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**Online Instructor's Manual**  
*to accompany*

# **Introduction to Agricultural Economics**

**Fifth Edition**

**John B. Penson, Jr.  
Oral Capps, Jr.  
C. Parr Rosson III  
Richard T. Woodward**

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## **Overview of Manual**

The purpose of our textbook is to introduce students to the micro and macro dimensions of the U.S. food and fiber industry. Representing nearly one-fifth of the economy's output, the food and fiber industry includes: (1) farmers and ranchers, (2) farm input manufacturers and suppliers, (3) food processors and fiber manufacturers, (4) wholesale and retail trade firms facilitating the flow and fiber products to their final consumer, and (5) those firms like farm lenders who provide specific services to farmers and ranchers.

This manual focuses on summary material presented in the textbook. Restated here are the learning objectives for each chapter, key terms and their definitions found in each chapter, and the answers to the exercises appearing at the end of each chapter. A test bank, which includes questions and answers that have been used in our classroom, is included at the back of this manual. Finally, a CD containing Microsoft© Powerpoint slide shows for each of the chapters is included inside the back cover of the manual. These slide shows can be modified to suit the needs of the instructor.

## **Design of Textbook**

We begin the book by answering the question raised by the title of Chapter 1, "What is agricultural economics?" We address this question by first defining the field of economics and then developing a definition of agricultural economics based on the role that agricultural economists play at both the micro and macro levels. Chapter 2 discusses the changing structure of agriculture during the post-World War II period and the structure of those sectors in the economy that supply farmers and ranchers with inputs and process their output.

Part II helps students understand the economic decisions made by consumers of food and fiber products. The topics covered here include the forces influencing consumer behavior (Chapter 3) and the concept of market demand for a particular product (Chapter 4). Part II concludes with the elasticity of demand (Chapter 5). The specification of various elasticity measures is supplemented by empirical examples and their relevance to decision making in the food and fiber industry, including the potential magnitude of consumer response and the implication for producer revenue.

Part III turns to the supply side of the market. Issues related to resource use and production response by businesses in the short run are documented in Chapter 6. The economic forces underlying the firm's input use choice of commodities to produce is addressed in Chapter 7. Chapter 8 introduces the market supply curve, followed by the determination of market clearing prices and quantities under perfect competition. Finally, imperfect competition on the selling side and the buying side are covered in Chapter 9. Empirical examples illustrate the magnitude and applicability of the relationships covered in both Chapters 8 and 9.

Part IV addresses the role of government in the food and fiber industry. Chapter 10 outlines the general nature of government involvement in farm economic issues, consumer

issues, resource issues, and international trade issues. Chapter 11 explores the relationship between market equilibrium and farm program policy, introducing the variety of approaches taken to support prices and incomes of farmers over the last 70 years. This chapter includes the selected farm commodity legislation introduced in 2008.

Part V focuses on the macroeconomics of agriculture by establishing the relationship between events in the general economy and their impacts on agriculture and other sectors in the U.S. food and fiber industry. Chapter 12 begins Part V by outlining the general linkage between product markets and national output. Chapter 13 documents the importance of monetary and fiscal policy to the economic performance of the economy. Chapter 14 illustrates the consequences of business fluctuations in the economy. Chapter 15 concludes this part of the book with a brief walk through the last several decades, illustrating graphically how changes in the macroeconomy affected the economic performance of agriculture.

Part VI focuses on international agricultural trade issues. Chapter 16 examines the growth and instability of agricultural trade, including the relative dependence on exports and imports. Chapter 17 focuses on the foreign exchange market, the international monetary system, and the effects of foreign exchange rates on U.S. agricultural trade. Chapter 18 explores why nations trade and who gains from trade. Finally, Chapter 19 addresses agricultural trade policy, the rationale for restricting free trade, the trade policy decision-making mechanisms and institutions, and the formation of preferential trading arrangements and their potential impact.

Each chapter concludes with a summary of the chapter's purpose and the major points covered. In addition, the key terms used in the chapters are identified and later defined in a Glossary. Chapters challenge the reader to test their "economic quotient" with a number of exercises focusing on key issues covered in the chapter. There is also a list of references and further readings on these issues.

This textbook differs substantially from the traditional introductory agricultural economics textbook in several ways. First, the book explicitly goes beyond the farm gate to address the entirety of the food and fiber industry, which accounts for about 15 percent of U.S. national output. Second, the book places an unusually strong emphasis on the macroeconomics of agriculture (four chapters) and international trade (four chapters). The experience of the 1980s and 1990s certainly has shown that farmers and ranchers, agribusinesses, financial institutions, and consumers of food and fiber products are significantly affected by macroeconomic policies and trade agreements. Finally, this introductory textbook places emphasis on welfare aspects of policy decisions, addressing the net benefits to consumers, producers, and society as a whole.

## Chapter 1: What is Agricultural Economics?

### LEARNING OBJECTIVES

- ❑ Define economics and agricultural economics.
- ❑ Distinguish between the fields of macroeconomics and microeconomics.
- ❑ Discuss the difference between positive and normative economic policy analysis.
- ❑ Identify the three measures of economic performance in the economy.
- ❑ Discuss the economist's role at the microeconomic and macroeconomic level.
- ❑ Understand the concept of marginal analysis.

### CHAPTER SUMMARY

The purpose of this chapter was to define the field of agricultural economics as a subset of the general field of economics. The major points made in this chapter may be summarized as follows:

1. Scarce resources are human and non-human resources that exist in a finite quantity. Scarce resources can be subdivided into three groups: (1) natural and biological resources, (2) human resources, and (3) manufactured resources.
2. Resource scarcity forces both consumers and farmers to make choices.
3. Most resources are best suited to be a particular use. Specialization of effort may lead to a higher total output.
4. The field of economics can be divided into microeconomics and macroeconomics. Microeconomics focuses on the actions of individuals -- specifically with the economic behavior of consumers and farmers. Microeconomic analysis is largely partial equilibrium in nature; events outside the market in question are assumed to be constant. Macroeconomics focuses on broad aggregates, including the nation's aggregate performance as measured by gross domestic product (GDP), unemployment, and inflation. Macroeconomic analysis is normally general equilibrium in nature; events in all markets are allowed to vary.
5. Positive economic analysis focuses on what-is and what-would-happen-if questions and policy issues. Normative economic analysis focuses on what-should-be policy issues.
6. Capitalism, or free market economics and socialism, or centrally planned economics, represent economic systems at the opposite ends of the spectrum. The U.S. economy represents a mixed economic system. Some markets are free to determine price, and other market prices are regulated.

**KEY TERMS IN THIS CHAPTER**

*The definition of these terms appears in the Glossary.*

**Agricultural economics**

**Capitalism**

**Economics**

**Fallacy of composition**

**Food and fiber system**

**Human resources**

**Macroeconomics**

**Manufactured resources**

**Microeconomics**

**Mixed economic system**

**Natural resources**

**Normative economics**

**Opportunity Cost**

**Positive economics**

**Scarce resources**

**Socialism**

**Specialization**

**ANSWERS TO TESTING YOUR ECONOMIC QUOTIENT EXERCISES**

*Exercises appearing on page 9:*

1.
  - a. Natural resources
  - b. Human resources
  - c. Manufactured resources
2.
  - a. Option 2 because this alternative provides the maximum profit
  - b. \$12 million, the profit associated with the next best alternative
3.
  - a. Normative economics
  - b. Positive economics
  - c. Macroeconomics
  - d. Microeconomics
4. Change
5. Mixed (d).
6. Agricultural economics
7. Fallacy of composition (b).
8. The Stinson's should grow wheat. The net return per acre is \$105 per acre as opposed to - \$25 per acre for barley and \$45 per acre for leasing out the acres. The Stinson's opportunity cost, or economic sacrifice for not doing something else, would be \$45. The total economic cost per acre therefore would be \$185, or \$140 plus \$45.

## Chapter 2: The U.S. Food and Fiber Industry

### LEARNING OBJECTIVES

- ❑ Visualize the scope of the U.S. food and fiber industry.
- ❑ Understand the changing structure of farming.
- ❑ Define productivity and understand post-WW II trends.
- ❑ Discuss trends in real net farm income and equity of farmers.
- ❑ Understand the role played by other firms in the food and fiber system.

### CHAPTER SUMMARY

The purpose of this chapter was to acquaint the student with the structure and performance of the farm sector during the post-World War II period and its role in the nation's food and fiber industry. The major points made in this chapter may be summarized as follows:

1. The U.S. food and fiber industry consists of different groups of business entities called sectors, which are in one way or another associated with the supply of food and fiber products to consumers. In addition to the farm sector, this industry consists of firms that supply manufactured inputs to farms and ranches, firms that process raw food and fiber products, and firms that distribute food and fiber products to consumers.
2. Among the physical structural changes taking place in the farm sector during the post-World War II period is the trend toward fewer but larger farms. We have also seen a tremendous expansion in the use of manufactured inputs such as machinery and chemicals, and a decline in labor use. Rising capital requirements in general during the period have increasingly represented a potential barrier to entry for would-be farmers.
3. Although the total quantity of inputs used in producing raw agricultural products has remained relatively stable during the post-World War II period, the total quantity of output has increased substantially. These results taken together imply an increase in productivity, or the ratio of output to inputs.
4. Gross farm income has increased erratically during the post-World War II period, while production expenses increased steadily. The result is a highly variable level of profits, or profitability, from one year to the next. During the early 1980s, net farm income after adjustments for the purchasing power of money fell to depression-era levels.
5. The financial structure of the farm sector during the post-World War II period shows that financial assets represent a considerably smaller portion of total farm assets now than was true 20 to 30 years ago. The use of loan funds to finance farm expansion over this period has increased substantially.

6. The U.S. food marketing sector is the network of processors, wholesalers, retailers, and restaurateurs that market food from farmers to consumers. Approximately 80% of the personal consumption expenditures on food went to pay for activities taking place beyond the farm gate.
7. Along the flow of products from farmers to processors and eventually on to consumers, middlemen play a vital role. Classifications of middlemen firms include merchant middlemen firms, agent middlemen firms, speculative middlemen firms, processing and manufacturing firms, and facilitative organizations.
8. In recent times, the number of mergers and acquisitions in food industries has increased sharply relative to historical levels. Consequently food industries have become more concentrated. Concentration is particularly high in industries marketing products such as breakfast cereals, beer, candy, and soft drinks.
9. The food processing industry and the wholesale and retail trade industries are characterized by a relatively small number of firms that account for a substantial portion of total industry sales. Although aggregate concentration has increased, the number of food marketing companies has remained relatively constant. Employment in the food processing, wholesaling and retailing industry has more than doubled during the past 25 years.
10. Farmers and ranchers get approximately 20% of the dollar spent on food. This share varies considerably by commodity. The remaining portion goes to food processors, wholesalers, and retailers. The major categories of expenditures include labor, packaging, transportation, and advertising.
11. The transportation of food and fiber products along the marketing chain is an extremely important component. The storing and exporting of nonperishable commodities is also an important dimension of the marketing of agricultural commodities.

### **KEY TERMS USED IN THIS CHAPTER**

*The definition of these terms appears in the Glossary.*

**Asset**

**Balance sheet**

**Capital**

**Concentration**

**Equity**

**Farm sector**

**Financial structure**

**Food and fiber industry**

**Gross domestic product**

**Gross farm income**

**Land**

**Labor**

**Marketing bill**

**Materials**  
**Mergers**  
**Net farm income**  
**Output index**  
**Price index**  
**Productivity**  
**Profitability**  
**Purchasing power**  
**Real (constant) dollar values**

### **ANSWERS TO TESTING YOUR ECONOMIC QUOTIENT EXERCISES**

*Exercises appearing on page 36-37:*

1. c, 10 to 15 percent
2. \$17 million, net worth=assets-liabilities
3. marketing bill
4. b
5. d
6. (a) farm input suppliers; (b) farmers; (c) food processors and manufacturers; (d) food wholesalers, retailers, and food service purveyors; (e) consumers
7. labor
8. 20
9. \$30,000
10. 0.9; 1.25; 1
11. a, b, c
12. 2
13. (a) \$350,000; (b) \$8 million
14. (a) 0.9333; (b) 0.9655; (c) 2001
15. \$36,000
16. see Table 2.1
17. see Table 2.2