

**ACCY 201/202** 

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# DEPARTMENT OF ACCOUNTANCY ACCY 201/202

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This book contains material from:

# Managerial Economics and Organizational Architecture, *Second Edition*

James A. Brickley Clifford W. Smith, Jr. and Jerold L. Zimmerman

all of William E. Simon Graduate School of Business Administration University of Rochester

## The Psychology of Judgment and Decision Making

Scott Plous - Wesleyan University

## Accounting for Decision Making and Control, Third Edition

Jerold L. Zimmerman - University of Rochester

# Core Concepts of Accounting Information Theme I: The Users/Uses of Accounting Information, 1999/2000 Edition

Karen V. Pincus, Ph.D. University of Arkansas

# Management Accounting: Analysis and Interpretation, Second Edition

Cheryl S. McWatters – McGill University

Dale C. Morse – University of Oregon

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# Managerial Economics and Organizational Architecture

Second Edition

James A. Brickley Clifford W. Smith, Jr. Jerold L. Zimmerman

Chapter 3

Markets, Organizations, and the Role of Knowledge

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# Chapter 3

# Markets, Organizations, and the Role of Knowledge

#### CHAPTER OUTLINE

Goals of Economic Systems
Property Rights and Exchange in a Market Economy
Dimensions of Property Rights
Gains from Trade
Basics of Supply and Demand
The Price Mechanism

Prices as Social Coordinators Externalities and the Coase Theorem

Markets versus Central Planning General versus Specific Knowledge Specific Knowledge and the Economic System Incentives in Markets

Contracting Costs and Existence of Firms
Contracting Costs in Markets
Contracting Costs within Firms

Contracting Costs within Firms Managerial Implications

Case Study: Property Rights Security in Russian Deprivatization Summary

uring much of the twentieth century, the Soviet Union and the United States were involved in an acrimonious debate over the merits of free-market versus centrally planned economies. The Soviet belief in the superiority of central planning was summarized eloquently in Premier Nikita Khruschev's ominous prophecy, "We will bury you." The 1990s, however, witnessed the rapid collapse of many of the centrally planned economies around the world. The Soviet Union broke apart. The Berlin Wall was dismantled, and West and East Germany were reunified. Communist governments across Eastern Europe were replaced, while market economies in countries like Singapore and the United States thrived.

These events appear to support the contention that central economic planning does not work as well as free markets. Yet on closer inspection, it is evident that a substantial amount of central economic planning occurs within market economies. Indeed, most of the production in modern economies takes place within firms, where resource allocation decisions are made by managers in ways that often are closely akin to central planning.

Management, through administrative actions, dictates the output mix of the firm as well as methods of production. These decisions can involve thousands of employees and billions of dollars in resources. Indeed, the monetary size of the world's largest firms exceeds that of many national economies. For instance, the 1997 gross national products of Peru, Kenya, and Portugal were \$110 billion, \$45 billion, and \$150 billion, respectively; the 1997 net sales at General Motors were \$178 billion. If central planning is so bad, why do firms within market economies rely on it so extensively?

In this chapter, we examine three questions: How do market systems work? What are the relative advantages of market systems compared to central planning in large economies? Why do we observe so much economic activity conducted within firms in market economies?

Answers to these questions are particularly important to managers for two reasons. First, an understanding of how markets work helps managers make appropriate input, output, and pricing decisions. Second, national economies are like firms in that both are human creations to organize economic activity. Understanding the relative advantages and disadvantages of markets, central planning, and firms is directly relevant to understanding firm-level issues such as whether to decentralize decision rights to employees and whether to make or buy each of the firm's inputs.

## Goals of Economic Systems

Every economic entity—be it a national economy, firm, or household—is confronted with three basic issues:

- What to produce
- How to produce it
- How to allocate the final output

Economic entities can be organized in alternative ways to address these issues. For instance, national economies can rely on either central planning or free markets. Similarly, firms and households can use centralized decision making, where the CEO or head of household makes all major decisions. Alternatively, other people in the firm or household can be granted substantial decision-making authority.

Given the alternatives, what is the best way to organize economic activities? To answer this question, we need some criterion for comparing alternative systems. Unfortunately, disagreement over such a criterion is likely. For instance, you might argue that an ideal system would produce your preferred mix of products and give them all to you, whereas your neighbor is certain to disagree. Given these differences in opinion, economists focus on a relatively uncontroversial but narrow criterion for comparing the effectiveness of economic systems: *Pareto efficiency*.<sup>1</sup> A distribution of resources is said to be Pareto-efficient if there is no alternative allocation that keeps all individuals at least as well off but makes even one person better off. If an economic system is not producing an efficient allocation of resources, it is possible to make its members better off by adopting Pareto-improving changes (thus benefiting some members without hurting others).

As an example, assume that the economy produces 1,000 personal computers and no VCRs. This distribution of resources is not Pareto-efficient if there is a subset of individuals who prefer to substitute a VCR for a computer and could make this substitution without reducing the utility of other individuals in the society. Based on the concept of

<sup>&</sup>lt;sup>1</sup>The term is named after Vilfredo Pareto, 1848–1923, an Italian economist and sociologist.

Pareto efficiency, its citizens would be better off if the economy produced more VCRs and fewer computers. If this action adversely affects even one person, the move would not be Pareto-improving and an economist would have little formal basis to conclude whether the move would be good or bad from a societal viewpoint.<sup>2</sup> Pareto efficiency also requires that goods be produced in an efficient manner. The resource allocation would not be Pareto-efficient if production could be rearranged so that more VCRs were produced without lowering computer production (and vice versa).

Within centrally planned economies, government officials decide what to produce, how to produce it, and who obtains the final output. In free markets, these decisions are decentralized to individuals within the economy. At least in concept, a central planner could order any feasible production and distribution of goods. Thus, any allocation of resources that could be achieved by a market economy also could be achieved by a centrally planned economy—at least in principle. We begin by discussing how market systems work and how they can produce a Pareto-efficient allocation of resources. We then discuss why in large economies a market is more likely to produce an efficient resource allocation than central planning.

# Property Rights and Exchange in a Market Economy

A property right is a legally enforced right to select the uses of an economic good. A property right is private when it is assigned to a specific person. Private property rights are alienable in that they can be transferred (sold or given) to another individual. For example, if Valerie Fong owns an automobile, she can use the automobile as she sees fit (within limits set by traffic laws). Valerie can restrict others from using her vehicle. She also can sell the automobile (transfer to another person whatever property rights she has in the vehicle). The government maintains police and a court system to help enforce these property rights.

An important feature of a market economy is the use of private property rights. Owners of land and other resources have the legal rights to decide how to use these resources and frequently trade these rights to other individuals. They are free to start new businesses and to close existing businesses. In contrast, in centrally planned economies, property tends to be owned by the state; government officials decide how to use these resources.

### Dimensions of Property Rights

Ownership involves two general dimensions: use rights and alienability rights. These aspects of ownership are not always bundled together. You own your body in the sense that you can decide what activities to pursue. Yet, there are significant legal restrictions on alienability. For instance, you cannot enter a legally enforceable contract to sell one of your kidneys, despite the fact that you have two, can live comfortably with one, and might value your second kidney much less than a wealthy individual dying from kidney failure. This restriction eliminates the possibility of a free market in kidneys. In some transactions, it is possible to sell use rights while retaining alienability rights. For instance, in a rental contract, the renter obtains the rights to use an apartment, but does

<sup>&</sup>lt;sup>2</sup>Therefore, economics does not address the question of which of the many possible efficient resource allocations is best for a society. Producing your preferred set of products and giving them all to you is efficient (the allocation cannot be changed without making you worse off). However, others will argue that the allocation is not fair or equitable. Economists have no special training in resolving these issues and thus rarely attempt to settle these types of debates.

#### Patent for Priceline.com

Government-enforced patents better-define property rights in new inventions. Patents in the United States are awarded for processes, machines, manufacturers, or compositions of matter that are considered useful, novel, and unobvious. Patents protect the intellectual property rights of the inventor and thus protect the common good by

providing incentives to innovate novel and unobvious inventions.

Priceline.com received a patent for the world's first buyer-driven e-commerce system where users can go to the Internet to name their price for goods and services. Some question whether Priceline.com's process is really novel and unobvious. If the patent is upheld, future Internet businesses where consumers can name their own price will have to pay Priceline.com a royalty. This royalty is a tax on all Internet consumers, which will lead to unnecessary litigation and impede development of online commerce. Awarding a patent for something that is obvious lowers incentives for future innovations that use this process.

Source: J. Gurley (1999), "The Trouble with Internet Patents," *Fortune* (July 19), 118.

not have the right to sell the unit. Conversely, the landlord has the right to sell the apartment, but does not have the right to use it while the lease is in force. (Rental, lease, and franchise agreements separate alienability and use rights; we examine these contracts in Chapter 18.)

#### Gains from Trade

To understand how a market economy works, we must understand the motives for trading property rights. Why do people buy and sell? The basic answer is to make themselves better off.

Within the economic framework, people order their preferences and take actions that maximize their level of satisfaction (utility). Trade takes place because the buyer places a higher value on the item than the seller. The corresponding *gains from trade* make both parties better off—voluntary trade is *mutually advantageous*. For example, if José Coronas is willing to pay up to \$16,000 for a particular automobile and Rochester Motors is willing to sell the automobile for as little as \$10,000, the potential gains from trade are \$6,000 (\$16,000 - \$10,000). If the automobile trades at \$13,000, both parties are \$3,000 better off. José gives up \$13,000 to buy something that he values at \$16,000, while Rochester Motors obtains \$13,000 for something it values at only \$10,000. At other prices between \$10,000 and \$16,000, the total gains are still \$6,000

#### Lack of Well-Defined Property Rights Inhibits Repairs

Two years after the massive 1994 earthquake that leveled Kobe, Japan, 51,000 people were still living in shelters and seven of every ten buildings remained damaged. The problem was ill-defined property rights. Everybody had rights: tenants, subtenants, landowners, landlords. In one city block, there were 303 renters, lessees, subletters, and so forth, often with overlapping claims. All had to agree to the rebuilding plan before construction could begin—thereby snarling the process. Kobe hired 1,000 arbitrators and set up a property-rights hot line. But despite \$30 billion of rebuilding money available, only 4 of 100 "construction teams" actually had begun rebuilding.

Source: J. Sapsford (1996), "Building Blocked," *The Wall Street Journal* (December 12), A1.

#### Tom Sawyer, Huckleberry Finn, and Gains from Trade

An example of gains from trade is provided by Mark Twain in a dialogue between Tom Sawyer and Huck Finn:

"Say-what's that?"

"Nothing but a tick."

"Where'd you get him?"

"Out in the woods."

"What'll you take for him?"

"I don't know. I don't want to sell him."

"All right. It's a mighty small tick, anyway."

"Oh, anybody can run a tick down that don't belong to them. I'm satisfied with it. It's good enough for me."

"Sho, there's ticks a-plenty. I could have a thousand of 'em if I wanted to."

"Well, why don't you? Becuz you know mighty well you can't. This is a pretty early tick, I reckon. It's the first one I've seen this year."

"Say, Huck-I'll give you my tooth for him."

"Le's see it."

Tom got out a bit of paper and carefully unrolled it. Huckleberry viewed it wistfully. The temptation was very strong. At last he said:

"Is it genuwyne?"

Tom lifted his lip and showed the vacancy.

"Well, all right," said Huckleberry, "it's a trade."

Tom enclosed the tick in the percussion-cap box that had lately been the pinch bug's prison, and the boys separated, each feeling wealthier than before.

Source: M. Twain (1944), *The Adventures of Tom Sawyer* (Whitman: Racine, WI), 54–55.

but they are not split evenly. For example, at a price of \$15,000, José gains \$1,000 in value, while Rochester Motors gains \$5,000.<sup>3</sup>

From where do these gains from trade come? One source is differences in preferences. The buyer and seller simply may place different values on the traded item. For example, some people value new automobiles more than other people do. Another important source of gains is that the seller may be able to produce the item more cheaply than the buyer and thus has a *comparative advantage* in its production. In advanced economies, individuals specialize in producing goods where they have a comparative advantage; they then trade to acquire other goods. Specialization greatly enhances the standard of living of a society. Imagine that you had to be completely self-sufficient, making your own clothing, growing your own food, building your own house, and producing your own vehicles for transportation. Your overall standard of living would be much lower than it is now, living in a modern, specialized economy.

<sup>3</sup>Sometimes, individuals regret a trade after the fact. For instance, José might be unhappy that he purchased a particular automobile from Rochester Motors. On average, he must find it advantageous to purchase automobiles or else he would quit purchasing them (at least from Rochester Motors). José's ability to say no limits the extent to which he can be exploited in any voluntary trade.

#### Strategic Business Planning: Ignoring Economics of Trade

During the 1970s, many firms adopted a particular form of strategic business planning. All projects of the firm were ranked based on growth potential and market share. Projects with high growth potential and high market share were called stars, while projects with low growth potential and market share were referred to as dogs. Dogs were sold, while stars were kept. Funding for the stars came from cash cows, projects with high market share and low growth potential.

The idea behind this process is to treat the projects of a firm like stocks in a portfolio. Through systematic analysis, winners are to be kept and losers sold. Money is invested in the winners to enhance the firm's competitive advantage. While the idea might sound intriguing, its underpinnings are inconsistent with the basic economics of trade—sell if, and only if, you can get a price that exceeds the value of keeping the item yourself. This principle implies that, contrary to the process, dogs should be kept unless they can be sold at sufficiently high prices. Moreover, stars should be sold if the price is sufficiently high.

By the 1980s, many firms found that violating the basic economics of trade had led them to accumulate suboptimal collections of projects. Large increases in stock prices were observed as these firms reshuffled plants, divisions, and subsidiaries through sell-offs, spin-offs, and divestitures.

Source: "The New Breed of Strategic Planner" (1984), Business Week (September 17), 62–68.

A common misconception is that trade takes place because people have too much of some goods—people sell to others what they cannot use themselves. This view, however, does not explain why individuals sell houses, cars, jewelry, land, and other resources (such as Tom's tooth and Huck's tick) that they value highly and have in short supply. The economic explanation for trade argues that trade takes place not because people have too little or too much of a good. Rather, trade takes place because a person is willing to pay a higher price for a good than it is worth to its current owner. While you might love your new sports car, you would still sell it if someone offered you a highenough price. And winning bidders of collectibles auctioned on eBay are frequently individuals with collections of related items.

It is important to recognize that trade is an important form of value creation. Trading produces value that makes individuals better off. Gains from trade also provide important incentives to move resources to more productive uses. If George Nichols can make the most productive use of a piece of land, he will be willing to pay a higher price for the land than other potential users. The current owner, Jody Crowe, has the incentive to sell the land to George, because she gets to keep the proceeds from the sale. It is

### Gains from Trade: The Story of McDonald's

McDonald's Corporation, with over 24,000 restaurants in 114 countries, is the largest fast-food company in the world. Its worldwide sales in 1998 were over \$36 billion. Although Ray Kroc often is given credit for founding this company, the history of the restaurant goes back to 1937 when two brothers, Dick and Mac McDonald, opened a drive-in restaurant. These brothers conceived of the idea of a clean, efficient, quick-service restaurant with a limited menu featuring hamburgers and french fries. However, Kroc had the vision and the ability to take this idea and expand it nationwide. Taking advantage of potential gains from trade, the McDonald brothers sold Kroc the exclusive rights to franchise copies of their operation. This transaction resulted in one of the most successful business operations of all time.

Source: C. Shook and R. Shook (1993), Franchising: The Business Strategy That Changed the World (Prentice Hall: Englewood Cliffs, NJ).

these incentives that help to promote a Pareto-efficient allocation of resources in a market economy. After all mutually advantageous trades are completed, it is impossible to change this allocation without making someone worse off.

# Basics of Supply and Demand

Gains from trade explain why individuals buy and sell. But what coordinates the separate decisions of millions of individuals in a market economy to prevent chaos? Why are there not massive surpluses of some goods and huge shortages of other goods? What restricts the amounts demanded by the public to the amounts supplied? Answers to these questions come from an understanding of the market price system.

#### The Price Mechanism

The basic economics of a price system can be illustrated through standard supply-and-demand diagrams. Figure 3.1 displays a supply-and-demand diagram for a particular model of personal computer—for example, a Pentium III machine with standard quality and features. The vertical axis on the graph shows the price for a PC, and the horizontal axis shows the total quantity of PCs demanded and supplied in the market for the period (for example, a month).

The market includes all potential buyers and sellers of this type of PC. Suppose that in this market there are many buyers and sellers and that individual transactions are so small in relation to the overall market that the price is unaffected by any single sale or purchase. In this case, no buyer or seller has market power: All trades are made at the going market price. We label this type of market as *competitive*. (In Chapter 6, we extend our analysis of competitive markets; we also examine *noncompetitive* market structures.)

The *demand curve* depicts how many total PCs consumers are willing to buy at each price. The demand curve slopes downward because consumers typically buy more if the price is lower. For example, consumers are likely to buy more PCs if the price is P' (say, \$500) than if the price is P'' (say, \$1,500).

The supply curve depicts how many PCs producers are willing to sell at each price. The curve slopes upward: At higher prices, producers are able and willing to produce and sell more units. For example, at a price of \$500, many potential producers cannot cover their costs, and thus they refrain from entering production. At a price of \$1,500, more units are manufactured and brought to market.

### Shifts in Demand, Quantity, and Price at the Ryder Cup

The Ryder Cup features competition between top American and European golfers. It has become one of the more prominent golfing events in the world. In 1995, the Ryder Cup was held at Oak Hill Country Club in Rochester, New York. The event attracted over 30,000 spectators a day. Many of these spectators (for example, Prince Andrew of Great Britain) were from outside the Rochester area.

A significant number of these visitors were avid golfers who wanted to play while they were in Rochester. Rochester has several courses that are open to the public. However, many courses in the area are private (only members and their guests can play). Facing this dramatic temporary increase in the demand for public golf courses, several of the private courses decided to become public during the week of the Ryder Cup. These courses charged high fees ranging from \$100 to \$250 per round (their normal guest fees were approximately \$50). This example highlights that shifts in demand motivate increases in the quantity supplied and the price of a product (in this case, golf times).