Module 1

REVIEW OF THE ECONOMIC ROLE OF PRICES AND APPROACHES TO THE STUDY OF AGRICULTURAL MARKETING

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Edited by
Belay Kassa (Prof.)

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ABOUT THE COURSE

AgEc 541: Agricultural Marketing & Price Analysis (CAEE 5131)

The course is classified as **elective with 3 Credit Hours** in the six accredited CMAAE member universities: Bunda College of Agriculture (Malawi), Department of Agricultural Economics (University of Nairobi, Kenya), Department of Agricultural Economics and Agribusiness Management (Egerton University, Kenya), Department of Agricultural Economics (University of Zimbabwe, Zimbabwe), Department of Agricultural Economics, Extension and Rural Development (University of Pretoria, South Africa), and Department of Agricultural Economics and Agribusiness (Mekerere University, Uganda).

However, the course is **a compulsory with 3 Credit Hours** in the Department of Agricultural Economics (Haramaya University, Ethiopia) and most other non-accredited CMAAE member universities.

The course is offered in **semester I** in all CMAAE accredited universities and in most non-accredited universities including Haramaya University.

**Objective of the course**

The objective of this course is to provide students with a theoretical and empirical basis for valuating agricultural marketing organization and actors for market performance and public policy decision, and to enable them develop and use the tools of economic theory to analyse issues related to the marketing of agricultural commodities.

**Expected Output**

After completing this course, the students should:

- Apply economic theory to problems of agricultural marketing;
- Design strategies for effective market performance;
- Use marketing concepts for analyzing market structure and performance in agriculture and formulate effective agricultural marketing policy;
- Apply theoretical models of imperfect market structures to inform public policy;
- Appreciate organizational forms unique to agricultural industries; and
- Understand price discovery mechanisms under different market structures.

No Prerequisite course is required in Haramaya University. But under the CMAAE program, the course is offered after students have completed the core courses in one of the six CMAAE accredited Departments. Thus a student is required to complete the following core courses before it registers for the course:

**Compulsory Core Courses**

- CAEC 501: Micro-Economics
- CAEC 502: Mathematics for Economists
- CAEC 503: Statistics for Economists
- CAEC 504: Issues in Agricultural & Applied Economics
- CAEC 505: Production Economics
- CAEC 506: Macro-Economics
- CAEC 507: Econometrics
CAEC 508: Research Methods, Management & Thesis
Compulsory Non-Core Course
CAEC 510: Institutional and Behavioral Economics

Compulsory Non-Core Course

CAEC 510: Institutional and Behavioral Economics

Thematic Plan

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Course Description

Topic 1: Review of the Economic Role of Prices and Approaches to the Study of Agricultural Market Organization, Conduct and Performance
- Economic role of prices
  - Distributive and allocative functions.
  - Equilibrating functions with the market.
- Approaches to the study of agricultural market organization and performance
  - The function approach.
  - The commodity approach.
  - The institutional approach
  - The managerial approach
  - Structure-conduct-performance paradigm

Topic 2: Theoretical Models of Market Structure and Performance
- Perfectly competitive markets
- Imperfectly competitive markets
  - Monopoly, bilateral monopoly, and monopsony.
  - Oligopoly
    - Joint profit maximization
    - Quantity-setting model
    - Price-setting model
    - Conjectural variation
    - Dominant firm model
    - Leader-follower model.
• Monopolistic competition and product differentiation
• Price discrimination
• Monopsony and oligopsony models of agricultural product markets
  • Conditions for monopsony and oligopsony
  • Price and output determination under different market structures
• Game and industrial organization theories

Topic 3: Spatial and Intertemporal Market Linkages
• Intertemporal market linkages cobweb cycle, seasonal patterns and secular trends, futures markets and forward contracting
• Spatial market linkages
• Transaction costs: types and dimensions
• Spatial Market Integration Models
• Spatial Equilibrium Models

Topic 4: Horizontal and Vertical Integration of Agricultural Industries
• Determinants of horizontal and vertical integration.
• Imperfect competition models.
• Backward integration by a monopsony 150
• Market Integration and Product differentiation
• Policy implications

Topic 5: Market Organizational Forms Unique to Agriculture
• Farmer cooperatives.
  • Model of a marketing/processing cooperative
  • Competitive effect of cooperatives on imperfect markets
• Farmer bargaining associations.
  • Bilateral monopoly model
  • Other theoretical models
• Marketing Disorders, Disturbances and Policies
  • Demand & Supply Shifters in a Single Market
  • Shifters & Technical Change
  • Demand & Supply Shifters in Two Related Markets

Mode of Delivery
Lectures, reading assignments and term paper presentations

Assessment Methods
The student is expected to demonstrate competency level in the following areas:
• Know and apply the alternative concepts and theories for analyzing market structure, conduct and performance in agriculture.
• Design market strategies for effective market performance
• Formulate effective agricultural marketing policies
• Analyze the functioning of rural/agricultural markets
  • Continuous assessment (assignments, quizzes) 20%
  • Term/issues paper 30%
  • Final exam 50%

Text Books
For Topic 1 of the course, the text book is this Module
For Topics 2 - 5 of the course, the following two alternative text books are selected for the student:
Further Reading Materials

In addition to the reading materials provided, a student can consult the following further reading materials:

In addition to the Text Books provided in this module, a student is advised to consult the following further readings for Topic 2-5 of the course:

MODULE INTRODUCTION

This course book is prepared by Haramaya University, Department of Agricultural Economics. It is prepared by a project called AgShare Pilot Project. The project was initiated by Michigan State University (MSU) and funded by Bill-Melinda Gates Foundation. The project was implemented in collaboration with various institutions, namely Michigan State University (MSU), Collaborative Masters Program in Agricultural and Applied Economics (CMAAE), South African Institute of Distance Education (SAIDE), Open Education Resources (OER), and CMAAE member-universities (Haramaya University, Moi University, Makerere University).

It is quite obvious that in developing countries, the education sector suffers from serious shortage of teaching materials. Yet, the available materials virtually reflect just the context of developed countries. The assumption is that it is possible to adopt textbooks and other teaching materials prepared in developed countries and build them into the context of developing countries. Nevertheless, this tradition of relying on materials prepared elsewhere, however well-designed, has never improved effective learning simply because real, effective teaching-learning cannot take place under a decontextualized situation.

Cognizant of this fact, the participants of this project prepared this course book in order to demonstrate that it is possible to prepare teaching materials that foster learning and teaching in context, particularly that of Sub-Saharan African countries—chiefly Eastern, Central, and Southern Africa. Each module of the course attempts to customize theories and concepts in a way that it would reflect the context of these developing countries. It is intended to help graduate students of agricultural economics and the related fields. The underlying premise is that such teaching materials enable graduate students to analyze and solve practical problems and, hence, reconstruct knowledge in its context.

In general, the modules are prepared for the course Agricultural Marketing and Price Analysis’. This course is currently being offered in Master’s programs of both Haramaya University School of Agricultural Economics and Agribusiness and Moi University Department of Agricultural Marketing and Cooperatives. In the initial module (AgEc541), focus will be made on two case-studies conducted on a selected commodity in order to explore the real context of agricultural marketing in a developing country.

The first topic in the initial module will be: The Economic Role of Prices and Approaches to the Study of Agricultural Market Organization. In addition, case study reports and video footages that demonstrate coffee marketing in Ethiopia are included.

In particular, video footage (click here for the link) demonstrates the various marketing activities carried out by various institutions at each stage along the coffee marketing chain in Ethiopia. It clearly demonstrates the numerous marketing activities carried out and how huge value additions are made as coffee goes along the various channels beginning from producer until eventually reaches in the hands of domestic consumers, in the domestic markets, as well as exported to foreign markets, at the other end of the market. Students are strongly advised to watch these impressive video footages to enrich their understanding of the different marketing activities performed in the coffee marketing chains in Ethiopia. In addition, a case study report that describes coffee marketing in Ethiopia is also included in this module and serves you as a stepping stone to studying agricultural marketing in similar developing countries.
# TABLE OF CONTENTS

**About the course** .........................................................................................................................i  
**Module Introduction** ....................................................................................................................vii  
**TOPIC 1** .........................................................................................................................................1  
- **REVIEW OF THE ECONOMIC ROLE OF PRICES AND APPROACHES TO THE STUDY OF AGRICULTURAL MARKET ORGANIZATION** ...........................................................................1  
  - **Introduction** .................................................................................................................................1  
  - **Topic objectives** ..............................................................................................................................1  
  - **Thematic plan for Topic 1** ...............................................................................................................1  
- **Sub-Topic 1 Economic Role of Prices** ...........................................................................................2  
  - **Introduction** ...................................................................................................................................2  
  - **Objectives** ......................................................................................................................................2  
  - **Thematic plan** ..................................................................................................................................3  
  - **Section 1.1 Prices** ..........................................................................................................................3  
  - **Section 1.2 The Market System** ....................................................................................................4  
  - **Section 1.3 The Role of Prices in Market-based Economy** .........................................................5  
    - **Sub-Section 1.3.1 Equilibrating process** .......................................................................................5  
    - **Sub-Section 1.3.2 Rationing and allocative role of prices** .............................................................6  
    - **Sub-Section 1.3.3 Limitations of the price mechanism – Market failures** .................................9  
  - **Section 1.4 The Role of Prices in a Mixed Economy** ....................................................................12  
  - **Summary** .......................................................................................................................................14  
  - **Exercises** .......................................................................................................................................15  
- **References** ....................................................................................................................................16  
**SUB TOPIC 2: Approaches to the Study of Agricultural Marketing** ..........................................17  
  - **Introduction** ...................................................................................................................................17  
  - **Objectives** .....................................................................................................................................17  
  - **Thematic plan** ..................................................................................................................................17  
  - **Section 2.1 The Functional Approach** ..........................................................................................17  
    - **Sub-Section 2.1.1 The exchange functions** ...............................................................................18  
    - **Sub-Section 2.1.2 Physical functions** .........................................................................................18  
    - **Sub-Section 2.1.3 Facilitating functions** .....................................................................................20  
  - **Section 2.2 Institutional Approach** ...............................................................................................21  
    - **Sub-Section 2.2.1 Merchant middlemen** ...................................................................................22
Sub-Section 2.2.2 Agent middlemen ................................................................. 22
Sub-Section 2.2.3 Speculative middlemen ....................................................... 23
Sub-Section 2.2.4 Facilitative organizations ...................................................... 25
Section 2.3 The Commodity Approach .............................................................. 26
Section 2.4 Behavioral Systems Approach ......................................................... 26
  Sub-Section 2.4.1 The input-output system ..................................................... 26
  Sub-Section 2.4.2 The power system .............................................................. 27
  Sub-Section 2.4.3 Communication systems .................................................... 27
  Sub-Section 2.4.4 Adapting to internal and external changes ......................... 27
Section 2.5 The Structure-Conduct-Performance (S-C-P) Approach .................... 27
  Sub-Section 2.5.1 Elements of S-C-P ............................................................... 28
  Sub-Section 2.5.2 The S-C-P paradigm ........................................................... 35
  Sub-Section 2.5.3 Criticisms of the S-C-P paradigm ....................................... 35
Summary ............................................................................................................. 36
References .......................................................................................................... 40
TOPIC 1

REVIEW OF THE ECONOMIC ROLE OF PRICES AND APPROACHES TO THE STUDY OF AGRICULTURAL MARKET ORGANIZATION

Introduction
This topic focuses on the economic role of prices and approaches to the study of agricultural market organization. Economic theory provides a wide range of models and concepts for analyzing markets and prices that generates insights on how the market economy operates. In today’s world, a successful business practitioner has to be familiar with the economic way of thinking about markets using economic models and principles. It is the aim of this module to introduce the economic theory of role of prices and the different approaches to agricultural marketing analysis to enable students to independently apply the theory to practical agricultural marketing issues.

In addition, case study report and video footage that demonstrate coffee marketing in Ethiopia are also included. The video footage demonstrates the various marketing activities carried out by various institutions at each stage along the coffee marketing chain in Ethiopia. It clearly demonstrates the numerous marketing activities carried out and how huge value additions are made as coffee goes along the various channels beginning from producer until eventually reaches in the hands of domestic consumers at one end of the market and exported to foreign market at the other end of the market. You are strongly advised to watch this impressive video footage to improve your understanding of the different marketing activities performed in the coffee marketing chains in Ethiopia.

In addition, a case study report that describes coffee marketing in eastern Ethiopia is also linked to this module and serves you as a lesson on how to study agricultural marketing in developing country.

Topic objectives
After going through this module, you will be able to:
- Explore the role that prices play in an economy;
- Understand and apply the different approaches to analyzing agricultural markets;
- Understand the different activities performed in the markets, the role of agents and institutions in agricultural products marketing;
- Recognize the links between the structure, conduct and performance of markets;
- Apply Structure-Conduct-Performance (S-C-P) approach for analyzing the performance of markets;
- Identify the weaknesses of the S-C-P paradigm.

Thematic plan for Topic 1

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SUB-TOPIC 1 ECONOMIC ROLE OF PRICES

Introduction

In an economy, the allocation of resources having alternative uses is the major concern. The allocation of scarce resources depends on the prevailing economic system. In both command and communist systems, it is the government which decides what to do and where the resources should go. However, this is not the case for a market economy. It is the price which determines how much of each resource is used where. How is this role of price understood by the public and politicians? Is price an obstacle to get what you wanted? What is the reason why all people in a country did not own a car? Is it because of the high prices of car? The answer is no. The reality is that we do not have enough resources to manufacture or import cars for all the people in a country. No policies or some other political or institutional arrangements can do this. It is the price that conveys this fundamental reality. What if the government put ‘caps’ on the prices of cars? Would this enable all the people in a country to buy cars? It is not possible because of the high ratio of people to the available resources. Hence, it should be the price itself which ration the available resources to those who demand them and are able to buy.

In a market economy, a change in market forces (supply and demand) changes the market price. Price change also affects incentives and incorporates information for market participants. For instance, increase in price of a good in the market offers producers an incentive to produce more. Since increase in price, given other prices constant, increases profits of producers. Thus producers try to take advantage of higher prices by producing more. But this increase in prices will also inform consumers and consumers try to respond to this higher price by purchasing less. The reverse is expected to happen if price of the good declines. Higher prices raise farm income which enables farmers to buy other items and farm inputs. This means that prices play an important role in efficiently distributing resources and signaling shortages and surpluses which help farmers to respond to changing market conditions. So, the following questions are very important in an economy: What role do prices play in an economic system? How do prices affect the distribution of income? What is the signaling and incentive role that prices play in an economy? How do they impact incentives and competition? How do agricultural price changes affect income distribution among farm households?

Objectives

At the end of this Subtopic the students are able to:

- Distinguish between market system and command system;
- Explain how prices left to itself plays an equilibrating role;
- Explain why prices can be a way of efficiently distributing resources among consumers;
- Explain why prices can be a way of efficiently allocating resources;
- Discuss the consequences of government-set prices; and
- Explain the difference between price set through market mechanism and government.

Before we look into the role that prices play in an economy, we introduce some important concepts such as price, market system and equilibrium price.
Thematic plan

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Section 1.1 Prices

Prices are an important feature of a market. Webster’s define price as: “The price of a good or service is what it costs the buyer to acquire it from the seller; the same price is what the seller rewards for giving up its property rights on the good or service”. In the modern world, prices represent acceptable exchange ratios for goods. Among varied goods, currency is the standard unit in terms of which the exchange values of all other goods can be quoted. Technically, price is the value expressed in terms of some exchanged commodity. This definition shows that there can be but one price in a market. This is a somewhat intangible but an important economic premise. Commonly, different people within the same market place may offer different prices for the same good. However, within a group of buyers and sellers where competition is nearly perfect, price is predetermined with some degree of precision.

Prices can be found everywhere. Particular classes of goods or services have explicit price-name, e.g. wage as the price of labor, interest rate as the price of capital, discount rate as the price of time, risk premium as the price of uncertainty, etc. Some argue that everything has its price, if not explicit than implicit, because in our societies all can, and mostly is, traded against priced goods. This argument is the basis for assessing monetary prices for all values that are not tagged with explicit prices in some market place, e.g. natural amenities, social relationships, cultural values, and also human life.

Prices are important to market participants, a decisive factor in agent decisions, since they simplify evaluation of complex transactions, and hence contribute to greater efficiency in their maximization of utility. They also represent a very compact way of summarizing information about demand/supply conditions for efficient communication.

Prices allow producers to make a profit per unit produced/sold. They allow consumers to decide if they wish to spend more than a certain amount for a specific good or service. It is the place where sellers are charging as much as they can and buyers are buying as much as they can afford, at that particular price, that we call an equilibrium price. Economic theory suggests that it is this price which maximizes the overall welfare of a society. In the next section we will see the role that prices play in equilibrating quantity demanded with quantity supplied in a market economy.

It is important to note here that the price we usually observe include all the effects and biases induced by authoritarian policy interventions. The price of oil is burdened with rents to oil companies and to well owners. This in turn shows that most prices in an economy are affected by the price of oil and thus by its embodied political and distributive character. In addition, many prices are directly affected by policy interventions, such as taxes, subsidies, regulatory prescriptions, market structuring, etc. Attention should be focused on where, how and to what degree prescriptive intervention should affect observed prices.
Section 1.2 The Market System

A market economy is a mechanism for unconscious of people, activities and businesses through the system of prices and markets. So long as the fundamental economic problems - how to produce, what to produce, and for whom to produce are concerned; in a market economy you may be surprised to learn that no individual or organization is consciously concerned with the triad of economic problems. Rather millions of businesses and consumers interact through markets to set price and outputs. It is the mechanism of demand and supply that will provide the solutions to the stated problems.

In such economic system, there is no visible hand (government or any other body) that makes economic decisions to answer these economic questions. Rather, the economy is derived by producers and consumers in the economy that makes the decisions. One of the Founding Fathers of economics, Adam Smith (1776), described this ‘the invisible or hidden hand’ of the market operated in a competitive environment through the pursuit of self-interest to allocate resources in society’s best interest. The principle of the “invisible hand” holds that every individual in selfishly pursuing only her/his personal good, is led, as if by an invisible hand, to achieve the best good for all. Every individual endeavour’s to employ her capital so that its produce may be of great value. She/he generally neither intends to promote the public interest, nor knows how much she/he is promoting it. She/he intends only her own gain.

The argument in favor of market-based economy is based on the assumption that the market is free and competitive. A competitive market is a market in which there are many buyers and many sellers so that each has negligible impact on the market price. In a free and competitive market-based economy, it is the price mechanism that works out the interests of all individual producers and consumers. It was proposed that the responsibilities of government should be confined to the traditional functions – the administration of justice, social statistical reporting, national defense and money supply with only little interference in the economy. This has been known as the “laissez-faire” doctrine.

Though the free market advocates argue that market-based system leads to socially optimal outcome, later on, it was found out that the market mechanism, with its imperfection, has had its own failures and it does not always lead to the most efficient outcome as stressed by its proponents. Before we discuss the market failures and their implication to SSA countries, let us turn to the alternative economic system.

The other alternative economic system to market-based system is the command economy or the planned economic system (such as those under communism). In this system, alternative to using the price mechanism, it is government’s planning and directives that coordinates the production, consumption, and distribution decisions. In a state run command economy, the price mechanism plays little or no active role in coordinating economic activities. Instead government planning directs resources to where the state thinks there is greatest need. The setting of goals, the conception of means, and the conduct of plans, which override any particular unit or units in a country, can be done by government alone. Planning, being a consciously directed activity, falls inevitably within the domain of government or any public authority constituted for the purpose.

The reality is that state planning has more or less failed as a means of deciding what to produce, how much to produce, how to produce and for whom. Following the collapse of communism in the late 1980s and early 1990s, the market-based economy is now the dominant economic system – even though we are increasingly aware of imperfections in the operation of the market – i.e. the causes and consequences of market failure.
In reality, no economy in the world seems to have been purely market-based economy or purely command economy and thus nearly all countries use a mixture of both market forces and government intervention. Indeed, the relative roles of market or government differ from country to country. In some countries the market plays the dominant role in coordinating the economic decisions, while in others it is the government.

The need for government intervention has been explicitly and implicitly accepted in the developing world although there have been different approaches to the choices involved in resource utilization in the form of planning. In some industrial countries, state planning is considered to be wasteful by some and infinitely worse than the free market mechanism because it imposes value system and priorities that do not properly reflect the whole of the community. Government intervention is believed to have been responsible for the alleged anarchy in the market. Implicit in this argument is the fear that state planning may be equivalent to government coercion and keeping socialism. However, one can note from history that the great depression of the 1930’s called for a government intervention. Similarly, in recent times because of the credit crunch (credit crises) - a reduction in the general availability of loans - that hit the global economy, particularly, the economy of the United States of America, governments are highly intervening in the economy to correct the failure.

Economic planning for development involves several choices on the relative role of public and private sector, on the place of agriculture in the economy, or the relative importance of import substitution and export promotion, on the approach to population control or its unrestricted growth, between economic stability and growth, and between growth and distribution. These choices are generally of political nature. While economic forces are important, they are not necessarily the final determinants of choice. A combination of these approaches is used to formulate development strategy. The importance of development strategy needs to be recognized, however, the failure or success of planning efforts is due equally to the strategy adapted and the technical or institutional factors.

What are the roles of prices in these two economic systems? What are the roles of prices particularly in SSA countries? The next section explains the various roles of prices in these economic systems: the market-based economy and the mixed economy.

Section 1.3 The Role of Prices in Market-based Economy

Price in a market economy plays three important roles: Equilibrating, allocative and rationing (distributive). We will discuss each of this role one by one.

Sub-Section 1.3.1 Equilibrating process

Before we discuss the equilibrating role of prices in market-based economy, let us first see the meaning and the mechanics of equilibrium prices. Understanding how equilibrium prices are attained in a given market helps to evaluate whether that price is socially desirable or not. The dictionary defines the word equilibrium as a situation in which many forces are in balance – this also describes a market’s equilibrium. An economic equilibrium can be regarded as an artificial construct that allows one to examine the properties on the model in a situation where every agent’s choices and activities that are consistent with each other and no agent would have an incentive to change its choice or activities. An equilibrium price is a point at which the quantity of goods that buyers are willing and able to buy exactly balances the quantity that sellers are willing and able to sell. The equilibrium price is sometimes called the market clearing price because, at this price, everyone in the market has been satisfied:
buyers have bought all they want to buy and sellers have sold all they want to sell. The price for coffee that prevailed in a particular day at a given market place could be considered as an equilibrium price. The next question is how does market clear?

Markets coordinate economic activities and changes in prices signal buyers and sellers that changes have occurred within particular markets. For example consider two substitute goods A and B. Assume that the demand for A has increased. This will increase the price of A, the profitability of A, the quantity supplied of A, the demand for the inputs used to produce A, and the prices of these inputs. Since consumer’s income is limited, the demand for B will decrease followed by all the changes that will arise in response to the decrease in the demand of B. All of these adjustment processes toward reaching the new equilibrium prices and quantities in both products elucidate how resources move from B to A. This demonstrates the equilibrating role of prices in a market-based economy.

Once market forces have exerted enough pressure to establish the equilibrium price, this price will continue until something happens in the market (a change occurs in one or more of the exogenous factors) to cause either the demand curve or the supply curve or both to shift. This stability in equilibrium price occurs because of its uniqueness in being the only price at which the quantity demanded by consumers is exactly the same as the quantity that suppliers are willing and able to offer in the market. Because of this unique balance in quantity demanded and quantity supplied, there are no internal pressures for either to change.

If there are no external interventions, the competition among buyers and sellers in the market sets off the equilibrating process. Buyers competing with one another for goods in short supply bid up price to try to capture some of the good. As price rises, quantity demanded falls and quantity supplied rises. The process continues until price equals the market clearing price and quantity supplied equals quantity demanded. In a barrier-free and competitive market, it is price that plays the key role in the equilibrating process.

A market price which is different from the equilibrium price affects the quantity and price of the good or service being exchanged in the market. These changes in price and quantity will continue until the market reaches the equilibrium. In equilibrium, the forces of supply and demand are balanced; buyers are not frustrated by shortages and the inability to purchase all they wish and suppliers are not frustrated by surpluses and the inability to sell all they wish. As a consequence, the equilibrium point will be relatively stable.

Any market, irrespective of its competitiveness, can attain equilibrium price if it is left to the forces of demand and supply. However, whether this equilibrium price is socially optimum and desirable or not depends on the extent that the market is close to perfectly competitive. This is because, when it is viewed from the perspective of society as a whole, perfectly competitive market is considered as an ideal market. Due to this, economists consider perfectly competitive market as a benchmark against which they evaluate all other types of imperfect markets.

Sub-Section 1.3.2 Rationing and allocative role of prices

The rationing (distributive) role of prices in a free market economy is concerned with the for-whom question. For whom are the goods and services produced? It is concerned with the distribution of a given amount of goods or services among competing users. Why do we ration? We ration because resources are scarce. Available resources must be rationed out to competing uses because wants and needs are unlimited, but resources are limited. Markets ration resources by limiting the purchase only to those buyers willing and able to pay the
price. Rationing through prices is usually an effective and efficient method of allocating resources, because commodities are allocated to those buyers willing to pay the highest price and receive the greatest satisfaction.

To formally see how prices in a free market economy leads to an efficient distribution of goods among consumers, let us see how two consumers A and B faced with goods X and Y having prices $P_x$ and $P_y$, reaches equilibrium or maximizes their utility. From economic theory we know that given price and budget the consumer maximizes her utility by equating the marginal rate of substitution of the two goods to the price ratio of goods. Hence, the condition for consumer equilibrium is:

$$MRS_{x,y} = \frac{P_x}{P_y}$$  \hspace{1cm} (1)

In perfectly competitive markets, both consumers are faced with the identical prices. Hence, the condition for joint or general equilibrium for both consumers is:

$$MRS^{d}_{x,y} = MRS^{e}_{x,y} = \frac{P_x}{P_y}$$ \hspace{1cm} (2)

The ratio of prices of the products is the measure of the budget constraint of the consumer. Equation (1) shows that given the prices of X and Y, the consumer equates the slope of the budget line ($P_x/P_y$) with the marginal rates of substitution of X for Y ($MRS_{x,y}$). As shown in Figure 1, this holds true at point Q. Equation (2) implies that both A and B are in equilibrium at this point. Hence, optimal allocation of goods depends on the relative prices of these goods. This efficiency in distribution implies optimal allocation of the goods among consumers. This indicates that prices in a free market apportion more commodities to the individuals who value it the most in economic terms.

Allocation is a question of how society decides what and how to produce. Should it produce a lot of cereals or a lot of coffee? Should it produce more for use now and ignore the future, or should it forgo consumption now and invest so that more will be available in the future? Where should it use its inputs? How much of the inputs to use? Note that in all these questions of distribution and allocation the implicit assumption is scarcity. Why is resource allocation an issue? It is an issue because resources are limited while human needs are not. Moreover, any given resource can have many alternative uses. This means that we cannot do everything we want, but should choose some at the expense of others.
Markets generate utility in terms of transportation (place utility), storage (time utility) and processing (form utility) as well as in transacting goods and determining prices. The difficult question is the level where price signals induce resource allocation that maximizes welfare of a society. Hence the trader, or in a wider sense most of agribusiness, serves agriculture, through the transaction of goods and a simultaneous determination of prices by inducing a corresponding allocation for optimal utilization of resources.

The price mechanism works best when all markets in the economy are allowed to freely operate by market forces. If a shock occurs in any one market, the market adjusts itself towards equilibrium. A shock in any one market will be transmitted into many other markets and the situation will settle when all markets in the economy simultaneously attain equilibrium.

Suppose the demand for beef has increased due to a holiday event by the majority of people. A change in demand for beef initially affects the beef market and the beef market enters into disequilibrium. In the very short run, it is not only the beef market that enter into disequilibrium, but other markets too. This is because; given fixed income of consumers, increase in demand for beef can be possible only if consumers give up or postpone the consumptions of other goods and services. Hence, the demand for other goods declines and hence these markets inter into disequilibrium as well. These disequilibrium conditions in the beef and other markets set off adjustment processes toward equilibrium. In the process, the excess demand in the beef market bids up the price of beef and excess supplies in other markets depress their prices. The beef market attains its equilibrium at a price higher while others markets attain equilibrium at lower prices. The situation will not stop here. In the long run, further adjustments will also occur in these and other markets too.

The rise in price of beef and the decline in prices of other commodities affect the relative prices of each commodity. Given these changes in relative prices, in the long run consumers tend to adjust their consumptions. They tend to substitute those goods whose prices have become relatively lower than the price of the commodities under considerations. In the long run, not only consumers, but producers also make adjustments in their production and supply. In the absence of excess capacity, firms can make such long run adjustments by employing or reducing the factors such as labor, land and capital. This will further affect the factor market and they also enter into disequilibrium and consequently the prices of factors differ from industry to industry. These variations provide incentive to factor owners to shift their resources from industry whose price decreased to that industry whose price has decreased.

If all markets are left to market forces, the situation will eventually settle when all markets and all agents simultaneously have no more incentive to change prices and quantities i.e. when quantity demanded and quantity supplied of goods and services and factors are equal at the new equilibrium prices. The interest of all firms, consumers and factor owners simultaneously match at the new equilibrium prices and quantities.

In all these adjustment processes, it is the price mechanism that coordinates actions of economic agents. There is no any visible hand (such as government) which is responsible in making the various adjustments in accordance with the interests of all economic agents. It is the invisible hand of markets or price mechanism that does the complex job. The price mechanism does this job by informing economic agents (signaling), by encouraging agents to change their decisions (incentive), and by allocating scarce resources and goods and services into where they would be most efficient (rationing).
Prices constrain behavior by affecting the costs and benefits of acts. It is believed that “the invisible hand” theory is the driving force for allocating resources in the free market economic system. Under this theory, the allocation of resources is created through the self interest, competition and supply and demand in the market. Agents distribute resources through self regulation by using only the goods they need and selling away their leftover. It is through this allocation of resources that the market grows and expands as more agents have access to resources.

On the producer side, consider a farmer that produces two goods; say maize ($y$) and coffee ($z$). To remain in production, the farmer needs to have revenues that exceed its production costs. The farmer maximizes his revenues given the cost constraints. That is:

$$\text{Max } p_y y + p_z z \text{ st } C(y,z) \leq \bar{C}$$

If the cost constraint is binding, the first-order conditions are:

$$p_y - \lambda C_y = 0, \quad p_z - \lambda C_z = 0 \text{ and } \bar{C} - C(y,z) = 0$$

where $\lambda$ is the Lagrange multiplier and $C_y$ and $C_z$ are the partial derivatives of the joint cost function, $C(y,z)$, with respect to $y$ and $z$, respectively. With standard assumptions on the second-order conditions, the solution to equation (4) gives the well-known expression for the marginal rate of product transformation between $y$ and $z$:

$$\text{MRPT} = \frac{p_y}{p_z}$$

This means that the optimal allocation of $y$ and $z$ is determined by their relative prices. Figure 2 provides a graphical illustration.

![Figure 2 The production possibility frontier and the optimal allocation](image)

In conclusion, the interaction of buyers and sellers in free markets enables goods, services, and resources to be allocated by prices. Relative prices, and changes in price, reflect the forces of demand and supply and help solve the economic problems of a society. Resources move towards where they are in the shortest supply, relative to demand, and away from where they are least demanded.

**Sub-Section 1.3.3 Limitations of the price mechanism – Market failures**

In reality, even in those industrialized and ‘market-based economies’, there exist various forms of market failures. Market failure refers to those situations in which the conditions necessary to achieve the efficient market solution fail to exist or contravened in one way or another. Market failures are an extremely important feature of observed markets. The argument is that any economy, left to the market forces, is unlikely to operate efficiently. There will be a tendency for it to produce too much of some goods and an insufficient
amount of others. In the extreme case, markets fail to exist, so that certain goods will not be produced at all. In general, these are some of the market failures:

1. **Market imperfections**: For many reasons most markets fail to be competitive and some degree of imperfections exist in the market. In extreme cases, the market could be monopolized by only single firm.

2. **Public goods**: There are some goods that will not be supplied by the market or if supplied will be supplied in insufficient quantity. Suitable examples to the agricultural sector of SSA countries are services such as research on agricultural technologies, agricultural extension services, road, large scale irrigation schemes, vaccines for epidemic diseases, etc. These public goods, if they are left to be supplied by the market, the market may not supply them at all or it may not supply them in sufficient quantity. Since public goods are non-rival and non-excludable by nature, the market fails to supply enough of them. However, these goods are also critical to the development of the agricultural sector and an economy as a whole and need to be supplied in any way.

3. **Externalities**: Some goods, when left to market forces alone, tend to impose external costs and benefits on the society. Some goods may impose costs on society (negative externality) and others may generate benefit to the society (positive externality). When they are produced by private firms and when they are left to the forces of demand and supply, quantities and prices tend to be different from what is considered to be socially optimum levels.

4. **Incomplete markets**: In some cases, even though the cost of providing a good is less than what individuals are willing to pay for it, markets may not exist for some goods. We call such market failures as incomplete markets (a complete market would provide all goods and services for which the cost of provision is less than what individuals are willing to pay). The markets for some services such as insurance and micro farm credits are usually constrained by moral hazard and adverse selection which are outcomes of information asymmetry. The absence of adequate private insurance and small farm credit markets may provide the political justification for public insurance programs. Provision of farm subsidy is another explanation in the face of large risks associated with price fluctuations, crop failures, etc. Government programs to stabilize the prices received by farmers reduce these risks.

5. **Information asymmetry**: It is a condition that exists in a transaction between two parties in which one party knows the material fact that the other party does not. A number of government activities are motivated by imperfect information on the part of consumers, and the belief that the market, by itself, will supply too little information. In this case, the most informed party may exploit the less informed party. Such opportunistic behavior due to asymmetric information leads to market failure, destroying many of the desirable properties of competitive markets. In the presence of information asymmetry, the lemon can drive out the quality-good. In such condition, the assumption of perfect information that characterizes a perfectly competitive market is ruled out and in effect erodes the desirable welfare outcomes of free market. Governments use regulations such as standardization, certification, labeling, guaranteeing, etc. to limit the opportunistic behaviors of sellers or consumers that arise from such market failures.

6. **Inflation, unemployment and economic instability**: Perhaps the most widely recognized symptoms of “market failure” from wider macroeconomic point are the presence of periodic episodes of high unemployment, inflation and overall economic instability.

7. **Inequality**: Opponents of the free market also argue that the distribution of income in a market-based economy tends to be unjust and income inequality increases.

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1 In the case of negative externality, price tends to be lower and quantity tends to be higher than the socially optimum level while in case of positive externality, both prices and quantities tend to be lower than the socially optimum level.
8. **Wastage on advertising**: In a market-based economy, a great amount of resources are spent for advertising. Some consider advertising as non-value-adding activity and it is wastage of resources from societal point of view and still others consider as providing important information to consumers.

The extent and type of the aforementioned market failures vary from economy to economy. Especially in SSA countries where the markets are poorly organized, the extents of market failures are considerable. Likewise, the extents of market failures also differ from market to market. In most agricultural commodities, due the presence of many buyers and sellers and the ‘homogeneity’ of the products, the extent of imperfections are relatively lower than other goods. Yet, the agricultural sector has also its own unique features vis-à-vis other industrial sector.

Markets in developing countries are preempted by imperfections both in structure and operation. Commodity and factor markets are poorly organized and fail to provide the necessary information to permit consumers and producers to act in a way that is conducive to efficient production and distribution.

Developing countries in general and sub-Saharan African countries in particular suffer from such market failures. Such assumptions as the presence of large number of buyers and sellers, perfect information, perfect mobility of factors, and others that characterize perfectly competitive market are rarely fulfilled in SSA countries. For many reasons, agricultural markets in SSA countries are constrained by many of the market failures such as imperfections, information asymmetry, incompleteness, and externalities. Due to these market failures and the subsequent government interventions, equilibrium price levels differ from the levels that would otherwise exist in a perfectly competitive market.

In most developing countries, markets for key services or goods such as road, electricity, education, research, health services, which are crucial for their development, are missing. When they exist, most of them are poorly organized, dominated by few sellers, and are constrained by entry barriers. Thus, they are less free and less competitive. Most of the markets for goods and services that should preferably be supplied by private sector are even not well developed. These situations are even worse especially in sub-Saharan African countries.

In sub-Saharan African countries, the communication system, the road network, the production structure, etc are poorly organized and hence the markets for many key services are entirely missing. The labor markets are also nearly missing. Moreover, the agricultural production systems are traditional and most of the productions are primarily for home consumption and not for market. Thus, the roles of government in these countries is twofold in that it has to provide key public services and at the same time has to pave the road for the market to flourish.

The theoretical role of prices as equilibrating, allocating scarce resources and rationing through signaling and providing incentive to economic agents have to be interpreted cautiously in the context of economic system prevailing in sub-Saharan African countries. These roles of prices also vary from markets to markets. The markets for most agricultural products are relatively poorly organized vis-à-vis other manufactured product markets. Besides, the markets for most agricultural inputs are also poorly organized, less competitive and in some cases missing.
Section 1.4 The Role of Prices in a Mixed Economy

In a pure command economic system, the decisions on key economic questions are decided by the government. The questions of what to produce, how to produce and for whom to produce are answered by government planning. In this case, private firms and the markets have no or little role. In a command economy, the price mechanism plays little or no active role in the allocation of resources. Instead the main mechanism is state planning – directing resources to where the state thinks there is greatest need.

In a mixed economy, however, both markets (price mechanism and government) have important roles. In such economy, the government uses different interventions to correct the various market failures and at the same time works in laying the ground for the market to flourish. The government then uses various mechanisms to direct the competitive outcomes of prices towards some desired objectives.

Governments can also distribute commodities through what can be termed as regulatory distribution. That is, governments pass laws that determine who receives what. Any number of criteria can be set for regulatory distribution. For example, each person might receive an equal share or some might receive more based on some criteria.

Regulatory distribution is often used when governments decide that price distribution does not work properly. In particular, a government might deem that the sudden price increase of an essential good like food or gasoline creates undue hardships for the poor. As such, they might establish a system for distributing the commodity using coupons, price ceilings, or some other mechanism that does not involve higher prices. For instance, intended to reverse the undesirable effects of rising food prices, recently the government of Ethiopia has set ceiling prices of some food items such as sugar, edible oil and beef.

There have been many cases throughout history in which governments have been unwilling to let markets adjust to market-clearing prices. Instead, they have established either price ceilings, which are prices above which it is illegal to buy or sell, or price floors, which are prices below which it is illegal to buy or sell.

If a price ceiling is placed below the market-clearing price, as $P_c$ is in Figure 1, the market-clearing price $P_e$ becomes illegal. At the ceiling price, buyers want to buy more than what sellers will make available. In Figure 1, buyers would like to buy amount $Q_d$ at price $P_c$, but sellers will sell only $Q_s$. Because they cannot buy as much as they would like at the legal price, buyers will be out of equilibrium. The normal adjustment that this disequilibrium would set into motion in a free market, an increase in price, is illegal; and buyers or sellers or both will be penalized if transactions take place above $P_c$. Buyers are faced with the problem that they want to buy more than is available.
One of the problems of such distribution is that it would generate under-supply or shortage of commodities. An example of price ceiling is the recent policy measure taken by the government of Ethiopia on some agricultural products such as sugar, meat, edible oil, etc.

Price ceilings are not the only sort of price controls governments impose. There have also been many laws that establish minimum prices, or price floors. Figure 2 illustrates a price floor, $P_f$. At this price, buyers are in equilibrium, but sellers are not. They would like to sell quantity $Q_s$, but buyers are only willing to take $Q_d$. Whether the actual supply of producer will be $Q_d$ or $Q_s$ depends on how the price floor is implemented. The government can use some mechanism, within the market system, to prevent the adjustment process from causing price to fall. One way of such mechanism common in agricultural market is the establishment of buffer stock. Buffer stock is a mechanism where government absorbs the excess supply $Q_d Q_s$ by purchasing at the floor price $P_f$. The total supply in the market would then be $Q_s$ and what consumers are willing to buy is $Q_s$. The difference is bought and stored by the government.

If, on the contrary, the government does not buy the surplus and just prevents the market adjustment process by enforces the floor price, then suppliers would no option other than adjusting their supply to the level only demanded by buyers. Because there is no one else to absorb the surplus, sellers will supply an amount equal to $Q_d$ not $Q_s$. Minimum wage legislation is another example in the factor market. The government sets a minimum wage equal to $P_f$ and the amount of labor demanded and employed by firms will be equal to $Q_d$. Since the minimum wage set as a floor by the legislation is higher than the market clearing wage rate, workers will be willing to supply more labor. That is, either more workers will be willing to be employed at that higher wage rate ($P_f$) or the existing workers will be willing to work more hours. In either case, the total supply of labor will be higher than the clearing level ($Q_e$). But, since firms will be penalized if they hire workers below the minimum wage, they will be willing to hire only $Q_d$ level. As in the product market, this would also generate unemployment. While some workers are still willing to supply their labor service at wage rate lower than $P_f$ and at the same time firms are also willing to hire more labor, the legislation prevents both workers and firms to transact below the minimum wage. To avoid such unemployment, the government can encourage firms to employ $Q_s$ level by providing them subsidy.

![Figure 3 Price ceiling](image-url)
Case study 1.1:

In a move to halt runaway prices of basic commodities and also curb double digit inflation in Ethiopia, the Horn of Africa country’s government moved to set a price ceiling for 18 types of basic commodities in the first week of January, 2011. The Ministry of Trade and Industry (MoT) of Ethiopia has categorized 20 domestic items that will be covered in the controlling mechanism. From these are: edible oil, bread, pasta and macaroni, meat, sugar, tea leaf, bananas, oranges, and wheat flour are some of the main processed and unprocessed agricultural commodities.

From imported items: edible oil, pasta and macaroni, powder milk, rice and sugar have been included in the imported items that will be controlled. MoT also said the price of the items, described above, cannot be adjusted without prior knowledge of the Trade Bureau of the Regions and Ministry of Trade. Any business person shall display the price of their goods and services by posting such a list in a conspicuous place in his business premises or affecting price tags on the goods in a manner that includes custom duties, taxes and other lawful fees.

(Source: http://www.capitalethiopia.com)

Task 1.1: Based on the above case study, discuss the following:

1. What is the justification for such price control?
2. What would be its effect on producers, traders, and consumers?
3. What would be its overall implication in improving/distorting the market?
4. Would such government intervention sustainable?
5. What alternative solution do you suggest to achieve the same objective?

Summary

Markets and prices play vital roles in any economy system. They determine the standard of living of a society. In a decentralized economic system, markets are the nerve system while prices are the impulses conveyed throughout the system. Prices enable us respond to stimuli and produce goods and services efficiently and changing prices force to adjust and moderate consumption patterns.

The role that prices play in an economy depends on the prevailing economic system. Different economic systems deal with the role that prices play in an economy with different degrees of efficiency, but the underlying reality exists independently of whatever particular economic system is used. Once we recognize that, we can then compare how economic systems which use prices to force people to share scarce resources among themselves differ
In efficiency from economic systems which determine such things by having government issues orders saying who can get how much of what.

In so far as prices result from supply and demand in a free market, they effectively allocate scarce resources. It forces economic agents to modify consumption and production opportunities, induce spending responses, motivate the reallocation of existing resources, and change incentives for factor accumulation. Prices convey information on resource scarcities to individual households and firms, thereby guiding consumption and production choices that bear on resource allocation. So long as people are free to spend their money for what they see fit, price changes in response to supply and demand, direct resources to where they are most in need and direct people to where their wants can be satisfied most fully by the existing supply. In a market-based economy, it is the competition between and among buyers and sellers that leads to the equilibrium price. Buyers competing with one another for goods in short supply rise price to try to capture some of the good. As price increases, demand falls and supply rises. The process continues until the price equates with the equilibrium price and quantity supplied equals quantity demanded which is equilibrating role of prices in a free market economy.

The discussion of government price controls enables us understand how powerful market forces are. In a command economy, the price mechanism plays little or no active role in coordinating economic activities. Resources are distributed and allocated where and to whom the government wants it to be distributed or allocated. The prices set by the government prevent the market from reaching the equilibrium price and quantity. In this kind of economy, government may set prices below the equilibrium price (price ceiling) to support poor consumers or above the equilibrium price (price floor) to support producers. However, price ceiling induces shortages and price floor leads to large surpluses in the markets for many agricultural products. Usually attempts to control prices are a response to the view that market prices are not always “fair” and for equity issues. It is good to note here that markets may not be always “fair,” but attempts to interfere with their operation may lead to other problems.

In conclusion, in a free market economy, only price is capable, without help, of informing economic agents (signaling), motivating agents to change their decisions (incentive), and allocating scarce resources to where they would be most efficient (rationing).

**Exercises**

1. Discuss the advantages and disadvantages of leaving the allocation of a country’s resources to the price mechanism?
2. Why is the rationing function of price necessary for price to serve this function in the market economy? Discuss.
3. How does a price ceiling or price floor undermine the rationing and allocation function of prices?
4. Discuss the advantages and disadvantages of price ceilings and price floors in an economy.
5. Why would government intervene in the market and place a price ceiling or price floor? Discuss.
6. Distinguish between the rationing function and the allocation function of price system?
7. Discuss about the different economic systems and how resources are allocated among peoples.
8. In the late 1970s, gasoline prices were rising rapidly and there was considerable public support for proposals to set a price ceiling and issue ration coupons. Supporters of rationing wanted to ration gasoline on the basis of “need,” but were not in agreement on
how need could be measured for the actual distribution of coupons. Some bases for
distribution include the number of cars a household has, the number of licensed drivers a
household has, equally to all households or persons, and the number of miles each
household must drive to work. Explain why some people would consider each of these
bases unfair. Can you think of a method that you believe is clearly superior to any of the
above methods?
9. There are a number of places in which society does not allow a market to function. There
is no legal market for babies, for example (although there are markets for sperm, eggs, and
wombs for rent). Markets for transplantable organs are also not legal. You cannot, for
example, sell a kidney on ebay. What would be the advantage of allowing markets to
function freely in these areas? On the other hand, what is the case for prohibiting these
markets from forming?
10. What is market failure? Why do markets fail? Why is market failure common in
developing countries? Discuss.

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SUB TOPIC 2: APPROACHES TO THE STUDY OF AGRICULTURAL MARKETING

Introduction

Agricultural marketing includes the services and functions of different institutions and intermediaries. Agricultural marketing problems vary from commodity to commodity largely due to the seasonality of production, the variations in its handling, storage, processing and the number of intermediaries involved in them. Marketing economists have developed various approaches to study agricultural marketing. The functional, institutional, commodity, the behavioral system and the structure-conduct-performance approaches are the major ones. The functional approach consists of all the activities performed in accomplishing the marketing process, the institutional approach covers all market participants, the commodity approach with the commodity at the pivot combines the previous two approaches, the behavioral system approach looks at the behavior of the firms and the structure-conduct-performance approach studies how the structure of the market and behavior of firms affect the performance of markets. These approaches are employed because the role of marketing and marketing firms will be explained based on them. In this Subtopic we will learn the details of the various approaches to the study of agricultural marketing.

Objectives

After completing this Subtopic the students will be able to:
- Recognize the different approaches to the study of agricultural markets;
- Identify the pros and cons of the different approaches to the study of agricultural markets;
- Familiarize themselves with the agricultural marketing functions, institutions and agents, market processes, and issues of organization;
- Understand the structure-conduct-performance paradigm and how the nature of industry is affected by market structure; and
- Apply these methods to a real world case, undertaking a diagnostic analysis of a specific firm and environment.

Thematic plan

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Section 2.1 The Functional Approach

Marketing is sometimes thought of as simply the process of buying and selling though its tasks go beyond this. The functional approach study the different activities performed in changing the farm product into the product desired by the consumers. It includes all the business activities performed by firms in the marketing system. There are three general types of functions performed in any marketing system. These are the exchange functions, physical
functions and facilitating functions. In what follows we will discuss each of this function in detail.

**Sub-Section 2.1.1 The exchange functions**

As mentioned earlier, exchange functions (buying and selling) are what are commonly thought of as marketing. The buying function is concerned with the search for and evaluation of products and services and obtain them. The selling function is concerned with promotion of the products through personal salesmen and advertising. In general they involve finding a buyer or a seller, negotiating price and transferring ownership (but not necessarily physical transfer). At this point, formal or informal property rights are vital to ensure the reliable transfer of ownership and to guarantee legality (e.g. coffees on sale were not stolen and will not be reclaimed). As products move through many hands before reaching the final user, title changes several times. Each time title changes and a price must be set. This means that pricing plays an integral part in marketing. This involves price negotiations and transferring of product ownership through buying and selling activities.

**Case study 2.1: The exchange functions**

In the marketing of coffee in Ethiopia, the exchange functions (buying and selling) are performed at the spot (open market), road side, wholesale, cooperative, retail and export markets.

**Task 2.1:** In your opinion what are the factors that influence coffee farmer in making a choice between traders and/or markets?

**Sub-Section 2.1.2 Physical functions**

The physical functions are those activities which involve handling and movement of the commodity from producers to consumers. They include storage, transportation, processing, manufacturing, handling and packing. It enables the actual flow of commodities through space and time, and their transformation to a form desired by the consumer. Assembling or concentrating the product at convenient places allows its efficient transportation. Storage allows the commodity to be kept until the demand rises, thereby stabilizing supply. Processing transforms the commodity into the products desired by consumers. Grading and standardization allow the consumer to be more confident of the characteristics of the good being purchased.

**2.1.2.1 Transportation**

Transportation provides desired changes in location. It allows the cultivating of a produce in areas particularly adapted to their production and then moving them to the buyers. However, the long distances over which a produce are transported often results in relatively high transportation costs, and potentially lower quality, due to the damage during transport if the products are not properly packed.

**2.1.2.2 Handling and packaging**

For transporting the product from seller to buyer, proper handling and packing are crucial. In order for the product to be transported, it must be handled and packaged properly. Proper packaging; preserves the moisture level and protects it from contamination, facilitates handling of the product, makes the final product more attractive to the buyers, and gives instructions on how to handle, store and use it.
The material used for packaging is a major factor in regulating the moisture content of the stored product. The selection of the packaging material is therefore crucial to preserve the humidity level, and thus the viability of the product. Packaging material should be strong, durable and well labeled. Many different materials are generally used for packaging agricultural products. The selection of the most appropriate material and size is crucial and differs according to type of storage and handling, distribution and commercialization needs. Air-proof containers provide effective protection against insect damage, and fungi. The thickness of the packaging and their uniformity determine their permeability to moisture. For example, the Ethiopian Commodity Exchange (ECX) provides standard sacks to traders and traders in turn provide these sacks to farmers for storing and transporting quality coffee that meets the export standards.

2.1.2.3 Assembly
This activity enables us bring together products from a large number of farms scattered around the countryside to a central point where they can be gathered in large lots, sorted, graded and packaged according to the desired specifications in quantity ready for the market.

2.1.2.4 Storage
Most agricultural products storage is delicate, as specific temperature and proper packaging must be observed to maintain the desired humidity level. The humidity of the air surrounding the product affects its equilibrium moisture content. Storage requirements are different depending on the product form (packaged or loose) and storage type (long term or short term). Without proper storage, most agricultural products lose their taste. Poor quality product generally results from poor drying and poor storage facilities. This affects the marketability of the product as consumers will not engage in repeated buying behaviors following low quality. Storage also facilitates the adjustment of product supplies to its demand and reduces price fluctuations as the product can be kept for some period of time and supply can be evened out, respectively.

2.1.2.5 Standardization and grading
Standardization refers to the determination of the standards to be established for different commodities. It is the establishment of quality and quantity measurement that makes selling and pricing possible. Standards are set on the basis of certain features such as size, weight, color appearance, texture, moisture content, amount of foreign matter present, etc. Grading, however, refers to sorting of product attributes into uniform categories according to the quality specifications laid down. Grading follows standardization. It is a sub-function of standardization.

Grades and standards assist market participants to determine the price because both of them will know specifically what type of product they are dealing with under a grading and certification system. Grading is important when the buyers demand products that meet specific standards and/or when producers want to be paid according to the quality of their products. It not only increases buyers’ satisfactions but it also provides incentive to producers to improve qualities and improve overall efficiency of the prevailing market.

The presence of grading and standardization system in a market will enable market participants to have balanced information about the quality of the product. Thus, in such system a good quality product will be sold at a higher price than poor quality ones. However, in the absence of grading and standardization system, sellers are likely to have better
information about the quality of a product than buyers. This is one of the causes for market failures termed as *information asymmetry* discussed under Sub-Topic 1. In such markets poor quality products ‘the lemons’ are likely to force good quality products of the same type out of the market. In other words, sellers will have less incentive to supply good quality products as buyers cannot identify good quality products from bad ones and hence will not be willing to pay higher prices for the good quality products. In the presence of information asymmetry between buyers and sellers, sellers are likely, in the short run, to exploit buyers by charging higher price for poor quality products. In the long run, the market is likely to be dominated by poor quality products. This is because, since buyers lack information about the quality of the product, they have no incentive to pay higher price rather they attempt to minimize risk by going for lower prices. Similarly, sellers will have no incentive to invest to improve the quality of the product as they cannot persuade buyers that their product is actually good quality. Hence in the long run, the market will be dominated by ‘lemons’.

**Case study 2.2:** See the video clip on the standardization and grading of coffee in Ethiopia.

**Task 2.2:** After looking at the video clip, discuss the pros and cons of standardization and grading in the Ethiopian coffee markets.

**Sub-Section 2.1.3 Facilitating functions**

Facilitating functions are those activities which enable the exchange process to take place. Product standardization, financing, risk bearing and market intelligence are the four important components of facilitating functions. Facilitating functions are not a direct part of either the change of title or the physical movement of produce, but the facilitation of these activities.

**2.1.3.1 Standardization**

As was discussed earlier standardization simplifies exchange functions and reduce marketing costs by enabling buyers to state what they want and sellers to convey what they are able and willing to supply with respect to both quantity and quality. In the absence of standardization trade either becomes more expensive or impossible altogether.

**2.1.3.2 Financing**

In any production system, it is true that there are lags between investing in the necessary inputs and receiving the payment for the sale of produce. During these lag periods some individual or institution must finance the investment. The question of where the funding of the investment is to come from, at all points between production and consumption, is one that marketing must address. Consider the problem of an exporter who wishes to have good quality coffee for export where few farmers have the necessary drying and packaging materials, and storage facilities. This is a marketing problem. These could be solved by the exporters or some other institutions providing these facilities to coffee producers.

**2.1.3.3 Risk bearing**
In both the production and marketing of produce the possibility of incurring losses is always present. Physical risks include the destruction or deterioration of the produce through fire, excessive heat or cold, pests, floods, earthquakes etc. Market risks are those of adverse changes in the value of the produce between the processes of production and consumption. A change in consumer tastes can reduce the attractiveness of the produce and is, therefore, also a risk. All of these risks are borne by those organizations, companies and individuals.

2.1.3.4 Market intelligence

It is true that marketing decisions should be based on reliable information. Market intelligence refers to the process of collecting, interpreting, and disseminating information relevant to marketing decisions. Its role is that it reduces the level of risk in decision making. Through market intelligence the seller finds out what the buyer needs and wants. The alternative is to find out through sales, or the lack of them. Marketing research helps establish what products are right for the market, which channels of distribution are most appropriate, how best to promote products and what prices are acceptable to the market. Intelligence gathering can be done by the seller, government agency, the ministry of agriculture, or some other concerned organization.

Case study 2.3: Limited market information and institutional environment

In the coffee marketing in Ethiopia, limited information at all levels of the marketing chain, limited government intervention, credit access especially for suppliers, infrastructure, etc. are the major problems mentioned by market participants.

Task 2.3: Discuss in general the impact of policy environment on the performance of markets. Why is government intervention in the markets justifiable? Also discuss how conducive is the policy environment in SSA for markets to perform well?

Section 2.2 Institutional Approach

The institutional approach examines agencies and institutions which performs various functions in the marketing process. It focuses on the study of the various institutions, middlemen and other agencies which add utility to the product. These organizations or market participants are those who perform the activities necessary to transfer goods from the producer to consumer, because of the benefit of specialization and scale that exist in marketing.

It is classified into five: Merchant middlemen, agent middlemen, facilitative organizations, processors and manufacturers (millers) and speculative middlemen. The question is that why the institutional approach? We are interested in the institutional approach because middlemen’s specialization in performing a specific marketing functions leads to improvement in productivity and hence a decreased cost. This in turn results in price fall adding to the overall efficiency of the market. The second reason is the gains from specialization. Marketing functions are marked by economies of scale. Hence specialization reduces cost and hence improves efficiency. Average cost of performing marketing functions falls as the volume of products handled rises. Finally middlemen reduces market search and transaction costs.

The number, level of competition, pricing behavior, relationship, etc. of the various marketing agents or institutions is crucial in analyzing a given market. Thus, the institutional approach studies how these institutions respond to changes in market incentives. It also helps to design appropriate intervention strategies intended to improve the performance of the
market. Agricultural marketing studies are hardly complete without incorporating the institutions involved in moving the product from the points of production until it reaches the final consumers. The presence of collusive act among agents at a given stage of the market chain or the level of monopoly power enjoyed by some of the agents will have greater implications in determining the marketing costs (and hence the final price) and the overall performances of the market.

**Sub-Section 2.2.1 Merchant middlemen**

These middlemen have properties in common in that they take title to, and therefore own, the products they handle. They buy and sell for their own profit. Merchant middlemen can be divided into two: Retailers and wholesalers.

**2.2.1.1 Retailers**

They are merchant middlemen who buy products for resale directly to the ultimate consumers. Retailers may perform all of the marketing functions. Mostly, their number is large compared to other merchant middlemen.

**2.2.1.2 Wholesalers**

They are merchant middlemen or manufacturers who sell to retailers, other wholesalers, and/or industrial users but do not sell a significant amount to ultimate consumers. They make up a highly heterogeneous group of varying sizes and characteristics. They can be local buyers or rural assemblers who buy goods in the producing area directly from farmers and transport the products to the larger cities where they are sold to other wholesalers and processors. For example, in the marketing of coffee in Ethiopia, there are local assemblers who buy coffee from farmers in rural areas and transport in bulk to district towns for processing and then ship the products to Dire Dawa for selling it to exporters which are wholesalers themselves. These wholesalers/assemblers/ can handle different agricultural products or can specialize in handling a limited number of products. They may be cash-and-carry wholesalers or service wholesalers who will extend credit and offer delivery and other services.

**Sub-Section 2.2.2 Agent middlemen**

Agent middlemen, as the name implies, act only as a representative of their clients. They do not take title to and therefore do not own, the products they handle. While merchant middlemen (wholesalers and retailers) secure their income from a margin between the buying and selling prices, agent middlemen receive their income in the form of fees and commissions. Agent middlemen in reality sell services to their principals, not physical goods to customers.

In many instances, the power of agent middlemen is market knowledge and “know-how” which they use in bringing buyers and sellers together. Though the names may differ somewhat, agent middlemen can be categorized into two major groups, commission-men and brokers.

**2.2.2.1 Commission-men**

They are usually given broad powers by those who transfer goods to them. They normally take over the physical handling of the product, arrange the terms of sale, collect, deduct their fee, and remits the balance to his principal.

**2.2.2.2 Brokers**
Brokers, on the other hand, usually do not have physical control of the product. They usually follow the directions of his principal closely and have less discretionary power in price negotiations than commission-men. They just act in between the sellers and buyers, link them and assist in negotiations. In agriculture, livestock commission-men and grain brokers on the grain exchanges are good examples of those commission-men and brokers, respectively.

Case study 2.4: ECX’s involvement in the coffee market in Ethiopia

After the Ethiopian Commodity Exchange (ECX) has been introduced to the coffee marketing of Ethiopia, some marketing agents such as village assemblers and brokers were legally restricted from involving in the coffee marketing. In addition to this, the ECX has also established 3 to 5 local trading centers in each major coffee producing woredas. The purposes of these centers were to create conducive environment for open, competitive and accessible local markets and to facilitate preliminary quality inspection and advisory support. These centers were also to be used as market information points for displaying the prevailing prices. However, most of these coffee local trading centers are not operational.

Task 2.5: Discuss whether the restriction of these agents from the marketing of coffee will improve the marketing performance of coffee or not. In addition, what are the possible reasons why traders are not willing to buy coffee at the common market places?

Case study 2.5: Commission men at the auction market

Even though there are no brokers and commission men at the lower level of the marketing chain (between producers and wholesalers), there are commission men working as agents for coffee suppliers at the auction market (Addis Ababa). The roles of these commission men are bidding at the auction floor, speculation, etc. These commission men are required to have least a 10000 Birr on their account by ECX to avoid some acts of tacit collusion with the exporters.

Task 2.5: Why did ECX allow commission men to operate at the auction market though not at the lower level of the marketing chain? Discuss.

Sub-Section 2.2.3 Speculative middlemen

Speculative middlemen are those who take title to products with the main objective of making profits from price fluctuations. All merchant middlemen, of course, speculate in the sense that they must face uncertain conditions. More often, however, wholesalers and retailers attempt to secure their incomes through handling and merchandizing their products and to hold the uncertain aspects to a minimum. Speculative middlemen seek out and specialize in taking these risks and usually do a minimum of handling and merchandizing. They usually attempt to earn their profits from the short-run fluctuations in prices. Purchases and sales are usually made at the same level in the marketing channel. Speculative middlemen often perform a very important job as a competitive force in the protection of an adequate pricing structure.

Case study 2.6: Limited speculation in the coffee market in Ethiopia

Speculation is limited by regulation in the coffee market. For instance, coffee suppliers once they supplied their coffee to ECX warehouses are required to sell it to exporters or domestic
sellers at the auction within 30 days. Similarly, exporters have to process and supply to ECX warehouse within a given time limit.

Speculation is limited by regulation in the coffee market. For instance, coffee suppliers once they supplied their coffee to ECX warehouses are required to sell it to exporters or domestic sellers at the auction within 30 days. Similarly, exporters have to process and supply what they have bought from farmers/producers to ECX warehouse within a given time limit.

**Task 2.6:** Discuss whether the actions of limiting speculative act can be justified or not.

**Case study 2.7: The institutions involved in the marketing of Harar coffee and their functions**

A case study on Harar coffee marketing followed the major marketing channels in Eastern Ethiopia from production to the export levels. The major marketing agents involved in the coffee marketing channel and their major functions can be summarized as follows.

**Producers**

The major functions operated by coffee producers are:
- Production
- Drying (partially)
- Short-term storage for better prices
- Transporting to traders (partially)
- Selling

**Traders (Assemblers)**

Traders and/or assemblers operate the following marketing functions:
- Collecting the produce from farm households (buying)
- Drying (partially)
- Transporting to processors
- Selling to processors

**Trader-processors (Suppliers)**

Coffee trader-processors operating at the first stage (district level) processing are those who are involved in hulling of dried coffee. These initial coffee processors may or may not have their own hulling machineries. Those without hulling machineries pay for hulling services. The major functions they perform are the following:
- Further drying of the assembled coffee
- Hulling coffee beans
- Classifying hulled coffee
- Hand-picking of hulled coffee
- Transporting to the ECX warehouses
- Selling at the auction market

Note also that in the southern part of the country trader-processors also perform pulping (red cherry beans processing). This processing was not conducted in the eastern part of the country due to shortage of high pressure water supply that pulping requires.

**Exporters**
All coffee exporters further process the coffee they purchased at the auction market to meet the standards of ECX and their buyers. The major functions of the exporters are the following:

- Buying coffee at the auction market
- Remove the pulp from hulled coffee
- Classifying and hand-picking
- Packing of coffee for export
- Transporting to the buyer via Djibouti port (through transport operators)
- Roasting, packing and distributing ungraded coffee to local traders

**Other marketing agents**

Other marketing agents involved in the marketing of coffee are the following:

- **District coffee team:** Under the district agricultural office, this team controls the quality of coffee, regulate the marketing system, and control the moisture content of the coffee to be transported to the ECX warehouses.
- **ECX:** This is the only legal broker and warehouse operator of coffee offered to the Exchange.
- **Transport operators:** These are agents which provide transport services, but may or may not be involved in coffee business.

**Task 2.7:** Consider the maize markets in Kenya. Compare the marketing institutions involved and functions performed in the marketing of this product with that of coffee in Ethiopia?

**Sub-Section 2.2.4 Facilitative organizations**

Facilitative organizations assist the various middlemen in performing their tasks. Such organizations do not directly participate in marketing process as either merchants or agents. One group of these organizations provides the physical facilities for the handling of products or for bringing buyers and sellers together. They take no direct part in the buying and selling of the products. However, they establish “the rules of the game” which must be followed by the trading middlemen, such as hours of trading and terms of sale. They may also aid in grading, arranging and transmitting payment and the like. They receive their income from fees and commissions from those who use their facilities. Another group of organizations falling in this general category is the trade associations. The primary purpose of a large majority of these organizations is to gather, evaluate, and disseminate information of value to a particular group of traders. They may carry on research for mutual interest.

These organizations, though crucial for smooth and efficient functioning of markets, are mostly missing and when they are present, they are poorly organized in SSA countries in general and in the agricultural markets in particular. Many of the problems observed in agricultural marketing could be attributed to the absence or poor functioning of institutions offering such services as financial, insurance, standardizing and grading, etc services. These institutions contribute for the development of agricultural markets by facilitating the buying and selling activities, by easing and speeding up the physical functions, by reducing information asymmetry, by promoting the marketing organizations, etc.

**Case study 2.8: Facilitative organizations in the coffee markets**

The facilitative organizations participating in the coffee marketing in Ethiopia include, district agricultural office, cooperatives/unions, government and private banks, informal lenders, ECX and Coffee Quality Inspection Office.
**Task 2.8:** Identify the facilitative organizations participating in the other similar agricultural commodity market in your area and discuss about the roles of each institution/organization in improving the performance of the market.

**Section 2.3 The Commodity Approach**

This approach simply follows one product, such as coffee, and studies what is done to the commodity and who does it as it moves through the marketing system. It helps to pinpoint the specific marketing problems of each commodity as well to develop the market for the specific commodity. The approach follows the commodity along the path between producer and consumer and is concerned with describing what is done and how the commodity could be handled more efficiently. It combines both functional and institutional approaches. It is extremely useful to the person who is interested in only one product since it does allow in-depth analyses. However, it has also a disadvantage because it ignores the between product and market alternative and also the multi-product firms. As opposed to the analysis of general equilibrium or any other sort of that kind, this approach deals about the marketing of a single commodity or certain commodity groups such as grain marketing, food marketing. Thus, it is difficult to see the interaction and interrelationships that exist among commodities which could have important implications governing the behavior of the market and market agents. Note that our case study is a commodity approach as we only followed coffee marketing from producers to exporters.

**Section 2.4 Behavioral Systems Approach**

This approach refers to the study of behavior of firms, institutions and organizations, which exist in the marketing system. It tries to answer the question how does the market or marketers behave and perform. The marketing process is continually changing in its organization and functional combinations. An understanding of the behavior of the individuals is essential if changes in the behavior and functioning of the system are to be predicted.

Under this approach, marketing firm is considered as a system of behaviour and the emphasis is on “how” change occurs. This approach views marketing as a system within which subsystems are interrelated and interacting each other. And the operation of the system is the results of the interrelationship and interactions of the subsystems. The behavioral system approach thus studies the behavior of each subsystem and predicts its implications to the main system. The point of interest is the people who are making decisions to solve particular marketing problems. This behavioral system allows systems to be identified with the particular problem being addressed.

This approach tries to answer the following questions:

- Can changes be made in the marketing system to lower the price to consumers?
- Are producers/manufacturers responding to the needs of the consumer?
- Are producers receiving an “adequate” return on their investments?
- Are traders’ abusing their market power or providing incorrect market information?

In the behavioral systems approach the following are important: The input-output system, the power system, the communication system and the adaptation to internal and external changes.

**Sub-Section 2.4.1 The input-output system**
It identifies motives and means of affecting the input–output ratio. How can a firm or a group of firms use input resources that are costly and scarce to secure a satisfactory output? What is the optimal combination of inputs to produce a profitable level of output? This is what is called technical or operational efficiency. If we compare two firms, say A and B, firm A is technically efficient if it produces the same level of output as firm B with fewer inputs. Pricing or allocative efficiency, on the other hand, refers to the efficient allocation of resources to produce maximal output. The obvious disadvantage of this method is that it is abstract in nature and the reliance on intimate knowledge of individual’s firm characteristics and behavioral interactions.

**Sub-Section 2.4.2 The power system**

Firms have a status and a vested interest in the role they are playing. For example, reputation for quality, to be market leaders, community conscience and attaining fast growth. It tries to answer the questions, how is their motivation and competence to grow and expand, to be innovators or followers etc.? It studies the level and type of market power of each buyers and sellers in the market and analyzes the implications in shaping their behavior in the market. Economic theory of monopoly and competition behavior gives insights into this system of behavior. Market power is the ability to affect prices. Oligopoly (selling power) and oligopsony powers (buying power) are the two non-competitive marketing behaviors of traders. Monopoly (one seller) and monopsony (one buyer) are the two extremes of these non-competitive marketing behaviors.

**Sub-Section 2.4.3 Communication systems**

Farmers and traders must get information to make appropriate marketing decisions. However, market information, especially in SSA are limited, and if they exist they are mostly unreliable. These problems are mainly due to lack of effective channels of information and direction and misinterpretation. Hence the question of how to establish effective channels of information is very important to improve the marketing performance.

**Sub-Section 2.4.4 Adapting to internal and external changes**

If change is the essential characteristics of marketing, then how to adapt to these changes is a major problem. As a rule, firms desire to survive and are ready to pay so to adapt to changes.

In summary, all the four behavioral systems are components of the operation of a marketing system at any one time. A firm may forgo the ultimate in input-output solution because its communication systems have broken down or because of considerations of its power situations. For example, a firm may, prefer integrating with another firm in order to improve its internal communication problems or to enhance its power in the market place.

**Section 2.5 The Structure-Conduct-Performance (S-C-P) Approach**

Let us start this section by posing the following question. In many African countries during the 1980s and 1990s, there were legal prohibitions against small grain mills competing with large industrial millers. Why have many economists argued that such restrictions need to be removed if grain farmers are to benefit from structural adjustment programs?

The Structure-Conduct-Performance (S-C-P) paradigm sometimes called the traditional industrial organization was a principal approach to study the industrial organization (IO) during the second half of the 20th century. It was recognized as one of the most efficient and reliable means to analyze an industry or more specifically, the market power-profitability relationship in an industry. By industrial organization we mean a body of economic research
which studies how firms and markets are organized, their interaction, and how this interaction affects market outcomes, and ultimately society’s welfare.

The S-C-P paradigm was first developed by Edward Mason and Joe Bain in the 1940s and 1950s. It is an analytical approach used to study how the structure of the market and the behaviour of sellers affect the performance of markets.

**Sub-Section 2.5.1 Elements of S-C-P**

### 2.5.1.1. Market structure

Market structure consists of the relatively stable features of the environment that influence the behaviour and rivalry among the buyers and sellers operating in a market. For example, if the market structure is characterized by high barriers to entry, it may result in only a few traders profitably maintaining the business activities. These few traders may engage in non-competitive behaviour such as collusion\(^2\) and exclusionary or predatory\(^3\) price setting behavior. These non-competitive behaviors can result in excessive profits and widened marketing margins\(^4\) for traders. Concentration can also result in low producer shares\(^5\) for farming households which can have a significant impact on the income of producers and on their purchasing power that depend on the market as the source of food.

The major structural elements which are most critical to performance analysis are the following:

1. **Concentration**

This refers to the number of buyers and sellers in the market. When there are few buyers and sellers, they may engage in non-competitive behaviors such as collusion and price discrimination. When there are few buyers of a commodity, traders offer sellers low prices which reduce the income of sellers. If there are few sellers of a commodity in the market, then sellers gain market power and increase prices, which reduce the amount of commodity that buyers can purchase with a given amount of income, therefore, making them relatively poorer than if prices were lower.

The most commonly used measures of concentration are:

**i. Concentration Ratio (CR\(_r\))**

This measure shows the proportion of the industry’s output accounted for by \(r\) largest firms:

\[
CR_r = \sum_{i=1}^{r} S_i
\]

Where:  
\(S_i\) = The market share of firm \(i\)

The ratio shows the joint market share of the largest \(r\) firms in an industry. Once the aggregate data of the industry and that of the \(r\) largest firms is accessible, the ratio can be

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\(^2\) When rival companies and traders cooperate, overtly or covertly, for their mutual benefit.

\(^3\) Exclusionary or predatory pricing occurs when one firm lowers and maintains its price below costs until other efficient firms exit the market. Predatory pricing eliminates competition (results into monopoly power)

\(^4\) A marketing margin is the difference between the prices observed at different points in the supply chain when quantities are expressed in comparable units of a commodity.

\(^5\) A producer share in this brief refers to the percentage of the price received by the farmer over the price paid by the consumer for a commodity expressed in comparable units.
determined, avoiding the complications of dealing with the individual accounts of the fringe of numerous small firms in the industry.

The use of concentration ratio with firm level data has been criticized for two main reasons: First, it ignores the relative size variation across the \( r \) largest firms. As a result the same concentration ratio could describe a market where there are \( r \) similarly sized firms or a situation where one of the \( r \) firms dominates. Secondly, it neglects all except the largest \( r \) firms. This makes it defective because it gives the feeling that the two markets with the same shares held by the \( r \) largest firms have identical concentration ratios even though one market contains more firms in total and is likely to be more competitive. It is important to note here that the most studies in industrial organizations used the first four largest firms \((r = 4)\) and only few studies used the first eight largest firms \((r = 8)\).

**ii. Herfindall-Hirschman Index (HHI)**

The HHI index is the sum of squares of the market shares of each of the firms in the industry:

\[
HHI = \sum_{i=1}^{n} S_i^2
\]

where, \( n \) is the total number of firms.

In an ideal situation where all \( n \) firms are of equal size, then HHI = 1/n. The strength of the HHI lies in its ability to combine information on both the number and the size distribution of firms. For this reason it is the preferred measure of concentration. However, its data requirements are immense as its calculation would demand firm level data for all individual firms in the industry. It is also noted that the squaring of market shares gives greater weight to larger firms. In practice, many different distributions could give the same value of the HHI.

**iii. Gini-coefficient (GC)**

It measures the size of firms ranked from the smallest to the largest as a percentage of the number of firms in the market, plotted against the cumulative output of these firms. The greater the deviation from the diagonal line, the greater the inequality in firm size is. The GC is a measure of statistical dispersion most prominently used as a measure of inequality of wealth or product distribution. The GC can range from 0 to 1; it can also be multiplied by 100 to range between 0 and 100.

GC can be computed using different formulas having their own levels of bias. In this case, the GC of the suppliers is calculated as:

\[
G = \frac{\bar{D}}{2Q}
\]

\[
\bar{D} = 2 \sum_{i=1}^{k} n(X_i)[1 - n(X_{i+1} - X_i)]
\]

where

\( G = \) Gini coefficient,

\( \bar{D} = \) Coefficient of mean difference,

\( n(X_i) = \) Cumulative frequency for class \( i \),
1-n(X_{i+1}-X_i) = \text{Cumulative relative frequency for class } i,

k = \text{Number of classes},

X = \text{Quantity supplied},

Q = \text{Mean of the total quantity supplied}, \text{ and}

\bar{X} = \text{Mean of the product controlled by the } i^{th} \text{ class.}

It is more intuitive to think of the GC as half of the relative mean difference. The mean difference is the average absolute difference between two items selected randomly from a population, and the relative mean difference is the mean difference divided by the average, to normalize for scale. As a mathematical measure of inequality, the GC carries no moral judgment about whether a particular level of inequality is good or bad. The GC is usually defined mathematically based on the Lorenz curve, which plots the proportion of the total share of the traders (y-axis) that is cumulatively shared by the bottom x% of the traders (Figure 5). The line at 45 degree thus represents perfect equality of market shares. The GC can then be thought of as the ratio of the area that lies between the line of equality and the Lorenz curve (area A) over the total area under the line of equality (area A and B). Thus, the Gini coefficient summarizes the Lorenz curve as:

\[ G = \frac{A}{A + B} \]

Figure 5 Graphical representation of the Gini-coefficient

**Task 2.9:** Use the data available from the case study to analyze the concentration ratio in the coffee marketing in Ethiopia using Gini-coefficient.

**2. Barriers to entry**

Barriers to market entry include a number of different factors that restrict the ability of new competitors to enter and begin operating in a given industry. For example, an industry may require new entrants to make large investments in capital equipment, or existing firms may have earned strong customer loyalties that may be difficult for new entrants to overcome.
The ease of entry into an industry is important because it determines the likelihood that a company will face new competitors. In industries that are easy to enter, sources of competitive advantage tend to wane quickly. On the other hand, in industries that are difficult to enter, sources of competitive advantage last longer, and firms also tend to develop greater operational efficiencies because of the pressure of competition. The ease of entry into an industry depends upon two factors: the reaction of existing competitors to new entrants; and the barriers to market entry that prevail in the industry. Existing competitors are most likely to react strongly against new entrants when there is a history of such behavior, when the competitors have invested substantial resources in the industry, and when the industry is characterized by slow growth.

The six major sources of barriers to market entry are the following:

1. **Economies of scale**: Economies of scale occur when the unit cost of a product declines as production volume increases. When existing competitors in an industry have realized economies of scale, it acts as a barrier by forcing new entrants to either compete on a large scale or accept a cost disadvantage in order to compete on a small scale. There are also a number of other cost advantages held by existing competitors that act as barriers to market entry when they cannot be duplicated by new entrants—such as proprietary technology, favorable locations, government subsidies, good access to raw materials, and experience and learning curves.

2. **Product differentiation**: In many markets and industries, established competitors have gained customer loyalty and brand identification through their long-standing advertising and customer service efforts. This creates a barrier to market entry by forcing new entrants to spend time and money to differentiate their products in the marketplace and overcome these loyalties.

3. **Capital requirements**: Another type of barrier to entry arises when new entrants are forced to invest large financial resources in order to compete in an industry. For example, certain industries may require capital investments in inventories or production facilities.

4. **Switching costs**: This refers to a one-time cost that is incurred by a buyer as a result of switching from one seller’s product to another. Examples include retraining employees, purchasing support equipment, enlisting technical assistance, and redesigning products. High switching costs form an effective entry barrier by forcing new entrants to provide potential customers with incentives to adopt their products.

5. **Access to channels of distribution**: In many industries, established competitors control the logical channels of distribution through long-standing relationships. In order to influence distribution channels to accept a new product, new entrants often must provide incentives in the form of price discounts, promotions, and cooperative advertising. Such expenditures act as a barrier by reducing the profitability of new entrants.

6. **Government policy**: Government policies can limit or prevent new competitors from entering industries through licensing requirements, limits on access to raw materials, pollution standards, product testing regulations, etc.

**Case study 2.10: Barriers to entry in the coffee market**

Coffee traders noted that the main entry barrier in the coffee marketing in eastern Hararghe is capital. Coffee trading requires huge capital investment. Because of financial constraints most coffee traders especially from Gelemso area left the coffee market.

**Task 2.10**: Consider one agricultural commodity in your area and assess the barriers of entry in the marketing of this product.
3. Vertical coordination/integration

How are members of the industry linked to other levels of the marketing chains? The income of farmers will be affected depending on whether traders buy produce directly from them, middlemen, or transporters. If farmers sell their products in terminal, spot or auction markets, they obtain efficient or competitive prices because many buyers and sellers converge in terminal, spot or auction markets. However, spot market prices tend to be volatile, therefore subjecting households to price and income risks when prices fluctuate due to changes in supply and demand for food commodities. In addition, farmers can deliver commodities to spot markets but fail to sell when there are few buyers.

Task 2.11: Consider one agricultural commodity in your area and analyze the structure of the market using these indicators.

2.5.1.2 Market conduct

Market conduct refers to the patterns of behaviour that traders follow and how they adjust to changing market conditions. Examples of market conduct include pricing strategies, collusive behaviour, mergers, etc. For example, in an environment where there are many buyers and sellers, the market tends to determine the price. If one trader tries to increase his or her price, he or she sells nothing. This means that households buy food commodities and agricultural inputs at prices that equal to the costs of producing the last unit of the commodities (marginal cost). In contrast, if there are only a few sellers of food commodities in a market, these few traders can conspire and charge consumers higher prices, up to the level where consumers can afford to buy from nearby market at a lower cost.

1. Pricing strategies

The behaviour of firms in setting their prices also plays a vital role in the S-C-P paradigm. Here the following questions are important. Who sets the price? How are prices determined? Price strategies like price discrimination, predatory pricing, and price fixing are only a few examples. Price discrimination refers to a situation where firms are selling the same product at different prices to different customers. Price fixing on the other hand refers to a situation where market structure does not allow sellers to sell products at prices below listed prices. The predatory pricing on the other hand allow products to be sold at prices below production costs. The main purpose of these strategies is to acquire market share, thus monopolistic profits.

2. Mergers

Market conduct, of which market power results, can also be viewed as a way in which the firms behave in order to increase market share. Three different types of mergers can be identified namely, horizontal mergers, vertical mergers and conglomerate mergers. Horizontal mergers occur when firms in the same industry combine. Vertical mergers occur when firms combine at different stages of the production process. Conglomerate mergers on the other hand combine unrelated firms.

3. Collusive behavior

Imperfect competition in the market does not always depend on the size of firms, but also on the behavior of firms. In a market with few competitors firms can decide whether to be non-co-operative or cooperative. In order to minimize competition amongst them; firms tend to
co-operate engaging in collusion. This creates a situation where firms jointly set prices and outputs as well as sharing the market amongst them. Cartelization is another form of collusive behavior. It comprises of a set of independent firms that produces similar products working together to raise prices and restricts output.

**Task 2.12:** Consider one agricultural commodity in your area and analyze the market conduct using the above indicators.

### 2.5.1.3 Market performance

Market performance may be defined as the composition of end results in the dimensions of price, output, production cost, selling cost, product design and so forth which enterprises arrive at in any market as the consequences of pursuing whatever lines of conduct they espouse. It refers to the extent to which markets result in outcomes that are deemed good or preferred by society. For example, regular and predictable availability of basic commodities at affordable prices is generally considered a desirable outcome. Other desirable outcomes would be that traders do not obtain excessive profits, and that commodities meet certain sanitary standards. In addition, prices paid by consumers should not be excessively above the cost of marketing, processing and transaction costs for a given commodity, and the prices received by producers should cover their costs of production.

Evaluations of market performance may be made from several standpoints. One objective which has long occupied a central place in economic theory, and which is sometimes claimed to be the basis of much existing public policy towards business, is that of maximizing the welfare derived by the community from the use of its scarce productive resources. The welfare of the community is said to depend on the level of subjective satisfaction experienced by each of its individual members, and this in turn will be influenced by three aspects of economic performance, namely, how the community’s resources are allocated between different kinds of output, what methods are used to produce the output, and how the output is allocated among members of the community. These aspects of economic performance refer to allocative, technical and distributive efficiency. Classical theories of perfect competition are unexceptionable as such but it is generally recognized that for practical applications something more is required. The conditions of perfect competition are never collectively encountered in practice and even the individual conditions are not seen very frequently. Price levels and stability (long-run, short-run and through space), profits, margins and costs volumes, product quality and variety and distributions within the market are some indicators of market performance.

### 1. Price levels and stability

**i. In the long run**

If consumer prices for goods are higher than normal during the same period of time in previous years, then market dependant households with fixed amount of money have reduced access to goods from the market. However, if prices are stable and affordable, households that depend on the market for food, become more food secure.

**ii. Over space**

The difference between consumer prices in two nearby locations differs by more than transport, marketing and transaction costs. This spatial difference can indicate that areas with
high prices are more affected compared to those where prices of staple food crops are lower. Factors that cause this include poor infrastructure, civil unrest and climatic conditions.

**iii. In the short run**

Consumer prices of food crops and products change very frequently over a short period of time in some areas. This subjects poor households to uncertainty and possibly reoccurring price shocks because food becomes very expensive to buy and planning or budgeting for basic food expenditures becomes very difficult.

**2. Profits (net returns)**

If traders receive excessive profits or net returns from sales of food commodities, this implies that traders are overcharging food commodities, compared to costs they incur, thus reducing the amount of food that poor households can access relative to fixed incomes.

**3. Margins and costs**

There are large differences between prices paid by consumers and prices received by farmers compared to marketing, processing and transaction costs for a given commodity. This indicates that produce buyers or processors are underpaying households that produce agricultural commodities and/or overcharging households that buy food commodities for consumption. These two phenomena reduce incomes of agricultural households and food access for households that depend on the market as a source of food, exposing them to food insecurity.

**4. Volumes (quantity)**

If there is a regular supply (volume) of staple food crops and livestock products entering the market, then there will not be shortages of food crops in the markets. This is good for food availability. If, however, the quantity of food entering the market falls below the usual average, then prices can increase, reducing the amount of food that households can access.

**5. Product quality and variety**

If the quality of food in the market is poor or below acceptable standards, which could have nutritional implications for households and particular members of households, then households are not able to consume the right amount of food with the required composition of nutrients for productive health. If food varieties are limited or different from the types that are preferred or typically consumed in some parts of a country, then households that do not access the food they prefer or a variety of nutritious foods will be affected.
6. Distribution within market

If there are regular supplies to different markets in the country, then access to food to all areas including those with vulnerable populations increases welfare. Market performance requires having some benchmark measurements from which comparisons can be made in order to judge deviations from what society considers normal. Thus, determining market performance is subjective. For example, when would a price be fair? And fair to whom? For example, a trader who charges a higher price than the cost for a given quantity of a commodity can say that the market is performing excellently yet the consumer who pays the higher price can say the market is performing poorly.

Task 2.13: Consider one agricultural commodity in your area and analyze the performance of the market.

Sub-Section 2.5.2 The S-C-P paradigm

The S-C-P approach thought that an industry’s performance (its success in producing benefits for consumers) depends critically on firm conduct (the competitive behavior of firms in the market). If firms have the most market power or competition amongst firms is nonexistent, then market outcomes would be worst for consumers. Moreover, firm conduct depends upon market structure. Collusion is more likely to occur when the number of firms in the industry is few, and there are barriers to entry into the market. In addition, when there are many firms in a market, and firms are free to enter, firms in the industry are more likely to compete with each other. Hence, structure determined conduct and conduct determined performance (Structure ⇒ Conduct ⇒ Performance). However, this implies that structure determined performance.

The S-C-P paradigm believed that the relationship between structure and performance through conduct was a stable, cross-industry relationship. Thus, through an examination of the structure of markets and the organization of firms, economists could explain differences in market outcomes. Accordingly, the practice of IO at the time became one that derives the relationship between structure and performance empirically.

The objective of the S-C-P empirical investigations was to establish the cross-industry relationship between market structure and market power. A typical S-C-P study involved estimating an econometric model of the form:

\[ Marketpower_i = \alpha_0 + \alpha_1structure_i + \mu_i \]

The 1940s and 1950s witness a vast array of S-C-P studies attempting to document the link between market structure and market power. Many research outputs established a positive relationship between seller concentration and industry profitability. This stylized fact gave support to the view that an industry in which there was more than one but still just a few, large firms was indeed close to monopoly. S-C-P researchers interpreted these finding to mean high concentration caused market power. This result suggests that perhaps a firm’s mere size, if it is sufficiently large, could imply a legal offense against antitrust law.

Sub-Section 2.5.3 Criticisms of the S-C-P paradigm

The S-C-P paradigm formed the core of studies in IO for the most part of the early to mid 20th century. However, the challenge began in the 1970s. During this period, researchers in the field of IO found that the S-C-P paradigm had two important shortcomings. These are:
1. Correlation is not the same as causation

While S-C-P researchers found a positive correlation between concentration and profitability, their findings is subject to different interpretations. What does it mean when we find a positive correlation between concentration and market power? There are two main hypotheses here:

i. The differential collusive hypothesis - Firms with larger market share have more ability to affect market outcomes, and thus greater market power. In this case, higher concentration causes market power.

ii. The differential efficiency hypothesis - More efficient firms may have lower costs and thus gather greater market shares; and, as a result make higher profits. In this case, both higher concentration and larger profits are both due to cost advantages from larger firms.

In general correlation does not imply causation and the empirical model through which the S-C-P paradigm conducted its analysis could not distinguish between these two competing causal hypothesis.

2. Market structure is endogenous

What was really unsatisfactory about the S-C-P approach was that in considering its middle link - firm conduct - little or no attention was given to strategic interaction amongst firms. However, in order to assess market power, beyond the market configuration of the industry’s existing firms, we also need to consider conduct - in particular the ability of new firms to enter the market.

Firms may be forced to compete for price, even in a highly concentrated industry, if new firms are ready and able to enter and compete away supra-competitive profits. Moreover, incumbent firms can pursue strategic actions meant to influence the entry decisions of potential competitors.

Market structure is itself an endogenous outcome of conduct. That is, structure and performance are jointly determined together as the result of strategic interaction amongst firms.

Task 2.15: From your knowledge of econometrics discuss the problems that the endogeneity of market structure creates in regression analysis of market power?

Summary

In Subtopic 2 various approaches to agricultural marketing studies have been discussed. These are the functional, institutional, commodity, behavioral and S-C-P approaches. The functional approach looks at the different marketing functions including exchange (selling and buying), physical (storage, transportation and processing) and facilitating (standardization, financing, risk-bearing and market intelligence). Institutional approach is the second very common approach to studying marketing which emphasize on who is doing the market function. It identifies the organizations and middlemen that perform the marketing activities. These are what the agricultural producers often call “parasitic middlemen”. This middlemen are classified as merchant middlemen (retailers, wholesalers), agent middlemen (broker and commission men), speculative middlemen (buy and sell on their own account but expect profit made from price movement), processors, manufacturers and facilitators.
In the commodity approach, we only consider one product and analyze the marketing functions and the institutions in the marketing of the product from the producers to the consumers. It is useful to the person who is interested in only one product since it does allow in-depth analyses. Its disadvantage, however, is that it ignores the between product and market alternative and also multi-product firms. However, it is not common to see marketing firms handling only one commodity.

A more recent approach to emphasize the system of marketing, dwelling on the interaction of subsystems rather than on individual function or firms is the system approach. This behavioral system allows systems to be identified with the particular problem being addressed. Systems type include input-output, which identifies motives and means of affecting the input–output ratio. The obvious disadvantage of this method is that it is abstract in nature and the reliance on intimate knowledge of individual’s firm characteristics and behavioral interactions. Such data and on intimate knowledge is seldom available.

The last approach is the structure-conduct-performance approach. This approach evaluates the ultimate performance of the marketing system by examining the level of competition existing in the industry. The industry structure, including the number and size of firms, is combined with firm conduct, the pricing behavior, advertising and product development to denote a performance that can be evaluated as good or bad. This approach has been used extensively by government regulatory agencies to achieve competition and avoid the evil of monopoly power. However, the lack of precise norm against which to judge performance has caused a minimal use of this approach by economists studying marketing.

**Exercises**

1. Discuss the advantages and disadvantages of each of the approach to agricultural market performance analysis.

2. Given the following percentage concentration measures in two different industries (A and B)

<table>
<thead>
<tr>
<th>Number of firms by size</th>
<th>%</th>
<th>A</th>
<th>B</th>
</tr>
</thead>
<tbody>
<tr>
<td>The largest 4</td>
<td>4</td>
<td>40</td>
<td>60</td>
</tr>
<tr>
<td>The “ 8</td>
<td>8</td>
<td>70</td>
<td>80</td>
</tr>
<tr>
<td>The “ 12</td>
<td>12</td>
<td>90</td>
<td>84</td>
</tr>
<tr>
<td>The “ 20</td>
<td>20</td>
<td>100</td>
<td>90</td>
</tr>
</tbody>
</table>

Total enterprises number: 20

a. Draw up the concentration curves for the two industries (A and B) and arrange them in accordance with the concentration degree.

b. If we use the concentration index of the largest 4 and 12 enterprises of each industry, what would the order (as per concentration degree) be reached? What don’t index desirable properties comply this measure?

c. Draw up the concentration curve of an industry involves a number n of enterprises with the same size (and sales). But it might go up when a new enterprise break in, so they don’t meet all the Hannah and Kay criteria. Accordingly, it gives rise to a serious problem. Therefore this index has to be cautiously used. Comment.
3. Given information on Table 2 answer the following questions:
   a. Comment if the concentration degree in this industry seems to you low or high and why.
   b. Arrange the indicated industries with an asterisk according to its concentration degree by using RC₅ and the inverse of the producers’ number. Do the results coincide? Explain why and what of the two measures seem to you the best.
   c. In case you could draw the concentration curves of these industries, do you think that any of these would cross each other? Give some examples and argument your answer.
   d. The Herfindahl index measures the concentration in the industry.
   e. In the light of the data what would you tell about the relative size of the sixth enterprise of the sugar sector?

Table 2. Industries (four digits) highly concentrated in the manufactures, United Kingdom

<table>
<thead>
<tr>
<th>Items</th>
<th>Concentration Ratio</th>
<th>Producers Total Number</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Group 1 (C₅ ≥95%)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sugar</td>
<td>99.9</td>
<td>7</td>
</tr>
<tr>
<td>Margarine</td>
<td>100.0 (7)</td>
<td>7</td>
</tr>
<tr>
<td>Gin</td>
<td>-</td>
<td>9</td>
</tr>
<tr>
<td>Cigarettes</td>
<td>100.0 (7)</td>
<td>7</td>
</tr>
<tr>
<td>Other Manufactured Tobacco</td>
<td>98.8</td>
<td>8</td>
</tr>
<tr>
<td>Petroleum Derivate</td>
<td>100.0 (7)</td>
<td>7</td>
</tr>
<tr>
<td>Hydrocarbon Derivate Halogens</td>
<td>99.9</td>
<td>9</td>
</tr>
<tr>
<td>Asphalt</td>
<td>100.0 (7)</td>
<td>7</td>
</tr>
<tr>
<td>Additives For Liquid Combustibles</td>
<td>95.1</td>
<td>28</td>
</tr>
<tr>
<td>And Oils</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Telecommunication Wires</td>
<td>95.3</td>
<td>14</td>
</tr>
<tr>
<td>Telegraph And Telephone Installations</td>
<td>98.9</td>
<td>13</td>
</tr>
<tr>
<td>Tractors</td>
<td>95.7</td>
<td>11</td>
</tr>
<tr>
<td>Cars</td>
<td>98.2</td>
<td>20</td>
</tr>
<tr>
<td>Aeronautic Industry</td>
<td>100.0 (7)</td>
<td>7</td>
</tr>
<tr>
<td>Artificial And Synthetic Fibers</td>
<td>95.4</td>
<td>14</td>
</tr>
<tr>
<td>Tires And Air Chambers</td>
<td>96.4</td>
<td>8</td>
</tr>
<tr>
<td><strong>Group 2 (C₅ ≥90%)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cornflakes For Breakfast</td>
<td>91.4</td>
<td>16</td>
</tr>
<tr>
<td>Ice Creams</td>
<td>90.9</td>
<td>29</td>
</tr>
<tr>
<td>Crisp</td>
<td>94.7</td>
<td>10</td>
</tr>
<tr>
<td>Pets Feed</td>
<td>94.4</td>
<td>39</td>
</tr>
<tr>
<td>Coffee</td>
<td>90.6</td>
<td>20</td>
</tr>
<tr>
<td>Synthetic Rubber</td>
<td>91.9</td>
<td>12</td>
</tr>
<tr>
<td>Roller Bearing</td>
<td>92.4</td>
<td>15</td>
</tr>
<tr>
<td>Batteries And Accumulators</td>
<td>90.8</td>
<td>19</td>
</tr>
<tr>
<td>Internal Combustion Machinery</td>
<td>91.4</td>
<td>20</td>
</tr>
<tr>
<td>Tins And Cans</td>
<td>91.5</td>
<td>57</td>
</tr>
<tr>
<td>Cement</td>
<td>93.0</td>
<td>10</td>
</tr>
</tbody>
</table>

4. Consider the market for coffee. You know that there are numerous firms in the market, all of which are relatively small. Assume further that there are no entry costs that cannot be recovered on exiting the industry. Suppose that a health fad emerges that encourages the consumption of natural coffee. What will be the effect on profits of coffee farmers,
the price of coffee and output in both the short-run and the long-run? (Assume that input prices are constant over the relevant range.)

5. One of the “organizing frameworks” for ideas in Industrial Organization is known as the Structure-Conduct-Performance framework. In brief, this theory suggests that the structure of an industry determines its conduct, and the structure and conduct together determine performance.
   a. Define “structure”, “conduct” and “performance” and provide examples to illustrate your definitions.
   b. Provide one example of an economic model of an industry that fits well with the structure-conduct-performance theory. Explain clearly why the model does fit the theory.
   c. Provide one example of an economic model of an industry that does not fit well with the structure-conduct-performance theory. Explain clearly why the model does not fit the theory.


8. Is a monopoly industry necessarily bad for consumers and the economy, as the Structure-Conduct-Performance framework would seem to suggest? Give examples of situations in which a monopoly might not be a bad thing.

9. Imagine that the government has the choice of having an industry be a pure monopoly, or having it be dominated by one big firm but with a competitive fringe of smaller firms. Which one will the government choose, and why? In particular, in which type of industry will there be larger consumer surplus?

10. Assume that you are the owner of a large farm and you hire a top manager to manage the farm.
   a. Why might you link the pay of the manager to the size of the farm? If you did, what measure of size you would use?
   b. Why might you think the pay of the manager to the profit of the farm? If you did, how would you decide what the link between the profit and the compensation should be?
   c. Which one of the above two explanations is consistent with the empirical evidence? Explain.
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