



NATIONAL OPEN UNIVERSITY OF NIGERIA

INTERNATIONAL TRADE AND FINANCE I

ECO 445

SCHOOL OF ARTS AND SOCIAL SCIENCES

COURSE GUIDE

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Introduction

The course International Trade and Finance I (ECO 445) is a first semester core course which carries two credit units for fourth year level Economics students in the School of Art and Social Sciences at the National Open University, Nigeria. This coursework will be useful in your academic pursuit and help to gain in-depth insight into international trade and finance.

This course guide is built partially on prerequisite knowledge (i.e. introductory part in macroeconomics), however, its simplicity will make the student assimilate faster and practice questions at the end of each unit will also prepare the student for the examination purposes. It suggests some general guidelines for the amount of time required of users on each unit in order to achieve the course aims and objectives successfully. It also provides users with some guidance on their tutor marked assignments (TMAs) as contained herein.

Course Content

The course is made up of seventeen units (five modules) spread across fourteen lecture hours and covering areas such as basic concepts in international trade, traditional and modern theories of international trade, international trade and finance policies and lastly, international finance concepts.

Course Aims and Objectives

The course attempt to explain the concepts and conceptual framework of international trade and finance, the reasons for international trade, merits and demerits of international trade, traditional and modern theories of international trade, and international payment system. Also, the course is prepared in a way in which the users would easily enhance their previous knowledge. The course aims, is to help users develop critical thinking skills, learn how to evaluate economic arguments, and understand the roles of international economic thought in guiding current international economic policies and debates.

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

- i. Evaluating the concept and conceptual framework of international trade and finance.
- ii. Establishing distinction between internal (domestic or local) and international trade.
- iii. Understanding the traditional and modern theories of international trade.
- iv. Discussing the models of trade and vis-a-vis economic growth.
- v. Explaining the international trade policies and payment system

Working through the Course

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

Each unit contains self-assessment exercises called Student Assessment Exercises (SAE). At some points in the course, you will be required to submit assignments for assessment purposes. At the end of the course there is a final examination. This course should take about 10 weeks to complete and some components of the course are outlined under the course material subsection.

Course Material

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

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

Study Unit

There are 17 units in this course which should be studied carefully and diligently.

Module 1: Introduction to International trade

- Unit 1: Meaning of international trade
- Unit 2: Basic tools of international trade analysis
- Unit 3: Major differences between internal and international trade

Module 2: Major Concepts of International Trade

- Unit 1: Basic Concepts of International trade
- Unit 2: Concept of Terms of Trade
- Unit 3: Balance of Trade and Balance of Payment

Module 3: International Trade Benefits and Dumping

- Unit 1: Benefits and Gains from Trade
- Unit 2: Concept of Dumping
- Unit 3: Trade Control

Module 4: Early Theories in International Trade

- Unit 1: Mercantilism
- Unit 2: Absolute Advantage trade theory
- Unit 3: Comparative Advantage Trade Theory

Module 5: Modern Theory of International Trade

- Unit 1: Heckscher-Ohlin Theory
- Unit 2: Samuelson's Factor-Price Equalisation Theorem
- Unit 3: Factor Intensity Reversal Analysis

References and Other Resources

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

Assignment File

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

There are four assignments in this course. The four course assignments will cover:

- Assignment 1 - All TMAs' question in Units 1 - 3 (in Module 1)
- Assignment 2 - All TMAs' question in Units 1 - 3 of Module 2
- Assignment 3 - All TMAs' question in Units 1 - 3 of Module 3
- Assignment 4 - All TMAs' question in Units 1 - 3 of Module 4

Presentation Schedule

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

Assessment

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

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

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

Tutor-Marked Assignments (TMAs)

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

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

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

Final Examination and Grading

The final examination will be of three hours' duration and have a value of 70% of the total course grade. The examination will consist of questions which reflect the types of self-assessment practice exercises and tutor-marked problems you have previously encountered. All areas of the course will be assessed

Use the time between finishing the last unit and sitting for the examination to revise the entire course material. You might find it useful to review your self-assessment exercises, tutor-marked assignments and comments on them before the examination. The final examination covers information from all parts of the course.

Course Marking Scheme

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

Assessment	Marks
Assignment (Best three assignment out of the four marked)	30%
Final Examination	70%
Total	100%

How to Get the Most from This Course

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

Think of it as reading the lecture instead of listening to a lecturer. In the same way that a lecturer might set you some reading to do, the study units tell you when to read your

books or other material, and when to embark on discussion with your colleagues. Just as a lecturer might give you an in-class exercise, your study units provides exercises for you to do at appropriate points.

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

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

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

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

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

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

Read this Course Guide thoroughly.

- ❖ Organize a study schedule. Refer to the 'Course overview' for more details. Note the time you are expected to spend on each unit and how the assignments relate to the units. Important information, e.g. details of your tutorials, and the date of the first day of the semester is available from study centre. You need to gather together all this information in one place, such as your dairy or a wall calendar. Whatever method you choose to use, you should decide on and write in your own dates for working breach unit.

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

Tutors and Tutorials

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

Your tutor will mark and comment on your assignments, keep a close watch on your progress and on any difficulties you might encounter, and provide assistance to you during the course. You must mail your tutor-marked assignments to your tutor well

before the due date (at least two working days are required). They will be marked by your tutor and returned to you as soon as possible.

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

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

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

Summary

This course, International Trade and Finance (ECO 445), exposes the users to the rudiments of international trade and finance theory such as the concepts and conceptual framework of international trade and finance, the reasons for international trade, merits and demerits of international trade, traditional and modern theories of international trade, and international payment system. It equally explains the theory of international trade and issues closely related to it such as balance of trade and payments, disequilibrium in balance of payments and the solution to these problems.

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

MODULE ONE

INTRODUCTION TO INTERNATIONAL TRADE

- Unit 1: Meaning of international trade
- Unit 2: Basic tools of international trade Analysis
- Unit 3: Major Differences between Internal and International Trade

UNIT 1: MEANING OF INTERNATIONAL TRADE

CONTENTS

- 1.0 Introduction
- 2.0 Objectives
- 3.0 Main Content
 - 3.1 Definitions of International Trade
 - 3.2 Basic Characteristics of International trade
 - 3.3 Importance of International trade
- 4.0 Conclusion
- 5.0 Summary
- 6.0 Tutor-Marked Assignment
- 7.0 References/Further Readings

1.0 Introduction

This unit is to discuss the meaning of international trade, the characteristics of international trade and its importance to participating countries. In other words the basic features that differentiate international trade from other kinds of trade will be fully explored.

2.0 Objective

At the end of this unit student should be able to

- Define and know the meaning of International Trade
- Understand the basic characteristics of international trade
- Explain the importance of trade among nation
- Compare foreign trade with any other trade

3.0 Main Content

3.1 Definition of International Trade

Arnold Kling (2012), argued that the view of economists tend to differ from those of the general public on issue concerning international trade. He noted three principal differences; first, that many non-economists believe it is more advantageous to trade with other members of one's nation of ethnic group than with outsiders. Economists see all

form of trade as equally advantageous. Second, many non-economists believe that exports is better than imports for the economy. Economists believe that all trade is good for the economy. Third, many non-economists believe that a country balance of trade is governed by the “competitiveness” of its wage rates, tariffs, and other factors. Economists believe that the balance of trade is governed by many factors, including the aforementioned, but also including differences in national saving and investment.

However, international trade can be defined as the exchange of capital, goods and services across international borders or territories, which could involve the activities of the government and individual. In most countries, such trade represents a significant share of gross domestic product (GDP). In summary, international trade can be defined as trade between two nations or countries, it involves many factors such as foreign exchange for possibility of importation and exportation of goods and services, language barriers, transport cost etc.

Self Assessment exercise:

What are the arguments put forth by Arnold Kling as relate to international trade?

3.2 Characteristics of International Trade

There are numbers of salient qualities that international trade involves. These include the following among others;

- i. Human wants and countries’ resources do not totally coincide. Hence, there tends to be interdependence on a large scale.
- ii. Factors endowments in different countries differ
- iii. Technological advancement of different countries differs. Some countries are better placed in one kind of production and some others in some other kinds of production.
- iv. Labour and entrepreneurial skills in different countries.
- v. Factors of production are highly immobile between countries. The degree of immobility of factors like labour and capital is greater between countries than within a country. Immigration law, citizenship, qualification, etc., often restrict the international mobility of labour. According to Harrod, he believes that domestic trade consists largely of exchange of goods between producers who enjoy similar standards of life, whereas international trade consists of exchange of goods between producers enjoying widely different standards.
- vi. Heterogeneous Markets; in the international economy, world markets lack homogeneity on account of differences in climate, language, preferences, habit, customs, weights and measures, etc. The behaviour of international buyers in each case would therefore, be different.
- vii. Different National Groups: International trade takes place between differently cohered groups. The socio-economic environment differs greatly among different nations.

- viii. Different Political Units: International trade is a phenomenon which occurs among different political units.
- ix. Different National Policies and Government Intervention: Economic and political policies differ from one country to another. Policies pertaining to trade, commerce, export and import, taxation, etc., also differ widely among countries though they are more or less uniform within the country. Tariff policy, import quota system, subsidies and other controls adopted by the governments interfere with the course of normal trade
 - x. between one country and another.
- xi. Different currencies: Another notable feature of international trade is that it involves the use of different types of currencies. So each country has its own policy in regard to exchange rates and foreign exchange.

Self Assessment exercise: Give a detail explanation on the features of international trade.

3.3 Importance of international trade

Some importance of International Trade are as follows:

- 1) International trade enables the full utilization of resources. Most of the time underdeveloped countries do not use their mineral resources efficiently; they export their raw materials to developed countries where the same are needed for the production of other goods.
- 2) International trade make trading partners gets goods cheaper than otherwise. Because every country produces those goods in the production of which it has less comparative cost.
- 3) By virtue of International trade consumers gets an opportunity to consume a large variety of goods produced by different countries and this improves the quality of life.
- 4) International trade enables every country to dispose off their surplus production. Some countries produce more than their own requirement. They sell this surplus production in other countries and avoid the occurrence of deflationary pressures in the domestic economy.
- 5) International trade encourages countries to compete with each other in the production of different kinds of goods at low cost of production. Competitiveness stimulates productivity.
- 6) It widens the extent of market. Every country makes an attempt to produce different goods in large quantity. This induces production on large scale and thereby

generates economies of scale.

7) International trade stimulates the spirit of competition among the entrepreneurs. New techniques of production are devised to produce quality goods at low cost. Advancement of technology is the key to economic development.

8) International trade promotes mutual cooperation among different countries. It creates an atmosphere of goodwill and friendship among the trading countries. Human wants and countries' resources do not totally coincide. Hence, there tends to be interdependence on a large scale.

Self Assessment exercise:International trade tends to bring about interdependence on a large scale. Discuss

4.0 Conclusion

We conclude that the concept of international trade is a vital trade for all countries both developed and developing countries because of its importance for the growth and development of every nation and its citizens.

5.0 Summary

In this study unit we attempt to explore different definitions of the concept of international trade and finance, the main features of international trade and the importance of international trade to all countries.

6.0 Tutor-Marked Assignment

- a) Define the term international trade
- b) There are some salient features of international trade that makes it different from other trade. What are these characteristics?
- c) Discuss how international trade is important to your country.

7.0 References/Further Readings

Arnold Kling (2012); The Concise Encyclopaedia of Economics, International Trade Library of Economy Liberty.

Frederic S. Mishkin, (2012); The Economics of Money, Banking and Financial Markets, 10th edition, Pearson.

Jhingan M.L, (2010); International Economics, 6th edition, Vrinda Publications (P) Ltd. Delhi, India

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Krugman Obstfeld, (1975); International Economics Theory and Policy, 8th edition Pearson International edition,.

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UNIT 2: BASIC TOOLS OF INTERNATIONAL TRADE ANALYSIS

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- 1.0 Introduction
- 2.0 Objectives
- 3.0 Main Content
 - 3.1 Graphical Tools of Analysis
 - 3.2 Mathematical or Algebraic Tools of Analysis
 - 3.3 Tabular Tools of International Trade Analysis
- 4.0 Conclusion
- 5.0 Summary
- 6.0 Tutor-Marked Assignment
- 7.0 References/Further Readings

1.0 Introduction

This unit will look at the different tools that can be used for the analysis and explanation of international trade, it considers in detail the graphical, mathematical and the tabular tools of analysis of international trade.

2.0 Objective

At the end of this unit student should be able to

- Know how to use graph to explain the concepts of International Trade
- Understand mathematical or algebraic workings involved in the analysis of international trade
- Understand the tabular analysis of international trade

3.0 Main Content

3.1 Graphical Tools of Analysis

The Graphical illustrative Tool: These include diagrammatic illustration and uses of curves. They are generally used to explain concept in international trade and finance, and economics in general, these include the following among others;

i. The Production Possibility Curve

A production possibility curve represents the supply side in international trade equilibrium. It shows the various alternative combinations of the two commodities that a country can produce most efficiently by fully utilizing its factors of production with the available technology. It is based on the concept of opportunity costs. The slope of production possibility curve measures the amount of one commodity that a country must

give up in order to get an additional unit of the second commodity. In other words, the slope of production possibility curves whether a straight line or a curvature, is negative. The slope of the production possibility curve depends on cost conditions operating in an economy. Under constant opportunity costs, the production curve is a straight line, shown as PB in Fig. 1. The production possibility curve under increasing opportunity

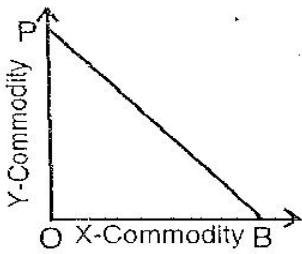


FIG. 1

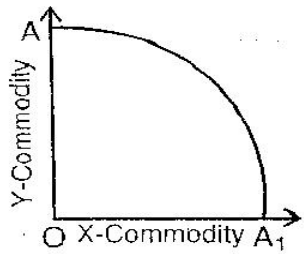


FIG. 2

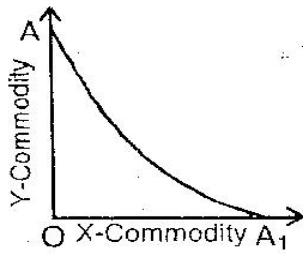


FIG. 3

costs is *concave* to the origin, shown as AA in Fig. 2. Under decreasing opportunity costs, the production possibility curve is *convex* to the origin, shown as AA_1 in Fig. 3. The production possibility curve, as a tool of analysis has been used by Haberler as a refinement to the classical theory of international trade. But the production possibility curve does not tell what will, in fact, be produced. It merely sets out what the possibilities are. More information is needed for this purpose on the demand side.

ii. The Offer Curve

Another important tool of analysis in international economics is the offer curve, also known as the reciprocal demand curve developed by Mill, Edgeworth, Marshall and Meade. The offer curve of a country determines the relative commodity price at which trade takes place. It shows the various quantities of its exportable commodity a country is willing to exchange for an importable commodity at various international prices.

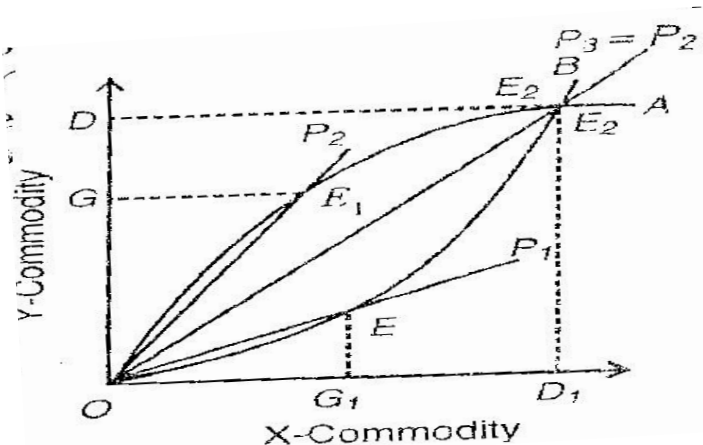


Fig 1.2.2: The Offer Curve

In order to determine the trade equilibrium at given international prices. This point is achieved at the point where the two offer curves intersect, this point will determine the quantities of exports and imports of each commodity offered at international prices by the two countries. The offer curves OA and OB intersect at point $E_2 (= E_2)$. At the international price line $P_3 (=P_2)$, country A offers OD of its exports of Y in exchange for OD_1 of imports of X from country B. Similarly, country B offers OD_1 of its exports of X in exchange for OD import of Y from country A. at any point other than E_2 , say E_1 on the price line OP_2 , country A would be willing to exchange OG of its commodity Y for a lesser amount GE_1 of X country B. similarly, if B is at point E on the international price line OP_1 , it would be willing to accept much less quantity G_1E of commodity Y form country A in exchange for OG_1 of X in country B. Thus, neither point E_1 nor point E on the international price line OP_2 and OP_1 can be one of equilibrium, because the terms of trade implied by the ray from the origin of each point do not suffice to clear the market” Hence, the point $E_2 (= E_2)$ where the offer curve OA and OB of the two countries intersect will be the equilibrium point.

iii. The Edgeworth Box

The box diagram is another analytical tool used from the supply side in the international trade theory. It permits us to study the inter-relationships between production functions and total numbers of factors of production and to derive optimal factors inputs and outputs.

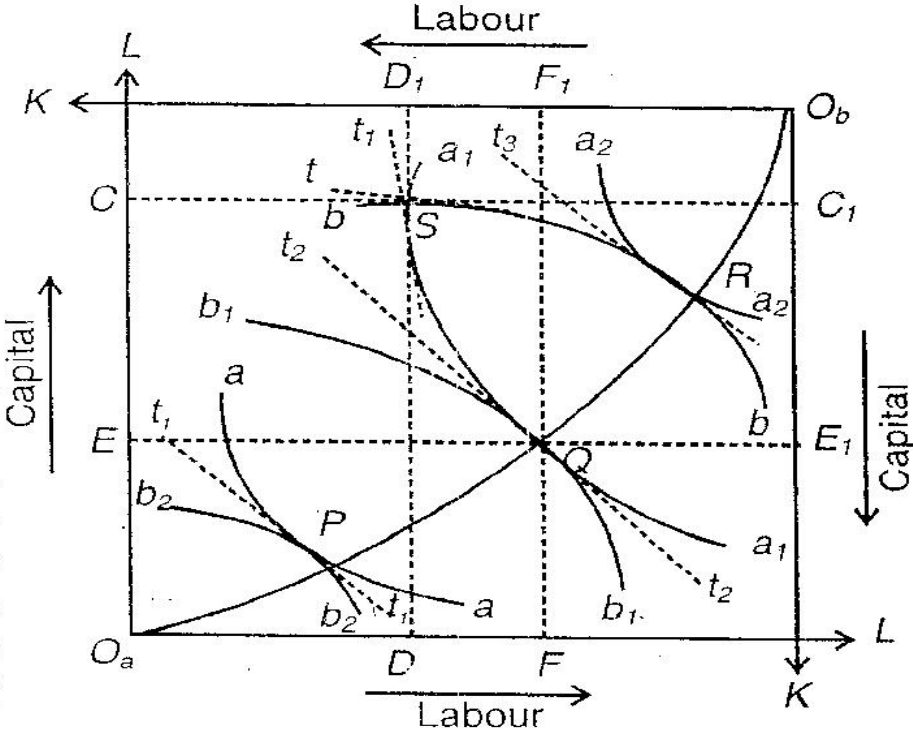


Fig 1.2.3: The Edgeworth Box(Box Diagram)

The starting point is the combination of two isoquant diagrams representing two commodities (A and B) which may be joined together to form a box diagram, as shown above, the vertical axis measures capital and the horizontal axis labour from the origin O_a which represents commodity A. the isoquants aa , a_1a_1 and a_2a_2 are the isoquants of this commodity. They are drawn on the assumption of the homogenous production function of the degree one. Accordingly, the isoquants are so drawn that the isoquant a_1a_1 is twice as far as from the origin O_b as the isoquant aa , and a_2a_2 is three times as far as from the origin as aa . Similarly, the origin O_b relates to commodity B and its isoquants are represented by bb , b_1b_1 and b_2b_2 . The assumption of homogenous production of degree one equally holds in this case. Any point on the box diagram represents four things: it measures from the lower left-hand corner (O_a) the amounts of capital and labour used to produce that commodity A, and from the upper right-hand corner (O_b) the amounts of capital and labour used in the production of the other commodity B. Any point in the box diagram, for instance, S where the isoquants a_1a_1 and bb intersect, represents a certain combination of the two commodities with the help of the two input combinations. To produce S units of commodity A, O_a of capital and O_aD of labour are needed; and to produce S units of commodity B, O_bC_1 of capital and O_bD_1 of labour are required. These combinations of the two inputs are essential because full employment of factors is assumed. But S is not a point of economically efficient production of the two commodities A and B or optimum allocation of the two named factors. This is because at point S the ratio between the marginal productivities is different in the production of both commodities as indicated by the different slopes of the two isoquants. Also at point S. the tangent t_1 on the isoquant a_1a_1 is much steeper than the tangent t on the isoquant bb , this imply that labour is relatively more productive in making commodity A than B, whereas the opposite is true of capital. Therefore, labour should be shifted from B production to A production, and capital from A production to B production.

If we move along the isoquant a_1a_1 toward Q, the production of A remains unchanged because we are still on the isoquant a_1a_1 . But the production of B has increased as we have moved to a higher isoquant b_1b_1 from bb . This has been possible due to the shifting of CE of capital from the production of A to B and point D_1F_1 ($= DF$) of labour from the production of B to A. Thus, to produce Q units of A, O_bF_1 of labour are used. However, at point Q which is the “efficient locus” or the point of economically efficient production for both A and B, because at this point the ratio between the marginal productivities in the production of A and B are equalized, as shown by the tangent t_2t_2 that passes through the locus of isoquant a_1a_1 and b_1b_1 . Similarly, point P and R are economically efficient production points of the commodities. This is because the isoquants of the two commodities have opposite curvatures and each curve is tangent to the other at a single point, and the tangent point passing through each point is parallel to the other, i.e., t_1t_1 is parallel to t_2t_2 , and to t_3t_3 .

Self Assessment exercise: How can the edgeworth box be useful in the analysis of international trade.

3.2 Mathematical or Algebraic Tools of Analysis

Equations or mathematical functions are often used as illustrative tools of analysis in international trade and finance and in economics in general. The estimation of exchange rates, term of trade, and calculation of balance of payment and trade etc are done base on this illustrative tool of analysis. For instance, the estimation (calculation) of various types of terms of trade;

- i. Commodity terms of trade

$$T_c = \frac{Px1}{Px0} \bigg/ \frac{Pm1}{Pm0}$$

Where the subscripts 0 and 1 indicate the base and end periods.

Taking 2001 as the base year and expressing Nigeria's both export prices and import prices as 100, if we find that by the end of 2010 its index of export prices had fallen to 90 and the index of import prices had risen to 110. The terms of trade had changed and will be calculated as follows;

$$T_c = \frac{90}{100} \bigg/ \frac{110}{100} = 81.82$$

- ii. Gross barter terms of trade

$$T_g = \frac{Qm1}{Qm0} \bigg/ \frac{Qx1}{Qx0}$$

Taking 2001 as the base year and expressing Nigeria's both quantities of imports and exports as 100, if we find that the index of quantity imports had risen to 160 and that of quantity exports to 120 in 2010, then the gross barter of trade had changed as follows.

$$T_g = \frac{160}{100} \bigg/ \frac{120}{100} = 133.33$$

- iii. Income terms of Trade

$$T_y = T_c \cdot Q_x = \frac{P_x \cdot Q_x}{P_m} = \frac{\text{Index of Export Prices} \times \text{Export Quantity}}{\text{Index of Import Prices}} \left(\text{where } T_c = \left| \frac{P_x}{P_m} \right| \right)$$

i.e. T_y is the income terms of trade; T_c the commodity terms of trade; and Q_x the export volume index. This index could be calculated by dividing the index of the value of exports by an index of the price of imports, and it is called the "Export Gain from Trade Index".

Taking 2001 as the base year, if

$P_x = 140, P_m = 70$ and $Q_x = 80$ in 2010, then

$$P_Y = \frac{140 \times 80}{70} = 160$$

It implies that there is improvement in terms of trade by 60 per cent in 2001 as compared with 1991.

If in 2001, $P_x = 80, P_m = 160$ and $Q_x = 120$,

Then,

$$P_y = \frac{80 \times 120}{160} = 60$$

It implies that the income terms of trade have deteriorated by 40 per cent in 2010 as compared with 20.10

Self Assessment exercise: Differentiate between the mathematical illustration of the commodity terms of trade and gross barter terms of trade.

3.3 Tabular Tools of International Trade Analysis

Tabular illustration just like others table are often used to explain situation or analytical reason for better understanding of the concept. For instance analytical table could be used to explain the gains from trade and more, such as Adam Smith Absolute Cost Advantage as illustrated below;

Table 1.2.1: Absolute Difference in Cost

Country	Commodity X	Commodity Y
A	10	5
B	5	10

From the table above there are two countries (A and B) and two commodities (X and Y), each country produce certain quantity of the two commodities; for country A, (X,Y)= (10,5) while country B, (X,Y) = (5,10). Country A has absolute cost advantage in production of commodity X, but country B has least cost advantage of producing commodity Y, therefore specialised in its production. The analytical table below explain the specialisation procedure in order to maximise the available global resources and gains from trade.

Table 1.2.2: Tabular Analytical Representation of Gains from Trade

Commodity	Production before Trade	Production after Trade	Gains from Trade
Country	(1)	(2)	(2 -1)

	X	Y	X	Y	X	Y
A	10	5	20	-	+10	-5
B	5	10	-	20	-5	+10
Total production	15	15	20	20	+5	+5

Self Assessment exercise:

Explain any gains from trade you know using the tabular analysis of international trade

4.0 Conclusion

We established the fact that understanding the concept and theory of international trade and finance largely depend on understanding the basic tools of analysis in international trade in particular and economics thought in general.

5.0 Summary

This unit explain analytical tools in international trade and finance and reiterate that understanding the analytical tools will aid the understanding the concept and theory of international trade. These analytical tools refer to the basic tools of analysing international trade which include graphs, equations or mathematical illustration and tabular illustration.

6.0 Tutor-Marked Assignment

- Enumerate and explain various tools of analysis in international trade and finance
- Write short note on any three of the basic tools analysed above.

7.0 References/Further Readings

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UNIT 3: DIFFERENCE BETWEEN INTERNAL AND INTERNATIONAL TRADE

CONTENTS

- 1.0 Introduction
- 2.0 Objectives
- 3.0 Main Content
 - 3.1 The concept of Internal Trade
 - 3.2 Major differences between Internal and International Trade
 - 3.3 Merits and Demerits of International Trade
- 4.0 Conclusion
- 5.0 Summary
- 6.0 Tutor-Marked Assignment
- 7.0 References/Further Readings

1.0 Introduction

This unit is to discuss the concepts of internal trade, it distinguish between internal (i.e. domestic) trade and international (foreign) trade. It further discusses the advantages and disadvantages associated with international trade.

2.0 Objective

At the end of this unit student should be able to

- Explain the meaning of internal trade
- Distinguish between internal trade and international trade
- Understand the merits and demerits of international trade

3.0 Main Content

3.1 The Concepts of Internal Trade

Internal trade, also known as Domestic trade or home trade is the exchange of domestic goods within the boundaries of a country. This may be sub-divided into two categories, wholesale and retail. Wholesale trade is concerned with buying goods from manufacturers or dealers or producers in large quantities and selling them in smaller quantities to others who may be retailers or even consumers. Wholesale trade is undertaken by wholesale merchants or wholesale commission agents.

Retail trade is concerned with the sale of goods in small quantities to consumers. This type of trade is taken care of by retailers. In actual practice, however, manufacturers and wholesalers may also undertake retail distribution of goods to bypass the intermediary retailer, by which they earn higher profits.

The importance or role of domestic trade in a country is that it facilitates exchange of goods within the country. By doing this it also makes sure that factors of production get to the right places so that the economy of the country can grow. By allowing different types of goods and services to reach all parts of the country it improves the standard of living of the residents of the country as well as the employment rate of the country. And it helps the growth of an industry by ensuring the availability of raw materials.

Traders from outside the country will have to come in contact with internal traders, because it is not easy to come directly into another country and get the required products.

Wholesale trade

Wholesalers play a major role in working of domestic trade. One could even say that it is the backbone of the domestic market. A wholesaler is one who is directly in contact with the manufacturers but in indirect contact with the consumers. A wholesaler generally deals with one type of industry. e.g. machinery, textile, stationery. A wholesaler is not only into selling of products as it is also involved in packaging, advertising, grading, and market research. They have their own warehouse which saves the manufacturers from bothering about storage. They normally get cash payments from retailers and sometimes consumers themselves and give advance payments which benefit the manufacturers. They sell in smaller quantities to retailers, which refrains the retailers from requiring storage space. They allow credit facilities to retailers at times.

Retail trade

A retailer is normally the final seller of a product. It makes its purchases from wholesalers and sales are made to the customers directly. Retailers do not particularly have to be from one industry i.e. they can trade in a variety of products at the same time. It generally has purchases made by credit and sales made in cash. Sales as compared to wholesalers are made in small quantities.

Self Assessment exercise:

Wholesaler plays a major role in the working of internal trade. Discuss

3.2 Major Difference between Internal and International Trade

A controversy has been going on among economists whether there is any difference between internal or domestic trade and international or foreign trade. The classical economists held that there were certain fundamental differences between internal trade and international trade. Accordingly, they propounded a separate theory of international trade which is known as the Theory of Comparative Costs. But modern economists like Bertil Ohlin and Haberler contest this view and opined that the differences between

internal and international trade are of degree rather than of kind. The following are the major differences between domestic trade and international trade:

- 1. Factor Mobility:** Labour and capital as factor of production do not move freely from one country to another as they do within the same country. Thus labour and capital are regarded as immobile between countries while they are perfectly mobile within a country. Adam Smith said “Man is of all forms of luggage, the most difficult to transport”. Differences in cost of production cannot be removed by moving and money. The result is the movement of goods on the contrary, between regions within the same political boundaries; people distribute themselves more or less according to the opportunities. Real wages and standard of living tend to seek a common level though they are not wholly uniform as between nations, these differences continue to persist and check population movements. Capital also does not move freely from one country to another country.
- 2. Different Currencies:** Each country has a different currency. Buying and selling between nations give rise to complications absent in internal trade. This hampers smooth flow of trade as between one country and another country. A large number of foreign exchange problems arise in number of foreign trade which are non-existent in internal trade.
- 3. Different National Policies:** Different needs lead countries to pursue divergent national policies and not only with respect to foreign exchange rates. National Policies differ in a wide range of domestic matters affecting international economic relations, wages, prices, competition, investment, business regulation etc and often involve interference directly in international economic intercourse in tariffs, exchange controls, non-tariff barriers and the like.
- 4. Different Political Circumstances:** Mostly countries differ in political circumstances. In internal trade, trade takes place among same people. But international trade takes place among people of different cultures, habits and languages. These cultural distinctions between markets, important in the absence of different national measures have led political scientists to take look at the nature of countries.
- 5. Difference in National Resources:** Different countries are endowed with different type of natural resources. They tend to specialise, in the production of those commodities in which they are richly endowed and trade them with others where such resources are scarce.
- 6. Geographical and climatic differences:** Every country cannot produce all commodities due to geographical and climatic conditions, except at possibly

prohibitive costs. Countries having climatic and geographical advantage specialise in the production of particular commodities and trade them with others.

7. **Different Markets:** International markets are different in various aspects. Even the system of weights and measures and pattern and styles in machinery and equipment differ from country to country. Goods which are traded within regions may not sold in other countries. This is why in great many cases products to be sold in foreign countries are especially designed to conform to the national characteristics of that country.
8. **Problem of Balance of Payments:** The problem of balance of payments is perpetual in international trade while regions within a country have no such problem.
9. **Restrictions on Trade:** Trade between different countries is mostly not free. There are restrictions imposed by custom duties, exchange restrictions, fixed quotas or other tariff barriers.
10. **Ignorance:** Differences in culture, language and religion stand in the way of free communication between different countries.
11. **Transport and Insurance Costs:** The cost of transport and insurance also check the free international trade. The greater the distance between the two countries the greater the cost and insurance.

Self Assessment exercise:

Discuss the differences between internal and international trade?

3.4 Merits and Demerits of International Trade

Merits of International Trade

The main merits of international trade to a country are as follows:

i. Boosts Domestic Competitiveness
Exporting or importing your products provides a good chance to increase your competitiveness within the domestic markets. Once you are to acquire imported commodities at similar or even lower costs as compared to the ones you acquire from the domestic market and the other way around, then you will certainly gain profits which will boost the level of your competence.

ii. Increase in profit and Sales
Once you are able to make exports from your locality or imports in same or high quality

products on the better profit margin, it is possible then for the levels of your sales to increase. And with this, you get the chance to eventually increase your profits.

iii. Economy in the Use of Productive Resources:

Each country tries to produce those goods in which it is best suited. As the resources of each country are fully exploited, there is thus a great economy in the use of productive resources.

iv. Wider Range of Commodities:

International trade makes it possible for each country to enjoy wider range of commodities than what is otherwise open to it. The commodities which can be produced at home at relatively higher cost can be brought from the cheaper market from abroad and the resources of the country thus saved can be better employed for the production of other commodities in which it is comparatively better fitted.

v. Scarcity of Commodities:

If at any time there is shortage of food or scarcity of other essential commodities in the country, they can be easily imported from other countries and thus the country can be saved from shortage of commodities and low standard of living.

vi. Promotes Competition:

International trade promotes competition among different countries. The producers in home country, being afraid of the foreign competition, keep the prices of their products a reasonable level.

vii. Speedy Industrialization:

International trade enables a backward country to acquire skill, machinery; and other capital equipment from industrially advanced countries for speeding up industrialization.

viii. Fall of Prices:

A country can export her surplus products to a country which is in need of them. The domestic prices are, thus, prevented from falling.

ix. Extension of Means of Transport:

When goods are exchanged from one country to another, it leads to an extension of the means of communication and transport.

x. Economic Inter-Dependence:

International trade offers facilities to the citizens of every country to come in contact with one another. It makes them realize that no country in the world is self-sufficient. It thus promotes peace and goodwill among nations.

Disadvantages of International Trade

International trade has its own demerits/disadvantages; these in brief are as follows:

i. Exhaustion of Resources:

In order to earn present export advantages a country may exploit her limited natural resources beyond proper limits. This may lead to exhaustion of essential material resources like iron, coal, oil, etc. The future generation thus stands at a disadvantage.

ii. Effect on Domestic Industries:

If no restrictions are placed on the foreign trade, it may ruin the domestic industries and cause widespread distress among the people.

iii. Effect on Consumption Habits:

Sometimes it so happens that the traders in order to make profits import commodities which are very harmful and injurious to the people. For instance, if opium, wine, etc., are imported, it will adversely affect the health and morale of the people.

iv. Times of Emergency:

If each country specializes in the production of those commodities in which it has comparative advantage over other countries, it may prove very dangerous rather fatal during times of

i. Long Term Process

Exports from your local, or some other productive opportunities in import export business, demand lots of time so as to be converted. So, you have to be very patient in order to gradually achieve your desired goals. In addition to this, it requires huge time investment for the business to produce strategic partnerships with various parties inside the channel.

ii. Additional Licensing And Other Taxes, Regulations, Etc

Plans for import export business should not just be created after taxes, understating licensing and other relevant country regulations in which you are planning to have your audiences targeted.

Self Assessment exercise:

Does the merits of international trade outweigh its demerits. Discuss

4.0 Conclusion

We conclude that the concept of international trade has a diverse view and that there is relationship as well as dissimilarity between internal and international trade. We equally established the fact that understanding the concept and theory of international trade and finance the advantages and disadvantages must be considered.

5.0 Summary

In this study unit we attempt to explore differences between internal and international trade. This unit further explain the merits and demerits of international trade to any country.

6.0 Tutor-Marked Assignment

- a) Define the term internal trade in relation to international trade
- b) Differentiate between internal trade and international trade
- c) Evaluate the similarities and dissimilarities between domestic and foreign trade.
- d) What are the rewards of international trade to your country?
- e) Discuss the disadvantages of international trade

7.0 References/Further Readings

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MODULE TWO

MAJOR CONCEPT OF INTERNATIONAL TRADE

- Unit 1: Basic concepts of International Trade
- Unit 2: Concept of Terms of Trade
- Unit 3: Balance of Trade and Balance of Payment

UNIT 1: BASIC CONCEPTS OF INTERNATIONAL TRADE

CONTENTS

- 1.0 Introduction
- 2.0 Objectives
- 3.0 Main Content
 - 3.1 The concept of Export, Import and Entre-port
 - 3.2 Relationship between Export and Import
 - 3.3 Importance of Import and Export
- 4.0 Conclusion
- 5.0 Summary
- 6.0 Tutor-Marked Assignment
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1.0 Introduction

Export is the term used to selling of products or service from any other country while import is the activity of buying the same from other countries therefore, this unit introduces the students to components of both international and internal trade such as import, export, entre-port and the likes. In the same vein, interrelationship that exists among all these concepts of international trade will be discussed.

2.0 Objective

At the end of this unit student should be able to

- Define and know the meaning of export and import
- Understand the meaning of entre-port
- Explain the link between export and import
- Understand the importance of import and export to an economy.

3.0 Main Content

3.1 The Concepts of Export, Import and Entre-port

Export Defined: The term export means shipping in the goods and services out of the jurisdiction of a country. The seller of such goods and services is referred to as an

exporter and is based in the country of export whereas the overseas based buyer is referred to as an importer in international trade. Export refers to selling goods and services produced in the home country to other markets. However, export of commercial quantities of goods normally requires involvement of the customs authorities in both the country of export and country of import.

Import Defined:An import is a good or service brought into one country from another. The word "import" is derived from the word "port" since goods are often shipped via boat to foreign countries. Along with exports, imports form the backbone of international trade; the higher the value of imports entering a country, compared to the value of exports, the more negative that country's balance of trade becomes. Moreover, countries are most likely to import goods that domestic industries cannot produce as efficiently or cheaply but may also import raw materials or commodities that are not available within its borders. For example, many countries have to import oil because they cannot produce it domestically or cannot produce enough of it to meet demand. Free agreements and tariff schedules often dictate what goods and materials are less expensive to import.

Entre-port Defined:an entre-port or trans-shipment port is a port, city or trading post where mechanised may be imported, stored or traded, usually to be exported again. Ordinarily, when goods are imported and later re-exported it is termed **entrepot**.

Self Assessment exercise:

Discuss the linkage between export and import.

3.2 Relationship between Export and Import

Import and export are terms that are commonly heard in international trade and these are activities that are carried out by all countries of the world. In general, import refers to an item coming inside a country from any other country while export refers to an item going out of the country to any other country of the world. Since no country in the world is self sufficient, all countries both import as well as export.

If a country is rich in a particular ore as it has natural reserves of that ore in the form of mines, the country can export that ore to other countries of the world. This is particularly true of oil producing countries that are exporters of crude oil. However, all such countries are dependent on other countries for many other products and services which is why they need to import such items from other countries of the world.

Exports earn money for a country, while imports mean expenses. For example, India is a country that has a huge number of qualified manpower in the IT sector. This manpower exports its services to companies doing business in other countries thus earning foreign currency for India. On the other hand, India is dependent for oil and arms on other

countries and needs to import them for its energy requirements as well as its army. It can spend the foreign currency it earns through exports to import goods and services it is deficient in. This is the basic concept behind exports and imports.

It is the endeavour of all countries of the world to achieve parity in their exports and imports. But in reality it is never so and this is where balance of payment creeps in. In an ideal situation, where exports equal imports, a country can utilize the money earned through exports to import goods and services it requires.

However, if a company is an exporter, it does not mean it cannot be an importer. Today there is so much of interdependency in the world that companies and nations prefer to import items that they cannot manufacture or which prove to be costlier if they try to produce themselves. In fact there are companies that specialize in exporting and importing and can arrange goods for any company from a foreign country on a short notice as it has a well developed liaising network.

The level of import directly depends on the exchange rate of local currency. If the local currency is strong which mean that you buy more foreign currency and at the same time more foreign goods, the import level will increase. If your local currency is weak, then the import level decreases.

There are several reasons, why companies decide to export their output. First, they may want to enter geographically new markets and thus expand and internationalize. Second, it is possible that by exporting, companies are meeting the demand of those who live abroad because there is no domestic demand for their products or services. Export is also a great way to diminish supply surplus and thus make production more efficient.

The level of export is strictly connected with the exchange rate of local currency. If it is weak which means that someone with strong foreign currency may buy more of your domestic currency and at the same time your domestic goods, then the export level increases. If your local currency is strong, then the export level decreases.

Self Assessment exercise:

Both exports and imports are essential for the development of any country as no nation is self sufficient. Discuss

3.3 Importance of Import and Export

Exporting and importing are important because they help to grow the national economies and expand the global market. Every country is endowed with certain advantages in resources and skills. For example, some countries are rich natural resources, such as timber, fossil fuel, fertile soil or precious metals and minerals, while other countries have

shortages of many of these resources. Additionally, some countries have highly developed infrastructures, educational systems and capital markets that permit them to engage in complex manufacturing and technological innovations, while many countries do not.

Imports are important for businesses and individual consumers. Countries often need to import goods that are either not readily available domestically or are available cheaper overseas. Individual consumers also benefit from the locally produced products with imported components as well as other products that are imported into the country. Often times, imported products provide a better price or more choices to consumers, which helps their standard of living.

Countries want to be net exporters rather than net importers. Importing is not necessarily a bad thing because it gives us access to important resources and product not otherwise available or at a cheaper cost. However, just like eating too much candy, it can have bad consequences. If you import more than you export, more money is leaving the country than is coming in through export sales.

On the other hand, the more a country exports, the more domestic economic activity is occurring. More exports mean more production, jobs and revenue. If a country is a net exporter, its gross domestic product increases, which is the total value of the finished goods and services it produces in a given period of time. In other words, net export increases the wealth of a country.

Self Assessment exercise:

In your own opinion why is export and import essential for economic growth?

4.0 Conclusion

Both import and export are two main activities of a country's international trade. Import appears, when domestic companies buy goods abroad and bring them to a domestic country for sale. Export appears when the domestic companies sell their products or services abroad.

5.0 Summary

The concepts of import, export and entre-port were analysed for clear understanding of learners. Both export and import are main activities of national trade. If export increases import than we have trade surplus, if opposite, than we have trade deficit.

6.0 Tutor-Marked Assignment

- a) Examine the concept of Import and Export
- b) Differentiate among these three concepts of international trade; import, export and entre-port.
- c) Enumerate and explain any three importance of import and export

7.0 References/Further Readings

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UNIT 2: CONCEPTS OF TERMS OF TRADE

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1.0 Introduction

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3.1 The concept of Commodity or Net Barter Terms of Trade and Gross Barter Terms of Trade

3.2 Income Terms of Trade

3.3 Single Factoral Terms of Trade and Double Factoral Terms of Trade

3.4 Real Cost Terms of Trade and Utility Terms of Trade.

4.0 Conclusion

5.0 Summary

6.0 Tutor-Marked Assignment

7.0 References/Further Readings

1.0 Introduction

Terms of trade refer to the rate at which the goods of one country are exchanged for the goods of another country. In other words, it is a measure of the purchasing power of exports of a country in terms of its imports, and also expressed as the relation between export prices and import prices of its goods. When the export prices of a country rise relatively to its import prices, its terms of trade is said to have improved. The country gains from trade if it can have a larger quantity of imports in exchange for a given quantity of exports. Better still, when its import prices rise relatively to its exports prices, its terms of trade is said to have worsened. The country's gain from trade is reduced because it can have a smaller quantity of imports in exchange for a given quantity of exports than before.

2.0 Objective

At the end of this unit student should be able to

- Define and know the meaning between commodity barter and gross barter terms of trade
- Understand the concept of income terms of trade
- Know the difference between single factoral terms of trade and double factoral terms of trade
- Compare real cost term of trade to utility terms of trade

3.0 Main Content

3.1 Commodity or Net Barter Terms of Trade and Gross Barter Terms of Trade

Commodity or Net Barter Terms of Trade

The commodity or net barter terms of trade is the ratio between the price of a country's export goods and import goods. Symbolically, it can be expressed as

$$T_c = P_x / P_m$$

Where T_c stands for the commodity terms of trade, P for price, the subscript x for exports and m for imports.

To measure changes in the commodity terms of trade over a period, the ratio of the change in export prices to the change in import prices is taken. Then the formula for the commodity terms of trade is

$$T_c = \frac{P_{x1}}{P_{x0}} \bigg/ \frac{P_{m1}}{P_{m0}}$$

Where the subscripts 0 and 1 indicate the base and end periods.

Taking 2001 as the base year and expressing Nigeria's both export prices and import prices as 100, if we find that by the end of 2011 its index of export prices had fallen to 90 and the index of import prices had risen to 110. The terms of trade had changed and will be calculated as follows;

$$T_c = \frac{90}{100} / \frac{110}{100} = 81.82$$

It implies that Nigeria's terms of trade declined by about 18 per cent in a decade (i.e. 2001 compared with 2011), thereby showing worsening of its terms of trade.

Gross Barter Terms of Trade.

The gross barter terms of trade is the ratio between the quantities of a country's imports and exports. Symbolically, $T_g = Q_m/Q_x$, where T_g stands for the gross terms of trade, Q_m for quantities of Imports and Q_x for quantities of exports. The higher the ratio between quantities of import and export, the better the gross term of trade. To measure changes in the gross barter terms of trade over a period, the index number of the quantities of imports and exports in base period (usually yearly) and the end period are related to each other. The formula is as follows:

$$T_g = \frac{Q_{m1}}{Q_{m0}} \bigg/ \frac{Q_{x1}}{Q_{x0}}$$

Taking 2001 as the base year and expressing Nigeria's both quantities of imports and exports as 100, if we find that the index of quantity imports had risen to 160 and that of quantity exports to 120 in 2011 then the gross barter of trade had changed as follows.

$$T_g = \frac{160/120}{100/100} = 133.33$$

It implies that there was an improvement in the gross barter terms of trade of Nigeria by 33 per cent in 2011 when compared with 2001.

If the quantity of import index had risen by 130 and that of quantity exports by 180, then the gross barter terms of trade would be 72.22.

$$T_g = \frac{130}{100} / \frac{180}{100} = 72.22$$

This implies deterioration in the terms of trade by 18 per cent in 2011 over 2001. When the net barter terms of trade (T_c) equals the gross barter terms of trade (T_g), the country has balance of trade equilibrium. It shows that total receipts from exports of goods equal total payments for import goods.

Numerically:

$$P_x \times Q_x = P_m \times Q_m$$

Or
$$\frac{P_x}{P_m} = \frac{Q_m}{Q_x}$$

Or
$$P_x Q_x = P_m Q_m$$

Or
$$T_c = T_g$$

Self Assessment exercise:

Differentiate between the commodity barter terms of trade and gross barter terms of trade

3.2 Income Terms of Trade

Dorrance has improved upon the concept of the net barter terms of trade by formulating the concept of the income terms of trade. This index takes into account the volume of exports of a country and its export and import prices (the net barter terms of trade). It shows a country's changing import capacity in relation to changes in its exports. Thus, the income terms of trade is the net barter terms of trade of a country multiplied by its export volume index. It can be expressed as

$$T_y = T_c \cdot Q_x = \frac{P_x \cdot Q_x}{P_m} = \frac{\text{Index of Export Prices} \times \text{Export Quantity}}{\text{Index of Import Prices}} \left(\text{where } T_c = \left| \frac{P_x}{P_m} \right| \right)$$

i.e. T_y is the income terms of trade; T_c the commodity terms of trade; and Q_x the export volume index. This index could be calculated by dividing the index of the value of exports by an index of the price of imports, and it is called the “Export Gain from Trade Index”.

Taking 2001 as the base year, if

$P_x = 140$, $P_m = 70$ and $Q_x = 80$ in 2011, then

$$P_y = \frac{140 \times 80}{70} = 160$$

It implies that there is improvement in terms of trade by 60 per cent in 2011 as compared with 2001.

If in 2011, $P_x = 80$, $P_m = 160$ and $Q_x = 120$,

Then,

$$P_y = \frac{80 \times 120}{160} = 60$$

It implies that the income terms of trade have deteriorated by 40 per cent in 2011 as compared with 2001.

A rise in then index of income terms of trade implies that a country can import more goods in exchange for its exports. A country’s income terms of trade may improve but its commodity terms of trade may deteriorate. Taking the import prices to be constant, if export prices falls, there will be an increase in the sales and value of exports. Thus while the income terms of trade might have improved, the commodity terms of trade might have deteriorated.

The income terms of trade is called the *capacity to import*. In the long-run, the total value of exports of a country must equal to its total value of imports, i.e. $P_x \cdot Q_x = P_m \cdot Q_m$ or $P_x / Q_x = P_m / Q_m$. Thus $P_x \cdot Q_x / P_m$ determines Q_m which is the total volume that a country can import. The capacity to import of a country may increase if other things remain the same (i) the price of exports (P_x) rises, or (ii) the price of imports (P_m) falls, or (iii) the volume of its exports (Q_x) rises. Thus the concept of the income terms of trade is of much practical value for developing countries having low capacity to import.

Self Assessment exercise:

Explain in details the income terms of trade and how is different from the net barter terms of trade.

3.3 Single Factoral Terms of Trade and Double Factoral Terms of Trade

Single Factoral Terms of Trade

The concept of commodity terms of trade does not take account of productivity changes in export industries. However this has led to the development of the concept of single factoral terms of trade which allows changes in the domestic export sector. It is calculated by multiplying the commodity terms of trade index by an index of productivity changes in domestic export industries. It can be expressed as:

$$T_s = T_c \cdot F_x = \frac{P_x \cdot F_x}{P_m} \left(\because T_c = \left| \frac{P_x}{P_m} \right| \right)$$

Where T_s is the single factoral terms of trade, T_c is the commodity terms of trade, and F_x is the productivity index of export industries.

It shows that a country's factoral terms of trade improve as productivity improves its export industries. If the productivity of a country's exports industries increases, its factoral terms of trade may improve even though its commodity terms of trade may deteriorate. For example, the prices of its exports may fall relatively to its import prices as a result of increase in the productivity of the export industries of a country. The commodity terms of trade will deteriorate but its factoral; terms of trade will show an improvement.

Double Factoral Terms of Trade

The double factoral terms of trade take into account productivity changes both in the domestic export sector and the foreign export sector producing the country's imports. The index measuring the double factoral terms of trade can be expressed as

$$T_d = T_c \cdot \frac{F_x}{F_m} = \frac{P_x}{F_m} \frac{F_x}{F_m} \left(i. e. T_c = \left| \frac{P_x}{P_m} \right| \right)$$

Where T_d is the double factoral terms of trade, P_x/P_m is the commodity terms of trade, F_x is the export productivity index, and F_m is the import productivity index. It helps in measuring the change in the rate of exchange of a country as a result of the change in manufacturing imports of a country. A rise in the index of double factoral terms of a country means that the productive efficiency of the factors has increased relatively to the factors producing imports in the other country.

Self Assessment exercise:

How is the double factoral term of trade different from the single factoral terms of trade.

3.4 Real Cost Terms of Trade and Utility Terms of Trade.

Real Cost Terms of Trade

Viner has also developed a terms of trade index to measure the real gain from international trade. He calls it the real cost terms of trade index. This index is calculated by multiplying the single factorial terms of trade with the reciprocal of an index of the amount of disutility per unit of productive resources used in producing export commodities. It can be expressed as:

$$Tr = Ts.Rx = \frac{Px}{Pm} \left(\because Tc = \left| \frac{Px}{Pm} \cdot Fx \right) \right)$$

Where Tr is the real cost terms of trade, Ts is the single factorial terms of trade and Rx is the index of the amount of disutility per unit of productive resources used in producing export commodities.

Utility Terms of Trade

The utility terms of trade index measures “changes in the disutility of producing a unit of exports and changes in the relative satisfactions yielded by imports and the domestic products foregone as the result of export production.” In other words, it is an index of the relative utility of imports and domestic commodities foregone to produce exports. The utility terms of trade index is calculated by multiplying the real cost terms of trade index with an index of the relative average utility of imports and of domestic commodities foregone. If we denote the average utility by u and the domestic commodities whose consumption is foregone to use resources for export production by a , then $u = \frac{Um1|Um0}{Ua1|Ua0}$, where u is the index of relative utility of imports and domestically foregone commodities. Thus, the utility terms of trade index can be expressed as:

$$Tu = Tr.u = \frac{Px}{Pm} \cdot Fx.Rx.u$$

Since the real terms of trade index and utility terms of trade index involve the measurement of disutility in terms of pain, irksomeness and sacrifice, they are elusive concepts. As a matter of fact, it is not possible to measure disutility (for utility) in concrete terms.

Self Assessment exercise:

Differentiate among the terms of trade known to you?

4.0 Conclusion

We conclude that the various types of terms of trade shows that the term, term of trade could mean different thing in different situation. However, this unit has been written in a way that learner will find it easy to understand and retained.

5.0 Summary

We defined different terms of trade that exist in the literature and their interrelationship. This concept of terms of trade and its variants were clearly explained and distinguished, in order to drive home the point for clearer understanding of the student.

6.0 Tutor-Marked Assignment

- a) Explain what is meant by terms of trade.
- b) Enumerate and explain all types of terms of trade known to you
- c) Evaluate the most potent terms of trade among the various variants you know.

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UNIT 3: BALANCE OF TRADE AND BALANCE OF PAYMENT

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1.0 Introduction

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3.0 Main Content

3.1 Balance of Trade

3.2 Concept of Balance of Payment

3.3 Comparison between Balance of Trade and Balance of Payment

4.0 Conclusion

5.0 Summary

6.0 Tutor-Marked Assignment

7.0 References/Further Readings

1.0 Introduction

This unit will discuss the concept of balance of trade and balance of payment, the components of balance of payment and the relationship that exist between balance of trade and payment,

2.0 Objective

Under this unit student should be able to

- Explain the concepts of balance of trade and its importance to a country
- Understand the meaning of balance of payment and the various components that make up the balance of payment
- Differentiate between balance of trade and balance of payment.

3.0 Main Content

3.1 Balance of Trade

The balance of trade (BOT) is the difference between a country's imports and its exports for a given time period. The balance of trade is the largest component of the country's balance of payments (BOP). Economists use the BOT as a statistical tool to understand the relative strength of a country's economy versus other countries' economies and the flow of trade between nations. The balance of trade is also known as the trade balance or the international trade balance.

A country that imports more goods and services than it exports has a trade deficit. Conversely, if a country exports more goods and services than it imports it will have a trade surplus. A trade surplus or deficit, taken on its own, is not necessarily a viable indicator of an economy's health. The numbers must be taken in context relative to the business cycle and other economic indicators. For example, in a recession, countries like to export more,

creating jobs and demand in the economy. In a strong expansion, countries prefer to import more, providing price competition, which limits inflation. The formula for calculating the BOT can be simplified to imports minus exports. However, the actual calculation is comprised of several elements.

- To make complete sense, the raw number of the trade deficit or surplus must be compared to the country's gross domestic product (GDP), since larger economies may be better suited to handle large deficits and surpluses.
- Detailed Formula for the Calculation of a Country's BOT
- Debit items include imports, foreign aid, domestic spending abroad and domestic investments abroad. Credit items include exports, foreign spending in the domestic economy and foreign investments in the domestic economy. By subtracting the credit items from the debit items, economists arrive at a trade deficit or trade surplus for a given country over the period of a month, quarter or year.

Self Assessment exercise:

Explain what you understand by balance of trade.

3.2 Concept of Balance of Payment

The balance of payments which is also known as balance of international payments (abbreviated as BOP), of a country is the record of all international economic transactions between the residents of the country and the rest of the world, in a particular period of time, commonly over a year.

BOP can also be described as financial statement that summarizes all economy's transactions with the rest of the world for a specific period of time. Moreover, the balance of payments, encompasses all transactions between a country's residents and its non-residents involving goods, services and income; financial claims on and liabilities to the rest of the world; and transfers such as gifts and aids. The balance of payments classifies these transactions in two accounts which are its main component – the current account and the capital account. The current account includes transactions in goods, services, investment income and current transfers, while the capital account mainly includes transactions in financial instruments. An economy's balance of payments transactions and international investment position (IIP) together constitute its set of international accounts.

However, the balance of payments data is not concerned with actual payments made and received by an economy, but rather with transactions. Since many international transactions included in the balance of payments do not involve the payment of money, this figure may differ significantly from net payments made to foreign entities over a period of time. This led us to ask the following fundamental question, whether or not the

balance of payments actually balance always? In theory, a current account deficit would have to be financed by a net inflow in the capital and financial account, while a current account surplus should correspond to an outflow in the capital and financial account for a net figure of zero. In actual practice, however, the fact that data are compiled from multiple sources gives rise to some degree of measurement error.

The main components of the Balance of Payments are:

- i. The Current Account including Merchandise (Exports Imports), Investment income (rents, profits, interest).
- ii. The Capital Account measuring foreign investment in the Nigerian economy and Nigerian investments abroad.

These BOP components can be further decomposed as follows:

The commercial balance or net exports (sometimes symbolized as **NX**), is the difference between the monetary value of a nation's exports and imports over a certain period. If exports of a country are greater in value than it imports, it is called a tradesurplus, positive balance, or a "favourable balance", and conversely, if exports of a country are less in value than it imports, it is called a trade deficit, negative balance, "unfavourable balance", or, informally, a "trade gap".

The financial account differs from the capital account in that, the capital account deals with transfers of capital assets. A reflection of the country's current trade balance combined with net income and direct payments, (the current account serves to measure imports and exports of goods and services), when combined with the financial and capital accounts, these accounts form the country's balance of payments

Self Assessment exercise:

What is balance of payment and what are the components that make up balance of payment.

3.3 Comparison between Balance of Trade and Balance of Payment

The following are the major differences between the balance of trade and balance of payments:

- 1. A statement recording the imports and exports carried out in goods by/from the country with the other countries, during a particular period is known as the Balance of Trade. The Balance of Payment captures all the monetary transaction performed internationally by the country during a period of time.
- 2. The Balance of Trade accounts for, only physical items, whereas Balance of Payment keeps track of physical as well as non-physical items.
- 3. The Balance of Payments records capital receipts or payments, but Balance of Trade does not include it.

4. The Balance of Trade can show a surplus, deficit or it can be balanced too. The same goes for Balance of Payments.
5. The Balance of Trade is a major segment of Balance of Payment.
6. The Balance of Trade provides the only half picture of the country's economic position. Conversely, Balance of Payment gives a complete view of the country's economic position. The following chart can be used as a comparison of balance of trade and balance of payment

Basis for Comparison	Balance of Trade	Balance of Payment
Meaning	Balance of Trade is a statement that captures the country's export and import of goods with the remaining world.	Balance of Payment is a statement that keeps track of all economic transactions done by the country with the remaining world.
Records	Transactions related to goods only.	Transactions related to both goods and services are recorded.
Capital Transfers	Are not included in the Balance of Trade.	Are included in Balance of Payment.
Which is better?	It gives a partial view of the country's economic status.	It gives a clear view of the economic position of the country.
Result	It can be favourable, unfavourable or balanced.	Both the receipts and payment sides should tally.
Component	It is a component of Current Account of Balance of Payment.	Current Account and Capital Account.

Self Assessment exercise:

Give a comparison between balance of trade and balance of payment

4.0 Conclusion

We conclude that the various concepts of international trade are interrelated and as such could be confusing if they are not properly assimilated and diffused. For instance balance of trade and balance of payments. However, this unit has been written in a way that learner will find it easy to understand and retained.

5.0 Summary

We defined various concepts that are related to international trade and finance and juxtapose where necessary to distinguished among these concepts. The concept of balance of trade and payment were clearly explained and distinguished..

6.0 Tutor-Marked Assignment

- a) Evaluate the similarities and dissimilarities between balance of trade and balance of payment.
- b) Why must the balance of payment of any countries be balance?
- c) Discuss the various components of balance of payment

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MODULE THREE

INTERNATIONAL TRADE BENEFITS AND DUMPING

- Unit 1: Benefit and Gains from Trade
- Unit 2: Concepts of Dumping
- Unit 3: Trade Controls

UNIT 1: BENEFIT AND GAINS FROM TRADE

CONTENTS

- 1.0 Introduction
- 2.0 Objectives
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 - 3.1 Benefits of International Trade to Developing Countries
 - 3.2 Analysis of Gains from Trade
 - 3.3 Actual and Potential Gains from International Trade
- 4.0 Conclusion
- 5.0 Summary
- 6.0 Tutor-Marked Assignment
- 7.0 References/Further Readings

1.0 Introduction

This unit looked at the reasons why countries trade among one and other. It further discusses the benefits of international trade to developing nations such as Nigeria, and equally expounds the gains from trade for countries bringing into focus the actual and potential gains from international trade.

2.0 Objective

At the end of this unit student should be able to

- Know the benefit of International Trade to the developing nations
- Explain the gains from trade
- Understand the actual and potential gains from international trade.

3.0 Main Content

3.1 Benefits of International Trade to Developing Countries

Free trade is an economic practice whereby countries can import and export goods without fear of government intervention. Government intervention includes tariffs and

import/export bans or other limitations. Free trade offers several benefits to countries, especially those in the developing stage. "Developing countries" is a broad term. According to a widely used definition, a developing country is a nation with low levels of economic resources (or utilization) and/or low standard of living. Developing countries can often advance their economy through strategic free trade agreements. The following are the benefits a developing nation could derive from participating in trade with other countries of the world.

i. Increased Resources

Developing countries can benefit from free trade by increasing their amount of or access to global economic resources. Nations usually have limited economic resources. Economic resources include land, labour and capital. Land represents the natural resources found within a nation and its borders. Small developing nations often have the lowest amounts of natural resources in the economic marketplace. Free trade agreements ensure that small nations obtain the economic resources needed to produce consumer goods or services.

ii. Improved Quality of Life

Free trade usually improves the quality of life for a nation and its citizens. Nations can import goods that are not readily available within their borders. Importing goods may be cheaper for a developing country than attempting to produce consumer goods or services within their borders. Many developing nations do not have the production processes available for converting raw materials into valuable consumer goods. Developing countries with friendly neighbours may also be able to import goods more often. Importing from neighbouring countries ensures a constant flow of goods that are readily available for consumption.

iii. Better Foreign Relations

Better foreign relation is usually an unintended result of free trade. Developing nations are often subject to international threats. Developing strategic free trade relations with more powerful countries can help ensure a developing nation has additional protection from international threats. Developing countries can also use free trade agreements to improve their military strength and their internal infrastructure, as well as to improve politically. This unintended benefit allows developing countries to learn how they should govern their economy and what types of government policies can best benefit their people.

iv. Production Efficiency

Developing countries can use free trade to improve their production efficiency. Most nations are capable of producing some type of goods or service. However, a lack of knowledge or proper resources can make production inefficient or ineffective. Free trade allows developing countries to fill in the gaps regarding their production processes. Individual citizens may also visit foreign countries to increase education or experience in specific production or business methods. These individuals can then bring back crucial information about improving the nation and its production processes

Self Assessment exercise:

What are the benefits of international trade for Nigeria?

3.2 Analysis of Gains from Trade

The gains from trade refer to net benefits or increase in goods that a country obtains by trading with other countries. It also means the increase in the consumption of a country resulting from exchange of goods and specialization in production through international trade. The gain from trade was at the core of the classical theory of international trade. According to Adam Smith; the gains from trade resulted from the advantages of division of labour and specialization both at the national and international level. They were due to the existence of absolute differences in costs, that is, each country would specialize in the production of that commodity which it could produce more cheaply than other countries and import those commodities which it could produce more dearly. Thus international specialization would increase world output and benefit all the trading countries.

For Ricardo, extension of international trade powerfully contributed to increase the mass of commodities, and therefore, the sum of enjoyments obtain from the imported goods through trade instead of domestic production. J.S.Mill analyzed the gains from international trade in terms of his theory of reciprocal demand which depends upon the terms of trade. In modern analysis, the gains from international trade refer to the gains from exchange and the gains from specialization based on the general equilibrium analysis. The table 1.1.1 and table 1.1.2 shed more numerical evidence.

Self Assessment exercise:

Discuss the various schools of thoughts that you know on gains from trade

Potential and Actual Gains from International Trade

Economists usually distinguish between potential and actual gain from international trade. The potential gains from international trade is the difference in domestic cost ratios of producing two commodities in two countries. If X and Y are two commodities and A and B two countries, then the potential gain can be expressed as

$$G_p = \left[\frac{C_x}{C_y} \right]_A - \left[\frac{C_x}{C_y} \right]_B$$

Where G_p is the potential gain, C_x is the cost per unit of commodity X, C_y is the cost per unit of commodity Y, and the subscripts A and B refer to the two countries.

On the other hand, the actual gain from international trade is the difference in price ratios of two commodities in the two trading countries. Assuming X and Y as two commodities and A and B as two countries, the actual gain can be shown thus

$$G_A = \left[\frac{P_x}{P_y} \right]_A - \left[\frac{P_x}{P_y} \right]_B$$

Where G_A is the actual gain, P_x is the per unit price of commodity X and P_y is the per unit price of commodity Y. under perfect competition and free trade between two countries, the cost ratio equals the price ratio of the two commodities in each country so that the potential gain equals the actual gain, $\left[\frac{C_x}{C_y}\right] = \left[\frac{P_x}{P_y}\right]$, therefore, $G_P = G_A$. But if there are tariffs and other trade restrictions and commodity and factor markets are imperfect, the price and cost ratios will not be equal in each country. If the price ratio is more than the cost ratio, the actual gain will be less than the potential gain. Symbolically, $\left[\frac{P_x}{P_y}\right] > \left[\frac{C_x}{C_y}\right]$, therefore, $G_A < G_P$

Since there is always imperfect competition in world markets then we can conclude that the actual gain is always less than the potential gain in international trade.

Self Assessment exercise:

Differentiate between the potential and actual gains from international trade.

4.0 Conclusion

We conclude that the benefit from international trade cannot be overemphasized while explaining the actual benefit that could accrued to developing nations. The actual and potential gains from trade were discussed and we equally conclude that international trade markets are imperfect and so potential gains are always more than actual gains

5.0 Summary

We enumerated various benefits from international trade to developing countries. The gains from trade were enumerated and discussed. These gains from trade were discussed under two forms, the potential gains and the actual gains and we summarised that potential gains are always greater than the actual gains in an imperfect competitive market which is the world kind of market.

6.0. Tutor-Marked Assignment

- a) Examine the reason for engagement in international trade
- b) Differentiate between actual and potential gains.
- c) Explain what is meant by potential gains?
- d) What is the relationship between actual and potential gains from trade in a perfectly competitive international market?

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UNIT 2: CONCEPTS OF DUMPING

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- 2.0 Objectives
- 3.0 Main Content
 - 3.1 Meaning of Dumping
 - 3.2 Types of Dumping
 - 3.3 Basic Objectives of Dumping
 - 3.4 Price Determination under Dumping
- 4.0 Conclusion
- 5.0 Summary
- 6.0 Tutor-Marked Assignment
- 7.0 References/Further Readings

1.0 Introduction

This unit considered dumping which occurs when a manufacturer lowers the price of a good entering a foreign market than it charges domestic customers. The identification of trade dumping can be performed simply by comparing the sales price of a good in its market of origin and the price listed in an importing market. Trade dumping is considered intentional in nature in that the primary purpose is to gain an advantage within the market that imports the goods.

2.0 Objective

At the end of this unit student should be able to

- Understand the meaning of dumping
- Explain the types of dumping
- Understand the basic objective of dumping
- Know the how price is determine under dumping

3.0 Main Content

3.1 Definition and Meaning of Dumping

Dumping is an international price discrimination in which an exporter firm sells a portion of its output in a foreign market at a very low price and the remaining output at a high price in the home market. Harberler defines dumping as: The sale of goods abroad at a price which is lower than the selling price of the same goods at the same time and in the

same circumstances to home, taking account of differences in transport costs. In the same vein dumping could be described as price discrimination between two markets in which the monopolist sells a portion of his produced product at a low price and the remaining part at a high price in the domestic market. There are two classification of dumping. Firstly, reverse dumping in which the foreign price is higher than the domestic price. This is done to turn out foreign competitors from the domestic market. When the product is sold at a price lower than the cost of production in the domestic market, it is called reverse dumping. Secondly, when there is no consumption of the commodity in the domestic market and it is sold in two different foreign markets, out of which one market is charged a high price and the other market a low price. However, in practice, dumping mean selling of a product at a high price in the domestic market and a low price in the foreign market.

Self Assessment exercise:

What is dumping?

3.2 Types of Dumping

Dumping can be typified in the following three ways:

1. **Sporadic or Intermittent Dumping.** It is adopted under exceptional or unforeseen circumstances when the domestic production of the commodity is more than the target or there are unsold stocks of the commodity even after sales. In such a situation, the producer sells the unsold stocks at a low price in the foreign market without reducing the domestic price. This is possible only if the foreign demand for this commodity is elastic and the producer is a monopolist in the domestic market. His aim may be to identify his commodity in a new market or to establish himself in a foreign market to drive out a competitor from a foreign market. In this type of dumping, the producer sells his commodity in a foreign country at a price which covers his variable costs and some current fixed costs in order to reduce his loss.
2. **Persistent Dumping.** When a monopolist continuously sells a portion of his commodity at a high price in the domestic market and the remaining output at a low price in the foreign market, it is called persistent dumping. This is possible only if the domestic demand for that commodity is less elastic and the foreign demand is highly elastic. When costs fall continuously along with increasing production, the producer does not lower the price of the product more in the domestic market because the home demand is less elastic. However, he keeps a low price in the foreign market because the demand is highly elastic there. Thus, he earns more profit by selling more quantity of the commodity in the foreign market. As a result, the domestic consumers also benefit from it because the price they are required to pay is less than in the absence of dumping.
3. **Predatory Dumping.** The predatory dumping is the one in which a monopolist firms sells its commodity at a very low price or at a loss in the foreign market in

order to drive out some competitors. But when the competition ends, it raises the price of the commodity in the foreign market. Thus, the firm covers loss and if the demand in the foreign market is less elastic, its profit may be more.

Self Assessment exercise:

Discuss the various types of dumping that you know?

3.3 Objectives of Dumping

The following are the objectives of dumping:

To Find a Place in the Foreign Market. A monopolist resorts to dumping in order to find a place or to continue himself in the foreign market. Due to perfect competition in the foreign market, he lowers the price of his commodity in comparison to the other competitors so that the demand for his commodity may increase. For this, he often sells his commodity by incurring loss in the foreign market.

To Sell Surplus Commodity. When there is excessive production of a monopolist's commodity and he is not able to sell in the domestic market, he wants to sell the surplus at a very low price in the foreign market. But it happens occasionally.

Expansion of Industry. A monopolist also resorts to dumping for the expansion of his industry. When he expands it, he receives both internal and external economies which lead to the application of the law of increasing returns. Consequently, the cost of production of his commodity is reduced and by selling more quantity of his commodity at a lower price in the foreign market, he earns larger profit.

New Trade Relations. The monopolist practices dumping in order to develop new trade relations abroad. For this, he sells his commodity at a low price in the new market, thereby establishing new market relations with those countries. As a result, the monopolist increases his production, lowers his costs and earns more profit.

Self Assessment exercise:

Discuss the various types of dumping that you know?

3.4 Price Determination under Dumping

In practice price determination under dumping is just like discriminating monopoly. The only difference between the two is that under discriminating monopoly both markets are domestic while in dumping one is a domestic market and the other is a foreign market. In dumping, a monopolist sells his commodity at a high price in the domestic market and at a low price in the foreign market.

The main aim of the monopolist is to maximize his profit. He, therefore, produces that output at which his marginal revenue equals marginal cost. Since he sells his commodity in the domestic market and the foreign market separately, he adjusts the quantity such as

wise in each market that marginal revenues in both markets are equal. Given the marginal cost of producing the commodity, of a specific volume or value is allowed to be imported into the country. For this purpose, it includes the imposition of a duty along with fixing quota, and providing a limited amount of foreign exchange to the importers.

Self Assessment exercise:

Is dumping an economic vice or virtue?

4.0 Conclusion

We conclude that dumping is a problem to the end country because it kills infant industry and reduces the country's level of international competitiveness. But if the products involved are not locally produced efficiently or the resources to produce could not be efficiently sourced locally, then dumping could be seen as a virtue rather than a vice.

5.0 Summary

This study unit looked into the concept of dumping and explained its various kinds, reasons for dumping and how it could be controlled. This study further reiterates that dumping is not bad in entirety.

6.0 Tutor-Marked Assignment

- a) Enumerate and explain various types of dumping
- b) Give four objectives of dumping
- c) What are the major controls of dumping?
- d) Explain what is meant by dumping
- e) Evaluate possible effects of dumping on the receiving country
- f) What are the immediate benefits of dumping to the country of origin?

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UNIT 3: TRADE CONTROLS

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- 4.0 Conclusion
- 5.0 Summary
- 6.0 Tutor-Marked Assignment
- 7.0 References/Further Readings

1.0 Introduction

When country import goods from foreign countries at cheap prices it will affect domestic producers badly. As such, countries impose taxes on goods coming from abroad to make their cost comparable with domestic goods. These are called tariff barriers. Then there are non tariff barriers also that serve as impediments in free international trade. This unit will try to discuss these concepts of trade control and also find out the differences between tariff and non tariff barriers.

2.0 Objective

At the end of this unit student should be able to

- Understand the concept of tariff and why tariff is impose in a country
- Distinguish between the various types of non tariff barriers
- Understand the differences between tariff and non tariff controls

3.0 Main Content

3.1 Tariff

This is a tax imposed on imported goods and services. Tariffs are used to restrict trade, as they increase the price of imported goods and services, making them more expensive to consumers. A specific tariff is levied as a fixed fee based on the type of item (e.g., N100,000 on any car). An ad-valorem tariff is levied based on the item's value (e.g., 10% of the car's value). Tariffs provide additional revenue for governments and domestic producers at the expense of consumers and foreign producers. They are one of several tools available to shape trade policy.

Governments may impose tariffs to raise revenue or to protect domestic industries from foreign competition, since consumers will generally purchase foreign-produced goods when they are cheaper. While consumers are not legally prohibited from purchasing foreign-produced goods, tariffs make those goods more expensive, which give consumers an incentive to buy domestically produced goods that has competitively priced or less expensive by comparison. Tariffs can make domestic industries less efficient, since they are not subject to global competition. Tariffs can also lead to trade wars as exporting countries reciprocate with their own tariffs on imported goods. Groups such as the World Trade Organization exist to combat the use of destructive tariffs.

Government normally use one of the following justifications for implementing tariffs:

- To protect domestic jobs. If consumers buy less expensive foreign goods, workers who produce that good domestically might lose their jobs.
- To protect infant industries. If a country wants to develop its own industry producing a particular good, it will use tariffs to make it more expensive for consumers to purchase the foreign version of that good. The hope is that they will buy the domestic one instead and help that industry grow.
- To retaliate against a trading partner. If one country does not play by the trade rules both countries previously agreed on, the country that feels jilted might impose tariffs on its partner's goods as a punishment. The higher price caused by the tariff should cause purchases to fall.
- To protect consumers. If a government thinks a foreign good might be harmful, it might implement a tariff to discourage consumers from buying it.

Self Assessment exercise:

Give reasons why government of a nation may impose tariff?

3.2 Non Tariff Controls

A nontariff barrier is a form of restrictive trade where barriers to trade are set up other than a tariff. Nontariff barriers include quotas, embargoes, sanctions, levies and other restrictions which are frequently used by large and developed economies. Nontariff barriers are another way for an economy to control the amount of trade that it conducts with another economy, either for selfish or unselfish purposes.

Nontariff barriers are commonly used by countries in international trade, and they are typically based on the availability of goods and services and the political alliances with the trading countries. Overall, any barrier to international trade will create an economic loss, as it limits the functions of standard market trading. The lost revenues resulting from the barrier to trade can be called an economic loss.

Countries can set various types of alternative barriers to standard tariffs, which often release countries from paying added tax on imported goods and create other barriers which have a meaningful yet different monetary impact.

Licenses

Countries may use licenses to limit imported goods to specific businesses. If a business is granted a trade license, then it permits it to import goods that otherwise are restricted for trade in the country.

Quotas

Countries typically use quotas for the importing and exporting of goods and services. In nontariff barrier procedures, countries agree on specified limits of goods and services that are permitted for importation to a country, naturally without restrictions, up to a specified limit. Quotas can also be set for specific time frames. Additionally, quotas are also often used in international trade license agreements.

Embargoes

Embargoes restrict the trade of specified goods and services. Embargoes are a measure used by governments for specific political or health circumstances.

Sanctions

Countries impose sanctions on other countries to limit their trade activity. Sanctions can include increased administrative actions and additional customs and trade procedures that slow or limit a country's ability to trade.

Voluntary Export Restraints

Voluntary export restraints are a type of nontariff barrier used by exporting countries. Voluntary export restraints set specified limits of goods and services to be exported to specified countries. These restraints are normally based on availability and political alliance.

Standard Tariffs

Nontariff barriers can be used in place of or in conjunction with standard tariff barriers, which are taxes that importing countries pay to exporting countries for goods or services. Tariffs are the most common type of trade barrier, and they increase the cost of goods and services for an importing country to the benefit of the exporting country.

Self Assessment exercise:

What do you understand by non tariff and discuss the various non tariff that exist in a country?

3.3 Comparison of Tariffs and Non Tariffs

The following can be seen as the difference between tariff and non-tariff barriers:

1. When tariff is imposed the Government receives the revenue whereas no revenue is received by the Government by applying non-tariff measures. However, it is favoured as an appropriate measure to meet the demand of the country and to protect the industry.
2. Non-tariff measures protect the procedures and make them feel more secure than under a tariff but incentives are not there under tariffs.
3. In tariff customer's classification and valuation procedures pose a problem before the customs authorities. Whereas under non-tariff measure no such problem arise.
4. Non-tariff barriers to trade induce the domestic producers to form monopolistic organisations with a view to keep output low and prices high. This is not possible under import duty. Non-tariff barriers remain ineffective if monopolistic tendencies prevail in the country.
5. Non-tariff measures are flexible than tariff. Imposition of tariff and amendments are subject to legislative enactment.
6. In non-tariff the price differences will be greater in two countries because there is no free flow of imports; but in tariff price differentiation will be equal to the cost of tariff and transportation between exporting and importing countries.
7. Tariffs are simple to operate. Tariff rates once fixed through legislation require no individual allocation of licensing quotas or exchange. For non-tariff measures numbers of authorities are there to administer. It may result in political interference or corruption.
8. Tariff favours particularly efficient firms in the country but non-tariff measures benefit established firm because they get quotas or import licenses.
9. Non-tariffs discriminate against new-comers but tariff do not discriminate.

Self Assessment exercise:

Distinguish between tariff and non tariff?

4.0 Conclusion

This unit concludes that tariff and non tariff are both complementary trade instruments to check against the backdrop of any abuse in the international trade. Both tariff and non tariffs are domestic government trade instruments administer against trade abuses. It should be noted that the two instruments could jointly be used or used independently.

5.0 Summary

This study unit looked into the concept of tariff and non tariff instruments and explain the reasons for adopting different tariff at different situation. The unit also compare the impart of tariff and non-tariff instrument on their order to establish their relative effectiveness as well as building up best form of control.

7.0 Tutor-Marked Assignment

- a) Explain what is meant by non tariff trade instruments/ with example
- b) Give four objectives of tariff
- c) What are the major component of tariffs
- d) Explain what is meant by tariff
- e) What are the various types of tariff
- f) Compare and contrast the concept of tariff and non tariff

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MODULE FOUR

EARLY THEORIES OF INTERNATIONAL TRADE

- Unit 1: Mercantilism
- Unit 2: Absolute Cost Advantage Trade theory
- Unit 3: Comparative Cost Advantage Trade Theory

UNIT 1: MERCANTILISM

CONTENTS

- 1.0 Introduction
- 2.0 Objectives
- 3.0 Main Content
 - 3.1 Meaning of Mercantilism
 - 3.2 Basic Features and Argument for Mercantilism
 - 3.3 Criticisms of Mercantilism
- 4.0 Conclusion
- 5.0 Summary
- 6.0 Tutor-Marked Assignment
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1.0 Introduction

This unit will look at the theory of mercantilism which was the primary economic system of trade used from the 16th to 18th century. Mercantilist theorists believed that the amount of wealth in the world was static. Thus, European nations took several strides to ensure their nations accumulated as much of this wealth as possible. The goal was to increase a nation's wealth by imposing government regulation that oversaw all of the nation's commercial interests. It was believed national strength could be maximized by limiting imports via tariffs and maximizing exports.

2.0 Objective

At the end of this unit student should be able to

- Understand the meaning of mercantilism
- Explain the argument that operate during the mercantilism period
- Understand the principle under lying the mercantilism theory
- Explain the criticism levied against the mercantilism

3.0 Main Content

3.1 Meaning of Mercantilism

Mercantilism is the first theory of international trade; it is an economic concept for the purpose of building a wealthy and powerful state, which believes that the wealth of a nation could only be achieved through government controls and regulation of trade, commerce and economic activities. It involves wealth accumulation, establishment of favourable trade with other countries, and development of internal resources in the manufacturing and agriculture sectors. The economic policies that are pursued by the Mercantilists, such as Governmental control of the use and exchange of precious metals, which is often referred to as Bullionism. Adam Smith coined the term “mercantile system” to describe the system of political economy that sought to enrich the country by restraining imports and encouraging exports. This system dominated Western European economic thought and policies, including Portugal, France, Spain, and Great Britain from the sixteenth to the late eighteenth centuries.

The basic concepts of mercantilism in terms of trading are: this approach assumes the wealth of a nation depends primarily on the possession of precious metals such as gold and silver. During 16th to 18th century, gold and silver were the currency of trade between countries. By exporting goods, countries could earn and therefore maximize the amount of gold and silver. Conversely, importing goods from other countries resulted in an outflow of gold and silver to those countries. Also, mercantilism in terms of trading is to make sure that the country’s own resources are exported to other countries in higher volumes or amounts compared to the goods imported, which are kept to a minimum level. Trading is said to be balanced if a country exports more than it imports. Through this system, resources will increase and there will be a surplus of gold and silver reserves. This theory suggests that the government should play an active role in the economy by encouraging exports and discouraging imports, especially through the use of tariffs.

Self Assessment exercise:

How is the mercantilism different from other theories of international trade?

3.2 Basic Features and Argument for Mercantilism

There are some features of mercantilism and they are as follows:

- 1) Import prohibition of certain goods using imposition of high tariffs, government legislation or very high taxes/import duties.
- 2) A wide range of government subsidies on export industries to promote the country’s export-based policy.
- 3) Policies of nationalism.

- 4) Accumulation of assets in gold and silver, and prohibition of private accumulation, use or export of these items.
- 5) One-way trade with colonies, and importation of gold and raw materials from these sources.

Also the main policies of Mercantilist included: High tariffs, especially on manufactured goods; Exclusive trade with colonies; Forbidding trade to be carried in foreign ships; Export subsidies; Banning all export of gold and silver; Promoting manufacturing with research or direct subsidies; Limiting wages; Maximizing the use of domestic resources.

Base on the above policies the following assumptions was made:

- 1) That there is finite amount of wealth in the world.
- 2) A nation can only grow rich at the expense of other nations.
- 3) Therefore, a nation should try to achieve and maintain a favourable trade balance, exporting more than it imports. They use colonies to achieve a favourable trade balance because 1) the economy of the colonies is always secondary to the economy of the mother country.
- 2) Also the colonies provide cheap raw materials to the mother country and market the manufactured goods of the mother country.
- 3) In return, the mother country provides military security and political administration to the colonies.
- 4) The overriding goal is national monopoly, meaning that a nation's colonies should be restricted to trading only with each other or with the mother country.

Self Assessment exercise:

What are the assumptions of mercantilism that makes the policy operate effectively?

3.3 Criticism of Mercantilism

Neo-Mercantilists equate political power with economic power with a balance of trade surplus. Critics argue that many nations have adopted a neo-mercantilist approach to boost exports and minimize or limit imports. For example, China has recently been criticized for using the mercantilist system, deliberately keeping its currency value low against the U.S. dollar in order to sell more goods to the U.S. China for many years has been successful at distributing their goods and services to other countries, and severely limiting the imports they take in return. This has allowed China to amass considerable

wealth in foreign currencies. Economists point out, that like European countries who eventually had to abandon mercantilism, China may be at that point as well, if they want to continue to develop their wealth.

Adam Smith and David Hume were the founding fathers of anti-mercantilist thought; this practice was strongly attacked by Adam Smith in his 1776 work “The Wealth of Nations”. The criticisms of mercantilism are given elaborately that

Mercantilists viewed the economic system as a “zero-sum game”, in which a gain by one country results in a loss by other. Adam Smith & David Ricardo argued that, trade should be a positive-sum game, or a situation in which all countries can benefit.

Mercantilism unduly emphasized the importance of money and over-emphasized the importance of gold and silver. So Mercantilist ideas about wealth were nonsensical and untenable.

The mercantilists unduly emphasized the importance of a favourable balance of trade. For the attainment of this objective they discouraged imports by imposing heavy and prohibitive duties on foreign goods and provided every possible ways to minimize exports. The mercantilist assumption that the colonies existed for the benefit of the mother was not a sound economic proposition. Mercantilism was a cause of frequent European wars in that time and motivated colonial expansion. The mercantilist policies were designed to benefit the government and the commercial class, rather than the entire population.

The mercantilism over-emphasized the importance of commerce and greatly undermined the importance of agriculture and other branches of human industry. It does not promote free enterprise and free movement of goods and people. And instead it allowed colonialism and monopoly of businesses and trade practices. Objectives were simply to generate wealth for the upper class and merchant class. The working people were exploited and were even made as slaves with very low wages.

Finally, Smith argued that the collusive relationship between government and industry was harmful to the general population. He criticized mercantilist trade policy of intervening and monopolizing trade business.

Self Assessment exercise:

What are the bases of mercantilism criticism?

4.0 Conclusion

Mercantilist regulations were steadily removed over the course of the Eighteenth Century in Britain, and during the 19th century the British government fully embraced free trade

and Smith's laissez-faire economics. In France, economic control remained in the hands of the royal family and mercantilism continued until the French Revolution. The continued pressure resulted in the implementation of laissez faire economics in the nineteenth century.

5.0 Summary

From this unit we find out that mercantilism is an economic theory and practise where the government seeks to regulate the economy and trade in order to promote domestic industry often at the expense of other countries. Mercantilism is associated with policies which restrict imports and foster domestic industries. Mercantilism stands in contrast to the theory of free trade which argues countries economic well-being can be best improved through reduction of tariffs and fair free trade.

6.0 Tutor-Marked Assignment

- a. Mercantilism is a philosophy of a zero sum game where people benefit at the expense of others. Discuss
- b. What are the basic features of the mercantilism system?
- c. Explain the argument put forward for the operation of mercantilism
- d. Narrate the criticism of Adams Smith on mercantilism.

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UNIT 2: ABSOLUTE COST ADVANTAGE TRADE THEORY

CONTENTS

1.0 Introduction

2.0 Objectives

3.0 Main Content

3.1 Meaning and Implications of the Theory

3.2 Assumptions and Illustration of the Theory

3.3 Criticisms of Absolute Cost Advantage Theory

4.0 Conclusion

5.0 Summary

6.0 Tutor-Marked Assignment

7.0 References/Further Readings

1.0 Introduction

Absolute advantage is the ability of a country, individual, company or region to produce a good or service at a lower cost per unit than the cost at which any other entity produces that same good or service. Entities with absolute advantages can produce a product or service using a smaller number of inputs and/or using a more efficient process than other entities producing the same product or service.

2.0 Objective

At the end of this unit student should be able to

- Understand the meaning of absolute cost advantage trade theory
- Know the assumptions of absolute cost advantage theory
- Explain the illustration of the theory
- Know the criticisms of the theory

3.0 Main Content

3.1 Meaning and Implications of the Theory

The main concept of absolute advantage is generally attributed to Adam Smith for his 1776 publication “An Inquiry into the Nature and Causes of the Wealth of Nations” in which he countered mercantilist ideas. Adam Smith extolled the virtues of free trade. These are the result of the advantages of division of labour at the international level requires the existence of *absolute* differences in costs. Every country should specialize in the production of that commodity which it can produce more cheaply than others and exchange it for the commodities which cost less in other countries.

Smith argued that it was impossible for all nations to become rich simultaneously by following mercantilism because the export of one nation is another nation’s import and

instead stated that all nations would gain simultaneously if they practiced free trade and specialized in accordance with their absolute advantage. Smith also stated that the wealth of nations depends upon the goods and services available to their citizens, rather than their gold reserves. While there are possible gains from trade with absolute advantage, the gains may not be mutually beneficial. Comparative advantage focuses on the range of possible mutually beneficial exchanges. The implications of the Smiths' trade theory are that there will be;

- i. More quantity of both products
- ii. Increase standard of living of both countries
- iii. Increase production efficiency
- iv. Increase in global efficiency and effectiveness
- v. Maximization of global productivity and other resources productivity.

Self Assessment exercise:

Explain in detail Adam Smith's theory of absolute cost advantage.

3.2 Assumptions and Illustration of the Theory

Adam Smith postulates the following assumptions for his trade theory:

- i. That trade is between two countries
- ii. Only two commodities are traded
- iii. Free trade exists between the countries
- iv. The only element of cost of production is labour.

To illustrate, let there be two countries, Nigeria and Ghana, having absolute differences in costs in producing a commodity each, Peanuts and Millet respectively, at an absolute lower cost of production than the other. The absolute cost differences are illustrated in Table 4.2.1

Table 4.2.1 Absolute Differences in Costs

<i>Country</i>	<i>Peanuts</i>	<i>Millets</i>
Nigeria	10	5
Ghana	5	10

The table reveals that Nigeria can produce 10 units of peanuts or 5 units of millets with one units of labour and Ghana can produce 5 units of peanuts or 10 units of millets with one units of labour.

In this case, Nigeria has an absolute advantage in the production of peanuts (for 10 units of peanuts is greater than 5 units of millets), and Ghana has an absolute advantage in the production of millets (for 10units of millets is greater than 5units of peanuts).

Trade between the two countries will benefit both if Nigeria specializes in the production of peanuts and Ghana in the production of millets, as shown in Table 4.2.2.

Table 4.2.2 Gains from Trade

<i>Country</i>	<i>Production before Trade (1)</i>		<i>Production after Trade (2)</i>		<i>Gains from Trade (2-1)</i>	
	Peanuts	Millets	Peanuts	Millets	Peanuts	Millets
Nigeria	10	5	20	-	+10	-5
Ghana	5	10	-20		-5	+10
Total Production	15	15	20	20	+5	+5

The above table reveals that before trade both countries produce only 15 units each of the two commodities by applying one labour-unit on each commodity. If Nigeria were to specialize in producing peanuts and use both units of labour on it, its total production will be 20 units of peanuts. Similarly, if Ghana were to specialize in the production of millets alone, its total production will be 20 units of millets. The combined gain to both countries from trade will be 5 units each of peanuts and millets.

Self Assessment exercise:

What are the assumptions of Adam Smith’s theory of absolute cost advantage and give a detail illustration of the theory.

3.3 Criticisms of Absolute Cost Advantage Theory

This theory has been criticized for its vagueness and lack of clarity. According to Ellsworth, Smith assumes without argument that international trade requires a producer of exports to have an absolute advantage, that is, an exporting country must be able to produce with a given amount of capital and labour a larger output than rival. But this basis of trade is not realistic because there are many underdeveloped countries which do not possess absolute advantage in the production of any commodity, and yet they have trade relations with other countries. Thus, Smith’s analysis is weak and unrealistic.

Other issues raised as criticism of the absolute cost advantage trade theory are;

- i. There is no absolute advantage for many countries
- ii. Country size varies
- iii. There are differences in all countries specialisation

- iv. The theory deals with labour only and neglects other factors of production
- v. It neglected transport cost which plays significant role in all trade
- vi. It also neglected large scale production which brings about reduction in cost of production.

Self Assessment exercise:

Analyse the criticisms of absolute cost advantage trade theory.

4.0 Conclusion

The classical economist of Smith's and others relied basically on laissez-faire principles of economics. The theory of Absolute Advantage was clearly illustrated with its basic assumptions and tables. The unit however shows the essentiality of trade between or among nations.

5.0 Summary

Absolute advantage is predominantly a theory of international trade in which a country can produce a good more efficiently than other countries. Countries that have an absolute advantage can decide to specialize in producing and selling that specific product or service, using the funds generated to purchase other goods and services that it does not specialize in producing. The idea of absolute advantage was pioneered by Adam Smith in the late 18th century as part of his division of labour doctrine.

6.0 Tutor-Marked Assignment

- a. Global resources are more efficiently utilized under the absolute advantage doctrine. Discuss
- b. List and explain major characteristics of Adam Smith's Absolute cost advantage theory.
- c. Describe how absolute advantage theory could lead to benefit in international trade dealings.
- d. Narrate the criticism of Adams Smith's absolute advantage theory..

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UNIT 3: COMPARATIVE ADVANTAGE TRADE THEORY

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1.0 Introduction

2.0 Objectives

3.0 Main Content

3.1 Meaning and Assumption of Comparative Advantage Theory

3.2 Explanation of the theory and Gains from Trade

3.3 Criticisms of Ricardo's Comparative Advantage Theory

4.0 Conclusion

5.0 Summary

6.0 Tutor-Marked Assignment

7.0 References/Further Readings

1.0 Introduction

The theory of comparative advantage is an economic theory about the work gains from trade for individuals, firms, or nations that arise from differences in their factor endowments or technological progress. In an economic model, agents have a comparative advantage over others in producing a particular good if they can produce that good at a lower relative opportunity cost or autarky price, i.e. at a lower relative marginal cost prior to trade. One does not compare the monetary costs of production or even the resource costs (labour needed per unit of output) of production. Instead, one must compare the opportunity costs of producing goods across countries. The closely related law or principle of comparative advantage holds that under free trade, an agent will produce more of and consume less of a good for which they have a comparative advantage.

2.0 Objective

At the end of this unit student should be able to

- Understand the meaning and assumption underlining the comparative advantage trade theory.
- Understand the explanation and the benefits from trade under this theory
- Explain the criticisms of the comparative advantage theory

3.0 Main Content

3.1 Meaning and Assumption of Comparative Advantage Theory

David Ricardo developed the classical theory of comparative advantage in 1817 to explain why countries engage in international trade even when one country's workers are more efficient at producing every single good than workers in other countries. He demonstrated that if two countries capable of producing two commodities engage in the free market,

then each country will increase its overall consumption by exporting the good for which it has a comparative advantage while importing the other good, provided that there exist differences in labour productivity between both countries. Widely regarded as one of the most powerful yet counter-intuitive insights in economics, Ricardo's theory implies that comparative advantage rather than absolute advantage is responsible for much of international trade.

According to David Ricardo, it is not the absolute but the comparative differences in costs that determine trade relations between two countries. Production costs differ in countries because of geographical division of labour and specialization in production. Due to differences in climate, natural resources, geographical situation and efficiency of labour, a country can produce one commodity at a lower cost than the other. In this way, each country specializes in the production of that commodity in which its comparative cost of production is the least. Therefore, when a country enters into trade with some other country, it will export those commodities in which its comparative production cost is less, and will import those commodities in which its comparative production cost are high. This is the basis of international trade, according to Ricardo. It follows that each country will specialize in the production of those commodities in which it has the greatest advantage of the least comparative disadvantage. Thus, a country will export those commodities in which its comparative advantage is the least.

Assumption of the Theory

The Ricardian theory of comparative advantage is based on the following assumptions:

1. There are only two countries, say Nigeria and Ghana
2. They produce the same two commodities; say cocoa and groundnut.
3. There are similar tastes in both countries.
4. Labour is the only factor of production.
5. The supply of labour is unchanged.
6. All units of labour are homogenous within a country but heterogeneous (non-identical) across countries.
7. Prices of two commodities are determined by labour cost, i.e., the number of labour-units employed to produce each.
8. Commodities are produced under the law of constant costs of returns
9. Technological knowledge is unchanged.
10. Trade between the two countries takes place on the basis of the barter system.
11. Factors of production are perfectly mobile within each country, but are perfectly immobile between countries.
12. There is free trade between the two countries, there being no trade barriers or restrictions in the movement of commodities.
13. No transport costs are involved in carrying trade between the two countries.
14. All factors of production are fully employed in both the countries.

15. The international market is perfect so that the exchange ratio for the two commodities is the same.

Self Assessment exercise:

Explain in detail the Ricardo comparative cost advantage trade theory.

3.2 Explanation of the theory and Gains from Trade

With the above assumptions, Ricardo shows that trade is possible between two countries when one country has an absolute advantage in the production of one commodity than in the other. This is illustrated with trade between Nigeria and Ghana as shown in Table 4.3.1 below.

Table 4.3.1 Man-years of labour required for producing one unit

Country	Cocoa	Groundnut
Nigeria	12	10
Ghana	8	9

The table shows that the production of a unit of cocoa in Nigeria requires 12 men for a year, while a unit of groundnut requires 10 men for the same period. On the other hand, the production of the same quantities of cocoa and groundnut in Ghana requires 8 and 9 men respectively. Thus, Nigeria uses more labour than Ghana in producing both cocoa and groundnut. In other words, the Ghana labour is more efficient than the Nigeria labour in producing both of the products. So Ghana possesses an absolute advantage in both cocoa and groundnut. But Ghana would benefit more by producing cocoa and exporting it to Nigeria because it possesses greater comparative advantage in it. This is because the cost of production of cocoa (8/12 men) is less than the cost of production of groundnut (9/10 men). On the other hand, it is in Nigeria's interest to specialize in the production of groundnut in which it has the least comparative disadvantage. This is because the cost of production in Nigeria is less (10/9 men) as compared with cocoa (12/8 men). Thus, trade will be beneficial for both countries.

Gains from Trade: even though Ricardo does not discuss the actual ratio at which cocoa and groundnut would be exchange and how much the two countries gain from trade. Before trade, the domestic trade ratios in the two countries for wine and cloth are as follows: the cost of production of one unit of cocoa in Nigeria is 12 men and that of producing one unit of groundnut is 10 men. It shows that the cost of producing cocoa is more as against groundnut because one unit of cocoa can exchange for 1.2 units of groundnut. On the other hand, the cost of producing one unit of cocoa in Ghana is 8 men and that of producing one unit of groundnut is 9 men. It is clear that the cost of producing

groundnut is more than that of cocoa because one unit of cocoa can exchange for 0.89 unit of groundnut.

Suppose trade begins between the two countries. Nigeria will gain if it imports one unit of cocoa from Ghana in exchange for less than 1.2 units of groundnut. Ghana will also gain if it imports one unit of groundnut from Nigeria in exchange for more than 0.89 unit of cocoa.

Domestic Exchange Ratios

Nigeria

Cocoa 12: 10 Groundnut (6/5)

1: 1.2

Groundnut 10: 12Cocoa (5/6)

1: 0.83

Ghana

Cocoa 8: 9Groundnut (8/9)

1: 0.89

Groundnut 9: 8Cocoa (9/8)

1: 1.13

From the domestic exchange ratio in Nigeria is one unit of groundnut = 0.83 unit of cocoa, and in Ghana one unit of cocoa = 0.89 unit of groundnut. If we assume the exchange ratio between the two countries to be 1 unit of groundnut = 1 unit of cocoa, Nigeria would gain 0.17 (1 – 0.83) unit of cocoa by exporting one unit of groundnut to Ghana. Similarly, the gain to Ghana by exporting one unit of cocoa to Nigeria will be 0.11 (1 – 0.89) unit of groundnut. Thus, trade is beneficial for both countries.

In summary, both Nigeria and Ghana specialize in the production of one commodity on the basis of comparative costs. Each reallocates its factors accordingly and exports that commodity in which it has comparative advantage and imports that commodity in which it has a comparative disadvantage. Both gain through trade and can increase the consumption of the two commodities.

Self Assessment exercise:

Discuss the explanation and gains from trade of comparative advantage theory.

3.3 Criticisms of Ricardo's Comparative Advantage Theory

Although, the principle of comparative advantage has been the very basis of international trade for over a century until after the First World War, it has been criticised in a several ways:

1. The assumption of labour cost is unrealistic: This is the most severe criticism of the comparative advantage doctrine because it is based on the labour theory of value. In calculating production costs, it takes only labour costs and neglects non-labour costs

involved in the production of commodities. This is unrealistic because it is money costs and not labour costs that are the basis of national and international transactions of goods. Also, the labour cost theory is based on the assumptions of homogenous labour but this is not viable because labour is heterogeneous of different kinds and grades, some specific or specialized, and other non-specific or general.

2. No similar tastes: The assumption of similar tastes is impractical because tastes differ with different income brackets in a country. Moreover, they also change with the growth of an economy and with the development of its trade relations with other countries.

3. Assumption of labour in fixed proportions: This theory is based on the assumption that labour is used in the same fixed proportions in the production of all commodities. This is essentially a static analysis and hence unrealistic. As a matter of fact, labour is used in varying proportions in the production of commodities. For instance, less labour is used per unit of capital in the production of textiles. Moreover, some substitution of labour for capital is always possible in production.

4. Unrealistic assumptions of constant costs: The theory is based on another assumption that an increase of output due to international specialization is followed by constant costs, but the fact is that there are either increasing costs or diminishing costs. If large scale of production reduces costs, the comparative advantage will be increased. On the other hand, if increased output is the result of increased cost of production, the comparative advantage will be reduced, and in some cases it may even disappear.

5. The theory ignores transport costs: Ricardo ignores transport costs in determining comparative advantage in trade. This is unrealistic because transport costs play an important role in determining the pattern of world trade. Like economies of scale, it is an independent factor of production. For instance, high transport costs may nullify the comparative advantage and the gain from international trade.

6. Factors not fully mobile internally: The doctrine assumes that factors of production are perfectly mobile internally and completely immobile internationally. This is not realistic because even within a country factors do not move freely from one industry to another or from one region to another. The greater the degree of specialization in an industry, the less is the factor mobility from one industry to another. Thus, factory mobility influences costs and thus the pattern of international trade.

7. The assumption of two-country, two-commodity model is impracticable: The Ricardian theory is related to trade between two countries on the basis of two commodities. This is again unrealistic because in reality, international trade is among many countries trading in many commodities.

8. Impractical assumption of free trade: Another serious weakness of the doctrine is that it assumes perfect and free world trade. But, in reality, world trade is not free. Every country applies restrictions on the free movement of goods to and from other countries. Thus, tariffs and other trade restrictions affect world imports and exports. Moreover, products are not homogeneous but differentiated.

9. Unrealistic assumptions of full employment: Like all classic theories, the theory of comparative advantage is based on the assumption of full employment. This assumption also makes the theory static. Keynes gives the assumption of full employment and proved the existence of under-employment in an economy. Thus, the assumption of full employment makes the theory unrealistic.

10. Self-interest hinders its operation: The doctrine does not operate if a country having a comparative advantage does not wish to import a commodity from other country due to strategic, military or development considerations. As a result, self-interest stands in the operation of the theory of comparative costs advantage.

11. Neglects the role of technology: The theory neglects the role of technological innovations in international trade. This is unrealistic because technological changes help in increasing the supply of goods not only for the domestic market but also international market. World trade has gained much from innovations and research and development (R & D).

12. One-sided theory: The Ricardian theory is one-sided because it considers only the supply side of international trade and neglects the demand side.

13. Impossibility of complete specialization: Prof. Frank Graham has pointed out that complete specialization will be impossible on the basis of comparative advantage in producing commodities entering into international trade. He explains two cases in support of his argument: one, relating to a big country and a small country; and two, relating to a commodity of high value and low value.

To take the first case, suppose there are two countries which enter into trade on the basis of comparative advantage. Of these, one is big and the other is small. The country will be able to specialize completely as it can dispose of its surplus commodity to the bigger one. But the big country will not be able to specialize fully because (a) being big, the small country will not be in a position to meet its requirements fully, and (b) if it specializes completely in a particular commodity, its surplus will be so large that the smaller country will not be able to import the whole of it.

In the second case of commodities having incomparable value, the country producing high value commodity will be able to specialize while that producing low value commodity will not be able to do the same. This is because the former country will be in a position to have a larger gain than the latter country. Thus, according to Graham, "The

classical conclusion of complete specialization between two countries can hold ground only by assuming trade between two countries of approximately equal economic performance.”

- 14.** Prof. Ohlin has criticized the theory of international trade on the following grounds:
- i. The principle of comparative advantage is not applicable to international trade alone; rather it is applicable to all trade. To Ohlin international trade is but a special case of inter-regional trade. Thus there is little difference between internal trade and international trade.
 - ii. Factors are immobile not only internationally but also within different regions. This is proved by the fact that wages and interest rates differ in different regions of the same country. Further, labour and capital can also move between countries in a limited way, as they do within a region.
 - iii. It is a two-country, two-commodity model based on the labour theory of value which is sought to be applied to actual conditions involving many countries and many commodities. He therefore, regards the theory of comparative advantage as cumbersome, unrealistic, and as a clumsy and dangerous theory tool of analysis. As an alternative, Ohlin has propounded a new theory which is known as the modern theory of International Trade.

Self Assessment exercise:

What are the criticisms of comparative advantage theory?

4.0 Conclusion

Despite the shortcomings of the comparative cost advantage trade theory, it has stood the test of the times. Its basic structure has remained intact, even though many refinements have been made over it. Also, the underlying principle of comparative advantage can still be said to give some ‘shape’ to the pattern of world trade, even if it is becoming less relevant in a globalised world and in the face of modern theories.

5.0 Summary

The theory of comparative advantage is an economic theory about the work gains from trade for individuals, firms, or nations that arise from differences in their factor endowments or technological progress. In an economic model, agents have a comparative advantage over others in producing a particular good if they can produce that good at a lower relative opportunity cost or autarky price, i.e. at a lower relative marginal cost prior to trade. One does not compare the monetary costs of production or even the resource costs (labour needed per unit of output) of production. Instead, one must compare the opportunity costs of producing goods across countries. The closely related principle of comparative advantage holds that under free trade, an agent will produce more of and consume less of a good for which they have a comparative advantage.

6.0 Tutor-Marked Assignment

- a. The Ricardian comparative cost advantage was a development over the Adam Smith's absolute cost advantage. Discuss
- b. The comparative cost advantage resulted to advancement of Classical thought. Discuss
- c. Compare and contrast the two trade theory of the classists
- d. What are the major pitfall of comparative cost advantage..

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MODULE FIVE

MODERN THEORY OF INTERNATIONAL TRADE

- Unit 1: The Heckscher-Ohlin theory
Unit 2: Samuelson's Factor Price Equalisation Theorem
Unit 3: Factor Intensity Reversal

UNIT 1: THE HECKSCHER-OHLIN THEORY

CONTENTS

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 - 3.4 Criticisms of Heckscher-Ohlin Theory
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- 6.0 Tutor-Marked Assignment
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1.0 Introduction

The modern theory of international trade has been advocated by Bertil Ohlin. Ohlin has drawn his ideas from his teacher; Heckscher's General Equilibrium Analysis. Hence it is also known as Heckscher Ohlin (H-O) Model / Theorem / Theory. According to Bertil Ohlin, trade arises due to the differences in the relative prices of different goods in different countries. The difference in commodity price is due to the difference in factor prices (i.e. costs). Factor prices differ because endowments (i.e. capital and labour) differ in countries. Therefore, trade occurs because different countries have different factor endowments

2.0 Objective

At the end of this unit student should be able to

- Understand the meaning of Heckscher-Ohlin theory
- Explain the underlining assumptions of the theory
- Understand the explanation of the theory
- Know why the Heckscher-Ohlin theory is different from Ricardo trade theory
- Explain the criticisms of the theory

3.0 Main Content

3.1 Meaning and Assumptions of the Heckscher-Ohlin Theory

Heckscher-Ohlin (H-O) theory said that the main determinant of the pattern of production, specialisation and trade among regions is the relative availability of factor endowments and factors prices. Countries have different factor endowments and factor prices that is some countries have much capital, others have much labour. The theory says that countries that are rich in capital will export capital-intensive goods and countries that have much labour will export labour-intensive goods. For Ohlin, the immediate cause of international trade is that some commodities can be bought more cheaply from other countries, whereas in a country the production will be at high prices. Therefore, the main cause of trade between countries is the difference in price of commodities based on relative factor endowments and factor prices.

Assumptions of Heckscher-Ohlin's (H-O) Theory

Heckscher-Ohlin's theory explains the modern approach to international trade on the basis of following assumptions:

1. There are two countries involved.
2. Each country has two factors (labour and capital).
3. Each country produce two commodities or goods (labour intensive and capital intensive).
4. There is perfect competition in both commodity and factor markets.
5. All production functions are homogeneous of the first degree i.e. production function is subject to constant returns to scale.
6. Factors are freely mobile within a country but immobile between countries.
7. Two countries differ in factor supply.
8. Each commodity differs in factor intensity.
9. The production function remains the same in different countries for the same commodity. For e.g. If a commodity requires more capital in one country then same is the case in other country.
10. There is full employment of resources in both countries and demands are identical in both countries.
11. Trade is free i.e. there are no trade restrictions in the form of tariffs or non-tariff barriers.
12. There are no transportation costs.

Given these assumptions, Ohlin's theory contends that a country export goods which use relatively a greater proportion of its abundant and cheap factor. While same country imports goods whose production requires the intensive use of the nation's relatively scarce and expensive factor.

Self Assessment exercise:

What is the opinion and assumptions of Heckscher-Ohlin to international trade?

3.2 Explanation of Heckscher-Ohlin Theory

Subject to the assumptions, Heckscher-Ohlin theory contends that the immediate cause of international trade is the difference in relative commodity prices caused by differences in relative demand and supply of factors (factors price) as a result of differences in factor endowments between the two countries. Basically, the relative scarcity of factors the shortage of supply in relation to demand is essential for trade between two regions. Commodities which use large quantities of scarce factors are imported because their prices are high while those using abundant factors are exported because their prices are low.

The H-O theory is explained in terms of two definitions: (1) factor abundance (or scarcity) in terms of the price criterion; and (2) factor abundance (or scarcity) in terms of physical criterion.

Factor Abundance in Terms of Factor Prices: Heckscher-Ohlin explains fortune in factor endowment in terms of factor prices. That is, country A is abundant in capital if $(P_C/P_L)_A < (P_C/P_L)_B$, where P_C and P_L refer to prices of capital and labour, and the A and B subscript denote the two countries. In other words, if capital is relatively cheap in country A, the country is abundant in capital, and if labour is relatively cheap in country B, the country is abundant in labour. Therefore, country A will produce and export the capital-intensive good and import the labour-intensive good and country B will produce and export the labour-intensive good and import the capital intensive goods. This is illustrated in Figure 5.1.1 below.

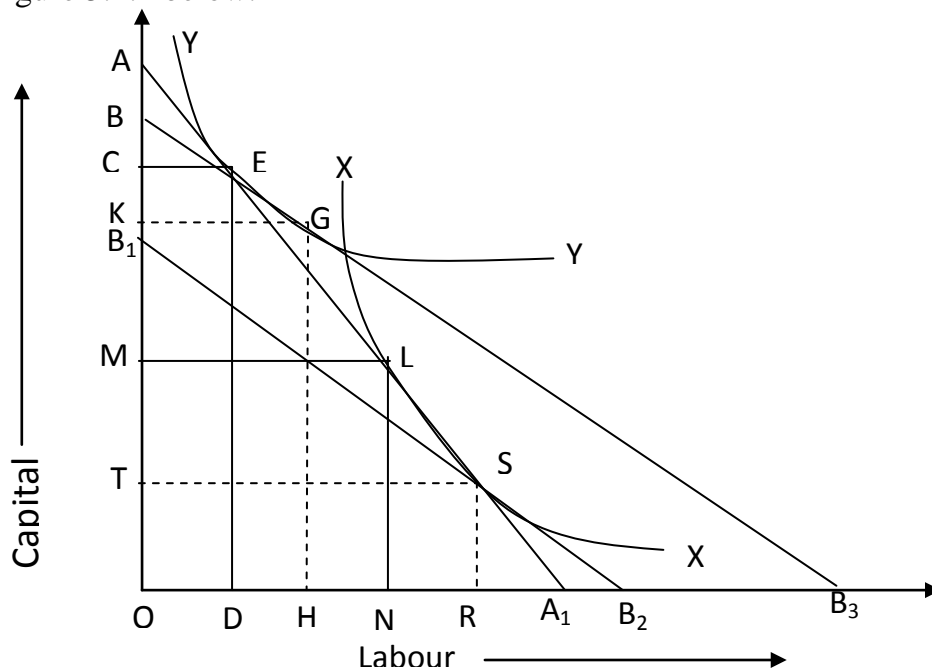


Figure 5.1.1 Factor Abundance in Terms of Factor Prices

From the diagram, X is the labour-intensive commodity taken on the horizontal axis and Y is the capital-intensive commodity taken on the vertical axis. XX is the isoquant of commodity X and YY is that of commodity Y and this is the same for both countries. The relative factor prices in country A for both the commodities are given by the factor price line AA_1 . Let assume that each isoquant represents one unit of the respective commodity then 1 unit of Y will be produced with OC amount of capital and OD amount of labour at point E where the factor price line AA_1 is tangent to the isoquant YY. In the same view, the cost of producing one unit of commodity X in country A is OM amount of capital and ON amount of labour. Since capital is abundant and cheap in country A, it will specialize in the production of the capital-intensive commodity Y that is in order to produce 1 units of Y it uses more amount of capital OC with OD of labour at point E on the isoquant YY. While at point L on the isoquant XX, it uses less amount of capital OM with more of labour ON in order to produce 1 unit of X. Hence country A will produce and export the relatively capital abundant and cheap commodity Y to the other country B.

In order to find the cost of producing one unit of each commodity in country B where labour is relatively cheap and abundant, we draw a flatter factor price line BB_3 tangent to the isoquant YY at point G. A similar factor price line B_1B_2 is drawn parallel to BB_3 which is tangent to the isoquant XX at point S. Now it requires OK amount of capital and OH amount of labour to produce one unit of commodity Y in country B, and OT amount of capital and OR amount of labour to produce one unit of commodity X in this country. Since labour is cheap and abundant in country B, it will specialize in the production of labour-intensive commodity X. So it will produce commodity X at point S on the isoquant XX, which requires more amount of labour OR with less amount of capital OT than commodity Y which requires less amount of labour OH with more amount of capital OK at point G on the isoquant YY. Thus, country B will export commodity X to country A in exchange for commodity Y.

This establishes the H-O theory that the capital abundant country will export the relatively cheap capital-intensive commodity, and the labour abundant country will export the relatively cheap labour-intensive commodity.

Factor Abundance in Physical Terms: The H-O theory is also explained in physical terms of factor abundance. For this principle, a country is relatively capital abundant if it is endowed with a higher proportion of capital and labour than the other country. If country A is relatively capital-abundant and country B is relatively labour-abundant, when measured in physical amounts $C_A/L_A > C_B/L_B$, where C_A and L_A are the total amounts of capital and labour respectively in country A, and C_B and L_B are the total amounts of capital and labour respectively in country B. From the Figure 5.1.2 below, the production possibility curve of country A is AA_1 and that of country B is BB_1 . The slopes of these two curves show that commodity Y is capital intensive and commodity X is labour intensive. If countries A and B produce both commodities in the same proportion, they will produce along the ray OR. When both produce at their respective points, country A will produce at point E where the factor-price line ST touches the production productivity curve AA_1 . It will produce more of commodity Y (that is OS) which is

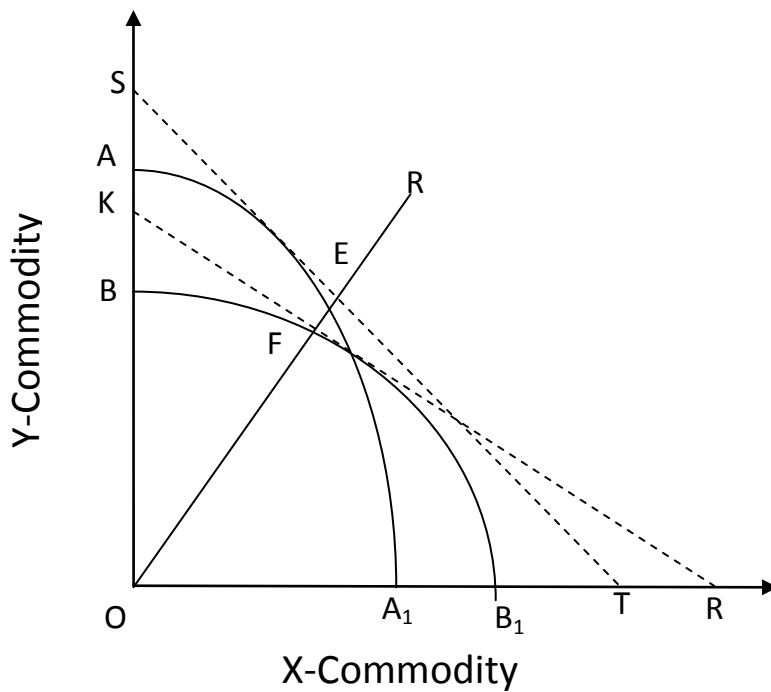


Figure 5.1.2 Factor Abundance in Physical Terms

cheaper in it and less (OT) of commodity X which is costly in the country. Country B will produce at point F where the factor price line KR touches the production possibility curve BB₁. It will produce more (OR) of commodity Y which is also costly in country B. This can be proved by the slope of the factor-price line ST of country A which is steeper than the factor-price line KR of country B which is flatter:

that is Slope of KR > Slope of ST.

$$\left(\frac{P_x}{P_y}\right)_A > \left(\frac{P_x}{P_y}\right)_B$$

The difference between both factor-price lines TR on X-axis indicates that OR of commodity X is produced more in country B relatively to OT quantity of X in country A. Similarly, the difference between both factor price lines KS on Y-axis shows that OS of commodity Y is produced more in country A relatively to OK quantity of Y in country B. Thus the capital-abundant country A as bias in favour of capital-intensive commodity Y from the production side, and the labour abundant country B have a bias in favour of producing the labour-intensive commodity X. But the above analysis of physical terms does not show that the capital-abundant country will export the capital-intensive commodity Y and the labour-abundant country will export the labour-intensive commodity X.

Self Assessment exercise:

Differentiate between the H-O theory of factor abundance in terms of factor prices and factor abundance in physical terms.

3.3 The Supremacy of Heckscher-Ohlin Theory over the Classical Theory

The Heckscher-Ohlin theory of international trade differs from the classical comparative cost theory in many ways and is also superior to the latter. It is also an improvement over the classical theory of international trade

(i) According to the classical economists, there was need for a separate theory of international trade because international trade was fundamentally different from internal trade. Heckscher and Ohlin, on the other hand, felt that there was no need for a separate theory of international trade because international trade was similar to internal trade. The difference between the two was one of degree, and not of kind.

(ii) The classical economists explained the phenomenon of international trade in terms of the old, discredited labour theory of value. The modern theory explained international trade in terms of the general equilibrium theory of value.

(iii) The classical theory attributes the differences in the comparative advantage of producing commodities in two countries to the differences in the productive efficiency of workers in the country. The modern theory attributes the differences in the comparative advantage to the differences in factor endowments.

(iv) The classical theory presents a one-factor (labour) model, while the modern theory presents a more realistic multi-factor (labour and capital) model.

(v) The classical theory never took into account the factor price differences, while the modern theory considers factor price differences as the main cause of commodity price differences, which, in turn, provides the basis of international trade,

(vi) The classical theory does not provide the cause of differences in comparative advantage. The modern theory explains the differences in comparative advantage in terms of differences in factor endowments.

(vii) The classical theory is a single market theory of value, while the modern theory emphasizes the importance of space element in international trade and involves a multi-market theory of value.

(viii) The classical theory is a normative or welfare-oriented theory, whereas the modern theory, is a positive theory. The classical theory tries to demonstrate the gains from international trade, while the modern theory concentrates on the basis of trade.

(ix) The main cause of the international trade is the difference in factor supplies between the countries. Each country differs in factor endowments i.e. in their abundance or scarcity. Difference in supply, given the demand, brings the difference in cost of factor

and finally, the difference in commodity prices. In Ricardian theory, difference in factor (labour) efficiency is recognized but difference in factor supply is ignored. H.O. theory, therefore provides a better explanation of price difference of factors through the difference in their supplies.

(x) Ricardian theory which no doubt explains the reason for international trade is more concerned with the benefits of trade. For classical economists, the welfare aspect of trade is more important. Ohlin has adapted a positive approach in explaining the cause of international trade. His main concern was to find out the cause of trade and not so much of its welfare aspect. Therefore, it is pointed out that Ohlin's analysis has contributed to positive economic analysis.

(xi) The H-O model is more realistic than the classical theory in that the former leads to complete specialisation in the production of one commodity by one country and of the other commodity by the second country when they enter into trade with each other. By contrast, the trade between two countries may or may not lead to complete specialisation in the classical theory.

(xii) According to Lancaster, the H-O theory is superior to the classical theory because it refers to the future of trade. In the classical theory, differences in comparative costs between two countries are due to differences in the efficiency of labour. If, in future, labour becomes equally efficient in both the countries, there will be no trade between them. But in the H-O theory trade will not cease even if labour becomes equally efficient in the two countries because the basis of trade is differences in factor endowments and prices.

Self Assessment exercise:

Critically differentiate between the classical theory of international trade and the H-O theory of international trade.

3.4 Criticisms of Heckscher-Ohlin Theory

Heckscher Ohlin's theory has been criticised on basis of following grounds :-

1. **Unrealistic Assumptions:** Aside of the usual assumptions of two countries, two commodities, no transport cost, etc. H-O theory also assumes no qualitative difference in factors of production, identical production function, constant return to scale, etc. All these assumptions makes the theory unrealistic one.
2. **Restricted:** H-O theory is not free from constrains because this theory includes only two commodities, two countries and two factors. Thus it is a restricted one.
3. **One-Sided Theory:** Also to Heckscher-Ohlin's theory, supply plays a significant role than demand in determining factor prices. But if demand forces are more significant, a

capital abundant country will export labour intensive good as the price of capital will be high due to high demand for capital.

4. **Static in Nature:** Like Ricardian Theory the H-O Model is also static in nature. The theory is based on a given state of economy and with a given production function and does not accept any change.
5. **Tastes and Demand Patterns not Identical:** The H-O theory is based on the assumption of identical tastes and demand patterns of consumption in both countries. This means that the tastes and demand patterns of consumers are the same for different income groups but this is unrealistic. More so, with inventions taking place in consumers' goods, changes in tastes and demand patterns of consumers also occur even among developed countries. As a result, tastes are not identical in trading countries.
6. **Consumers' Demand is ignored:** H-O theory did not mention an important fact that commodity prices are also influenced by the consumers' demand.
7. **Haberler's Criticism :** According to Prof. Haberler, Ohlin's theory is based on partial equilibrium. It fails to give a complete, comprehensive and general equilibrium analysis.
8. **Leontief Paradox:** Ohlin assumes that relative factor prices reflect exactly relative factor endowments. It implies that in the determination of factor prices, supply is more important than demand. If, however, the demand factors are given more importance in determining factor prices, a capital-rich country will export a labour-intensive commodity because the high demand for capital will raise the price of capital relative of labour. Prof. Leontief's empirical study of the Ohlin theorem, known as the Leontief Paradox, has led to paradoxical results that the United States exports labour-intensive goods and imports capital-intensive goods, even though it is a capital-rich country.
9. **Other Factors Neglected:** Factor endowment is not the sole factor influencing commodity price and international trade. The H-O Theory neglects other factors like technology, technique of production, natural factors, different qualities of labour, etc., which can also influence the international trade.
10. **Factor Prices do not determine Commodity Prices:** Wijnholds has criticised Ohlin for his view that commodity prices are determined by the factor prices which in turn, determine costs. He holds that the prices of commodities are determined by their utility to the consumers, and that the prices of raw materials and labour are ultimately dependent on the prices of the final commodities. He maintains that the right approach is to start with commodity prices rather than factor prices.
11. **Transport Costs influence Trade:** The theory does not consider transport costs in trade between two countries, because beside transport costs, loading and unloading of goods and other port charges affect the prices of produced commodities in the two countries. When transport costs are included, it will lead to price differential for the same commodity in the two countries which will affect their trade relations.
12. **Unrealistic Assumptions of Full Employment and Perfect Competition:** Even though, the H-O theory is based on the assumptions of full employment and perfect

competition there is neither full employment nor perfect competition in any country of the world. Rather, countries do not have free trade but impose trade restrictions on a large scale.

Self Assessment exercise:

Critically explain the Heckscher-Ohlin theory of international trade.

4.0 Conclusion

The Heckscher-Ohlin's theory concludes that:

1. The basis of international trade is the difference in commodity prices in the two countries.
2. Differences in the commodity prices are due to cost differences which are the results of differences in factor endowments in two countries.
3. A capital rich country specialises in capital intensive goods and exports them. While a labour abundant country specialises in labour intensive goods and exports them.

5.0 Summary

This unit discussed the Heckscher-Ohlin trade theory and emphasized on its supremacy over the classical absolute and comparative cost advantage trade theory not refuting the fact that both theories are very important to the study of international trade in economics. The unit therefore established in clarity the basic theoretical fact about its (H-O) supremacy over the classical school's cost advantages. Furthermore, the explanation about the workability of theory was given in details to the understanding of the students and thus, ended with a number of criticisms from other group of economists that could provoke further research..

6.0 Tutor-Marked Assignment

- a. Critically examine the view that international trade will results from differences in factor endowments in countries.
- b. Critically discuss the modern theory of international trade.
- c. To what extent is Heckscher-Ohlin theory of international trade superior to the classical theory of international trade?
- d. Explain the Heckscher-Ohlin theory of international trade and the assumptions underlying it.

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UNIT 2: SAMUELSON'S FACTOR PRICE EQUALISATION THEOREM

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3.0 Main Content

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3.2 Explanation of the working of the theorem

3.3 Criticisms of Samuelson's Factor Price Equalisation Theorem

4.0 Conclusion

5.0 Summary

6.0 Tutor-Marked Assignment

7.0 References/Further Readings

1.0 Introduction

The factor-price equalisation theorem is an important corollary derived from the Heckscher-Ohlin factor-proportions analysis. Having explained the meaning of comparative price advantages as the basis of international trade, Ohlin proceeds to analyse the effects of international trade on factor prices in a general equilibrium system. The theorem of factor-price equalisation thus contends that: fundamentally, international trade in commodities acts as a substitute of the mobility of factors between countries. When the factors of production are completely immobile internationally, but goods are freely exchanged between countries, then the prices of these factors tend to become equal (both relatively and absolutely) in the countries concerned.

2.0 Objective

At the end of this unit student should be able to

- Understand the meaning of factor price equalisation
- Know the assumptions given for the working of the theorem
- Understand the explanation of the factor price equalisation theorem
- Explain the criticisms of the theorem

3.0 Main Content

3.1 Meaning and Assumptions of Factor Price Equalisation Theorem

Factor price equalization is an economic theory and was propounded by Paul A. Samuelson in 1948, and the theorem states that the prices of identical factors of production, such as the wage rate, or the rent of capital, will be equalized across countries as a result of international trade in commodities. The theorem assumes that there are two goods and two factors of production, for example capital and labour. Other key

assumptions of the theorem are that each country faces the same commodity prices, because of free trade in commodities, uses the same technology for production, and produces both goods. Significantly these assumptions result in factor prices being equalized across countries without the need for factor mobility, such as migration of labour or capital flows. Any factor which receives the lowest price before two countries integrate economically and effectively become one market will therefore tend to become more expensive relative to other factors in the economy, while those with the highest price will tend to become cheaper.

Factor-price equalisation theorem is based on the following assumptions:

- (i) There are two countries producing and trading in two commodities
- (ii) There are quantitative differences of factors in different regions, no qualitative differences.
- (iii) Production functions of different products are different, requiring different proportions of different factors in producing different goods.
- (iv) There is perfect competition in the commodity markets as well as in the factor markets in all the regions.
- (v) There are no restrictions on trade, that is, free trade policy is followed by all the countries.
- (vi) The consumer's preferences as well as the demand patterns and positions are unchanged.
- (vii) There are stable economic and fiscal policies in the participating nations.
- (viii) The transport cost element is ignored.
- (ix) Technological progress in different regions is identical.
- (x) There are constant returns to scales in each region.
- (xi) There is perfect mobility of factors.
- (xii) There is tendency towards complete specialisation.

Under these assumptions only the theorem holds that free trade between countries tends to reduce the original factor price inequality and a state of complete specialisation in effect leads to complete factor price equality.

Self Assessment exercise:

What do you understand by Samuelson's factor price equalisation theorem?

3.2 Explanation of the working of the theorem

Given the assumptions, real factor prices must be exactly the same in both countries and the proportion of inputs used in food and clothing production in both Nigeria and Ghana must be equal. Samuelson proof the theorem by assuming perfect competition, that the ratio of the price of food to clothing in each country will be equal to the ratio in each country of the marginal cost of producing food to the marginal cost of manufacturing clothing. Also, there is one price food and clothing in the two countries, because it is assumed that trade is free and unrestricted and there are no transport costs.

Since prices reflect marginal costs, and prices are equal in the two countries therefore marginal costs is also equal. Hence, the marginal cost of producing food and clothing in Nigeria and Ghana are the same. If identical production functions are assumed, the marginal productivity of labour will be the same in the two countries making wages to be equal. This is also applicable to the other factor, land. Therefore, free trade will equalise not only commodity prices, but also factor prices, so that all labourers will earn the same wage rate and all units of land will earn the same rental return in both countries.

Testing Samuelson's intuitive proof, let presume that the wage rate is lower in Ghana than in Nigeria. Since cost is entirely determined by factor prices, the cost of labour-intensive clothing in Ghana would be lower this will increase the demand for clothing in Nigeria. As the production of clothing expands, it raises wages relative to the rent of land. An increase in the ratio of wages to rent must in a competitive market push up the price of labour-intensive clothing relatively to land-intensive food in Ghana. Likewise, the import of land-intensive food from Nigeria will reduce the scarcity and the ratio of wages to rent of the food industry in Ghana. This also applies to the production of food and clothing in Nigeria.

The factor-price equalization theorem is further illustrated slightly by Prof. Lerner in Fig. 5.2.1 below. FF is the isoquant for food and CC is the isoquant for clothing. They represent the production functions of the two commodities in both countries. Rays OR and OS form what Chipman calls the 'cone of diversification' which is ROS in the figure 5.2.1. Assuming that the after-trade factor-price ratio for the two commodities in Nigeria and Ghana is represented by the line PL, it is tangent to the isoquant F at R and to the isoquant CC at S. if the pre-trade relative factor-prices of food and clothing in Nigeria are indicated by the slope of the dotted line $P_N L_N$ which is tangent to the isoquant FF at point K. To form the endowment ray OK. Since the endowment ray OK lies outside the cone ROS, Nigeria will completely specialised in the production of land-intensive food, but factor-prices will not be equalised, hence, the land/labour ratio of producing a unit of

food is high and the cost of production is also high. This is because the marginal productivity (MP_F) of land in value terms is lower than its rent, and the marginal productivity of labour value terms is higher than its wage. Therefore, Nigerian domestic factor-price ratios are inconsistent with after-trade factor-price ratios of food and clothing. It is only by using relatively more labour less land at point R, on the international price line PL than at K on the line $P_N L_N$ that the marginal productivity of land equals its rent.

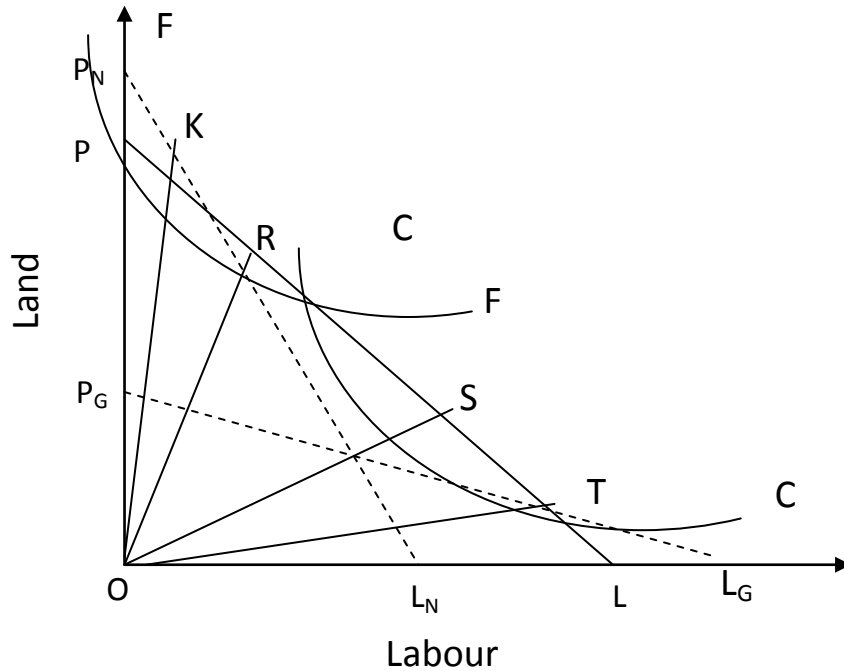


Figure 5.2.1 Factor Price Equalisation

Assuming the domestic factor price ratios of the two commodities in Ghana are represented by slope of the dotted line $P_G L_G$ which is tangent to the isoquant CC at T to form the endowment ray OT. Since this endowment ray also lies outside the cone ROS in the figure 5.2.1, Ghana will totally specialise in production of labour-intensive clothing. Also factor prices will not equalise because clothing is labour-intensive, therefore the marginal productivity (MP_C) of labour in value terms is lower than its wage and marginal productivity of land (MP_F) is higher than its rent. Consequently the domestic price ratios of producing clothing and food in Ghana are not in agreement with the after-trade factor price ratios of the two commodities. Thus, by employing relatively less labour and more land at point S on the international price line PL than at T on the line $P_G L_G$ that the marginal productivity of labour equals its wage.

Therefore by using OR land/labour ratio in the production of food and OS land/labour ratio in the production of clothing, the factor prices are equalised in Nigeria and Ghana at the international price ratio given by slope of the PL line. At points R and S, the land/labour ratio equals the slopes of the lines OR and OS. The marginal products of land and labour for clothing associated with equilibrium point S are $1/OP$ and I/OL and the same goes for food. The price of clothing at point S = Wage x OL = Rent x OP. The same is price for food at point R = Wage x OL = Rent x OP. Thus factor prices of both commodities are equalized.

Self Assessment exercise:

Give a detail analysis of the Samuelson's factor price equalisation theorem?

3.3 Criticisms of Samuelson's Factor Price Equalisation Theorem

This theorem has been criticized by some economists and among them is Meade, Ellsworth and their criticisms are based on the restrictive assumptions of the theorem. They argue that factor-price equalization can be partial and not absolute for the following reasons:

1. **Two Factors of Production not Available:** It is assumed that the two factors of production are available in the two countries. But it is possible that only one factor is available in one country. Subsequently, the marginal productivities of the factor common to both countries will differ and its prices cannot be equalized in the two countries.
2. **Production Function not the same in the Countries:** The theorem also assumes that production functions are the same in the two countries. But, production functions are never identical. Even if resources are the same in both countries, they would not necessarily produce the same commodity with their resources. As pointed out by Meade, "The same text-books and the same brains would not produce the same thoughts in Chicago and London." This is because physical climate and social and intellectual atmosphere for the production of commodities differ from country to country.
3. **Transport Costs is not Considered:** The assumption of absence of transport costs is impractical because costs are always incurred when sending commodities from one country to the other. This will make the price of food to be higher in Ghana than in Nigeria, and the price of clothing will be higher in Nigeria than in Ghana. As a result, the marginal product of labour and the wage rate will be lower in Ghana than in Nigeria and the same goes for the marginal product of land and the rent which will be lower in Nigeria than in Ghana. Hence, factor price equalisation becomes impossible.

4. **Factor-Price Equalisation not Possible under Constant Costs:** The Samuelson theorem is based on the assumption of constant returns to scale. Meade has established that if there are economies of production in the manufacture of the commodities, factor price equalisation will not be possible. If Ghana enjoys more economies of large scale production in the manufacture of clothing than Nigeria, the marginal productivity of labour would be higher in Ghana and lower in Nigeria. Even though commodity prices are the same in the two countries, but factor prices would be different.

Also, if there is increasing returns, the theorem will not work because increasing returns and perfect competition are incompatible. Moreover, under increasing returns each factor would be paid less than its marginal productivity and the total product would be more than exhausted.

5. **Specialisation in One Commodity Possible:** It is further assumed that no country specializes completely in the production of a single commodity. But there is every chance that one of the countries specialises in the production of one commodity before the application of factor-price equalisation. This will be so if the other industry, say wheat in Ghana, happens to be very small in relation to the specialize industry, clothing. In this situation, factor price equalisation will not take place till all factors engaged in the wheat production move to the other country, Nigeria.
6. **Not Applicable to More than Two Goods and Factors:** The factor-price equalisation theorem is based on the two-commodity and two-factor assumptions. If the number of factors of production is more than the number of commodities, the theorem would collapse.
7. **Static Theory:** The Samuelson theorem is a completely static theory. It only studies some characteristics of a given equilibrium situation at a given point in time. It says only what the effects of trade will be with a given technique, with given factor endowments, and so on. But the real world is not in a given equilibrium forever; different changes occur.
8. **Inequalities in Factor Incomes:** Myrdal, Kindleberger, Sodersten, and others believed that in the world there are increasing inequalities in factor incomes rather than equalities in them. According to Myrdal, a cumulative process away from equilibrium in factor proportions and factor prices engendered technological trade has been taking place. Kindleberger is more definite when he writes that "trade between developed and less developed countries widens the gap in living standards (and factor prices such as wage) rather than narrows it, and it is evident after centuries of trade that there are still poor as well as rich countries.

9. **Non-existence of Perfect Competition:** The Samuelson theorem is based on the unrealistic assumption of perfect competition in international trade without any tariff and non-tariff barriers. In reality, trade barrier do exist which make complete equalisation of factor prices impossible.
10. **Factor Intensity Reversal:** The Samuelson theorem is based on the assumption that the production functions differ in factor intensities. It implies that the production functions have constant substitution elasticities so that each production function can be identified as being relatively land (or capital)- intensive or labour-intensive at all relevant points on the two production functions. But it is possible that the production functions do not have the same elasticities of substitution. One point on the production function may be relatively land (or capital)-intensive and another point on the same production function relatively labour-intensive. This is the case of factor intensity reversals where a one-to-one correspondence between factor prices and factor intensities is not possible.

Self Assessment exercise:

What are the criticisms of the Samuelson's factor price equalisation theorem?

4.0 Conclusion

The Samuelson's factor price equalization theorem concludes that the basis of international trade is the difference in factor prices in the two countries and that engaging in international trade could bring the factor rewards close or same between the trading partners, but these factors must be identical among other assumptions.

5.0 Summary

This unit discussed the Samuelson's factor price equalization theorem which was considered to be an improvement over the Heckscher-Ohlin trade theory which was built on the premise that returns to identical factor input would be equalised if trade exist between two or more countries, also that if they trade in common commodities assuming constant return to scale. Samuelson was able to established his fact by laying some fundamental assumption which was well discussed in thus unit, in addition its pitfalls were also analysed to pave room for further research..

6.0 Tutor-Marked Assignment

- a. Critically examine the view that international trade will resolve differences in factor's reward among the trading countries.
- b. Critically discuss major assumptions of Samuelson's factor price equalization theorem.

- c. In one statement, summarise Paul Samuelson's contribution to international trade theory.
- d. List and explain major criticisms of factor price equalization theorem.

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UNIT 3: FACTOR INTENSITY REVERSALS

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1.0 Introduction

Factor intensity reversal is the relative importance of one factor versus others in production in an industry, usually compared across industries. It is commonly defined by ratios of factor quantities employed at common factor prices, but sometimes by factor shares or by marginal rates of substitution between factors. This unit will also look at the effect of change in commodity prices on real factor rewards and the effect of factor endowment changes on trade.

2.0 Objective

At the end of this unit student should be able to

- Explain the meaning of factor intensity reversals
- Distinguish between the single factor and multiple factor intensity reversals
- Understand the effect of change in commodity prices on real factors rewards (Stopler-Samuelson theorem)
- Understand the effect of factor endowment changes on trade (Rybczynski Theorem)

3.0 Main Content

3.1 Single Factor and Multiple Factor Intensity Reversals

Definitions of factor intensities are most simply provided in the case in which a pair of countries produces two commodities with the help of two distinct productive factors. Let labour and capital represent the two factors. Commodity A is deemed to be produced by relatively labour-intensive techniques if the ratio of labour to capital employed in its production exceeds the one utilized by commodity B. Assuming that technology exhibits constant returns to scale, this ratio is a non-increasing function of the ratio of the wage

rate to capital rentals. For a country with given factor endowments, if the first commodity is labour intensive at one set of outputs, it must remain so for all feasible (and efficient) outputs in which factors are fully employed. However, even if the other country shares the same technology, the first commodity need not to be labour intensive; the factor-intensity ranking could be switched.

Factor intensity reversals may exist if one isoquant ‘sits on the other’ or if one isoquant intersects the other at multiple points. The first is known as single factor intensity reversal and the second as multiple factor intensity reversal.

Single Factor Intensity Reversal

The single factor intensity reversal is illustrated in Fig. 5.3.1 where the isoquant FF sits on the isoquant CC at point R. It is only at R that a tangent representing the common price line representing equal international price ratios can be drawn. The ray shows the proportion in which the two factors are combined in different intensities for both commodities at one factor price ratio. Lerner calls the ray OR a “radiant of tangency” which is the sign of factor intensity reversal. Points of equilibrium to its left or right on the two isoquants will reveal that the production functions have shifted in factor intensity. From the factor price equalisation theorem it was pointed out that food is relatively land-intensive in Nigeria and clothing is relatively labour-intensive in Ghana. Now Fig. 1 reveals that the factor proportions represented by the rays OE and OD to the left of the ray OR show different factor intensities. The ray OE, as compared with ray OD, shows that the production of land-intensive in Nigeria relative to the production of food. The factor price ratio for both the commodities in Nigeria is the same as represented by the parallel tangents, $a = a_1$ at points E and D on the isoquants CC and FF respectively

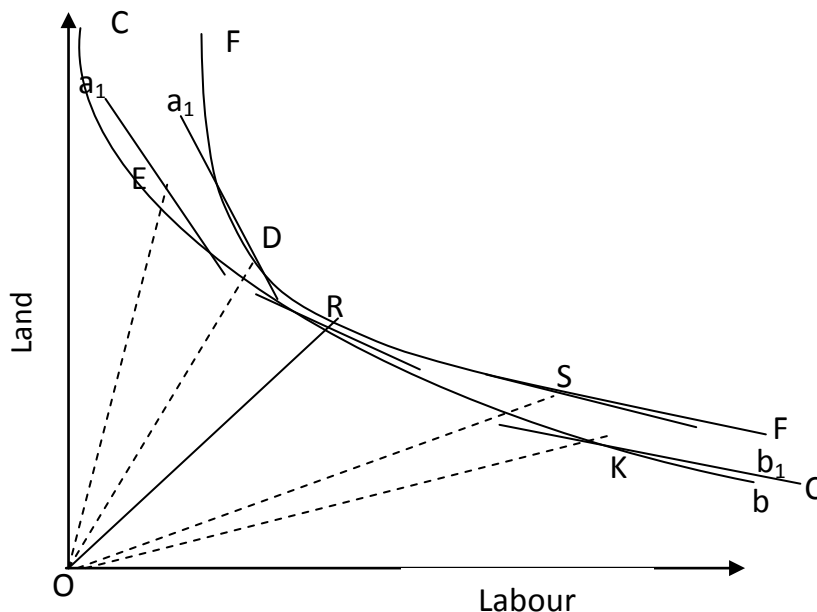


Figure 5.3.1 Single Factor Intensity Reversal

On the other side, rays OK and OS to the right of the ray OR show that clothing is labour intensive relative to food production in Ghana, given parallel factor price lines $b = b_1$.

The above analysis shows that clothing is relatively land-intensive in Nigeria and relatively labour-intensive in Ghana. Nigeria will produce clothing instead of food by substituting land for labour in producing cloth which is a labour intensive commodity which means there has been factor intensity reversal. Factor prices for the production of cloth in the two countries is also different as shown by the slopes of the price lines a and b . It is not possible to tell from factor intensities which country will export which commodity. Both countries will try to produce and export clothing and import food.

Multiple Factor Intensity Reversals

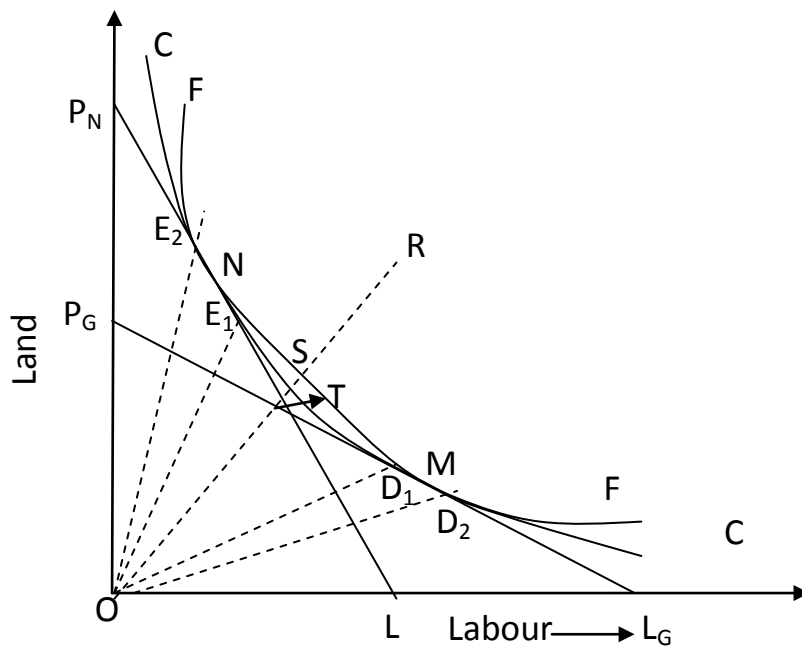


Figure 5.3.2 Multiple Factor Intensity Reversal

Multiple factor intensity reversals occur when two isoquants intersect each other at multiple points. From Fig. 5.3.2, where the two isoquants CC and FF intersect twice at M and N . And in between these two points of intersection, the two isoquants are cut by a ray OR from the origin at T and S . Points of equilibrium between the isoquants and the factor price lines to the left or right of ray OR shows factor intensity reversals. The two rays OE_1 and OE_2 on the factor price line $P_N L_N$ represent land/labour ratios in the production

of food and clothing in Nigeria. Rays OD_1 and OD_2 , show similar ratios on the factor price line $P_G L_G$ in Ghana. This shows that clothing is land-intensive in Nigeria i.e. point E_2 but labour-intensive in Ghana i.e. point D_2 , whereas food is labour-intensive in Nigeria (point E_1) but land-intensive in Ghana (point D_1). Therefore, the land-intensive commodity food is labour-intensive in the land-abundant country Nigeria, while it is land-intensive in the labour-abundant country Ghana. This shows factor intensity reversals. But factor prices differ in the two countries as points E_1 and D_1 of the isoquant FF lie on two different factor price lines $P_N L_N$ and $P_G L_G$. Since both countries will export food and import clothing by substituting their factors this will affect the factor-price equalisation theorem to break down.

Self Assessment exercise:

Distinguish between the single factor intensity reversals and multiple factor intensity reversals.

3.2 The Stolper-Samuelson Theorem

The Stolper–Samuelson theorem is a basic theorem in Heckscher–Ohlin trade theory. It describes the relationship between relative prices of output and relative factor rewards specifically, real wages and real returns to capital. Stolper–Samuelson theorem examines the implications of a change in commodity prices for the real rewards of factors. The factor-price equalisation theory relates movements in commodity prices to the ratio of factor rewards. However, the Stolper–Samuelson theorem relates movements in commodity prices to individual rewards. It states that in a two-factor two-commodity economy a rise in the price of a commodity increases the real reward of the abundant factor used in the production of the commodity of which the price has risen, and decreases the real reward of the scarce factor, and vice-versa.

The Stolper–Samuelson theorem is based on the following assumptions:

1. There are two countries which trade with each other but the analysis is geometrically confined to one country.
2. These countries produce only two commodities.
3. No commodity is an input into the production of another.
4. These two commodities are produced with only two factor inputs, labour and capital.
5. Production functions of both commodities are linear and homogenous of degree one.
6. Both factors are fixed in supply and fully employed.
7. Both factors are mobile between sectors but not between countries.
9. There is perfect competition in the factor and product markets.

10. The production of one of the commodity is capital-intensive and the other commodity is labour-intensive.
11. Labour is an abundant factor of production and capital is a scarce factor.

Given the assumptions above and moving from no trade to free trade will definitely raises the returns to the factors used intensively in the rising-price industry and lower the returns to the factors used intensively in the falling price industry. But the falling price industry will release more capital and less labour compared to the demand of the rising price industry. This will lead to the substitution towards the use of more capital and less labour in both industries. With increase in the use of more capital relative to labour, the marginal productivity of capital will fall and that of labour will rise for both commodities. With the reward of each factor equal to its marginal value productivity, the real return to capital will fall and the real wage of labour will rise. Therefore, the marginal productivity of capital will be lower after trade than before trade. This proves the Stolper-Samuelson Theorem that international trade raises the price of the export commodity and increases the real reward of the abundant factor used in the production of the commodity of which the price has risen, and decreases the real reward of the scarce factor, and vice-versa.

There are some implications of the theorem on some economy and firstly, it leads to the conclusion that opening of trade leads to expansion in the production of commodity produced with the abundant factor whose real reward increases. Thus income distribution moves in favour of the abundant factor and against the scarce factor. On the contrary, the imposition of a tariff on the importable commodity in such a country will reduce the level of trade and benefit the scarce factor. In other words, the income distribution is against the abundant factor and in favour of the scarce factor.

Secondly, the Stolper-Samuelson theorem has important implications for developing countries. For example for labour-abundant developing countries, the policy of export promotion rather than import substitution through tariffs should be adopted because export promotion will increase the level of trade, raise the real reward of the abundant factor labour and lead to increased income and faster growth. On the other hand, the policy of import substitution through protective tariffs will lower the real reward of the abundant factor labour and raise that of the scarce factor capital thereby slowing down income and growth.

Self Assessment exercise:

Discuss the Stolper-Samuelson theorem.

3.3 The Rybczynski Theorem

The Rybczynski theorem was developed in 1955. It states that at constant relative goods prices, a rise in the endowment of one factor will lead to a more than proportional expansion of the output in the sector which uses that factor intensively, and an absolute decline of the output of the other good. In the context of the Heckscher-Ohlin model of international trade, open trade between two regions often leads to changes in relative factor supplies between the regions. This can lead to an adjustment in the quantities and types of outputs between the two regions. The Rybczynski theorem explains the outcome from an increase in one of this factor's supply as well as the effect on the output of a good which depends on an opposing factor. Eventually, across both countries, market forces would return the system toward equality of production in regard to input prices such as wages (the state of factor price equalization).

The Rybczynski theorem states that in a two-factor two-commodity economy a rise in the supply of one factor, keeping the supply of the other factor constant, leads to an increase in the output of the commodity that uses the increased factor intensively, and to a decline in the output of the other commodity. For example, if the supply of labour increases, the output of the labour-intensive commodity increases and the output of the capital-intensive commodity declines. On the contrary, if the supply of capital increases, the output of capital-intensive commodity increases and the output of the labour-intensive commodity decline. And this theorem is based on the following assumptions:

1. There are two countries which trade with each other. But the analysis is geometrically confined to one country.
2. This country produces only two commodities X and Y.
3. These commodities are produced with two factors, labour and capital.
4. These two factors are perfectly divisible, perfectly mobile and are substitutable in some degree.
5. The production functions of both commodities are different. Commodities are linear and homogeneous.
6. The factor intensity of each commodity is different. Commodity X is labour-intensive and commodity Y is capital-intensive.
7. The commodity and factor prices are constant.
8. There is perfect competition in commodity and factor markets.
9. Only the supply of one factor is changed while keeping that of the other constant.

Rybczynski concludes that in an open economy if it is assumed that the commodity using much of the factor of which the quantity has increased, is an item of export, then the external terms of trade will deteriorate, on the other hand, should the commodity be an import, the terms of trade will improve. If the country happens to be a small and is not in a position to influence world price ratios by its internal adjustments, then,

unambiguously, the output of commodity X will increase and that of commodity Y will decline.

Self Assessment exercise:

Briefly explain the Rybczynski theorem.

4.0 Conclusion

This unit concludes that the Stolper-Samuelson theorem demonstrates how changes in output prices affect the prices of the factors when positive production and zero economic profit are maintained in each industry. It is useful in analyzing the effects on factor income, either when countries move from autarky to free trade or when tariffs or other government regulations are imposed within the context of H-O model. The Rybczynski theorem displays how change in an endowment affects the outputs of the goods when full employment is sustained. The theorem is useful in analyzing the effects of capital investment, immigration and emigration within the context of a Heckscher-Ohlin model.

5.0 Summary

In summary this unit discussed intensively the single factor and multiple factor intensity reversals. The effect of change in commodity prices on real factor rewards and the effect of factor endowment changes on trade.

6.0 Tutor-Marked Assignment

- a. Explain the term factor intensity reversals
- b. Differentiate between the single factor intensity reversal and multiple factor intensity reversal.
- c. Discuss the effects of change in commodity prices on real factor rewards in international trade.
- d. Discuss the effect of factor endowment changes on international trade.

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