INTERNATIONAL FINANCIAL MANAGEMENT

Alan C. Shapiro | Peter Moles

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Alan C. Shapiro

and

Peter Moles

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Preface

Approach

The fundamental thinking behind *International Financial Management* (IFM) 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 a 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. *International Financial Management* presumes an understanding 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.

IFM 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 text and its accompanying learning aids offer 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 we have collected over the years from business periodicals and consulting. Placing the best of these examples throughout the text allows students to see the value of examining real-world decision problems with the aid of a solid theoretical foundation. Seemingly unrelated 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, the cost of capital, and the firm's financial structure. However, this is done from the perspective of an international business, 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 text, we have tried to demystify and simplify international financial management by showing that its basic principles rest on the same foundation as similar decisions in corporate finance made in a purely domestic context.

The emphasis throughout this text is on taking advantage of being global. Too often companies focus on the threats and risks inherent in venturing abroad rather than on the opportunities that are available to firms operating in a global marketplace. 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.

Pedagogy

The text provides a complete learning system and is greatly enhanced by making available 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 text 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: Most chapters have 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 adopters of the text.

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

Additional Resources

A complete set of ancillary materials is available for adopters of *International Financial Management*. These resources can be found on the text's companion site at **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.

Selected Currencies and Symbols

COUNTRY	CURRENCY	SYMBOL
Afghanistan	Afghani	Af
Albania	lek	lek
Algeria	dinar	DA
Antigua and Barbuda	E.C. dollar	E.C.$
Argentina	peso	Arg$
Australia	dollar	$A
Austria	euro	€
Bahamas	dollar	BS
Bahrain	dinar	BD
Barbados	dollar	BDS$
Belgium	euro	€
Belize	dollar	BZ$
Bermuda	dollar	Ber$
Bolivia	boliviano	Bs
Botswana	pula	P
Brazil*	real	R
Cambodia	riel	CR
Canada	dollar	$ or Can$
Cayman Islands	dollar	CS
Chile	peso	Ch$
China, People's Republic of**	yuan	Y
Colombia	peso	Col$
Costa Rica	colon	C
Cyprus	euro	€
Denmark	krone	DKr
Dominican Republic	peso	RD$

COUNTRY	CURRENCY	SYMBOL
Ecuador	sucre	S /.
Egypt	pound	LE
El Salvador	colon	C
European Monetary Unit	euro	€
Fiji	dollar	F$
Finland	euro	€
France	euro	€
Germany	euro	€
Greece	euro	€
Guatemala	quetzal	Q
Honduras	lempira	L
Hong Kong	dollar	HK$
Hungary	forint	Ft
India	rupee	Rs
Indonesia	rupiah	Rp
Iran, Islamic Republic of	rial	Rls
Ireland	euro	€
Israel	new sheqel	NIS
Italy	euro	€
Jamaica	dollar	J$
Japan	yen	¥
Kenya	shilling	K Sh
Korea, Republic of	won	W
Kuwait	dinar	KD
Liberia	dollar	$
Liechtenstein	franc	SFr
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
Macao	pataca	P
Malawi	kwacha	MK
Malaysia	ringgit	MS
Malta	euro	€
Mauritius	ruppe	Mau Rs
Mexico	peso	Mex$
Morocco	dirham	DH
Namibia	rand (S.Afr.)	R
Netherlands	euro	€
Netherlands Antilles	guilder	NA. f
New Zealand	dollar	$NZ
Nigeria	naira	N
Norway	krone	NKr
Oman	rial Omani	RO
Pakistan	rupee	PRs
Panama	balboa	B
Papua New Guinea	kina	K
Paraguay	guarani	G
Peru	new sol	S/.
Philippines	peso	₱
Portugal	euro	€
Qatar	riyal	QR
Russia	ruble	Rb
Saudi Arabia	riyal	SRIs
Senegal	franc	CFAF

COUNTRY	CURRENCY	SYMBOL
Singapore	dollar	S$
Slovakia	euro	€
Slovenia	euro	€
Somalia	shiling	So. Sh.
So. Africa	rand	R
Spain	euro	€
Sri Lanka	rupee	SL Rs
Sweden	krona	SKr
Switzerland	franc	SFr
Taiwan	dollar	NT$
Thailand	baht	B
Trinidad and Tobago	dollar	TT$
Tunisia	dinar	D
Turkey	lira	LT
Ukraine	ruble	rub
United Arab Emirates	dirham	Dh
United Kingdom	pound	£ or £ stg.
Uruguay	new peso	NUr$
Vanuatu	vatu	VT
Venezuela	bolivar	Bs
Vietnam	dong	D
Western Samoa	tala	WS$
Zaire	zaire	Z
Zambia	kwacha	K
Zimbabwe	dollar	Z$

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
β	Beta coefficient, a measure of an asset's riskiness
β^*	All-equity beta
β_e	Levered β
C_1	Local currency cash flows in period t
C	Cost
C(E)	Price of a foreign currency call option
d	Amount of currency devalution
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_o	Initial investment
IRPT	Interest rate parity theory
k	Cost of capital
k_0	Weighted cost of capital
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) Principal 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

The Global Financial Management Environment

PART 1

Introduction to International Financial Management

1

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 international businesses
- To identify the stages of corporate expansion overseas by which companies gradually become global businesses
- To explain why managers of international firms 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 operating globally, including the benefits of international diversification
- To describe the general importance of financial economics to international 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 managers of international firms must be alert to capital market imperfections and asymmetries in tax regulations

Today, on the roads, we may find cars made by European, Asian, or American manufacturers, such as BMW, Renault, Fiat, Nissan, Toyota, Honda, Kia, Tata Motors, Chrysler, and General Motors,

to name but a few.[1] Our personal electronic devices, tablets, and phones can have come from South Korea, China, Taiwan, and elsewhere. Everywhere we look we are surrounded by products and services that may originate in another country or even continent. These are just the most tangible evidence for the growth of international trade and the global nature of products and brands. We live in an interconnected world where the car we drive or the electronic device we use can be developed, produced, and sold from different points around the world. To sell in the global markets of the 21st century, firms have had to change and adapt, and adopt a truly international perspective.

A key theme of this text is that firms now 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. Managers everywhere have learned that their domestic markets can no longer be viewed as safe territory. Rather, their local market is merely one economy that is part of an extremely competitive, integrated world economic system. To succeed, firms need great flexibility; they must be able to change corporate policies quickly as the world market creates new opportunities and challenges. Companies are also 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 U.S. dollar is the world's major currency for international trade and finance, with billions switched at the flick of an electronic blip from one global corporation to another, from one central bank to another. Other currencies, such as the euro, the Chinese yuan, and the Japanese yen, are also traded internationally and offer alternatives to investors to the U.S. dollar, or provide sources of finance that can be switched immediately into another currency. 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 in the United States. 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. Slow growth overseas, in turn, led to a steep decline in the demand for U.S. exports. The swift decline in trade worsened the 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 are likely to have their own foreign choices as well. Thus, a key aim of this text is to help you bring to bear a global perspective on key business decisions, manifested by questions such as: "Where in the *world* should we locate our plants? Which *global* market segments should we seek to penetrate? Where in the *world* should we raise our financing?"

[1] According to Brandirectory.com, the top 10 automobile brands in 2013 were: Toyota (Japan), Volkswagen (Germany), BMW (Germany), Mercedes-Benz (Germany), Ford (USA), Nissan (Japan), Honda (Japan), Porsche (Germany), Hyundai (Korea), and Renault (France).

1.1 The Rise of the International Company

In spite of 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 as long-distance trade routes, such as the spice and silk routes from Asia to Europe attest. 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 20th century: the multinational corporation or global company.[2]

A **multinational corporation** (MNC) or **transnational corporation** (TNC) 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 a number of foreign subsidiaries, typically with a high degree of strategic interaction among the units. The *United Nations Conference on Trade and Development* (UNCTAD) defines such a firm as: "…an enterprise comprising entities in more than one country which operate under a system of decision-making that permits coherent policies and a common strategy."[3]

Some MNCs have upward of 100 foreign subsidiaries scattered around the world. The United Nations estimated in 2012 that over 82,000 parent companies around the world (with over 800,000 foreign subsidiaries employing 72 million workers) can be classified as multinational firms.[4]

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 Europe,

[2]There are a number of types of firms engaged in international business and they have distinct differences. For instance, *international companies* are engaged in exporting and importing but have no investment outside their home country. On the other hand, *multinational corporations* (or companies) have investments in more than one country but can be seen as focused on adapting their products and services for individual local markets. In contrast, a *global corporation*, like a multinational corporation, operates in many countries but will use global branding and marketing across all their markets. The final category is a *transnational corporation*, which gives local managers decision-making on investment decisions, R&D, and marketing. While each term is distinct, the most important category is generally either somewhat inaccurately called a multinational corporation or global corporation (or business). When referring to firms engaged in cross-border activities, we will use the terms "international business" or "international corporation (company)" and "multinational corporation" or "global corporation" interchangeably without being too specific as to the exact activities they are engaged in.

[3]http://unctad.org/en/Pages/DIAE/Transnational-Corporations-Statistics.aspx.

[4]*World Investment Report 2013*, United Nations Conference on Trade and Development, June 27, 2013.

and, to an increasing extent, the most successful Latin American and East Asian countries, such as Brazil, South Korea, Taiwan, and India. Within this advanced and highly integrated set of global economies, differences among corporations are becoming more important than aggregate differences among countries. Furthermore, the increasing capacity of even small companies to operate globally renders the old analytical framework largely obsolete.

Not only are the "core nations" more integrated 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 click of a mouse; increasingly, corporations raise capital simultaneously in several major markets. Labor skills in these countries can no longer be considered fundamentally different; many of the students enrolled at universities 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, Ericsson, Grundig, Siemens, Bayer, BASF, McKinsey & Co., and IBM shifting parts of their operations, such as production, 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 element 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 international capital markets 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 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.

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 state-owned firms around the world in massive privatizations designed to shrink the public sector and which subsequently has transformed the way in which these businesses operate

- 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 emerging 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 heightened competitiveness of the international business environment has compelled firms in Europe and elsewhere to undergo a process of restructuring and renewal in order to remain competitive and survive.

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 US$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 US$121 billion in FDI flows in 2012. Almost all of the world's 500 largest companies have now invested in China establishing more than 1,600 R&D centers and regional headquarters.[5]

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 Europe's competitiveness as an export platform to the cost of furniture and solar panels in the European Union, to the value of the U.S. dollar, and the number of manufacturing jobs in advanced nations. 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.[6] 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.

[5] *China Daily* (www.chinadaily.com) (June 23, 2012).

[6] Salil Tripathi, "*The Dragon Tamers*", *The Guardian* (August 11, 2006).

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."[7]

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 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."[8] 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."[9]

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."[10] For example, in April 2003, GE announced that it would acquire Instrumentarium, a Finnish medical technology company, for US$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.*[11]

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 bioresearch markets around the world."[12] 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,[13] 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.

[7] http://savelives.gecareers.com/abtus_growth.html.

[8] Ibid.

[9] Ibid.

[10] Ibid.

[11] http://www.gemedicalsystems.com/company/acquisitions/index.html.

[12] http://www5.amershambiosciences.com/aptrix/upp01077.nsf/Content/about_us_press_releases_2004_080404.

[13] 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.

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?

Evolution of the Multinational Corporation

Every year, the *United Nations Conference on Trade and Development* (UNCTAD) publishes a list of the world's 100 largest international companies. Firms are ranked not by size but the degree of their international activities, either using UNCTAD's TNI index (see Figure 1.1, note b), or based on their foreign assets. Figure 1.1 lists the top ten by region. At present, the top transnational corporations are largely from Europe (59), North America (25), and Asia (14). Only one firm each from the Middle East and South America make the list, and none from Africa. The top international firms are often recognizable brands, such as car makers Toyota and Honda (Japan), Ford Motors (USA), and Volkswagen (Germany), but also include some less well-known names, like Hon Hai Precision Industries (Taiwan) and BHP Billiton Group (Australia). They operate in industries which both benefit from economies of scale and have global reach. For instance, Vodafone (UK) provides mobile telecommunications networks in Europe, the Americas and Asia. These firms represent 9.3% of foreign assets of TNCs and 21% of global sales, indicating their importance in the global economy.

Volkswagen, the German car, bus and truck maker, provides an illustration of a typical multinational firm. Started as a "people's car" manufacturer in 1937, it grew internationally in the 1950s and 1960s as a result of the success of its iconic "Beetle" small car, a modernized version of which is still part of the product range. Currently, it has 12 different brands aimed at specific segments of the market as shown in Figure 1.2. Originally only a car maker, now through acquisitions its output includes buses and trucks (MAN) and luxury cars (Bentley, Porsche, Lamborghini), as well as motorbikes (Ducati). As its international activities grew in extent, production has expanded from Wolfsburg in Germany, where the original Beetle was made, to North and South America, Africa and Asia, as shown in Figure 1.3. Reflecting the importance of Asia, and China in particular, 34.9% of the group's car sales were to this region in 2012. As a truly international corporation, only 13% of car sales were made in Germany, its country of domicile, the other big four EU countries (France, Italy, Spain, and the UK) accounted for a further 12% of output, while other European countries bought 19.7%. So Europe as a whole took a bit less than half of production (44.7%). North and South America combined contributed 20.4%. Thus Volkswagen sold more cars outside of Europe in 2012 than in Europe.