk is diversified or pooled among a large number of savers and investors, by offering assets with different degrees of risk, financial institutions assess and manage risks and assign to individuals having different attitudes and perceptions towards flow of funds.

#### THE FLOW OF FUNDS

Funds flow between three sectors in the economy. Individuals give and lend money to each other. Organizations lend money and purchase goods from each other. The central government provides funds to the local government and loss making nationalized industries.

In addition, there is also a flow of funds between the different sectors of the economy.

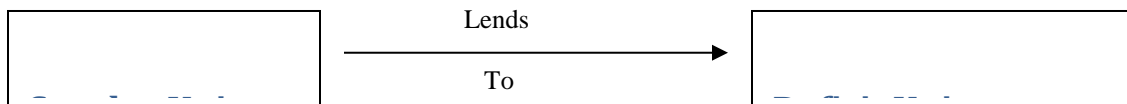


A go-between, known as a financial intermediary, such as a commercial bank or building society, facilitates the flow of funds. Banks provide a means by which funds can be transferred from surplus units in the economy to deficit units. Linking lenders to borrowers.



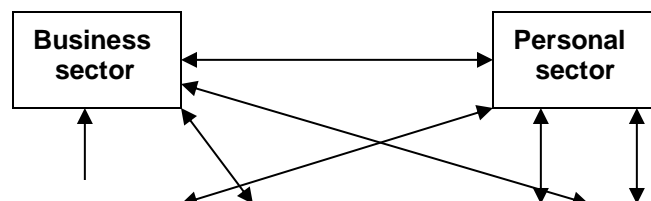
An individual deposits saving with a bank, the bank provides a loan to a company, as explained under credit creation.

If no financial intermediation takes place, lending and borrowing is direct.

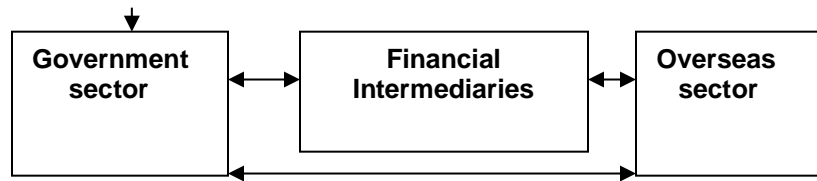


Direct lending is also known as financial disintermediation. Savers wishing to lend have to find a trust worthy borrower. The lender bears the risk of default. The borrower has to locate savers with money to lend. This results in high information cost and high default risk.

In practice, financial intermediaries also lend abroad, as well as borrow from abroad. Therefore, a detailed diagram of the flow of funds showing the role of financial intermediation in an open economy is as shown below:







## BENEFITS OF FINANCIAL INTERMEDIATION

- A convenient way in which lenders save money
- They can package the amounts lent by savers and lend on to borrowers in bigger amounts (**aggregation**)
- They provide a ready source of funds for borrowers.
- The lenders, capital is secure, bad debts are borne by the financial intermediary.
- They bridge the gap between the wish of most lenders for liquidity and the desire of most borrowers for loans over longer periods. This is known as **maturity transformation**.
- They provide tangible returns to savings i.e. Interest rates.
- They act as an important medium for the implementation of financial (monetary) policies.

## FINANCIAL INTERMEDIARIES

The banking system is made up of commercial banks and the central bank, and the non-banking financial intermediaries e.g.

- Building societies
- National credit and savings bank
- Insurance companies invest premiums paid on insurance policies by policyholders.
- Pension funds are mobilized through forced contributions from employees, and these are invested in financial markets and real estate.
- Investment trust companies invest in the stocks and shares of other companies and the government. Investment trusts simply trade in investment.
- Unit trusts are similar to investment trusts in that they invest in stocks and shares of other companies, but they enable small investors to invest with minimum risk. Unit trusts comprise of portfolios (stocks or shares in a range of companies or for example shares in mining companies), the trust creates a large number of small units, which are then sold to individual investors.
- Development banks are specialized financial institutions that provide long term and medium term funds.
- **Venture capital** is investment in **long-term, risky equity finance**, where the reward is an eventual capital gain, a takeover, a trade sale or a stock market flotation, rather than dividend income or interest. The main providers are investors in industry.

- **Hire-purchase** companies, facilitate the acquisition of physical assets through **extension of credit**.

## **COMMERCIAL BANKS AND CREATION OF MONEY**

Commercial banks are financial intermediaries, with the same roles and benefits as other financial institutions.

A Commercial bank's activities can be one or more of the following:

- Clearing – settling payments
- Retail – traditional banking, offers small deposits and small loans to customers.
- Wholesale – bank dealing with large quantities
- Investment-also known as merchant banks, are specialized and deal with corporate customers.

### **Functions of commercial banks**

Banks provide a payment mechanism and a place to store surplus money; they also provide means of obtaining and selling foreign exchange.

Commercial banks advise and assist companies in the issue of shares, and give investment unit trust advice and business.

They also engage in financial leasing, debt factoring or collection management, including executorships (trustee) services.

Banks finance import and export operations and investments.

The most profitable business of commercial banks is lending money in the form of overdrafts, discounting bills of exchange and loan facilities. This particular function is always expanding because banks create credit, create deposit and therefore create money.

### **Credit creation**

Commercial banks are financial intermediaries, who accept deposits and extend loans. They operate on the assumption that they know from experience that customers only withdraw a fraction of what they have deposited and that not all depositors withdraw all their cash at the same time. Therefore, banks only keep a small fraction of their assets as actual cash, known as **fractional reserve** system.

To simplify the explanation on credit creation, assume that there is only one commercial bank, which is already in business with lenders and borrowers. Assume also that the bank knows from experience that the reserve ratio, that is, funds that a commercial bank must keep, as actual cash is 10% of a customer's deposit.

If a customer deposits K100 million in the bank, then the bank's balance sheet on day one will appear as follows:-

#### DAY ONE

<b>Liabilities</b>		<b>Assets</b>	
	<b>Km</b>		<b>Km</b>
Share Capital	10	Fixed assets	10
Customer deposit	<u>100</u>	Cash	<u>100</u>
	<b><u>110</u></b>		<b><u>110</u></b>

Note that the share capital is used to finance fixed assets, and therefore, can be ignored; it is not part of the credit creation process.

If the bank loans 90% of the deposit, then the bank's balance sheet will appear as follows:

#### DAY TWO

<b>Liabilities</b>		<b>Assets</b>	
	<b>Km</b>		<b>Km</b>
Share Capital	10	Fixed Assets	10
Customer deposit	<u>100</u>	Cash	10
		Loan	<u>90</u>
	<b><u>110</u></b>		<b><u>110</u></b>

An individual, firm or a government borrows money for a purpose. Suppose the loan of K90m is used to purchase a motor vehicle, the person receiving the money deposits it in the bank, and the bank's balance sheet will appear as follows:

#### DAY THREE

<b>Liabilities</b>		<b>Assets</b>	
	<b>Km</b>		<b>Km</b>
Share Capital	10	Fixed Assets	10
Deposit - original	100	Cash	10
New deposit	<u>90</u>	Cash from new deposit	90
		Loan	<u>90</u>
	<b><u>200</u></b>		<b><u>200</u></b>

The bank will again maintain only 10% of the new deposit as actual cash and lend the rest to customers. This process continues, however, the credits and deposits being created reduce until it becomes too small to generate a fresh loan.

It is possible to calculate the total deposits created from any initial deposit and to come up with the final balance sheet by using the formula.

$$D = \frac{C}{R} \quad \text{where } D = \text{final deposits created}$$

$$C = \text{initial cash deposit}$$

$$R = \text{cash reserve ratio}$$

$$D = \frac{100}{10\%} = 100 \times \frac{100}{10} = 1\,000$$

From the initial deposit of K100m, the bank's final balance sheet appears as:

Liabilities		Assets	
	<b>Km</b>		<b>Km</b>
Share Capital	10	Fixed Assets	10
Total deposit	<u>1000</u>	Cash	100
		Loans	<u>900</u>
	<u>1010</u>		<u>1010</u>

Note that the bank has created credit worth K900m from the initial deposit of K100m, this has resulted in additional deposits of K900 which is in circulation as part of the money supply.

In practice there are several banks in any economy and billions of money is 'created', but the process remains basically the same. This process is very important to know because it is closely linked with the money supply in the economy and as such the level of Economic activity.

## LIMITS TO CREDIT CREATION

A deposit of K100m with a cash credit multiplier of 10% may not result in K1 billion total deposits. Some of the restrictions on credit creation may be summarized as:

- Since there are several banks, an individual bank cannot adopt an expansionist policy, unless other banks are willing to do the same. The clearing bank may have an overcautious credit policy, and restrict lending.
- A bank's ability to lend depends on its ability to acquire deposits, this may sometimes be limited by the lack of public confidence in the banking sector, and their inability to make abnormal demands for cash.
- Lack of collateral security may also hinder the process of lending and borrowing.

- The government, through the central bank, may decide to restrict lending and borrowing, in order to control the money supply in the economy.
- There is an inverse relationship between the cash reserve ratio and the money that is 'created' by banks. In developing countries, the cash ratios are relatively high, this means less Economic activity
- If the loans are spent on imported goods, then the foreign banking system benefits instead of domestic banks.

## **CONFLICTING OBJECTIVES OF PROFITABILITY, LIQUIDITY AND SECURITY**

A commercial bank's assets and liabilities reflect a balance between conflicting demands of liquidity, profitability and security. A commercial bank has to serve the interests of its shareholders, which is maximising profits, and to attain this, the bank has to lend as much as possible. However, the bank has to ensure that it has adequate liquidity to meet the cash demand from depositors. As far as depositors are concerned, their money is secure at the bank.

### **- Liquidity**

Used to settle daily cash withdrawals from customers and to settle accounts with other commercial banks in the clearing system, but balances for these purposes earn no interest and are unprofitable. Banks have to make sound investment policy, by investing in assets that can be easily converted into cash.

### **- Profitability**

A commercial bank's profit is normally obtained from interest charged on assets minus interest paid on liabilities.

Commercial banks have an objective of trading profitably like other commercial organizations. To pursue this objective they need to earn high interest rates. Therefore, they have to lend for a long term and to high-risk customers. This reduces the choice of liquidity and security.

### **- Security**

Commercial banks are expected to act prudently to safeguard the interests of depositors and shareholders; this however reduces opportunities for profitable lending.

## **Functions of Commercial Banks**

The following are some of the functions carried out by Commercial Banks:

- i) **Accepting Deposits:** Banks provide depository services to their clients and keep money in form of current accounts, savings, and fixed or time deposit accounts.

Current accounts enable customers to keep their money in a bank and they are charged fees for keeping their money in the bank. The funds kept in a current account are also known as Demand Deposits because funds can be withdrawn anytime as needed. Cheque books are normally issued to the account holders and withdrawals are made through the use of cheques or ATM cards.

**Savings Accounts** -This is where customers are paid interest by Banks on the deposits kept in the savings accounts. Normally banks prescribe minimum amounts that have to be maintained in these accounts.

**Time Deposits:** Here clients keep relatively large amounts of money in a Bank for a specified period which can be 30 days, 60 days, 3 months, 6 months, 2 years or any period that a client may opt to have. Interest rates paid here are normally higher than in savings accounts.

- ii) **Providing Credit Facilities:** Banks make their money by lending out funds to clients on which they charge interest. Generally Banks provide credit facilities in form of overdrafts and loans. One has to be a client in order to qualify for a credit facility. To access a facility a customer has to apply indicating the amount needed and the purpose of the facility. Each request is subject to evaluation to determine its viability. A successful applicant is required to provide security for the facility given.

**Overdraft:** One must have a current account to qualify for this facility. It is also known as 'advances'. An overdraft is a facility where a current account holder is allowed by the Bank to overdraw the account up to an authorized limit. If one is given a facility of say K20 million, it means that the account can be overdrawn up to this amount. Balances under this facility fluctuate when withdrawals are made and funds are deposited from time to time. Interest is charged only on negative balances. The facility is normally valid for one year but subject to renewal as required.

**Loans:** A loan is given and paid within a specified period. One can borrow for 3 months, 6 months, 2 years, etc. Loan repayments are normally made in installments and the loan balances reduce as payments are made. Interest is charged on outstanding loan balances. For example if one gets a loan of K12 million payable in 3 monthly installments the situation will be as follows:

	<b><u>Installment</u></b>	<b><u>Loan Balance</u></b>
1 <sup>st</sup> payment	4,000,000	8,000,000
2 <sup>nd</sup> payment	4,000,000	4,000,000
3 <sup>rd</sup> payment	4,000,000	N I L

Loans like overdrafts require security as may be specified by the bank.

- iii) **Agents of payments** – Banks make various payments on behalf of their customers. For instance they pay bills on behalf of their customers if instructed to do so. They can also remit funds from one to another on behalf of their clients.
- iv) **Foreign Exchange** - Banks are involved in the buying and selling of foreign exchange. The buy rate is one at which banks buy foreign exchange from

clients and sell rate is one at which they sell to clients in need of foreign currency.

- v) Trade Financing – Banks also provide resources and facilities for handling trade and business transactions.
- vi) Advisory Services – customers obtain advice if required on how to conduct and run business activities.
- vii) Valuables – Banks provide facilities where customers can keep their valuables.
- viii) Brokerage – Banks act as agents or brokers in the buying and selling of shares on the stock exchange.

### **FACTORS THAT CONTRIBUTE TO BANK GROWTH**

The size of the Bank can be expressed in form of deposit levels or total assets. Banks differ in terms of size and the rate at which they expand their operations. This is due to the following factors:

1. Initial Capital – The amount of capital which the Bank uses to start its operations can have a bearing on its growth. The larger the amount the more likely that a bank can grow faster than one that begins its operations with limited capital amount.
2. Location – If a bank is located in an area where business potential is high its growth is likely to be high. Poor choice of location can have adverse impact on the growth of a bank.
3. Number of customers – The more customers the banks is able to attract the more chances it has in experiencing growth in its business operations.
4. Quality of Customers – A bank may have fewer customers but if such clients are able to generate large volumes of business then it may grow faster than a bank with large numbers of customers that have limited business capacities.
5. Quality of Management – A bank with experienced and highly competent management staff can influence growth through proper planning and good marketing strategies. Poor management can reduce a bank's capacity to grow as expected.
6. Reputation of a bank – the reputation of stakeholders , directors and management can help in attracting customers to a bank and vice versa. There is no way a bank can grow its business if it fails to attract sufficient number of customers.

7. Economy – A buoyant and well managed economy tends to contribute to growth of banks where as a sick economy beset by corruption is likely to adversely affect the growth prospects.

### **FACTORS AFFECTING LENDING CAPACITY OF BANKS**

The profitability of any bank is determined by the size and quality of its loan portfolio. A profitable bank is one that experiences low default rates by its clients and has manageable provisions for substandard loans.

The following are some of the factors that affect the lending activities of banks either positively or negatively.

1. Deposits: The main sources of funds which Banks use for lending money to the public are deposits. Therefore the banks capacity to lend is determined by the amount of deposits at its disposal. A bank with total deposits of K500 billion has the capacity to lend out more in loans and overdrafts than a bank with K10 billion in deposits. This therefore means that the lending capacities of banks is determined by the size of their deposits.
2. Interest Rates: Customers that borrow money from banks are charged interest. Interest rate is the cost of borrowing. High interest rate tend to discourage people from borrowing because credit facilities become very expensive. A reduction in interest rates would make borrowing cheaper and will in turn encourage more people to borrow from banks.

On the other hand banks prefer high interest rates because they are able to generate more revenue and maximize their profits.

3. Security Requirements – Generally banks demand appropriate security to cover overdrafts and loans so that if borrowers fail to pay back the money borrowed then they can use the security to clear the debts in question. The point here is that if banks demand stringent security which many borrowers are not able to provide then this will reduce the number of eligible or potential borrowers. This will negatively affect their lending portfolios.
4. Quality of Proposals – Banks normally finance well prepared applications or proposals. If most of the potential borrowers do not have the ability to prepare viable proposals then banks will not be able to obtain enough customers.
5. Default Rates –If Banks experience high default rates (failure to pay back loans) in a community they are likely to be reluctant to lend more. This will inevitably lead to reduced lending.
6. Central Bank Regulations: There are a number of regulations put in place by the Central Bank that tend to affect the way banks handle their lending portfolios. For instance banks are required to place part of their deposits with the central bank. These are known as



statutory reserves. If the statutory reserve ratio is say 10%, this means that 10% of the bank's total deposits must be kept with the Central Bank. For example if a bank has K100 billion in deposits, 10% which is K10 billion is kept at the Central, leaving K90 billion with the bank. This means that the bank can utilize only K90 billion for lending purposes. An increase in the reserve rate reduces the amount of money the bank can use and similarly a reduction in the rate increases the amount of loanable deposits.

The Central bank can also influence interest rates used by Commercial Banks. The rates may either increase or decrease and in the process affect the lending capacity of banks.

## **7.8 The Role of the Central Bank**

The Central Bank is the principal financial Institution in any country. It regulates and supervises the entire banking sector. In Zambia the Central Bank is known as the Bank of Zambia and is owned by the State. It does not deal directly with the general public but through the Banking sector.

Some of the main functions performed by the Central Bank are follows:

1. It regulates and supervises the Banking and Financial sectors in the country. It ensures that the financial sector operates smoothly and effectively for the well-being of the entire economy. It has in place rules and regulations which it uses to manage the entire system and has a monitoring system to ensure compliance by all the players in the financial sector. The bank has also been given powers under an Act of Parliament which allows it to deal with any offenders that disregard its rules and regulations.
2. It is the only institution allowed to issue the country's currency in form of coins and bank notes.
3. It is responsible for managing and maintaining the internal and external value of the currency.
4. Acts as the Bank to the Government. This means that it provides all the Banking Services needed by the Government in the same way that the public is serviced by the Commercial Banks.
5. It is a Bank to Commercial Banks. These Banks have various accounts in the Central Bank.

6. It acts as a lender of last resort to banks when in need of financial assistance from the Central Bank.
7. It manages on behalf of the Government its internal and external debts.
8. It manages the country's foreign reserves.
9. It facilitates the clearing of cheques issued by the Banking system.
10. The Central bank maintains close contact with other Central banks and monetary institutions in other countries with the aim of achieving greater international monetary stability.
11. It is largely responsible for the country's monetary policy which involves decision and actions of the government regarding management of money supply. An increase in money supply leads to a lot of spending and borrowing. With too much money in circulation inflation is likely to rise. To reduce money supply the central bank normally moves in to reduce borrowing by limiting the capacity of commercial banks to lend.

The instruments that the Central Bank can use to control money supply include the use of the Bank Rate and Open Market Operations. The bank rate is the interest charged by the Central Bank. To check the money supply, the Bank rate is raised to make credit expensive and as such discourages people from borrowing.

In open market operations, the Central Bank can influence directly the banks level of deposits by buying or selling government securities like treasury bills and bonds and also by varying statutory reserves as required. For instance if the Central Bank wants to reduce money supply and ultimately the rate of inflation, it can do so by selling treasury bills which will lead to reduction in money supply.

## MONETARY POLICY

While fiscal policy is mainly concerned with taxation and public spending monetary policy deals with the way a country, usually through its central bank, regulates money supply, liquidity creation, and distribution of credit and control of interest rates in the economy. Objectives of monetary policy include the following

- (i) To promote financial and monetary stability in the economy.
- (ii) Achieving economic growth with minimum inflation
- (iii) Expansion of investments

- (iv) Maintaining a relatively stable exchange rate.
- (v) To help offset monetary disturbances that may arise from fiscal policy

### INSTRUMENTS OF MONETARY POLICY

Central banks have several tools of monetary policy at its disposal which include the following:

- (1) The central bank lends money to commercial banks and other institutions. Contraction or expansion of this lending influences the volume of the total liquidity in the economy.
- (2) The central bank regulates interest rates depending on the level of economic activity desired in the economy; that is whether it is expansion or contraction.
- (3) To protect the public, commercial banks are required to keep with the Central Bank a minimum reserve balance. By increasing or reducing this compulsory deposit the Central Bank is able to control the commercial banks' liquidity
- (4) The Central Bank is empowered to control the amount of loans given to the general public or to specific sectors of the economy.
- (5) Open market operations. The Central Bank can buy and sell government securities such as government bonds and treasury bills. The act of buying and selling government securities has the effect of reducing or increasing the volume of money flowing in or out of the market.
- (6) Devaluation. This is a sudden reduction in the value of the local currency in terms of foreign currencies by the government. Devaluation increases the volume of money circulating in the economy.

### 3.9 MONEY MARKETS

The money market, or sometimes known as the financial market was originally divided into segments as follows:

- i) Money Market
- ii) Discount Market
- iii) Securities or Stock Exchange Market
- iv) Capital Market

These markets evolved over time and had unique money products to handle with different players being involved. Nowadays the first two segments constitute the money market while the other two the capital market.

### **Products**

Each of the Markets indicated above specialized in handling specific products.

- i) Money Market – The product traded or handled in this market is short term funds in form of short term loans of up to 3 months duration and money at call. The last named product has no specific repayment period but payable on call.
- ii) Discount Market - The products here included treasury bills, Bonds, Bills of Exchange and Promissory notes. Treasury bills are short term government debts whose maturity could range from 3 months to 12 months or more. The Government borrows on short term basis by issuing treasury bills through the Central Bank and the debts are paid from Government Revenue. Bonds are normally medium to long term debts of two years or more.
- iii) Stock Exchange Market – Stocks or shares are the products traded in this market. This is the only market where trading is carried out in a building.
- iv) Capital Market – the product is in form of long term debts or debentures

### **Major Players (Buyers and Sellers)**

In the money market, like in other markets, one finds the suppliers (sellers) and buyers of the products traded.

- i) Money Market – The providers of funds (sellers) in the money market are Commercial Banks with excess liquidity or fund. When they have excess money which they have not been able to lend out, Banks take advantage of this market to offload the excess money which they lend at lower interest rates than they lend to the general public. The borrowers (or buyers) of these funds are financial institutions known as Discount Houses. These institutions borrow money from this market to use it for transactions in the Discount Market. Sometimes other Banks borrow from this market when they run out of funds. Hence it is sometimes referred to as the Inter-Bank Market.
- ii) Discount Market – The discount houses use funds borrowed from the money market to discount or purchase bills that are traded in this market.

What happens is that people and institutions invest money in treasury bills and bonds for specified periods. However, a bill holder may want to sell the bill before it matures for whatever reason. The discount houses take advantage of the situation to buy such bills at a discount. For example if a person had invested K100 million in treasury bills for 12

months. But after 6 months he may experience some financial problems and then decides to sell the treasury bill in order to get cash now rather than wait until the maturity of the bill. The discount House may offer to purchase the bill at say 10% discount, meaning that the owner of the bill will get 90% of the bill and the Deposit House will keep the bill until it matures and collects K100 million. A profit of K10 million is made by the Discount House by its involvement in the discount business. Therefore in this market the buyers are discount houses and the sellers are bill owners.

- iii) Stock Exchange Market – This is where stocks or shares are bought and sold. Shares are normally sold by companies that need funds to finance their operations. Buyers are individuals and various institutions that want to become shareholders. When one buys shares in a company he or she is entitled to getting dividends from the company. Shares appreciate in value (can also depreciate) and when this occurs the shareholders make a profit from such a transaction. For example if one buys shares at K100 per share now and then in 2 years' time the value of shares increases to K500 per share, it means that if this shareholder decides to sell his shares he will do so at a profit of K400 per share. The amount he gets will depend on how many shares he has.
- iv) Capital Market – The product here is long term funds and it is mainly investors that seek such funds to finance big projects that take long before operations start. Example are mining companies, energy developers, real estate businesses, etc. So the buyers here are investors. The providers of funds (sellers) are financial institutions that generate long term kind of money such as Insurance companies, Pension funds and merchant banks.

### **Benefits of Money Markets**

- They provide avenues where banks with excess liquidity can invest their excess funds.
- Source of long term capital through long term loans in the capital market and shares in the stock exchange
- Provide lucrative investments opportunities in securities such as bonds and shares.

## UNIT 4

## ANALYSING INFLATION

### 4.1 Introduction.

The purpose of this unit is to equip trainees with skills and knowledge about inflation. The unit discusses types of inflation, causes of inflation, measurements of inflation and effects of inflation.

### Unit learning outcomes

Upon completion of this unit the trainee will be able to:



- Explain types of inflation.
- Analyse causes and effects of inflation.



- Inflation: a generalize and persistent price rise.

### 4.3 Measuring Inflation:

Basically inflation is the rate at which the general price level increases for goods and services produced in a country. In other words it is a sustained rise in the general price level of goods and services.

Annual rates of inflation are measured by the percentage change in a price index from one year to the other. One common index used is that of Consumer Price Index (CPI). This index is based on a standard market basket of goods and services purchased by a typical average family. A price index is a number used to measure the price level. The list of items included in the CPI is compiled by the statistical office and normally comprises various goods and services which are commonly used in the community. Such items may include various food stuffs, clothing, housing, fuel, and many others (Luxuries are excluded from the list). This list is what is referred to as a basket of goods and services.

Once the list is compiled the prices of the items are indicated for a given period and the average prices for all the items are calculated. A similar exercise is done for another period and the information is compared in order to monitor the movements in prices of various commodities in the basket.

For example if one was comparing the CPI in 1990 to that of 1991, the rate of inflation between 1990 and 1991 would be calculated as:

$$\frac{\text{CPI in 1991} - \text{CPI in 1990}}{\text{CPI in 1990}} \times 100\%$$

If the average prices in 1990 were at 100.00 and 110.00 in 1991. The rate of inflation using the formula above would be:

$$\frac{110 - 100 \times 100\%}{100} = 10\%$$

Thus, it is not merely the fact that prices are rising which is important but rather the rate of increase. This is usually stated as the annual rate of inflation as measured by a price index. The most used index of inflation is the retail price index. An index is calculated from the prices of a collection of basic or essential goods and services which enter a typical shopping basket. The basket of goods is then revalued in each subsequent year at current prices and inflation is represented by an increase or decrease in the retail price index.

Steps to calculate the price index are as follows:

- 1) A base year is selected
- 2) A basket of goods is made up and the prices of all the goods in it are added to determine the basket's value.
- 3) The value so obtained is given the index value of 100.
- 4) The same basket is valued at current prices the following year
- 5) The current value is expressed as a percentage of the base year value and this becomes the index value for the current year. If real prices have risen the index will be above 100, if real prices have fallen the index will fall below 100.

### **TYPES OF INFLATION**

Generally speaking there are two types of inflation namely, demand pull inflation and cost push inflation.

**Demand Pull Inflation** – This kind of inflation is a result of demand for goods and services being persistently higher than supply of goods and services. This means that there is shortage in the system which suppliers of goods take advantage is to increase prices. In other words price changes respond to the market forces of supply and demand.

### **MEASURES TO CONTROL DEMAND-PULL INFLATION**

- (a) Increase taxation
- (b) Increase interest on funds available for loans

- (c) Reduce money supply
- (d) Reduce money in circulation i.e. by selling treasury bill

**Cost-Push Inflation** – This inflation is caused by an increase in the costs of production. An increase in wages and salaries, raw materials, fuel etc. may lead to the increase in the cost of producing goods and services. When this happens the producers of goods and services adjust prices upwards in order to cover the increase in the costs of production. This inevitably leads to an increase in prices and ultimately to inflation.

#### **MEASURES TO CONTROL COST-PUSH INFLATION**

- a. Source cheaper inputs
- b. Reduce taxation
- c. Freeze salaries i.e. no increments
- d. Increase investment (private and public)
- e. Source goods and services from countries with no inflation

The rate at which inflation occurs depends on the speed at which prices change. When there are small price increases this is known as creeping inflation but when prices change rapidly and involve large price increases it becomes hyperinflation.

#### **4.4 CAUSES OF INFLATION**

1. Money supply: any increase in the quantity of money leads to an increase in inflation. The classical economists through the quantity theory of money established a link between the quantity of money and the general level of prices. This situation remains true even today because if the supply of money is not properly managed it leads to increase in prices of goods and services.
2. Excessive Wage Demands: If hefty salary awards are given which do not take into account productivity and production levels of goods and services this can lead to increase in inflation. When salaries and wages are increased they affect the cost of production and at the same time the demand is boosted. This situation contributes to both cost-push and demand pull inflation.
3. Taxes – When the Government increases taxes such as excise duties, customs tariffs and value added tax (VAT) this makes the cost of production to go up and prices are increased to cover the costs arising from taxes. This leads to inflation as prices are adjusted upwards.
4. Government Spending – When government embarks on large investments in infrastructure development such as roads, schools, health facilities, etc a lot of money is pumped into the economy and leads to high demand resulting into demand pull inflation.



5. Imported Inflation – This occurs when prices of imported goods are increased in the country of origin, forcing the importing country to increase the prices of such goods. These adjustments in prices lead to inflation.
6. Exchange Rate Variation – When a currency of a country is devalued or depreciates in value it automatically makes all imported goods and services to be more expensive thus leading to upward adjustments of prices. Again leading to inflation.

#### **4.5 Effects of Inflation**

- a) Cost of Living – As prices increase the cost of goods goes up and in the process the standard of living is adversely affected. The unemployed people as well as pensioners and fixed income earners find the cost of living unbearable and unaffordable. In many cases a lot of social problems arise.
- b) Money Value – When inflation exists, the purchasing power of a nation's currency declines overtime. The money buys fewer goods and services as a result of increases in the price level. This means that the value of money declines when prices go up.
- c) Savings – Low real interest rates resulting from inflation discourage savings and encourage spending. The real rate of interest is the money rate of interest after making an allowance of inflation. If savers are discouraged from saving because the interest rates are perceived to be low, this can have a long term effect on investment because savings are considered to be an important source of investment.
- d) Nominal Income – When The rate of inflation exceeds the growth rate of nominal income, real income declines. Nominal income is the money value of income earned while real income is the purchasing power of nominal income measured by the quantity of goods and services that can be purchased with that money. Inflation therefore reduces the value of nominal income.
- e) Inflation distorts consumer behavior. Anticipated increase in prices forces people to purchase more goods hoping to beat inflation and in the process create shortages which suppliers in turn use to hike prices further.
- f) High prices make a country's products to be very expensive and uncompetitive in international trade. Consumers are likely to prefer cheaper imports to locally produced goods. This could affect the country's balance of trade.

- g) Inflation has an effect on debtors and creditors. It causes borrowers to gain at the expense of lenders in that time passes money loses its value so what lenders get from repayments is less in value.
- h) Inflation causes uncertainty in planning and forecasting. This affects both the Government and business entities
- i) Inflation also distorts the values contained in various financial statements. For instance the values of current and other assets reflected in the Balance Sheet may not be reliable as the relative values of items being compared keep on changing in monetary terms.

#### **4.6 Dealing with Inflation**

1. Money Supply – The most important thing is to ensure that the supply of money is prudently managed by the Government through the Central Bank. However when a country is faced with a problem of excessive money supply there are measures that can be taken to address the situation. Some of the measures include the use of open market operations, varying of statutory reserves and use of interest rates.
2. Excessive Demand: If a country is faced with excessive demand (that creates demand pull inflation) as a result of increased government spending or massive salary awards then taxes imposed on income will be necessary to control excessive demand and its effects. Related to this would be the introduction of measures aimed at increasing the supply of goods and services in order to narrow the gap between supply and demand.
3. Taxes – Taxes imposed on items that affect the cost of production tend to fuel inflation. What is needed is to reduce the rate of tax relating to excise duty, customs tariffs and value added tax. Such an action will result in reduced cost of production which will lead to a drop in price levels. However reducing such taxes is not easy because they are a good source of revenue for the Government.
4. Govt. Expenditure – Any reduction in Government expenditure can help in reducing inflation. But since Govt. spending is key to economic development and creation of jobs as well as poverty reduction, it is always difficult to take this route.
5. Price Controls – This is another measure that can be used in dealing with inflation. This means that the government gets involved in determining and controlling prices of goods and services considered to be essential to the well-being of the people. Items such as food stuffs, fuel, energy, rentals, etc. would fall under the essential categories.
6. Competition: This involves opening up local markets to international competition where imports would be allowed to compete with local products. Since most imported items tend

to be cheaper than local goods the prices of local products may be forced to drop and the process lower price levels or inflation.

7. Economy: The way the economy as a whole is managed with regard to prudent handling of monetary and fiscal policy may have a bearing on inflation. If such policies are not properly handled chances are that controlling inflation may prove problematic.

## UNIT 5: INFLATION AND UNEMPLOYMENT

After studying this chapter, the students should be able to:

- Define and explain causes of inflation
- Understand how to measure changes in the value of money
- Identify the negative effects of inflation
- Explain the measures used to control inflation
- Define and explain types of unemployment
- Understand how to measure changes in unemployment levels
- Identify the negative effects of unemployment
- Explain the relationship between inflation and unemployment
- Appreciate the supply-side policies

### 5.0: INTRODUCTION

In any economy, the government can follow expansionary or contractionary monetary or fiscal policies by either increasing the money supply and increasing aggregate demand or reducing the money supply and reducing the aggregate demand respectively. Unless the supply side policies are put into effect a government cannot easily control both inflation and unemployment at the same time. One economic 'evil' has to be 'traded off' for the other.

### 5.1: INFLATION

Inflation is a sustained rise in the general price levels of goods and services. It is measured using price indices.

Inflation can be classified between two extremes depending on the speed at which prices are changing. **Creeping inflation** is when there are small price increases while **hyperinflation** is the worst case of inflation. The prices of goods and services change very rapidly.

### 5.2: CAUSES OF INFLATION

There are three main causes of inflation, one view from the monetarists, and two views from the Keynesians. Demand-pull and cost-push are essentially Keynesian explanations of inflation. Monetarists reject these and believe that inflation is caused by an increase in the money supply. Keynesians on their part do not accept that an increase in the money supply actually causes inflation.

They will believe that an increase in the money supply is an indication that there is inflation in an economy. It is not a cause of inflation.

### 5.3: MONETARISTS VIEW AND THE QUANTITY THEORY OF MONEY

Monetarists consider the increase in the money supply as the only cause of inflation. The argument of the monetarists is based on the quantity theory of money. The theory is summarized as the fisher equation; Irving fisher developed the fisher equation of exchange. It appears in various guises, the most common is:

$$MV = PT$$

Where:

**M** is the amount of money in circulation

**V** is the velocity of circulation of that money

**P** is the average price level and

**T** is the number of transactions taking place

$MV = PT$  states that money supply multiplied by the velocity of circulation equals the price level multiplied by total transactions. This equation is true by definition since receipts are equal to expenditure. **PT** can therefore be thought of as equivalent to **National Expenditure**.

Assuming that **V** is constant in the short run as it is determined by the money supply, and **T** is fixed in the short run. **Then, increases in the money supply would lead to an increase in the general price level.**

### 5.4: COST- PUSH INFLATION

**This inflation is caused by an autonomous increase in the costs of production, considered as cost-push factors.** These may then cause cost-push inflation. Cost-push factors may be changes in wages, changes in the exchange rate, which change the price of imported raw materials or perhaps changes in indirect taxation. Cost-push inflation

occurs when a company's costs rise and to compensate, a firm has to put prices up. Cost increases may happen because wages have gone up or because raw materials prices have been increased.

Cost-push factors that can contribute to the increase in the cost of production include:

- Strong, powerful trade viewers who force employers to concede high wage increases, costs then rise and these are later passed on to consumers in the form of price increases. This situation is worse during periods of low unemployment.
- Import cost inflation, especially for a country, which depends on one or more of the imported finished products, capital equipment and more especially the ever-increasing price of imported fuel.
- High indirect taxes such as when there is an increase in value added tax or excise duties, consumers simply notice an increase in prices.

## **5.5: DEMAND-PULL INFLATION**

If there is an excess level of demand in the economy, this will tend to cause price to rise. This type of inflation is called demand-pull inflation and is argued by Keynesians to be one of the main causes of inflation. **Inflation occurs when increases in aggregate demand pull up prices, with aggregate supply remaining constant.**

The aggregate demand is the total demand in an economy, made up of government expenditure, consumptions expenditure, investment expenditure and exports minus imports. Any increase in one or more of the components of aggregate demand can put pressure on prices.

Increase in demand can be caused by expansionary either monetary or fiscal policies. If there is a high public sector net cash requirement, then total demand in the economy is stimulated.

The Keynesian original aggregate supply curve is an inverse 'L'. According to them, the pressure on prices is when aggregate demand expands after full employment of resources, before that point, an increase in aggregate demand acts as an incentive for firms to increase output. When the resources are fully employed, the aggregate supply curve becomes vertical and if aggregate demand increases beyond this point, an inflationary gap is created.

## 5.6: ANTI- INFLATIONARY MEASURES

To control inflation, first, it is necessary to know the cause. Unfortunately, this is difficult to do because inflation tends to feed on itself and there is the price wage spiral.

Suppose the prevailing inflation is demand driven, then, measures to reduce aggregate demand should be put in place, such as tight fiscal and monetary policies like increasing direct taxes and interest rates to reduce consumption expenditure and investment expenditure respectively. Government expenditure should also be reduced. This means that the government must aim for a budget surplus, by increasing its income through increased taxes, but reduce government spending the excess money should be kept frozen at the central bank.

If the inflation is due to an increase in the money supply then the government should attempt to reduce the money supply by reducing commercial bank lending using the instruments mentioned under the control of the money supply. **These are open market operations, increasing interest rates and assets ratios to discourage lending. Directing commercial bank to reduce their lending and requesting them to make special deposits at the central bank.**

If the source of inflation is an autonomous increase in the cost of production, **then measures should be taken to stop the wage-price spiral, reducing the power of trade unions or match the increased costs with increased productivity.**

**A country's currency can be allowed to depreciate in order to discourage imports, while encouraging exports, this means increased production. An increase in supply lowers the price.**

Prices and income policy that is wage and price controls can also be instituted to control inflation, this means freezing prices and incomes. This may not work well in a liberalized market economy. It also means controlling the consequences and not the cause of inflation.

## 5.7: ECONOMIC CONSEQUENCES OF INFLATION

A little inflation is considered good for any economy as it provides an impetus for firms to increase output. High prices are a sign that there is high demand for goods and services and there is a prospect of higher profits,

Generally, the negative effects of inflation are as follows:

- Inflation redistributes income,
- Retired people who are on fixed incomes suffer a lot from inflation,
- Inflation distorts consumer behavior. Consumers purchase many goods because of expected future price increases. They hoard goods hoping to 'beat' inflation and in the process create shortages.
- Inflation undermines business confidence. Businesses are unable to make concrete plans because of uncertainty in price fluctuation, in addition they have to change the price tags on products on a regular basis and this can be so costly and time consuming.
- Inflation and interest rate and savings. The real rate of interest, which is the money rate of interest after making an allowance for inflation, is reduced. Lenders demand for high money rates to compensate for lower real values.
  - Lower real interest rates discourage savings and encourage spending.
  - Inflation reduces a country's international competitiveness.
  - High prices make product (exports) unattractive on the international market, consumers are likely to prefer cheaper imports to locally produce products. This affects the balance of payments. A country has an adverse balance of payments when exports are lower than imports.
  - Inflation causes the currency to depreciate when there is a low demand for exports, therefore, the demand for the currency is low compared to its supply, and the currency depreciates in value.
  - Inflation redistributes wealth; it causes borrowers to gain at the expense of lenders as it reduces the value of the debt. The lenders receive less relative to what they had lent. This is related to the time value of money.
  - Inflation leads to uncertainty in price forecasting, both at central government level and at corporate business level.
  - Money is unable to perform its **functions** properly.

## 5.8: UNEMPLOYMENT

Unemployment simply means people do not have jobs. It occurs when people capable of and willing to work are unable to find suitable paid employment.

Unemployment is measured as number of unemployed x 100  
Total workforce



Full employment is when there are more jobs than people. The number of unfilled vacancies is equal to the number of people out of work. It is the level of national income at which everyone who wants to work is able to do so, in other words, there is sufficient demand to employ everyone.

Classical economists argued that the economy would automatically tend to this equilibrium, due to the market forces of supply and demand. Keynesians maintain that it is the role of government, using policy instruments at their disposal, to ensure that there is full employment in an economy.

### **5.9: CAUSES OF UNEMPLOYMENT**

In some books the words 'causes' and 'types' are used interchangeably. However, there is a distinction.

Type is the label given to describe the main common characteristic of some unemployment, while cause is more analytical, an attempt is made to explain how some unemployment has arisen.

Causes of unemployment can be broadly divided into demand and supply factors:

- Demand deficiency unemployment is caused by lack of demand for goods and services, and as a result, firms lay off workers. This is usually when the economy is in the recession stage of the economic or trade cycle and there is little economic activity.
- **Keynesians argue that a shortage of aggregate demand is one of the key causes of unemployment.**
- Monetarists view supply side factors such as strong trade unions demanding for high wages as causes of unemployment as firms employ less labour while the supply of labour increases.

### **5.10: TYPES OF UNEMPLOYMENT**

**Seasonal unemployment** is considered temporal and occurs in certain industries where economic activity is in specific periods or seasons, examples are tourism, agriculture and construction industries. There is high demand for labour during certain periods of the year, and then most of the workers are laid off during off peak periods.

**Frictional unemployment** is of a short-term duration. It refers to secondary school or college graduates who are searching for jobs, as well as individuals who are in between

workers leaving one job and starting another. Frictional unemployment is also imperfections in the market such as lack of knowledge, the geographical immobility of labour or a mismatch between the requirements of the employers and the available skills of the unemployed.

The more efficiently the job market is matching people to jobs, the lower this form of unemployment will be. However, as long as there is imperfect information and people do not get to hear of jobs available that may suit them then frictional unemployment is likely to be high.

**Structural unemployment** refers to long-term changes in the pattern of demand and supply in an economy. On the demand side, a firm may fail to compete with rival firms, demand for the company's product declines and the firm is likely to lay off workers and close the business.

Changes in the supply of a product, for example if the product like copper ore is getting depleted, there is no need to employ miners and this can lead to unemployment in the copperbelt. It may also result from changes in the production methods labour is replaced by machines or capital equipment, termed **technological unemployment**. Structural unemployment also includes **regional unemployment**, some regions in a country may have higher unemployment levels compared to other regions because of different regional economic performances.

Unemployment results because individuals do not respond quickly to the new job opportunities; they find themselves with no readily marketable talents. Their skills and experiences are unwanted, as they have become obsolete.

**Cyclical unemployment** is the same as **deficiency in demand unemployment**. It is characterized by fluctuations in economic growth, characterized by booms and recessions, the trade cycle. During the recession phase, there are high levels of unemployment.

**Voluntary unemployment** is a relatively new concept, defined by the monetarists as being due mostly to high state benefits, either unemployment benefits or being on welfare. This causes people to be unwilling to work at existing low wage rates. They realize that

they are better off not working and receiving state benefits. Voluntary unemployment also includes individuals who simply do not want to work.

### 5.11: NEGATIVE EFFECTS OF UNEMPLOYMENT

The economic consequences of unemployment are classified as economic, financial, social or political costs:

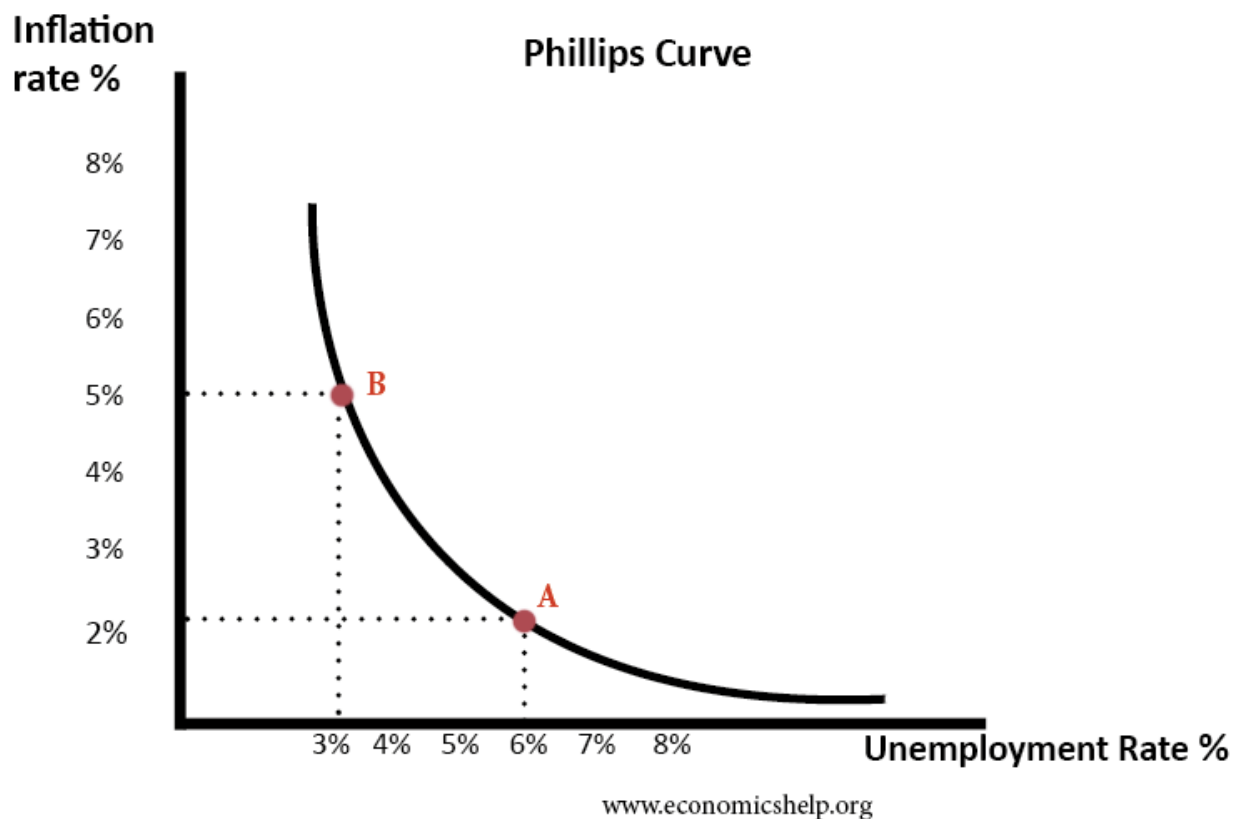
- Labour is a factor of production, and due to unemployment, the economic resource is not being utilized, this is a cost, the opportunity cost of goods and services not produced, quality of workforce diminishes as idleness causes labour to be less efficient, this in turn increases the cost of retraining it.
- Government revenue is mostly from taxes, unemployment results in a loss of government revenue, as the unemployed do not pay any tax; in some rich countries, they receive state benefits, which means that unemployment is a financial cost to the government.
- Unemployment may lead to social undesirable behavior like theft, vandalism, riots or general discontent. The mental and physical health of the unemployed tends to deteriorate; the unemployed are more prone to commit suicide. This is considered social cost.

Whenever there are high levels of unemployment in the country, the political party that forms the government, is likely to lose popularity, this is a political cost to the government.

### 5.12: THE PHILLIPS CURVE

Shows the relationship between inflation and unemployment. In 1958, Professor A.W Phillips showed a statistical relationship between unemployment and money wage inflation. Inflation and unemployment are two sides of the same coin. If the rate of inflation falls, unemployment rises and vice-versa.

The Phillip's curve explains the 'trade off' between inflation and unemployment; it is a graphical illustration of the **inverse relationship between inflation and unemployment**. It shows that the lower the rate of inflation the higher the rate of unemployment.



High inflation is associated with low unemployment. Note that the curve crosses the horizontal axis at a positive value for the unemployment. It is not possible to have both zero inflation and zero unemployment; zero inflation is associated with some unemployment.

**The above means that the government cannot achieve two of its macroeconomic objectives of low rates of inflation or stability and low rates of unemployment at the same time. The two are mutually exclusive. The government can only achieve one objective at the expense of the other.**

### 5.13: STAGFLATION

**Once in a while, in any country the 'trade off' does not apply, as both inflation and unemployment move in the same direction. This situation is known as stagflation.**

Stagflation is a term coined by economists in the 1970's to describe the unprecedented combination of slow Economic growth and rising prices. The Phillip's curve does not

apply, there is no 'trade off', and instead, and there are unacceptably high levels of both inflation and unemployment. This means a country can be experiencing stagnation, the recession phase of the trade cycle and very high levels of price increases.

The above maybe as a result of high costs of production, especially the price of crude oil, which may cause the supply curve to shift to the left. This causes the price to increase.

#### **5.14: SUPPLY-SIDE POLICIES**

Monetarists believe that stagflation is as result of ignoring the aggregate supply side of the equation on supply and demand analysis. Keynesians believe in manipulating aggregate demand in order to manage the national economy, and monetarists argue that Keynesian demand management is inflationary, the solution is to put in place measures to improve the supply of goods and services, known as supply side policies.

Supply-side policies can be used to reduce market imperfections. This should have the effect of increasing the capacity of the economy to produce, that is increase output, employment and income and reducing prices at the same time. It is without doubt the only non-inflationary way to get increases in output.

Some of the best-known supply side policies are:

- Lower income taxes. High direct taxes are a disincentive to enterprise and hard work, more especially overtime. There is need to encourage individuals and firms to be more enterprising, and to increase production.
- Privatization and deregulation, since government intervention and regulation weakens a country's ability to make the economic dynamic and self-regulating, Adam smith's invisible hand' in the market. Public provision of services, government grants and subsidies encourage inefficiencies, and state owned industries are not competitive.
- Strong trade unions and employment legislation lead to unemployment and encourage over manning. There is need to have weak trade unions and workers who will accept 'flexible' wages. Strong trade unions can successfully bargain for high wage rates, which results in few workers. **The inflexibility in the labour market creates unemployment.**
- Related to the above, are wage controls, wage regulations and employment legislation, which all contribute to inflexibility, workers '**pricing themselves**' out of the market and

ultimately **unemployment**. According to the supply side policies, these should be abolished.

- Better information on job opportunities and adequate training is what required the aggregate supply curve to shift to the right.

## **5.15: CLASSICAL THEORY ON EMPLOYMENT AND OUTPUT**

### **Say's Law**

The classical theory is based on Say's law which states that supply creates its own demand. This implies that every increase in production will be sold in the market and there will be no problem of lack of demand. Classical economists, therefore, ruled out the possibility of over production. They argued that factors of production earn their income during the production process. If no part of income is saved, as being assumed here, the entire income will be spent on consumer goods produced. Value of output produced will therefore be equal to the income generated in the process of production. The quantity demanded will be equal to the supply of output produced.

## **AGGREGATE DEMAND AND CAPITAL ACCUMULATION**

Since aggregate demand is not a problem, the process of capital accumulation and expansion of productive capacity would continue till all people are employed.

### **EQUALITY OF SAVINGS AND INVESTMENTS**

Classical economists also believed that income not spent on consumer goods are saved and will become investment expenditure. Savings, therefore equal to investments.

The rate of interest adjusts automatically to make investments equal to savings. When savings increase, the rate of interest declines and leads to more demand for investment funds and in this way investment becomes equal to savings.

### **FREE WORKING OF THE PRICE MECHANISM**

They believed that if the price mechanism is allowed to work freely, without any interference from the Government or trade unions, there is always a tendency towards full employment. When aggregate demand falls, the prices, wages, rents and interest rates would adjust quickly so that equilibrium is restored at full employment. They believed that a free market is self-correcting. If demand falls, sellers will be forced to reduce prices to avoid accumulation of stocks of goods. In turn this increases aggregate demand.

They believed that a fall in wage rate leads to an increase in the demand for labour. Those workers who do not want to work at lower wages and remain unemployed are only voluntarily unemployed. Voluntary unemployment is not real an employment. Unemployment can only exist if the government and trade unions prevent the free working of the capitalist system by artificially keeping the wage rates at high levels.

## CHAPTER SUMMARY

Inflation to a layman is simply a sustained increase in the price of goods and services. Inflation is measured as a percentage change, and the two extremes are creeping inflation to hyperinflation. Inflation can be caused by demand factors, supply factors, supply factors, or according to the monetarists, any change in the money supply is inflationary.

There are several reasons why inflation is considered economically undesirable, it affects planning both at central government and at corporate business level and it undermines business confidence. Inflation reduces a country's international competitiveness and causes the currency to depreciate given a low demand for exports. Inflation discourages savings, and ultimately, investment. It also distorts consumer behavior; consumers purchase a lot of goods in the hope of 'beating' inflation. More importantly, inflation has a big impact on people who are on fixed incomes, their purchasing power and **standard of living falls, and money is unable to perform its functions properly.**

Unemployment simply means people do not have jobs. The words **types** and **causes** of unemployment are usually interchanged, but generally, unemployment is categorized as cyclical, structural, seasonal, frictional and voluntary. Unemployment also has a number of negative consequences, classified as economic, financial, social or political.

A government can control both inflation and unemployment using either fiscal or monetary policies or both. Unfortunately, there is a negative relationship between inflation and unemployment, which is illustrated by the phillips's curve. The government has to 'trade off' inflation for unemployment or vice versa. Sometimes, there is an increase in inflation and unemployment, a situation known as stagnation.

**An effort to 'cure' both inflation and unemployment is explained by the monetarists using the supply-side policies.** These policy measures are intended to free up the supply of goods and services in all markets, eliminating market distortions, increasing production, the supply side of the equation, through deregulation. **The government has to reduce taxes, privatize, allow the labour supply to move freely, weaken trade unions.**



## UNIT 6:

## ANALYSIS OF INTERNATIONAL TRADE ISSUES

### 6.1 Introduction

The purpose of this unit is to equip trainees with skills and knowledge about international trade. The unit discusses factors that contributed to the development of international trade advantages and disadvantages of international trade, theories of absolute and comparative advantage, balance of payments, exchange rates and regional trade groupings

### Learning Outcomes

Upon completion of this unit you will be able to:



- Explain factors that contributed to the development of international trade
- Analyse advantages and disadvantages of international trade.
- Analyse theories of absolute and comparative advantage
- Discuss balance of payments
- Solve problems relate to exchange rates
- Analyse regional economic groupings.

### 6.2 Terminology.



- *International trade*: **voluntary exchange of goods** and services across international boundaries.
- *Protectionism*: an act of introducing measures that restrict imports of goods and services.
- *Absolute advantage*: a situation where a country produces a product cheaper than other countries.
- *Comparative advantage*: a situation where a product is produced at a lower opportunity cost compared to other products.
- *Balance of payments*: a record of financial and economic transactions between one country and the rest of the world.
- *Terms of trade*: the rate at which a nation's goods and services exchange against those of other countries.
- *Balance of trade*: the difference between the value of total physical exports and physical imports.
- *Exchange rate*: the price of buying or selling a unit of foreign currency.

The basis for international trade stems from differences among nations in endowments of resources, skills and technical know-how. It offers citizens in a country the opportunity to specialize in the production of certain goods and exchange them for other goods produced in foreign countries.

### **6.3 Factors that contributed to initial development of International Trade**

- a) Uneven distribution of natural resources – Because countries possessed different resources and had needs which could only be satisfied by other countries, this situation compelled countries to buy from others and in the process international trade developed.
- b) Climatic Conditions – Countries had different climatic conditions which meant that they did not produce same products and because of this trading between countries became inevitable.
- c) Migration – Movements of people from one region to another resulted in the creation of demand in the new areas whose requirements could only be met through international trading.
- d) Special skills – The development of certain skills in some countries led to the production of high quality and special goods which attracted demand from other countries and in the process trading between countries developed. Examples of such goods were champagne, whisky, swiss, watches, Mercedes Benz vehicles, etc.

### **Benefits or advantages of International Trade**

- 1. Exploitation of resources attracted investments from other countries which acted as catalysts of economic development. The establishment of mining projects and infrastructure like roads and railway lines are clear examples.
- 2. It enables countries to consume goods and services from other countries. Consumers have access to a variety of goods which their countries do not produce.
- 3. It allow access to foreign markets and in the process benefit from economies of sale.
- 4. Enables specialization on the basis of comparative advantage.
- 5. Governments earn a lot of revenue through tariffs on internationally trade goods. The revenue is used for economic development and financing government programme.
- 6. Imported goods tend to influence positively the quality and prices of local goods and services through competition.
- 7. Countries benefit greatly through transfer and exchanges of skills and technology.

8. It enables countries earn foreign exchange which makes it possible to buy from outside raw materials spares, and other supplies that help to enhance economic development.
9. It promotes beneficial political links and close cooperation between trading countries.

#### **Disadvantages of International Trade**

Inspite of various benefits that are derived from International Trade, there are arguments against free trade meaning that there are also disadvantages that are associated with international trade. Some of these are;

- a) Free competition can lead to the destruction of existing and infant industries which in turn will result in increased unemployment in the country.
- b) A country may become a dumping ground for goods produced in other countries. Dumping is the sale of goods at prices below their cost of production and this promotes unfair competition.
- c) It may lead to the importation of undesirable and harmful products.
- d) Increased levels of imports can result in deficits in the balance of trade and balance of payments.
- e) Sometimes friction and misunderstandings are created among trading partners due to disputes over trading issues like unfair trading practices.
- f) National Security – Many people believe that self-sufficiency is necessary for reasons of national security. Accordingly relatively inefficient domestic industries producing strategically important candidates should not be allowed to go out of business because of foreign competition.

#### **6.4 FINANCING OF INTERNATIONAL TRADE**

There are different ways which are used to finance or procure goods and services under International Trade. Some of these are:

- i) Use of cash – this is where cash in whatever form is used to acquire goods and services. The cash can be in form of cheques or draft transfers or in cash itself. For example one can carry cash and buy goods in a foreign country or can transfer funds to another country for the purpose of acquiring goods and services. However risks such as thefts and losses tend to limit the use of cash in international trade. Furthermore, cash would not be ideal for transactions requiring huge sums of money.

- ii) Credit arrangements – under this scenario suppliers provide goods and services whereby actual payments will be made at an agreed future date. However the use of this method is limited to parties that know and trust each other well. A clear example is that of a subsidiary and parent company operating in different countries. For example Shoprite Zambia can easily obtain goods on credit from its parent company, Shoprite of South Africa.
- iii) Barter – This is where countries can exchange goods for goods with one another. For example if Zambia has excess maize but short of wheat, while Zimbabwe has plenty of wheat but short of maize. In such a situation the two countries can exchange maize for wheat and wheat for maize.
- iv) Donations – Goods and services can be acquired through donations where some countries donate certain goods to other countries, either freely or on request by those in need.
- v) Borrowing – This is when countries borrow funds from other countries or international financing institutions like World Bank or International Monetary Fund (IMF) and use such funds to buy goods from other countries.
- vi) Consignment basis – Under this arrangement, a supplier in one country identifies a company in another country to sell its products on commission basis.
- vii) Letters of Credit – Most of the International trade activities are financed through the use of letters of credit. A letter of credit is defined as “an undertaking by a Commercial Bank to pay the supplier (known as beneficiary) on behalf of the buyer a sum certain provided the supplier meets the conditions in the letter of credit as stipulated by the buyer.”

Normally it is the buyer that applies for letter of credit in favour of the supplier for financing the goods being purchased.

## **THEORY OF COMPARATIVE ADVANTAGE**

The Principle behind this theory introduced by Economists was the realization that benefits from International Trade would be maximized if trading was guided by comparative advantage. The law or theory of comparative advantage basically states that for international trade to develop and be beneficial, a country should specialize in producing goods in which it has the ability or capacity to perform better than other countries. This therefore means that a nation or country has a comparative advantage over a trading partner in the production of an item if it produces that item at lower opportunity cost per unit than its partner does.

Below is a simple illustration on how the theory can be applied. Suppose you have two countries A and B both involved in the production of maize and wheat and assuming that both use the same amount of labour and capital in producing these items:

Country	Wheat	Maize (Output Perha)
A	40	60
B	50	40

Looking at the above figures one can see that country A produces more maize than Country B while B produces more wheat than A. Using the theory of comparative advantage country A should concentrate on producing maize in which its production is higher than B and country B should concentrate on producing wheat. This therefore means that A will stop producing wheat and buy it from B and B should also stop producing maize and buy if from A. Both countries will gain from expanded markets and enjoy economies of scale which will ultimately make the products cheaper in both countries.

### **Absolute Advantage:**

A country has an absolute advantage over other countries in the production of an item if it can produce more of that item over a period with a given amount of resources than the other countries can. Using the table above, country A has an absolute advantage in the production of maize over country B because with the same resources A can produce more maize by specializing in maize production than can country B. Similarly country B has absolute advantage in the production of wheat because with the same resources as are available in A it can produce more wheat than can country A. In general, when a country has an absolute advantage, it can produce the specific item with fewer inputs per unit than other countries. Thus international trade opens up the possibility of gains in world efficiency from resources by allowing additional mutual gains that would not be possible if each country attempted to remain self-sufficient

**Note that what determines international among countries is comparative advantage and not absolute advantage as long as their opportunity costs are different.**

### **Protectionism**

While the theory of comparative advantage advocates free trade and full competition, there are arguments in favour of trade restrictions or protectionism. Some of these are;

- i) Protecting infant industries – protection of newly established or infant industry from foreign competition allows the new industry to grow and expand its operations.

- ii) Protecting jobs by ensuring that existing local industries are protected against unfair competition.
- iii) National security – Many people believe that self-sufficiency in many areas is necessary for reasons of national security and pride. According to this argument, relatively inefficient local industries producing strategically important materials and goods should not be allowed to go out of business because of foreign competition. Heavy dependence on foreign goods such as food, energy, etc. can be dangerous.
- iv) Governments raise a lot of revenue through protection measures such as customs tariffs and doing away with this could affect adversely the development programmes of a country.
- v) Unfair competition especially dumping of undesirable products can be avoided.
- vi) Can assist in reducing or eliminating balance of payments deficits.
- vii) It can help to conserve limited foreign exchange resources.

### **Measures or Instruments of Protectionism**

These are also referred to as barriers to international trade. They include:

- a) Customs duties or tariffs: These are taxes imposed on imported products making them very expensive.
- b) Use of Quotas – these limit the quantities of specific goods which can be allowed into the country.
- c) Trade Embargoes – this involves banning of certain goods from entering the country.
- d) Exchange controls – these limit the amount of foreign exchange available for imports.
- e) Regulations – a country can introduce standards and quality regulations to limit imports.
- f) Import Permits – a country can introduce difficult procedures for obtaining import permits.
- g) Subsidies – a country can either subsidize production or consumption in order to make locally produced goods cheaper than imports.

Protectionism can lead to improvements in the balance of payments because it reduces the volume of imports. The following measures can also help to improve the balance of payments for a country:

### 1. EXPORT PROMOTION

Exports may be encouraged by giving tax incentives and by allowing exporters to retain foreign exchange. Exports can also be promoted by entering trade agreements with other countries to facilitate trade e.g. the COMESA and SADEC trade agreements.

### 2. SUPPLY SIDE POLICIES.

Supply side policies can improve the competitiveness of domestic industry internationally. Supply policies are policies which put emphasis on improving production and quality of production by reducing costs of production and government interference. An increased output and improvements in quality of locally produced products can lead to increased exports and reduced imports.

### 3. USE OF INTEREST RATES.

The government can use monetary policy to influence the current balance. Higher interest rates lead to lower aggregate demand. Some items like cars and other big items are purchased from loans. If the cost of borrowing is high demand for loans will go down, and in turn the demand for imported goods declines. This improves the current account.

### 4. DEFLATION

An alternative approach to curing a current account deficit is deflation. This is an expenditure reducing policy. If the government reduces aggregate demand in the economy for instance by raising interest rates or increases taxes, people will have less money to spend. Consequently, they will reduce their consumption of locally produced goods and imported goods. Imports therefore, will decline while exports will rise. Deflation therefore, can improve the current account deficit.

### 5. DEVALUATION OF THE LOCAL CURRENCY.

One possible way of addressing a current account deficit is for the government to devalue the local currency. That is, lowering the value of the local currency against other currencies. Devaluation makes imports expensive, and exports cheaper.

## **Arguments against Protectionism**

Some of the arguments that have been used to oppose protectionism are;

1. Protecting local industries against foreign competition is opposed in certain quarters. It is argued that in the long run protection results in a loss of efficiency and when eventually put to the test such industries will not have the capacity to withstand competition and thus lead to closures and loss of employment.

2. The costs of protection are normally borne by consumers who are forced to pay higher prices for poor quality goods and face limited choice of goods and services.

### **Balance of Trade**

The Balance of Trade (BOT) measures the difference between the value of total exports and the value of total imports of goods or merchandise.

These transactions are recorded in the Current Account and that part of the current account where imports and exports of physical goods are recorded is known as the Balance of Trade Account or the visible balance. A trade surplus occurs when exports are greater than imports while a trade deficit is when imports are higher than exports. Thus a favourable balance of trade refers to a surplus and it becomes unfavourable when there is a deficit.

### **Balance of Payments (BOP)**

The balance of payments is a record of all transactions of a country and the rest of the world. It includes imports and exports of services also known as invisibles. The activities here are also reflected in the current account.

Thus the Balance of payments is the difference between the value of total exports of goods and services and the value of total imports of goods and services and transactions in the **Capital Accounts**. In 1992 and 1993 the values of total receipts (exports) and payments (imports) for invisibles were as follows:

	(\$ Million)	
	<u>1992</u>	<u>1993</u>
d) Receipts from Invisibles (exports)	606.0	356
e) Payments for Invisibles (imports)	534.0	424
f) Net (d – e)	72.0	-68.0
g) Balance of payments (f + c)	-155.0	-97.0

Invisible items include things like diplomatic services, earnings from tourism, shipping and transport services, foreign insurance services, foreign health and education services, travels abroad, profits and dividends, management fees, expatriate remunerations, etc.

The deficits incurred in 1992 and 1993 show that Zambia's performance in international trade was unfavourable to the country because we ended up paying more to the rest of the world than we got from them. Normally all countries aim at having positive BOP balances.

## **6.5 Exchange Rates**

An exchange rate is the price at which one currency is used to buy another currency. In other words it expresses the value of a currency when compared to another currency.

**The gold standard:** In the past, when all the currencies were convertible meaning that their values were fully backed by gold, the gold standard was used to determine the exchange rates for different currencies that were used in international trade. Therefore gold was used as a measure of value to determine the relative exchange rates. The use of the gold standard was disrupted during the First World War and then abandoned after the Second World War.



### **Types of Exchange Rates**

- i) **Fixed Exchange Rates** – under this scenario the local currency exchange rate against other foreign currencies is fixed by the Government through the Central Bank. However, the rate can be adjusted as and when necessary.

**Advantages:** Having a fixed exchange rate regime has the following advantages:

- There is stability in handling international trade due to certainty of the exchange rate
- Importers and exporters can determine prices for future deliveries without having to worry about potential losses through exchange rate movements.
- It makes it possible for investors and traders to plan ahead with confidence.

### **Disadvantages:**

- It tends to ignore the impact of demand and supply of foreign exchange in the market
- A fixed rate can lead to capital flight or outflows of capital if rates in other countries are more favourable.

- ii) **Floating Exchange Rates** – This is a system where exchange rates are not fixed by the Government but are allowed to fluctuate or change in line with supply and demand forces. This means that the exchange rates are determined by the market forces of supply and demand.

### **Advantages**

- The exchange rates in use take into account the availability of foreign exchange and demand for it.
- The rate determined by market forces is more reliable as it reflects the true situation in the economy.
- The exchange rate adjusts automatically in the market to correct any imbalance in the system.

### **Disadvantages**

- Floating exchange rates lead to uncertainty in international trade
- They encourage speculation which leads to more volatility of the exchange rates
- There is potential losses associated with frequent changes in the rates
- Planning becomes more difficult due to uncertainty over long periods.

- iii) **Managed Floating Rates** – In many countries the system that exists in practice is a compromise between fixed and floating rates. Although the market forces play a role in

determining the exchange rates, the authorities often intervene to neutralize any pressure on the rates.

## **6.6 REGIONAL TRADE GROUPINGS**

As far as Zambia is concerned the two trade groupings that affect its trade operations are the Southern African Development Community (SADC) and the Common Market for Eastern and Southern Africa (COMESA).

SADC was formed in 1980 and has its headquarters in Botswana. It was largely to help countries in the Southern African Region to lessen dependence on South Africa. The member states include Angola, Botswana, Dr Congo, Lesotho, Madagascar, Malawi, Mozambique, South Africa, Swaziland, Tanzania, Zambia and Zimbabwe.

COMESA was established in 1993 replacing the Preferential Trade Area (PTA) that was set up in 1981. Its headquarters are in Lusaka, Zambia. The member states are Angola, Burundi, Comoros, Egypt, Eritrea, Ethiopia, Kenya, Lesotho, Madagascar, Malawi, Mauritius, Mozambique, Namibia, Rwanda, Sudan, Swaziland, Tanzania, Uganda, Congo DR, Zambia and Zimbabwe. It has a combined population of about 400 million people.

### **Objectives**

The common objectives of both SADC and COMESA include:

- a) To achieve sustainable economic and social development in all member countries
- b) To promote economic cooperation among member states
- c) Promotion of peace, security and common political values and beliefs (SADC)
- d) To remove all tariff and non-tariff barriers (COMESA)
- e) To create a Customs Union (COMESA)
- f) To provide free movement of capital and investment (COMESA)
- g) To establish and maintain a free Trade area (COMESA)
- h) Promotion of self-sustaining development (SADC)

### **Challenges**

- Use of different currencies in member states hampers free trade
- Resistance to elimination of tariffs and non-tariff barriers
- Over dependence on donor funding
- Undeveloped infrastructure such as road and telecommunications networks in some countries
- Instability in some of the countries like Congo and Sudan

### **Advantages**

Some of the advantages for belonging to the regional trade groupings include:

1. Access to a huge market for products produced in member countries
2. Offers opportunities for specialization on the basis of comparative advantage
3. Ability to attract large investments into the region
4. Cooperation in the development of infrastructure, energy and communication networks.

5. Provides a bigger voice for effective dealings with other trading groups like EU, etc.

## **6.7 MULTILATERAL ORGANISATIONS**

### **1. World Trade Organizations (WTO)**

WTO was established in 1995 to replace the General Agreement on Trade and Tariffs (GATT) which was set up in 1948. It is based in Geneva and has a membership of over 150 countries.

#### **Objectives**

- To promote free trade by encouraging nations to abolish various trade barriers
- To organize trade negotiations and settle trade disputes between member countries
- To oversee free trade agreements

### **2. The International Monetary Fund (IMF)**

It was formed in 1944 by the Bretton Woods agreement together with the World Bank. It is based in Washington, USA.

#### **Objectives:**

- To help manage and regulate the exchange rates following the abandonment of the gold standard after the Second World War.
- To make available foreign exchange needed to finance international trade by its members
- To promote international monetary cooperation and payments
- To promote exchange rate stability and remove foreign exchange restriction
- To provide advisory services to member states
- To encourage international trade among member states

### **3. The International Bank for Reconstruction and Development (World Bank)**

The World Bank has its headquarters in Washington, USA.

#### **Objectives:**

- To provide long term loans and grants to developing countries
- To help fight poverty and improve living standards of people in the developing world
- To provide technical assistance to developing countries on issues of economic development.

## UNIT 7: ECONOMICS OF ZAMBIA

### 10.1 Introduction

#### Learning Outcomes

Upon completion of this unit the learner will be able to:



- Explain the economic policies of Zambia.
- Explain the role of Zambia's ministry of Finance and National Planning.

### 7.1 Macroeconomic policy objectives.

- (a) To achieve economic growth in terms of national income per head of the population in real terms.
- (b) To control price inflation preferably to low one digit figure, as well as ensuring price stability.
- (c) To achieve full employment in the use of resources.
- (d) To maintain a satisfactory balance of payments by achieving a balance between exports and imports.
- (e) To achieve equitable income distribution through fiscal policies.

### 7.2 Economic overview

Zambia has a mixed economic system. This means that the economy of Zambia combines the features of capitalism and those of socialism. Before 1991, the Zambian economy was pro-socialist and from 1991 to date the Zambian economy is pro-capitalist. In Zambia the formal sector is much smaller than the informal sector.

The source of revenue for Zambia is from both tax revenue and development aid.

### 7.3 Development aid

Development aid refers to foreign exchange flows from one country to another or from one foreign institution to a foreign government given free of interest or given below market interest rates. When given free of interest charges, aid is called a *grant*

#### 7.3.1 Effects of development aid on Zambia

##### (a) Positive effects of aid

- Filling resource gap
- Filling foreign currency gap
- Economic stability – Zambia has used the foreign exchange acquired through donors to influence the value and stability of the Zambian currency.

- Meeting emergencies such as drought and floods.

**(b) Negative effects of development aid**

- Debt crisis
- Loss of political and economic freedom
- Proliferation of projects – A number of these projects are a duplication.
- Complacency such that the country neglects development plans of its own, e.g. the country develops dependency syndrome.

**Note:** Economic development refers to the creation of economic wealth for all citizens within the diverse layers of society so that all people have access to potential increased quality of life.

## **17.4 Nationalisation and privatisation**

Zambia has undertaken both nationalization and privatization economic reforms since independence.

### **17.4.1 Nationalisation**

In the first republic, Zambia nationalized most of the private owned enterprises, most of which were privatized after 1991.

### **17.4.2 Privatisation**

Privatisation occurs when the production of goods in the public sector moves to the private sector.

### **17.4.3 Arguments in favour of privatisation**

- (a) It leads to efficiency through increased competition.
- (b) Consumers have a wider choice of goods and services
- (c) It helps the funding of government expenditure as privatized companies will not be receiving will not be receiving government funding.
- (d) Costs and inefficiency decrease as bureaucracy is reduced.
- (e) The trade unions become less powerful as industries are more fragmented and difficult to organize.
- (f) Wider share ownership is a move towards greater democracy.

### **17.4.4 Arguments in against of privatisation**

- (a) Public corporations that become privatized have no public responsibility, so consumers may suffer
- (b) Efficiency is not guaranteed as a result of privatization

- (c) Waste is likely in the duplication of services
- (d) Less-making services will not be provided by the private sector
- (e) Privatisation does not mean that competition is automatically enhanced

#### **7.4.5 Arguments in favour of nationalisation**

- (a) Nationalisation can lead to reduced costs through economies of scale
- (b) There is provision of uneconomic services for consumers
- (c) National interest to operate strategic industries
- (d) A fairer distribution of wealth
- (e) Nationalised industries have sufficient capital for investment.

### **7.5 The role of Zambia's Ministry of Finance and National Planning (MOFNP)**

MOFNP seeks to strike a balance between two responsibilities:

(a) ***Stabilisation***: This is essential in order to keep the economy afloat

(b) ***Planning for economic development***

This is designed to take the country forward through structural re-organisation such as programmes of nationalisation, privatisation investment in utilities and infrastructure (roads, housing, education, medical care) and targeted public investment to develop new industries.

The mission statement for the Ministry of Finance and National Planning is : *"To effectively and efficiently coordinate National Planning and economic management, mobilise and manage public financial and economic resources in a transparent and accountable manner for sustainable national development and the well being of the people of Zambia."*

#### **Goal statement**

In support of the mission and to give MOFNP a specific focus and direction, the ministry aims at meeting the following goal:

*"Facilitating and ensuring the transformation of the national economy into an efficient and wealth creating economy in order to improve the quality of life of the people of Zambia"*

Through this goal, MOFNP will transform the economy and create wealth in order to reduce the high levels of poverty among the people of Zambia

(**Source:** *Ministry of Finance and National Planning Website, January 2011*).

#### **7.5.1 Fifth National Development Plan (FNDP)**

Governments accept the Keynesian Theory that active Government involvement in the economy is necessary for macroeconomic stabilization. In a mixed economic system, the party in power can change the shape of the economy

The Zambian government has a major economic role and responsibility, it has articulated its long-term development objectives in the national Vision 2030, and the FNDP is an important step towards the realization of this vision.

The theme of the FNDP is “*broad based wealth and job creation through citizenly participation and technological advancement.*”

The broad macroeconomic objectives for the FNDP are as follows:

- To accelerate pro-poor economic growth
- To achieve and sustain single digit inflation
- To sustain a viable current-account position
- To reduce the domestic debt to sustainable levels

An additional objective which is included in the FNDP theme of job creation, is attainment of full employment.

The macroeconomic objectives are interdependent, at the same time, simultaneous success is impossible (Phillips curve)

### **7.5.2 National Vision 2030**

Under Vision 2030, Zambia has instructed the MOFNP to develop the Zambian economy to a “prosperous middle Income country” by 2030.

This economic aspects of the vision will be implemented by a series of five (5) – year economic plans of which FNDP is part of it.

The Approach is that the 5-year plans will be developed by widespread consultation with stakeholders (population, International agencies, donor organizations and so on). Then their annual budgets of government departments will be used on achieving their contributions to the goals in the present 5-year plan.

### **7.5.3 The Public Financial Management System (PFM)**

Proper control of an economy by government requires proper control over public finances. In 2006 the World Bank funded and advised on the development of Zambia’s public financial management system (PFM) as part of the broader Public Sector Management Programme Support Project.

The benefits of (PFM) are:

- Better creation of government department budgets in terms of their needs.
- Improved control of departmental expenditures
- Improved image with lenders and donors: being seen to be responsible with public money will encourage lenders and donors to be partners in development.







## **Recommended Readings**

### **Main Text**

ZICA Economics Manual

CIMA Economics Manual

**NIPA Managerial Economics Distance Module**