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# Multinational Financial Management

Alan C. Shapiro



WILEY



TENTH EDITION

# MULTINATIONAL FINANCIAL MANAGEMENT

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ALAN C. SHAPIRO

*University of Southern California*

WILEY

To my parents,  
Hyman and Lily Shapiro,  
for their encouragement,  
support, and love

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# PREFACE

## APPROACH

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The basic thrust of this tenth edition of *Multinational Financial Management* (MFM) is to provide a conceptual framework within which the key financial decisions of the multinational firm can be analyzed. The approach is to treat international financial management as a natural and logical extension of the principles learned in the foundations course in financial management. Thus, it builds on and extends the valuation framework provided by domestic corporate finance to account for dimensions unique to international finance. *Multinational Financial Management* presumes a knowledge of basic corporate finance, economics, and algebra. However, it does not assume prior knowledge of international economics or international finance and is therefore self-contained in that respect.

*MFM* focuses on decision making in an international context. Analytical techniques help translate the often vague guidelines used by international financial executives into specific decision criteria. The book offers a variety of real-life examples, both numerical and institutional, that demonstrate the use of financial analysis and reasoning in solving international financial problems. These examples have been culled from the thousands of applications of corporate practice that I have collected over the years from business periodicals and my consulting practice. Scattering the best of these examples throughout the text allows students to see the value of examining decision problems with the aid of a solid theoretical foundation. Seemingly disparate facts and events can then be interpreted as specific manifestations of more general financial principles.

All the traditional areas of corporate finance are explored, including working capital management, capital budgeting, cost of capital, and financial structure. However, this is done from the perspective of a multinational corporation, concentrating on those decision elements that are rarely, if ever, encountered by purely domestic firms. These elements include multiple currencies with frequent exchange rate changes and varying rates of inflation, differing tax systems, multiple money markets, exchange controls, segmented capital markets, and political risks such as nationalization or expropriation. Throughout the book, I have tried to demystify and simplify multinational financial management by showing that its basic principles rest on the same foundation as does corporate finance.

The emphasis throughout this book is on taking advantage of being multinational. Too often companies focus on the threats and risks inherent in venturing abroad rather than on the opportunities that are available to multinational firms. These opportunities include the ability to obtain a greater degree of international diversification than security purchases alone can provide as well as the ability to arbitrage between imperfect capital markets, thereby obtaining funds at a lower cost than could a purely domestic firm.

## CHANGES TO THE TENTH EDITION

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The tenth edition of *Multinational Financial Management* has been extensively updated to incorporate the changes in the world financial system, particularly the ongoing European sovereign debt crisis and the continuing development of China and India. The new material that has been added includes the following:

- Update of the “Ruble Is Rubble” application (Chapter 2)
- Discussion of recent instability in the international monetary system (Chapter 3)
- Discussion of the trilemma policymakers face in designing an exchange rate regime and examination of how the BRICs dealt with the trilemma in setting their own currency policies (Chapter 3)
- Updated discussion of competitive devaluations (Chapter 3)
- Discussion of QE2 and extensive analysis of the recent crises and structural flaws in the European Monetary Union, especially related to the experience of the PIGS (Chapter 3)
- Discussion of the carry trade and Iceland’s meltdown (Chapter 4)
- Discussion of the iPhone’s design and manufacture and its implications for the current-account balance (Chapter 5)
- Discussions of recent Indian economic reforms and Solyndra in the context of crony capitalism (Chapter 6)
- Analysis of the mathematics of sovereign debt analysis and its application to the Eurozone (Chapter 6)
- Discussion of the PHLX FOREX Options market (Chapter 8)
- Discussion of credit default swaps (Chapter 9)
- Discussion of how Japanese manufacturers plan to cope with a strong yen (Chapter 11)
- Analysis of how the Basel rules contributed to the global financial crisis (Chapter 12)
- Analysis of the strategic mistakes made by the Japanese electronics industry (Chapter 16)
- Discussion of the controversy over whether Export-Import Bank financing distorts markets or corrects for market distortions (Chapter 18)

The book also contains new charts and illustrations of corporate practice that are designed to highlight specific techniques or teaching points. Again, the emphasis is on reinforcing and making more relevant the concepts developed in the body of each chapter.

## PEDAGOGY

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The pedagogical thrust of the book is greatly enhanced by including the following learning and teaching aids:

**Focus on Corporate Practice:** Throughout the text, numerous real-world examples and vignettes provide actual applications of financial concepts and theories. They show students that the issues, tools, and techniques discussed in the book are being applied to day-to-day financial decision making.

**Extensive Use of Examples and Applications:** Numerous short applications and examples of specific concepts and techniques are scattered throughout the body of most chapters.

**Learning Objectives:** Each chapter opens with a statement of its action-oriented learning objectives. These statements enhance learning by previewing and guiding the reader's understanding of the materials that will be encountered in the chapter.

**Mini-Cases:** Each chapter has at least one mini-case that briefly presents a situation that illustrates an important concept in that chapter and then has a series of questions to test student understanding of that concept.

**Problems and Discussion Questions:** There are many realistic end-of-chapter questions and problems that offer practice in applying the concepts and theories being taught. Many of these questions and problems relate to actual situations and companies.

**Web Resources:** Each chapter has sections called "Web Resources" and "Web Exercises" that contain a set of relevant websites for that chapter and several exercises that use those websites to address various issues that arise in the chapter. In addition, the longer cases that previously appeared at the end of each section are now available on the Internet. Solutions to these cases are available to faculty.

**Glossary:** The back of the book contains a glossary that defines the key terms appearing in the text.

## ADDITIONAL RESOURCES

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A complete set of ancillary materials is available for adopters of *Multinational Financial Management*. These resources can be found on the book's companion site at [www.wiley.com/college/shapiro](http://www.wiley.com/college/shapiro):

- An Instructor's Manual containing detailed solutions to the end-of-chapter questions and problems and tips for teaching each chapter
- Additional Case Studies along with teaching notes and solutions
- A Test Bank containing more than 160 additional questions and problems suitable for use in multiple choice exams
- PowerPoint Presentations for course lectures. In addition, electronic files for all the figures in the text are available in an Image Gallery.

## THANKS

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My family, especially my wife, Diane, as well as my mother and three brothers, have provided me (once again) with continual support and encouragement during the writing of this book. I appreciate the (usual) cheerfulness with which Diane endured the many hours I spent writing the tenth edition of this text.

**A.C.S.**

*Pacific Palisades*



## SELECTED CURRENCIES AND SYMBOLS

COUNTRY	CURRENCY	SYMBOL	COUNTRY	CURRENCY	SYMBOL
Afghanistan	Afghani	Af	Ecuador	sucre	S /.
Albania	lek	lek	Egypt	pound	LE
Algeria	dinar	DA	European	euro	€
Antigua and Barbuda	E.C. dollar	E.C.\$	Monetary Unit		
Argentina	peso	Arg\$	El Salvador	colon	C
Australia	dollar	\$A	Fiji	dollar	F\$
Austria	euro	€	Finland	euro	€
Bahamas	dollar	BS	France	euro	€
Bahrain	dinar	BD	Germany	euro	€
Barbados	dollar	BDS\$	Greece	euro	€
Belgium	euro	€	Guatemala	quetzal	Q
Belize	dollar	BZ\$	Honduras	lempira	L
Bermuda	dollar	Ber\$	Hong Kong	dollar	HK\$
Bolivia	boliviano	Bs	Hungary	forint	Ft
Botswana	pula	P	India	rupee	Rs
Brazil*	real	R	Indonesia	rupiah	Rp
Cambodia	riel	CR	Iran, Islamic Republic of	rial	Rls
Canada	dollar	\$ or Can\$	Ireland	euro	€
Cayman Islands	dollar	CS	Israel	new sheqel	NIS
Chile	peso	Ch\$	Italy	euro	€
China, People's Republic of**	yuan	Y	Jamaica	dollar	J\$
Colombia	peso	Col\$	Japan	yen	¥
Costa Rica	colon	C	Kenya	shilling	K Sh
Cyprus	euro	€	Korea, Republic of	won	W
Denmark	krone	DKr	Kuwait	dinar	KD
Dominican Republic	peso	RD\$	Liberia	dollar	\$
			Liechtenstein	franc	Sw F
			Luxembourg	euro	€

\*Prior to 1994, Brazil's currency was the cruzeiro, Cr\$.

\*\*The currency is the renminbi, whereas the currency unit is the yuan.

COUNTRY	CURRENCY	SYMBOL	COUNTRY	CURRENCY	SYMBOL
Macao	pataca	P	Singapore	dollar	S\$
Malawi	kwacha	MK	Slovakia	euro	€
Malaysia	ringgit	MS	Slovenia	euro	€
Malta	euro	€	Somalia	shiling	So. Sh.
Mauritius	ruppe	Mau Rs	So. Africa	rand	R
Mexico	peso	Mex\$	Spain	euro	€
Morocco	dirham	DH	Sri Lanka	rupee	SL Rs
Namibia	rand (S.Afr.)	R	Sweden	krona	SKr
Netherlands	euro	€	Switzerland	franc	SFr
Netherlands	guilder	NA. f	Taiwan	dollar	NT\$
Antilles			Thailand	baht	B
New Zealand	dollar	\$NZ	Trinidad and Tobago	dollar	TT\$
Nigeria	naira	N	Tunisia	dinar	D
Norway	krone	NKr	Turkey	lira	LT
Oman	rial Omani	RO	Ukraine	ruble	rub
Pakistan	rupee	PRs	United Arab Emirates	dirham	Dh
Panama	balboa	B	United Kingdom	pound	£ or £ stg.
Papua New Guinea	kina	K	Uruguay	new peso	NUr\$
Paraguay	guarani	G	Vanuatu	vatu	VT
Peru	new sol	S/.	Venezuela	bolivar	Bs
Philippines	peso	₱	Vietnam	dong	D
Portugal	euro	€	Western Samoa	tala	WS\$
Qatar	riyal	QR	Zaire	zaire	Z
Russia	ruble	Rb	Zambia	kwacha	K
Saudi Arabia	riyal	SRI\$	Zimbabwe	dollar	Z\$
Senegal	franc	CFAF			



## SYMBOLS AND ACRONYMS

$a_h$	Expected real return on home currency loan
$a_f$	Expected real return on a foreign currency loan
ADR	American depository receipt
APV	Adjusted present value
B/L	Bill of lading
$\beta$	Beta coefficient, a measure of an asset's riskiness
$\beta^*$	All-equity beta
$\beta_e$	Levered $\beta$
$C_1$	Local currency cash flows in period $t$
C	Cost
C(E)	Price of a foreign currency call option
$d$	Amount of currency devaluation
D	Forward discount
$D_f$	Amount of foreign currency debt
$e_t$	Nominal exchange rate at time $t$
$e'_t$	Real exchange rate at time $t$
E	(a) Exercise price on a call option or (b) Amount of equity
$E_f$	Foreign subsidiary retained earnings
$f_t$	$t$ -period forward exchange rate
$g$	(a) Expected dividend growth rate or (b) Expected rate of foreign currency appreciation against the dollar
HC	Home currency
$i_f$	(a) Expected rate of foreign inflation per period or (b) Before-tax cost of foreign debt
$i_h$	Expected rate of home country inflation per period
$i_d$	Before-tax cost of domestic debt
$I_0$	Initial investment
IRPT	Interest rate parity theory
$k$	Cost of capital
$k_0$	Weighted cost of capital

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$k_e$	Cost of equity capital given the firm's degree of leverage
$k_1$	Weighted cost of capital for a project
$k^*$	Cost of equity capital if all equity financed
$L$	Parent's target debt ratio
LC	Local currency
L/C	Letter of credit
LDC	Less-developed country
LIBOR	London interbank offer rate
MNC	Multinational corporation
NPV	Net present value
OFDI	Office of Foreign Direct Investment
$P$	(a) Put option premium or (b) Principle amount of foreign currency loan
PIE	Price-earnings ration on a share of stock
PPP	Purchasing power parity
$r$	Effective yield on a bond
$r_h$	Home currency interest rate
$r_f$	Foreign currency interest rate
$r_{us}$	U.S. interest rate
$r_L$	Local currency interest rate
$R_f$	Risk-free rate of return
$R_m$	Required return on the market
$s$	Flotation cost, in percent, on long-term debt
$S$	Current spot rate
$S_i$	Interest subsidy in period $i$
SDR	Special drawing right
$t$	(a) Tax rate or (b) Time, when used as a subscript
$t_a$	Foreign affiliate tax rate
$T_i$	Tax savings in period $i$ association with using debt financing
$X_i$	Home currency cash flow in period $i$

**PART I**

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**ENVIRONMENT OF  
INTERNATIONAL  
FINANCIAL MANAGEMENT**



# Introduction: Multinational Enterprise and Multinational Financial Management

What is prudence in the conduct of every private family can scarce be folly in that of a great kingdom. If a foreign country can supply us with a commodity cheaper than we ourselves can make it, better buy it of them with some part of the produce of our own industry employed in a way in which we have some advantage.

ADAM SMITH (1776)

## LEARNING OBJECTIVES

- To understand the nature and benefits of globalization
- To explain why multinational corporations are the key players in international economic competition today
- To understand the motivations for foreign direct investment and the evolution of the multinational corporation (MNC)
- To identify the stages of corporate expansion overseas by which companies gradually become MNCs
- To explain why managers of MNCs need to exploit rapidly changing global economic conditions and why political policymakers must also be concerned with the same changing conditions
- To identify the advantages of being multinational, including the benefits of international diversification
- To describe the general importance of financial economics to multinational financial management and the particular importance of the concepts of arbitrage, market efficiency, capital asset pricing, and total risk
- To characterize the global financial marketplace and explain why MNC managers must be alert to capital market imperfections and asymmetries in tax regulations

A key theme of this book is that companies today operate within a global marketplace and can ignore this fact only at their peril. The internationalization of finance and commerce has been brought about by the great advances in transportation, communications, and information-processing technology. This development introduces a dramatic new commercial reality—the global market for standardized consumer and industrial products on a previously unimagined scale. It places primary emphasis on the one great thing all markets have in common—the overwhelming desire for dependable, world-class products at aggressively low prices. The international integration of markets also introduces the global competitor, making firms insecure even in their home markets.

The transformation of the world economy has dramatic implications for business. American management, for example, has learned that the United States can no longer be

viewed as a huge economy that does a bit of business with secondary economies around the world. Rather, the United States is merely one economy, albeit a very large one, that is part of an extremely competitive, integrated world economic system. To succeed, U.S. companies need great flexibility; they must be able to change corporate policies quickly as the world market creates new opportunities and challenges. Big Steel, which was virtually the antithesis of this modern model of business practice, paid the price for failing to adjust to the transformation of the world economy. Similarly, non-U.S. companies are finding that they must increasingly turn to foreign markets to source capital and technology and sell their products.

Today's financial reality is that money knows no national boundary. The dollar has become the world's central currency, with billions switched at the flick of an electronic blip from one global corporation to another, from one central bank to another. The international mobility of capital has benefited firms by giving them more financial options, while at the same time complicating the job of the chief financial officer by increasing its complexity.

The extent to which economies around the world have been integrated into a single global economy was vividly illustrated by the global nature of the financial crisis that began in August 2007 and was triggered by the subprime mortgage crisis. Financial globalization was pivotal to the boom in the U.S. housing market that preceded the subprime mortgage crisis (by providing a ready supply of low-cost foreign capital to fund mortgages) and was also the crucial conduit whereby problems in the U.S. housing market were transmitted to the rest of the world (as foreign investors in U.S. mortgage-backed securities were stuck with their risky bets). As the financial crisis led to a deep U.S. recession, its economic effects were transmitted overseas as well as a decline in American income reduced the U.S. demand for imported goods and services. Slow growth overseas, in turn, led to a steep decline in demand for U.S. exports. The swift decline in trade worsened both the U.S. and global recession.

Because we operate in an integrated world economy, all students of finance should have an international orientation. Indeed, it is the rare company today, in any country, that does not have a supplier, competitor, or customer located abroad. Moreover, its domestic suppliers, competitors, and customers likely have their own foreign choices as well. Thus, a key aim of this book is to help you bring to bear on key business decisions a global perspective, manifested by questions such as, Where in the *world* should we locate our plants? Which *global* market segments should we seek to penetrate? and Where in the *world* should we raise our financing? This international perspective is best captured in the following quotation from an ad for J.P. Morgan, the large, successful New York bank (known as JPMorgan Chase & Co. since its December 2000 merger with Chase Manhattan): "J.P. Morgan is an international firm with a very important American business."

## 1.1 THE RISE OF THE MULTINATIONAL CORPORATION

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Despite its increasing importance today, international business activity is not new. The transfer of goods and services across national borders has been taking place for thousands of years, antedating even Joseph's advice to the rulers of Egypt to establish that nation as the granary of the Middle East. Since the end of World War II, however, international business has undergone a revolution out of which has emerged one of the most important economic phenomena of the latter half of the twentieth century: the multinational corporation.

A **multinational corporation** (MNC) is a company engaged in producing and selling goods or services in more than one country. It ordinarily consists of a parent company located in the home country and at least five or six foreign subsidiaries, typically with a high degree of strategic interaction among the units. Some MNCs have upward of 100 foreign subsidiaries scattered around the world. The United Nations estimated in 2010 that over 82,000 parent

companies around the world (with over 807,000 foreign subsidiaries employing 80 million workers) can be classified as multinational.<sup>1</sup>

Based in part on the development of modern communications and transportation technologies, the rise of the multinational corporation was unanticipated by the classical theory of international trade as first developed by Adam Smith and David Ricardo. According to this theory, which rests on the doctrine of **comparative advantage**, each nation should specialize in the production and export of those goods that it can produce with highest relative efficiency and import those goods that other nations can produce relatively more efficiently.

Underlying this theory is the assumption that goods and services can move internationally but factors of production, such as capital, labor, and land, are relatively immobile. Furthermore, the theory deals only with trade in commodities—that is, undifferentiated products; it ignores the roles of uncertainty, economies of scale, transportation costs, and technology in international trade; and it is static rather than dynamic. For all these defects, however, it is a valuable theory, and it still provides a well-reasoned theoretical foundation for free-trade arguments (see Appendix 1A). But the growth of the MNC can be understood only by relaxing the traditional assumptions of classical trade theory.

Classical trade theory implicitly assumes that countries differ enough in terms of resource endowments and economic skills for those differences to be at the center of any analysis of corporate competitiveness. Differences among individual corporate strategies are considered to be of only secondary importance; a company's citizenship is the key determinant of international success in the world of Adam Smith and David Ricardo.

This theory, however, is increasingly irrelevant to the analysis of businesses in the countries currently at the core of the world economy—the United States, Japan, China, the nations of Western Europe, and, to an increasing extent, the most successful East Asian countries. Within this advanced and highly integrated core economy, differences among corporations are becoming more important than aggregate differences among countries. Furthermore, the increasing capacity of even small companies to operate in a global perspective makes the old analytical framework even more obsolete.

Not only are the “core nations” more homogeneous than before in terms of living standards, lifestyles, and economic organization, but their factors of production tend to move more rapidly in search of higher returns. Natural resources have lost much of their previous role in national specialization as advanced, knowledge-intensive societies move rapidly into the age of artificial materials and genetic engineering. Capital moves around the world in massive amounts at the speed of light; increasingly, corporations raise capital simultaneously in several major markets. Labor skills in these countries no longer can be considered fundamentally different; many of the students enrolled in American graduate schools are foreign, and training has become a key dimension of many joint ventures between international corporations. Technology and know-how are also rapidly becoming a global pool, with companies such as General Electric, Morgan Stanley, Electronic Data Systems, Cisco Systems, McKinsey & Co., and IBM shifting software writing, accounting, engineering, and other skilled services to countries such as India and China.

Against this background, the ability of corporations of all sizes to use these globally available factors of production is a far bigger factor in international competitiveness than broad macroeconomic differences among countries. Contrary to the postulates of Smith and Ricardo, the very existence of the multinational enterprise is based on the international mobility of certain factors of production. Capital raised in London on the Eurodollar market may be used by a Swiss-based pharmaceutical firm to finance the acquisition of German equipment by a subsidiary in Brazil. A single Barbie doll is made in 10 countries—designed in California; with parts and clothing from Japan, China, Hong Kong, Malaysia, Indonesia, Korea, Italy, and

<sup>1</sup>World Investment Report 2010, United Nations Conference on Trade and Development, July 22, 2010.

Taiwan; and assembled in Mexico—and sold in 144 countries. Information technology also makes it possible for worker skills to flow with little regard to borders. In the semiconductor industry, the leading companies typically locate their design facilities in high-tech corridors in the United States, Japan, and Europe. Finished designs are transported quickly by computer networks to manufacturing plants in countries with more advantageous cost structures. In effect, the traditional world economy in which products are exported has been replaced by one in which value is added in several different countries.

The value added in a particular country—product development, design, production, assembly, or marketing—depends on differences in labor costs and unique national attributes or skills. Although trade in goods, capital, and services and the ability to shift production act to limit these differences in costs and skills among nations, differences nonetheless remain based on cultural predilections, historical accidents, and government policies. Each of these factors can affect the nature of the competitive advantages enjoyed by different nations and their companies. For example, at the moment, the United States has some significant competitive advantages. For one thing, individualism and entrepreneurship—characteristics that are deeply ingrained in the American spirit—are increasingly a source of competitive advantage as the creation of value becomes more knowledge intensive. When inventiveness and entrepreneurship, along with a culture of openness and innovation, are combined with abundant risk capital, superior graduate education, better infrastructure, and an inflow of foreign brainpower, it is not surprising that U.S. companies—from Boston to Austin, from Silicon Alley to Silicon Valley—dominate world markets in software, biotechnology, Internet-related business, microprocessors, aerospace, and entertainment. Also, U.S. firms are moving rapidly forward to construct an information superhighway and related multimedia technology, whereas their European and Japanese rivals face continued regulatory and bureaucratic roadblocks.

Recent experiences also have given the United States a significant competitive advantage. During the 1980s and 1990s, fundamental political, technological, regulatory, and economic forces radically changed the global competitive environment. A brief listing of some of these forces includes the following:

- Massive deregulation
- The collapse of communism
- The sale of hundreds of billions of dollars of state-owned firms around the world in massive privatizations designed to shrink the public sector
- The revolution in information technologies
- The rise in the market for corporate control with its waves of takeovers, mergers, and leveraged buyouts
- The jettisoning of statist policies and their replacement by free-market policies in Third World nations
- The unprecedented number of nations submitting themselves to the exacting rigors and standards of the global marketplace

These forces have combined to usher in an era of brutal price and service competition. The United States is further along than other nations in adapting to this new world economic order, largely because its more open economy has forced its firms to confront rather than hide from competitors. Facing vicious competition at home and abroad, U.S. companies—including such corporate landmarks as IBM, General Motors, Walt Disney, Xerox, American Express, Coca-Cola, and 3M—have been restructuring and investing heavily in new technologies and marketing strategies to boost productivity and expand their markets. In addition, the United States has gone further than any other industrialized country in deregulating its financial services, telecommunications, airlines, and trucking industries. The result: Even traditionally

sheltered U.S. industries have become far more competitive in recent years, and so has the U.S. workforce. The heightened competitiveness of U.S. firms has, in turn, compelled European and Japanese rivals to undergo a similar process of restructuring and renewal.

Perhaps the most dramatic change in the international economy over the past three decades has been the rise of China as a global competitor. From 1978, when Deng Xiaoping launched his country's economic reform program, to 2010, China's gross domestic product rose by more than 3200%, an annual rate of 11%, the most rapid growth rate by far of any country in the world during this 33-year period. Since 1991, China has attracted the largest amount of foreign investment among developing countries each year, with annual foreign investment by the late 1990s exceeding \$50 billion. Since 2002, China has been the world's number-two destination (the United States is number one) for **foreign direct investment** (FDI), which is the acquisition abroad of companies, property, or physical assets such as plant and equipment, attracting over \$105 billion in FDI flows in 2010. About 400 out of the world's 500 largest companies, employing 16 million workers in 2008, have now invested in China.

The transformation of China from an insular nation to the world's low-cost site for labor-intensive manufacturing has had enormous effects on everything from Mexico's competitiveness as an export platform to the cost of furniture and computers in the United States to the value of the dollar to the number of U.S. manufacturing jobs. China's rapid growth and resulting huge appetite for energy and raw materials have also resulted in stunning increases in the prices of oil, steel, and other basic commodities. Most important, hundreds of millions of consumers worldwide are benefiting from the low prices of China's goods and more than a billion Chinese are escaping the dire poverty of their past.

The prime transmitter of competitive forces in this global economy is the multinational corporation. In 2005, for example, 58% of China's exports were by foreign companies manufacturing in China.<sup>2</sup> What differentiates the multinational enterprise from other firms engaged in international business is the globally coordinated allocation of resources by a single centralized management. Multinational corporations make decisions about market-entry strategy; ownership of foreign operations; and design, production, marketing, and financial activities with an eye to what is best for the corporation as a whole. The true multinational corporation emphasizes group performance rather than the performance of its individual parts. For example, in 2003, Whirlpool Corporation launched what it billed as the world's cheapest washing machine, with an eye on low-income consumers who never thought they could afford one. Whirlpool designed and developed the Ideale washing machine in Brazil, but it manufactures the Ideale in China and India, as well as Brazil, for sale in those and other developing countries.



### MINI-CASE *General Electric Globalizes Its Medical Systems Business*

One of General Electric's key growth initiatives is to globalize its business. According to its website, "Globalization no longer refers only to selling goods and services in global markets. Today's most valuable innovations and solutions are envisioned, designed, built and offered on a global scale."<sup>3</sup>

A critical element of General Electric's global strategy is to be first or second in the world in a business or to exit that business. For example, in 1987, GE swapped its RCA consumer electronics division for Thomson CGR, the medical equipment business of Thomson SA of France, to strengthen its own medical unit. Together with GE Medical Systems Asia (GEMSA) in Japan, CGR makes GE number one in the world market for X-ray, CAT scan, magnetic resonance, ultrasound, and other diagnostic imaging devices, ahead of Siemens (Germany), Philips (Netherlands), and Toshiba (Japan).

General Electric's production is also globalized, with each unit exclusively responsible for equipment in which it is the volume leader. Hence, GE Medical Systems (GEMS) now makes the high end

<sup>2</sup>Salil Tripathi, "The Dragon Tamers." *The Guardian*, August 11, 2006.

<sup>3</sup>[http://savelives.gecareers.com/abtus\\_growth.html](http://savelives.gecareers.com/abtus_growth.html)

of its CAT scanners and magnetic resonance equipment near Milwaukee (its headquarters) and the low end in Japan. The middle market is supplied by GE Medical Systems SA (France). Engineering skills pass horizontally from the United States to Japan to France and back again. Each subsidiary supplies the marketing skills to its own home market.

The core of GEMS's global strategy is to "provide high-value global products and services, created by global talent, for global customers."<sup>4</sup> As part of this strategy, "GE Medical Systems focuses on growth through globalization by aggressively searching out and attracting talent in the 150 countries in which we do business worldwide."<sup>5</sup>

GEMS also grows by acquiring companies overseas in order to "broaden our ability to provide product and service solutions to our customers worldwide. Through several key acquisitions, we've strengthened our position in our existing markets, and entered new and exciting markets."<sup>6</sup> For example, in April 2003, GE announced that it would acquire Instrumentarium, a Finnish medical technology company, for \$2.1 billion. According to the press release,

The combination of Instrumentarium and GE offerings will further enable GE Medical Systems to support healthcare customers with a broad range of anesthesia monitoring and delivery, critical care, infant care and diagnostic imaging solutions and help ensure the highest quality of care.<sup>7</sup>

A year later, in April 2004, GE spent \$11.3 billion to acquire Amersham, a British company that is a world leader in medical diagnostics and life sciences. According to the press release, the acquisition will enable GE to "become the world's best diagnostic company, serving customers in the medical, pharmaceutical, biotech and bio research markets around the world."<sup>8</sup> The combined GEMS and Amersham is now known as GE Healthcare.

In line with GE's decision to shift its corporate center of gravity from the industrialized world to the emerging markets of Asia and Latin America,<sup>9</sup> Medical Systems has set up joint ventures in India and China to make low-end CAT scanners and various ultrasound devices for sale in their local markets. These machines were developed in Japan with GEMS's 75% joint venture GE Yokogawa Medical Systems, but the design work was turned over to India's vast pool of inexpensive engineers through its joint venture WIPRO GE Medical Systems (India). At the same time, engineers in India and China were developing low-cost products to serve markets in Asia, Latin America, and the United States, where there is a demand from a cost-conscious medical community for cheaper machines. In 2010, GE Healthcare derived about \$3.5 billion in sales to emerging markets, with over \$1 billion in revenue from China alone.

Although it still pursues geographic market expansion, GE's **globalization** drive now focuses on taking advantage of its global reach to find less expensive materials and intellectual capital abroad. In material procurement, GE's global supply chain does business with over 500,000 suppliers across thousands of entities in more than 100 countries, deriving over \$1 billion in savings on its foreign purchases. On the human capital side, General Electric has established global research and development (R&D) centers in Shanghai, China; Munich, Germany; Bangalore, India; and Rio de Janeiro, Brazil. By sourcing intellect globally, GE has three times the engineering capacity for the same cost. For Medical Systems, the ability to produce in low-cost countries has meant bringing to market a low-priced CAT scanner for \$200,000 (most sell for \$700,000-\$1 million) and still earning a 30% operating margin.

#### Questions

1. What advantages does General Electric seek to attain from its international business activities?
2. What actions is it taking to gain these advantages from its international activities?
3. What risks does GE face in its foreign operations?
4. What profit opportunities for GE can arise out of those risks?

<sup>4</sup>Ibid.

<sup>5</sup>Ibid.

<sup>6</sup>Ibid.

<sup>7</sup><http://www.gemedicalsystems.com/company/acquisitions/index.html>.

<sup>8</sup>[http://www5.amershambiosciences.com/aptrix/upp01077.nsf/Content/about\\_us\\_press\\_releases\\_2004\\_080404](http://www5.amershambiosciences.com/aptrix/upp01077.nsf/Content/about_us_press_releases_2004_080404).

<sup>9</sup>In 2005, GE said it expected 60% of its revenue growth over the next decade to come from emerging markets, compared with 20% in the previous decade.

## Evolution of the Multinational Corporation

Every year, *Fortune* publishes a list of the most admired U.S. corporations. Year in and year out, most of these firms are largely multinational in philosophy and operations. In contrast, the least admired tend to be national firms with much smaller proportions of assets, sales, or profits derived from foreign operations. Although multinationality and economic efficiency do not necessarily go hand in hand, international business is clearly of great importance to a growing number of U.S. and non-U.S. firms. The list of large American firms that receive 50% or more of their revenues and profits from abroad and that have a sizable fraction of their assets abroad reads like a corporate *Who's Who*: Motorola, Gillette, Dow Chemical, Colgate-Palmolive, McDonald's, and Hewlett-Packard. In 2010, the S&P 500 companies earned 40% of their profit abroad.

Despite their seeming ubiquity, multinational corporations comprise much less than 1% of U.S. firms. Nonetheless, they are among the most powerful of U.S. companies, accounting for about 19% of all private sector jobs, 25% of all private wages, 48% of all goods exports, an outsized 74% of nonpublic R&D spending, and a remarkable 41% of the growth since 1990 in private sector labor productivity—the foundation of a rising American living standard.<sup>10</sup>

For many of the best-known U.S. companies, foreign markets are of critical importance. For example, in 2010, Coca-Cola, 3M, and Caterpillar generated 69.5%, 65.5%, and 67.8% of sales, respectively, from overseas. At the same time, industries differ greatly in the extent to which foreign operations are of importance to them. For example, oil companies and banks are far more heavily involved overseas than are tobacco companies and automakers. Even within industries, companies differ markedly in their commitment to international business. For example, in 2000, ExxonMobil had 69% of its sales, 63% of its assets, and 60% of its profits abroad. The corresponding figures for Chevron were 45%, 53%, and 52%. Similarly, General Motors generated 61% of its income overseas, in contrast to a loss on overseas operations for Ford. These and other examples of the importance of foreign operations to U.S. business are shown in Exhibit 1.1.

The degree of internationalization of the American economy is often surprising. For example, 69% of the U.S. film industry's box office revenues in 2012 came from foreign markets.<sup>11</sup> The film industry illustrates other dimensions of internationalization as well, many of which are reflected in *Total Recall*, a film that was made by a Hungarian-born producer and a Dutch director, starred an Austrian-born leading man (who later became governor of California) and a Canadian villain, was shot in Mexico, and was distributed by a Hollywood studio owned by a Japanese firm. Another demonstration of internationalization is provided by Exhibit 1.2, which shows the global sourcing of major components of Boeing's new 787 Dreamliner. Rather than bear the entire estimated \$10 billion cost to develop a new plane, Boeing decided that suppliers from around the world would independently bankroll their parts of the project, sharing costs, risks, and—ultimately, it is hoped—profits.

Exhibit 1.3 provides further evidence of the growing **internationalization** of American business. It shows that overseas investment by U.S. firms and U.S. investment by foreign firms are in the hundreds of billions of dollars each year. The stock of foreign direct investment by U.S. companies on an historical cost basis reached \$3.8 trillion in 2010 (with net income of

<sup>10</sup>These data appear in Martin N. Baily, Matthew J. Slaughter, and Laura D'Andrea Tyson, "The Global Jobs Competition Heats Up," *Wall Street Journal*, July 1, 2010, p. A19.

<sup>11</sup>Motion Picture Association of America. *Theatrical Market Statistics 2012*. Accessed at <http://www.mpa.org/Resources/3037b7a4-58a2-4109-8012-58fca3abdf1b.pdf>, p. 4.

**EXHIBIT 1.1** SELECTED LARGE U.S. MULTINATIONALS

	<b>Foreign Revenue (\$ billions)</b>	<b>Foreign Revenue (% of total)</b>	<b>Net Profit (\$ billions)</b>	<b>Net Profit (% of total)</b>	<b>Foreign Assets (\$ billion)</b>	<b>Foreign Assets (% of total)</b>
ExxonMobil	143.0	69	10.2	60	56.7	63
Ford	51.2	30	-0.6	NA	19.9	43
IBM	51.2	58	3.9	48	14.3	40
General Motors	48.2	26	2.9	61	12.6	36
Chevron	31.4	45	2.7	52	27.1	53
Hewlett-Packard	27.2	56	2.2	61	2.2	50
Protector & Gamble	19.9	50	1.5	42	17.0	50
Intel	19.8	59	3.6	34	3.9	26
Motorola	19.7	53	1.6	74	16.8	40
Dow Chemical	14.1	62	1.1	73	4.2	46
Coca-Cola	12.4	61	0.8	36	5.5	37
Pfizer	11.6	39	3.9	106	5.7	47
McDonald's	9.0	63	1.2	62	12.8	59
3M	8.8	53	0.9	47	2.1	37
Colgate-Palmolive	6.6	71	0.7	69	3.2	67
Gillette	5.5	60	0.5	56	1.8	52
HJ Heinz	4.6	49	0.5	58	2.1	43
Nike	4.0	44	0.3	55	0.7	43
Apple Computer	3.8	48	1.0	93	0.6	13
Avon Products	3.8	67	0.3	69	1.6	56

Source: Forbes June 30, 2001.

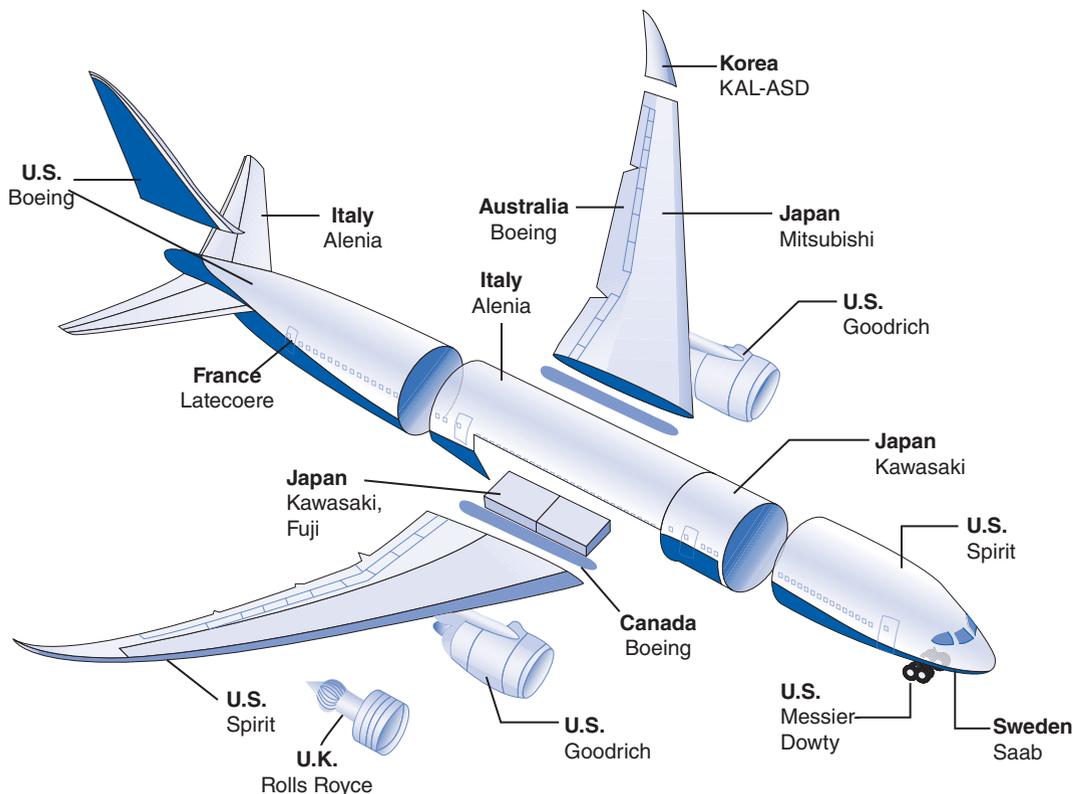
\$1.1 trillion) while the stock of direct investment by foreign companies in the United States on a comparable basis exceeded \$2.2 trillion that year (with net income of \$116 billion).<sup>12</sup>

Worldwide, the stock of FDI reached an estimated \$18.9 trillion in 2010, as shown in Exhibit 1.4. Moreover, these investments have grown steadily over time, facilitated by a combination of factors: falling regulatory barriers to overseas investment; rapidly declining telecommunications and transport costs; and freer domestic and international capital markets in which vast sums of money can be raised, companies can be bought, and currency and other risks can be hedged. These factors have made it easier for companies to invest abroad, to do so more cheaply, and to experience less risk than ever before.

The list of companies investing abroad includes not just the usual suspects from Japan, Great Britain, Germany, France, Canada, and other developed countries but also many from developing countries, especially Brazil, Russia, India, and China, referred to collectively as the BRICs. Rapid economic growth combined with growing competitive pressure at home, the rise of home-grown MNCs, high commodity prices, and FDI liberalization in host countries have been feeding a boom in outward investment from the BRICs, which reached a peak of \$147 billion in 2008—almost 9% of world outflows, compared to less than 1% 10 years before. Although their FDI outflows fell in 2009 due to the global financial and economic crisis, the four BRIC countries' MNCs were again active outward investors in 2010.

A brief discussion of the various considerations that have prompted the rise of the multinational corporation follows.

<sup>12</sup>Data from <http://www.bea.gov/iTable/iTable.cfm?ReqID=2&step=1#reqid=2&step=1&isuri=1>.

**EXHIBIT 1.2** WHERE THE PARTS FOR BOEING'S 787 DREAMLINER COME FROM

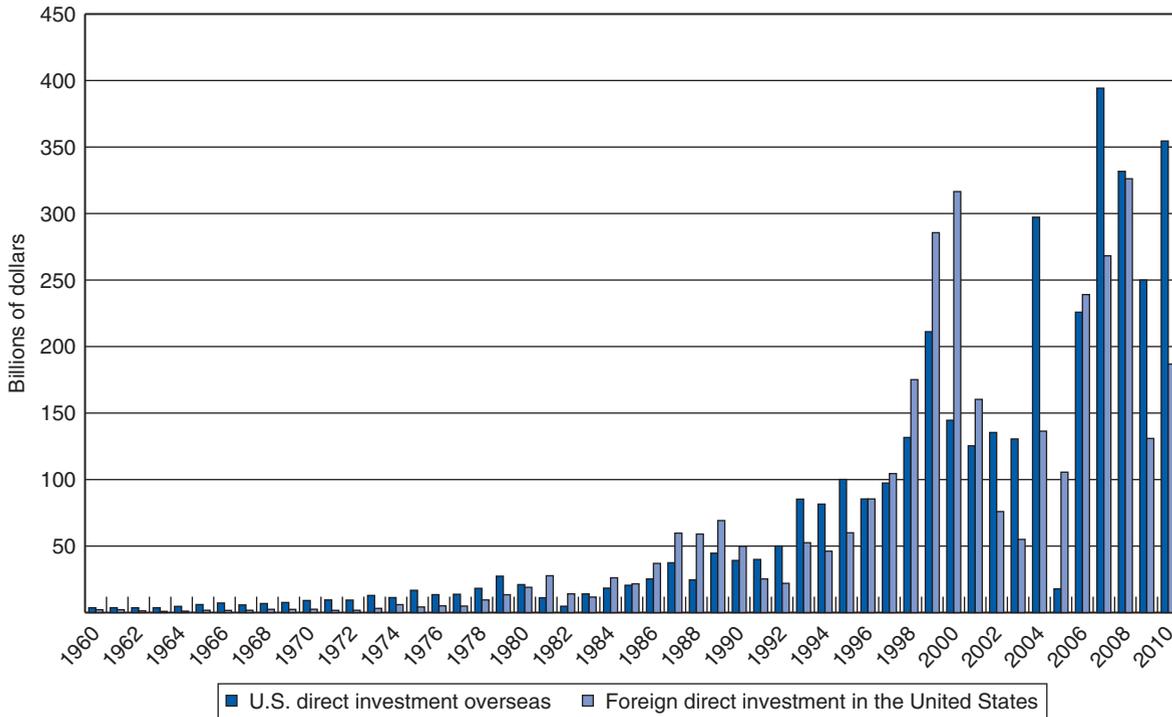
**Search for Raw Materials.** Raw materials seekers were the earliest multinationals, the villains of international business. They are the firms—the British, Dutch, and French East India Companies, the Hudson’s Bay Trading Company, and the Union Miniere Haut-Katanga—that first grew under the protective mantle of the British, Dutch, French, and Belgian colonial empires. Their aim was to exploit the raw materials that could be found overseas. The modern-day counterparts of these firms, the multinational oil and mining companies, were the first to make large foreign investments, beginning in the early years of the twentieth century. Hence, large oil companies such as British Petroleum and Standard Oil, which went where the dinosaurs died, were among the first true multinationals. Hard-mineral companies such as International Nickel, Anaconda Copper, and Kennecott Copper were also early investors abroad.

**Market Seeking.** The market seeker is the archetype of the modern multinational firm that goes overseas to produce and sell in foreign markets. Examples include IBM, Volkswagen, and Unilever. Similarly, branded consumer-products companies such as Nestlé, Levi Strauss, McDonald’s, Procter & Gamble, and Coca-Cola have been operating abroad for decades and maintain vast manufacturing, marketing, and distribution networks from which they derive substantial sales and income. The rationale for the market seeker is simple: Foreign markets are big, even relative to the U.S. market. For example, 96% of the world’s consumers, who command two-thirds of its purchasing power, are located outside the United States.

Although there are some early examples of market-seeking MNCs (e.g., Colt Firearms, Singer, Coca-Cola, N.V. Philips, and Imperial Chemicals), the bulk of foreign direct investment

## EXHIBIT 1.3

## ANNUAL U.S. FOREIGN DIRECT INVESTMENT INFLOWS AND OUTFLOWS: 1960-2010



Source: "International Economics Accounts: Operations of Multinational Companies", <http://www.bea.gov/international/index.htm>, Bureau of Economic Analysis, U.S. Department of Commerce. Estimate for 2010.

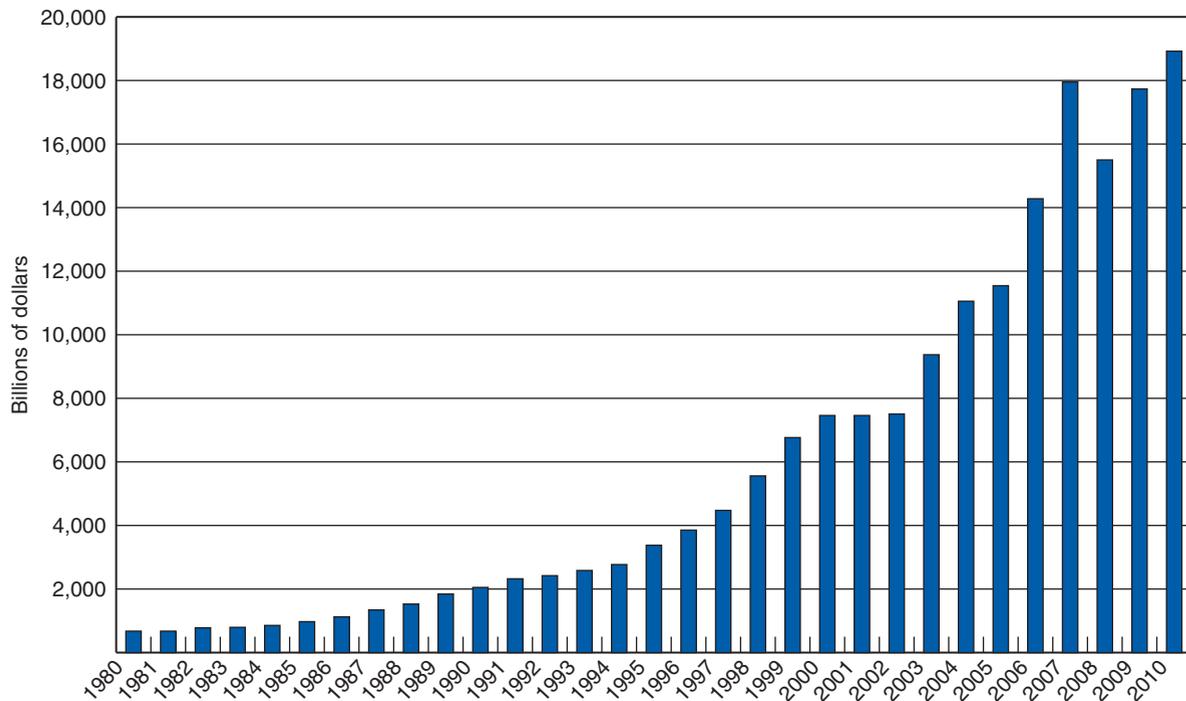
took place after World War II. This investment was primarily a one-way flow—from the United States to Western Europe—until the early 1960s. At that point, the phenomenon of **reverse foreign investment** began, primarily with Western European firms acquiring U.S. firms. More recently, Japanese firms have begun investing in the United States and Western Europe, largely in response to perceived or actual restrictions on their exports to these markets.

Although foreign markets may be attractive in and of themselves, MNCs possess certain firm-specific advantages. Such advantages may include unique products, processes, technologies, patents, specific rights, or specific knowledge and skills. MNCs find that the advantages that were successfully applied in domestic markets can also be profitably used in foreign markets. Firms such as Wal-Mart, Toys 'R' Us, and Price/Costco take advantage of unique process technologies—largely in the form of superior information gathering, organizational, and distribution skills—to sell overseas.

The exploitation of additional foreign markets may be possible at considerably lower costs. For example, after successfully developing a drug, pharmaceutical companies enter several markets, obtain relevant patents and permissions, and begin marketing the product in several countries within a short period of time. Marketing of the product in multiple countries enables the pharmaceutical company to extract revenues from multiple markets and, therefore, cover the high costs of drug development in a shorter period of time as compared to marketing within a single country.

In some industries, foreign market entry may be essential for obtaining **economies of scale**, or the unit cost decreases that are achieved through volume production. Firms in

## EXHIBIT 1.4 THE STOCK OF WORLD WIDE FOREIGN DIRECT INVESTMENT: 1980-2010



Source: [http://ststus.unctad.org/FDI/Table Viewer/Table View.aspx](http://ststus.unctad.org/FDI/Table%20Viewer/Table%20View.aspx), United Nations Conference on Trade and Development.

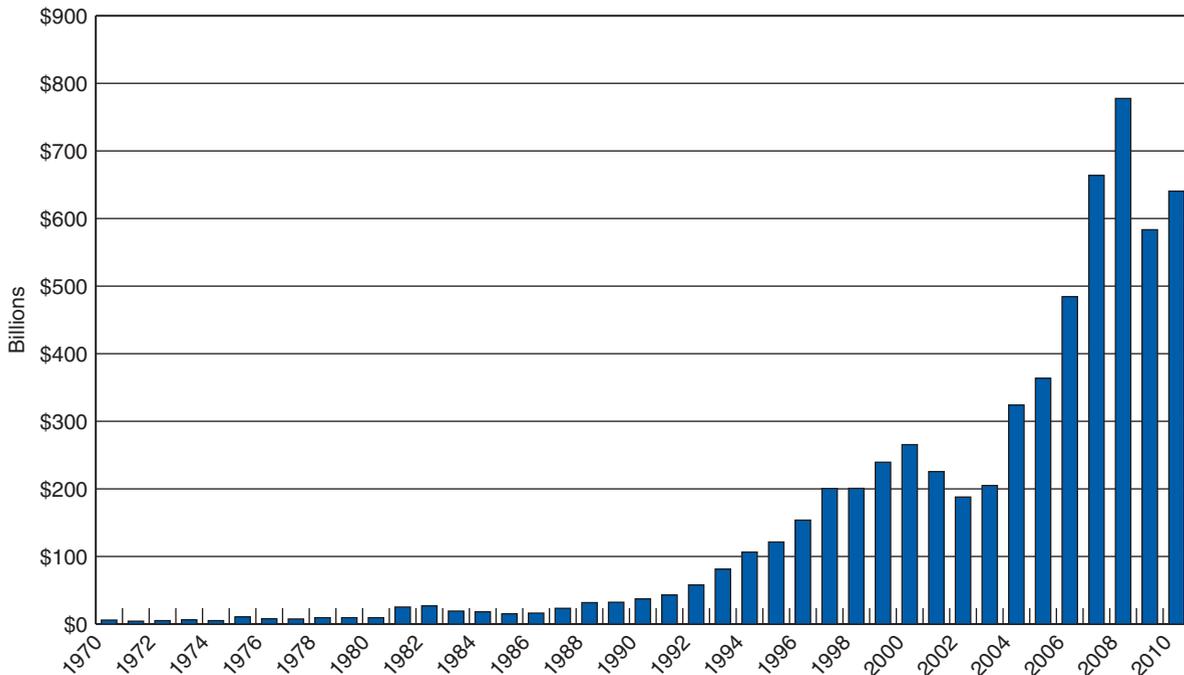
industries characterized by high fixed costs relative to variable costs must engage in volume selling just to break even. These large volumes may be forthcoming only if the firms expand overseas. For example, companies manufacturing products such as computers that require huge R&D expenditures often need a larger customer base than that provided by even a market as large as the United States in order to recapture their investment in knowledge. Similarly, firms in capital-intensive industries with enormous production economies of scale may also be forced to sell overseas in order to spread their overhead over a larger quantity of sales.

L.M. Ericsson, the Swedish manufacturer of telecommunications equipment, is an extreme case. The manufacturer is forced to think internationally when designing new products because its domestic market is too small to absorb the enormous R&D expenditures involved and to reap the full benefit of production scale economies. Thus, when Ericsson developed its revolutionary AXE digital switching system, it geared its design to achieve global market penetration.

Some companies, such as Coca-Cola, McDonald's, Nestlé, and Procter & Gamble, take advantage of enormous advertising expenditures and highly developed marketing skills to differentiate their products and keep out potential competitors that are wary of the high marketing costs of new-product introduction. Expansion into emerging markets enables these firms to enjoy the benefits of economies of scale as well as exploit the premium associated with their strong brand names. According to the chief executive officer of L'Oréal, the French firm that is the world's largest cosmetics company, "The increase in emerging-market sales has a turbo effect on the global growth of the company."<sup>13</sup> Similarly, companies such as Nestlé

<sup>13</sup>Christina Passariello, "L'Oréal Net Gets New-Markets Lift," *Wall Street Journal*, February 14, 2008, C7.

**EXHIBIT 1.5** FLOWS OF FOREIGN DIRECT INVESTMENT TO DEVELOPING COUNTRIES: 1970–2010 (BILLIONS OF U.S. DOLLARS)



Source: Data from UNCTAD, at <http://stats.unctad.org/fdi>.

and Procter & Gamble expect their sales of brand-name consumer goods to soar as disposable incomes rise in the developing countries in contrast to the mature markets of Europe and the United States. The costs and risks of taking advantage of these profitable growth opportunities are also lower today now that their more free-market-oriented governments have reduced trade barriers and cut regulations. In response, foreign direct investment in emerging markets by multinationals has soared over the past decade (see Exhibit 1.5), despite the global financial crisis that began in August 2007.

**Cost Minimization.** Cost minimizer is a fairly recent category of firms doing business internationally. These firms seek out and invest in lower cost production sites overseas (e.g., Hong Kong, Taiwan, and Ireland) to remain cost competitive both at home and abroad. Many of these firms are in the electronics industry. Examples include Texas Instruments, Intel, and Seagate Technology. Increasingly, companies are shifting services overseas, not just manufacturing work. As of June 2007, GE had about 13,000 employees in India to handle accounting, claims processing, customer service, software operations, and credit evaluation and research. Similarly, companies such as AOL (customer service), American Express (finance and customer service), and British Airways (accounting) are shifting work to India, Jamaica, Hungary, Morocco, and the Philippines for savings of up to 60%, while Chrysler has announced plans to expand its engineering centers in China and Mexico and to open others in India and Russia to cut its engineering costs and to build business ties in those big, developing markets.

The offshoring of services can be done in two ways: internally, through the establishment of wholly owned foreign affiliates, or externally, by outsourcing a service to a third-party provider. Exhibit 1.6 categorizes and defines different variants of offshoring and outsourcing.

## EXHIBIT 1.6 OFFSHORING AND OUTSOURCING—SOME DEFINITIONS

Location of Production	Internalized or Externalized Production	
	Internalized	Externalized (“outsourcing”)
Home Country	Production kept in-house at home	Production outsourced to third-party service provider at home.
Foreign Country (“offshoring”)	Production by foreign affiliate, e.g., <ul style="list-style-type: none"> <li>● Infineon’s center in Dublin</li> <li>● DHL’s IT center in Prague</li> <li>● British Telecom’s call centers in Bangalore and Hyderabad</li> </ul> “Intra-firm (captive) offshoring”	Production outsourced to third-party provider abroad <i>To local company e.g.,</i> <ul style="list-style-type: none"> <li>● Bank of America’s outsourcing of software development to Infosys in India</li> </ul> <i>To Foreign affiliate of another MNC e.g.,</i> <ul style="list-style-type: none"> <li>● A United States company outsourcing data-processing services to ACS in Ghana</li> </ul>

Source: UNCTAD, *World Investment Report 2004: The Shift Towards Services*, Table IV.1



### MINI-CASE *The Debate over Outsourcing*

In early 2004, White House economist Gregory Mankiw had the misfortune of stating publicly what most economists believe privately—that outsourcing of jobs is a form of international trade and is good for the U.S. economy because it allows Americans to buy services less expensively abroad. Critics of outsourcing immediately called on President Bush to fire Dr. Mankiw for seeming insensitive to workers who have lost their jobs. It is obvious to these critics that outsourcing, by exporting white-collar American jobs to foreign countries, is a major cause of U.S. unemployment. Related criticisms are that outsourcing costs the United States good jobs and is a one-way street, with the United States outsourcing jobs to foreign countries and getting nothing in return.

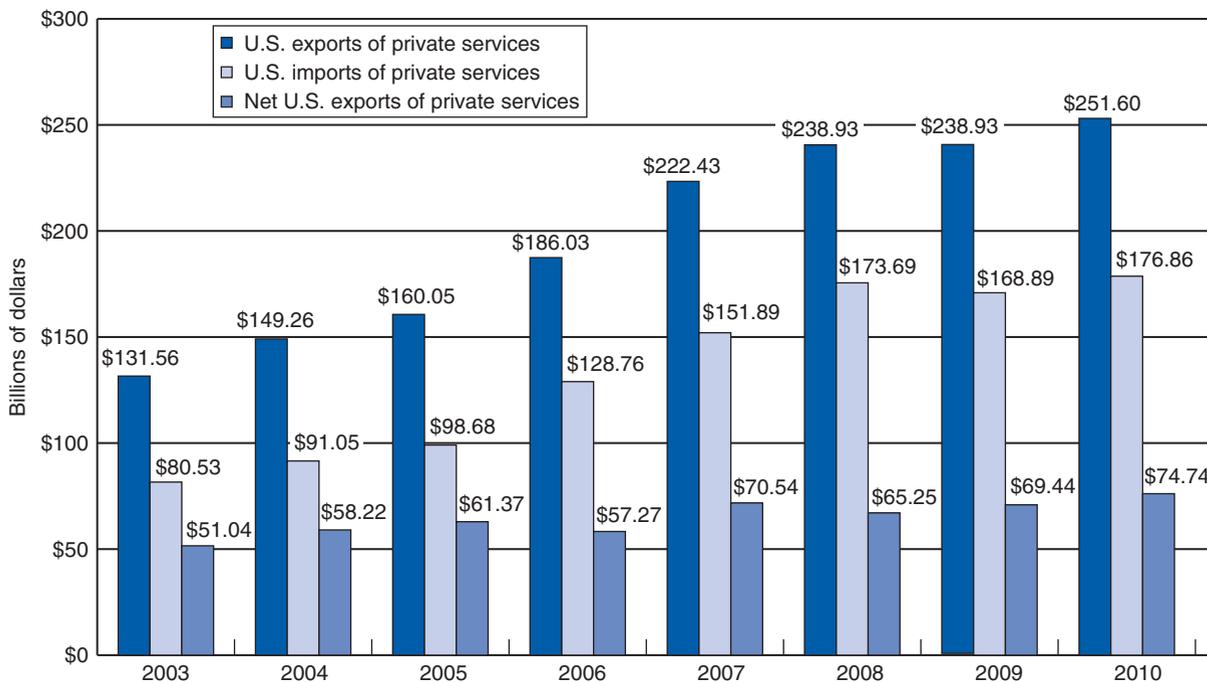
These critics fail to see the other side of the coin. First, outsourcing increases U.S. productivity and enables U.S. companies to realize net cost savings on the order of 30 to 50%. Through outsourcing, a firm can cut its costs while improving its quality, time to market, and capacity to innovate and use the abilities of its remaining workers in other, more productive tasks, thereby making it more competitive. Second, it will come as a real surprise to most critics that far more private services are outsourced by foreigners to the United States than away from it. In other words, just as U.S. firms use the services of foreigners, foreign firms make even greater use of the services of U.S. residents. Private services include computer programming, health care, management consulting, engineering, banking, telecommunications, architectural design, legal work, call centers, data entry, and so on. Exhibit 1.7 shows that in 2010, U.S. firms bought about \$177 billion of those services from foreigners, but the value of the services Americans sold to foreigners was far higher, more than \$251 billion, resulting in a trade surplus in services of about \$75 billion. Finally, outsourced jobs are responsible for less than 1% of unemployment. Estimates in 2004 were that white-collar outsourcing costs the United States about 100,000 jobs each year.<sup>14</sup> In contrast, the U.S. economy loses an average of 15 million jobs annually. However, those jobs are typically replaced by even more jobs, with about 17 million new jobs created each year.<sup>15</sup> Consistent with these data, a recent study on the outsourcing of services to China and India as well as the sale of services produced in the United States to those countries also concludes that

<sup>14</sup>See, for example, Jon E. Hilsenrath, “Behind Outsourcing Debate: Surprisingly Few Hard Numbers,” *Wall Street Journal*, April 12, 2004, p. A1.

<sup>15</sup>These estimates appear in “Trade and Jobs,” Remarks by Governor Ben S. Bernanke at the Distinguished Speaker Series, Fuqua School of Business, Duke University, Durham, NC, March 30, 2004.

U.S. jobs are not threatened. Indeed, the study finds that workers in occupations exposed to offshore outsourcing are actually better off, as indicated by a decline in the share of weeks spent unemployed and an increase in their earnings.<sup>16</sup>

### EXHIBIT 1.7 MORE WORK IS OUTSOURCED TO THE UNITED STATES THAN AWAY FROM IT



This creation of new—and better—jobs and workers' ability to move into them are the hallmarks of a flexible economy, one in which labor and capital move freely among firms and industries to where they can be most productive. Such flexibility is a significant strength of the U.S. economy and results in higher productivity, which is the only way to create higher standards of living in the long run. Protectionism would only diminish that flexibility. Rather, the focus should be on increasing flexibility, which means improving the performance of the U.S. education system and encouraging the entrepreneurship and innovation that give the United States its competitive edge.

#### Questions

1. What are the pros and cons of outsourcing?
2. How does outsourcing affect U.S. consumers? U.S. producers?
3. Longer term, what is the likely impact of outsourcing on American jobs?
4. Several states are contemplating legislation that would ban the outsourcing of government work to foreign firms. What would be the likely consequences of such legislation?

<sup>16</sup>Runjuan Liu and Daniel Trefler, "Much Ado About Nothing: American Jobs and the Rise of Service Outsourcing to China and India." NBER Working Paper No. 14061, June 2008.

Over time, if competitive advantages in product lines or markets become eroded due to local and global competition, MNCs seek and enter new markets with little competition or seek out lower production cost sites through their global-scanning capability. Costs can then be minimized by combining production shifts with *rationalization* and *integration* of the firm's manufacturing facilities worldwide. This strategy usually involves plants specializing in different stages of production—for example, in assembly or fabrication—as well as in particular components or products.

One strategy that is often followed by firms for which cost is the key consideration is to develop a *global-scanning capability* to seek out lower-cost production sites or production technologies worldwide. In fact, firms in competitive industries have to continually seize new, nonproprietary, cost-reduction opportunities, not to earn excess returns but to make normal profits and survive.



### APPLICATION *Honda Builds an Asian Car Factory*

Honda and other automakers attempting to break into Asia's small but potentially fast-growing auto markets face a problem: It is tough to start small. Automakers need big volumes to take full advantage of economies of scale and justify the cost of building a modern car plant. But outside of Japan and China, few Asian countries offer such scale. Companies such as General Motors and Ford are relying on an export strategy in all but the largest Asian markets to overcome this hurdle. GM exports cars throughout Asia from a large plant in Thailand. However, the success of an export strategy depends on Asian countries fully embracing free trade, something that may not happen soon. Honda has decided to follow a different strategy. It is essentially building a car factory that spans all of Asia, putting up plants for different components in small Asian markets all at once: a transmission plant in Indonesia, engine-parts manufacturing in China, and other components operations in Malaysia. Honda assembles cars at its existing plants in the region. Its City subcompact, for example, is assembled in Thailand from parts made there and in nearby countries. By concentrating production of individual components in certain countries, Honda expects to reap economies of scale that are unattainable by setting up major factories in each of the small Asian markets. A sharp reduction in trade barriers across Asia that took effect in 2003 makes it easier for Honda to trade among its factories in Asia. Nonetheless, Asian countries are still expected to focus on balancing trade so that, in any given nation, an increase in imports is offset by an increase in exports. If so, Honda's web of Asian manufacturing facilities could give it an advantage over its rivals in avoiding trade friction.

**Knowledge Seeking.** Some firms enter foreign markets in order to gain information and experience that is expected to prove useful elsewhere. Beecham, an English firm (now part of GlaxoSmithKline), deliberately set out to learn from its U.S. operations how to be more competitive, first in the area of consumer products and later in pharmaceuticals. This knowledge proved highly valuable in competing with American and other firms in its European markets.

The flow of ideas is not all one way, however. As Americans have demanded better-built, better-handling, and more fuel-efficient small cars, Ford of Europe has become an important source of design and engineering ideas and management talent for its U.S. parent, notably with the hugely successful Taurus.

In industries characterized by rapid product innovation and technical breakthroughs by foreign competitors, it is imperative to track overseas developments constantly. Japanese firms excel here, systematically and effectively collecting information on foreign innovation and disseminating it within their own research and development, marketing, and production groups. The analysis of new foreign products as soon as they reach the market is an especially long-lived Japanese technique. One of the jobs of Japanese researchers is to tear down a new

foreign product and analyze how it works as a base on which to develop a product of their own that will outperform the original. In a bit of a switch, Data General's Japanese operation is giving the company a close look at Japanese technology, enabling it to quickly pick up and transfer back to the United States new information on Japanese innovations in the areas of computer design and manufacturing.

**Keeping Domestic Customers.** Suppliers of goods or services to multinationals often will follow their customers abroad in order to guarantee them a continuing product flow. Otherwise, the threat of a potential disruption to an overseas supply line—for example, a dock strike or the imposition of trade barriers—can lead the customer to select a local supplier, which may be a domestic competitor with international operations. Hence, comes the dilemma: Follow your customers abroad or face the loss of not only their foreign but also their domestic business. A similar threat to domestic market share has led many banks; advertising agencies; and accounting, law, and consulting firms to set up foreign practices in the wake of their multinational clients' overseas expansion.

**Exploiting Financial Market Imperfections.** An alternative explanation for foreign direct investment relies on the existence of financial market imperfections. The ability to reduce taxes and circumvent currency controls may lead to greater project cash flows and a lower cost of funds for the MNC than for a purely domestic firm.

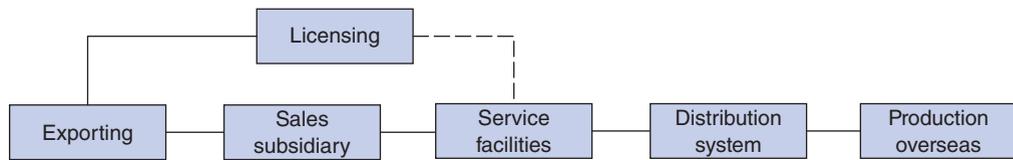
An even more important financial motivation for foreign direct investment is likely to be the desire to reduce risks through international diversification. This motivation may be somewhat surprising because the inherent riskiness of the multinational corporation is usually taken for granted. Exchange rate changes, currency controls, expropriation, and other forms of government intervention are some of the risks that purely domestic firms rarely, if ever, encounter. Thus, the greater a firm's international investment, the riskier its operations should be.

Yet, there is good reason to believe that being multinational may actually reduce the riskiness of a firm. Much of the systematic or general market risk affecting a company is related to the cyclical nature of the national economy in which the company is domiciled. Hence, the diversification effect resulting from operating in a number of countries whose economic cycles are not perfectly in phase should reduce the variability of MNC earnings. Several studies indicate that this result, in fact, is the case.<sup>17</sup> Thus, because foreign cash flows generally are not perfectly correlated with those of domestic investments, the greater riskiness of individual projects overseas can well be offset by beneficial portfolio effects. Furthermore, because most of the economic and political risks specific to the multinational corporation are unsystematic, they can be eliminated through diversification.

## The Process of Overseas Expansion by Multinationals

Studies of corporate expansion overseas indicate that firms become multinational by degree, with foreign direct investment being a late step in a process that begins with exports. For most companies, the *globalization process* does not occur through conscious design, at least in the early stages. It is the unplanned result of a series of corporate responses to a variety of threats and opportunities appearing at random overseas. From a broader perspective, however, the globalization of firms is the inevitable outcome of the competitive strivings of members of oligopolistic industries. Each member tries both to create and to exploit monopolistic

<sup>17</sup>See, for example, Benjamin I. Cohen, *Multinational Firms and Asian Exports* (New Haven, Conn.: Yale University Press, 1975); and Alan Rugman, "Risk Reduction by International Diversification," *Journal of International Business Studies*, Fall 1976, pp. 75–80.

**EXHIBIT 1.8** TYPICAL FOREIGN EXPANSION SEQUENCE

product and factor advantages internationally while simultaneously attempting to reduce the competitive threats posed by other industry members.

To meet these challenges, companies gradually increase their commitment to international business, developing strategies that are progressively more elaborate and sophisticated. The sequence normally involves exporting, setting up a foreign sales subsidiary, securing licensing agreements, and eventually establishing foreign production. This evolutionary approach to overseas expansion is a risk-minimizing response to operating in a highly uncertain foreign environment. By internationalizing in phases, a firm can gradually move from a relatively low-risk, low-return, export-oriented strategy to a higher-risk, higher-return strategy emphasizing international production. In effect, the firm is investing in information, learning enough at each stage to improve significantly its chances for success at the next stage. Exhibit 1.8 depicts the usual sequence of overseas expansion.

**Exporting.** Firms facing highly uncertain demand abroad typically will begin by exporting to a foreign market. The advantages of exporting are significant: Capital requirements and start-up costs are minimal, risk is low, and profits are immediate. Furthermore, this initial step provides the opportunity to learn about present and future supply and demand conditions, competition, channels of distribution, payment conventions, financial institutions, and financial techniques. Building on prior successes, companies then expand their marketing organizations abroad, switching from using export agents and other intermediaries to dealing directly with foreign agents and distributors. As increased communication with customers reduces uncertainty, the firm might set up its own sales subsidiary and new service facilities, such as a warehouse, with these marketing activities culminating in the control of its own distribution system.

**Overseas Production.** A major drawback to exporting is the inability to realize the full sales potential of a product. By manufacturing abroad, a company can more easily keep abreast of market developments, adapt its products and production schedules to changing local tastes and conditions, fill orders faster, and provide more comprehensive after-sales service. Many companies also set up research and development facilities along with their foreign operations; they aim to pick the best brains, wherever they are. The results help companies keep track of the competition and design new products. For example, the Japanese subsidiary of Loctite, a U.S. maker of engineering adhesives, devised several new applications for sealants in the electronics industry.

Setting up local production facilities also shows a greater commitment to the local market, a move that typically brings added sales and provides increased assurance of supply stability. Certainty of supply is particularly important for firms that produce intermediate goods for sale to other companies. A case in point is SKF, the Swedish ball-bearing manufacturer. It was forced to manufacture in the United States to guarantee that its product, a crucial component

in military equipment, would be available when needed. The Pentagon would not permit its suppliers of military hardware to be dependent on imported ball bearings because imports could be halted in wartime and are always subject to the vagaries of ocean shipping.

Thus, most firms selling in foreign markets eventually find themselves forced to manufacture abroad. Foreign production covers a wide spectrum of activities from repairing, packaging, and finishing to processing, assembly, and full manufacture. Firms typically begin with the simpler stages—packaging and assembly—and progressively integrate their manufacturing activities backward—to production of components and subassemblies.

Because the optimal entry strategy can change over time, a firm must continually monitor and evaluate the factors that bear on the effectiveness of its current entry strategy. New information and market perceptions change the risk-return trade-off for a given entry strategy, leading to a sequence of preferred entry modes, each adapted on the basis of prior experience to sustain and strengthen the firm's market position over time.

Associated with a firm's decision to produce abroad is the question of whether to *create* its own affiliates or to *acquire* going concerns. A major advantage of an acquisition is the capacity to effect a speedy transfer overseas of highly developed but underutilized parent skills, such as a novel production technology. Often, the local firm also provides a ready-made marketing network. This network is especially important if the parent is a late entrant to the market. Many firms have used the acquisition approach to gain knowledge about the local market or a particular technology. The disadvantage is the cost of buying an ongoing company. In general, the larger and more experienced a firm becomes, the less frequently it uses acquisitions to expand overseas. Smaller and relatively less-experienced firms often turn to acquisitions.

Regardless of its preferences, a firm interested in expanding overseas may not have the option of acquiring a local operation. Michelin, the French manufacturer of radial tires, set up its own facilities in the United States because its tires are built on specially designed equipment; taking over an existing operation would have been out of the question.<sup>18</sup> Similarly, companies moving into developing countries often find they are forced to begin from the ground up because their line of business has no local counterpart.

**Licensing.** An alternative, and at times a precursor, to setting up production facilities abroad is to *license* a local firm to manufacture the company's products in return for royalties and other forms of payment. The principal advantages of *licensing* are the minimal investment required, faster market-entry time, and fewer financial and legal risks. But the corresponding cash flow is also relatively low, and there may be problems in maintaining product quality standards. The licensor may also face difficulty controlling exports by the foreign licensee, particularly when, as in Japan, the host government refuses to sanction restrictive clauses on sales to foreign markets. Thus, a licensing agreement may lead to the establishment of a competitor in third-country markets, with a consequent loss of future revenues to the licensing firm. The foreign licensee may even become such a strong competitor that the licensing firm will face difficulty entering the market when the agreement expires, leading to a further loss of potential profits.

For some firms, licensing alone is the preferred method of penetrating foreign markets. Other firms with diversified innovative product lines follow a strategy of trading technology for both equity in foreign joint ventures and royalty payments.

**Trade-offs Between Alternative Modes of Overseas Expansion.** There are certain general circumstances under which each approach—exporting, licensing, or local production—will be the preferred alternative for exploiting foreign markets.

<sup>18</sup>Once that equipment became widespread in the industry, Michelin was able to expand through acquisition (which it did, in 1989, when it acquired Uniroyal Goodrich).

Multinationals often possess *intangible capital* in the form of trademarks, patents, general marketing skills, and other organizational abilities.<sup>19</sup> If this intangible capital can be embodied in the form of products without adaptation, then exporting generally would be the preferred mode of market penetration. When the firm's knowledge takes the form of specific product or process technologies that can be written down and transmitted objectively, then foreign expansion usually would take the licensing route.

Often, however, this intangible capital takes the form of organizational skills that are inseparable from the firm itself. A basic skill involves knowing how best to service a market through new-product development and adaptation, quality control, advertising, distribution, after-sales service, and the general ability to read changing market desires and translate them into salable products. Because it would be difficult, if not impossible, to unbundle these services and sell them apart from the firm, the firm would attempt to exert control directly via the establishment of foreign affiliates. However, internalizing the market for an intangible asset by setting up foreign affiliates makes economic sense if—and only if—the benefits from circumventing market imperfections outweigh the administrative and other costs of central control.

A useful means to judge whether a foreign investment is desirable is to consider the type of imperfection that the investment is designed to overcome.<sup>20</sup> *Internalization*, and hence FDI, is most likely to be economically viable in those settings in which the possibility of contractual difficulties makes it especially costly to coordinate economic activities via arm's-length transactions in the marketplace.

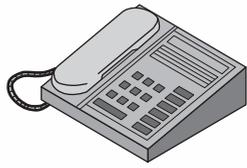
Such “market failure” imperfections lead to both vertical and horizontal direct investment. *Vertical direct integration*—direct investment across industries that are related to different stages of production of a particular good—enables the MNC to substitute internal production and distribution systems for inefficient markets. For instance, vertical integration might allow a firm to install specialized cost-saving equipment in two locations without the worry and risk that facilities may be idled by disagreements with unrelated enterprises. *Horizontal direct investment*—investment that is cross-border but within an industry—enables the MNC to utilize an advantage such as know-how or technology and avoid the contractual difficulties of dealing with unrelated parties. Examples of contractual difficulties include the MNC's inability to price know-how or to write, monitor, and enforce use restrictions governing technology-transfer arrangements. Thus, foreign direct investment makes most sense when a firm possesses a valuable asset and is better off directly controlling use of the asset rather than selling or licensing it. Advantages of FDI also accrue to the host nation, which often receives superior technological and managerial resources that improve local worker skills and productivity.

## A Behavioral Definition of the Multinational Corporation

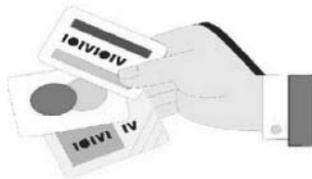
Regardless of the foreign entry or global expansion strategy pursued, the true multinational corporation is characterized more by its state of mind than by the size and worldwide dispersion of its assets. Rather than confine its search to domestic plant sites, the multinational firm asks, “Where in the world should we build that plant?” Similarly, multinational marketing management seeks global, not domestic, market segments to penetrate, and multinational financial management does not limit its search for capital or investment opportunities to any single national financial market. Hence, the essential element that distinguishes the true multinational is its commitment to seeking out, undertaking, and integrating manufacturing, marketing, R&D, and financing opportunities on a global, not domestic, basis. For example,

<sup>19</sup>Richard E. Caves, “International Corporations: The Industrial Economics of Foreign Investment,” *Economica*, February 1971, pp. 1–27.

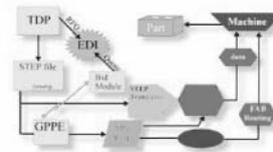
<sup>20</sup>These considerations are discussed by William Kahley, “Direct Investment Activity of Foreign Firms,” *Economic Review*, Federal Reserve Bank of Atlanta, Summer 1987, pp. 36–51.

**EXHIBIT 1.9** HOW DELL REDUCES THE ORDER-TO-DELIVERY CYCLE


Customer places an order for a Dell computer through the phone or Internet.



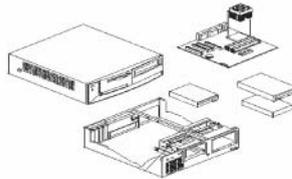
Order is analyzed for financial approval (customer credit checks) and sent to manufacturing facility.



Manufacturing facility analyzes technical configuration details for component requirements and requests component parts from suppliers.



Suppliers located in other countries send components by air. Component parts are aggregated on specific flights with an average of three flights daily from Asia. (One Boeing 747 can carry enough parts to manufacture 10,000 PCs)



Manufacturing facility receives the parts and assembles computers as per each customer's order specifications.



Assembled computer is ready for shipping to the consumer no later than five days after receiving the order. If a customer requests next-day delivery, a built-to-order computer is delivered on the sixth day.

IBM's superconductivity project was pioneered in Switzerland by a German scientist and a Swiss scientist who shared a Nobel Prize in physics for their work on the project. Similarly, the website of DaimlerChrysler, a German company, stated that "DaimlerChrysler has a global workforce, a global shareholder base, globally known brands and a global outlook."<sup>21</sup>

Necessary complements to the integration of worldwide operations include flexibility, adaptability, and speed. Indeed, speed has become one of the critical competitive weapons in the fight for world market share. The ability to develop, make, and distribute products or services quickly enables companies to capture customers who demand constant innovation and rapid, flexible response. Exhibit 1.9 illustrates the combination of globally integrated activities and rapid response times of Dell Inc., which keeps not more than two hours of inventory in its plants, while sourcing for components across the globe and assembling built-to-order computers for its customers within five days.

Another critical aspect of competitiveness in this new world is focus. *Focus* means figuring out and building on what a company does best. This process typically involves divesting unrelated business activities and seeking attractive investment opportunities in the core business. For example, by shedding its quintessentially British automobile business and focusing on engines, Rolls-Royce has become a world-class global company, selling jet engines to 42 of the top 50 airlines in the world and generating 80% of its sales abroad.

<sup>21</sup>In 2007, Daimler sold Chrysler to a private equity firm.



## MINI-CASE ARCO Chemical Develops a Worldwide Strategy

In the 1980s, ARCO Chemical shed its less successful product lines. At one point, revenue shrank from \$3.5 billion annually to \$1.5 billion. But by stripping down to its most competitive lines of business, ARCO could better respond to the global political and economic events constantly buffeting it. Around the world, it now can take advantage of its technological edge within its narrow niche—mostly intermediate chemicals and fuel additives. This strategy paid off: By 1992, more than 40% of ARCO's \$3 billion in sales were made abroad, and it now makes about half of its new investment outside the United States. It also claims half the global market for the chemicals it sells.

ARCO Chemical went global because it had to. The company's engineering resins are sold to the auto industry. In the past, that meant selling exclusively to Detroit's Big Three in the U.S. market. Today, ARCO Chemical sells to Nissan, Toyota, Honda, Peugeot, Renault, and Volkswagen in Japan, the United States, and Europe. It also deals with Ford and General Motors in the United States and Europe. ARCO must be able to deliver a product anywhere in the world or lose the business.

Global operations also have meant, however, that ARCO Chemical faces increasingly stiff competition from abroad in addition to its traditional U.S. competitors such as Dow Chemical. European companies have expanded operations in America, and Japanese competitors also began to attack ARCO Chemical's business lines. For example, in 1990 Japan's Asahi Glass began a fierce price-cutting campaign in both Asia and Europe on products in which ARCO Chemical is strong.

In response, ARCO set up production facilities around the world and entered into joint ventures and strategic alliances. It counterattacked Asahi Glass by trying to steal one of Asahi's biggest customers in Japan. ARCO's joint venture partner, Sumitomo Chemical, supplied competitive intelligence, and its knowledge of the Japanese market was instrumental in launching the counterattack.

In July 1998, ARCO Chemical was acquired by Lyondell Petrochemical. This acquisition was driven by Lyondell's desire to expand into high-growth global markets for ARCO's products as well as the opportunity to gain significant integration benefits with Equistar Chemicals, LP, a joint venture among Lyondell, Millennium Chemicals, and Occidental Petroleum Corporation. According to Lyondell's 1998 Annual Report:

ARCO Chemical was a perfect fit with Lyondell's core businesses. Among the benefits: substantial integration for propylene and other raw materials provided by Equistar and Lyondell; a global infrastructure providing a platform for future growth; and leading positions in high growth markets for chemicals and synthetics. The acquisition provides us with a business that has less cyclical earnings and cash flows.

Consolidation is a positive trend that will continue to enhance the efficiency of the industry by allowing companies to spread overhead, distribution and research and development costs over a larger asset base. It will result in increased globalization and competition, which benefits both customers and investors. Lyondell will continue to be a leader in driving these changes. The acquired business provides significant strategic benefits to Lyondell, including:

- A preeminent, global market position in propylene oxide and derivatives, driven by an advantaged technology position
- Vertical integration with propylene, ethylene, and benzene produced by Equistar as well as integration with methanol produced by Lyondell
- Reduced cyclicalities of Lyondell's earnings through a broadened product mix in markets that are less cyclical than olefins and polymers
- A platform for future domestic and international growth with a worldwide infrastructure of manufacturing facilities and service centers

### Questions

1. What was ARCO Chemical's rationale for globalizing?
2. What advantages has ARCO Chemical realized from its global operations?
3. What threats have arisen from ARCO Chemical's globalizing efforts? What are some ways in which ARCO Chemical has responded to these threats?
4. How has globalization affected, and been affected by, industry consolidation?

In this world-oriented corporation, a person's passport is not the criterion for promotion. Nor is a firm's citizenship a critical determinant of its success. Success depends on a new breed of businessperson: the **global manager**.

## The Global Manager

In a world in which change is the rule and not the exception, the key to international competitiveness is the ability of management to adjust to change and volatility at an ever faster rate. In the words of former General Electric Chairman Jack Welch, "I'm not here to predict the world. I'm here to be sure I've got a company that is strong enough to respond to whatever happens."<sup>22</sup>

The rapid pace of change means that new global managers need detailed knowledge of their operations. Global managers must know how to make the products, where the raw materials and parts come from, how they get there, the alternatives, where the funds come from, and what their changing relative values do to the bottom line. They must also understand the political and economic choices facing key nations and how those choices will affect the outcomes of their decisions.

In making decisions for the global company, managers search their array of plants in various nations for the most cost-effective mix of supplies, components, transport, and funds. All this is done with the constant awareness that the options change and the choices must be made again and again.

The problem of constant change disturbs some managers. It always has; nevertheless, today's global managers have to anticipate it, understand it, deal with it, and turn it to their company's advantage. The payoff to thinking globally is a quality of decision making that enhances the firm's prospects for survival, growth, and profitability in the evolving world economy.

## 1.2 THE INTERNATIONALIZATION OF BUSINESS AND FINANCE

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The existence of global competition and global markets for goods, services, and capital is a fundamental economic reality that has altered the behavior of companies and governments worldwide. For example, Tandon Corp., a major California-based supplier of disk drives for microcomputers, cut its U.S. workforce by 39% and transferred production overseas in an effort to achieve "cost effectiveness in an extremely competitive marketplace."<sup>23</sup> As the president of Tandon put it, "We can wait for the Japanese to put us out of business or we can be cost-effective."<sup>24</sup> Increasingly, companies are bringing an international perspective to bear on their key production, marketing, technology, and financial decisions. This international perspective is exemplified by the following statement in General Electric's 1999 Annual Report, which explains why globalization is one of its key initiatives:

Globalization evolved from a drive to export, to the establishment of global plants for local consumption, and then to global sourcing of products and services. Today, we are moving into its final stages—drawing upon intellectual capital from all over the world—from metallurgists in Prague, to software engineers in Asia, to product designers in Budapest, Monterrey, Tokyo, Paris and other places around the globe. . . . Our objective is to be the "global employer of choice," and we are striving to create the exciting career opportunities for local leaders all over the world that will make this objective a reality. This initiative has taken us to within reach of one of our biggest and longest-running dreams—a truly global GE. (p. 2)

<sup>22</sup>Quoted in Ronald Henkoff, "How to Plan for 1995," *Fortune*, December 31, 1990, p. 70.

<sup>23</sup>"Tandon to Reduce U.S. Work Force, Concentrate Abroad," *Wall Street Journal*, March 1984, p. 22.

<sup>24</sup>Ibid.

The forces of globalization have reached into some unlikely places. For example, at Astro Apparels India, a clothing factory in Tirupur, India, that exports T-shirts to American brands such as Fubu, employees begin their workday with an unusual prayer: “We vow to manufacture garments with high value and low cost, and meet our delivery. Let us face the challenge of globalization and win the world market.”<sup>25</sup>

This prayer captures the rewards of globalization—and what it takes to succeed in such a world. It is also a timely one, for on January 1, 2005, a quota system that for 30 years restricted exports from poor countries to rich ones ended. With the ending of quotas, Indian companies used their low labor costs to more than double textile exports by 2010, to \$24 billion. However, the Indian textile industry also faces hurdles in battling China for market share, including low productivity (which negates the advantage of Indian labor costs that are 15% lower than China’s), a lack of modern infrastructure, and small-scale plants that find it difficult to compete with China’s integrated megafactories.

Yet, despite the many advantages of operating in a world economy, many powerful interest groups feel threatened by globalization and have fought it desperately.

### Political and Labor Union Concerns about Global Competition

Politicians and labor leaders, unlike corporate leaders, usually take a more parochial view of globalization. Many instinctively denounce local corporations that invest abroad as job “exporters,” even though most welcome foreign investors in their own countries as job creators. However, many U.S. citizens today view the current tide of American asset sales to foreign companies as a dangerous assault on U.S. sovereignty.<sup>26</sup> They are unaware, for example, that foreign-owned companies account for more than 20% of industrial production in Germany and more than 50% in Canada, and neither of those countries appears to have experienced the slightest loss of sovereignty. Regardless of their views, however, the global rationalization of production will continue, because it is driven by global competition. The end result will be higher living standards brought about by improvements in worker productivity and private sector efficiency.

Despite the common view that U.S. direct investment abroad comes at the expense of U.S. exports and jobs, the evidence clearly shows the opposite. It is obvious that U.S. companies in service businesses such as banking and retail must establish foreign affiliates in order to access foreign customers. Less obvious is the need for technology and capital-intensive businesses to invest abroad as well. These companies, making products such as hydraulic excavators, jet engines, and industrial robots, need foreign affiliates to service their complex equipment. By enabling MNCs to expand their toeholds in foreign markets, such investments tend to increase U.S. exports of components and services and to create more and higher-paying jobs in the United States in manufacturing, engineering, management, finance, R&D, and marketing.<sup>27</sup> Ford and IBM, for example, would be generating less U.S.-based employment today had they not been able earlier to invest abroad—both by outsourcing the production of parts to low-wage countries such as Mexico and by establishing assembly plants and R&D centers in Europe and Japan. Similarly, Wal-Mart’s retail stores in India and China create more logistics jobs in Arkansas.

<sup>25</sup>John Larkin, “The Other Textile Tiger,” *Wall Street Journal*, December 20, 2004, p. A12.

<sup>26</sup>The importance of foreign investment in the United States is indicated by a few facts: Four of America’s six major music labels are now foreign owned; Goodyear is the last major American-owned tire manufacturer; by 2006, Japanese auto companies had the capacity to build 4.3 million cars a year in their U.S. plants, over 25% of the total in a typical sales year; four of Hollywood’s largest film companies are foreign owned; and in July 1995, Zenith, the last of the 21 companies manufacturing televisions in the United States that was American owned, was purchased by the South Korean firm LG Group.

<sup>27</sup>Research on this point using detailed plant-level data is summarized in Howard Lewis and J. David Richardson, *Why Global Commitment Really Matters*, Washington, D.C.: Institute for International Economics, 2001.

The importance of foreign investment in promoting growth and providing U.S. jobs is well articulated by Robert A. McDonald, chairman and chief executive officer of Procter & Gamble:<sup>28</sup>

Procter & Gamble . . . was founded in the U.S. nearly 173 years ago. In many ways, we are a quintessential American company whose brands—Tide, Pampers, Crest and others—have been touching and improving the lives of American consumers for generations. Our business growth has contributed to economic growth for our nation and in the communities where P&G has had operations for decades.

We are also a global company. P&G products are sold in roughly 180 countries around the world. We can't make and ship products from the U.S. and be competitive in overseas markets. For example, we cannot produce a Pampers diaper at our manufacturing plant in Mehoopany, PA., ship it 10,800 miles to Shanghai, China, and make it affordable for an average Chinese consumer. We need to be close to the consumers we serve, reduce transportation costs, and ensure our products are affordable at the local level. This means we need to be on the ground investing in research and development, manufacturing, sales and distribution, and other capabilities.

This is the case with China. We began marketing our brands in China in 1988. Today, P&G is the largest consumer products company there, with about \$5 billion in annual sales and a strong record of profit growth. To achieve this growth, we've invested well over \$1 billion and employ more than 7,000 people in China.

None of this investment has come at the expense of American jobs. To the contrary, our China and other international businesses support many high-skilled P&G jobs in the U.S.—in engineering, R&D, marketing, finance and logistics. One in five of our 40,000 U.S.-based P&G employees supports our businesses outside the U.S. Forty percent of our 15,000 employees in Ohio work on international business. The simple fact is that success in fast-developing markets like China leads to secure, high-wage jobs here at home.

Similarly, the argument that poor countries drain jobs from rich countries and depress wages for all—a major theme of 1999's "Battle in Seattle" over reductions in trade barriers sponsored by the World Trade Organization (WTO)—is demonstrably false. The fact is that as poor countries prosper, they buy more of the advanced goods produced by the richer countries that support higher-paying jobs. At the same time, despite claims to the contrary, globalization has not exploited and further impoverished those already living lives of desperate poverty.

Indeed, the growth in trade and **investment flows** since the end of World War II has raised the wealth and living standards of developed countries while lifting hundreds of millions of people around the world out of abject poverty. The Asian tigers are the most obvious example of this phenomenon. According to then-President Ernesto Zedillo of Mexico, "Every case where a poor nation has significantly overcome poverty has been achieved while engaging in production for export and opening itself to the influx of foreign goods, investment, and technology; that is, by participating in globalization."<sup>29</sup> Moreover, by generating growth and introducing values like accountability, openness, and competition, globalization has been a powerful force for spreading democracy and freedom in places as diverse as Mexico, Korea, and Poland.

Another concern of many antiglobalists, their preoccupation with income equality, reflects a fundamental economic fallacy, namely, that there is only so much global income to go around—so, if the United States is consuming \$14 trillion worth of goods and services annually, that is \$14 trillion worth of goods and services that Africa cannot consume. However,

<sup>28</sup>Robert A. McDonald, "China's economic growth will create American jobs," October 17, 2010. Accessed at <http://www.china-embassy.org/eng/zmgx/zxxx/t762915.htm>

<sup>29</sup>Quoted in Mortimer B. Zuckerman, "A Bit of Straight Talk," *U.S. News and World Report*, July 3, 2000, p. 60.

American consumption does not come at the expense of African consumption: The United States consumes \$14 trillion of goods and services each year because it produces \$14 trillion annually. Africa could consume even more goods and services than the United States simply by producing more.

Opponents of free trade and globalization also claim that competition by Third World countries for jobs and investment by multinational corporations encourages a “race to the bottom” in environmental and labor standards. However, this concern ignores the fact that the surest way to promote higher environmental standards for a country is to raise its wealth. The economic growth stimulated by expanded trade and capital flows will help developing countries to better afford the cleaner environment their wealthier citizens will now demand. Similarly, although protestors claim that Nike and other apparel makers contract out work to foreign “sweatshops” where underpaid workers toil in unhealthful conditions, conditions in factories where Nike goods are made are, comparatively speaking, progressive for their countries. Statistics that show very low employee turnover in such factories indicate that workers do not have better prospects. Moreover, although employees of U.S. affiliates in developing countries are paid much less than equivalent U.S. employees, they are paid significantly more than the average local wage.

Protectionists often disguise their opposition to free trade by promoting the concept of “fair trade,” which seeks to reduce Third World competitiveness by imposing Western labor conditions and environmental standards in trade treaties. However, although the goal of, say, eradicating child labor is a noble one, it has often had disastrous consequences. Although it would have been better if poor children in Pakistan did not spend their days stitching together soccer balls instead of going to school, closing down their factories forced many of them into far less appealing professions.

The evidence is clear that the surest way to improve the lives of the many desperately poor workers in developing countries is to pursue market-opening reforms that further globalization and facilitate wealth creation. Fierce competition for workers has led to soaring private sector wages and benefits in China. For example, China’s manufacturing wage increased by 232% between 1996 and 2006.<sup>30</sup> Conversely, as North Korea shows, economic isolation is the fast track to poverty, disease, poor working conditions, environmental degradation, and despair. As such, protectionist governments in the West victimize the Third World entrepreneurs and their employees who have begun to make a better life for themselves by selling their goods in Western markets.

The economic purpose of free trade is to allocate resources to their highest valued use. This process is not painless. Like technological innovation, globalization unleashes the forces of **creative destruction**, a process described by economist Joseph Schumpeter more than 50 years ago. Schumpeter’s oft-repeated phrase conveys the essence of capitalism: continuous change—out with the old, in with the new. When competing for customers, companies adopt new technologies, improve production methods, open new markets, and introduce new and better products. In this constantly churning world, some industries advance, others recede, jobs are gained and lost, businesses boom and go bust, some workers are forced to change jobs and even occupations. But the process of globalization creates more winners than losers. Consumers clearly benefit from lower prices and expanded choice. But workers and businesses overall also benefit from doing things that they are best suited for and by having new job and investment opportunities. The end result is economic progress, with economies emerging from the turmoil more efficient, more productive, and wealthier.

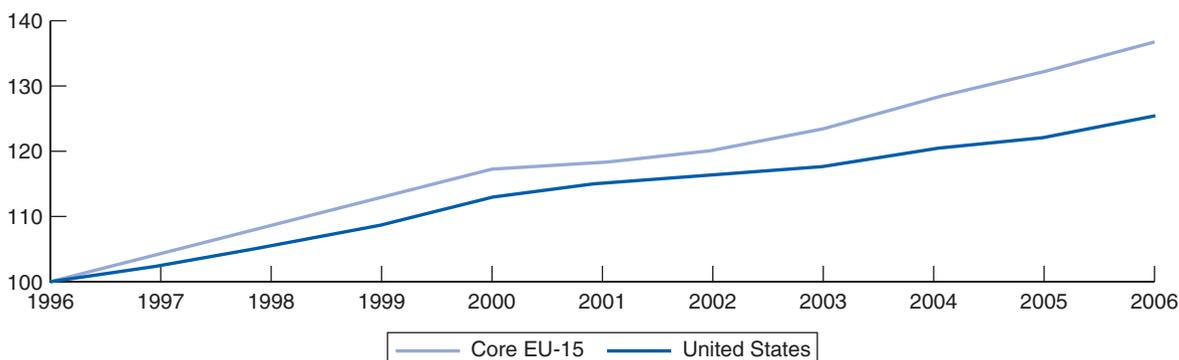
<sup>30</sup>Behzad Kianian and Kei-Mu Yi, “China’s Emergence as a Manufacturing Juggernaut: Is It Overstated?” *Business Review*, Federal Reserve Bank of Philadelphia, Q4 2009, p. 15.

## APPLICATION The European Union Pays a Price to Stop Creative Destruction



Over the past quarter century, Europe has been stagnant, with slow economic growth, a declining share of world trade, waning competitiveness, and high unemployment. Many economists and businesspeople traced this “Euro-sclerosis” to the structural rigidities that grew out of the European social model, a web of labor and welfare laws designed by European governments to shelter their constituents from the forces of creative destruction. Over the past 20 years, the European Union has attempted to reverse its economic decline by dismantling the economic barriers that fragmented its economy—from Europe 1992, which created a single European market for goods, labor, and capital, to the European Monetary Union with its single currency, the euro. Despite these initiatives, Europe’s economy remains less free than that of the United States, and this continues to have serious ramifications for its performance. As shown in Exhibit 1.10A, the U.S. economy has grown much more rapidly than that of the core EU-15<sup>31</sup> nations, while Europe’s relatively inflexible labor markets have produced an unemployment rate 3 to 5 percentage points higher (see Exhibit 1.10B). Perhaps the clearest evidence of Europe’s loss in competitiveness shows up in productivity figures. Europe’s productivity (output per hour worked) grew by only 1.5% per annum from 1995 to 2005, in contrast to U.S. productivity growth of 2.9% annually (Exhibit 1.10C). This may be the most telling statistic on the cause of Europe’s economic problems as it reflects most directly on the extent to which government policies promote a dynamic economy.

**EXHIBIT 1.10A** REAL GDP GROWTH UNITED STATES VERSUS CORE EU-15 1996=100

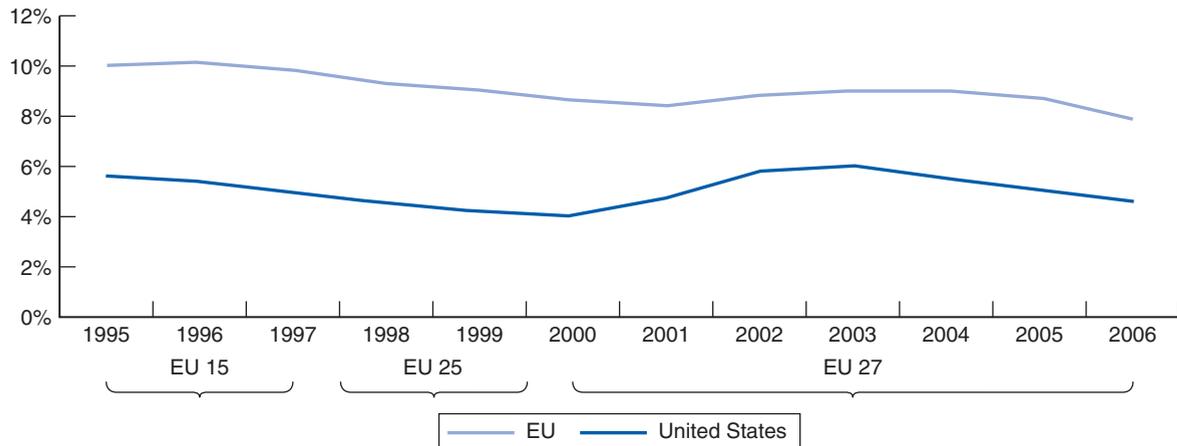


Source: European Commission: Eurostat. <http://epp.eurostat.ec.europa.eu>; U.S. Department of Labor Statistics.

The simple fact is that Europe continues to shelter too many workers and managers from competition by restrictive labor policies and expensive social welfare programs. The EU now stands at a crossroads as it debates further economic liberalization. A worrisome problem is that some member states are attempting to preserve and even expand social protections by imposing uniform labor practices and social programs throughout the EU. Other members are promoting pro-growth policies, such as increasing labor market flexibility and reducing the burden of taxation and regulation on business. Depending on which of these competing visions wins out, Europe will either liberalize its economy further to compete in a globalized world or it will retreat further into its past and face persistent high unemployment, sluggish growth, and permanently lower living standards. The violence that erupted in Greece in 2010 shows that the way ahead will not be easy, with those benefiting from the European welfare state fighting to preserve the status quo.

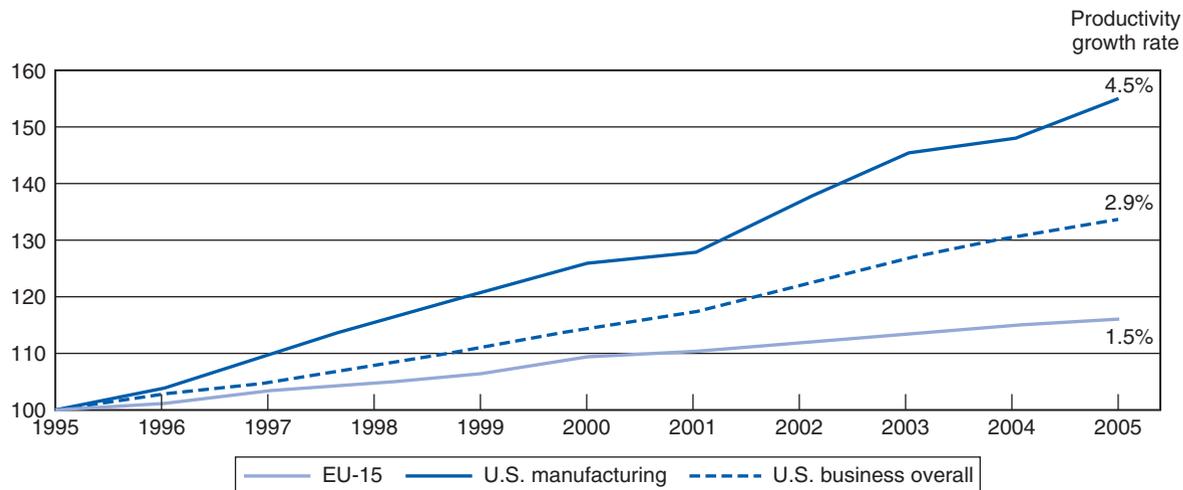
<sup>31</sup>The term “EU-15” refers to the 15 nations that comprised the European Union prior to May 1, 2004: Austria, Belgium, Denmark, France, Finland, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain, Sweden and United Kingdom. On May 1, 2004, 10 new members joined the EU: Cyprus, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Slovakia, and Slovenia.

**EXHIBIT 1.10B** UNEMPLOYMENT RATE: UNITED STATES VERSUS EU



Source: European Commission: Eurostat. <http://epp.eurostat.ec.europa.eu>; U.S. Department of Labor Statistics.

**EXHIBIT 1.10C** LABOR PRODUCTIVITY GROWTH UNITED STATES VERSUS EU 1995=100



Source: OECD Productivity Database, U.S. Department of Labor, Bureau of Labor Statistics.

Free trade has a moral basis as well, which was spelled out by President George W. Bush in May 2001:

Open trade is not just an economic opportunity, it is a moral imperative. Trade creates jobs for the unemployed. When we negotiate for open markets, we are providing new hope for the world's poor. And when we promote open trade, we are promoting political freedom. Societies that are open to commerce across their borders will open to democracy within their borders, not always immediately, and not always smoothly, but in good time.

The growing irrelevance of borders for corporations will force policymakers to rethink old approaches to regulation. For example, corporate mergers that once would have been barred as anticompetitive might make sense if the true measure of a company's market share is global rather than national.

International economic integration also reduces the freedom of governments to determine their own economic policy. If a government tries to raise tax rates on business, for example, it is increasingly easy for business to shift production abroad. Similarly, nations that fail to invest in their physical and intellectual infrastructure—roads, bridges, R&D, education—will likely lose entrepreneurs and jobs to nations that do invest. Capital—both financial and intellectual—will go where it is wanted and stay where it is well treated. In short, economic integration is forcing governments, as well as companies, to compete. After America's 1986 tax reform that slashed income tax rates, virtually every other nation in the world followed suit. In a world of porous borders, governments found it difficult to ignore what worked. Similarly, big U.S. mutual funds are wielding increasing clout in developing nations, particularly in Latin America and Asia. In essence, the funds are trying to do overseas what they are already doing domestically: pressure management (in this case governments) to adopt policies that will maximize returns. The carrot is more money; the stick is capital flight. Simply put, the globalization of trade and finance has created an unforgiving environment that penalizes economic mismanagement and allots capital and jobs to the nations delivering the highest risk-adjusted returns. As markets become more efficient, they are quicker to reward sound economic policy—and swifter to punish the profligate. Their judgments are harsh and cannot be appealed.

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### **APPLICATION** *The Asian Tigers Fall Prey to World Financial Markets*

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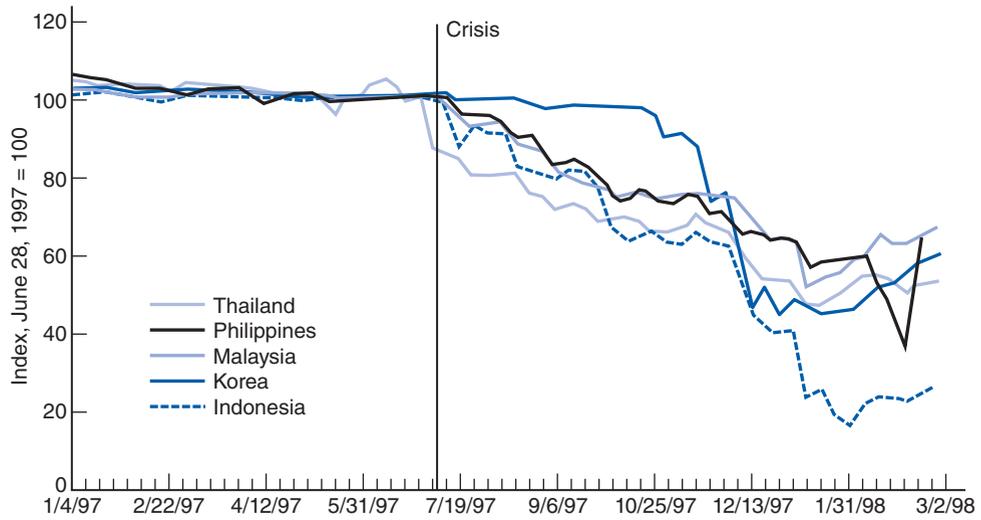


For years, the nations of East Asia were held up as economic icons. Their typical blend of high savings and investment rates, autocratic political systems, export-oriented businesses, restricted domestic markets, government-directed capital allocation, and controlled financial systems were hailed as the ideal recipe for strong economic growth, particularly for developing nations. However, by summer 1997, the financial markets became disenchanting with this region, beginning with Thailand. Waves of currency selling left the Thai baht down 40% and the stock market down 50%. Thailand essentially went bankrupt. Its government fell and the International Monetary Fund (IMF) put together a \$17 billion bailout package, conditioned on austerity measures. What the financial markets had seen that others had not was the rot at the core of Thailand's economy. Thais had run up huge debts, mostly in dollars, and were depending on the stability of the baht to repay these loans. Worse, Thai banks, urged on by the country's corrupt political leadership, were shoveling loans into money-losing ventures that were controlled by political cronies. As long as the money kept coming, Thailand's statistics on investment and growth looked good, but the result was a financially troubled economy that could not generate the income necessary to repay its loans.

Investors then turned to other East Asian economies and saw similar flaws there. One by one, the dominoes fell, from Bangkok to Kuala Lumpur, Jakarta to Manila, Singapore to Taipei, Seoul to Hong Kong. The Asian tigers were humbled as previously stable currencies were crushed (see Exhibit 1.11A), local stock markets crashed (see Exhibit 1.11B), interest rates soared, banking systems tottered, economies contracted, bankruptcies spread, and governments were destabilized. The international bailout for the region grew to over \$150 billion, crowned by \$60 billion for South Korea, as the United States and other developed nations poured in funds for fear that the events in East Asia would spin out of control, threatening the world financial system with ruin and leading to a global recession. How to stave off such crises? The answer is financial markets that are open and transparent, leading to investment decisions that are based on sound economic principles rather than cronyism or political considerations.

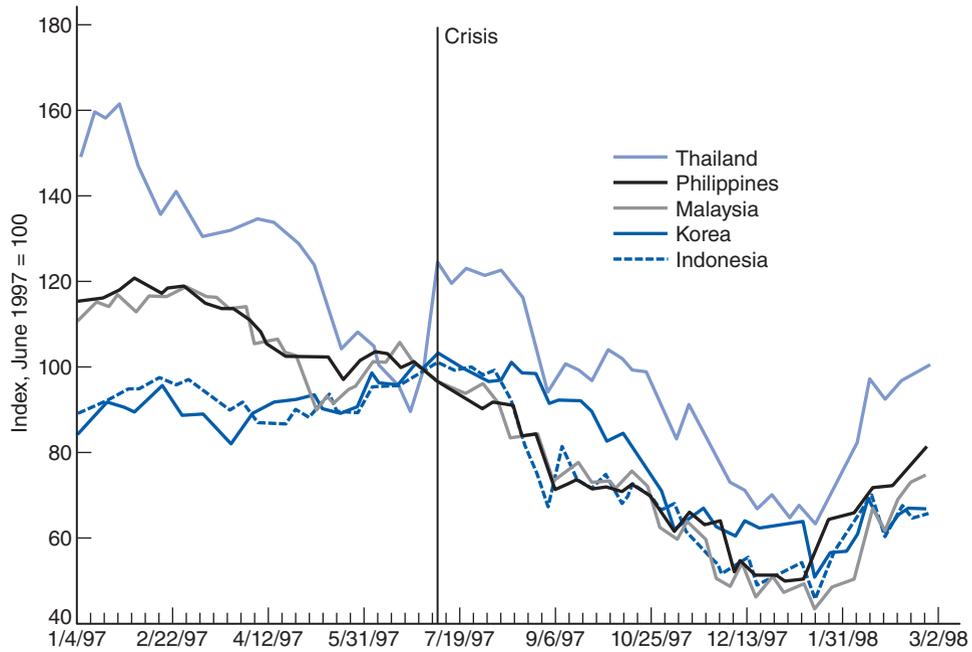
What is the bright side of the awesome power wielded by the global financial markets? Simply this: These markets bring economic sanity even to nations run by corrupt elites. Global markets have no tolerance for regimes that suppress enterprise, reward cronies, or squander resources on ego-building but economically dubious, grandiose projects. Indeed, although Asian business still has a long way to go, the forced restructuring that had already occurred resulted by summer 2000, three years later, in a dramatic recovery of the Asian economies.

**EXHIBIT 1.11A** CURRENCY DEVALUATIONS



Source: Southwest Economy, March/April 1998, Federal Reserve Bank of Dallas.

**EXHIBIT 1.11B** STOCK MARKET DROP



Source: Southwest Economy, March/April 1998, Federal Reserve Bank of Dallas.

Paradoxically, however, even as people are disturbed at the thought of their government losing control of events, they have lost faith in government's ability to solve many of their problems. One result has been the collapse of communism in Eastern Europe and the spread of free-market economics in developed and developing countries alike. Rejecting the statist policies of the past, they are shrinking, closing, pruning, or privatizing state-owned industries and subjecting their economies to the rigors of foreign competition. In response to these changes, developing countries in 1996, just prior to the Asian currency crisis, received more than \$240 billion in new foreign investment. Five years earlier, by contrast, they were exporting savings, as they paid service costs on their large foreign debts and as local capital fled hyperinflation and confiscatory tax and regulatory regimes. These dramatic shifts in policy—and the rewards they have brought to their initiators—have further strengthened the power of markets to set prices and priorities around the world. Contrary to the claims of its opponents, the reality is that globalization, by forcing governments to compete, has promoted a race to the top by pushing countries toward policies that promote faster economic growth, lower inflation, and greater economic freedom.

### Consequences of Global Competition

The stresses caused by global competition have stirred up protectionists and given rise to new concerns about the consequences of free trade. For example, the sudden entry of three billion people from low-wage countries such as China, Mexico, Brazil, Russia, and India into the global marketplace is provoking anxiety among workers in the old industrial countries about their living standards. As the accompanying application of the U.S. auto industry indicates, companies and unions are quite rational in fearing the effects of foreign competition. It disrupts established industry patterns, and it limits the wages and benefits of some workers by giving more choice to consumers while raising the wages and benefits of others. The U.S.-Canada trade agreement, which ended tariff barriers by 2000, has caused major disruption to Canada's manufacturing industry. Plants are closing, mergers are proliferating, and both domestic and multinational companies are adjusting their operations to the new continental market. Similarly, the North American Free Trade Agreement (NAFTA), which created a giant free-trade area from the Yukon to the Yucatán, has forced formerly sheltered companies, especially in Mexico, to cut costs and change their way of doing business. It led U.S. companies to shift production both into and out of Mexico, while confronting American and Canadian workers with a new pool of lower-priced (but also less productive) labor.

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#### **APPLICATION** *Japanese Competition Affects the U.S. Auto Industry*

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Beginning in the late 1970s, Japanese competition steadily eroded the influence of the Big Three U.S. automakers in the auto industry. During the 1980s, Japanese auto companies raised their U.S. market share 8 points, to 28%, versus 65% for Detroit and 5% for Europe.

The tough Japanese competition was a big factor in the sales and profit crunch that hit the Big Three. General Motors, Ford, and Chrysler responded by shutting down U.S. plants and by curbing labor costs. Thus, Japanese competition has limited the wages and benefits that United Auto Workers (UAW) union members can earn, as well as the prices that U.S. companies can charge for their cars. Both unions and companies understand that in this competitive environment, raising wages and car prices leads to fewer sales and fewer jobs and, ultimately, to bankruptcy. One solution, which allows both the Big Three and the UAW to avoid making hard choices—sales volume versus profit margin, and jobs versus wages and benefits—is political: Limit Japanese competition through quotas, tariffs, and other protectionist devices, and thereby control its effects on the U.S. auto industry. Unfortunately, American consumers get stuck with the tab for this apparent free lunch in the form of higher car prices and less choice.

The best argument against protectionism, however, is long-term competitiveness. It was, after all, cutthroat competition from the Japanese that forced Detroit to get its act together. The Big Three swept away layers of unneeded management, raised productivity, and dramatically increased the quality of their cars and trucks. They also shifted their focus toward the part of the business in which the Japanese did not have strong products but that just happened to be America's hottest and fastest-growing automotive segment—light trucks, which includes pickups, minivans, and sport-utility vehicles. Combined with a strong yen and higher Japanese prices, these changes helped Detroit pick up three percentage points of market share in 1992 and 1993 alone, mostly at the expense of Japanese nameplates. By 1994, the Japanese share of the U.S. auto market, which peaked at 29% in 1991, had fallen to 25%.

Although the global financial crisis and the recent jump in oil prices has hurt the Big Three, and forced a further restructuring of the auto industry, the inescapable fact is that Japanese automakers forced Detroit to make better cars at better prices. Handicapping the Japanese could not possibly have had the same effect.

So it is all the more encouraging that political leaders keep trying to stretch borders. The world's long march toward a **global economy** has accelerated considerably over the past two decades as evidenced by the U.S.-Canada-Mexico free-trade pact, the European Community's drive to create a truly common market, and China's entrance into the WTO. The greater integration of national economies is likely to continue despite the stresses it causes as politicians worldwide increasingly come to realize that they either must accept this integration or watch their respective nations fall behind.



### **APPLICATION** *Ross Perot Fights NAFTA, and President Clinton Responds*

In November 1993, the North American Free Trade Agreement (NAFTA) was signed into law, but not before it stirred spirited opposition among unions and politicians. The best-known critic of NAFTA was Ross Perot, the billionaire Texan who launched a multimillion-dollar campaign against the free-trade treaty. He claimed that if NAFTA were ratified, the United States would hear a “giant sucking sound” as businesses rushed to Mexico to take advantage of its lower wages, putting nearly six million U.S. jobs at risk.

This argument ignores the economic theory of trade as well as its reality. If it is true that American factory workers are paid about eight times as much as their Mexican counterparts, it is also true that they are about eight times as productive. As Mexican workers become more productive, their pay will rise proportionately. This prediction is borne out by recent economic history. Like critics of NAFTA in 1993, many in 1986 feared a giant sucking sound from south of another border—the Pyrenees. Spain, with wages less than half those of its northern neighbors, and Portugal, with wages about a fifth of Europe's norm, were about to join the European Community. Opponents said their low wages would drag down wages or take away jobs from French and German workers.

What happened? Job creation in France and Germany exceeded job creation in Spain and Portugal. More important, workers got to trade up to better jobs because opening trade allows all countries to specialize where their advantage is greatest. Specialization raises incomes. It is the reason all parties benefit from trade. Again the evidence bears this assertion out: By 1993, French and German wages had doubled; Spanish and Portuguese wages increased slightly faster. Put simply, countries do not grow richer at one another's expense. If allowed to trade freely, they grow richer together—each supplying the other with products, markets, and the spur of competition.

After numerous appeals by NAFTA supporters that he speak out in favor of the treaty, President Bill Clinton finally responded. On September 14, 1993, he gave the following eloquent argument for open borders and open markets:

I want to say to my fellow Americans, when you live in a time of change, the only way to recover your security and to broaden your horizons is to adapt to the change, to embrace it, to move forward. Nothing we do in this great capital can change the fact that factories or information can flash across the world, that people can move money around in the blink of an eye. Nothing can change the fact that technology can be adopted, once created, by people all across the world and then rapidly adapted in new and different ways by people who have a little different take on the way that technology works.

For two decades, the winds of global competition have made these things clear to any American with eyes to see. The only way we can recover the fortunes of the middle class in this country so that people who work harder and smarter can at least prosper more, the only way we can pass on the American dream of the past 40 years to our children and their children for the next 40 is to adapt to the changes that are occurring.

In a fundamental sense, this debate about NAFTA is a debate about whether we will embrace these changes and create the jobs of tomorrow or try to resist these changes, hoping we can preserve the economic structures of yesterday. I tell you, my fellow Americans, that if we learn anything from the collapse of the Berlin Wall and the fall of the governments in Eastern Europe, even a totally controlled society cannot resist the winds of change that economics and technology and information flow have imposed in this world of ours. That is not an option. Our only realistic option is to embrace these changes and create the jobs of tomorrow.

Based in large part on the existence of NAFTA, total trade (exports plus imports) with Mexico rose from \$81.5 billion in 1993 to \$232.1 billion in 2002. After 1994, NAFTA made investors feel more secure in their property rights and foreign investment soared as foreign companies rushed to take advantage of Mexico as a low-cost export platform adjacent to the world's wealthiest market.

### MINI-CASE *Democrats Turn Protectionist*



In fall 1993, President Clinton was lobbying hard for passage of NAFTA but facing tough opposition from Ross Perot, among others. To help get out the administration's message and build congressional and popular support, Vice President Al Gore agreed to go on CNN's *Larry King Live* to debate—and discredit—the Texas billionaire. During the debate, Al Gore talked about the critical importance of NAFTA to the future of the United States. “This is a major choice for our country of historic proportions,” Gore said. “Sometimes we do something right; the creation of NATO, the Louisiana Purchase, Thomas Jefferson did the right thing there, the purchase of Alaska. These were all extremely controversial choices, but they made a difference for our country. This is such a choice.” Elaborating, Gore then said, “This is a choice between the politics of fear and the politics of hope. It's a choice between the past and the future.” The reviews for Gore's performance were solid, with most observers agreeing that he won the debate.

Seven years later, however, when Al Gore was running in the Democratic presidential primary against Senator Bill Bradley, he and his supporters hammered Bradley for the latter's support of NAFTA (while neglecting his own role in NAFTA's passage). A story in the *New York Times* helped explain Gore's conversion:

Many officials from the powerful industrial unions in Illinois, Michigan, Missouri, Ohio, Pennsylvania and Wisconsin—the auto workers, the steelworkers and the machinists—say that if Gore hopes to motivate union activists to campaign for him and union members to vote for him in primaries and in the general election, he must address labor's concerns on manufacturing and the related subject of trade. “It's one thing for the vice president to get the AFL-CIO's endorsement, and it's quite another to mobilize our members,” said George Becker, president of the United Steelworkers of America. Becker met with Gore last week to press him on trade and manufacturing. “I have one overall goal in life,” Becker said, “and that is to reverse the trend of de-industrializing America and to stop these insane trade laws that force our manufacturers to compete against impossible odds.”

In 2004, virtually all the Democratic presidential hopefuls came out strongly against free trade, thereby reversing the position the Democratic Party had taken while Bill Clinton was president. Howard Dean, John Kerry, John Edwards, and Wesley Clark abandoned their past positions on trade and joined Richard Gephardt, a longtime critic of free trade and favorite of labor unions, in resisting efforts to lower trade barriers with Mexico and other nations in South America and Asia. Of the top-tier Democratic presidential candidates, only Joseph Lieberman continued to push the Clinton emphasis on forging trade agreements. “We cannot put a wall around America,” he said.

During the 2008 Democratic presidential primaries, both Barack Obama and Hillary Clinton criticized free trade in general and denounced NAFTA in particular. According to Senator Obama, “If you travel through Youngstown and you travel through communities in my home state of Illinois, you will see entire cities that have been devastated as a consequence of trade agreements.” Both pledged to withdraw from NAFTA if Mexico and Canada refused to renegotiate the treaty. This pledge was made despite the difficulty in discerning NAFTA’s harmful impact from the data: From January 1, 1994, when NAFTA took effect, to 2008, the U.S. economy gained 26 million new jobs (a 21% increase in employment), while real (inflation-adjusted) hourly compensation (wages and benefits) of U.S. workers rose by 26%.

#### Questions

1. What might explain the candidates’ and Democratic Party’s reversal of position on free trade? Which voting constituencies would be most likely to reject free trade? Why?
2. What leverage do the trade unions have in persuading Al Gore and other Democratic candidates to pay attention to their anti-free-trade position? Explain why these particular unions might be particularly powerful.
3. What trade-offs did Al Gore and other Democrats face in accommodating labor? Explain.
4. How can U.S. manufacturers compete with foreign producers? Are they doomed, as suggested by the president of the United Steelworkers of America? Explain.
5. Are the unions and their members right to be concerned about the effects of free-trade policies? What are these effects that they are concerned about? Who would be helped and who would be hurt if the unions got their way on trade? Explain.
6. In 2007, Senator Obama’s campaign called Hillary Clinton “the senator from Punjab,” referring to her and her husband’s close political and economic ties to India. However, in 2010, President Obama traveled to India with an entourage of almost 250 businesspeople to drive home the message that India could be a goldmine for American jobs. What might account for the turnaround in Barack Obama’s public position on the importance of India for American jobs?



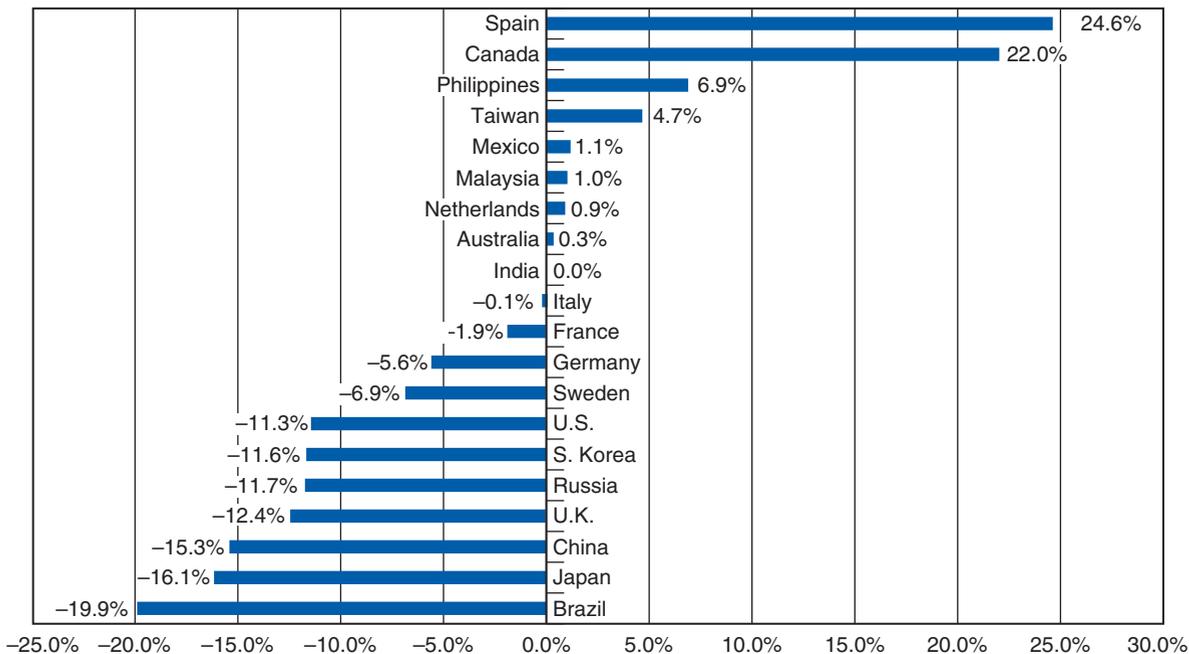
### APPLICATION *The Myth of a Deindustrializing America*

The share of workers employed in manufacturing in the United States has declined steadily since 1960, from 26% then to about 11% in 2006. It is an article of faith among protectionists that these manufacturing jobs have been lost to low-cost labor in China, India, Mexico, Brazil, and the rest of the developing world. According to the critics, the answer to these job losses and the hollowing out of American industry is protectionism.

The truth turns out to be more complex. In fact, manufacturing jobs are disappearing worldwide. A study of employment trends in 20 economies found that between 1995 and 2002, more than 22 million factory jobs disappeared.<sup>32</sup> Moreover, the United States has not even been the biggest loser. As Exhibit 1.12 shows, that distinction goes to Brazil, which lost almost 20% of its manufacturing jobs during that period. China, the usual villain, saw a 15% drop. In fact, the real culprit is higher productivity.

All over the world, factories are becoming more efficient. As a result of new equipment, better technology, and better manufacturing processes, factories can turn out more products with fewer workers.

<sup>32</sup>Joseph G. Carson, “U.S. Economic and Investment Perspective—Manufacturing Payrolls Declining Globally: The Untold Story (Parts 1 and 2),” New York, AllianceBernstein Institutional Capital Management, October 10 and 24, 2003.

**EXHIBIT 1.12** WINNERS AND LOSERS: PERCENTAGE CHANGE IN MANUFACTURING EMPLOYMENT FROM 1995 TO 2002


Indeed, between 1995 and 2002, factory production worldwide jumped 30% even as factory employment fell by 11%. In the United States, even as millions of factory jobs were lost, factory output has more than doubled in the past 30 years. Indeed, despite China being acclaimed as the new workshop of the world, the United States remains the world's largest manufacturer. Because of its higher productivity, the United States manufactures twice as many goods as China even though China has around six times as many manufacturing workers.

U.S. manufacturing productivity is both high and growing. The average U.S. factory worker in 2010 was responsible for more than \$180,000 of annual manufacturing output, triple the \$60,000 in 1972<sup>33</sup>. In other words, manufacturing is being transformed the same way that farming was. In 1910, one out of every three American workers was a farmer. By 2010, with the advent of tractors and other technology, it was one in 70 even as U.S. food output increased dramatically. As such, postponing the expiration date of some U.S. manufacturing jobs through protectionist policies diverts resources from new, growing industries and instead directs them toward keeping dying U.S. industries alive for a little while longer.

It is also important to distinguish between the outsourcing of manufacturing and the outsourcing of the value added associated with manufactured products. Consider, for example, the wireless mouse named Wanda sold by Logitech International SA, a Swiss-American company headquartered in California. The mice are made in Suzhou, China, and sold to American consumers for around \$40. As Exhibit 1.13 shows, of this amount, Logitech takes about \$8, distributors and retailers take around \$15, and parts suppliers get \$14. China's take from each mouse is just \$3, which must cover wages, power, transport, and other overhead costs. Indeed, Logitech's Fremont, California, marketing staff of 450 earns far more than the 4,000 Chinese workers in Suzhou.<sup>34</sup>

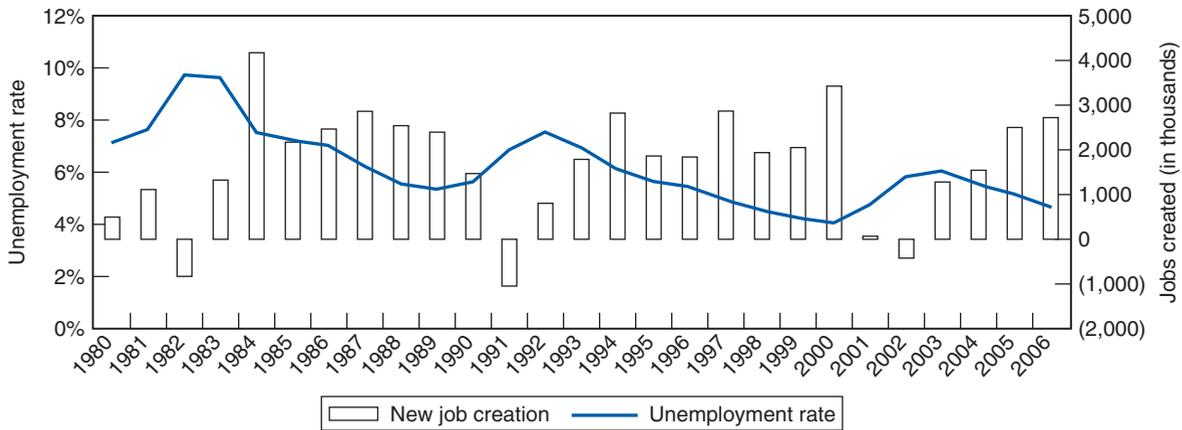
<sup>33</sup>Mark J. Perry, "The Truth About U.S. Manufacturing," *Wall Street Journal*, February 25, 2011, p. A 13.

<sup>34</sup>Information on Logitech's Wanda mouse appears in Andrew Higgins, "As China Surges, It Also Proves a Buttress to American Strength," *Wall Street Journal*, January 30, 2004, A1.

**EXHIBIT 1.13** HOW LOGITECH'S \$40 MOUSE IS DISSECTED

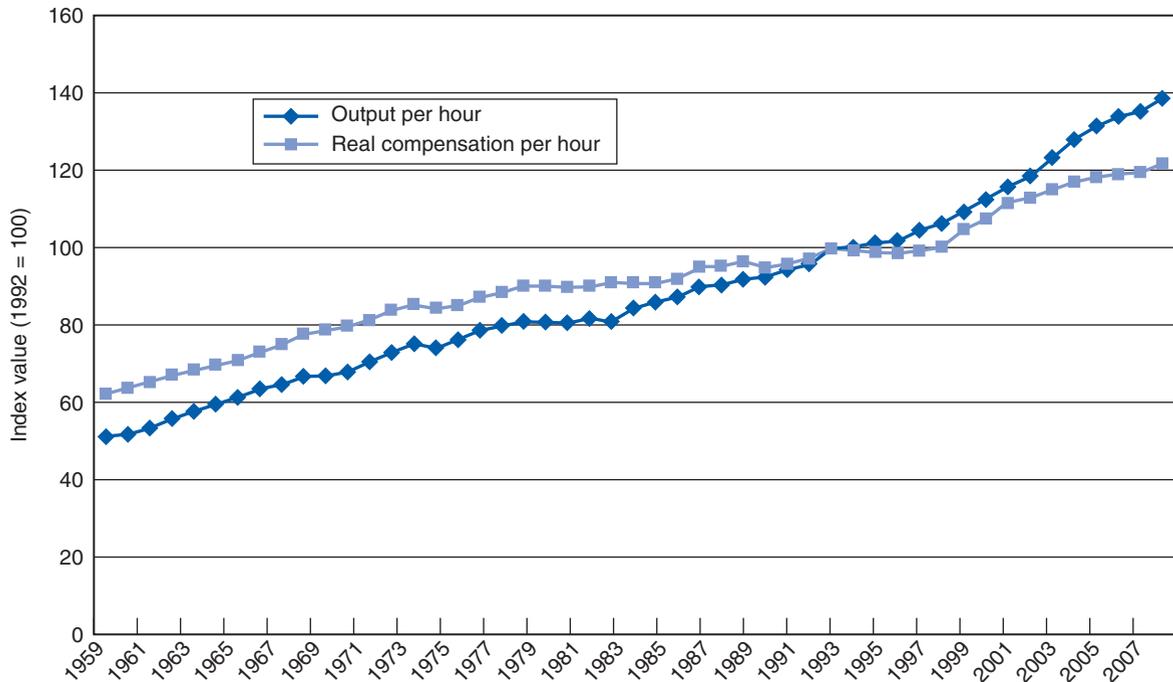
Ultimately, the consequences of globalization are an empirical issue. If the anti-free traders were right, the United States, with one of the most liberal trading regimes in the world and facing intense competitive pressure from low-cost imports across a range of industries, would be losing jobs by the millions. Instead, as Exhibit 1.14 shows, the United States created more than 45 million jobs since 1980, when the competitive pressure from foreign imports intensified dramatically. The U.S. unemployment rate also fell during this period, from 7.1% in 1980 to 4.6% in 2006. Moreover, according to the foes of globalization, intensifying competition from low-cost foreign workers is driving down average worker compensation in the United States, both in absolute terms and also relative to foreign workers. Once again, the facts are inconsistent with the claims. Exhibit 1.15A shows that U.S. worker compensation has steadily risen—and it shows why. The answer is productivity: As output per hour (the standard measure of worker productivity) has gone up, so has real hourly worker compensation. According to Exhibit 1.15B, on average, 66% of productivity gains have gone to higher worker compensation. Rising labor productivity also explains the rapid growth in manufacturing wages in China, Mexico, South Korea, and many other developing countries in recent decades. The key to higher compensation, therefore, is increased productivity, not trade protectionism. In fact, increased trade leads to higher productivity and, therefore, higher average wages and benefits. These empirical facts point to a larger reality: Globalization is not a zero-sum game, in which for some to win others must lose. Instead, international trade and investment expand the total economic pie, enabling nations to get richer together.

**EXHIBIT 1.14** U.S. UNEMPLOYMENT RATES AND NEW JOB CREATION



Source: U.S. Department of Labor, Bureau of Labor Statistics.

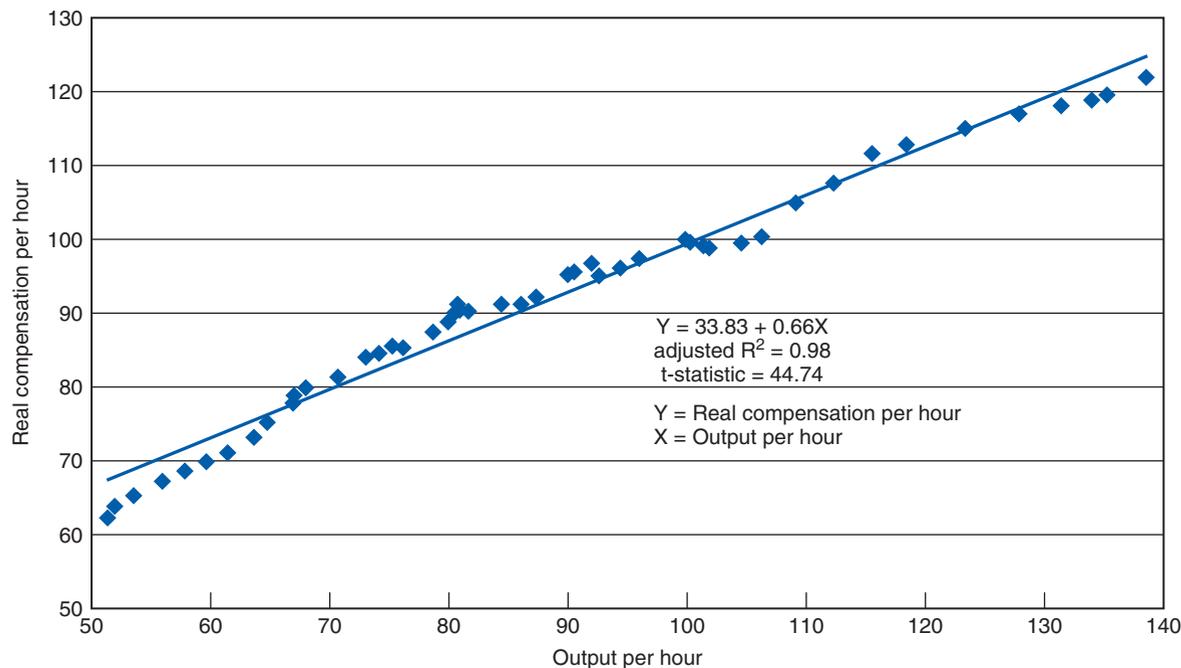
**EXHIBIT 1.15A** REAL COMPENSATION PER HOUR AND OUTPUT PER HOUR FOR AMERICAN NONFARM WORKERS: 1959–2007



Source: U.S. Department of Labor, Bureau of Labor Statistics.

EXHIBIT 1.15B

## REAL COMPENSATION PER HOUR VARIOUS WITH OUTPUT PER HOUR FOR AMERICAN NONFARM WORKERS: 1959–2007



## 1.3 MULTINATIONAL FINANCIAL MANAGEMENT: THEORY AND PRACTICE

Although all functional areas can benefit from a global perspective, this book concentrates on developing financial policies that are appropriate for the multinational firm. The main objective of multinational financial management is to maximize shareholder wealth as measured by share price. This means making financing and investment decisions that add as much value as possible to the firm. It also means that companies must manage effectively the assets under their control.

The focus on shareholder value stems from the fact that shareholders are the legal owners of the firm and management has a fiduciary obligation to act in their best interests. Although other stakeholders in the company do have rights, these are not coequal with the shareholders' rights. Shareholders provide the risk capital that cushions the claims of alternative stakeholders. Allowing alternative stakeholders coequal control over capital supplied by others is equivalent to allowing one group to risk another group's capital. This undoubtedly would impair future equity formation and produce numerous other inefficiencies.

A more compelling reason for focusing on creating shareholder wealth is that those companies that do not are likely to be prime takeover targets and candidates for a forced corporate restructuring. Conversely, maximizing shareholder value provides the best defense against a hostile takeover: a high stock price. Companies that build shareholder value also find it easier to attract equity capital. Equity capital is especially critical for companies that operate in a riskier environment and for companies that are seeking to grow.

Last, but not least, shareholders are not the only beneficiaries of corporate success. By forcing managers to evaluate business strategies based on prospective cash flows, the shareholder value approach favors strategies that enhance a company's cash-flow generating ability—which is good for everyone, not just shareholders. Companies that create value have

more money to distribute to all stakeholders, not just shareholders. Put another way, you have to create wealth before you can distribute it. Thus, there is no inherent economic conflict between shareholders and stakeholders. Indeed, most financial economists believe that maximizing shareholder value is not merely the best way, it is the *only* way to maximize the economic interests of *all* stakeholders over time.

Although an institution as complex as the multinational corporation cannot be said to have a single, unambiguous will, the principle of shareholder wealth maximization provides a rational guide to financial decision making. However, other financial goals that reflect the relative autonomy of management and external pressures also are examined here.

### Criticisms of the Multinational Corporation

Critics of the MNC liken its behavior to that of an octopus with tentacles extended, squeezing the nations of the world to satisfy the apparently insatiable appetite of its center. Its defenders claim that only by linking activities globally can world output be maximized. According to this view, greater profits from overseas activities are the just reward for providing the world with new products, technologies, and know-how.

This book's focus is on multinational financial management, so it does not directly address this controversy. It concentrates instead on the development of analytical approaches to deal with the major environmental problems and decisions involving overseas investment and financing. In carrying out these financial policies, however, conflicts between corporations and nation-states will inevitably arise.

A classic case is that of General Motors-Holden's Ltd. The General Motors wholly owned Australian affiliate was founded in 1926 with an initial equity investment of A\$3.5 million. The earnings were reinvested until 1954, at which time the first dividend, for A\$9.2 million, was paid to the parent company in Detroit. This amount seemed reasonable to GM management, considering the 28 years of forgoing dividends, but the Australian press and politicians denounced a dividend equal to more than 260% of GM's original equity investment as economic exploitation and imperialism.<sup>35</sup>

More recently, Brazil, facing one of its periodic balance-of-payments crises, chose to impose stringent controls on the removal of profits by MNCs, thereby affecting the financial operations of firms such as Volkswagen and Scott Paper. In addition, companies operating in countries as diverse as Canada and Chile, Italy and India, and the United States and Uruguay have faced various political risks, including price controls and confiscation of local operations. This book examines modifying financial policies to align better with national objectives in an effort to reduce such risks and minimize the costs of the adjustments.

This text also considers the links between financial management and other functional areas. After all, the analysis of investment projects is dependent on sales forecasts and cost estimates, and the dispersal of production and marketing activities affects a firm's ability to flow funds internationally as well as its vulnerability to expropriation.

### Functions of Financial Management

Financial management is traditionally separated into two basic functions: the acquisition of funds and the investment of those funds. The first function, also known as the **financing decision**, involves generating funds from internal sources or from sources external to the firm at the lowest long-run cost possible. The **investment decision** is concerned with the allocation of funds over time in such a way that shareholder wealth is maximized. Many of the concerns and activities of multinational financial management, however, cannot be categorized so neatly.

<sup>35</sup>Reported in, among other places, Sidney M. Robbins and Robert B. Stobaugh, *Money in the Multinational Enterprise* (New York: Basic Books, 1973), p. 59.

Internal corporate fund flows such as loan repayments often are undertaken to access funds that are already owned, at least in theory, by the MNC itself. Other flows, such as dividend payments, may take place to reduce taxes or currency risk. Capital structure and other financing decisions frequently are motivated by a desire to reduce investment risks as well as financing costs. Furthermore, exchange risk management involves both the financing decision and the investment decision. Throughout this book, therefore, the interaction between financing and investment decisions is stressed because the right combination of these decisions is the key to maximizing the value of the firm to its shareholders.

### Theme of This Book

Financial executives in multinational corporations face many factors that have no domestic counterparts. These factors include exchange and inflation risks; international differences in tax rates; multiple money markets, often with limited access; currency controls; and political risks, such as sudden or creeping expropriation.

When companies consider the unique characteristics of multinational financial management, they understandably emphasize the additional political and economic risks faced when going abroad. But a broader perspective is necessary if firms are to take advantage of being multinational.

The ability to move people, money, and material on a global basis enables the multinational corporation to be more than the sum of its parts. By having operations in different countries, the MNC can access segmented capital markets to lower its overall cost of capital, shift profits to lower its taxes, and take advantage of **international diversification** of markets and production sites to reduce the riskiness of its earnings. Multinationals have taken the old adage “don’t put all your eggs in one basket” to its logical conclusion.

Operating globally confers other advantages as well: It increases the bargaining power of multinational firms when they negotiate investment agreements and operating conditions with foreign governments and labor unions; it gives MNCs continuous access to information on the newest process technologies available overseas and the latest research and development activities of their foreign competitors; and it helps them diversify their funding sources by giving them expanded access to the world’s capital markets.



#### **APPLICATION** *General Electric Discusses the Risks and Benefits of Globalization*

In its 2011 Annual Report (p. 47), General Electric explains the pluses and minuses of its global activities as follows:

Our global activities span all geographic regions and primarily encompass manufacturing for local and export markets, import and sale of products produced in other regions, leasing of aircraft, sourcing for our plants domiciled in other global regions and provision of financial services within these regional economies. Thus, when countries or regions experience currency and/or economic stress, we often have increased exposure to certain risks, but also often have new profit opportunities. Potential increased risks include, among other things, higher receivable delinquencies and bad debts, delays or cancellations of sales and orders principally related to power and aircraft equipment, higher local currency financing costs and slowdown in established financial services activities. New profit opportunities include, among other things, more opportunities for lower cost outsourcing, expansion of industrial and financial services activities through purchases of companies or assets at reduced prices and lower U.S. debt financing costs.

In summary, this book emphasizes the many opportunities associated with being multinational without neglecting the corresponding risks. To properly analyze and balance these international risks and rewards, we must use the lessons to be learned from domestic corporate finance.

## Relationship to Domestic Financial Management

In recent years, an abundance of new research has been conducted in the area of international corporate finance. The major thrust of this work has been to apply the methodology and logic of financial economics to the study of key international financial decisions. Critical problem areas, such as foreign exchange risk management and foreign investment analysis, have benefited from the insights provided by **financial economics**—a discipline that emphasizes the use of economic analysis to understand the basic workings of financial markets, particularly the measurement and pricing of risk and the intertemporal allocation of funds.

By focusing on the behavior of financial markets and their participants rather than on how to solve specific problems, we can derive fundamental principles of valuation and develop from them superior approaches to financial management, much as a better understanding of the basic laws of physics leads to better-designed and better-functioning products. We also can better gauge the validity of existing approaches to financial decision making by seeing whether their underlying assumptions are consistent with our knowledge of financial markets and valuation principles.

Three concepts arising in financial economics have proved to be of particular importance in developing a theoretical foundation for international corporate finance: *arbitrage*, *market efficiency*, and *capital asset pricing*. Throughout the remainder of the book, we rely on these concepts, which are briefly described in the next sections.

**Arbitrage.** Arbitrage traditionally has been defined as the purchase of assets or commodities on one market for immediate resale on another in order to profit from a price discrepancy. In recent years, however, arbitrage has been used to describe a broader range of activities. **Tax arbitrage**, for example, involves the shifting of gains or losses from one tax jurisdiction to another to profit from differences in tax rates. In a broader context, **risk arbitrage**, or speculation, describes the process that leads to equality of risk-adjusted returns on different securities, unless market imperfections that hinder this adjustment process exist.

The concept of arbitrage is of particular importance in international finance because so many of the relationships between domestic and international financial markets, exchange rates, interest rates, and inflation rates depend on arbitrage for their existence. In fact, it is the process of arbitrage that ensures **market efficiency**.

**Market Efficiency.** An **efficient market** is one in which the prices of traded securities readily incorporate new information. Numerous studies of U.S. and foreign capital markets have shown that traded securities are correctly priced in that trading rules based on past prices or publicly available information cannot consistently lead to profits (after adjusting for transaction costs) in excess of those due solely to risk taking.

The predictive power of markets lies in their ability to collect in one place a mass of individual judgments from around the world. These judgments are based on current information. If the trend of future policies changes, people will revise their expectations, and prices will change to incorporate the new information. Despite numerous challenges, the notion of market efficiency has held up well to criticism.<sup>36</sup>

<sup>36</sup>In the words of Nobel laureate Robert E. Lucas, Jr. (“In defence of the dismal science,” *The Economist*, August 8, 2009, p. 67), “Over the years, exceptions and ‘anomalies’ [to market efficiency] have been discovered . . . but for the purposes of macroeconomic analysis and forecasting these departures are too small to matter.”

To say that markets are efficient, however, is not to say that they never blunder. Swept up by enthusiasm or urged on by governments, investors appear to succumb periodically to herd behavior and go to excess, culminating in a financial crisis. In the 1980s, for example, an international banking crisis developed as a result of overly optimistic lending to developing nations, and in the 1990s the Asian crisis was associated with overly optimistic lending to the rapidly growing Asian tigers. Similarly, the global financial crisis that began in August 2007 was facilitated by distortions in the price of credit associated with implicit government guarantees to depositors and other providers of capital (such as Fannie Mae and Freddy Mac), a credit bubble in the United States and Europe that led to dramatic increases in the price of housing, the tendency of central banks to cut interest rates at the first sign of financial distress, and a skewed set of incentives that led financial executives to engage in risky behavior and credit-rating agencies to overstate the credit quality of mortgage-backed securities. The resulting credit losses and failed financial institutions do not invalidate the notion of market efficiency. Indeed, the catastrophic fates of august financial institutions such as Lehman Brothers, Fannie Mae, Wachovia Bank, Bear Stearns, and AIG are entirely consistent with market efficiency: In a competitive capital market, if you take massive risky positions financed by epic amounts of leverage (debt-to-equity ratios of on the order of 33-to-1), you are bound to fail one day, no matter how large and venerable you are.<sup>37</sup> Put another way, in an efficient market, you cannot expect to consistently earn positive excess returns; one day you will earn a negative return sufficiently large to sink your institution.

To date, these crises have been resolved, albeit with much pain. Between crisis and resolution, however, is always uncharted territory, with the ever-present potential of panic feeding on itself and spreading from one nation to another, leading to global instability and recession, such as has occurred with the 2007 global financial crisis. What we can say about markets, however, is that they are self-correcting; unlike governments, when investors spot problems, their instinct is to withdraw funds, not add more. At the same time, if a nation's economic fundamentals are basically sound, investors will eventually recognize that and their capital will return.

**Capital Asset Pricing.** *Capital asset pricing* refers to the way in which securities are valued in line with their anticipated risks and returns. Because risk is such an integral element of international financial decisions, this book briefly summarizes the results of more than two decades of study on the pricing of risk in capital markets. The outcome of this research has been to posit a specific relationship between risk (measured by return variability) and required asset returns, now formalized in the **capital asset pricing model (CAPM)** and the more general **arbitrage pricing theory (APT)**.

Both the CAPM and the APT assume that the total variability of an asset's returns can be attributed to two sources: (1) marketwide influences that affect all assets to some extent, such as the state of the economy, and (2) other risks that are specific to a given firm, such as a strike. The former type of risk is usually termed **systematic**, or **nondiversifiable, risk**, and the latter, **unsystematic**, or **diversifiable, risk**. Unsystematic risk is largely irrelevant to the highly diversified holder of securities because the effects of such disturbances cancel out, on average, in the portfolio. On the other hand, no matter how well diversified a stock portfolio is, systematic risk, by definition, cannot be eliminated, and thus the investor must be compensated for bearing this risk. This distinction between systematic risk and unsystematic risk provides the theoretical foundation for the study of risk in the multinational corporation and is referred to throughout the book.

<sup>37</sup>This point is made in Ray Ball, "The Global Financial Crisis and the Efficient Market Hypothesis: What Have We Learned," *Journal of Applied Corporate Finance*, Fall 2009, pp. 8–16.

## The Importance of Total Risk

Although the message of the CAPM and the APT is that only the systematic component of risk will be rewarded with a risk premium, this does not mean that **total risk**—the combination of systematic and unsystematic risk—is unimportant to the value of the firm. In addition to the effect of systematic risk on the appropriate discount rate, total risk may have a negative impact on the firm's *expected* cash flows.<sup>38</sup>

The inverse relation between risk and expected cash flows arises because financial distress, which is most likely to occur for firms with high total risk, can impose costs on customers, suppliers, and employees and thereby affect their willingness to commit themselves to relationships with the firm. For example, potential customers will be nervous about purchasing a product they might have difficulty getting serviced if the firm goes out of business. Similarly, a firm struggling to survive is unlikely to find suppliers willing to provide it with specially developed products or services, except at a higher-than-usual price. The uncertainty created by volatile earnings and cash flows also may hinder management's ability to take a long view of the firm's prospects and make the most of its opportunities.

In summary, total risk is likely to affect a firm's value adversely by leading to lower sales and higher costs. Consequently, any action taken by a firm that decreases its total risk will improve its sales and cost outlooks, thereby increasing its expected cash flows.

These considerations justify the range of corporate hedging activities that multinational firms engage in to reduce total risk. This text focuses on those risks that appear to be more international than national in nature, including inflation risk, exchange risk, and political risk. As we will see, however, appearances can be deceiving, because these risks also affect firms that do business in only one country. Moreover, international diversification may actually allow firms to reduce the total risk they face. Much of the general market risk facing a company is related to the cyclical nature of the domestic economy of the home country. Operating in several nations whose economic cycles are not perfectly in phase should reduce the variability of the firm's earnings. Thus, even though the risk of operating in any one foreign country may be greater than the risk of operating in the United States (or other home country), diversification can eliminate much of that risk.

What is true for companies is also true for investors. International diversification can reduce the riskiness of an investment portfolio because national financial markets tend to move somewhat independently of one another. Investors today have options to invest internationally that did not exist in the past. They can invest in multinational firms, foreign stocks and bonds, securities of foreign firms issued domestically, and mutual funds that hold portfolios of foreign stocks and bonds.

## The Global Financial Marketplace

Market efficiency has been greatly facilitated by the marriage of computers and telecommunications. The resulting electronic infrastructure melds the world into one global market for ideas, data, and capital, all moving at almost the speed of light to any part of the planet. Today, there are more than 200,000 computer terminals in hundreds of trading rooms, in dozens of nations, that light up to display an unending flow of news. Only about two minutes elapse between the time a president, a prime minister, or a central banker makes a statement and the time traders buy or sell currency, stocks, and bonds according to their evaluation of that policy's effect on the market.

The result is a continuing global referendum on a nation's economic policies, which is the final determinant of the value of its currency. Just as we learn from television the winner

<sup>38</sup>The effect of total risk is discussed in Alan C. Shapiro and Sheridan Titman, "An Integrated Approach to Corporate Risk Management," *Midland Corporate Finance Journal*, Summer 1985, pp. 41–56.

of a presidential election weeks before the electoral college even assembles, so, too, do we learn instantly from the foreign exchange market what the world thinks of our announced economic policies even before they are implemented. In a way, the financial market is a form of economic free speech. Although many politicians do not like what it is saying, the market presents judgments that are clear eyed and hard nosed. It knows that there are no miracle drugs that can replace sound fiscal and monetary policies. Thus, cosmetic political fixes will exacerbate, not alleviate, a falling currency.

### The Role of the Financial Executive in an Efficient Market

The basic insight into financial management that we can gain from recent empirical research in financial economics is the following: *Attempts to increase the value of a firm by purely financial measures or accounting manipulations are unlikely to succeed unless there are capital market imperfections or asymmetries in tax regulations.*

Rather than downgrading the role of the financial executive, the net result of these research findings has been to focus attention on those areas and circumstances in which financial decisions can have a measurable impact. The key areas are capital budgeting, working capital management, and tax management. The circumstances to be aware of include **capital market imperfections**, caused primarily by government regulations, and asymmetries in the tax treatment of different types and sources of revenues and costs.

The value of good financial management is enhanced in the international arena because of the much greater likelihood of market imperfections and multiple tax rates. In addition, the greater complexity of international operations is likely to increase the payoffs from a knowledgeable and sophisticated approach to internationalizing the traditional areas of financial management.

## 1.4 OUTLINE OF THE BOOK

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This book is divided into six parts.

- Part I: Environment of International Financial Management
- Part II: Foreign Exchange and Derivatives Markets
- Part III: Foreign Exchange Risk Management
- Part IV: Financing the Multinational Corporation
- Part V: Foreign Investment Analysis
- Part VI: Multinational Working Capital Management

The following sections briefly discuss these parts and their chapters.

### Environment of International Financial Management

Part I examines the environment in which international financial decisions are made. Chapter 2 discusses the basic factors that affect currency values. It also explains the basics of central bank intervention in foreign exchange markets, including the economic and political motivations for such intervention. Chapter 3 describes the international monetary system and shows how the choice of system affects the determination of exchange rates. Chapter 4 is a crucial chapter because it introduces five key equilibrium relationships—among inflation rates, interest rates, and exchange rates—in international finance that form the basis for much of the analysis in the remainder of the text. Chapter 5 analyzes the balance of payments and the links between national economies, while Chapter 6 discusses the subject of country risk analysis, the

assessment of the potential risks and rewards associated with making investments and doing business in a country—a topic of great concern these days.

### **Foreign Exchange and Derivatives Markets**

Part II explores the foreign exchange and derivative markets used by multinational corporations to manage their currency and interest rate risks. Chapter 7 describes the foreign exchange market and how it functions. Foreign currency futures and options contracts are discussed in Chapter 8. Chapter 9 analyzes interest rate and currency swaps and interest rate forwards and futures and how these derivatives can be used to manage risk.

### **Foreign Exchange Risk Management**

Part III discusses foreign exchange risk management, a traditional area of concern that is receiving even more attention today. Chapter 10 discusses the likely impact that an exchange rate change will have on a firm (its exposure) from an accounting perspective and then analyzes the costs and benefits of alternative financial techniques to hedge against those exchange risks. Chapter 11 examines exposure from an economic perspective and presents marketing, logistic, and financial policies to cope with the competitive consequences of currency changes. As part of the analysis of economic exposure, the relationship between inflation and currency changes and its implications for corporate cash flows is recognized.

### **Financing the Multinational Corporation**

Part IV focuses on laying out and evaluating the medium- and long-term financing options facing the multinational firm, then on developing a financial package that is tailored to the firm's specific operating environment. Chapter 12 describes the alternative external, medium-, and long-term debt-financing options available to the multinational corporation. Chapter 13 discusses the international capital markets—namely, the Eurocurrency and Eurobond markets. Chapter 14 seeks to determine the cost-of-capital figure(s) that MNCs should use in evaluating foreign investments, given the funding sources actually employed.

### **Foreign Investment Analysis**

Part V analyzes the foreign investment decision process. Chapter 15 begins by discussing the nature and consequences of international portfolio investing—the purchase of foreign stocks and bonds. In Chapter 16, the strategy of foreign direct investment is discussed, including an analysis of the motivations for going abroad and those factors that have contributed to business success overseas. Chapter 17 presents techniques for evaluating foreign investment proposals, emphasizing how to adjust cash flows for the various political and economic risks encountered abroad, such as inflation, currency fluctuations, and expropriations. It also discusses how companies can manage political risks by appropriately structuring the initial investment and making suitable modifications to subsequent operating decisions.

### **Multinational Working Capital Management**

Part VI examines working capital management in the multinational corporation. The subject of trade financing is covered in Chapter 18. Chapter 19 discusses current asset management in the MNC, including the management of cash, inventory, and receivables. It also deals with current liability management, presenting the alternative short-term financing techniques available and showing how to evaluate their relative costs. Chapter 20 describes the mechanisms available to the MNC to shift funds and profits among its various units, while considering the tax and other consequences of these maneuvers. The aim of these maneuvers is to create an integrated global financial planning system.

## QUESTIONS

1. a. What are the various categories of multinational firms?  
b. What is the motivation for international expansion of firms within each category?
2. a. How does foreign competition limit the prices that domestic companies can charge and the wages and benefits that workers can demand?  
b. What political solutions can help companies and unions avoid the limitations imposed by foreign competition?  
c. Who pays for these political solutions? Explain.
3. a. What factors appear to underlie the Asian currency crisis?  
b. What lessons can we learn from the Asian currency crisis?
4. a. What is an efficient market?  
b. What is the role of a financial executive in an efficient market?
5. a. What is the capital asset pricing model?  
b. What is the basic message of the CAPM?  
c. How might a multinational firm use the CAPM?
6. Why might total risk be relevant for a multinational corporation?
7. A memorandum by Labor Secretary Robert Reich to President Bill Clinton suggested that the government penalize U.S. companies that invest overseas rather than at home. According to Reich, this kind of investment hurts exports and destroys well-paying jobs. Comment on this argument.
8. Pattern bargaining—an age-old tradition of largely indistinguishable union contracts in an industry—is under pressure in the auto, tire and rubber, and agriculture and industrial-equipment industries. However, pattern bargaining is still alive and well in the utilities, aerospace, defense, and oil refinery industries.
  - a. Why is pattern bargaining so important for labor unions? What do they hope to accomplish with it?
  - b. What industry characteristics account for the difference in the success of pattern bargaining across industries?
9. Are multinational firms riskier than purely domestic firms? What data would you need to address this question?
10. Is there any reason to believe that MNCs may be less risky than purely domestic firms? Explain.
11. In what ways do financial markets grade government economic policies?

## WEB RESOURCES

- [www.wto.org](http://www.wto.org) Website of the World Trade Organization (WTO). Contains news, information, and statistics on international trade.
- [www.worldbank.org](http://www.worldbank.org) Website of the World Bank. Contains economic and demographic data on 206 countries (organized in “Country At-A-Glance” tables), various economic forecasts, and links to a number of other data sources.
- [www.bea.doc.gov](http://www.bea.doc.gov) Website of the Bureau of Economic Analysis (BEA). Contains data and articles on U.S. international trade, capital flows, and other international economic matters.
- [www.wsj.com](http://www.wsj.com) Website of the *Wall Street Journal*, the foremost business newspaper in the United States. Contains domestic and international business news.
- [www.ft.com](http://www.ft.com) Website of the *Financial Times*, the foremost international business newspaper, published in London. Contains a wealth of international financial news and data.
- [www.economist.com](http://www.economist.com) Website of *The Economist*. Contains stories on the economic and political situations of countries and international business developments, along with various national and international economic and financial data.
- [www.oecd.org](http://www.oecd.org) Website of the Organisation for Economic Co-operation and Development (OECD). Contains news, analyses, and data on international finance and economics.
- [www.cob.ohio-state.edu/dept/fin/fdf/osudata.htm](http://www.cob.ohio-state.edu/dept/fin/fdf/osudata.htm) Website run by the Finance Department of Ohio State University. Contains a detailed listing of and links to many different websites related to finance and economics.
- [www.census.gov/ipc/www/idbnew.html](http://www.census.gov/ipc/www/idbnew.html) Website of the International Data Base (IDB), which is a computerized data bank with statistical tables of demographic and socioeconomic data for 227 countries and areas of the world.

- [www.economy.com/dismal](http://www.economy.com/dismal) Covers more than 65 economic releases from more than 15 countries. Also contains numerous stories dealing with international finance and economics.
- [www.reportgallery.com](http://www.reportgallery.com) Website that contains links to annual reports of over 2,200 companies, many of which are multinationals.
- [www.sec.gov](http://www.sec.gov) Website of U.S. Securities and Exchange Commission. Contains company filings of companies including 10-K and 10-Q.
- [www.unctad.org/Templates/StartPage.asp?intItemID=2068](http://www.unctad.org/Templates/StartPage.asp?intItemID=2068) Website of the United Nations Conference on Trade and Development. Contains information on international trade statistics.
- [http://epp.eurostat.ec.europa.eu/portal/page?\\_pageid=1090,30070682,1090\\_33076576&\\_dad=portal&\\_schema=PORTAL](http://epp.eurostat.ec.europa.eu/portal/page?_pageid=1090,30070682,1090_33076576&_dad=portal&_schema=PORTAL) Website of the Eurostat Database from the European Commission. Contains economic data for EU and Non-EU nations.
- [www.bls.gov](http://www.bls.gov) Website of the Bureau of Labor Statistics within U.S. Department of Labor. Contains historical U.S. labor, productivity and inflation data.

## WEB EXERCISES

- Who are the major trading partners of the United States? Which countries are the top five exporters to the United States? Which countries are the top five importers of U.S. goods? Good references are the WTO site and the BEA site.
  - Who are the major recipients of U.S. overseas investment? Which countries are the major sources of foreign investment in the United States? A good reference is the BEA site.
  - Go to the websites of companies such as the ones listed here and examine their international business activity. For example, what importance do these companies appear to place on international business? What percentage of sales revenues, assets, and income do these companies derive from their foreign operations? What percentage of their sales and income comes from exports? Is their foreign activity increasing or decreasing? How many countries and continents do these companies operate on? Which countries are listed as locations of the company's foreign subsidiaries? What is the headquarters country of each company? Much of this information can be gleaned from the annual reports of the companies, which can be found at [www.reportgallery.com](http://www.reportgallery.com).
- |                    |                     |                  |
|--------------------|---------------------|------------------|
| Ford Motor Company | Walt Disney Company | General Electric |
| Daimler            | Philips Electronics | Unilever         |
| IBM                | Sony                | Nestlé           |
| Microsoft          | Coca-Cola           | ExxonMobil       |
- Based on your review of *The Economist*, the *Wall Street Journal*, and the *Financial Times*, which countries appear to be giving foreign investors concerns? What are these concerns?
- Visit the Bureau of Labor Statistics website at [www.bls.gov](http://www.bls.gov). What are the sectors that have added the most jobs in the period 1990 to 2005?
  - Visit the website of Dell Inc. ([www.dell.com](http://www.dell.com)). From the home page, visit Dell's site for three other countries. What similarities and differences do you see in the products, prices, and other details when comparing the various country sites? How would you account for these similarities and differences?

## APPENDIX 1A

### THE ORIGINS AND CONSEQUENCES OF INTERNATIONAL TRADE

Underlying the theory of international trade is the doctrine of comparative advantage. This doctrine rests on certain assumptions:

- Exporters sell undifferentiated (commodity) goods and services to unrelated importers.
- Factors of production cannot move freely across countries. Instead, trade takes place in the goods and services produced by these factors of production.

As noted at the beginning of Chapter 1, the doctrine of comparative advantage also ignores the roles of uncertainty, economies of scale, and technology in international trade; and it is static rather than dynamic. Nonetheless, this theory helps explain why nations trade with one another, and it forms the basis for assessing the consequences of international trade policies.

To illustrate the main features of the doctrine of comparative advantage and to distinguish this concept from that of absolute advantage, suppose the United States and the United Kingdom produce the same two products, wheat and coal, according to the following production schedules, where the units referred to are units of production (labor, capital, land, and technology). These schedules show how many units it costs to produce each ton in each country:<sup>39</sup>

	Wheat	Coal
U.S.	2 units/ton	1 unit/ton
U.K.	3 units/ton	4 units/ton

These figures show clearly that the United States has an **absolute advantage** in both mining coal and growing wheat. That is, in using fewer units of production per ton produced, the United States is more efficient than the United Kingdom in producing both coal and wheat. However, although the United Kingdom is at an absolute disadvantage in both products, it has a **comparative advantage** in producing wheat. Put another way, the United Kingdom's absolute disadvantage is less in growing wheat than in mining coal. This lesser disadvantage can be seen by redoing the production figures above to reflect the output per unit of production for both countries:

	Wheat	Coal
U.S.	0.5 tons/unit	1 ton/unit
U.K.	0.33 tons/unit	0.25 tons/unit

Productivity for the United States relative to the United Kingdom in coal is 4:1(1/0.25), whereas it is “only” 1:5:1 (0.5/0.33) in wheat.

In order to induce the production of both wheat and coal prior to the introduction of trade, the profitability of producing both commodities must be identical. This condition is satisfied only when the return per unit of production is the same for both wheat and coal in each country. Hence, prior to the introduction of trade between the two countries, the exchange rate between wheat and coal in the United States and the United Kingdom must be as follows:

- U.S. 1 ton wheat = 2 tons coal  
 U.K. 1 ton wheat = 0.75 tons coal

### The Gains from Trade

Based on the relative prices of wheat and coal in both countries, there will be obvious gains to trade. By switching production units from wheat to coal, the United States can produce coal and trade with the United Kingdom for more wheat than those same production units can produce

<sup>39</sup>The traditional theory of international trade ignores the role of technology in differentiating products, but it leaves open the possibility of different production technologies to produce commodities.

at home. Similarly, by specializing in growing wheat and trading for coal, the United Kingdom can consume more coal than if it mined its own. This example demonstrates that trade will be beneficial even if one nation (the United States here) has an absolute advantage in everything. As long as the degree of absolute advantage varies across products, even the nation with an across-the-board absolute disadvantage will have a comparative advantage in making and exporting some goods and services.

The gains from trade for each country depend on exactly where the exchange rate between wheat and coal ends up following the introduction of trade. This exchange rate, which is known as the **terms of trade**, depends on the relative supplies and demands for wheat and coal in each country. However, any exchange rate between 0.75 and 2.0 tons of coal per ton of wheat will still lead to trade because trading at that exchange rate will allow both countries to improve their ability to consume. By illustration, suppose the terms of trade end up at 1:1—that is, one ton of wheat equals one ton of coal.

Each unit of production in the United States can now provide its owner with either one ton of coal to consume or one ton of wheat or some combination of the two. By producing coal and trading for wheat, each production unit in the United States now enables its owner to consume twice as much wheat as before. Similarly, by switching from mining coal to growing wheat and trading for coal, each production unit in the United Kingdom will enable its owner to consume 0.33 tons of coal, 33%(0.33/0.25 = 133%) more than before.

### Specialized Factors of Production

So far, we have assumed that the factors of production are unspecialized. That is, they can easily be switched between the production of wheat and coal. However, suppose that some factors such as labor and capital are specialized (i.e., relatively more efficient) in terms of producing one commodity rather than the other. In that case, the prices of the factors of production that specialize in the commodity that is exported (coal in the United States, wheat in the United Kingdom) will gain because of greater demand once trade begins, whereas those factors that specialize in the commodity that is now imported (wheat in the United States, coal in the United Kingdom) will lose because of lower demand. This conclusion is based on the economic fact that the demand for factors of production is derived from the demand for the goods those factors produce.

The gains and losses to the specialized factors of production will depend on the magnitude of the price shifts after the introduction of trade. To take an extreme case, suppose the terms of trade become 1 ton of wheat equals 1.95 tons of coal. At this exchange rate, trade is still beneficial for both countries but far more so for the United Kingdom than the United States. The disparity in the gains from trade can be seen as follows: By producing coal and trading it for wheat,

the United States can now consume approximately 2.5% more wheat than before per ton of coal.<sup>40</sup> On the other hand, the United Kingdom gains enormously. Each unit of wheat traded for coal will now provide 1.95 tons of coal, a 160%  $(1.95/0.75 - 1)$  increase relative to the earlier ratio.

These gains are all to the good. However, with specialization come costs. In the United States, the labor and capital that specialized in growing wheat will be hurt. If they continue to grow wheat (which may make sense because they cannot easily be switched to mining coal), they will suffer an approximate 2.5% loss of income because the wheat they produce now will buy about 2.5% less coal than before (1.95 tons instead of 2 tons). At the same time, U.S. labor and capital that specialize in mining coal will be able to buy about 2.5% more wheat. Although gains and losses for specialized U.S. factors of production exist, they are relatively small. The same cannot be said for U.K. gains and losses.

As we saw earlier, U.K. labor and capital that specialize in growing wheat will be able to buy 160% more coal than before, a dramatic boost in purchasing power. Conversely, those factors that specialize in mining coal will see their wheat purchasing power plummet, from 1.33  $(4/3)$  tons of coal before trade to  $0.5128(1/1.95)$  tons of wheat now. These figures translate into a drop of about 62%  $(0.5128/1.33 = 38\%)$  in wheat purchasing power.

This example illustrates a general principle of international trade: *The greater the gains from trade for a country overall, the greater the cost of trade to those factors of production that specialize in producing the commodity that is now imported.* The reason is that in order for trade to make sense, imports must be less expensive than the competing domestic products. The less expensive these imports are, the greater will be the gains from trade. By the same token, however, less expensive imports drive down the prices of competing domestic products, thereby reducing the value of those factors of production that specialize in their manufacture.

It is this redistribution of income—from factors specializing in producing the competing domestic products to consumers of those products—that leads to demands for protection from imports. However, protection is a double-edged sword. These points are illustrated by the experience of the U.S. auto industry.

As discussed in the chapter, the onslaught of Japanese cars in the U.S. market drove down the price and quantity of cars sold by American manufacturers, reducing their return on capital and forcing them to be much tougher in negotiating with the United Auto Workers. The end result was better and less expensive cars for Americans but lower profits for Detroit automakers, lower wages and benefits for U.S. autoworkers, and fewer jobs in the U.S. auto industry.

The U.S. auto industry responded to the Japanese competition by demanding, and receiving, protection in the form of

a quota on Japanese auto imports. The Japanese response to the quota—which allowed manufacturers to raise their prices (why cut prices when you can't sell more cars anyway?) and increase their profit margins—was to focus on making and selling higher-quality cars in the U.S. market (as these carried higher profit margins) and shifting substantial production to the United States. In the end, protection did not help U.S. automakers nearly as much as improving the quality of their cars and reducing their manufacturing costs. Indeed, to the extent that protection helped delay the needed changes while boosting Japanese automaker profits (thereby giving them more capital to invest), it may well have hurt the U.S. auto industry.

### Monetary Prices and Exchange Rates

So far, we have talked about prices of goods in terms of each other. To introduce monetary prices into the example we have been analyzing, suppose that before the opening of trade between the two nations, each production unit costs \$30 in the United States and £10 in the United Kingdom. In this case, the prices of wheat and coal in the two countries will be as follows:

	Wheat	Coal
U.S.	\$60/ton	\$30/ton
U.K.	£30/ton	£40/ton

These prices are determined by taking the number of required production units and multiplying them by the price per unit.

Following the introduction of trade, assume the same 1:1 terms of trade as before and that the cost of a unit of production remains the same. The prices of wheat and coal in each country will settle at the following, assuming that the exported goods maintain their prices and the prices of the goods imported adjust to these prices so as to preserve the 1:1 terms of trade:

	Wheat	Coal
U.S.	\$30/ton	\$30/ton
U.K.	£30/ton	£30/ton

These prices present a potential problem in that there will be equilibrium at these prices only if the exchange rate is  $\$1 = \pounds 1$ . Suppose, however, that before the introduction of trade, the exchange rate is  $\pounds 1 = \$3$ . In this case, dollar-equivalent prices in both countries will begin as follows:

	Wheat	Coal
U.S.	\$60/ton	\$30/ton
U.K.	\$90/ton	\$120/ton

This is clearly a disequilibrium situation. Once trade begins at these initial prices, the British will demand both U.S. wheat

<sup>40</sup>With trade, the United States can now consume  $1/1.95 = 0.5128$  tons of wheat per ton of coal, which is 2.56% more wheat than the 0.5 tons it could previously consume  $(0.5128/0.50 = 1.0256)$ .

and coal, whereas Americans will demand no British coal or wheat. Money will be flowing in one direction only (from the United Kingdom to the United States to pay for these goods), and goods will flow only in the opposite direction. The United Kingdom will run a massive trade deficit, matched exactly by the U.S. trade surplus. Factors of production in the United Kingdom will be idle (because there is no demand for the goods they can produce) whereas U.S. factors of production will experience an enormous increase in demand for their services.

This is the nightmare scenario for those concerned with the effects of free trade: One country will sell everything to the other country and demand nothing in return (save money), leading to prosperity for the exporting nation and massive unemployment and depression in the importing country. However, such worries ignore the way markets work.

Absent government interference, a set of forces will swing into play simultaneously. The British demand for dollars (to buy U.S. coal and wheat) will boost the value of the dollar, making U.S. products more expensive to the British and British goods less expensive to Americans. At the same time, the jump in demand for U.S. factors of production will raise their prices and hence the cost of producing U.S. coal and wheat. The rise in cost will force a rise in the dollar price of U.S. wheat and coal. Conversely, the lack of demand for U.K. factors of production will drive down their price and hence the pound cost of producing British coal and wheat. The net result of these adjustments in the pound:dollar exchange rate and the cost of factors of production in both countries is to make British products more attractive to consumers and U.S. products less competitive. This process will continue until both countries can find their comparative advantage and the terms of trade between coal and wheat are equal in both countries (say, at 1:1).

## Tariffs

Introducing tariffs (taxes) on imported goods will distort the prices at which trade takes place and will reduce the quantity of goods traded. In effect, tariffs introduce a wedge between the prices paid by domestic customers and the prices received by the exporter, reducing the incentive of both to trade. To see this, suppose Mexican tomatoes are sold in the United States at a price of \$0.30 per pound. If the United States imposes a tariff of, say, \$0.15 per pound on Mexican tomatoes, then Mexican tomatoes will have to sell for \$0.45 per pound to provide Mexican producers with the same pre-tariff profits

on their tomato exports to the United States. However, it is likely that at this price, some Americans will forgo Mexican tomatoes and either substitute U.S. tomatoes or do without tomatoes in their salads. More likely, competition will preclude Mexican tomato growers from raising their price to \$0.45 per pound. Suppose, instead, that the price of Mexican tomatoes, including the tariff, settles at \$0.35 per pound. At this price, the Mexican tomato growers will receive only \$0.20 per pound, reducing their incentive to ship tomatoes to the American market. At the same time, the higher price paid by American customers will reduce their demand for Mexican tomatoes. The result will be fewer Mexican tomatoes sold in the U.S. market. Such a result will benefit American tomato growers (who now face less competition and can thereby raise their prices) and farmworkers (who can now raise their wages without driving their employers out of business) while harming U.S. consumers of tomatoes (including purchasers of Campbell's tomato soup, Ragu spaghetti sauce, Progresso ravioli, and Heinz ketchup). Longer term, U.S. companies making tomato-based products are likely to shift production to Mexico where they can purchase tomatoes at a much lower cost. So, instead of importing tomatoes, the United States will now import ketchup, tomato soup, tomato sauce, and other tomato-based products.

Something like this happened with sugar, where U.S. sugar producers secured very restrictive import quotas by arguing that they would save sugar farming jobs. However, according to a 2006 study by the U.S. International Trade Administration, each sugar job saved by propping up domestic producers cost three jobs in manufacturing, with many companies relocating to countries such as Mexico and Canada where sugar can cost half the U.S. price. The result was that instead of importing sugar the United States imports more candy, cookies, cakes, and other sugary finished products.

Ultimately, the effects of free trade are beneficial for an economy because it promotes increased competition among producers. This leads to lower prices for consumers, an increased variety of products, greater productivity and rising wages for workers, and higher living standards for the country overall.

## Questions

1. In a satirical petition on behalf of French candlemakers, Frederic Bastiat, a French economist, called attention to cheap competition from afar: sunlight. A law requiring the shuttering of windows during the day, he suggested,

would benefit not only candlemakers but “everything connected with lighting” and the country as a whole. He explained: “As long as you exclude, as you do, iron, corn, foreign fabrics, in proportion as their prices approximate to zero, what inconsistency it would be to admit the light of the sun, the price of which is already at zero during the entire day!”

- a. Is there a logical flaw in Bastiat’s satirical argument?
  - b. Do Japanese automakers prefer a tariff or a quota on their U.S. auto exports? Why? Is there likely to be consensus among the Japanese carmakers on this point? Might there be any Japanese automakers who would prefer U.S. trade restrictions? Why? Who are they?
  - c. What characteristics of the U.S. auto industry have helped it gain protection? Why does protectionism persist despite the obvious gains to society from free trade?
2. Review the arguments both pro and con on NAFTA. What is the empirical evidence so far?

3. Given the resources available to them, countries A and B can produce the following combinations of steel and corn:

<i>Country A</i>		<i>Country B</i>	
<i>Steel</i> (tons)	<i>Corn</i> (bushels)	<i>Steel</i> (tons)	<i>Corn</i> (bushels)
36	0	54	0
30	3	45	9
24	6	36	18
18	9	27	27
15	12	18	36
6	15	9	45
0	18	0	54

- a. Do you expect trade to take place between countries A and B? Why?
- b. Which country will export steel? Which will export corn? Explain.

# The Determination of Exchange Rates

Experience shows that neither a state nor a bank ever have had the unrestricted power of issuing paper money without abusing that power.

DAVID RICARDO (1817)

## LEARNING OBJECTIVES

- To explain the concept of an equilibrium exchange rate
- To identify the basic factors affecting exchange rates in a floating exchange rate system
- To calculate the amount of currency appreciation or depreciation associated with a given exchange rate change
- To describe the motives and different forms and consequences of central bank intervention in the foreign exchange market
- To explain how and why expectations affect exchange rates

Economic activity is globally unified today to an unprecedented degree. Changes in one nation's economy are rapidly transmitted to that nation's trading partners. These fluctuations in economic activity are reflected, almost immediately, in fluctuations in currency values. Consequently, multinational corporations, with their integrated cross-border production and marketing operations, continually face devaluation or revaluation worries somewhere in the world. The purpose of this chapter and the next one is to provide an understanding of what an exchange rate is and why it might change. Such an understanding is basic to dealing with currency risk.

This chapter first describes what an exchange rate is and how it is determined in a **freely floating exchange rate** regime—that is, in the absence of government intervention. The chapter next discusses the role of expectations in exchange rate determination. It also examines the different forms and consequences of central bank intervention in the foreign exchange market. Chapter 3 describes the political aspects of currency determination under alternative exchange rate systems and presents a brief history of the international monetary system.

Before proceeding further, here are definitions of several terms commonly used to describe currency changes. Technically, a **devaluation** refers to a decrease in the stated par value of a **pegged currency**, one whose value is set by the government; an increase in par value is known as a **revaluation**. By contrast, a **floating currency**—one whose value is set primarily by market forces—is said to **depreciate** if it loses value and to **appreciate** if it gains value. However, discussions in this book will use the terms *devaluation* and *depreciation*, and *revaluation* and *appreciation*, interchangeably.

## 2.1 SETTING THE EQUILIBRIUM SPOT EXCHANGE RATE

An **exchange rate** is, simply, the price of one nation's currency in terms of another currency, often termed the **reference currency**. For example, the yen/dollar exchange rate is just the number of yen that one dollar will buy. If a dollar will buy 100 yen, the exchange rate would be expressed as ¥100/\$, and the yen would be the reference currency. Equivalently, the dollar/yen exchange rate is the number of dollars one yen will buy. Continuing the previous example, the exchange rate would be \$0.01/¥ (1/100), and the dollar would now be the reference currency.

Exchange rates can be for spot or forward delivery. A **spot rate** is the price at which currencies are traded for immediate delivery; actual delivery takes place two days later. A **forward rate** is the price at which foreign exchange is quoted for delivery at a specified future date. The foreign exchange market, where currencies are traded, is not a physical place; rather, it is an electronically linked network of banks, foreign exchange brokers, and dealers whose function is to bring together buyers and sellers of foreign exchange.

To understand how exchange rates are set, it helps to recognize that they are market-clearing prices that equilibrate supplies and demands in the foreign exchange market. The determinants of currency supplies and demands are first discussed with the aid of a two-currency model featuring the U.S. dollar and the euro, the official currency of the 17 countries that participate in the European Monetary Union (EMU). The members of EMU are often known collectively as the Eurozone, the term used here. Later, the various currency influences in a multicurrency world will be studied more closely.

### Demand for a Currency

The demand for the euro in the foreign exchange market (which in this two-currency model is equivalent to the supply of dollars) derives from the American demand for Eurozone goods and services and euro-denominated financial assets. Eurozone prices are set in euros, so in order for Americans to pay for their Eurozone purchases, they must first exchange their dollars for euros. That is, they will demand euros.

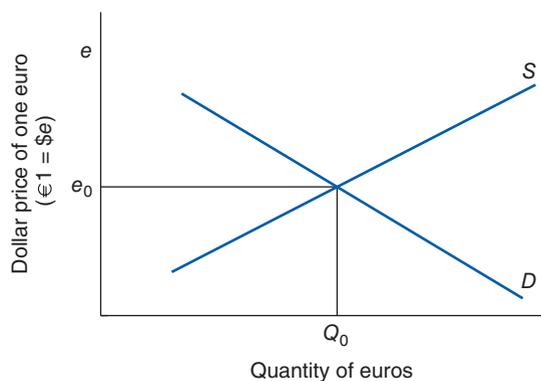
An increase in the euro's dollar value is equivalent to an increase in the dollar price of Eurozone products. This higher dollar price normally will reduce the U.S. demand for Eurozone goods, services, and assets. Conversely, as the dollar value of the euro falls, Americans will demand more euros to buy the less-expensive Eurozone products, resulting in a downward-sloping demand curve for euros. As the dollar cost of the euro (the exchange rate) falls, Americans will tend to buy more Eurozone goods and so will demand more euros.

### Supply of a Currency

Similarly, the supply of euros (which for the model is equivalent to the demand for dollars) is based on Eurozone demand for U.S. goods and services and dollar-denominated financial assets. In order for Eurozone residents to pay for their U.S. purchases, they must first acquire dollars. As the dollar value of the euro increases, thereby lowering the euro cost of U.S. goods, the increased Eurozone demand for U.S. goods will cause an increase in the Eurozone demand for dollars and, hence, an increase in the amount of euros supplied.<sup>1</sup>

In Exhibit 2.1,  $e$  is the spot exchange rate (dollar value of one euro, that is, €1 = \$ $e$ ), and  $Q$  is the quantity of euros supplied and demanded. Since the euro is expressed in terms of dollars, the dollar is the reference currency. The euro supply ( $S$ ) and demand ( $D$ ) curves

<sup>1</sup>This statement holds provided the price elasticity of Eurozone demand,  $E$ , is greater than 1. In general,  $E = -(\Delta Q/Q)/(\Delta P/P)$ , where  $Q$  is the quantity of goods demanded,  $P$  is the price, and  $\Delta Q$  is the change in quantity demanded for a change in price,  $\Delta P$ . If  $E > 1$ , then total spending goes up when price declines.

**EXHIBIT 2.1** EQUILIBRIUM EXCHANGE RATES

intersect at  $e_0$ , the **equilibrium exchange rate**. The foreign exchange market is said to be in equilibrium at  $e_0$  because both the demand for euros and the supply of euros at this price is  $Q_0$ .

Before continuing, it should be noted that the notion of a single exchange rate is a convenient fiction. In reality, exchange rates—both spot rates and forward rates—are quoted in pairs, with a dealer (usually a bank foreign exchange trader) standing willing to buy foreign exchange at the **bid rate** or to sell foreign exchange at the **ask rate**. As might be expected, the bid rate is always less than the ask rate, enabling dealers to profit from the spread between the bid and ask rates by buying low and selling high. Chapter 7 describes the mechanics of the foreign exchange market in greater detail.

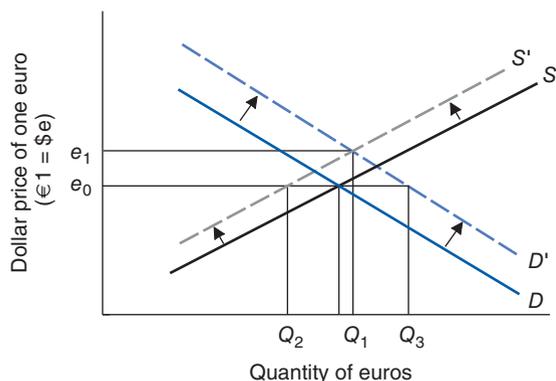
### Factors That Affect the Equilibrium Exchange Rate

As the supply and demand schedules for a currency change over time, the equilibrium exchange rate will also change. Some of the factors that influence currency supply and demand are inflation rates, interest rates, economic growth, and political and economic risks. Section 2.2 shows how expectations about these factors also exert a powerful influence on currency supplies and demands and, hence, on exchange rates.

**Relative Inflation Rates.** Suppose that the supply of dollars increases relative to its demand. This excess growth in the money supply will cause inflation in the United States, which means that U.S. prices will begin to rise relative to prices of goods and services in the Eurozone. Eurozone consumers are likely to buy fewer U.S. products and begin switching to Eurozone substitutes, leading to a decrease in the amount of euros supplied at every exchange rate. The result is a leftward shift in the euro supply curve to  $S'$  as shown in Exhibit 2.2. Similarly, higher prices in the United States will lead American consumers to substitute Eurozone imports for U.S. products, resulting in an increase in the demand for euros as depicted by  $D'$ . In effect, both Americans and residents of the Eurozone are searching for the best deals worldwide and will switch their purchases accordingly as the prices of U.S. goods change relative to prices of goods in the Eurozone. Hence, a higher rate of inflation in the United States than in the Eurozone will simultaneously increase Eurozone exports to the United States and reduce U.S. exports to the Eurozone.

## EXHIBIT 2.2

## IMPACT OF U.S. INFLATION ON THE EQUILIBRIUM EXCHANGE RATE



A new equilibrium rate  $e_1 > e_0$  results. In other words, a higher rate of inflation in the United States than in Europe will lead to a depreciation of the dollar relative to the euro or, equivalently, to an appreciation of the euro relative to the dollar. In general, a nation running a relatively high rate of inflation will find its currency declining in value relative to the currencies of countries with lower inflation rates. This relationship will be formalized in Chapter 4 as purchasing power parity (PPP).

**Relative Interest Rates.** Interest rate differentials will also affect the equilibrium exchange rate. A rise in U.S. interest rates relative to Eurozone rates, all else being equal, will cause investors in both nations to switch from euro- to dollar-denominated securities to take advantage of the higher dollar rates. The net result will be depreciation of the euro in the absence of government intervention.

It should be noted that the interest rates discussed here are real interest rates. The **real interest rate** equals the nominal or actual interest rate minus the rate of inflation. The distinction between nominal and real interest rates is critical in international finance and will be discussed at length in Chapter 4. If the increase in U.S. interest rates relative to Eurozone rates just reflects higher U.S. inflation, the predicted result will be a weaker dollar. Only an increase in the real U.S. interest rate relative to the real Eurozone rate will result in an appreciating dollar.

**Relative Economic Growth Rates.** Similarly, a nation with strong economic growth will attract investment capital seeking to acquire domestic assets. The demand for domestic assets, in turn, results in an increased demand for the domestic currency and a stronger currency, other things being equal. Empirical evidence supports the hypothesis that economic growth should lead to a stronger currency. Conversely, nations with poor growth prospects will see an exodus of capital and weaker currencies.

**Political and Economic Risk.** Other factors that can influence exchange rates include political and economic risks. Investors prefer to hold lesser amounts of riskier assets; thus, low-risk currencies—those associated with more politically and economically stable nations—are more highly valued than high-risk currencies.

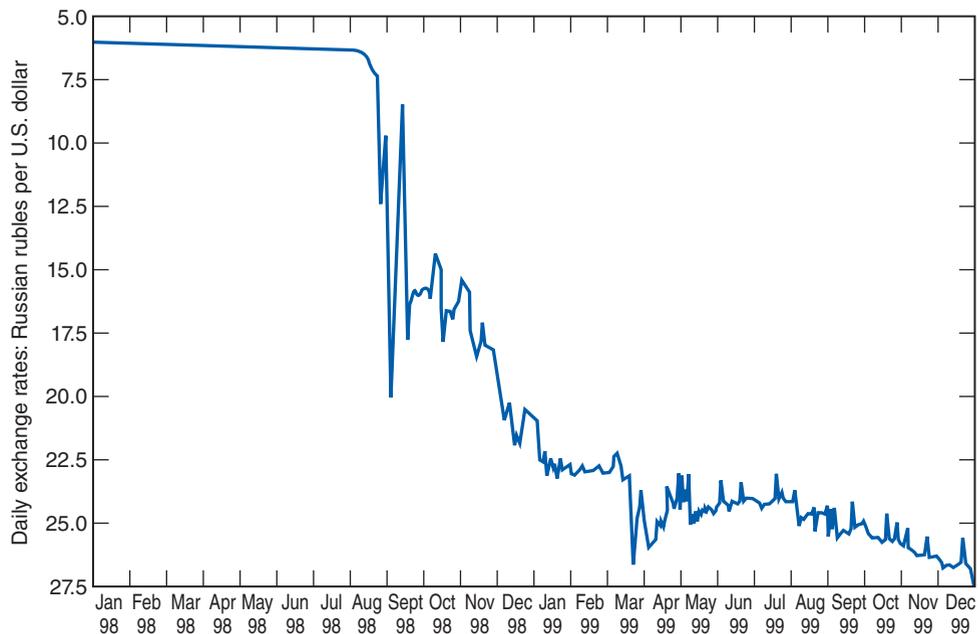


### APPLICATION *The Ruble Is Rubble*

From the breakup of the former Soviet Union in 1991 on, the Russian government had difficulty managing its finances. By spending more than it was collecting in revenues, Russia faced persistent budget deficits financed by issuing short-term treasury bills and printing rubles. By late 1997, the combination of rapidly increasing debt issuance and falling commodity prices (a major source of Russia's revenue and foreign exchange comes from exports of oil, timber, gold, and other commodities) increased investors' doubts that Russia would be able to service its growing debt burden, including \$160 billion in foreign debt. Sensing a great opportunity, speculators launched a series of attacks against the Russian ruble. The Bank of Russia (Russia's central bank) responded by repeatedly raising interest rates, which eventually reached 150% by the middle of May 1998. To help support the ruble, the International Monetary Fund (IMF) put together a \$23 billion financial package, contingent on Russia's implementing an adjustment program that stressed boosting tax revenues. When the Russian parliament balked at the tax collection measures, the IMF withheld its funds. Despite the high interest rates it was paying, the government had difficulty persuading investors to roll over their short-term government debt. The stock market sank to new lows, interest rates remained high, and investors began transferring money out of Russia.

Facing accelerating capital flight and mounting domestic problems, the Russian government announced a radical policy shift on August 17, 1998. The key measures included abandonment of its currency supports, suspension of trading in treasury bills combined with a mandatory restructuring of government debt, and a 90-day moratorium on the repayment of corporate and bank debt to foreign creditors (i.e., default). In response, the Russian ruble plunged in value (see Exhibit 2.3A). Rather than

**EXHIBIT 2.3A** THE RUBLE IS RUBBLE

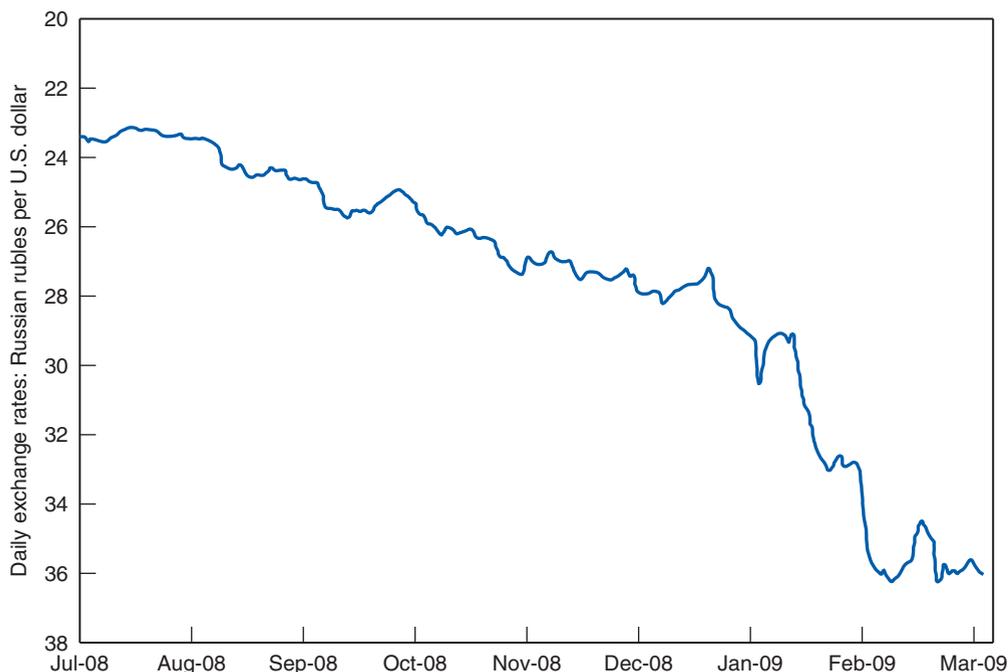


Source: Pacific Exchange Rate Service, [pacific.commerce.ubc.ca/xr/plot.html](http://pacific.commerce.ubc.ca/xr/plot.html). ©2000 by Prof. Werner Antweiler, University of British Columbia, Vancouver BC, Canada. Time period shown in diagram: 1/Jan/1998-31/Dec/1999.

dealing with the root causes of the financial crisis, the government reverted to previously discarded administrative measures. It imposed extensive controls on the foreign exchange market, increasingly financed its debt by printing more rubles, and forced exporters to surrender 75% of their export earnings. The crisis and the government's subsequent actions resulted in a steep rise in inflation and a deep recession in Russia, causing a continuing sharp decline in the ruble's value, shown in Exhibit 2.3A.

Ten years later, the global financial crisis put the Russian ruble in another precarious position. With a budget fattened by years of high oil and commodity prices, the Kremlin boosted spending on the bureaucracy, benefits, and the military. The global crisis hammered commodity and oil prices, leading to massive government deficits as revenue fell even as spending continued to increase. The decline in oil revenue and a flood of capital leaving the country put downward pressure on the ruble. Beginning in August 2008, the Kremlin engaged in a costly effort first to stop, then to slow, the ruble's slide. By February 2009, the Bank of Russia had spent over \$200 billion of its \$600 billion in foreign exchange reserves. The central bank also tried to defend the ruble by tightening monetary policy. However, it shied away from the massive interest rate increase that would be necessary for a decisive defense because such a rate hike would shake the fragile banking system and the slumping economy. Investors lost faith in Russia's willingness to confront its economic troubles by cutting state spending and reforming its economy to end its over-reliance on oil exports. The market's vote of no-confidence in the Kremlin's policies is apparent in Exhibit 2.3B.

**EXHIBIT 2.3B** THE RUBLE IS RUBBLE ROUND TWO



Source: Pacific Exchange Rate Service, [pacific.commerce.ubc.ca/xr/plot.html](http://pacific.commerce.ubc.ca/xr/plot.html). ©2011 by Prof. Werner Antweiler, University of British Columbia, Vancouver BC, Canada. Time period shown in diagram: 1/Jul/2008-1/Mar/2009.

## Calculating Exchange Rate Changes

Depending on the current value of the euro relative to the dollar, the amount of euro appreciation or depreciation is computed as the fractional increase or decrease in the dollar value of the euro. For example, if the €/€ exchange rate goes from €1 = \$0.93 to €1 = \$1.09, the euro is said to have appreciated by the change in its dollar value, which is  $(1.09 - 0.93)/0.93 = 17.20\%$ .

The general formula by which we can calculate the euro's appreciation or depreciation against the dollar is as follows:

$$\begin{aligned} \text{Amount of euro} & \\ \text{appreciation} & \\ \text{(depreciation)} & = \frac{\text{New dollar value of euro} - \text{Old dollar value of euro}}{\text{Old dollar value of euro}} \\ & = \frac{e_1 - e_0}{e_0} \end{aligned} \quad (2.1)$$

Substituting in the numbers from the previous example (with  $e_0 = \$0.93$  and  $e_1 = \$1.09$ ) yields the 17.20% euro appreciation.

Alternatively, we can calculate the change in the euro value of the dollar. We can do this by recognizing that if  $e$  equals the dollar value of a euro (dollars per euro), then the euro value of a dollar (euros per dollar) must be the reciprocal, or  $1/e$ . For example, if the euro is worth \$0.93, then the dollar must be worth €1.08 ( $1/0.93$ ). The change in the euro value of the dollar between time 0 and time 1 equals  $1/e_1 - 1/e_0$ . In percentage terms, the dollar is said to have depreciated (appreciated) against the euro by the fractional decrease (increase) in the euro value of the dollar:

$$\begin{aligned} \text{Amount of dollar} & \\ \text{appreciation} & \\ \text{(depreciation)} & = \frac{\text{New euro value of dollar} - \text{Old euro value of dollar}}{\text{Old euro value of dollar}} \\ & = \frac{1/e_1 - 1/e_0}{1/e_0} = \frac{e_0 - e_1}{e_1} \end{aligned} \quad (2.2)$$

Employing Equation 2.2, we can find the increase in the euro exchange rate from \$0.93 to \$1.09 to be equivalent to a dollar depreciation of 14.68% [ $(0.93 - 0.99)/0.99 = -0.1468$ ]. (Why don't the two exchange rate changes equal each other?<sup>2</sup>)



### APPLICATION Calculating Yen Appreciation Against the Dollar

During 2007, the yen went from \$0.0108017 to \$0.0123265. By how much did the yen appreciate against the dollar?

*Solution.* Using Equation 2.1, the yen has appreciated against the dollar by an amount equal to  $(0.0123265 - 0.0108017)/0.0108017 = 14.12\%$ .

By how much has the dollar depreciated against the yen?

*Solution.* An exchange rate of ¥1 = \$0.0108017 translates into an exchange rate of \$1 = ¥92.578 ( $1/0.0108017 = 92.578$ ). Similarly, the exchange rate of ¥1 = \$0.0123265 is equivalent to an exchange rate of \$1 = ¥81.126. Using Equation 2.2, the dollar has depreciated against the yen by an amount equal to  $(81.126 - 92.578)/92.578 = -12.37\%$ .

<sup>2</sup>The reason the euro appreciation is unequal to the amount of dollar depreciation depends on the fact that the value of one currency is the inverse of the value of the other one. Hence, the percentage change in currency value differs because the base from which the change is measured differs.

**APPLICATION** *Calculating Dollar Appreciation Against the Thai Baht*

On July 2, 1997, the Thai baht fell 17% against the U.S. dollar. By how much has the dollar appreciated against the baht?

*Solution.* If  $e_0$  is the initial dollar value of the baht and  $e_1$  is the post-devaluation exchange rate, then we know from Equation 2.1 that  $(e_1 - e_0)/e_0 = -17\%$ . Solving for  $e_1$  in terms of  $e_0$  yields  $e_0 = 0.83e_1$ . From Equation 2.2, we know that the dollar's appreciation against the baht equals  $(e_0 - e_1)/e_1$  or  $(e_0 - 0.83e_0)/0.83e_0 = 0.17/0.83 = 20.48\%$ .

**APPLICATION** *Calculating Yugoslav Dinar Devaluation Against the Dollar*

April 1, 1998, was an ill-fated date in Yugoslavia. On that day, the government devalued the Yugoslav dinar, setting its new rate at 10.92 dinar to the dollar, from 6.0 dinar previously. By how much has the dinar devalued against the dollar?

*Solution.* The devaluation lowered the dinar's dollar value from  $\$0.1667(1/6)$  to  $\$0.0916(1/10.92)$ . According to Equation 2.1, the dinar has devalued by  $(0.0916 - 0.1667)/0.1667 = -45\%$ .

By how much has the dollar appreciated against the dinar?

*Solution.* Applying Equation 2.2, the dollar has appreciated against the dinar by an amount equal to  $(10.92 - 6)/6 = 82\%$ .

**ILLUSTRATION** *Calculating Afghani Appreciation Against the Pakistani Rupee*

The afghani, Afghanistan's currency, has a perverse tendency to go up whenever sitting governments fall. So as soon as commentators labeled Osama bin Laden the prime suspect in the September 11 World Trade Center attack, currency traders figured that the Taliban would become a target of the United States, bringing prospects of a new government and, perhaps, economic development—and a rise in the afghani's value. So it has. Under the Taliban, the exchange rate—quoted as the number of Pakistani rupees it takes to buy 100,000 afghanis—fell to around 85 rupees. September 11 galvanized the market. By mid-November 2001, military gains by the Northern Alliance opposition pushed the exchange rate up to 165. By how much had the afghani appreciated against the rupee?

*Solution.* Applying Equation 2.1, the afghani had appreciated against the rupee by an amount equal to  $(165 - 85)/85 = 94\%$ .

Similarly, between September 11 and mid-November, the dollar went from 78,000 to 34,000 afghanis. By how much did the dollar depreciate against the afghani during this two-month period?

*Solution.* According to Equation 2.2, the dollar depreciated during this period by an amount equal to  $(34,000 - 78,000)/78,000 = -56\%$ . Equivalently, the afghani appreciated against the dollar by  $129\% [(1/34,000 - 1/78,000)/(1/78,000)]$ .

**2.2 EXPECTATIONS AND THE ASSET MARKET MODEL OF EXCHANGE RATES**

Although currency values are affected by current events and current supply and demand flows in the foreign exchange market, they also depend on expectations—or forecasts—about future exchange rate movements. And exchange rate forecasts, as we will see in Chapter 4, are influenced by every conceivable economic, political, and social factor.

The role of expectations in determining exchange rates depends on the fact that currencies are financial assets and that an exchange rate is simply the relative price of two financial assets—one country's currency in terms of another's. Thus, currency prices are determined in the same manner that the prices of assets such as stocks, bonds, gold, or real estate are determined. Unlike the prices of services or products with short storage lives, asset prices are influenced comparatively little by current events. Rather, they are determined by people's willingness to hold the existing quantities of assets, which in turn depends on their expectations of the future worth of these assets. Thus, for example, frost in Florida can bump up the price of oranges, but it should have little impact on the price of the citrus groves producing the oranges; instead, longer-term expectations of the demand and supply of oranges govern the values of these groves.

Similarly, the value today of a given currency, say, the dollar, depends on whether, and how strongly, people still want the amount of dollars and dollar-denominated assets they held yesterday. According to this view—known as the **asset market model** of exchange rate determination—the exchange rate between two currencies represents the price that just balances the relative supplies of, and demands for, assets denominated in those currencies. Consequently, shifts in preferences can lead to massive shifts in currency values.

For example, during the 1990s, the Cold War ended and the United States became the sole global power. Following a brief recession, the U.S. economy innovated and grew rapidly while Japan and Europe largely stagnated. Capital was attracted to the United States by the strength of its economy, the high after-tax real rate of return, and the favorable political climate—conditions superior to those attainable elsewhere. Foreigners found the United States to be a safer and more rewarding place in which to invest than elsewhere, so they added many more U.S. assets to their portfolios. In response, the dollar soared in value against other currencies.

The desire to hold a currency today depends critically on expectations of the factors that can affect the currency's future value; therefore, what matters is not only what is happening today but what markets expect will happen in the future. Thus, currency values are forward looking; they are set by investor expectations of their issuing countries' future economic prospects rather than by contemporaneous events alone. Moreover, in a world of high capital mobility, the difference between having the right policies and the wrong ones has never been greater. This point is illustrated by the Asian currency crisis of 1997.



### **MINI-CASE** *Asian Currencies Sink in 1997*

During the second half of 1997, and beginning in Thailand, currencies and stock markets plunged across East Asia, while hundreds of banks, builders, and manufacturers went bankrupt. The Thai baht, Indonesian rupiah, Malaysian ringgit, Philippine peso, and South Korean won depreciated by 40% to 80% apiece. All this happened despite the fact that Asia's fundamentals looked good: low inflation; balanced budgets; well-run central banks; high domestic savings; strong export industries; a large and growing middle class; a vibrant entrepreneurial class; and industrious, well-trained, and often well-educated workforces paid relatively low wages. But investors were looking past these positives to signs of impending trouble. What they saw was that many East Asian economies were locked on a course that was unsustainable, characterized by large trade deficits, huge short-term foreign debts, overvalued currencies, and financial systems that were rotten at their core. Each of these ingredients played a role in the crisis and its spread from one country to another.

**Loss of Export Competitiveness.** To begin, most East Asian countries depend on exports as their engines of growth and development. Along with Japan, the United States is the most important market for these exports. Partly because of this, many of these countries had tied their currencies to the dollar. This tie served them well until 1995, promoting low inflation and currency stability. It also boosted exports at the expense of Japan as the dollar fell against the yen, forcing Japanese companies to shift production to East Asia to cope with the strong yen. Currency stability also led East Asian banks and companies to finance themselves with dollars, yen, and Deutsche marks—some \$275 billion worth,

much of it short term—because dollar and other foreign currency loans carried lower interest rates than did their domestic currencies. The party ended in 1995, when the dollar began recovering against the yen and other currencies. By mid-1997, the dollar had risen by more than 50% against the yen and by 20% against the German mark. Dollar appreciation alone would have made East Asia's exports less price competitive. But their competitiveness problem was greatly exacerbated by the fact that during this period, the Chinese yuan depreciated by about 25% against the dollar.<sup>3</sup> China exported similar products, so the yuan devaluation raised China's export competitiveness at East Asia's expense. The loss of export competitiveness slowed down Asian growth and caused utilization rates—and profits—on huge investments in production capacity to plunge. It also gave the Asian central banks a mutual incentive to devalue their currencies. According to one theory, recognizing these altered incentives, speculators attacked the East Asian currencies almost simultaneously and forced a round of devaluations.<sup>4</sup>

**Moral Hazard and Crony Capitalism.** Another theory suggests that **moral hazard**—the tendency to incur risks that one is protected against—lies at the heart of Asia's financial problems. Specifically, most Asian banks and finance companies operated with implicit or explicit government guarantees. For example, the South Korean government directed the banking system to lend massively to companies and industries that it viewed as economically strategic, with little regard for their profitability. When combined with poor regulation, these guarantees distorted investment decisions, encouraging financial institutions to fund risky projects in the expectation that the banks would enjoy any profits, while sticking the government with any losses. (These same perverse incentives underlay the savings and loan fiasco in the United States during the 1980s.) In Asia's case, the problem was compounded by the crony capitalism that is pervasive throughout the region, with lending decisions often dictated more by political and family ties than by economic reality. Billions of dollars in easy-money loans were made to family and friends of the well-connected. Without market discipline or risk-based bank lending, the result was overinvestment—financed by vast quantities of debt—and inflated prices of assets in short supply, such as land.<sup>5</sup>

This financial bubble persists as long as the government guarantee is maintained. The inevitable glut of real estate and excess production capacity leads to large amounts of nonperforming loans and widespread loan defaults. When reality strikes, and investors realize that the government doesn't have the resources to bail out everyone, asset values plummet and the bubble is burst. The decline in asset values triggers further loan defaults, causing a loss of the confidence on which economic activity depends. Investors also worry that the government will try to inflate its way out of its difficulty. The result is a self-reinforcing downward spiral and capital flight. As foreign investors refuse to renew loans and begin to sell off shares of overvalued local companies, capital flight accelerates and the local currency falls, increasing the cost of servicing foreign debts. Local firms and banks scramble to buy foreign exchange before the currency falls further, putting even more downward pressure on the exchange rate. This story explains why stock prices and currency values declined together and why Asian financial institutions were especially hard hit. Moreover, this process is likely to be contagious, as investors search for other countries with similar characteristics. When such a country is found, everyone rushes for the exit simultaneously and another bubble is burst, another currency is sunk.

The standard approach of staving off currency devaluation is to raise interest rates, thereby making it more attractive to hold the local currency and increasing capital inflows. However, this approach was problematic for Asian central banks. Raising interest rates boosted the cost of funds to banks and made it more difficult for borrowers to service their debts, thereby further crippling an already sick financial sector. Higher interest rates also lowered real estate values, which served as collateral for many of these loans, and pushed even more loans into default. Thus, Asian central banks found their hands were tied and investors recognized that.

**The Bubble Bursts.** These two stories—loss of export competitiveness and moral hazard in lending combined with crony capitalism—explain the severity of the Asian crisis. Appreciation of

<sup>3</sup>For a discussion of the role that the Chinese yuan devaluation played in the Asian crisis, see Kenneth Kasa, "Export Competition and Contagious Currency Crises," *Economic Letter*, Federal Reserve Bank of San Francisco, January 16, 1998.

<sup>4</sup>See C. Hu and Kenneth Kasa, "A Dynamic Model of Export Competition, Policy Coordination, and Simultaneous Currency Collapse," working paper, Federal Reserve Bank of San Francisco, 1997.

<sup>5</sup>This explanation for the Asian crisis is set forth in Paul Krugman, "What Happened to Asia?" MIT working paper, 1998.

the dollar and depreciation of the yen and yuan slowed down Asian economic growth and hurt corporate profits. These factors turned ill-conceived and overleveraged investments in property developments and industrial complexes into financial disasters. The Asian financial crisis then was touched off when local investors began dumping their own currencies for dollars and foreign lenders refused to renew their loans. It was aggravated by politicians, such as those in Malaysia and South Korea, who preferred to blame foreigners for their problems rather than seek structural reforms of their economies. Both foreign and domestic investors, already unnerved by the currency crisis, lost yet more confidence in these nations and dumped more of their currencies and stocks, driving them to record lows.

This synthesized story is consistent with the experience of Taiwan, which is a net exporter of capital and whose savings are largely invested by private capitalists without government direction or guarantees. Taiwanese businesses also are financed far less by debt than by equity. In contrast to its Asian competitors, Taiwan suffered minimally during 1997, with the Taiwan dollar (NT\$) down by a modest 15% (to counteract its loss of export competitiveness to China and Japan) and its stock market actually up by 17% in NT\$ terms.

“The way out,” said Confucius, “is through the door.” The clear exit strategy for East Asian countries was to restructure their ailing financial systems by shutting down or selling off failing banks (e.g., to healthy foreign banks) and disposing of the collateral (real estate and industrial properties) underlying their bad loans. Although the restructuring has not gone as far as it needs to, the result so far is fewer but stronger and better-capitalized banks and restructured and consolidated industries and a continuation of East Asia’s strong historical growth record. However, progress has been slow in reforming bankruptcy laws, a critical element of reform. Simply put, governments must step aside and allow those who borrow too much or lend too foolishly to fail. Ending government guarantees and politically motivated lending would transform Asia’s financial sector and force cleaner and more transparent financial transactions. The result would be better investment decisions—decisions driven by market forces rather than personal connections or government whim—and healthier economies that attract capital for the right reasons.

#### Questions

1. What were the origins of the Asian currency crisis?
2. What role did expectations play in the Asian currency crisis?
3. How did the appreciation of the U.S. dollar and depreciation of the yuan affect the timing and magnitude of the Asian currency crisis?
4. What is moral hazard and how did it help cause the Asian currency crisis?
5. Why did so many East Asian companies and banks borrow dollars, yen, and Deutsche marks instead of their local currencies to finance their operations? What risks were they exposing themselves to?

## The Nature of Money and Currency Values

To understand the factors that affect currency values, it helps to examine the special character of money. To begin, money has value because people are willing to accept it in exchange for goods and services. The value of money, therefore, depends on its purchasing power. Money also provides **liquidity**—that is, you can readily exchange it for goods or other assets, thereby facilitating economic transactions. Thus, money represents both a *store of value* and a *store of liquidity*. The demand for money, therefore, depends on money’s ability to maintain its value and on the level of economic activity. Hence, the lower the expected inflation rate, the more money people will demand. Similarly, higher economic growth means more transactions and a greater demand for money to pay bills.

The demand for money is also affected by the demand for assets denominated in that currency. The higher the expected real return and the lower the riskiness of a country’s assets, the greater is the demand for its currency to buy those assets. In addition, as people who prefer assets denominated in that currency (usually residents of the country) accumulate wealth, the value of the currency rises.

Because the exchange rate reflects the relative demands for two moneys, factors that increase the demand for the home currency should also increase the price of the home

currency on the foreign exchange market. In summary, the economic factors that affect a currency's foreign exchange value include its usefulness as a store of value, determined by its expected rate of inflation; the demand for liquidity, determined by the volume of transactions in that currency; and the demand for assets denominated in that currency, determined by the risk-return pattern on investment in that nation's economy and by the wealth of its residents. The first factor depends primarily on the country's future monetary policy, whereas the latter two factors depend largely on expected economic growth and political and economic stability. All three factors ultimately depend on the soundness of the nation's economic policies. The sounder these policies, the more valuable the nation's currency will be; conversely, the more uncertain a nation's future economic and political course, the riskier its assets will be, and the more depressed and volatile its currency's value.

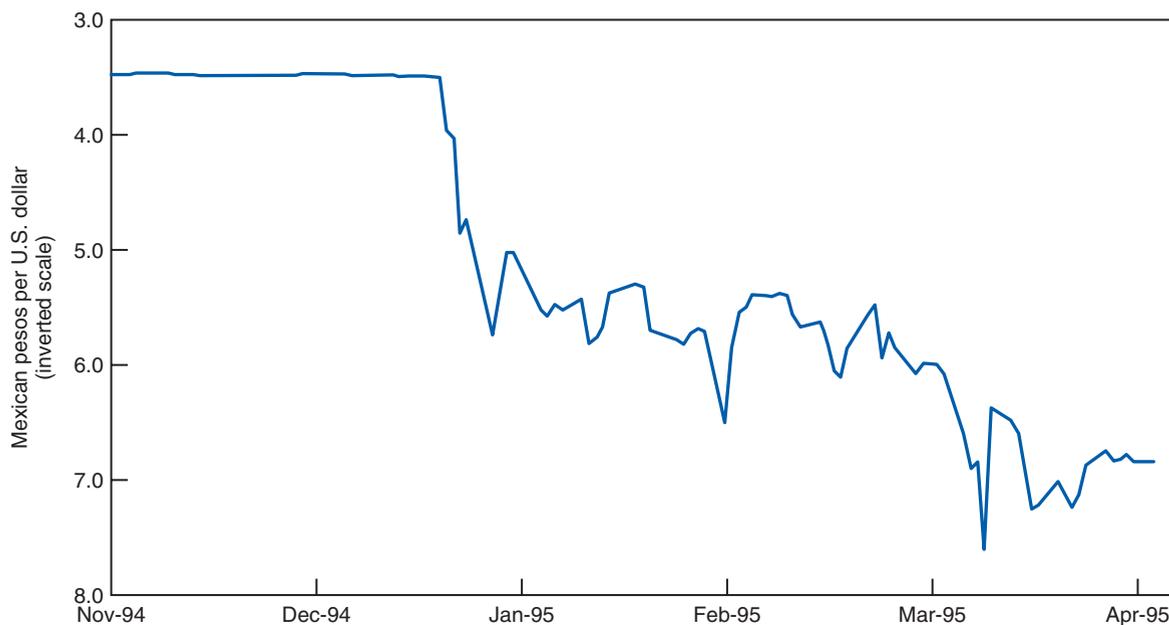
### APPLICATION *The Peso Problem*



On December 20, 1994, Mexico devalued its peso by 12.7%. Two days later, the government was forced to let the peso float freely, whereupon it quickly fell an additional 15%. By March 1995, the peso had fallen over 25% more, a total of more than 50% altogether (see Exhibit 2.4). Even President Clinton's dramatic rescue package involving \$52 billion in loans and loan guarantees from the United States and various international financial institutions could only halt the freefall temporarily. The story of the peso's travails illustrates the importance of credibility in establishing currency values. This credibility depends, in part, on the degree of consistency between the government's exchange rate policy and its other macroeconomic objectives.

Until the devaluation, Mexico had a system under which the peso was allowed to fluctuate within a narrow band against the dollar. Pegging the peso to the dollar helped stabilize Mexico's economy against hyperinflation. The credibility of this exchange rate regime depended on people believing that Banco de Mexico (Mexico's central bank) would defend the currency to keep it within this band. As long as investors had confidence in the country's economic future, this policy worked well. However, that confidence was shaken during 1994 by an armed uprising in the state of Chiapas, assassinations of leading Mexican politicians (including the front-running presidential candidate), and high-level political

#### EXHIBIT 2.4 THE PESO'S PLUNGE



resignations. Another source of concern was the enormous trade deficit, which was about 8% of gross domestic product (GDP) for 1994.

The trade deficit jeopardized future growth: To attract the dollars needed to finance this deficit, the government had to keep interest rates high, especially because interest rates were rising in the United States and around the world. Foreign investors began to bet that this situation was unsustainable, that in order to continue to finance the deficit, Mexico would have to raise interest rates so much that it would damage its economy. Such a rise was unlikely given the political difficulties the government was already facing. At the same time, under pressure from an administration facing a tough election, the central bank permitted a monetary expansion of more than 20% during 1994, leading to fears of rising inflation. Sensing that something had to give, many investors ran for the exits, draining Banco de Mexico's dollar reserves.

Here is where Mexico made a fundamental error. The central bank did not allow the supply of pesos to fall, even though the various political shocks—and the economic uncertainties they created—reduced the demand for pesos. As investors sold pesos to Banco de Mexico for dollars, reducing the supply of pesos to the level actually demanded, the central bank—fearing that a reduced supply of pesos would cause interest rates to rise (a politically costly step)—put these pesos back into circulation by buying an offsetting amount of government notes and bonds from the public (a process known as **sterilization**; see Section 2.3). The result was a continuing excess supply of pesos that the central bank kept buying up with its shrinking dollar reserves. Despite this inherent conflict between Mexico's monetary policy and its exchange rate policy, many investors trusted the government's adamant promise to maintain the peso's link with the dollar.

Mexico's devaluation, therefore, represented an enormous gamble that foreign investors would not lose confidence in the country's financial markets. The payoff was swift and bloody: The Mexican stock market plunged 11% and interest rates soared as investors demanded higher returns for the new risk in peso securities. At the same time, investors rushed to cash in their pesos, causing Banco de Mexico to lose half its dollar reserves in one day. The next day, the government caved in and floated the peso. It also announced a tightened monetary policy to bolster the peso's value, along with a package of market-oriented structural reforms to enhance Mexican competitiveness and restore investor confidence. Despite the soundness of these new policies, they were too late; the government's loss of credibility was so great that the peso's fall continued until the U.S. rescue plan. Simply put, with the devaluation, Mexico sacrificed its most valuable financial asset—market confidence.

Mexico's peso problem quickly translated into faltering investor confidence in other countries that, like Mexico, suffered from political turmoil and depended on foreign investors to finance their deficits—including Canada, Italy, and other Latin American nations viewed as having overvalued currencies.

## Central Bank Reputations and Currency Values

As the example of Mexico indicates, another critical determinant of currency values is central bank behavior. A **central bank** is the nation's official monetary authority; its job is to use the instruments of monetary policy, including the sole power to create money, to achieve one or more of the following objectives: price stability, low interest rates, or a target currency value. As such, the central bank affects the risk associated with holding money. This risk is inextricably linked to the nature of a **fiat money**, which is nonconvertible paper money. Until 1971, every major currency was linked to a commodity. Today, no major currency is linked to a commodity. With a commodity base, usually gold, there was a stable, long-term anchor to the price level. Prices varied a great deal in the short term, but they eventually returned to where they had been.

With a fiat money, there is no anchor to the price level—that is, there is no standard of value that investors can use to find out what the currency's future value might be. Instead, a currency's value is largely determined by the central bank through its control of the money supply. If the central bank creates too much money, inflation will occur and the value of money will fall. *Expectations* of central bank behavior also will affect exchange rates today; a currency will decline if people *think* the central bank will expand the money supply in the future.

Viewed this way, money becomes a brand-name product whose value is backed by the reputation of the central bank that issues it. And just as reputations among automobiles

vary—from the Mercedes-Benz to the Yugo—so currencies come backed by a range of quality reputations—from the dollar, Swiss franc, and Japanese yen on the high side to the Mexican peso, Thai baht, and Russian ruble on the low side. Underlying these reputations is trust in the willingness of the central bank to maintain price stability.

The high-quality currencies are those expected to maintain their purchasing power because they are issued by reputable central banks. A reputable central bank is one that the markets trust to do the right thing, and not merely the politically expedient thing, when it comes to monetary policy. This trust, in turn, comes from history: Reputable banks, such as the Bundesbank (Germany's central bank), have developed their credibility by having done hard, cruel, and painful things for years in order to fight inflation. In contrast, the low-quality currencies are those that bear little assurance that their purchasing power will be maintained. As in the car market, high-quality currencies sell at a premium, and low-quality currencies sell at a discount (relative to their values based on economic fundamentals alone). That is, investors demand a risk premium to hold a riskier currency, whereas safer currencies will be worth more than their economic fundamentals would indicate.

**Price Stability and Central Bank Independence.** Because good reputations are slow to build and quick to disappear, many economists recommend that central banks adopt rules for price stability that are verifiable, unambiguous, and enforceable—along with the independence and accountability necessary to realize this goal.<sup>6</sup> Focus is also important. A central bank whose responsibilities are limited to price stability is more likely to achieve this goal. For example, the Bundesbank—a model for many economists—managed to maintain such a low rate of German inflation because of its statutory commitment to price stability, a legacy of Germany's bitter memories of hyperinflation in the 1920s, which peaked at 200 billion percent in 1923. Absent such rules, the natural accountability of central banks to government becomes an avenue for political influence. For example, even though the U.S. Federal Reserve is an independent central bank, its legal responsibility to pursue both full employment and price stability (aims that conflict in the short term) can hinder its effectiveness in fighting inflation. The greater scope for political influence in central banks that do not have a clear mandate to pursue price stability will in turn add to the perception of inflation risk.

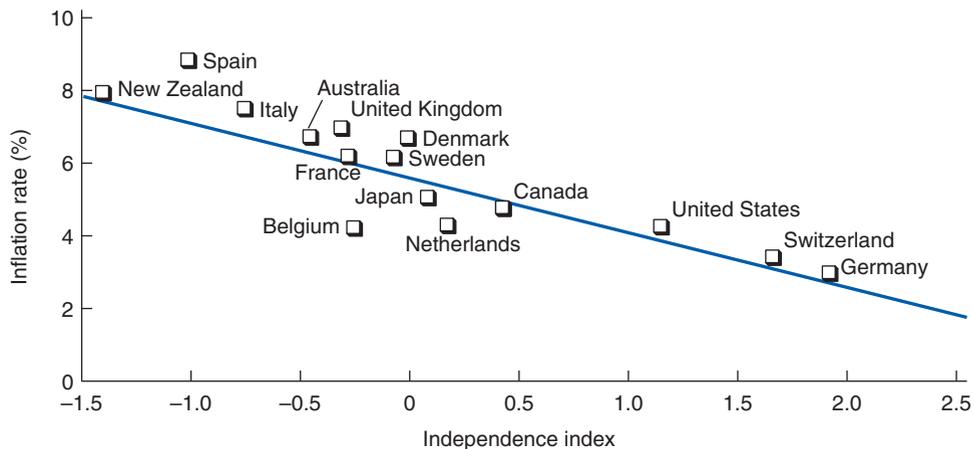
This perception stems from the fact that government officials and other critics routinely exhort the central bank to follow “easier” monetary policies, by which they mean boosting the money supply to lower interest rates. These exhortations arise because many people believe that (1) the central bank can trade off a higher rate of inflation for more economic growth and (2) the central bank determines the rate of interest independently of the rate of inflation and other economic conditions. Despite the questionable merits of these beliefs, central banks—particularly those that are not independent—often respond to these demands by expanding the money supply.

Central banks that lack independence are also often forced to **monetize the deficit**, which means financing the public sector deficit by buying government debt with newly created money. Whether monetary expansion stems from economic stimulus or deficit financing, it inevitably leads to higher inflation and a devalued currency.

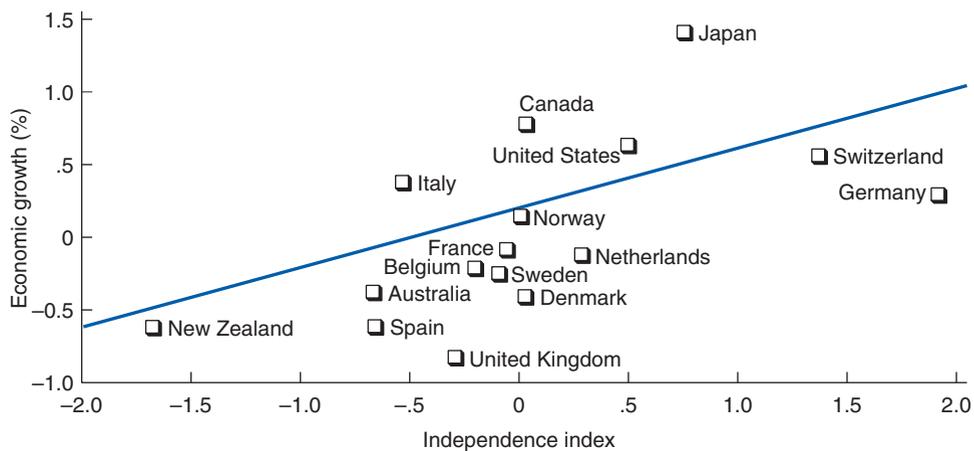
Independent central bankers, on the other hand, are better able to avoid interference from politicians concerned by short-term economic fluctuations. With independence, a central bank can credibly commit itself to a low-inflation monetary policy and stick to it. Absent such a credible commitment, households and businesses will rationally anticipate that monetary policy would have an inflationary bias, resulting in high inflation becoming a self-fulfilling prophecy.<sup>7</sup>

<sup>6</sup>See, for example, W. Lee Hoskins, “A European System of Central Banks: Observations from Abroad,” *Economic Commentary*, Federal Reserve Bank of Cleveland, November 15, 1990.

<sup>7</sup>In 2004, Edward Prescott and Finn Kydland won the Nobel prize in economics for, among other things, their insights into the relationship between central bank credibility and a low-inflation monetary policy.

**EXHIBIT 2.5** CENTRAL BANK INDEPENDENCE, INFLATION, AND ECONOMIC GROWTH\*


(a) Central Bank Independence versus Inflation



(b) Central Bank Independence versus Economic Growth

\*Inflation and economic growth rates calculated for the period 1951–1988.

Source: Adapted from J. Bradford DeLong and Lawrence H. Summers. "Macroeconomic Policy and Long-Run Growth," *Economic Review*, Federal Reserve Bank of Kansas City, Fourth Quarter 1992, pp.14-16.

The link between central bank independence and sound monetary policies is borne out by the empirical evidence.<sup>8</sup> Exhibit 2.5A shows that countries whose central banks are less subject to government intervention tend to have lower and less volatile inflation rates and vice versa. The central banks of Germany, Switzerland, and the United States, identified as the most independent in the post-World War II era, also showed the lowest inflation rates from 1951 to 1988. Least independent were the central banks of Italy, New Zealand, and Spain, countries wracked by the highest inflation rates in the industrial world. Moreover, Exhibit 2.5B indicates that this lower inflation rate is not achieved at the expense of economic growth; rather, central bank independence and economic growth seem to go together.

<sup>8</sup>See, for example, Alberto Alesina, "Macroeconomics and Politics," in *NBER Macroeconomic Annual, 1988* (Cambridge, Mass.: MIT Press, 1988).