

MARK SKOUSEN

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REVISED 4TH EDITION

ECONOMIC LOGIC

Fourth Edition

ECONOMIC LOGIC

Fourth Edition

by Mark Skousen

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Grantham University*

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Dedicated to two giants
of the 20th Century,
Friedrich Hayek and Milton Friedman.

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“While the earth remaineth, seedtime and harvest, and cold and heat, and summer and winter, and day and night shall not cease.”

—GENESIS 8:22

“After all, the chief business of the American people is business. They are profoundly concerned with the producing, buying, selling, investing, and prospering in the world. I am strongly of the opinion that the great majority of people will always find these are moving impulses of our life.”

—CALVIN COOLIDGE (1925)

“No science in the world is more elevated, more necessary, and more useful than economics.”

—CARL LINNAEUS, Swedish naturalist

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WHAT'S UNIQUE ABOUT ECONOMIC LOGIC

1. It offers a **logical, step-by-step approach** to economics, starting with the basics of microeconomics (the theory of wealth creation, individual behavior and the firm), and leading into macroeconomics (the theory of economy-wide behavior and government policy).
2. Students can actually predict that the next chapter will be. Hence, the textbook is “econological.”
3. It introduces a new powerful **four-stage universal model of the economy** (resources, production, distribution, and consumption/investment), and shows how micro and macro are logically linked together and demonstrate a “stakeholder” model for business. (See for example figure 4.1.)
4. It is the first and only textbook to begin with a **profit-and-loss income statement** to demonstrate the dynamics of the economy. The principles of supply and demand are drawn out of the P&L statement. Business students, in particular, find this approach attractive. (See for example figure 4.4.)
5. It integrates other disciplines into the study—finance, business, marketing, management, history, and sociology.
6. It makes frequent references to major economic events in **history**, such as the origin of money and the Great Depression, and the inventors of economic theories and terms (major economic thinkers are highlighted at the end of each chapter). Thus, in this textbook, economic theory is never far from history because new theories almost always develop out of historical events (Adam Smith's competitive model came out of the Enlightenment; Karl Marx's radical distribution economics was in response to the Industrial Revolution; and John Maynard Keynes's aggregate demand model rose out of the Great Depression of the 1930s.)
7. It devotes an entire chapter (13) to the **financial markets**, which are playing a growing role in the expanding global economy. Students must understand Wall Street and the financial world to have a complete education in economics.
8. It integrates a new national income statistic called **Gross Domestic Expenditures (GDE)**, which measures total spending at all four stages of production, and shows how it relates to Gross Domestic Product (GDP) and other aggregate business cycle statistics. (See chapter 15.)
9. It introduces a **new “growth” diagram** that improves upon the “circular flow” diagram found in other textbooks, and demonstrates why saving and investing drive the economy, not consumer spending. (See figure 17.7.)
10. It provides a new alternative to the standard Aggregate Supply (AS) and Aggregate Demand (AD) curves, called **Aggregate Supply Vectors (ASV) and Aggregate Demand Vectors (ADV)**, which do a better job of explaining the business cycle. (See chapters 14 and 25.)
11. It provides a new diagram to show the **optimal size of government**. (See figure 20.1)

For updates on *Economic Logic*, go to www.economiclogic.net.
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Introduction to the Fourth Edition

A LOGICAL APPROACH TO ECONOMICS

Economics, the youngest of the social sciences, is sometimes described as a difficult subject. “There are so many complicated bits and pieces,” Paul Heyne writes in *The Economic Way of Thinking*, “and they are so hard for students to grasp.” In the beginning of his textbook, Martin Bronfenbrenner warns students, “You may temporarily find yourself unlearning more than you learn, or operating in a fog of confusion.”

But economic science need not be laborious or perplexing. This textbook offers a rigorous course in college economics without unnecessary complications or confusion. It represents a new, integrated approach that establishes the purpose of economics and develops strategies to achieve the economic goals of society. This approach moves from the simple to the complex by systematically building an edifice that, when complete, will hopefully be both elegant and practical. It also attempts to integrate disciplines closely associated with economics—business, marketing, management, finance, and sociology.

Today’s economics textbooks are often a hodgepodge of esoteric theories, unrealistic graphs, and specialized terms. Chapters are so bewildering that students have no idea what subject matter they are going to study next. Economists argue over which should be taught first, microeconomics or macroeconomics, neither of which is integrated into a whole. Supply and demand are usually introduced at the beginning of a book, and then reintroduced in later chapters. Government policy is mixed throughout. International trade has traditionally been placed in the back of the book, almost as an afterthought, but some recent textbooks have begun to integrate global issues.

PART I: AN OVERVIEW

This textbook takes a more systematic approach. Part I begins with the fundamental rationale of economics; what motivates economic activity, how wealth is created or destroyed, and how the standard of living may improve or decline. Scarcity, choice, incentives, and the allocation of resources are important characteristics of economic life and change. Throughout this textbook we emphasize how individuals as consumers, workers, landlords, and capitalists work individually and together to create prosperity, and the extent to which government improves or impedes economic progress. In short, economics concerns itself with wealth, income, choices, incentives, living standards and growth—themes of vital interest to everyone.

In Part I, we discuss the universal characteristics of the world we live in—the limitations of time and resources, the uncertainty of the future, the necessity of work, and the variety of consumer demand. Based on these basic assumptions regarding human behavior, we develop a common-sense model of economic behavior and consumer satisfaction. We show that virtually all usable wealth must go through a series of processes from unfinished resources to final use by consumers and business, a cooperative process that takes time and involves numerous stages of production in the allocation of limited resources. The idea that all goods and services take time to produce and consume forms the foundation of our economic model. In this new edition, I replace the industrial four-stage model (natural resources, manufacturing, wholesale, and retail) with a more universal four-stage model of production that includes services (resources, production, distribution, and consumption/investment).

PART II: MICROECONOMICS AND THE THEORY OF SUPPLY AND DEMAND

To create a complete and praiseworthy edifice, we must build from the ground up. Therefore, Part II begins with microeconomics, the theory of consumer demand, how demands are met by individual producers, and how each firm fits into the stages-of-production model and the time-structure of the economy. Whether involved in mining, insurance, banking, international trade, communications, medical services, or retailing, firms operate on the principle that revenues must exceed expenses over the long haul or they will be forced out of business and into another line of work that better fulfills consumer wants. To be profitable, a firm must work together with its many stakeholders, set the right prices, control the cost of doing business, and adjust to the new demands of competitors and the marketplace.

One of the unique features of this textbook is that we begin with a firm's income statement, also known as a profit-and-loss statement. This simple but powerful accounting tool allows us to demonstrate the dynamics of firm behavior. We use the

income statement to show downsizing and upsizing, why new products are constantly being developed, and why we see changes in the quantity, quality and variety of goods and services over time. Both students and instructors find that this approach enhances their overall understanding.

Building on the firm's income statement, we then introduce the demand and supply schedules for individual goods and services. We discuss the wants and needs of consumers, how consumer tastes shift, how consumers respond to price changes, how consumer needs are met by suppliers and factors of production, how entrepreneurs disrupt and create new consumer goods, and how land, labor, capital and entrepreneurship work together to satisfy consumer demands. We also show that the production of all goods requires the cooperation of land, labor, capital and entrepreneurship. Services are, of course, labor-intensive, but land and capital also play pivotal roles in providing services.

Indeed, cooperation among these factors of production is vital, but the conflicts and issues that arise among landlords, laborers, and capitalists are just as vital for a more complete understanding of the process. Therefore, we determine how firms and their inputs respond to changes in supply and demand, and how they create the capital necessary to operate and expand their production, including the development of financial markets. Lastly, various degrees of competition and monopoly are also analyzed.

PART III: MACROECONOMICS

After analyzing the economic activity of individuals and firms, we shift our attention to macroeconomics—how the economy operates as a whole. Part III examines the Aggregate Production Structure, our macroeconomic model, and various ways to measure economic activity, including Gross Domestic Expenditures (GDE), Intermediate Expenditures (IE), Gross Domestic Product (GDP), National Income (NI), and other aggregate statistics.

We also introduce an improved version of Aggregate Supply and Demand, which stresses the key role of interest rates in determining macroeconomic equilibrium and growth. After introducing these macroeconomic fundamentals, the discussion shifts to analyzing the impact of changes in saving and technology and their effect on economic growth, as well as the effect of changes in the money supply. Money is introduced as an important ingredient in the economy, followed by a history of the origin of money and banking, and how modern banking works today.

PART IV: GOVERNMENT POLICY

After we have built the fundamentals of a market economy, Part IV takes a close look at the impact of governmental policies on the economy. What are the legitimate functions of the state? What is the role of government in monetary policy? Other topics include the theory of taxation, the national debt and deficit spending, and the effect that government fiscal and monetary policies have on inflation, recession, and the business cycle. It is in this section that I introduce and critique the basic concepts of Keynesian economics, still popular in the halls of parliament, corporate boardrooms, and Wall Street.

Another important aspect of government policy is regulation and controls—the impact of the state on the environment, international trade, agriculture, housing, and business enterprise.

The final section discusses “macro” government intervention in the form of central planning, socialism, and industrial planning. We discuss the pros and cons, the rejection of socialist central planning in Eastern Europe and China in favor of free markets, and the impact of the financial crisis of 2008 and the European debt crisis in 2011 and beyond.

A UNIVERSAL APPROACH

The focus throughout the text is on the creation of wealth and expanding the standard of living from the point of view of an individual worker, an entrepreneur, a business, and a government.

Most importantly, we make use of the best thinking from all schools of thought to build a universal model of the economy that is adaptable to cultural differences around the world. As the British economist Lionel Robbins once stated, there are really only two kinds of economics—good economics and bad economics. This textbook is all about good economics for everyone.

One final thought: It is important to remind ourselves what the proper role of an economist is throughout this journey in economic theory and application. What are the qualities of a good economist? The brilliant French economist Frederic Bastiat stated in 1850, “There is only one difference between a bad economist and a good one: the bad economist confines himself to the visible effect; the good economist takes into account both the effect that can be seen and those effects that must be foreseen.”¹ Thus, the art of good economics is to look beyond the short-term visible effects of a policy, and to foresee the long-term effects not presently visible. It is to trace the consequences of a policy not just on one group, but upon all groups. This is the approach that is incorporated in this textbook—a comprehensive approach to economics that emphasizes all of the effects of economic policy.

¹ Frederic Bastiat, “What is Seen and What is Not Seen,” *Selected Essays on Political Economy* (Foundation for Economic Education, 1964), p. 1. Originally published in July, 1850.

Much has changed since the 2010 3rd edition. Here are the highlights:

- John Mackey's "stakeholder" model of capitalism has been incorporated into the stages-of-production process in chapter 3. Moving the production process along requires the cooperation of all economic inputs or stakeholders.
- The vital distinction between the "make" economy (Gross Domestic Expenditures or GDE) and "use" economy (Gross Domestic Product, or GDP) has been added to chapters 3 in microeconomics and 14 and 15 in macroeconomics.
- The slow level of job creation, the drop in the labor force participation rate, and the sluggish recovery after the Great Recession is discussed in detail in chapters 10 and 25. Chapter 10 also addresses the unemployment crisis in Europe and America.
- New government regulations (Sarbanes-Oxley, Dodd-Frank, SEC) following the 2008 financial crisis and the Bernie Madoff fraud are discussed in chapter 13.
- The consumption and savings rate patterns of China are compared to those of the United States in chapter 17. This comparison helps to determine what drives the economy, consumer spending or savings/investment?
- The Federal Reserve's "easy money" policies of ZIRP (zero interest rate policy) and Quantitative Easing (QE) are debated in chapter 19.
- The on-going debate on "austerity" vs. "stimulus" has been added to chapter 22.
- Which factor is more significant in the business cycle, Keynesian lack of "aggregate demand" or Hayekian "malinvestment"? See chapter 25.
- The rise of state capitalism in China is highlighted in chapter 27.
- A glossary of terms has been added to this edition.

In this new edition I end with an afterword. Economics has broadened its influence beyond government policy. It is now the imperial science, having an impact in the world of high finance, business management, law, criminal behavior, sociology, religion, and other disciplines. Those interested in pursuing a career in economics will gain some insights into the economics profession in this chapter.

A PERSONAL NOTE ON WRITING ECONOMIC LOGIC

I firmly believe that economics is one of those subjects that is best taught and understood by those who have had years of experience, knowledge, and wisdom. A thorough grasp of theory is necessary, but it needs to be tempered by on-the-job training in the world of business, finance, history, politics, and sociology. The best teachers and writers in economics are well-read, well-travelled, and well-financed. Too often economics textbooks are written by thirty-something *wunderkinds* who know more about differential calculus than they do about managing a profitable business. That's why I prefer a Principles text written by a 48-year-old Alfred Marshall to one written by a 33-year-old Paul Samuelson. A youthful genius may write a brilliant textbook, but there is no substitute for experience.

Economic Logic would be a vastly different textbook if I had written it right after getting my Ph.D. I was tempted on many occasions during my career to write a Principles textbook, but more pressing needs kept me from it. Fortunately, I spent considerable years in apprenticeship running a publishing business, living in six countries, travelling and lecturing in 74 nations, consulting with large and small businesses, writing several dozen books on financial and economic topics, building an investment portfolio, and all the while acting out the role of entrepreneur, capitalist, consumer, and investor. I have also had the opportunity over the past thirty years of testing out my new models and theories before college and graduate students in Florida (Rollins College) and New York (Columbia University, Mercy College). If it hadn't been for these experiences, I doubt that I would have thought of introducing the income statement as a microeconomic technique in *Economic Logic*. In fact, my entire approach to supply and demand, elasticity, cost, competition, entrepreneurship, the stock market, and the very definition of economics itself has been colored by my experiences in the fast-moving world of business and finance. Even the "problems to ponder" at the end of each chapter were developed over time. In many ways, therefore, *Economic Logic* is not the beginning of a journey, but an end-product.

—Mark Skousen
New York

Chapter 1

WHAT IS ECONOMICS?

“... the desire of bettering our condition . . . comes with us from the womb, and never leaves till we go into the grave.”

— ADAM SMITH
The Wealth of Nations (1776)

“Capitalism is about turning luxuries into necessities.”

— ANDREW CARNEGIE
(1873)

Ever since Adam and Eve were cast out of the Garden of Eden, human beings have worked by the sweat of their brow. For the vast majority of people life has been a struggle characterized by hard work and the necessity for problem solving. Few have enjoyed the luxury of extended leisure and material abundance.

Why do humans work? Throughout history, and throughout the world today, humans work to survive. Nature, although beautiful and inspiring, is also a harsh mistress. Very few of wants and needs can be satisfied without transforming natural resources into useful goods and services. Almost everything used or consumed must be made by man. Making raw materials useful and consumable requires dexterity, tools, and thought.

For many people the alternative to work is starvation. This is particularly true in underdeveloped nations. As Thomas Hobbes declared, life can be “solitary, poor, nasty, brutish and short.” In more advanced nations, and for some fortunate people living in poor countries, citizens work for higher incomes and enjoy a higher standard of living. Higher incomes improve living standards.

The reasons for studying economics are straightforward. Economic desires encourage individuals to seek:

- Improvement in life circumstances
- Acquisition of money
- Having a well-paid and fulfilling job
- Acquiring more leisure time
- Increasing the quantity, quality, and variety of goods and services
- Expanding options for the individual

People living at a subsistence level may not feel these desires. Instead, these individuals may feel fatalistic about their future. The pleasures that may be obtained with money are unavailable to those living in reduced economic circumstances.

The modern world has seen a vast increase in the material well-being of humankind. Dramatic changes in society and city life—in transportation, communications, energy, building, medicine, and entertainment – have occurred in the past century. Per capita income and wages are often used by economists to measure a nation’s standard of living. Figure 1.1 shows how dramatically per capita real income (in constant dollars) have increased in the United States.

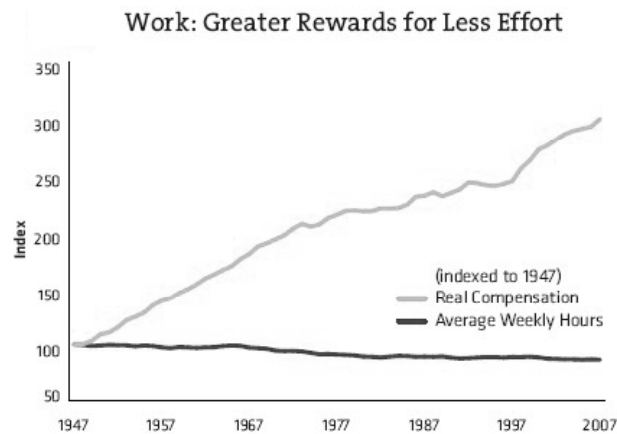


Figure 1.1 Real wages (excluding company benefits) have dramatically improved since 1890 as hours of work per week have declined.

However, real income do not always capture the significance of the dramatic material advances in the past two centuries. Figure 1.2 shows substantial economic progress for Americans, including the poor, into the 21st century. A more recent study by W. Michael Cox and Richard Alm, Figure 1.3, indicates that almost all Americans, including the poor, have advanced materially since the early 1970s.

Evidence of advancement is seen in additional areas. Since the beginning of the 20th century, average life expectancy has risen from 42 years to 75 years of age, while infant mortality has fallen from 200 deaths per 1,000 births to 11 per 1,000 births.

Improvements in sewage systems, water supply, food preparation, and medical technology have sharply reduced death and disease. Worker fatalities have dropped markedly during the past century. The overall accidental death rate has shown a steady decline in the past one hundred years (see figure 1.4).

Vacation time has increased this past century from two days a year to two weeks per year on average. Americans today work half as many hours in factories, farms and stores as they did when this century began. Kitchen appliances, canned foods and other household amenities have dramatically reduced household and family chores from 70 hours per week in 1900 to 30 hours today. In 1900 a typical

LIVING STANDARDS ROSE DRAMATICALLY, EVEN FOR THE POOR (1900–1970)

Percentage of Households with . . .	Among all families in 1900	Among poor families in 1970
Flush toilets	15%	99%
Running water	24%	92%
Central heating	1%	58%
One (or fewer) occupants per room	48%	96%
Electricity	3%	99%
Refrigeration	18%	99%
Automobiles	1%	41%

Figure 1.2

Source: Stanley Lebergott, *The American Economy* (Princeton, 1976), p. 8.

MATERIAL ADVANCES FOR THE POOR, 1971–2005

Percentage of Households with . . .	Poor Households 1984	Poor Households 2005	All Households 1971
Washing machine	58.2	71.7	71.3
Clothes dryer	35.6	50.2	44.5
Dishwasher	13.6	35.0	18.8
Refrigerator	95.8	99.0	83.3
Freezer	29.2	28.6	32.2
Stove	95.2	98.0	87.0
Microwave	12.5	60.0	<1.0
Color television	70.3	92.5	43.3
Videocassette recorder	3.4	59.7	0
Personal computer	2.9	23.0	0
Telephone	71.0	76.7	93.0
Air-conditioner	42.5	49.6	31.8
One or more cars	64.1	71.8	79.5

Figure 1.3

Source: W. Michael Cox and Richard Alm, *Myths of Rich and Poor* (Basic Books, 1999), p. 15.
Updated in *The American* (American Enterprise Inst., July/August 2008).

housewife had to load her stove with tons of wood or coal each year and fill her lamps with coal, oil or kerosene. Nearly half of all American families drew water from farm wells for washing clothes, for baths, or for gardens. Today almost no one does these chores.¹

Additional research by Cox and Alm demonstrate advances in practically every economic indicator of household behavior. See figure 1.3.

Even on a global basis, poverty has declined significantly. Figure 1.5 shows what percentage of the world population has lived on \$1 a day over the past 200 years. In 1820, over 70% lived in dire poverty, in 1950 the percentage living on \$1 a day was down to 50%, and today it's less than 20%.

¹ Lebergott, S. *Pursuing Happiness: American Consumers in the Twentieth Century* (Princeton University Press, 1993).

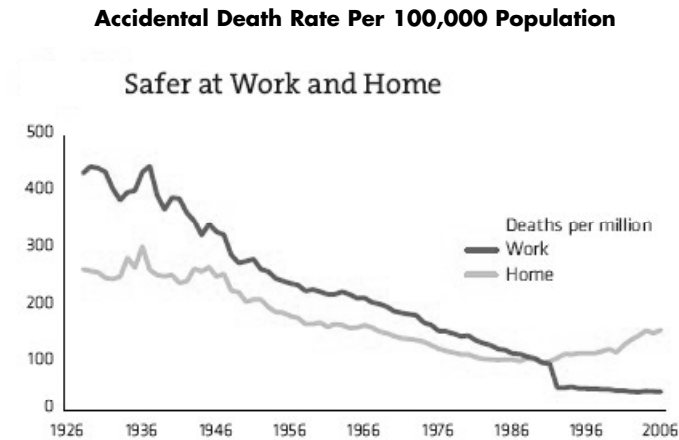


Figure 1.4

Source: National Safety Council, *Wall Street Journal*, December 14, 1993, p. A17

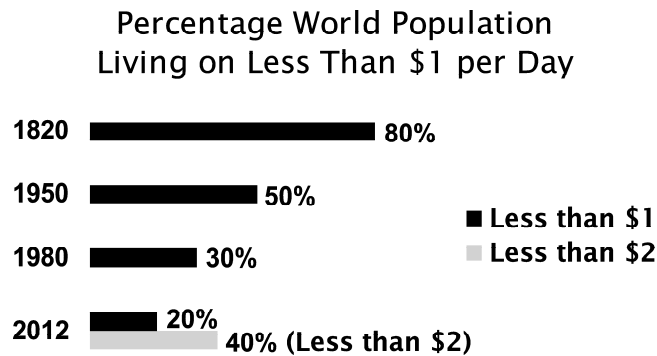


Figure 1.5

The above indicators of a rising standard of living are often lost in the maze of statistics about rising crime, abortion, unwed mothers, pollution and environmental destruction, the national debt, and so forth.

Not everyone has participated in this miracle of increasing prosperity, including millions of indigent and lower income individuals, but increased economic prosperity, advances in technology, and improved living conditions around the globe make it possible for more people to enjoy an improved living circumstance.

WHAT IS ECONOMICS?

Economic science concerns itself with what Alfred Marshall calls “the ordinary business of life.” The creation of wealth, income, living standards, and the production and distribution of goods and services—all aimed at improving our lot in life. In the broadest sense, then, economics can be defined as follows:

Economics is the study of wealth and how it is created or diminished.

IMPROVEMENTS IN A VARIETY OF ECONOMIC INDICATORS, 1970–1995

Item	1970	Mid-1990s*
Average size of new home (square feet)	1,500	2,150
Average household size (persons)	3.14	2.64
Average square feet per person in the household	478	814
New homes with central heat and air-conditioning	34%	81%
New homes with a garage	58%	87%
Housing units lacking complete plumbing ^a	6.9%	2.3%
Homes lacking a telephone ^a	13.0%	6.3%
Households with computer	0%	41%
Households with no vehicle ^a	20.4%	7.9%
Households with two or more vehicles ^a	29.3%	61.9%
Households with color TV	34.0%	97.9%
Households with cable TV	6.3%	63.4%
Households with two or more TV's	30.7%	72.8%
Households with videocassette recorder	0%	89%
Households with answering machine	0%	65%
Households with cordless phone	0%	66%
Households with computer printer	0%	38%
Households with camcorder	0%	26%
Households with cellular phone	0%	34%
Households with CD player	0%	49%
Households with clothes washer	62.1%	83.2%
Households with clothes dryer	44.6%	75.0%
Households with microwave	<1%	89.5%
Households with coffeemaker	88.6%	99.9%
Households with dishwasher ^b	26.5%	54.6%
Households with vacuum cleaner	92.0%	99.9%
Households with frost-free refrigerator	<25%	86.8%
Households with outdoor gas grill ^c	<5%	28.5%
Mean household ownership of furniture ^b	\$2,230	\$3,756
Mean household ownership of appliances ^b	\$943	\$1,547
Mean household ownership of video and audio products ^b	\$308	\$2,671
Mean household ownership of jewelry and watches ^b	\$728	\$1,784
Mean household ownership of books and maps ^b	\$731	\$1,074
Mean household ownership of sports equipment ^b	\$769	\$1,895
Mean household net worth ^a	\$86,095	\$126,843
Median household net worth ^a	\$27,938	\$59,398
Vehicles per 100 persons aged 16 and older ^a	53	94
Work time to buy gas for a 100-mile trip	49 minutes	26 minutes
Annual visits to doctor ^d	4.6	6.1
Per capita consumption of bottled water (gallons) ^b	<1	11.1
Americans taking cruises	0.5 million	4.7 million
Air-travel miles per capita	646	>2,260
Per capita spending on sporting goods ^b	\$60	\$213
Recreational boats per 1000 households ^a	139	173
Manufacturers' shipments of recreational vehicles ^a	30,300	281,000

*Mid-1990s data are for 1997, except where indicated.

^aData for 1995. ^bData for 1996. ^cData for 1993. ^dData for 1994.

All monetary figures are in constant (1997) dollars.

Figure 1.6

Source: Cox and Alm, *Myths of Rich and Poor* (Basic Books, 1999), p. 7.

A central concept, that improved living standards can be achieved through the creation of wealth, will be referred to often throughout this text. How supply and demand, technology, competition, interest rates, employment, or government policy affect economic well-being is the ultimate goal of this discussion. Economic analysis can also be used to determine the cause of wealth destruction and the lowering of living standards by individuals, businesses and nations. Economics provides the tools to analyze negative economic impacts including fraud, theft, crime, false advertising, and government mismanagement.

WHAT IS WEALTH?

Wealth consists of goods and services that can be used to fulfill our immediate and future wants.

Increasing wealth and improving the standard of living means an expansion in three things: the quantity, quality and variety of available goods and services. Increased wealth also means a good job and an enjoyable work environment, though any economic activity that improves the standard of living creates wealth and makes life more interesting, diverse, and fulfilling. In its broadest sense, economic growth signifies an expansion in the quantity, quality and variety of usable goods and services.

All human beings — rich and poor, white and black, male and female — attempt to improve their condition on earth. “If one wants a prosperous society—with resources available for the poor as well as the rich, with rising living standards, with technological progress that does everything from heal the sick to clean the environment—one needs a market economy.”²

The purpose of sound economics is to outline a blueprint of prosperity for individuals and the world and provide a clear map to avoid the roads that lead to poverty and a lower standard of living. Throughout history, nations have been blessed by periods of prosperity, yet they have also suffered periodically from the pains of depression. By learning the principles of sound economics, stagnation can be avoided and sustained economic growth and improved living standards can be achieved.

MONEY AND WEALTH

Is money wealth?

Does a higher income suggest increased wealth? Probably, but only if more goods and services can be purchased with the additional income. If inflation rises and the prices of goods and services increase by more than increased income, a positive benefit does not accrue. In fact, the overall standard of living has declined because real income has declined after taking the loss of purchasing power into account.

2 Bandow, D. and Schindler, D. *Wealth, poverty, and human destiny*. (ISI Books. Willmington, DE., 2003)

Money is not a good or service. Money is a medium of exchange which facilitates the purchase of goods and services. Money has taken many forms including paper, metal, gems, and sea shells. Money can be commodity, fiat, or fiduciary in nature. It can even be electronic. Fiat money and fiduciary money are tokens and are distinct from commodity moneys. These token monies are the most important kinds of money in modern culture. The exchange of money for goods and services facilitates the wealth-creation process. Money, in any form, is only valuable as long as it has the capability of buying products and services. The value of money changes over time as the rate of inflation goes up and down.

An experiment with a dollar bill

Query: An economics professor asks a student to come forward. In front of the entire class, she is asked to tear up a dollar bill. Following a little encouragement, she commits the deed.

The question is: Has the student destroyed wealth?

Some may say “Yes.” The dollar bill represents a store of value based on past work, either by the student or perhaps by her father who gave her the dollar bill for lunch. Tearing up the dollar bill destroys the ability of the student to buy a snack. She has lost wealth and her standard of living has declined.

Others will dispute the loss of wealth. Has the destruction of this dollar bill reduced the number of chairs, pencils, or paper in the classroom? Has it eliminated the amount of food, clothing, cars, or buildings in the world? Has the lunch or snack disappeared? Clearly they have not. The snack is still available for someone, though perhaps not for this student. Therefore, they conclude, wealth has not been destroyed.

Who is right?

Both perspectives are correct. Wealth on a global or national scale has not been destroyed. The same amount of goods and services exist after the dollar is destroyed. The student’s individual wealth declined, but everyone else’s wealth appreciated in value because she tore up a dollar bill. Her wealth has been reduced while the rest of the world’s wealth has slightly increased due to the increase in purchasing power caused by the reduction in the total amount of currency on hand. In other words, the tearing up of the dollar bill did not destroy wealth; it merely redistributed it.

What if the student breaks a pencil in half, making it unusable? Such an act would destroy wealth for her and for the community. Everyone is made worse off when goods and services are destroyed.

Focusing on making money instead of producing goods can be a distraction from the goal of increasing the standard of living. There are some cases where money making is not equivalent to increasing the standard of living—business and financial fraud, theft, embezzlement, and occupations that retard productive work. In these cases, people are getting money, but not contributing to the well-being of society.

How Do the Factors of Production Impact Wealth?

Wealth is defined as goods and services that can be used to fulfill immediate and future wants. This definition implies that goods and services must be useful and practical to consumers in order to be of value. Finished consumer products include food, clothing, cars, houses and musical instruments. Services include medical care, financial services, education, maintenance, and other services that support and improve life.

Value is also placed on unfinished products—raw land, iron ore, forests, and other commodities. Wheat in its raw form is less valuable than the flour that commands a substantial price in the marketplace. Iron ore is useless in its natural state, but steel manufacturers are willing to pay a good price for it. Unfinished products are obtained from the land and are produced using capital goods. Land refers to the ground earth, natural resources and raw commodities that are available. Capital goods are the machinery, tools, and materials used in the production process toward final consumption.

The third factor in the production of goods and services is labor. Land, labor and capital goods are the trinity of the production process. The fourth factor of production, entrepreneurship, brings together the right amount of land, labor and capital to achieve economic goals. These four factors are the essential ingredients in transforming raw commodities and inputs into retail goods and services.

The price and value of labor and the other factors of production are ultimately determined by final consumer demand. This “theory of imputation” is discussed more in chapter 3.

The four factors of production (land, capital goods, labor, and entrepreneurship) impact wealth because they result in derived consumer value. The fact that consumer goods and services command value implies that the means of production also command value, for without land, labor, capital, and entrepreneurship, consumer goods could not be produced. Wealth consists of goods and services which fulfill immediate and future wants. Land, labor and capital also contribute to future needs and wants.

IS LABOR WEALTH?

Labor is a crucial ingredient in the transformation of materials into finished products. Men and women use their physical and mental powers to produce useful goods and services. Workers supply their services in return for wages or salaries. A nation's wealth is measured in large part by the knowledge, skills and effort of its labor force. Labor is a significant part of wealth.

HOW WEALTH IS CREATED

The goal of every worker in the economic process is straightforward. The average person works to earn more money so that he can meet his needs and enjoy life. Behind the desire for earning more money are more far-reaching goals: to pay for a child's college education, to have an adequate retirement income, to own a house, to pay off some debts, to have leisure time, or to contribute to a good cause.

Each worker plays a part in moving the production process along its way toward final consumer use and in creating wealth and a higher standard of living for everyone. Output is maximized when workers specialize to do the work they are best suited to do. For example:

Miners dig valuable metals and minerals out of the ground so that these metals and minerals can be manufactured into more usable commodities. Iron ore is made into steel, clay into copper, and rock into gold.

Manufacturers transport raw commodities and other materials and transform them into more usable products.

Chemists, biologists, physicists and engineers analyze the properties of organic and inorganic elements and test them in laboratories to make better and more useful products.

Salespeople make consumers aware of the products that are available for consumption, and facilitate purchasing by providing information to consumers.

Artists create an image for their customers to enjoy.

Bankers provide a variety of services which allow business people to engage in profitable enterprises and they provide a more convenient way for consumers to pay their bills, borrow money, and fulfill their desires.

Teachers help students to acquire useful knowledge and skills.

The list of activities is endless, but the purpose behind these activities is the same—transforming unfinished goods toward final use by consumers.

ETHICS IN ECONOMICS

In every job or profession, there are individuals whose actions are harmful to society. Manufacturers who produce shoddy products, salespeople who defraud, employers who mistreat their workers, doctors who engage in malpractice, lawyers who take advantage of the system. These and others take advantage of their position or skills to harm the public. Ethical practices in business include the following:

- Commitment to customer satisfaction
- Clear, honest, and accurate representation of products, services, terms and conditions.
- Delivery of products and services as represented
- Respectful and courteous communications
- Timely and constructive response to inquiries and complaints
- Implementation of policies and practices to safeguard information and to limit information distribution
- Respect for client rights and requests
- Adherence to the spirit and letter of the law
- Protection of human and environmental rights

THE PROCESS OF WEALTH CREATION

Economics is concerned with five major questions:

What should be produced? (Consumer goods, capital goods?)

For whom should the products and services be produced? (Consumers, producers, foreigners?)

How much should be produced? (A million cars, a dozen concerts a year?)

How should goods be produced? (What materials? What process? How much labor? How much machinery?)

When should it be produced? (How long will it take to build that building? Finish college?)

These questions reflect the critical concerns of every producer in the marketplace. Every good and service goes through a basic process. Figure 1.7 illustrates this process.



Figure 1.7. *How wealth is created.*

The basic purpose of economic activity is to turn **unfinished, unusable goods into finished, usable goods**. Thus, the economy is naturally divided into two parts, the “make” economy (the production process or stages of production) and the “use” economy (consuming finished goods and services).

Cooperation between materials and land owners, producers, those who fund production, and workers is required at every stage of production in order to bring useful goods and services to the consumer. Every stakeholder in a firm needs to cooperate together to achieve their goals.

IS ECONOMICS ONLY CONCERNED WITH MATERIAL GOODS?

The study of economics has often been criticized as a science of materialism and greed, focusing excessively on material possessions and the philosophy that “more is better.” Is this a valid criticism? Economics is concerned with what is produced and for whom. Abraham Maslow defined a hierarchy of needs that must be met in order.

- Biological and physiological needs
- Safety needs
- “Belongingness” and love needs
- Esteem needs
- Self actualization needs

In order to survive, every person must first take care of essential needs such as food, water, shelter, and clothing. These essential needs are material in nature. Once these basic needs are met, however, people are free to seek numerous non-material desires, whether intellectual, social, or spiritual. Most economic concerns are directly related to biological, physiological, and safety needs. However, economic security allows individuals to pursue other needs. Services provided by doctors, lawyers, ministers, educators, entertainers, and sports figures go beyond material needs.

The free-enterprise system, with its constant emphasis on providing and developing products and services meeting new and varied wants, often provides a blizzard of material offerings for the consumer. Becoming caught up in a material world, always seeking and demanding more, is a logical outgrowth of consumerism, but access to more goods and services does not always improve the quality of life.

MORALITY AND ECONOMICS

The market produces some products and services that may be objectionable to some consumers. For example, there are firms engaged in the production of mind-changing drugs, prostitution, X-rated movies, cigarettes, moonshine, bullfights and illegal weapons. Economists do not justify the public's appetite for these controversial "goods," but believe that an unhampered market does an efficient job in reflecting the wants and desires of the public whether good or bad. Economists tend to avoid making moral judgments, leaving it up to consumers to decide for themselves what to buy or not buy. Economics as a science should be "value free."

At the same time, it is important to note that in a free society, individuals can choose for themselves what kinds of products and services they produce or consume. One person may work at a cigarette factory, another may choose to work for an accounting firm. One person may come home from work, turn on the television and drink a beer, while another may spend the evening as a volunteer at a local hospital. People can choose not to participate in a capitalist world they regard as "greedy and materialistic." Furthermore, a sufficient income and net worth may allow an individual to retire from the world of business and finance and devote more time to charitable, religious, or political causes. The freedom to make choices is essential to economic health.

Issues related to morality and economics include:

- What is produced and for what purpose?
- Who can purchase specified goods and services?
- What consumer protections exist?
- What is the role of government in production?
- How is access to good and services provided to individuals?
- Can quality and safety objectives be met during production?
- How is equitable distribution of goods and services provided?
- Is it possible to balance the needs and wants of a diverse population?

INCOME AND WEALTH DISTRIBUTION

Economists are also interested in how well individuals and groups participate in the economy. Driving their interest are the questions:

For whom are the goods and services produced?

Can only the wealthy members of the community afford goods and services like automobiles, nice houses, education, or skilled medical care?

Are certain individuals or groups given special privileges and benefits?

Are disadvantaged Americans able to fully participate in the American Dream?

(See figure 1.2)

Are the real wages of unskilled workers keeping up with skilled workers?

Are all citizens taxed fairly by the government?

Can the basic needs of middle-class families be met?

Do CEOs get paid too much relative to the average workers of a corporation?

These issues of relative equality of income, opportunity, and wealth are frequently debated and reflect concern about the impact of economics on individuals and groups in an increasingly commercial world.

WASTE AND POLLUTION

One major area of growing concern is the issue of pollution, the community, and the environment. When natural resources are transformed into consumer and capital goods, there are various forms of waste and pollution at virtually every stage of production. As economies have expanded and matured, the management and reduction of waste and pollution have become critical concerns.

THE ROLE OF GOVERNMENT

A paramount issue relates to the role of government in the economy. Consider the following questions:

Is it possible to produce all the goods and services necessary for a fulfilling life in a completely voluntary society? Or is it necessary to have the government—the agency of force—produce certain goods and services (known as “public goods”)?

Can the free-enterprise system provide an adequate supply of roads, utilities, police, prisons, and courts of law?

Can the free-enterprise system produce a sufficient defense system against foreign aggression?

Can the free-enterprise system create its own stable monetary system?

How can the free market deal with the problem of consumer fraud and deceptive business practices?

Can the marketplace and trade operate without strict enforcement of individual property rights?

If government is necessary to produce some public goods, can government expenditures be financed through voluntary contributions instead of coercive taxation?

What kind of government, and how much of it, is optimal?

These issues will be considered in forthcoming chapters.

MAIN POINTS COVERED IN CHAPTER 1:

1. Very few usable goods are provided by nature; almost all consumer goods (and many services) must be manufactured through production processes.
2. Economics is the study of wealth and how individuals improve their standard of living.
3. Wealth consists of goods and services that fulfill immediate and future wants.
4. Society becomes wealthier by increasing the quantity, quality, and variety of goods and services.
5. Money represents wealth only to the extent that it provides purchasing power to buy goods and services.
6. The creation or destruction of money does not change the amount of wealth in society, but merely redistributes wealth among society's members.
7. The three primary factors of production—land, labor, and capital—constitute wealth because they derive their value from final consumer demand.
8. Actors in the marketplace—landlords, workers and capitalists—do more than merely “make money”—they are helping transform unfinished goods into products and services that consumers can use, and thus enhance people's standard of living.
9. The marketplace does not produce only material goods, but the market also produces non-material services of intellectual, social, or spiritual value.
10. Relative equality of income, wealth and opportunity are controversial issues that concern all members of society, including economists.
11. Waste management and pollution control have become a growing concern as society expands and matures.
12. Government may have to provide certain public goods and services that the private marketplace may not adequately provide for.

IMPORTANT TERMS

Economics	Land
Wealth	Labor
Quantity, quality and variety	Capital
Goods and services	Capital goods
Money and exchange	Derived value
Factors of production	Means of production
“Make” economy	Division of labor
“Use” economy	

INFLUENTIAL ECONOMIST**ADAM SMITH AND THE WEALTH OF NATIONS**

Name: Adam Smith (1723-90)

Background: Scottish philosopher, economist and professor. Considered the founder of modern economics, although physiocrats Richard Cantillon (1680-1734) and Jacques Turgot (1727-81) also qualify as influential “pre-Adamites.” Smith is also regarded as the founding father of the British classical school (followed by David Ricardo, John Stuart Mill, and Alfred Marshall).

Major Work: Author of the most famous book in economics, *An Inquiry into the Nature and Causes of the Wealth of Nations*. Proclaimed an unabashed endorsement of democratic capitalism, it was appropriately published in 1776, the year of the American Revolution and the signing of the Declaration of Independence. Today a collector might pay over \$200,000 for a first edition of the two-volume work, assuming he could find one.

Strengths: Adam Smith considered wealth and economic growth to be the focal point of economic analysis, an approach we have appropriately followed. Smith rejected the mercantilist view that wealth arose from the acquisition of gold and silver, but instead arose from the production of goods and services.

Anyone who has taken the time to read Smith’s biblical tome can see why it has received widespread praise—it is a grand book, full of interesting facts, cogent criticisms, and fascinating philosophical points.

Smith’s strengths lie in his analysis of how individual liberty, economic freedom, and capital investment create wealth, and how government policies of high taxes, deficit spending, and commercial regulations restrict productivity, growth and freedom.

Weaknesses: Smith sometimes contradicted himself and led economics down some strange roads—his bias toward agriculture, his bizarre distinction between productive and unproductive labor, and his crude “labor theory of value,” which was fully exploited by Karl Marx, the German economist and father of revolutionary socialism. *The Wealth of Nations* failed to explain the “diamond-water paradox” (why is “useful” water so cheap, while “impractical” diamonds are so expensive?) even though Smith’s lecture notes of a decade earlier had solved the theory of value based on the principle of marginal subjectivism. Smith’s notorious lapse of memory set the economics profession back generations; it was nearly a century later, in the 1870s, that the marginalist revolution was rediscovered by Carl Menger (Austrian), William Stanley Jevons (British) and Leon Walras (French-Swiss).

Sample Quotation: “To prohibit a great people, however, from making all that they can of every part of their own produce, or from employing their stock and industry in the way that they judge most advantageous to themselves, is a manifest violation of the most sacred rights of mankind.”

Most Famous Idea: The doctrine of “Invisible Hand,” that the unintentional acts of self-interest in business lead to the general welfare of the public. “It is not from the benevolence of the butcher, the brewer, or the baker, that we expect our dinner, but from their regard to their own interest.”

Personality: Adam Smith was the quintessential absent-minded professor. Though a member of many gentlemen’s clubs and societies, he never married and never had a serious relationship with any woman. His closest friend was philosopher David Hume (1711-76). Smith was so preoccupied with work that he frequently found himself lost in town or fallen into a muddy hole. He spent ten years writing his 900-page magnum opus after traveling in Europe. Ironically, Smith ended his career as an agent of British customs and contrary to his free-trade beliefs, strongly enforced the mercantilist trade laws and cracked down on smugglers. He died in 1790 and was buried in Edinburgh.

PROBLEMS TO PONDER

1. Standard of living is reduced when goods and services are destroyed in a society. These questions help to put this statement into perspective:
 - Is war good for the economy?
 - Can you identify advances in medicine and technology as a result of war?
 - Are the tools of modern science still beneficial when converted to instruments of war?

- Is dynamite a benefit to humankind when it helps build a tunnel but harmful when it destroys a bridge?
2. Determine which of the following activities increases or decreases society's wealth:
 - a. A lucky person wins five million dollars in the Florida state lottery.
 - b. An investor sells a stock and doubles his money.
 - c. A thief breaks into a house and steals some jewelry.
 - d. Government spends more money on unemployment compensation.
 3. Which of the following statements (taken from textbooks) best describes your definition of economics?:
 - a. "Economics is the study of choice." (Buchholz)
 - b. "Economics is the study of how scarce resources are allocated among competing ends." (Ruffin & Gregory)
 - c. "Economics is the study of how societies use scarce resources to produce valuable commodities and distribute them among different groups." (Samuelson & Nordhaus)
 - d. "The problem of economic society is, in large part, to change land—that is, natural resources—into finished goods, and to place those goods in the hands of the persons who will consume them." (Gemmill & Blodgett)
 - e. Develop your own definition of economics.
 4. Contrast our definition of economics (economics is the study of wealth and how it is created or diminished) with the following: "Perhaps the best way to define economics is to pose a series of four basic questions:
 - a. Who does the work?
 - b. Who owns the factors of production—tools, machines, factories, land and raw materials?
 - c. How are the basic economic decisions made about production and distribution?
 - d. What are peoples' lives like?"
 5. A student is assigned to find out how many different kinds of bread are sold in a local grocery store. Is the number above (a) 20, (b) 30, (c) 40, or (d) 50? Has the variety of goods increased over time?
 6. A student is assigned to find out how many different kinds and sizes (packages) of beer are sold in a local liquor store. Have the store manager give the student a printout of all varieties and sizes of beer. Then have the student report to the class. Before the student reports, poll the other students to see how many types and varieties of beer they think are sold.

7. Many people say that their standard of living, as measured by real income or wages, declined over the past decade or two. Is this true? Have the quantity, quality and variety of goods and services declined over the past 10 years? (electronics, office machines, telecommunications, food, clothing, automobiles, etc.)
8. Politicians bemoan the decline in the U. S. manufacturing sector, asserting that it reflects a decline in our nation's standard of living. Is this correct? What other sectors of the economy have counterbalanced this decline?
9. Name some examples of unfulfilled wants and needs in the marketplace. Why are these wants and needs not being met?
10. Give some examples of goods or services which have declined in quality over the past few years. Why is it an exception to the rule that quality increases for goods and services over time?
11. Is one's standard of living the same as one's quality of life? Can a person be materially well-off (high standard of living), but unhappy (low quality of life)?
12. "When a baby dies, the nation's per-capita income rises. When a baby is born, per capita income falls. Death, in sum, reduces poverty and increases per capita welfare." How do these statements relate to the following questions:
 - Does death increase welfare?
 - Does the birth of a child constitute an increase or decrease in a nation's wealth?
 - What are the benefits of an increasing population? What are the disadvantages?
 - On net balance, is population growth good or bad?
13. Suppose Japan's per capita income is twice the United States' per capita income, when both are measured in U. S. dollars.
 - Does this mean that the average Japanese is wealthier than the average American?
 - What factors should be considered in comparing one country's standard of living with another?
 - Are international comparisons legitimate?
14. Figure 1.8 introduces an alternative indicator of economic well-being, "Genuine Progress Indicator," which takes social and ecological factors into consideration (resource depletion, income distribution, unemployment and underemployment, long-term environmental damage, etc.) Evaluate this new definition of economic progress. Do you concur with the proponents of GPI, that "the overall health of the [U. S.] economy shows a steady decline since the 1970s"?

GPI vs GDP Per Capita Comparison 1950-2004

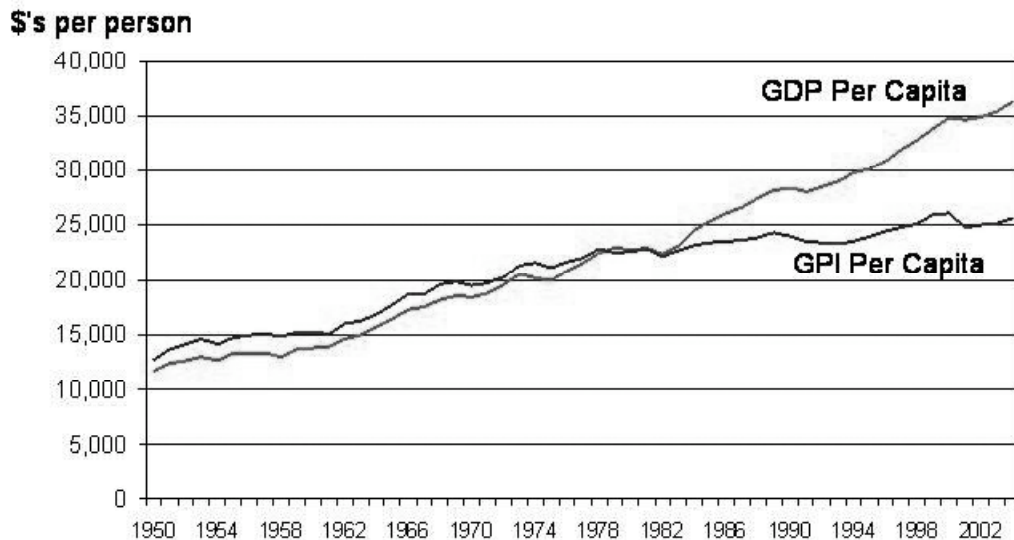


Figure 1.8. *Gross Production vs. Genuine Progress.*

15. Select a country and determine how much progress has been made over the past fifty 50 years in terms of percentage of citizens having appliances, automobiles, and other consumer goods. How does this country compare with the United States?
16. Textbook writers Ruffin and Gregory state, “Economics cannot teach you how to be rich.” Do you agree? If so, what do you hope to gain from your study of economics?
17. British economist David Ricardo attempted to change the approach of economic inquiry. In a letter to Thomas Malthus, he wrote, “Political economy, you think, is an enquiry into the nature and causes of wealth; I think it should rather be called an enquiry into the laws which determine the division of the produce of industry amongst the classes who concur in its formation.” What effect would Ricardo’s shift away from production and toward distribution have on the world’s attitude toward capitalism? How was Karl Marx influenced by Ricardo’s approach?
18. Do retired workers create wealth, or are they simply consumers who make no further contributions to productivity? (Hint: Where do retirees invest their retirement funds?)

19. List as many products as you can that did not exist 30 years ago. Then make a list of products that are no longer used. Which list is larger? Why?
20. There was once a billionaire who died single in a small country and requested that all his wealth be converted to cash and burned at a public bonfire, so that he could benefit everyone in his country. What was he thinking? Did he accomplish his goal?
21. John Stuart Mill said, “There is nothing more insignificant than money.” Given what was discussed in this chapter, what did he mean?

FOR ADDITIONAL READING

- Adam Smith, *The Wealth of Nations* (1776). A classic work still worth reading today. Various editions are available, but my favorite is the Modern Library “Cannan” Edition.
- Stanley Lebergott, *Pursuing Happiness: American Consumers in the Twentieth Century* (Princeton University Press, 1993). Lebergott is professor emeritus of Wesleyan University and an expert on the American economy of the 20th century. His book is full of amazing accounts about American households and how living conditions improved dramatically over the years.
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THE FUNDAMENTALS OF ECONOMIC BEHAVIOR

“I can calculate the motions of heavenly bodies, but not the madness of crowds.”

— SIR ISAAC NEWTON
(1721)

The previous chapter outlined the first law of economic behavior: All human action is aimed at improving one’s situation. Every job, every exchange, every production process, and every effort attempts to substitute a better condition for the previous state of affairs. Not everyone succeeds in achieving an improved circumstance goal, and there are numerous failures on the road to success. Ultimately, most people seek and eventually achieve a wealthier state where a greater quantity, quality, and variety of goods and services are at their disposal.

This chapter introduces the fundamental nature of human behavior that forms the foundation of economics and considers the following questions:

- How do people solve the economic problem of transforming natural resources into usable goods and services?
- What goods and services do people desire?
- How can people best acquire wealth and a higher standard of living?
- What limitations and roadblocks exist in human society that make it more difficult to satisfy individual wants and needs?
- How do people choose among a variety of desires, given limited funds and resources?

BUILDING BLOCKS OF THE WORLD ECONOMY

The world is marked by two essential characteristics that form the foundation of economic activity. These two fundamental characteristics are the critical starting point of economic reasoning.

The two basic principles of human action are:

1. People's wants and desires are virtually unlimited.
2. Resources for the fulfillment of wants and desires are limited and largely unusable in their natural state.

These two characteristics of the world form the basis of the universal economic problem: How can insatiable desires be fulfilled with the limited resources available on earth?

On the one hand, humans have unlimited wants, needs, and goals. On the other hand, there are limited means—limited time, limited funds, and limited resources—with which to achieve those ends.

Means and ends, constraints and preferences, supply and demand. These are what economics is all about. As the word “economics” implies, the fact that unlimited wants clash with limited means imposes the need to economize; i.e., to use resources judiciously and effectively to achieve as many desires as possible.

INSATIABLE WANTS

Chapter 1 introduced the purpose of economic activity: to build wealth, as measured by the quantity, quality, and variety of goods and services.

People are constantly striving to achieve, which suggests that needs, wants, and goals remain unfulfilled and that wants and desires are insatiable. People are better off with more wealth (material and immaterial) than less.

NEEDS vs. WANTS

Are needs and wants different? Needs imply the basics—goods and services everyone demands in order to survive. Food, clothing, and housing represent basic needs. Such basic needs can be fulfilled in this life. We may have enough to eat, all the clothes we need, a car to drive, and a house to live in, and we may not need any more material possessions to be content.

Needs cannot always be precisely defined. It is human nature to expand the definition of “needs.” Today's needs may have been luxuries a generation ago. Basic necessities today may include a television, a computer, central heating and air conditioning, and a dishwasher. Yesterday's luxuries have become today's necessities. Some economists assert that it is impossible to distinguish in general between needs and wants.

Beyond needs are wants, people want better food and a greater variety to choose from. They want nicer clothes and finer furniture. They sometimes like to go to the movies instead of just sitting at home watching television. They desire leisure time to read, play, travel, spend time with friends and relatives, or help others in need. Once one desire is met, another seems to replace it almost instantly.

People's wants change over time according to income, experience and influence. There is a never-ending process of satisfying infinite wants. The world is full of diversity in individual tastes and desires. As Samuel Johnson said, "We desire, we pursue, we obtain, we are satiated; we desire something else, and begin a whole new pursuit."¹ Finally, people's tastes are different. One person likes to drive a Ford, another likes Toyota. One person likes Chinese food, another likes Italian. The demand for goods and services, both material and ethereal, is unlimited and diverse.

RESOURCES AND THE PROBLEM OF SCARCITY

First Corollary: Resources are limited.

Availability is one thing that keeps everyone from satisfying all of their wide-ranging desires. Resources include the following:

- Land and natural resources
- Supplies (working capital)
- Equipment, tools, and machinery (fixed capital goods)
- Money (investment capital)
- Labor (human resources)
- Entrepreneurship
- Time

Every productive activity involves the use of the above resources. These resources are used to create goods and services that fulfill wants and needs.

RESOURCES: ABUNDANT OR SCARCE?

The earth has an abundance of natural resources with which to fulfill needs and wants. The world has the capability of providing food, clothing, housing, and other necessities of life. There are enough crude oil, forests, iron ore, and other natural resources to meet the needs of this, and future, generations. It seems that every time one group of scientists warns about the imminent depletion of an unrenowable

¹ Quoted in Walter Jackson Bate, *Samuel Johnson* (New York, 1977), p. 330.

commodity, another group of scientists discovers a new source for that commodity or a substitute for it. In the late 19th century, scientists warned of depleting whale oil as a light source. Entrepreneurs soon discovered petroleum as a more abundant substitute. Necessity is often the mother of invention.

Nevertheless, all resources are limited in one way or another. At any given moment, there is only a certain amount available of crude oil, timber, wheat, or other natural resources.

In addition to limited natural resources, there is also limited time, expertise, ability, and funding. Resources of all types may be unevenly distributed creating advantages for individuals, organizations, or countries that have more resources than others. The need to acquire additional resources results in trade, negotiation, bartering, and other means of getting necessary resources.

MAKING RESOURCES USABLE:

The second corollary is that almost all resources must be changed in order to be usable. Raw commodities require processing before consumption or use. Processing involves the use of tools to transform raw materials into usable goods. Imagine if you were Robinson Crusoe on an uninhabited island. How could you fish without a fishing pole? You want the bearskin to keep you warm, but how will you kill the bear without a gun or a bow and arrow? You need shelter, but how will you build it without an ax and other tools. Usable tools and finished goods are essential, yet nature does not provide them—they must be manufactured. Your task of creating usable goods from resources unusable in their natural state would be daunting—a painstaking exercise of hard work, intelligence, and trial and error.

Want/need identified

Raw materials obtained

Resources (workers) assigned

Materials transformed into usable goods/services

Goods/services used

New wants/needs identified

As the population of the world increases, known reserves of oil, gas, minerals, timber, chemicals, and other basic commodities are being consumed rapidly. New reserves and alternative sources of commodities are always being sought and efforts are constantly made to conserve scarce resources and control consumer demand.

Even though nations such as Russia, Brazil, and South Africa are endowed with abundant natural resources, these resources cannot be made instantly and freely usable. Exploiting natural resources requires investment in infrastructure, equipment, labor, knowledge, and transportation.

THE COST OF DISTRIBUTION

Moving goods, people and information is critical to fulfilling people's wants and needs. The distribution of goods and services from one stage of production to the next is a major cost factor for any firm. Goods must be transported from where they are produced to where they will be consumed or used. The process of distribution costs money, involves resources and uses time.

POLLUTION AND WASTE

Air may be one of the few commodities that is unlimited and considered to be virtually free. But even air is not free in every situation. In outer space, air is not free. Nor is fresh air unlimited in cities where pollution is a problem. Other resources necessary for sustaining human life, such as water, may also be affected by production processes.

Useless by-products and pollution are unavoidable in a world where resources need to be transformed into practical, finished products. An environment completely free of garbage and by-products is impossible to achieve, but pollution can be minimized. For example, used by-products can often be recycled to reduce waste. It is the role of the entrepreneur/capitalist to engage in waste management.

TIME AND DEPRECIATION

Time is also a precious resource and a critical element in the economic process. Time is a resource which renews itself every 24 hours, cannot be banked for future use, and is available to all in the same increments. The use of time is a controllable factor in the production process, but it may not be slowed down or speeded up. Students are cognizant of how long it takes to graduate from college and graduate school. Engineers measure how many years it takes to construct a building or to manufacture a turbine. Movie producers contemplate how long it takes a film to

reach production and distribution, and how costly delays are. When purchasing a new car, customers take into account the average time a car will last. The time it takes to produce and consume products is an essential feature of any economy. The use of time impacts production and cost of goods and services.

Suppose a firm is considering a new process that will cut in half the time it takes to make a television set. Will it adopt this breakthrough process? Not necessarily. What if the new process takes five years to set up and is only marginally more profitable than the current process? The new process might not be worth the time and cost involved to implement it. However, sometimes engineers and political leaders have a hard time understanding the real costs involved in a project. Just because a new process is technically feasible does not mean it is economically justifiable. Effective use of time is measured by what can be done in a given time period balanced against the cost of doing the work in that time period.

Time is a critical element in all economic decision-making. Important questions to ask about time are:

- How much time will the needed activity take? (Duration)
- How much time is available for doing the activity? (Minutes, hours, days, ...)
- How many people will be involved in the activity? (Manpower)
- Must the activity be completed in a certain time frame? (Critical)
- What is the cost for the time?

Time limitations also suggest that man-made capital and consumer goods are always deteriorating—sometimes gradually, sometimes rapidly. Machines, houses, and clothing wear out and need repairing or replacement from time to time. Every successful business puts aside a certain amount of money each year to cover the cost of depreciation.

THE UNIVERSAL ECONOMIC PROBLEM

The need to balance limited resources and unlimited wants is the hub of economic considerations. How can limited supplies (including resources and time) be used to satisfy unlimited wants? This is the economic problem that all individuals and all societies face. Every participant in the economy must make choices, and every decision has a cost.

Clearly, choices must be made by both the consumer and the producer. The consumer must decide: Should I buy X or Y brand of cereal? Should I work or play? Should I read a book or go to a concert? The producer must decide: Should automo-

biles be built with workers' hands (labor) or robots (capital goods)? Should television sets be made out of plastic or aluminum? Will a builder use wood or brick in a new housing development? Should a highway construction company use a cheaper asphalt that lasts five years, or an expensive asphalt that lasts 10 years? Should a city build another highway or a subway? Which choice of inputs will best satisfy the demands of consumers? These are the kinds of questions an economic society must address.

Transportation offers a good example of the kinds of choices that both consumers and producers must make. Suppose you live in London and wish to go to Paris. You can fly, take the train and ferry, or take the EuroTunnel (or Chunnel, as it is affectionately called). Flying is faster, but more expensive. As a consumer of this service, you must decide how valuable your time is. Wealthier customers tend to fly, while poorer customers take the train and ferry. The reason? High-income people typically value time more than lower-income people do.

Producers also have to make decisions. Suppose you are the president of EuroTunnel and wish to build a tunnel under the English Channel. By building EuroTunnel, you will provide a third alternative to travelers—a simple train ride between London and Paris. Instead of taking eight hours to travel from London to Paris, EuroTunnel can get you there in three. You know that from an engineering and technical viewpoint, it is feasible to build an underwater tunnel, but what is the cost? Is the risk sufficiently manageable to produce a decent profit, given the alternative ways to travel?

These are the kind of choices producers, consumers and investors need to make. Providers of goods and services balance the cost of production against potential profit while potential consumers balance cost of purchase against the value to them of the good or service vs. the value of alternative goods or services.

COMPETITION AND COOPERATION

The universal economic problem (the need to balance limited resources and unlimited wants) leads us to two other principles of economics:

1. Competition
2. Cooperation

Competition is the inevitable result of a society facing insatiable demands and limited supply. All societies must choose among a limited number of resources in order to achieve certain goals. Not all goals can be attained; only those that are deemed the most valuable will be fulfilled. If one course of action is chosen, it means giving up another choice, at least in the short run.

When you choose a specific action, you must give up doing something else. For example:

Choice 1	Alternative 1
Go to school full time	Be employed full time at work
Marry Sue	Marry Betty
Travel to Europe on business	Attend son's soccer match
Invest savings in business	Earn interest in a money fund

Economists refer to these decisions as **opportunity costs**. Opportunity cost is defined as the value of the next best alternative or foregone activity.

Cooperation is also universal in the world economy. All factors of production—land, labor, capital and entrepreneurship—are necessary to transform intermediate products into useful final goods and services. Landlords, laborers, and capitalists must work together to make goods usable. This complementary effort requires economic harmony among players. If one player does not cooperate the production process breaks down and work remains undone. Land, labor and capital are complementary factors of production.

The market economy is not just a competitive process—cooperation is just as vital in all aspects of the market economy. The market economy is always both competitive and cooperative. People compete to obtain cooperative relationships.

INEQUALITY: BOON OR BANE?

Human and capital resources are not only limited, but they are distributed unevenly throughout the world and among people. Tastes, talents, and resources are not equal among individuals and nations. People differ in their intelligence, physical abilities, and circumstances. Some nations, such as the United States and Saudi Arabia, are blessed with an abundance of crude oil, while others, such as Japan and Israel, are not. Each person and each nation has advantages and disadvantages, assets and liabilities.

Society is made of diverse individuals with varied intelligence, talents, and assets who represent different creeds, races, and cultures. What constitutes wealth consists of different goods and services for each individual. People are as different as the cars they drive, the food they eat, and the books they read. People choose their own careers according to their abilities, interests, and qualifications. Such diversity results in a wide degree of specialization and expertise. Without differences and inequalities, our lives would lack diversity, achievement, color and surprise.

Because of inequality and limited resources, human beings are seldom completely self-sufficient. They need the help and expertise of others. Individuals specialize in occupations or businesses, and exchange goods and services according to each participant's ability. Individualized specialization in occupations reflects each individual's abilities and interests. Services are provided to others based on their individual needs and wants by those who have the skills and abilities to meet these needs and wants. Limitations of time and resources result in specialization and division of labor by individuals and firms in the marketplace.

The entrepreneur plays a central role in the creation of wealth based on the underlying axioms of human action referred to above. Individual nations also specialize in certain goods or services. Economists call this comparative advantage.

THE LAW OF COMPARATIVE ADVANTAGE

The law of comparative advantage allows individuals, businesses and nations to produce goods and services at the lowest cost relative to another. This vital concept was originally developed by David Ricardo in the early 19th century. Comparative advantage allows everyone to play an important role in the economy. Comparative advantage means that economic gain occurs when the items are produced or services are provided that can be most efficiently produced/provided.

To illustrate comparative advantage, suppose a top medical surgeon is also the fastest typist in town. He can type 150 words per minute. Even though he is a superior typist, he is likely to hire a secretary to type for him. Why? Suppose he makes \$500,000 a year working full time as a surgeon. If he spends half his time doing secretarial work, he would make only \$250,000 a year as a surgeon and \$50,000 as a secretary or \$300,000, \$200,000 less than he would make as a full-time surgeon. But by hiring a full-time secretary for \$50,000 a year, he would make \$450,000 (\$500,000 minus \$50,000, the cost of a secretary). His opportunity cost is the lost income from his medical practice, which is substantial.

The medical doctor has a comparative advantage in performing surgeries, while his secretary has a comparative advantage in secretarial work. By hiring a secretary, both the MD and the secretary benefit.

THE ROLE OF THE ENTREPRENEUR

The entrepreneur also plays a vital role in the economy. The word "entrepreneur" comes from the French word *entreprendre*, which means "to undertake." It forms the basis of the English word, "enterprise." The French economist J. B. Say invented the word to mean "venture capitalist" or "adventurer."

Entrepreneurs are the business owners and producers who assume the risk, uncertainty, and responsibility of running an enterprise. They seek to meet the needs and wants of consumers through innovation, technological change, and increasing capital expenditures. Without this decision-maker, economic performance and living standards would not be advanced. As historian Robert Sobel writes, entrepreneurs are “men and women of vision and energy [who] have seen possibilities where others saw none, seized opportunities when others hesitated, persevered when others gave up.”²

Entrepreneurs are innovators who reshape patterns of production and distribution, develop new products and processes, open new markets and sources of supply, devise new forms of organizations, and improve existing companies. They are alert to opportunities and new ways of accomplishing tasks. Like all participants in the marketplace, entrepreneurs specialize in what they know best.

Entrepreneurs are also speculators who seek a profit in the stock, commodity, and foreign currency markets, or who take advantage of discrepancies between markets for the same good. They may try to take over existing companies considered to be undervalued or mismanaged. They are opportunity seekers and visionary organizers who bring together capitalists, landlords, workers, and specialized knowledge to create goods and services that they hope consumers will buy. Entrepreneurship is often a discovery process. For the entrepreneur, the future is uncertain and highly risky at times. Many fail, but those who succeed are usually well rewarded.

Speculators are often viewed in a negative light, allegedly causing crises and chaos. But speculators are often the only ones willing to assume the risks of volatile price changes that affect farmers, importers, exporters, and other hedgers in the marketplace.

Entrepreneurs drive the engines of wealth. They are the market decision-makers. In a very real sense, the market process is entrepreneur-driven.

HUMAN ACTION AND MEANINGFUL BEHAVIOR

People act purposefully to achieve their ends. All human action is purposeful behavior aimed at substituting a more satisfactory condition for a less satisfactory state of affairs. To accomplish their goals, people think, feel, learn, value and act. They produce and consume, buy and sell. Behind every service or commodity are the decisions of numerous individuals who are involved in the economic process, each of whom acted with a purpose in mind.

Behind every price are the buying and selling decisions of numerous individuals, each acting with some purpose in mind. This is what economists call “rational”

2 Robert Sobel and David B. Sicilia, *The Entrepreneurs: An American Adventure* (Boston: Houghton Mifflin, 1986), flyleaf.

behavior. Human action is never random, although another person's actions may appear random or irrational because the reasons for their actions are unknown to us.

Purposeful human action is distinct from the actions of plants, animals, and mechanical things. Biological and physical laws appear constant and quantifiable. Physicists and chemists note a regular and repeatable pattern in physical events. Using the scientific method, they can repeatedly perform a controlled experiment and expect that the results are consistent. Animal and plant life also tend to react the same way under the same set of circumstances, like Pavlov's dog or lemmings returning to the sea. The movement of molecules or ping pong balls may seem random, but their movements conform to physical laws.

Not so in economics and other sciences that study human behavior. Humans are not machines or lemmings destined to repeat themselves exactly time after time or respond the same way to specific stimuli. Because human beings possess the ability to think, learn, and change their minds, they cannot be treated as dumb animals or machines. As the Chinese philosopher Lin Yutang puts it, man "does not react to surroundings mechanically and uniformly as animals do, but possesses the ability and the freedom to determine his own reactions and to change surroundings at his will. This last is the same as saying that human personality is the last thing to be reduced to mechanical laws; somehow the human mind is forever elusive, uncatchable and unpredictable, and manages to wriggle out of mechanistic laws or a materialistic dialectic that crazy psychologists and unmarried economists are trying to impose on him. Man, therefore, is a curious, dreamy, humorous and wayward creature."³

The creation of wealth requires the assistance of nature—the transformation of the earth's elements, the use of animals, and the aid of tools and machinery. It requires the use of statistics, mathematics and precise formulas. But all efforts are human driven. Man does the acting; land and capital goods are acted upon. Thus, creating wealth ultimately depends on the particular thoughts, emotions, valuations, and purposeful action of human beings.

Economic philosophers refer to this difference between man and nature as "methodological dualism." They make a sharp distinction between the physical sciences and the social sciences, between the world of animals, plants, and inanimate objects, and the world of human beings.

IS THERE A NEWTONIAN ECONOMICS?

Many economists and social scientists enamored in the past with the precision of the physical sciences have attempted to imitate physics or biology. Economists have borrowed scientific terms such as elasticity, velocity, and equilibrium, and applied them to economics. Even the term "economics" has been made to sound

3 Lin Yutang, *The Importance of Living* (New York: John Day Co., 1937), p. 12.

like physics or mathematics. In the 19th century, it was called “political economy” and was part of the study of logic and natural law. Earlier still, Adam Smith taught economics as a professor of moral philosophy at the University of Glasgow.

Attempts to apply the precision and quantifying characteristics of the natural sciences to economic and financial activity are not always effective. A strict application of the scientific method used in the physical sciences might not always work in economics, even though this method has become a part of the modern economist’s toolbox.

TESTING ECONOMIC THEORY WITH FACTS

Can theories be tested in economics, like an experiment in a laboratory? Not always. The best economists can do is test their theories against historical data or events, and even then the outcome may be uncertain. For example, in 1962, economic advisors to President Kennedy supported the theories of British economist John Maynard Keynes, who argued that running a deliberate federal deficit could stimulate an economic recovery. Congress acted on their advice, cut taxes and ran a deficit in 1964-65. As a result national output (Gross Domestic Product) rose sharply.

However, other economists disagreed with the Keynesian advisors. Followers of the Monetarist (or Chicago) school of economics, led by Milton Friedman, argued that the test was not valid and did not prove the validity of Keynesian theory. Friedman pointed out that during this same period in 1964-65, the Federal Reserve’s monetary policy was also active and the rapid growth of the money supply was responsible for the economic recovery.

Who was right? The Keynesians or the Monetarists? The empirical evidence was uncertain because both variables were changing at the same time. This situation is one example of the problem in testing theories with facts in economics. Proving theories in economics is not as easy as proving a laboratory experiment in science class.

Many economists use Karl Popper’s methodology in testing theories. Karl Popper, a 20th century Austrian philosopher and author of *The Open Society and Its Enemies*, argued that science could never prove a theory. It could only provide evidence to falsify or disprove a theory. Thus, a theory could be safely dismissed if the evidence contradicts the theory. While this approach is popular among empirical economists such as Milton Friedman and Mark Blaug, Popper’s methodology is never fool-proof in economics because the causes of economic events are not always clear.

SUCCESS AND FAILURE

Another characteristic of human behavior is essential to understanding economics: individuals make mistakes. Before an action is taken, it is assumed that the decision will be positive, but after the action is taken it may be realized that a mistake was made. Decisions are made on the information and analysis available at the time. Results may prove that those decisions were not the best course of action.

The world economy is characterized by frequent individual and business failures. An automobile company may produce a car that does not sell. Investors may make a bad investment. Cereal producers may create a product that tastes terrible. The list of entrepreneurial errors grows every day.

Fortunately, individuals and business leaders can learn from their mistakes and minimize errors. The auto manufacturer can design a more marketable car. The investors can reexamine their strategies and make profitable investments. Taste tests can improve the likelihood that cereal will be palatable. If the same circumstances arise again, individuals are not destined to repeat the same mistakes. If they have learned from the past, they may choose a better course. On the other hand, in the physical sciences, if the same conditions are created in the laboratory, the results will always be the same.

THE PRINCIPLES OF CAUSALITY AND UNCERTAINTY

Can an economist predict the future? It has been said, facetiously, that economists predicted six out of the last five recessions. One famous story is about Irving Fisher, professor at Yale University and a stock market investor in the 1920s. One week before the 1929 stock market crash, Professor Fisher predicted that “stocks have reached what appears to be a permanent plateau.”⁴

In forecasting the future, economists must keep in mind two universal principles:

1. The Principle of Causality
2. The Principle of Uncertainty

The Principle of Causality reflects the causal connection between thinking and action. For every cause, there is an effect. Behind every economic event—whether it be a price increase, a currency devaluation, or a decline in employment—there are causes that brought it about.

Often there are multiple causes of economic events and these causes may contradict one another, making it difficult to explain certain phenomenon. Nevertheless, behind every action is economic behavior by human beings. Events

⁴ *New York Times*, October 16, 1929, p. 1.

may appear to be random and inexplicable at times, but that is only due to the complexity of human behavior.

The second principle of forecasting is uncertainty. The future of human action is uncertain.

Social scientists attempt to study the patterns of human behavior. Psychologists test people's actions and reactions, political scientists investigate the effects of institutions and political parties, historians search for causes, and economists review past data to test their theories. All this social research is done to develop a more accurate portrayal and understanding of human activity.

But no matter how comprehensive their work is, there is always an element of uncertainty and unpredictability in the conclusions of social scientists. For example, no matter how scientific political polls may be in an election year, there is always a certain degree of "statistical error." This "error" is due, in part, to the fact that people are constantly reevaluating their desires and attitudes. They may change their minds in an unpredictable manner.

The Principle of Uncertainty significantly affects the study of economics. While what has occurred can be reported and analyzed, what will occur is less likely to be accurately quantifiable. For example:

- In predicting a nation's economic growth for the next quarter, economists can estimate purchases of goods and services by consumers, business, and government. But these are only "estimates," often based on past relationships or equations which may not hold precisely in the future.
- A futures trader may rely on a computer program to predict the prices of commodities or currencies. These computer-generated buy-and-sell signals are usually based on sophisticated price and volume patterns. Often, however, the pattern breaks down and the futures trader loses money because the factors which determined the movement of past prices may have changed.
- Suppose the world faces a major famine when this year's wheat crop falls in half compared to last year's crop. Economists can say with considerable authority that the price of wheat will rise substantially. But they will have a much more difficult time determining exactly how high the price of wheat will rise. Nor can they predict precisely when the price of wheat will reach a certain price level. They can make educated guesses based on history, but in the final analysis, only today's marketplace of buyers and sellers can determine the outcome of today's prices.

Economists may say "what" will happen, but are often less willing to say "when" and "by how much." Economists differ on how much uncertainty exists in the marketplace. There is always a tug-of-war between the Law of Causality and the Law of Uncertainty.

The British economist John Maynard Keynes (1883-1946) once became so frustrated with the level of uncertainty in the economy that he exclaimed that “our knowledge of the future is fluctuating, vague and uncertain....There is no scientific basis on which to form any calculable probability whatever. We simply do not know.”⁵ Many economists frequently acknowledge their ignorance about the future course of the economy, interest rates, inflation, and the stock market. Other economists use sophisticated computer models to make forecasts about the economy, interest rates, inflation, and the movement of financial markets.

Uncertainty exists for two reasons: the vast, complex number of factors and players involved in the economy, and the fact that behind the numbers are individuals who are constantly changing and reevaluating their motives. There is always some degree of uncertainty present in human activity. To establish certainty, who, what, when, where, and why questions must be answered; something that is impossible for most human endeavors. The number of individual variables such as when someone will get up or go to bed prohibits certainty.

An astronomer can know the exact time that the sun will come up tomorrow, but can anyone predict when a student will get out of bed in the morning? If he has an eight o'clock class, it may be predicted with some assurance that the student will rise at seven and arrive at school before eight. Studies of his sleeping habits over a period of months based on his regular waking patterns may indicate with some certainty that tomorrow the student will rise at seven and come to class at eight. But there still exists uncertainty. What if the student falls sick and stays in bed, or his alarm clock fails to go off? What if there is a death in the family and he has to go home? There are myriad reasons why the student may not act as expected.

Despite these limits, it is the challenging task of business entrepreneurs to estimate the demand for their products and to set the right prices. The results of estimates are sometimes successful and sometimes not. Henry Ford said, “The best we can do is size up the chances, calculate the risks involved, estimate our ability to deal with them, and then make our plans with confidence.”⁶

In sum, while the economic past is precise and quantifiable, the future is always qualitative and inherently imprecise. There are few constants or precise relationships in economics as there are in physics. History and facts are quantitative, but economic theory is qualitative.

5 John Maynard Keynes, “The General Theory of Employment,” *Quarterly Journal of Economics*, February, 1937.

6 Ford, Henry.
http://thinkexist.com/quotation/the_best_we_can_do_is_size_up_the_chances/296026.html;
 Internet

SUMMARY

Main points in Chapter 2:

1. Men's wants are infinite. Once one desire is fulfilled, another arises—otherwise, men would cease to act.
2. While the earth provides an abundance of land and natural resources, all resources are limited.
3. Resources require significant work and transformation to be made usable.
4. The universal economic problem is to allocate and transform resources to maximize output of usable goods and services.
5. Competition and cooperation are universal characteristics of all economic activity.
6. Specialization and division of labor are necessary to achieve a high standard of living.
7. Man is seldom self-sufficient and needs to specialize and trade with others.
8. Entrepreneurs, defined as business owners and risk takers, play a critical role in advancing economic performance and living standards. They are responsible for implementing innovation, technological advances, and changes in the economy to better meet the needs of consumers.
9. Inequality of talents, intelligence and property is a given in all societies, leading to specialization by each individual and firm.
10. Behind all economic and financial events is human action, which is always purposeful.
11. The precision of physics and other natural sciences does not normally apply to economics, which involves human behavior.
12. The future of economic events is sometimes predictable according to the law of causality, but because of the complexity of and variability in human behavior, there is always a degree of uncertainty. There are no predictable constant relationships in economics.
13. Economic facts are quantitative, economic theory is qualitative. Entrepreneurs act upon predictions of “when” and “how much,” reap rewards when these actions are correct, and suffer consequences when wrong.
14. Waste and pollution are unavoidable, but can be minimized through efforts of the entrepreneur.
15. Time is a major factor in the production and consumption process. Capital and consumer goods depreciate gradually over time and must be repaired and eventually replaced.

IMPORTANT TERMS

Comparative advantage	Opportunity cost
Depreciation	Principle of causality
Distribution of goods	Principle of competition
Economics	Principle of cooperation
Entrepreneurship	Principle of uncertainty
Inequality	Scarcity of resources
Insatiable wants	Specialization
Land	Supply and demand
Means and ends	Time
Methodological dualism	Working capital

INFLUENTIAL ECONOMIST

THE METHODOLOGY OF LUDWIG VON MISES

Name: Ludwig von Mises (1881-1973)

Background: Taught economics at University of Vienna prior to World War II and at New York University following the war. Considered the dean of the modern Austrian school of economics (followers include Nobel Prize winning economist Friedrich A. Hayek, Israel Kirzner, and Murray Rothbard). Other schools of economics, including the New Classical School and the Public Choice School, consider Mises to be one of their mentors.

Major Work: Mises wrote *Human Action* (Yale University Press, 1949; third edition, Regnery, 1966), the first systematic treatise on economics based on the principles of subjectivism and methodological individualism. Mises's analysis of the economy is based entirely on deductive logic rather than on empirical observations or historical studies. Comparing economics most closely to geometry rather than physics, Mises built his system on the logical implications of a few self-evident axioms similar to the ones we have developed in this chapter.

Sample Quotation: “Economics...is a deductive system. It draws its strength from the starting point of its deductions, from the category of action. No economic theorem can be considered sound that is not solidly fastened upon this foundation by an irrefutable chain of reasoning.”

Strengths: Like Adam Smith, Mises emphasized the role of economics as a way to accomplish man's desire for material happiness. “The immense majority of men

aim first of all at an improvement of the material conditions of well-being. They want more and better food, better homes and clothes, and a thousand other amenities. They strive after abundance and health.” Mises offered the first comprehensive theory of subjective economics. He extended the Austrian tradition (begun by founder Carl Menger in 1871) to money and banking, the business cycle, and government policies. By emphasizing that people are not mechanistic, Mises warned that efforts by dictators and totalitarian regimes to engage in “social engineering” and forced production schemes would not work. Mises was one of the first economists to attack socialist central planning as unworkable.

Mises also condemned most forms of state interventionism as counterproductive to the creation of wealth. He was particularly critical of policies promoting consumption over saving: “The essence of Keynesianism is its complete failure to conceive the role that saving and capital accumulation play in the improvement of economic conditions....It is one of the foremost tasks of good government to remove all obstacles that hinder the accumulation and investment of new capital.”

Weakness: Mises was often misunderstood during his lifetime. Critics considered him an “extremist” who rejected all forms of empirical work or history. Not many would agree with Mises’ statement, “History cannot teach us any general rule, principle, or law.” For Mises, facts never speak for themselves. One needs a correct theory to understand historical events.

Mises also denied the value of econometrics and mathematical economics. He used virtually no graphs or statistics in his works. His non-mathematical approach went counter to the profession’s trend toward quantitative economics, and the testing of theory with empirical evidence.

Personality: Only recently has Mises’ prestige risen among professional economists. In Vienna in the early 20th century, he had three strikes against him: he was a Jew, he was an advocate of laissez-faire capitalism, and he was considered dogmatic and uncompromising in his beliefs. In the 1920s and early 1930s, he conducted a famous private seminar in Vienna for a small group of followers. Mises left for Switzerland in 1934 in the wake of Nazism (his entire library was confiscated by the Nazis) and immigrated to the United States in 1940. He lived in New York City for more than 30 years where he taught part-time at New York University, but never accepted a paid, full-time post at any American university. Throughout his life, he was “at war with the spirit of the age,” and spoke out regularly against all forms of government interventionism, including socialism,

communism, and Keynesianism. When Soviet communism collapsed in 1990, economic historian Robert Heilbroner said that the Austrian economist was vindicated. “Mises was right,” Heilbroner said.

Mises died in 1973, pessimistic about the future and the outlook for the Austrian school, but a year later his colleague, Friedrich A. Hayek, won the Nobel Prize in economics.

PROBLEMS TO PONDER

1. A box of cookies is left on the counter at home, free for the taking, but no one eats them. Does this violate the universal principle of unlimited wants? Explain.
2. Comment on the following: “History repeats itself.” To what extent is human nature a constant? A variable?
3. “I predict the Dow Jones Industrial Average will reach 15,000 on December 31.” Given what we have just discussed in this chapter, is this an example of sound economic thinking? Explain.
4. “Studies indicate that stock prices are random.” Do you agree? What determines the prices of securities?
5. Comment on the following statement by a financial economist: “I cannot tell you what the weather will be on any particular day, but I can tell you the climate of the region.” How is an economist like an economic weatherman?
6. Advanced Question: Compare the Principle of Economic Uncertainty with the Heisenberg Principle of Uncertainty in physics. What are their differences and similarities?
7. In light of this chapter’s discussion of the social vs. physical sciences, what is your reaction to the following book titles?
 - (a) *More Heat Than Light: Economics as Social Physics, Physics as Nature’s Economics*, by Philip Mirowski.
 - (b) *Bionomics: The Economy as an Ecosystem*, by Michael Rothschild (applies the principles of biology to corporate management).
 - (c) *The Golden Constant: The English and American Experience, 1560-1976*, by Roy W. Jastram (seeks to demonstrate that gold has maintained its purchasing power over the past 400 years).

8. In their textbook *University Economics*, Armen Alchian and William R. Allen argue, “Competition is inevitable with scarcity. Scarcity forces a choice among limited options, and we compete for those options. Hence, in a society of more than one person, scarcity implies competition.” Moreover, competition “is not unique to the free-enterprise, private-property system. Competition exists in every social system.” How would this statement apply to a socialist economy? What is the relationship between competition and cooperation? Is cooperation more important or prevalent in a market economy or in a command economy?
9. Comment on the following: “While there often is no clear-cut understanding of what constitutes ‘enough,’ the simple fact is that there is more than sufficient food to sustain everyone on the planet. The same is true of land and renewable energy. The important question, then, is why the staples of life are so egregiously maldistributed—why, for example, the United States, with a little more than 5 percent of the world’s population, uses something like 40 percent of the world’s resources. What appears to be a problem of scarcity usually turns out, on closer inspection, to be a problem of distribution.”⁷ Is scarcity a false issue?
10. Evaluate the following: “Unlimited wants facing limited resources means one universal fact: there is always work to be done. Therefore, there can be no such thing as unemployable labor. If a person is unemployed, it is strictly voluntary. The unemployed can always find something to do.”
11. Comment on the following: “Where mainstream economics is based on concepts borrowed from classical Newtonian physics, bionomics is derived from the teachings of modern evolutionary biology. Where orthodox thinking describes the economy as a static, predictable engine, bionomics sees the economy as a self-organizing, ‘chaotic’ information ecosystem.”⁸ To what extent is animalistic behavior applicable to economic theory? In what way is the rain forest like a shopping mall?
12. Many social scientists say that poorer Third World countries should reject “models based on economic laws” of universal validity. According to them, there are no universal laws. Do you agree? What laws discussed in this chapter would not apply to poorer nations? Should every nation be democratic and free? Which universal human rights should no government or citizen violate? The right of free speech, religious conscience, a fair trial? Should property rights be enforced everywhere? If so, how?

7 Alfie Kohn, *No Contest: The Case Against Competition* (Houghton Mifflin), 1986, p. 72.

8 Michael Rothschild, *Bionomics: Economy as Ecosystem* (New York: Henry Holt, 1995).

13. In a controversial 1953 article, “The Methodology of Positive Economics,” Milton Friedman claimed that economic theory does not require realistic assumptions to qualify as a good theory. The important thing is that the theory yield accurate predictions. In fact, Friedman declared, “in general, the more significant the theory, the more unrealistic the assumptions....To be important, therefore, a hypothesis must be descriptively false in its assumptions.” Friedman concluded, “the relevant question . . . is . . . whether the theory works, which means whether it yields sufficiently accurate predictions.”⁹ Do you agree? Can “bad” assumptions lead to “good” predictions?

RECOMMENDED READING

- Ludwig von Mises, *Human Action: A Treatise on Economics*, 3rd ed. (Regnery, 1966). Mises’ magnum opus is heavy reading for the novice economist, but once you pass the early chapters, it is a well-written, thought-provoking treatise.
- Murray N. Rothbard, *Man, Economy and State* (Nash Publishing, 1970). A two-volume treatise on all aspects of economic science. Rothbard writes in a very engaging style.
- Mark Blaug, *Not Only an Economist* (Edward Elgar, 1997). Entertaining essays by a top economic thinker.
- Alfie Kohn, *No Contest: The Case Against Competition* (Houghton Mifflin, 1986). A counter-cultural attack on competition in business, sports and life. Very challenging critique of modern-day society.

9 Milton Friedman, *Essays in Positive Economics* (University of Chicago Press, 1953), pp. 14-15.

PRODUCTION, EXCHANGE AND CONSUMPTION: THE STRUCTURE OF ECONOMIC ACTIVITY

*“All production is for the purpose of ultimately satisfying a consumer...
Consumption is the sole end and object of all economic activity.”*

—JOHN MAYNARD KEYNES
*The General Theory of Employment,
Interest and Money (1936)*

In one television episode of *The Twilight Zone*, time stood still. All action by machines, animals, and people was halted temporarily, allowing one unaffected individual to move around and observe everything in this motionless world.

If economists could do the same thing, freeze all activity and observe everything in a static, motionless state, what would this snapshot of the economy look like?

If time stood still, goods throughout the world would be frozen in various stages of completion. Many goods would be completely finished and are now in varying stages of use. These goods are being used up, depleted, and consumed to satisfy human needs and wants. Economists call it the “use” economy. These goods include houses that people live in, cars that people drive, food that people eat, machines that manufacture products, and other finished goods in the process of being used up.

Some goods have been completed but are waiting to be sold to final users. These goods are in inventory, about to be sold in retail department stores, grocery stores, and car dealerships. They are ready for use by consumers.

Automobiles are a good example of this frozen economy. Millions of cars have already been built and are being used on the road or parked in the garage. Some are new, others are old. Thousands of new cars are in the showrooms, ready to be purchased. Thousands more are in transit to the car dealers. Others are parked at the production plant waiting to be delivered or to be ordered by the car dealers. And still more cars are coming off the assembly line. Others are sitting in junkyards, ready to be recycled. Like automobiles, other goods produced in the economy also follow the same cycle of creation, purchase, use, depreciation, and recycling.

Services, like goods, are subject to the same laws of supply, demand, and consumption as are tangible goods. Services are the performance of duties or provision of space and equipment helpful to others. Doctors, lawyers, teachers, and garbage collectors are all involved in the provision of services. These services, like products, can be bought and sold.

THE SUPPLY SYSTEM IN THE “MAKE” ECONOMY

Going to the supermarket is a frequent activity for most people. When at the market it is possible to act as an economist seeking an independent view of the economy. First note the myriad products available for purchase. Count the different kinds of bread. Discover how many products are available that one individual might use, but others will not.

How did all these thousands of goods end up on store shelves, all properly packaged and prepared to be accessible to the customer? What has happened behind the scenes to bring about this modern economic miracle?

Thousands of workers in hundreds of organizations are involved in the supply system for the supermarket, what economists call the “make” economy. The supermarket employs dozens of workers who unload the products, stock the shelves and take orders for more goods. In the backrooms of the supermarket, stockers work supplying shelves and making sure the consumers’ needs are met.

The distribution and production system goes much further back than the backroom of the supermarket. The retail part of the economic process is the final stage of production (and the beginning of consumption). Before reaching that stage, time, hard work, and capital are expended to bring those goods to the final retail stage.

Most people will at some time seek the services of a doctor. In order for the doctor to supply his services, he must first obtain the necessary education and credentials allowing him to practice/provide his services. Once he has completed these stages of qualification, which are similar to production of goods, his services are available for consumption by users. Time, work, and capital are also expended to bring the doctor’s services to the final retail/user stage.

In the case of both goods and services, the end user/consumer has the ability to purchase those goods and services which meet his wants and needs.

The economic model for goods and services resembles this table:

	Goods	Services
Resources	Raw materials	Individuals
Production	Manufacturing, production facilities	Acquisition of knowledge/skills
Distribution	Marketing, Transportation	Marketing, transportation
Consumption + Investment	Purchase of products/commodities	Selection of needed service providers



Figure 3.1. *A typical portrayal of channel structure for consumer goods.*

THE WHOLESALE TRADE AND TRANSPORTATION SYSTEM

The supermarket, the shopping mall, the restaurant, and other retail outlets are serviced directly by a group of buying agents, traders, and wholesalers. Agents, traders and wholesalers act as the middlemen between the retail stores and the manufacturers, but are seldom involved in the production of the product itself. Their purpose is to facilitate the buying and selling of finished wholesale goods, to match the needs of the retailer with the manufacturing source, and to make the retailer aware of the variety of products available.

Management experts refer to this wholesale process as “marketing channels.” Figure 3.1 illustrates the potential number of supply stages.

Not every production process involves several levels of wholesaling. For example, if individuals cut their own Christmas trees and sell them on a corner lot, the middleman is left out of the market. Sometimes the manufacturer is the consumer, as in the case of a gardener who consumes the fruits and vegetables from the garden. However, in most production processes, there is at least one middleman between the manufacturer and the retailer.

Service providers also market their services in ways that facilitate matching the needs of the service user with the abilities of the service provider. Marketing tools and techniques for the marketing of goods and the marketing of services are the

same. The focus of marketing is on availability, quality, and user satisfaction for both goods and services. Quality for goods relates to tangible items while quality for services relates to skill and ability.

THE MANUFACTURING SECTOR

Another important stage, the production of the product itself, occurs before wholesale trade. At this stage the automobile is assembled, the clothes are manufactured, the food is processed, and the textbook is printed. The industrial sector of the economy is huge, involving the production of hundreds of thousands of goods each year. It crosses national boundaries, with inputs and manufactured goods being imported from around the world.

The industrial process involves numerous mini-stages of production. In a famous example in the first chapter of *The Wealth of Nations*, Adam Smith describes 18 distinct operations, some occurring simultaneously, in the making of pins. Although he uses the manufacturing of the pin to demonstrate the principle of the division of labor, it also demonstrates the “assembly line” nature of the pin factory. Smith writes, “One man draws out the wire, another straightens it, a third cuts it, a fourth points it, a fifth grinds it at the top for receiving the head; to make the head requires two or three distinct operations.”¹

Today, the production of automobiles, computers and other modern-day goods involves complicated procedures and man-made materials. Over time the industrial process has become more complex as scientists and engineers engage in extensive research and collaborate to build advanced machinery and tools.

For example, figure 3.2 illustrates a generic electronics supply chain.

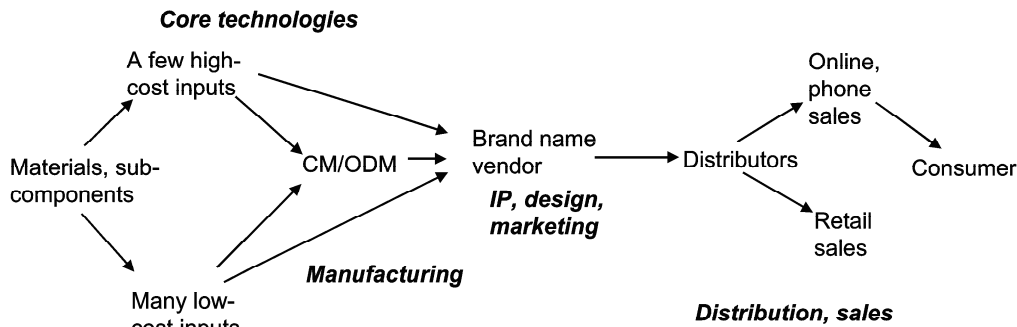


Figure 3.2. *Generic Electronics Supply Chain.* Source: Greg Linden, Kenneth L. Kraemer, Jason Dedrick, “Who Captures Value in a Global Innovation System? The Case of Apple’s iPod,” *Personal Computing Industry Center (UCLrvine School of Business, 2007)*, p. 3.

1 Adam Smith. *The Wealth of Nations*. (New York: Modern Library, 1965 [1776]), p.4.

As you can see from this diagram, each producer purchases inputs and adds value, which then becomes part of the cost of the next stage of production. In the first stage, we see that each product contains a large number of low-value components, such as capacitors and resistors, that cost only pennies each. Most electronics products also contain a few high-valued components such as a visual display, hard drive and key integrated circuits. These components have their own multinational supply chains, contract manufacturers (CMs) and original design manufacturers (ODMs). The supply chain is guided by a lead firm (such as IBM, HP, or Apple) to create a brand-name product that distributors sell to retailers and final consumers.

While humans do not “manufacture” their skills and abilities, the concept of production applies to service providers as well as to goods. The acquisition of skills and abilities involves time, money, and the dedication of resources (human) before the service provider is capable of providing the service to the client/consumer. Customers are often willing to pay higher rates for skilled providers of services than those paid for unskilled providers.

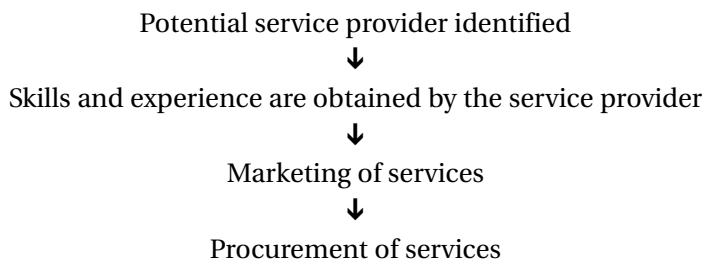
THE EARLIEST STAGE: BASIC RESOURCES

Before manufacturing, the “raw commodity” or “natural resource” stage of the production process must be addressed. Resource suppliers facilitate this earliest stage in the “make” economy. At this stage of production, minerals are mined, crops are grown and harvested, fish are caught from the ocean, and crude oil is pumped out of the ground.



Between the stages of production, goods are transported from one location to another—from city to city, state to state, or country to country. Transportation of goods and the communication of information are vital aspects of the whole transformation process.

All aspects of the production processes take time, but the production of natural resources can sometimes take the longest period of time. It may take 60 years to grow a tree that can finally be used to make paper. Paper and wood manufacturers plant tree farms using methods that will ensure that trees of varying ages are available for harvesting. Many raw commodities such as crude oil, iron ore and copper are slowly being depleted. Their continued use depends entirely on the ability of capitalists and entrepreneurs to discover new sources of supply, or to develop new methods of extracting natural resources from the earth. Similarly, service providers require the input of knowledge and experience in order to reach the point where they can provide services to the consumer.



A GENERAL VIEW OF THE ECONOMIC PROCESS

All usable goods originally come from raw commodities in the earth, and services come from human labor. Natural resources are grown or extracted and transformed into manufactured goods, transported and sold in the wholesale trade, and made available in the retail stores for ultimate consumer use. It's a wonder of nature how 90 elements in the earth can, through manufacturing processes, create such a variety of substances for seemingly unlimited uses. All services result from the provider acquiring knowledge and expertise that is marketable.

The economic process described above is the essence of the “make” economy. Every good used in society goes through this complex production process, from raw commodities through manufacturing to consumer and capital goods. The entire production process and the hustle and bustle of business and trade in the marketplace all have the same effect: fulfilling consumer needs, creating wealth, and increasing everyone's standard of living.

As science writer Ivan Amato states, “Human beings extract about 15 billion tons of raw material—that's 30 trillion pounds—from the earth each year, and from that they make every kind of stuff that you can find in every kind of thing. Mined ore becomes metal becomes wire becomes part of a motor becomes a cooling fan in a

computer. Harvested wood becomes lumber becomes a home. Drilled petroleum becomes chemical feedstock becomes synthetic rubber becomes automobile tires. Natural gas becomes polyethylene becomes milk jugs and oversized, multicolored yard toys. Mined silica sand become silicon crystal becomes the base of microelectronic chips. Each kind of stuff is a link to enormous industrial trains whose workers process the world’s raw materials into usable forms that constitute the items of our constructed landscape.”²

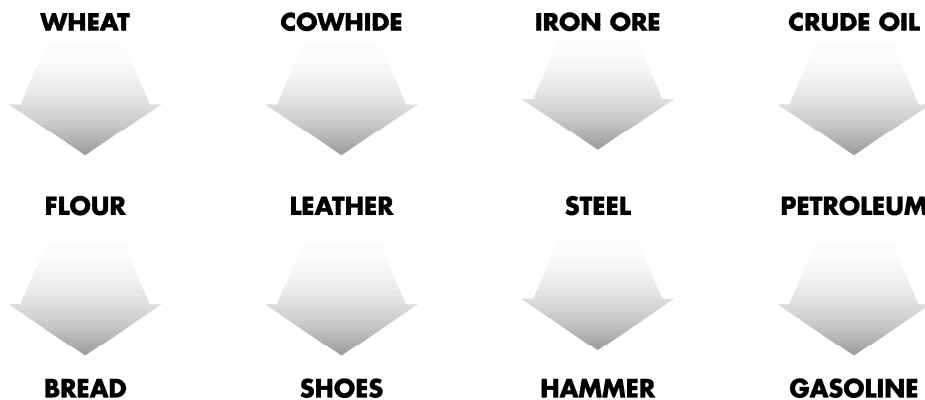


Figure 3.3. *The stages of production of select products in the “make” economy.*

Note that Amato says that the transformation process always goes from raw commodity to intermediate product to final use either as a consumer or capital good—from unfinished, unusable “stuff” to finished, usable “stuff.”

WHAT DETERMINES VALUE?

What determines the prices of labor, capital goods, and other factors in the production process? David Ricardo (1772-1823) and Karl Marx (1818-83) advocated a cost-of-production theory of value, arguing that the amount and cost of labor controlled the output and prices of final consumer goods. But the Marginalist Revolution in the 1870s, led by Carl Menger, William Stanley Jevons, and Leon Walras, dispelled this labor theory of value. They noted that individuals make choices on the basis of preferences and values, and recognized therefore that no amount of labor or production adds value to a product or service unless there is sufficient final demand to warrant the cost. Value consists of the subjective valuations of individual users. In sum, final consumer demand had to be sufficiently high enough before producers would employ productive resources to produce a product or service. Final demand is the ultimate determining factor in what is produced and at what price.³

² Ivan Amato, *Stuff: The Materials the World is Made Of* (Basic Books, 1997), p. 2.

³ For a complete review of this controversy, see Mark Skousen, *The Making of Modern Economics*, 2nd ed. (M. E. Sharpe, 2009), chapter 7.

ANALYSIS OF INDIVIDUAL PRODUCTS

The following general criteria relate to the economic process of individual goods:

1. The production of each good or service takes time; some products take longer than others to produce.
2. The production of each good or service can take several stages to accomplish.
3. Value is added at each stage of production. As the product moves along each point of the transformation process, the producer applies land, labor, and capital in order to advance the semi-finished good toward the ultimate consumer stage. The factors of production add value to the product as it moves along the production process.

Figure 3.4 is the simplified illustration of how a simple product, bread, is produced over time and how value is added at each stage of production. This stages-of-production diagram incorporates the three basic characteristics of the economic process; production takes time, production involves several stages of completion, and production adds value at each stage.

The vertical axis represents the number of stages needed to produce a commodity. In this example, four stages are required to produce bread. The first or earliest stage (wheat) is listed at the top, with each succeeding stage following below it. The last stage (retail bread) is the completed or finished stage—the consumer good.

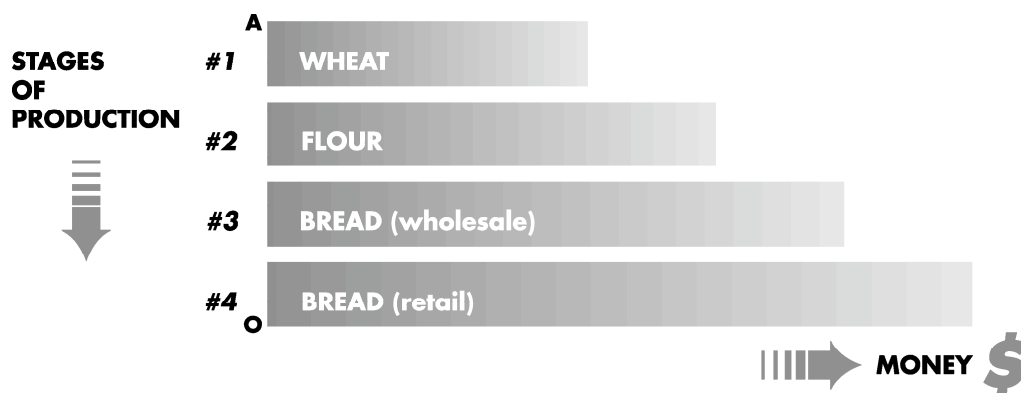


Figure 3.4. Four basic stages of bread production.

The vertical axis also measures the total amount of time it takes to make bread. Point A represents the time when the wheat is planted by the farmer. Point O represents the time the bread is sold to the consumer in the grocery store.

The horizontal axis measures output in terms of gross revenue or total expenditures at each stage of production. For example, at the final retail stage the horizontal axis measures the gross revenue in one year generated by the grocery store in selling bread. It is not a measure of the number of loaves sold. Revenue is a monetary figure based on dollars, pounds, euros, or whatever medium of exchange is used to buy and sell bread.