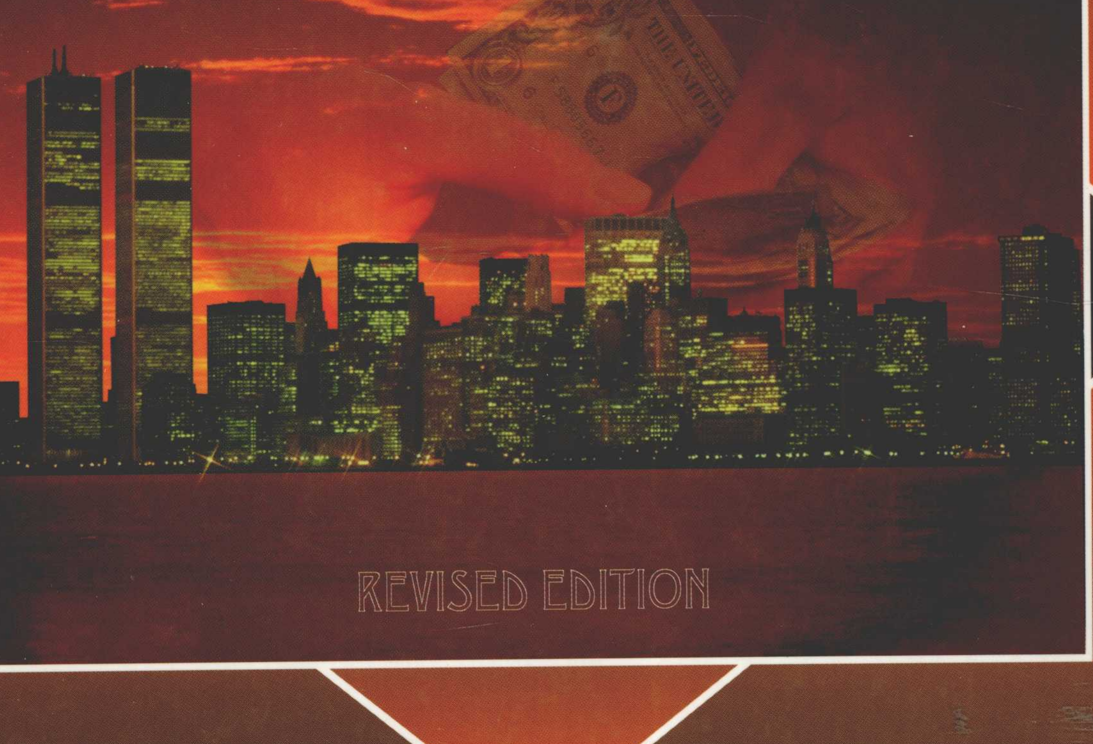
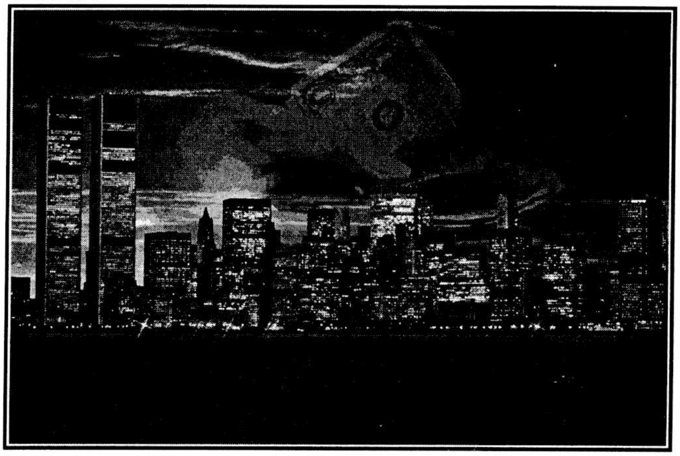
THE MICROECONOMICS OF CONSUMER BEHAVIOR



REVISED EDITION

EASTWOOD



THE MICROECONOMICS OF CONSUMER BEHAVIOR

REVISED EDITION

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• Preface •

Consumers are the driving force in all economies. We supply the labor for production and distribution, and we are the largest segment of users of goods and services. Each day people are confronted with choices about what to buy, how to spend time, and how to generate income. The constant decision making is supported by a set of criteria that serve as strategies to evaluate the options.

Economics is concerned with these criteria. Underlying economic principles are associated with all decision making situations, and they provide the framework for understanding the pressures confronting each person. This book presents these microeconomic principles and shows how they can be applied to real world situations. The economic logic does not vary. Regardless of a person's age, the objective is to maximize well-being, and this has been and will continue to be the basic motivation. As a result, the principles for identifying the best alternatives are relevant for all consumers in a wide variety of seemingly diverse settings.

The approach integrates basic economics and its application so the reader can see how to use the logic, as opposed to a discussion of specific solutions for specific situations. Books that stress the latter approach have several shortcomings. First, it is not possible to cover every choice problem. Second, the personal nature of consumer decisions can lead to differences in the optimal alternative. Third, markets are dynamic. New consumer issues evolve as other recede. New products and services emerge while some fade away. Fourth, public policies and programs that affect consumers wax and wane as governments react to social pressures.

This book is designed primarily for courses that are intended to be introductions to the ways in which consumers, acting as individual units, comprise the heart of an economic system. Emphasis centers on a presentation of the economic logic used by a consumer unit as it attempts to manage its resources to be as well off as possible. The approach should help readers understand their own choices and thereby increase the likelihood of making better selections. In addition, through a discussion of the microeconomics of consumer choice, businesses can become more responsive to consumers, and the public sector can provide programs and policies that facilitate the exchange process on behalf of consumers.

Material has been organized to accommodate a one semester or a one or two quarter format. Selected chapters or parts can be deleted for specific courses, depending on student backgrounds. The book has been written for students with little or no background in economics. Consequently, it can be used either at the undergraduate or graduate level. Possible chapter sequences for various types of courses are noted below.

Undergraduate introductory consumer economics or economics:
    Chapters 1-8, 11, and 14
Undergraduate intermediate consumer economics or marketing:
    Chapters 4-17 and appendices
Graduate consumer economics or marketing:
    Chapters 1-17 and appendices

This book has several notable features. First, material not found in any other introductory text is presented. Economists have been devoting a great deal of attention to consumer behavior, but most of the relevant literature requires a high level of sophistication in economics. This text translates these advances into introductory presentations that cover the insights provided by the emerging theories. Second, applications are stressed through the examples in the chapters and in the study questions. Third, key words are initially presented in special type and their definitions appear at the end of each chapter.

There are several important differences between this book and the first edition. Many examples and applications include more recent studies and settings. The material on characteristics and household production frameworks has been moved to part III where the models of consumer choice are presented. Relationships between the traditional and derived demand approaches are explained. The discussion of adult equivalence scales and sociodemographic variables is now part of Chapter 9 in section III. In addition, sections of other chapters have been revised or replaced.

Part I introduces some basic economic concepts that are used throughout the book and should be read by students who have little or no background in economics. The population growth application is to show how the concepts can be used to analyze a problem which should be familiar.

Part II is intended to interest students further. They should be able to relate to their dual roles. Many demographic changes have received attention in the popular press, and they are covered by other disciplines in introductory courses. The goal is to show readers, especially in Chapter 6, that microeconomics can provide some valuable insights into the causes of the sociodemographic changes. However, the discussion in that chapter also notes that more complete explanations must be postponed until some basics about consumer choice have been covered.

Part III presents the basics of decision making. Introduction to the major economic approaches to maximizing well-being subject to constraints is provided.

Part IV turns to the relationship between consumers as buyers and market structure. Applied demand analysis provides an excellent framework for covering instances of market system failure from a consumer perspective as well as a useful tool for evaluating public intervention.

The last part of the book extends the analysis to decision making over time, which is presented as a direct extension of the one period choice analysis presented in Part III.

• Table of Contents •

PART I: FUNDAMENTAL ECONOMIC CONCEPTS

PART II: ECONOMIC CONCEPTS AND CONSUMER UNITS

PART III: AN ECONOMIC APPROACH TO THE DECISION TO PURCHASE

PART IV: CONSUMERS AND MARKET STRUCTURE

PART V: CONSUMER DECISIONS AND TIME

Chapter 1

What is Consumer Economics All About?

Decisions, decisions, decisions! We seem to be confronted constantly with having to make choices. How do you go about choosing? Are there any underlying principles that you follow? Economists think so, and this book is an introduction into their way of analyzing decision making. That is, it presents an economic perspective. Basic economic guidelines are identified, and they become the structure for understanding and evaluating consumer behavior. The focus is on people and their activities in an economy. Decisions about what to buy and how to allocate resources (e.g., money, time, skills) are described from an economic viewpoint. One basic objective is assumed to be at the heart of consumer behavior: a person's motivation is to be as well off as possible given constraints of the economy in which the individual lives.

From the start, keep in mind that this book is neither an encyclopedia of the latest buying tips nor a compendium of current consumer activist issues. While such approaches have their merit, they quickly become outdated. Goods and services evolve, so buying tips become obsolete. The economic environment is always in transition as new businesses emerge, others cease operation, and international trade expands. Our public sector also changes rules and regulations, taxes, and the provision of goods and services to various segments of the population. Sweeping changes in elected governments and associated mandates for change bring about new interactions between consumers and the economy in which they live. In spite of the dynamic features of the world, there are basic decision making principles that can always be applied.

The goal is to develop the economic structure for evaluating consumer behavior and analyzing consumer issues. Economic theory provides clear statements and models of the way consumer decisions ought to be made. Results also become guidelines for decision making. Applying these models to situations in the marketplace highlights consumer problems and become the framework for advocating programs and policies to benefit consumers.

An **economy** is an organization for the production and distribution of goods and services. It comprises the institutions, laws, infrastructure (roads, electricity, etc.),the production of goods and services, management of resources, and the conditions under which exchange takes place. **Consumer economics** focuses on the roles of people acquiring goods and services and managing their resources in an economy.

Consumer theory rests on the premise that an individual's observed behavior is not the result of a random process. If it was, there would be no reason for proceeding any further. Each of us has better things to do than study something that is completely random. The starting point is the assumption that a consistent, rational model of consumer behavior can be constructed with the aid of some elementary economic principles. This model can then serve as a reference for describing how each person makes decisions. Such a perspective leads to an overview of the economic framework which can be used to understand how an individual functions in a market system. The analysis includes not only decisions to buy goods and services but also decisions about resource allocation to generate income (e.g., time).

● What is a Consumer Unit? ●

Before proceeding any further, an important concept must be introduced. What is the appropriate unit of analysis for a theory of consumer behavior? Should it be an **individual?** This may seem reasonable at first. However, a little more thought reveals some problems. Are children consumers? It is difficult to imagine that many children are in positions to make their own decisions. Or consider a spouse who purchases food for a family. Certainly that person's behavior is motivated by more than his or her own welfare.

This suggests that perhaps the appropriate unit of analysis is the family. What is the definition of a family? The U.S. Bureau of the Census is a source of basic data on families, and it defines a **family** as two or more people related by blood, marriage, or adoption residing together. There are two major deficiencies with this description in terms of its use as a definition of a consumer unit. First, individuals are excluded. Second, there are many people living together who are not related by blood, marriage, or adoption, but nevertheless act as a single unit.

A **household** is defined by government agencies as one or more persons residing together. It includes individuals, families, and persons living together but not related by blood, marriage, or adoption. This may appear to be close to the idea of a consumer unit. However, the fact that people are living together is no guarantee that they are acting as a single unit with respect to resource allocation and consumption. For example, if you are living off campus with several friends while attending college, are your resources and spending entirely pooled?

Recently, many government agencies (e.g., U.S. Bureau of the Census and U.S. Bureau of Labor Statistics) have developed the following definition of a consumer unit. A **consumer unit** comprises either (1) all members of a particular household who are related by blood, marriage, adoption, or other legal arrangements; (2) a person living alone or sharing a household with others or living as a roomer in a private home or lodging house or in permanent living quarters in a hotel or motel, but is financially independent; or (3) two or more persons living together who use their incomes to make joint expenditure decisions.[1]

This working definition is very close to the conceptual notion that a consumer is one or more persons collectively deciding how to allocate resources (which is more than income) to generate goods and services that are used to satisfy needs and desires. Whether they are residing together is not the key criterion. Rather, it is whether people act as a unit in terms of interactions with the economy.

Unfortunately, there is no practical way of identifying units that fit the definition exactly. Real-world applications are restricted to available data on individuals, families, and households. This does not mean, however, that all is lost. One can assume that the same motivation is at work whether the consumer unit is an individual, family, or household. Each is trying to achieve the highest level of satisfaction possible, subject to economic constraints.

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[1] U.S. Department of Labor, Bureau of Labor Statistics. *Consumer Expenditure Survey, 1990-91.* Bulletin 2425 (September, 1993).

STUDY QUESTIONS

What Is a Consumer Unit?

1. Identify the similarities and differences in the definitions of a family, household, and consumer unit.
2. Based on your own experience, to what types of consumer groups have you belonged?

● One Measure of Consumer Power ●

Since our interest centers on consumers' interactions in an economy, let's begin with an overview of the U.S. economy and consumers' roles. As a group consumers represent a dominant force. A popular measure of economic activity is the **gross domestic product** or GDP. It is the value of all final goods and services produced within the borders of an economy during a period of time. This means that the GDP is a measure of the rate of production, or a flow over a period of time. The period of time is usually a year, or the GDP is typically stated in terms of a twelve month period.

Production flows from diverse activities cannot be combined directly. The number of cars produced by Ford cannot be combined with the number of patients served by a hospital because the quantities are different. Converting them into a common unit can be accomplished easily by expressing production in terms of dollars. That is, simply multiply the quantities produced per time period by their prices so dollar values are generated. These can be added together.[2]

Only final activities are included in the GDP. The concept of final production can be explained by continuing with the Ford example. The value of the final product, a car, reflects the values of the goods and services used to make it. The cost of steel, plastic, labor, computer chips, etc., that go into making the car determine the price. Therefore, only the final product needs to be included in the GDP. If the values of the intermediate goods are added into the GDP calculation, there would be double-counting.

Final users can be separated into four major groups: consumers, business, government, and international trade. Together, the final users comprise the aggregate demand for the economy's production. Most final economic activity is in the form of final goods and services for consumers (Csm). Final goods for business are investment expenditures (Inv). Government expenditures represent purchases by the public sector (Gov). Exports (X) are goods produced here but sold abroad. Imports (M) are produced outside the domestic economy and sold within. Expenditures of consumers, business, and government include purchases of imports, so they need to be subtracted in order to measure domestic economic activity.

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[2] Let q be the quantity produced of a final good and p be the price per unit. Then pq is the total dollar value of the final production. Adding together all dollar values for the n goods produced yields the GDP for a particular year, t.

$GDP_t = p_{1,t}q_{1,t} + \ldots + p_{n,t}q_{n,t}$.

The relationship just described among the final users of an economy's production are represented by the equation shown below.

Csm represents personal **consumption** expenditure which includes purchases by individuals and nonprofit institutions. Rental values of owner-occupied housing are included as part of Csm. Inv denotes gross business investment. It is additions to or the replacement of real productive assets. Gov measures purchases of goods and services by all levels of government. X-M represents the difference between goods and services exported and imported. The subscript t is used to identify the particular year (production period).

(1) $GDP_t = Csm_t + Inv_t + Gov_t + (X_t\text{-}M_t).$

Recent data for the GDP and its major components in terms of final users are presented in the chapter appendix. Equation (1) for t=1959 is

$$494.2 = 318.1 + 78.8 + 99.0 - 1.7$$

Figure 1-1 displays the GDP and its user components associated with equation (1). Overall economic activity, measured in current dollars, has increased rapidly over the 1959-93 time period, and especially since the early 1970s. Csm has also increased, although it has not kept pace with the GDP, as reflected in the increased vertical distance between the two lines. Gov has always been larger than Inv, and the difference between them has grown. The rise in Gov is one indication of concern with the increasing role of the public sector in the U.S. economy.

Changes in the GDP are caused by a combination of factors. There could be changes in the rates of production of existing goods and services (e.g., the number of Fords produced in each year). New goods emerge and others cease to be produced, so the number of goods and services (the subscript n) included in the summation changes. More resources to produce goods and services may become available over time. Population growth results in more labor for production, and increases in the capital stock also permit more production. Furthermore, as technology improves over time, resources can be used more productively. Prices could also increase or decrease over time.

When economic activity is measured, changes in the GDP attributable to changes in prices should be omitted. One way to accomplish this is to value production by the prices of some agreed-upon reference period, instead of valuing production by current period prices. Then, changes in the GDP are a consequence of changes in quantities alone and reflect changes in real economic activity. The measure is called the **real gross domestic product** (RGDP).[3] Because the effect of price changes has been minimized by this calculation, the resulting data are appropriate for the purpose of presenting an overview of the relative size of consumer sector over time.

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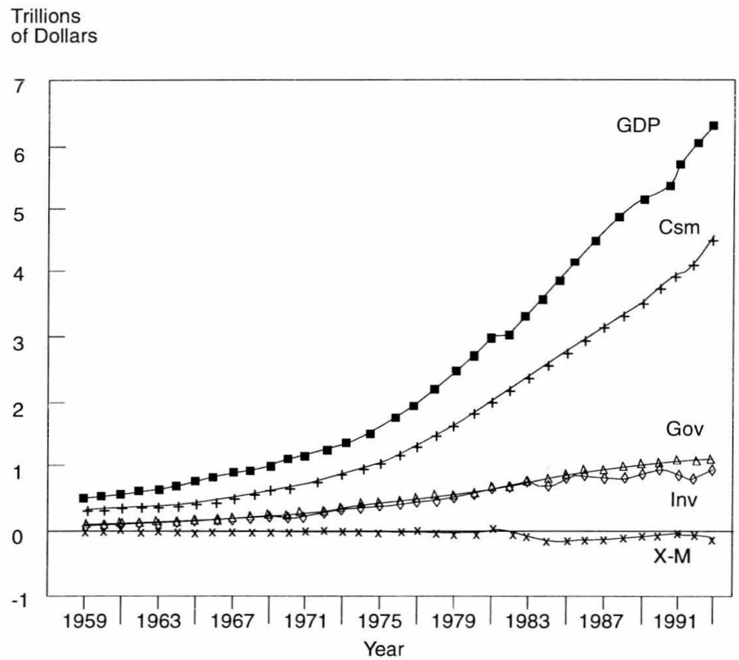
3 The Conceptual relationship for the RGDP using 1987 prices is
$RGDP_t = p_{1,1987}q_{1,t} + \dots + p_{n,1987}q_{n,t}.$

Figure 1-1: GNP and Demand Components in Current Dollars: 1959-1993



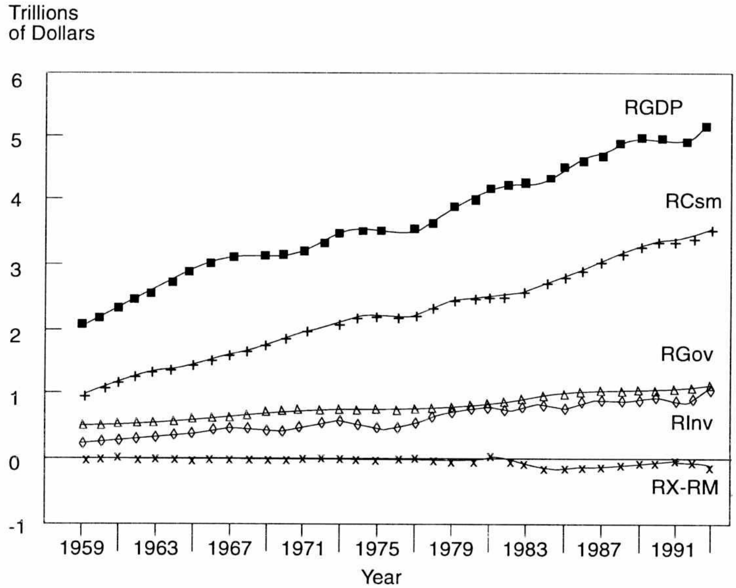
GDP and Csm, measured in current dollars, have increased rapidly since 1959. Gov and Inv have not grown as quickly. The difference between X and M shows a slight decline.

Figure 1-2 shows the RDGP and its demand components for the 1959-1993 period, and the actual data are in the appendix to Chapter 1. Although these series also rise over time, their increases are less than those in Figure 1-1. This is to be expected because prices increased over the time period, but they have been held constant in the "real" data.

One way of visualizing current versus real dollar valuations is found in Figure 1-3. It presents the GDP and RDGP from Figures 1-1 and 1-2. They cross in 1987 because the calculations have to be identical. Rising series are shown, which means that after an adjustment to remove the effect of price changes, real economic activity, as measured in constant 1987 dollars, has increased overall and for each of the major components: real consumption (RCsm), real investment (RInv), and real government (RGov). Prior to 1987, the constant dollar figures are larger than the comparable ones in current dollars. The reason for this is that prices prior to 1987 have been replaced with 1987 prices. Since the 1987 prices are higher, the "real" data must be larger. Just the opposite holds for the data following 1987, because subsequent prices are greater than those of 1987.

How does the economic activity of the consumer sector compare to the overall economy through time? One way of answering is to compare RCsm to RGDP (see Figure 1-4). RCsm divided by RGDP

Figure 1-2: RDGP and Demand Components in Constant (1987) Dollars: 1959-1993

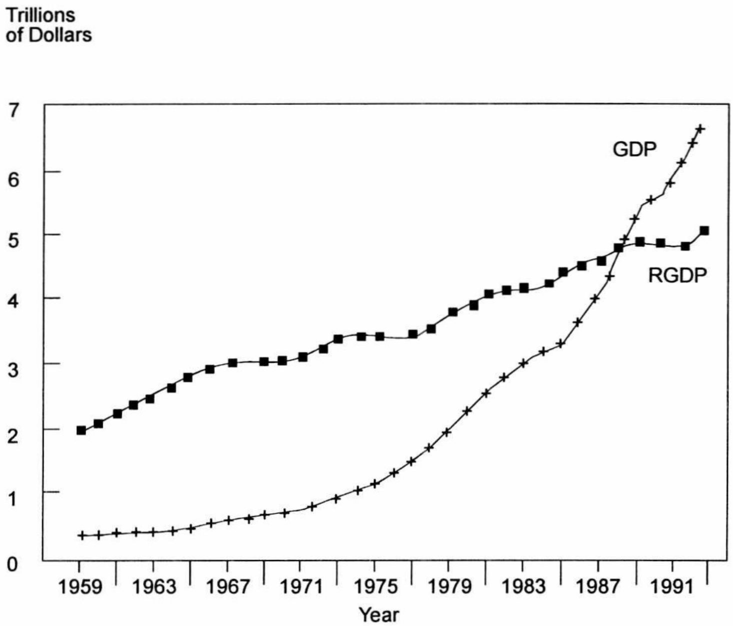


RGDP and Rcsm, measured in 1987 dollars, have risen, but not as rapidly as current dollar values (see Figure 1-1). RGov and RInv have not grown as rapidly. The difference between RX and RM shows a small decrease.

is the share of aggregate demand associated with consumption. Two important points are revealed. First, consumption activity typically accounts for more than 60 percent of real domestic production. Thus, as a group, consumers are the largest economic agent. Second, the share is remarkably stable, which is one indication that consumer behavior is not the result of a completely random process.

Additional support for the second point is provided in other series shown in Figure 1-4. The appendix to Chapter 1 contains the data. In the U.S. market system, the ability of consumers to purchase goods and services depends to a very large extent on the amount of consumer income. Real disposable income (RDInc), measures income after taxes and after adjustments for inflation. Division of RCsm by RDInc yields a measure of the percent of disposable income that consumers as a group use to buy goods and services. This ratio is the top line in Figure 1-4. It is approximately 90 percent throughout the period, which suggests a very stable relationship. Three major categories of consumer spending relative to overall consumption are also shown. Consumer spending for durables (RDur) and services (RServ) as percents of total consumption have increased while the share attributable to nondurables (RNondur) has declined.

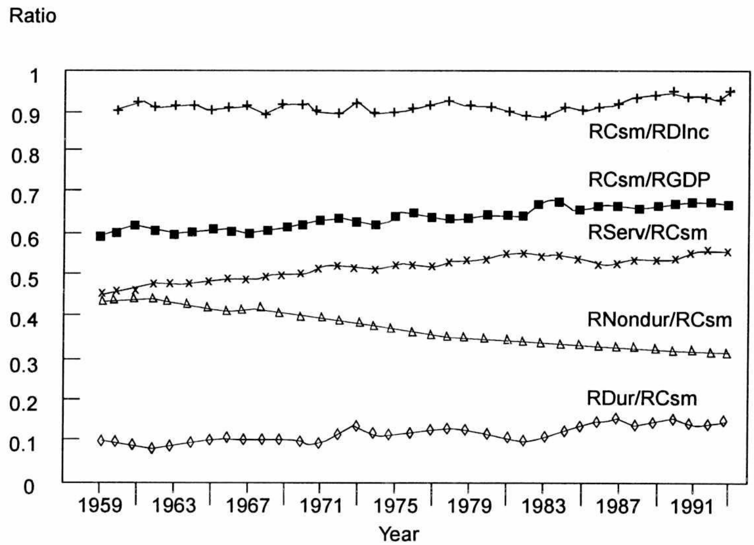
Figure 1-3: Current Versus Real (1987) Dollars, 1959-1993



GDP compared to RGDP shows the effects of price changes. When they are held constant (e.g., 1987 dollars), RDGP starts out higher because 1987 prices are greater than 1957 prices but rises more slowly than GDP. The curves are equal in the year of common prices.

Consumers have an extremely important role to play in our economy. Dominance, stability, and change are all reflected in the data. Dominance refers to the share of overall economic activity used by consumers. Stability applies to the relatively constant shares of consumption with respect to the RDGP and RDInc. Change applies to the proportions spent on each of the major components of consumption. Consumers have been gradually reallocating their expenditures to durable goods and services and away from nondurables. This book develops the elementary economic tools that can be used to explain how people make purchase decisions which, when combined, result in the observed consumption patterns.

Figure 1-4: Consumption Components Versus RGDP and RDInc, 1959-1993



Consuption relative to the RGDP and RDInc are fairly constant ratios. However, there have been long-run changes in the components as shares of Rcsm.

STUDY QUESTIONS

One Measure of Consumer Power

3. Why are only final goods used in calculating the GDP?
4. Why is the GDP referred to as the flow of final goods and services?
5. Identify the three major groups of final users.
6. Define personal consumption expenditure, and discuss its relationship to the GDP.
7. Why does the GDP increase over time?
8. What evidence is there for concluding that consumption is not a random process?

● The Consumer Interest ●

What are the causes of consumers' frustrations with our economic system, especially since they comprise the largest segment? The issues associated with the question are complex and have evolved over time. Many subsequent chapters focus on specific aspects of the question in more detail, but an overview of the answer provides insights in to the relevance of consumer economics.

Prior to and during colonial times, consumers made most of their own goods and services. Very little was purchased through the marketplace. As the economy developed, consumers acquired more and more by means of exchange. Markets became more impersonal, and an individual consumer's purchases became a smaller and smaller share of retailers' revenues.

Not only have more goods and services become available, but they have also become more complex. Many have reached the point that special labels are required to provide the relevant information (e.g., nutrition and energy guide labeling). Consumers have readily accepted the new products and services prompting further growth. Marketing and advertising techniques have improved as well. Today, most people do not possess all the needed information about the broad spectrum of available consumer goods and services. Increasingly, it is necessary to turn to consumer groups to represent our interests in the exchange process and for advice on purchase decisions. The government has also found it necessary to intervene with regulations and standards.

The growth in sophistication and power of producers jeopardizes **consumer sovereignty**, or the assumption that consumers determine what goods and services are bought. Implicit in the discussion in the preceding section was the assumption that producers react to consumers. That is, the activity of producers is to satisfy the needs and wants of consumers. But the increased sophistication of advertising and marketing has enabled producers to manipulate consumers. This is reflected in the rising expectations consumers have regarding the "good life" and new products. When products do not live up to their advertisements, consumer dissatisfaction results.

Adverse economic conditions also are a source of consumer frustration and lead to increased awareness of the impact of purchase decisions. Inflation, rising taxes, job security, and expectations about the standard of living have intensified budgetary pressures for most people. A direct result is increased concern about spending limited funds in a more beneficial manner.

What about the future? Many of the forces identified above are going to be present in the coming years. Producers will continue to use techniques that generate increased sales. Goods and services will become even more complex. Concerns such as job security, retirement income, and quality of life will not go away. The struggle for balance between the roles of the various levels of governments and the rest of the economy is on-going.

Decisions, decisions, decisions typify everyone's long-term situation. The pressures and economic setting that characterize our recent history will always be present. Given limited resources, all consumers will continue to be confronted with the problem of choice. Because consumer economics focuses on guiding principles for selecting the best alternative, this area of study will continue to provide relevant help to people in the efforts to improve their quality of life.

The plan of the book is as follows. Part I outlines the basic economic problem, including some key economic concepts with which any economic system must wrestle. Part II describes how these concepts can be applied, first considering consumer management of resources and then applying economic principles to a long-term analysis of the demographic changes consumers have experienced in the United States. Part III presents the elements of the economic models of consumer choice. A consumer is viewed as trying to achieve the highest level of satisfaction possible given the constraints