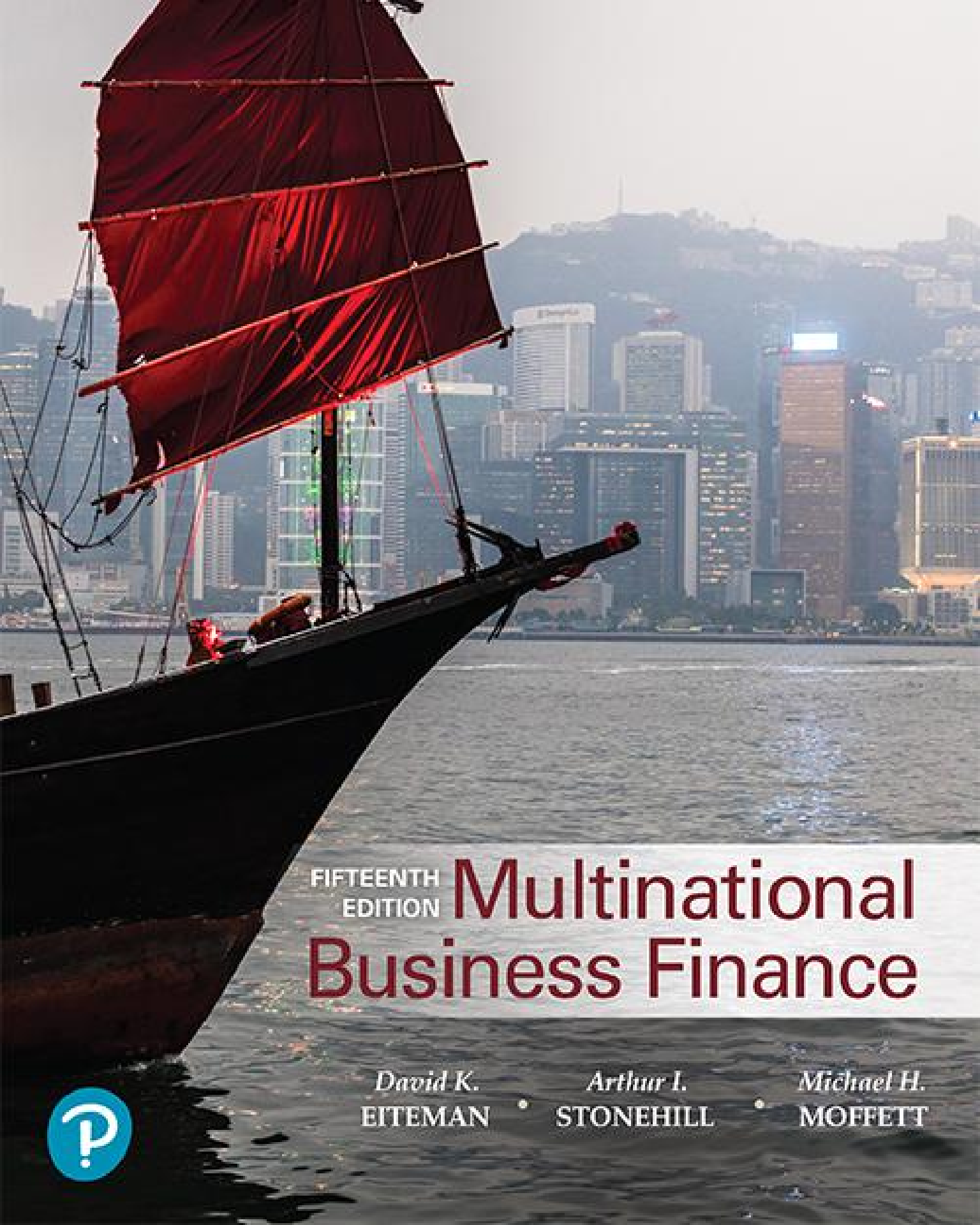

FIFTEENTH EDITION

# Multinational Business Finance

*David K.* EITEMAN • *Arthur I.* STONEHILL • *Michael H.* MOFFETT

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**86%**

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*Source: 2016 Student Survey, n 1317

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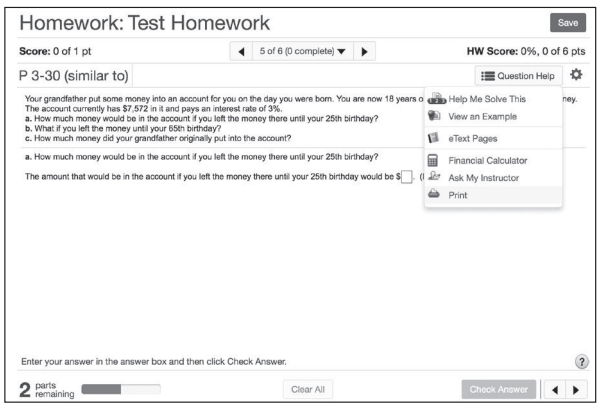


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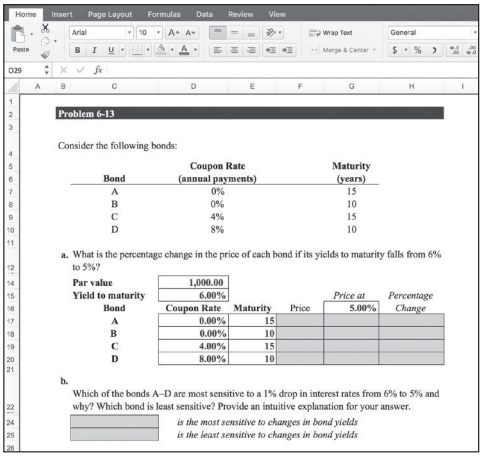


Problem 6-13

Consider the following bonds:

| Bond | Coupon Rate (annual payments) | Maturity (years) |
|---|---|---|
| A | 0% | 15 |
| B | 0% | 10 |
| C | 4% | 15 |
| D | 8% | 10 |

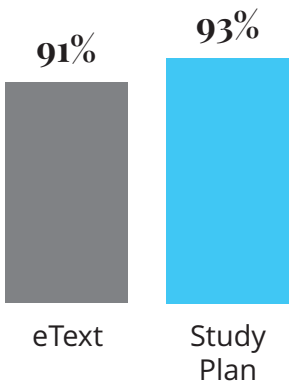
a. What is the percentage change in the price of each bond if its yields to maturity falls from 6% to 5%?

| | | | | | |
|---|---|---|---|---|---|
| Par value | 1,000.00 | | | | |
| Yield to maturity | 6.00% | | | Price at | Percentage |
| Bond | Coupon Rate | Maturity | Price | 5.00% | Change |
| A | 0.00% | 15 | | | |
| B | 0.00% | 10 | | | |
| C | 4.00% | 15 | | | |
| D | 8.00% | 10 | | | |

b. Which of the bonds A–D are most sensitive to a 1% drop in interest rates from 6% to 5% and why? Which bond is least sensitive? Provide an intuitive explanation for your answer.

_____ *is the most sensitive to changes in bond yields*

_____ *is the least sensitive to changes in bond yields*

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## of students would tell their instructor to keep using MyLab Finance

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FIFTEENTH EDITION


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# Preface

## New to This Edition

Our continuing challenge is to strike a balance between being one of the very first textbooks in this field (and therefore in many ways defining the field) and introducing the many new concepts and components in global business today, from crowdfunding to blockchain. We therefore have hopefully found some balance between what is valued by continuing adopters and the valued insights of selected reviewers—the *innovator's dilemma*. Surveys of adopters were extremely useful in this revision, and a number of specific developments were included.

- **The Impossible Trinity.** A core international financial principle, the *Impossible Trinity's* use as a unifying theoretical link across multiple subjects and chapters has been expanded.
- **The Foreign Exchange Market and Digital Trade.** New material in this edition explores in depth how the changing structure of the global foreign exchange market—trading, communication, and settlement—is posing challenges for private players and public regulators and overseers.
- **Translation Exposure Expansion.** Translation exposure, a cross-section of international finance, economics, and accounting, has been renewed and expanded to more effectively cover its wider theoretical and practical applications in industry.
- **Financing of Foreign Subsidiaries.** Always a topic unique to the field of multinational finance, our discussion of subsidiary funding sources and practices has been expanded to include recent developments and changing access to capital.
- **International Taxation.** The seismic changes introduced by the United States effective on January 1, 2018, have been highlighted in exploration of how taxation alters the fundamental financial management activities of global companies from Apple to Caterpillar.
- **Political Risk and Financial Losses.** The chapter on foreign direct investment and political risk has been revised to reflect the growing use of restrictions on convertibility, transferability, and the possibility of repudiation or expropriation.
- **New and Edgier Mini-Cases.** Eight of the 18 mini-cases are completely new to the fifteenth edition, and explore many of the edgier debates rising between global business, social policy, and corporate social responsibility. Topics include Argentine debt and vulture investors, Apple's global tax structure, Brexit and its potential impact on Rolls-Royce, Volkswagen's governance structure and its defeat device strategy, and political risk in Kazakhstan's oil and gas industry, to name a few.
- **Expanded Quantitative Applications.** We have worked diligently to increase the quantitative elements across subjects and chapters to push students to explore the depth of analysis and comprehension. *Multinational Business Finance*, Fifteenth Edition includes more than **250 end-of-chapter problems**, all solved within Excel. We have also continued to present problems that are based on real-world applications and challenges, something we believe in very strongly.

## Solving Teaching and Learning Challenges

**Multinational Business Finance** is the financial management of multinational enterprises (MNEs)—*multinational financial management*. MNEs are firms and organizations of all kinds and sizes—for-profit companies, family-owned businesses, sovereign states, and NGOs, among others—that have operations in more than one country and conduct their activities through a multitude of structures and contracts from wholly owned foreign subsidiaries to joint ventures with local or global partners to host governments.

Moreover, global business and finance, all the way down to the trading of currencies, has been revolutionized by digital platforms from electronic trading to blockchain contracts in complex international trade transactions.

*Multinational Business Finance,* Fifteenth Edition, is aimed at university level courses in international financial management, international business finance, international finance, and similar titles. It can be used at either the graduate level or in executive education and corporate learning courses.

A prerequisite course or experience in corporate finance or financial management would be ideal. However, we review the basic finance concepts before we extend them to the multinational case. We also review the basic concepts of international economics and international business.

Over many years and many editions, as we ourselves have used the book in courses from Hyderabad to Helsinki to Honolulu, we have observed an ever-widening audience for this book.

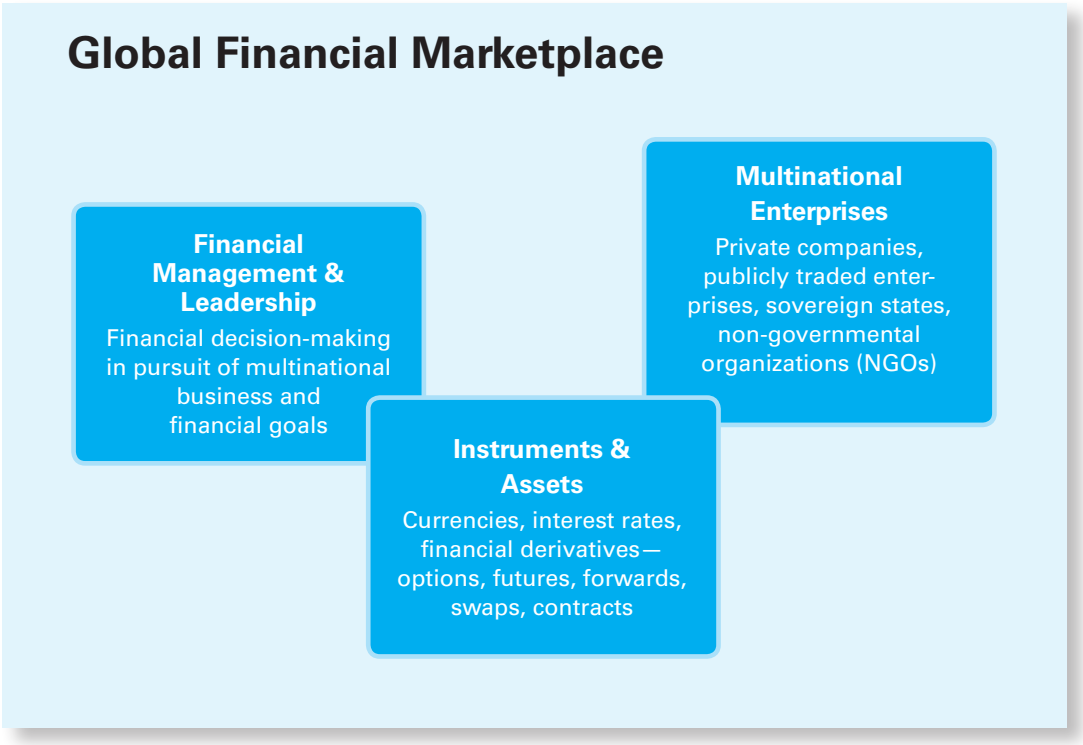
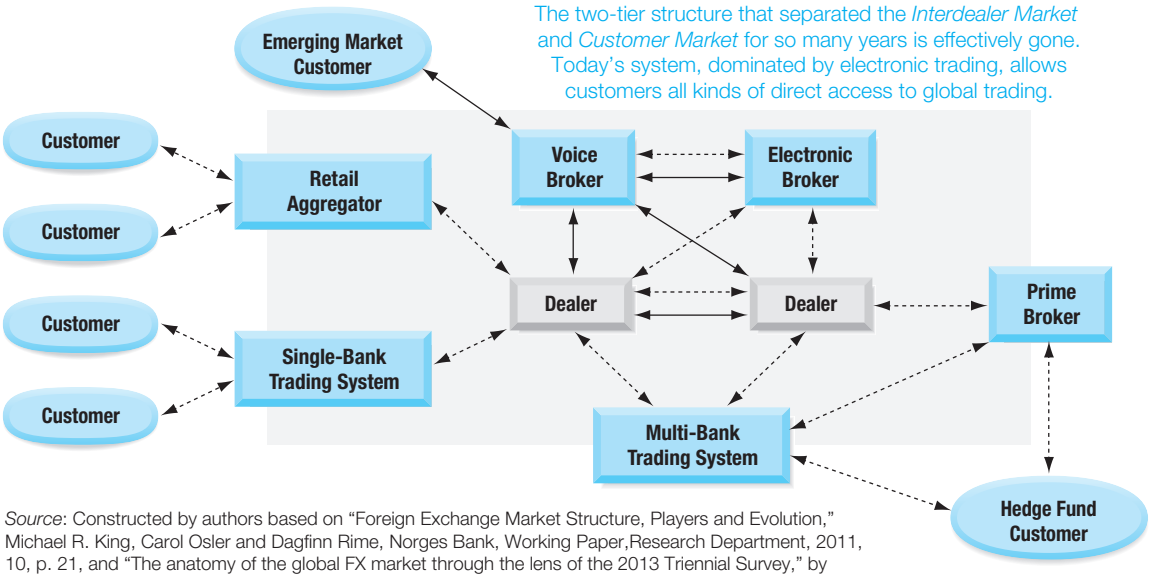


**EXHIBIT 5.4 The Foreign Exchange Market Today**




*Source*: Constructed by authors based on "Foreign Exchange Market Structure, Players and Evolution," Michael R. King, Carol Osler and Dagfinn Rime, Norges Bank, Working Paper,Research Department, 2011, 10, p. 21, and "The anatomy of the global FX market through the lens of the 2013 Triennial Survey," by Dagfinn Rime and Andreas Schrimpf, *BISQuarterly Review*, December 2013.

We continue to try and service this greater global audience with multi-country companies, markets, and challenges, whether in theoretical applications, practice boxes, mini-cases, or end-of-chapter problems.

## Organization

*Multinational Business Finance* has been redesigned and restructured for tightness—critical elements of the field but in a much shorter delivery framework. This has been accomplished by integrating a number of previous topics along financial management threads. The book is in five parts, the parts unified by the common thread of the globalization process by which a firm moves from a domestic to a multinational business orientation.

- Part 1 introduces the global financial environment
- Part 2 explains foreign exchange theory and markets
- Part 3 explores foreign exchange rate exposure
- Part 4 details the financing of the global firm
- Part 5 analyzes international investment decisions

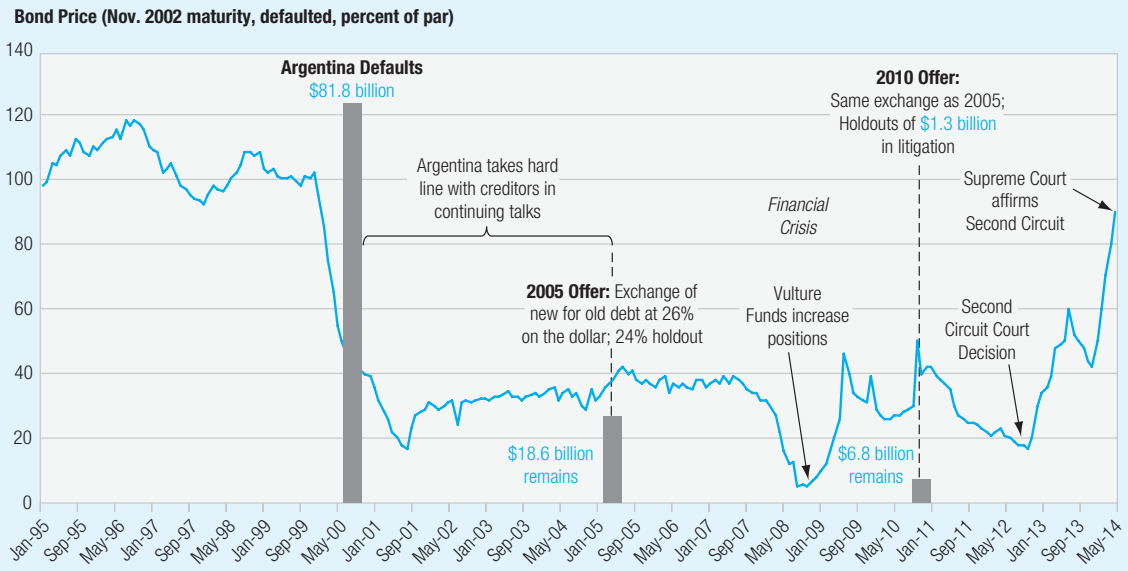
## Pedagogical Tools

To make the book as comprehensible as possible, we use a large number of proven pedagogical tools. Again, our efforts have been informed by the detailed reviews and suggestions of

a panel of professors who are recognized individually for excellence in the field of international finance, particularly at the undergraduate level. Among these pedagogical tools are the following:

- A student-friendly writing style combined with a structured presentation of material, beginning with *learning objectives* for each chapter, and ending with a summarization of how those learning objectives were realized.
- A wealth of *illustrations and exhibits* to provide a visual parallel to the concepts and content presented.
- A running case on a hypothetical U.S.-based firm, *Ganado Corporation*, provides a cohesive framework for the multifaceted globalization process, and is reinforced in several end-of-chapter problems.
- A *mini-case* at the end of each chapter illustrates the chapter content and extends it to the multinational financial business environment.

**EXHIBIT A** **Argentine Sovereign Bond Price and Default (Due Nov. 2002/Defaulted)**




New mini-cases in this edition include, among others, the following:

- Globalization—or not—of the Chinese renminbi
- Volkswagen's corporate governance and its diesel defeat device
- Rolls-Royce's currency challenges with Brexit
- Electrolux of Sweden's newly restructured global currency management program
- Ferrari's IPO and acceptance of slow revenue and cash flow growth
- Tengiz—understanding political risk in one of the largest oil and gas investments in the world

- *Global Finance in Practice* boxes in every chapter highlight how real firms and real managers deal with the never-ending complexity of executing global business deals in a changing marketplace, from the mundane accounts payable to the exceptional expropriation. These applications extend the concepts without adding to the length of the text itself.

**GLOBAL FINANCE IN PRACTICE 13.1**

### Brexit and the Cost of Capital

The decision for the United Kingdom to leave the European Union is resulting in more and more companies having a higher cost of capital on both sides of the Channel. A restructuring of the banking sectors in both sectors involves direct costs as well as more segmented markets. All at a time when global interest rates—dollar, pound, and euro—are expected to start rising as the residual impacts of the financial crisis fall further and further into the past.

**Impacts on Banks.** Banks in the UK are already incurring sizable restructuring costs. A number of London banks have been moving quickly to move large portions of their operations and jobs to the Continent in an effort to retain clients and market share. London banks are estimating that restructuring costs alone may range between $200 million and $400 million. The costs of capital for banks themselves are expected to rise at least 4%, and many are looking to increase their capital bases by more than 30% as they establish European banks to retain Continental clients.

**Impacts on Borrowers.** One of the unintended results is a multitude of banks are reducing their lines of credit and increasing their fees to many of the small- to medium-sized enterprises. Companies with annual revenue of up to €10 million are defined as *small businesses*, firms with revenue between €10 and €50 million are *medium-sized* according to the European Union. This segment of borrowers is particularly sensitive to these changes as many of these firms use only one bank for the majority of their financial services. Without alternative banks, either offering alternative services or competitive rates, they are starting to feel the impacts of reduced services and increased costs. As bank fees and alternatives shrink, most borrowers are expecting to see rising costs of debt throughout 2018 and 2019.

How this will ultimately impact business activity is hard to say, but early signs from these segments are not encouraging. Some experts, including Professor Aswath Damodaran of New York University's Stern School of Business, have been encouraging companies to focus on the three drivers of business valuation—cash flows, growth rates, and discount rates—and not fall victim to pessimism. He has characterized Brexit as a "garden variety crisis" that most businesses should endure.

A number of firms, however, are beginning to cut back on new investment projects. Rising capital costs make fewer prospective investments financially viable. A number of borrowers have noted that their firms will intentionally now work to increase their cash balances—a form of precautionary source of funds—as they fear reduced access to affordable debt.

- Every chapter has a number of end-of-chapter exercises requiring the use of the Internet, while a variety of Internet references are dispersed throughout the chapters in text and exhibits.
- A multitude of end-of-chapter questions and problems, which assess the students' understanding of the course material. All end-of-chapter problems are solved using spreadsheet solutions. Selected end-of-chapter problem answers are included at the back of this book.
- Numerous mathematical derivations, such as parity conditions, foreign currency option pricing, and complex option products, are placed in appendices. This allows selective use as the student or faculty member feels appropriate.

## MyLab Finance

### Reach every student with MyLab Finance

MyLab is the teaching and learning platform that empowers you to reach *every* student. By combining trusted author content with digital tools and a flexible platform, MyLab personalizes

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| Supplements available to instructors at *www.pearsonhighered.com/irc* | Features of the Supplement |
|---|---|
| **Instructor's Solution Manual**<br>prepared by the authors | ■ Complete answers to all end-of-chapter questions, problems, and chapter mini-cases<br>■ All quantitative end-of-chapter problems are solved using spreadsheets |
| **Test Bank**<br>authored by Rodrigo Hernandez from Radford University | 1,200 multiple-choice, true/false, short-answer, and short-essay questions with these annotations:<br>■ Difficulty level (1 for straight recall, 2 for some analysis, 3 for complex analysis)<br>■ Topic<br>■ Learning outcome<br>■ Category (Recognition, conceptual, analytical)<br>■ AACSB learning standard (Written and Oral Communication; Ethical Understanding and Reasoning; Analytical Thinking; Information Technology; Interpersonal Relations and Teamwork; Diverse and Multicultural Work; Reflective Thinking; Application of Knowledge) |

| Supplements available to instructors at *www.pearsonhighered.com/irc* | Features of the Supplement |
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| **PowerPoints**<br>authored by Sonya Lutter from Kansas State University | Slides include all the graphs, tables, and equations in the textbook. Two set of the slides are available—for chapters and for mini-cases.<br>PowerPoints meet accessibility standards for students with disabilities. Features include, but are not limited to:<br>■ Keyboard and Screen Reader access<br>■ Alternative text for images<br>■ High color contrast between background and foreground colors |

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# Brief Contents

# Contents

PART ONE

# Global Financial Environment



CHAPTER

# 1 Multinational Financial Management: Opportunities and Challenges

*The objects of a financier are, then, to secure an ample revenue; to impose it with judgement and equality; to employ it economically; and, when necessity obliges him to make use of credit, to secure its foundations in that instance, and forever, by the clearness and candor of his proceedings, the exactness of his calculations, and the solidity of his funds.*

—Edmund Burke, *Reflections on the Revolution in France*, 1790, p. 467.

## LEARNING OBJECTIVES

- **1.1** Explore the global financial marketplace—players and playing field
- **1.2** Consider how the theory of comparative advantage applies to multinational business
- **1.3** Examine how international financial management differs from domestic financial management
- **1.4** Discover the steps and stages of the globalization process

The subject of this book is the financial management of *multinational enterprises (MNEs)*—*multinational financial management*. MNEs are firms—both for-profit companies and not-for-profit organizations—that have operations in more than one country and conduct their business through *branches*, foreign subsidiaries, or joint ventures with host country firms. That conduct of business comes with challenges, as suggested by the following news release from Procter & Gamble Co. (P&G), an American multinational consumer goods company:

> *"The October–December 2014 quarter was a challenging one with unprecedented currency devaluations," said Chairman, President and Chief Executive Officer A. G. Lafley. "Virtually every currency in the world devalued versus the U.S. dollar, with the Russian Ruble leading the way. While we continue to make steady progress on the strategic transformation of the company—which focuses P&G on about a dozen core categories and 70 to 80 brands, on leading brand growth, on accelerating meaningful product innovation, and increasing productivity savings—the considerable business portfolio, product innovation, and productivity progress was not enough to overcome foreign exchange."*
>
> —P&G News Release, January 27, 2015.

P&G is not alone. It is a brave new world, a new world in which digital startups may become multinational enterprises in hours—the *micro-multinational*, where the number of publicly traded companies on earth is shrinking, where the most challenging competitors are arising from emerging markets, and where more and more value is being created by "idea firms."

The global marketplace is seeing radical change, from Brexit, the United Kingdom's choice to exit the European Union, to the slowing and maturing of the global economy's primary growth engine, the Chinese economy. Other seismic shifts are changing corporate identities, such as the growing role of the Chinese currency, the renminbi, or the sea change likely to come from the decision by the United States in late 2017 to slash the corporate income tax rate. Change is indeed the constant.

International financial management requires managers and leaders all over the world to identify and navigate the prospective returns and risks of the global financial marketplace. These risks may all occur on the playing field of the global financial marketplace, but they are still a question of management—of navigating complexity in pursuit of the goals of the firm and all of its varied stakeholders.

This first chapter provides a brief overview of the global financial landscape including foreign currency markets and financial institutions—the ground rules and nomenclature of the game. We then explore the foundations of comparative advantage, those forces differentiating international from domestic finance. We conclude our introductory overview with the alternative paths firms may take in going global. The chapter concludes with a Mini-Case, *Crowdfunding Kenya*, that examines how the Internet and financial innovation are making capital more accessible to the people and businesses of the emerging world.

## 1.1 The Global Financial Marketplace

Business—domestic, international, global—involves the interaction of individuals and individual organizations for the exchange of products, services, and capital across markets. The global *capital markets* and business marketplace are in many ways the field of play. This is the landscape upon which the daily activities of global business play out. Like all institutions created by man, it is constantly changing, yet certain fundamental components rarely change. We begin by exploring the institutional and behavioral landscape of global business—specifically, the organizations and assets that make up the global financial marketplace.

### Assets, Institutions, and Linkages

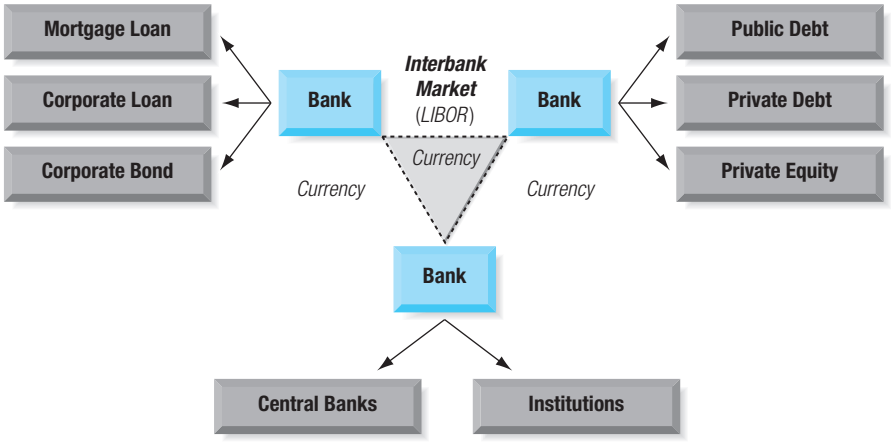
Exhibit 1.1 provides an overview of the global capital markets. One way to characterize the global financial marketplace is through its securities and institutions, all linked through the interbank market.

**Securities.** The securities—financial assets—at the heart of the global capital markets are the debt securities issued by governments (e.g., U.S. Treasury Bonds). These low-risk or risk-free securities form the foundation for the creation, trading, and pricing of other financial securities like bank loans, corporate bonds, and equities (stock). In recent years, a number of additional securities—derivatives—have been created from existing securities, the value of which is based on market value changes of the underlying securities. The health and security of the global financial system rely on the quality of these securities.

**Institutions.** The institutions of global finance are the central banks, which create and control each country's money supply; the commercial banks, which take deposits and extend loans to businesses, both local and global; and the multitude of other financial institutions created to trade securities and derivatives. These institutions take many shapes and are subject to many

**EXHIBIT 1.1 Global Capital Markets**

The global capital market is a collection of institutions (central banks, commercial banks, investment banks, not-for-profit financial institutions like the IMF and World Bank) and securities (bonds, mortgages, derivatives, loans, etc.), which are all linked via a global network—the *Interbank Market*. This interbank market, in which securities of all kinds are traded, is the critical pipeline system for the movement of capital.




The exchange of securities—the movement of capital in the global financial system—must all take place through a vehicle—currency. The exchange of currencies is itself the largest of the financial markets. The interbank market, which must *pass-through* and exchange securities using currencies, bases all of its pricing through the single most widely quoted interest rate in the world—LIBOR (the London Interbank Offered Rate).

different regulatory frameworks. The health and security of the global financial system rely on the stability of these financial institutions.

**Linkages.** The links between the financial institutions, the actual fluid or medium for exchange, are the interbank networks using currency. The ready exchange of currencies in the global marketplace is the first and foremost necessary element for the conduct of financial trading, and the global currency markets are the largest markets in the world. The exchange of currencies, and the subsequent exchange of all other securities globally via currency, are conducted through the international interbank market. This network, whose primary price is the London Interbank Offered Rate (LIBOR), is the core component of the global financial system.

The movement of capital across currencies and continents for the conduct of business has existed in many different forms for thousands of years. Yet, it is only within the past 50 years that the velocity of these capital movements has increased to the pace of an electron in the digital marketplace. And it is only within the past 20 years that this market has been able to reach the most distant corners of the earth at any moment of the day. The result has been an explosion of innovative products and services—some for better and some for worse.

## The Market for Currencies

The price of any one country's currency in terms of another country's currency is called a *foreign currency exchange rate*. For example, the exchange rate between the U.S. dollar (indicated by the symbols $ or USD) and the European *euro* (€ or EUR) may be stated as "1.1274 dollar per euro" or simply abbreviated as $1.1274/€. This exchange rate can also be stated as "EUR1.00 = USD1.1274." Since most international business activities require at

least one of the two parties in a business transaction to either pay or receive payment in a currency that is different from their own, an understanding of exchange rates is critical to the conduct of global business.

**Currency Symbols.** As noted, USD and EUR are often used as the symbols for the U.S. dollar and the European Union's euro. These are the computer symbols (ISO-4217 codes) used today on the world's digital networks. The financial press, however, has a rich history of using a variety of different symbols, and a variety of different abbreviations are commonly used. For example, the British pound sterling may be indicated by £ (the pound symbol), GBP (Great Britain pound), STG (British pound sterling), ST£ (pound sterling), or UKL or UK£ (United Kingdom pound). This book uses both the simpler common symbols—the $ (dollar), the € (euro), the ¥ (yen), the £ (pound)—and the three-letter ISO codes. In addition to symbols, some currencies are known by more than one name. For example, China's currency is officially labeled the *yuan* and the *renminbi*.

**Exchange Rate Quotations and Terminology.** Exhibit 1.2 lists currency exchange rates for January 2, 2018, as would be quoted in New York or London. Each exchange rate listed is for a specific country's currency against the U.S. dollar, the euro, and the British pound. The rate listed is termed a "midrate" because it is the middle or average of the rates at which currency traders buy currency (*bid rate*) and sell currency (*offer rate*).

The U.S. dollar has been the focal point of currency trading since the 1940s. As a result, most of the world's currencies are quoted against the dollar—Mexican pesos per dollar, Brazilian reais per dollar, Hong Kong dollars per dollar, etc., but as shown in Exhibit 1.2, they can also be quoted against any other currency, including major currencies like the euro and pound. For example, the Japanese yen is commonly quoted against the dollar, euro, and pound, as ¥112.15 = $1.00, ¥135.08 = €1.00, and ¥152.29 = £1.00.

**Quotation Conventions.** Several of the world's major currency exchange rates follow a specific *quotation* convention that is the result of tradition and history. The exchange rate between the U.S. dollar and the euro is always quoted as "dollars per euro" or $/€. For example, $1.1179 listed in Exhibit 1.2 for "United States." Similarly, the exchange rate between the U.S. dollar and the British pound is always quoted as "dollars per pound" or $/£. For example, $1.2933 listed for "United States" in Exhibit 1.2. In addition, countries that were formerly members of the British Commonwealth will often be quoted against the U.S. dollar, as in U.S. dollars per Australian dollar.

If exchange rates never changed, the global financial marketplace would be a much kinder, simpler place. But, alas, that is not the case. Exchange rates change, and when they do, they alter the business results and competitiveness of all players on the playing field. As illustrated in *Global Finance in Practice 1.1*, it requires a careful calculation of even the amount of the change—percentage change. The change in exchange rates is the first example of our next subject—*risk*.

## Financial Globalization and Risk

> *Back in the halcyon pre-crisis days of the late 20th and early 21st centuries, it was taken as self evident that financial globalization was a good thing. But the subprime crisis and eurozone dramas are shaking that belief . . . . [W]hat is the bigger risk now—particularly in the eurozone—is that financial globalization has created a system that is interconnected in some dangerous ways.*
>
> —"Crisis Fears Fuel Debate on Capital Controls," Gillian Tett, *Financial Times*, December 15, 2011.

**EXHIBIT 1.2 Selected Global Currency Exchange Rates for January 2, 2018**

| Country | Currency | Symbol | Code | Currency equal to 1 Dollar | Currency equal to 1 Euro | Currency equal to 1 Pound |
|---|---|---|---|---|---|---|
| Argentina | peso | Ps | ARS | 18.535 | 22.3254 | 25.1697 |
| Australia | dollar | A$ | AUD | 1.2769 | 1.538 | 1.734 |
| Brazil | real | R$ | BRL | 3.2634 | 3.9307 | 4.4315 |
| Canada | dollar | C$ | CAD | 1.2505 | 1.5062 | 1.6981 |
| Chile | peso | $ | CLP | 607.145 | 731.3062 | 824.4772 |
| China | yuan | ¥ | CNY | 6.4967 | 7.8253 | 8.8222 |
| Czech Republic | koruna | Kc | CZK | 21.1802 | 25.5115 | 28.7617 |
| Denmark | krone | Dkr | DKK | 6.18 | 7.4439 | 8.3922 |
| Egypt | pound | £ | EGP | 17.743 | 21.3714 | 24.0942 |
| Germany | euro | € | EUR | 0.8302 | 1 | 1.1274 |
| India | rupee | Rs | INR | 63.4468 | 76.4216 | 86.158 |
| Indonesia | rupiah | Rp | IDR | 13,517.5000 | 16,281.8453 | 18,356.2021 |
| Israel | shekel | Shk | ILS | 3.4585 | 4.1658 | 4.6965 |
| Japan | yen | ¥ | JPY | 112.15 | 135.08 | 152.29 |
| Kenya | shilling | KSh | KES | 103.25 | 124.3646 | 140.2091 |
| Malaysia | ringgit | RM | MYR | 4.0195 | 4.8415 | 5.4583 |
| Mexico | new peso | $ | MXN | 19.515 | 23.5058 | 26.5005 |
| New Zealand | dollar | NZ$ | NZD | 1.4066 | 1.6942 | 1.9101 |
| Nigeria | naira | ₦ | NGN | 359.5 | 433.0178 | 488.1858 |
| Norway | krone | NKr | NOK | 8.1381 | 9.8023 | 11.0511 |
| Phillippines | peso | ₱ | PHP | 49.92 | 60.1286 | 67.7892 |
| Poland | zloty | — | PLN | 3.4555 | 4.1621 | 4.6924 |
| Russia | ruble | R | RUB | 57.585 | 69.3611 | 78.198 |
| Singapore | dollar | S$ | SGD | 1.3292 | 1.601 | 1.805 |
| South Africa | rand | R | ZAR | 12.4588 | 15.0066 | 16.9185 |
| South Korea | won | W | KRW | 1,061.2500 | 1,278.2758 | 1,441.1325 |
| Sweden | krona | SKr | SEK | 8.1815 | 9.8546 | 11.1101 |
| Switzerland | franc | Fr. | CHF | 0.9722 | 1.171 | 1.3202 |
| Taiwan | dollar | T$ | TWD | 29.6 | 35.6532 | 40.1955 |
| Thailand | baht | B | THB | 32.59 | 39.2547 | 44.2558 |
| Turkey | lira | YTL | TRY | 3.763 | 4.5326 | 5.1101 |
| United Kingdom | pound | £ | GBP | 0.7364 | 0.887 | 1 |
| Ukraine | hrywnja | — | UAH | 28.1 | 33.8465 | 38.1586 |
| Uruguay | peso | $U | UYU | 28.69 | 34.5571 | 38.9598 |
| United States | dollar | $ | USD | 1 | 1.2045 | 1.358 |
| Venezuela | bolivar fuerte | Bs | VEB | 9.9865 | 12.0287 | 13.5612 |
| Vietnam | dong | d | VND | 22,710.5000 | 27,354.8415 | 30,839.9254 |
| Special Drawing Right | — | — | SDR | 0.7003 | 0.8436 | 0.951 |

Note that a number of different currencies use the same symbol (for example both China and Japan have traditionally used the ¥ symbol, which means "round" or "circle," for yen and yuan respectively. All quotes are mid-rates, and are drawn from the *Financial Times*.

# GLOBAL FINANCE IN PRACTICE 1.1

## How to Calculate a Percentage Change in Spot Exchange Rates

Assume that the Mexican peso has recently changed in value from MXN 16.00 = USD 1.00 to MXN 20.00 = USD 1.00. If your *home currency* is the U.S. dollar (USD), what is the percent change in the value of the Mexican peso (MXN)? The calculation depends upon the designated home currency.

### Foreign Currency Terms

When the foreign currency price (the price, MXN) of the home currency (the unit, USD) is used, Mexican pesos per U.S. dollar in this case, the formula for the percent change (%) in the foreign currency becomes

$$\%\Delta = \frac{\text{Begin rate} - \text{End rate}}{\text{End rate}} \times 100$$

$$= \frac{\text{MXN } 16.00 - \text{MXN } 20.00}{\text{MXN } 20.00} \times 100 = -20.00\%$$

The Mexican peso fell in value 20% against the dollar. Note that it takes more pesos per dollar, and the calculation resulted in a negative value, both characteristics of a fall in value.

### Home Currency Terms

When the home currency price (the price, USD) for a foreign currency (the unit, MXN) is used—the reciprocals of the foreign exchange quotes above—the formula for the percent change in the foreign currency is

$$\%\Delta = \frac{\text{End rate} - \text{Begin rate}}{\text{Begin rate}} \times 100$$

$$= \frac{\text{USD } 0.05000 - \text{USD } 0.06250}{\text{USD } 0.06250} \times 100 = -20.00\%$$

The calculation yields the identical percentage change, a fall in the value of the peso by −20%. Many people find the home currency terms calculation to be the more "intuitive," because it reminds them of a general percentage change calculation (ending less beginning over beginning); however, one must be careful to remember that these are exchanges of currency for currency, and the currency that is designated as the home currency is significant.

### 2015 Fall of the Argentine Peso

The fall of the Argentine peso in 2015 serves as a clear example of percentage change. On December 16, 2015, the government of Argentina announced it would lift currency controls—it would no longer restrict the ability of its citizens to move money out of the country. Over the next 24 hours, as Argentinians took advantage of this new freedom, the value of the Argentine peso fell from ARG 9.7908 per U.S. dollar to 13.6160, as pesos poured out of Argentina into the foreign exchange markets.

$$\%\Delta = \frac{\text{Begin rate} - \text{End rate}}{\text{End rate}} \times 100$$

$$= \frac{\text{ARG } 9.7908 - \text{ARG } 13.6160}{\text{ARG } 13.6160} \times 100 = -28\%$$

After the 28% drop in the value of the peso against the U.S. dollar, the peso stabilized. But a fall in its value of that magnitude, 28%, was both dramatic and devastating for some.

Much of the discussion dominating global financial markets today is centered around the complexity of risks associated with *financial globalization*—the discussion goes far beyond whether such globalization is simply good or bad, and encompasses ways to lead and manage multinational firms in the rapidly moving marketplace. The following is but a sampling of risks that must be explored, considered, and ultimately, *managed*.

- The *international monetary system*, an eclectic mix of floating and managed fixed exchange rates, is under constant scrutiny. The rise of the Chinese renminbi is changing much of the world's outlook on currency exchange, reserve currencies, and the roles of the dollar and the euro (see Chapter 2).
- Large fiscal deficits, including the continuing eurozone crisis, plague most of the major trading countries of the world, complicating fiscal and monetary policies, and, ultimately, leading to the use of negative interest rates in an attempt to stimulate economies and protect currencies (see Chapter 3).

- Many countries experience continuing balance of payments imbalances, and in some cases, dangerously large deficits and surpluses—whether it be the twin surpluses enjoyed by China, the current account surplus of Germany, or the continuing current account deficits of the United States and United Kingdom, all will inevitably move exchange rates (see Chapter 3).
- Ownership and governance vary dramatically across the world. The publicly traded company is not the dominant global business organization—the privately held or family-owned business is the prevalent structure—and goals and measures of performance vary across business models (see Chapter 4).
- Global capital markets that normally provide the means to lower a firm's cost of capital, and even more critically, increase the availability of capital, have in many ways shrunk in size and have become less open and accessible to many of the world's organizations (see Chapter 2).
- Today's emerging markets are confronted with a new dilemma: the problem of first being the recipients of capital inflows, and then of experiencing rapid and massive capital outflows. Financial globalization has resulted in the ebb and flow of capital into and out of both industrial and emerging markets, greatly complicating financial management (Chapters 5 and 8).

## Eurocurrencies and Eurocurrency Interest Rates

One of the major linkages of global money and capital markets is the eurocurrency market.

**Eurocurrencies.** *Eurocurrencies* are domestic currencies of one country on deposit in a second country. For example, a U.S. dollar deposit in a British bank, a eurodollar deposit, is one type of eurocurrency. Banks will pay interest on these deposits—eurocurrency interest—depending on the agreed upon maturity—a period ranging from overnight to more than a year or longer. Eurocurrency deposits are digitally transferred between banks.

The eurocurrency market serves two valuable purposes: (1) eurocurrency deposits are an efficient and convenient money market device for holding excess corporate liquidity; and (2) the eurocurrency market is a major source of short-term bank loans to finance corporate working capital needs, including the financing of imports and exports.

Any *convertible currency* can exist in "euro" form. Note that this use of the "euro" prefix should not be confused with the European currency called the euro. The eurocurrency market includes eurosterling (British pounds deposited outside the United Kingdom); euroeuros (euros on deposit outside the eurozone); euroyen (Japanese yen deposited outside Japan); and *eurodollars* (U.S. dollars deposited outside the U.S.).

Banks in which eurocurrencies are deposited are called eurobanks. A eurobank is a financial intermediary that simultaneously bids for time deposits and makes loans in a currency other than that of its home currency. Eurobanks are major world banks that conduct a eurocurrency business in addition to all other banking functions. Thus, the eurocurrency operation that qualifies a bank for the name eurobank is, in fact, a department of a large commercial bank, and the name springs from the performance of this function.

The modern eurocurrency market was born shortly after World War II. Eastern European holders of dollars, including the various state trading banks of the Soviet Union, were afraid to deposit their dollar holdings in the United States because those deposits might be attached by U.S. residents with claims against communist governments. Therefore, Eastern Europeans deposited their dollars in Western Europe, particularly with two Soviet banks: the Moscow Narodny Bank in London and the Banque Commerciale pour l'Europe du Nord in Paris.

These banks redeposited the funds in other Western banks, especially in London. Additional dollar deposits were received from various central banks in Western Europe, which elected to hold part of their dollar reserves in this form to obtain a higher yield. Commercial banks also placed their dollar balances in the market because specific maturities could be negotiated in the eurodollar market. Such companies found it financially advantageous to keep their dollar reserves in the higher-yielding eurodollar market. Various holders of international refugee funds also supplied funds.

Although the basic causes of the growth of the eurocurrency market are economic efficiencies, many unique institutional events during the 1950s and 1960s contributed to its growth.

- In 1957, British monetary authorities responded to a weakening of the pound by imposing tight controls on U.K. bank lending in sterling to nonresidents of the United Kingdom. Encouraged by the Bank of England, U.K. banks turned to dollar lending as the only alternative that would allow them to maintain their leading position in world finance. For this they needed dollar deposits.
- Although New York was "home base" for the dollar and had a large domestic money and capital market, international trading in the dollar centered in London because of that city's expertise in international monetary matters and its proximity in time and distance to major customers.
- Additional support for a European-based dollar market came from the balance of payments difficulties of the U.S. during the 1960s, which temporarily segmented the U.S. domestic capital market.

Ultimately, however, the eurocurrency market continues to thrive because it is a large international money market relatively free from governmental regulation and interference. The freedom from government interference, or even the relative security and stability offered by some governments over time, is the subject of our second *Global Finance in Practice, 1.2, The Rocketing Swiss Franc*.

## GLOBAL FINANCE IN PRACTICE 1.2

### The Rocketing Swiss Franc

The Swiss franc has been fighting its appreciation against the European euro for years. Not a member of the European Union, and possessing one of the world's most stable currencies for over a century, Switzerland is, however, an economy and a currency completely encased within the eurozone.

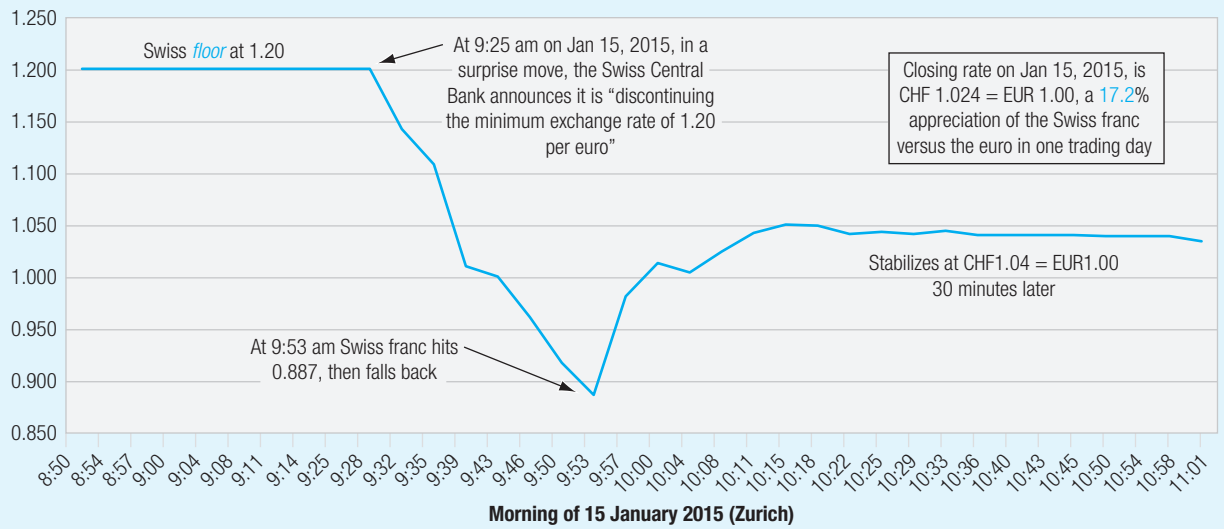
In 2011, in an attempt to stop the Swiss franc from continuing to grow in value against the euro (stop its *appreciation*), the Swiss Central Bank announced a "floor" on its value against the euro of 1.20 Swiss francs to 1 euro. To preserve this value, the Bank would intervene in the market by buying euros with Swiss francs anytime the market exchange rate threatened to hit the floor.

In early 2015, the markets continued to try and push the Swiss franc's value up against the euro (which means pushing its exchange value to lower than 1.20 Swiss francs per euro). The Swiss Central Bank continued to intervene, buying euros with Swiss francs and accumulating more and more euros in its reserves of foreign currency. The Bank had also set central bank interest rates at negative levels—yes, *negative*. This meant that the Bank charged depositors to hold Swiss franc deposits, an effort to dissuade investors from exchanging any currency, including the euro, for Swiss francs.

But the European Union's economies continued to struggle in 2014, and early reports of economic activity in 2015 were showing further slowing. Investors wished to exit the euro, fearing its future fall in value. The European Central Bank

(*continued*)

**Swiss Franc's Appreciation by the Minute . . . January 2015**




had added to their anxiety as it had announced that it would be undertaking expansionary government debt purchases—*quantitative easing*—(expansionary monetary policy) to kick-start the sluggish EU economy.

On the morning of January 15, 2015, the Swiss Central Bank shocked the markets by announcing that it was abandoning the 1.20 floor and cutting interest rates further (more negative). It had concluded that with the forthcoming monetary expansion from the ECB, there was no longer any way to keep the floodgates closed. The Swiss franc, as illustrated, appreciated versus the euro in minutes. For two of the world's major currencies, it was a very eventful day.

**Eurocurrency Interest Rates.** The reference rate of interest in the eurocurrency market is the *London Interbank Offered Rate (LIBOR)*. LIBOR is the most widely accepted rate of interest used in standardized quotations, loan agreements, or financial derivatives valuations. The use of interbank offered rates, however, is not confined to London. Most major domestic financial centers construct their own interbank offered rates for local loan agreements. Examples of such rates include *PIBOR* (Paris Interbank Offered Rate), *MIBOR* (Madrid Interbank Offered Rate), *SIBOR* (Singapore Interbank Offered Rate), and *FIBOR* (Frankfurt Interbank Offered Rate), to name just a few.

The key factor attracting both depositors and borrowers to the eurocurrency loan market is the narrow interest rate spread within that market. The difference between deposit and loan rates is often less than 1%. Interest spreads in the eurocurrency market are small for many reasons. Low lending rates exist because the eurocurrency market is a wholesale market where deposits and loans are made in amounts of $500,000 or more on an unsecured basis. Borrowers are usually large corporations or government entities that qualify for low rates because of their credit standing and because the transaction size is large. In addition, overhead assigned to the eurocurrency operation by participating banks is small.

Deposit rates are higher in the eurocurrency markets than in most domestic currency markets because the financial institutions offering eurocurrency activities are not subject to many of the regulations and reserve requirements imposed on traditional domestic banks and banking activities. With these costs removed, rates are subject to more competitive pressures, deposit rates are higher, and loan rates are lower. A second major area of cost savings associated with eurocurrency markets is that deposit insurance (such as the Federal Deposit Insurance Corporation, FDIC) and other assessments paid on deposits in the United States, for example, are unnecessary.

## 1.2 The Theory of Comparative Advantage

The *theory of comparative advantage* provides a basis for explaining and justifying international trade in a model world assumed to enjoy free trade, perfect competition, no uncertainty, costless information, and no government interference. The theory's origins lie in the work of Adam Smith, and particularly his seminal book, *The Wealth of Nations*, published in 1776. Smith sought to explain why the division of labor in productive activities, and subsequently international trade of goods produced, increased the quality of life for all citizens. Smith based his work on the concept of *absolute advantage*, with every country specializing in the production of those goods for which it was uniquely suited. More would be produced for less. Thus, with each country specializing in products for which it possessed absolute advantage, countries could produce more in total and trade for goods that were cheaper in price than those produced at home.

In his work *On the Principles of Political Economy and Taxation*, published in 1817, David Ricardo sought to take the basic ideas set down by Adam Smith a few logical steps further. Ricardo noted that even if a country possessed absolute advantage in the production of two goods, it might still be relatively more efficient than the other country in one good's production than the production of the other good. Ricardo termed this *comparative advantage*. Each country would then possess comparative advantage in the production of one of the two products, and both countries would benefit by specializing completely in one product and trading for the other.

Although international trade might have approached the comparative advantage model during the nineteenth century, it certainly does not today, for a variety of reasons. Countries do not appear to specialize only in those products that could be most efficiently produced by that country's particular factors of production. Instead, governments interfere with comparative advantage for a variety of economic and political reasons, such as to achieve full employment, economic development, national self-sufficiency in defense-related industries, and protection of an agricultural sector's way of life. Government interference takes the form of *tariffs*, *quotas*, and other non-tariff restrictions.

At least two of the factors of production—capital and technology—now flow directly and easily between countries, rather than only indirectly through traded goods and services. This direct flow occurs between related subsidiaries and affiliates of multinational firms, as well as between unrelated firms via loans and license and management contracts. Even labor can flow between countries to varying degrees, such as immigrants into the European Union from North Africa and the Middle East, and then in turn between states in the EU.

Modern factors of production are more numerous than in this simple model. Factors considered in the location of production facilities worldwide include managerial skills, a dependable legal structure for settling contract disputes, research and development competence, educational levels of available workers, energy resources, consumer demand for brand-name goods, mineral and raw material availability, access to capital, tax differentials, supporting infrastructure (roads, ports, and communication facilities), and possibly others. Although the *terms of trade* are ultimately determined by supply and demand, the process by which the terms are set is different from that visualized in traditional trade theory. They are determined partly by administered pricing in oligopolistic markets.

Comparative advantage shifts over time as less-developed countries become more developed and realize their latent opportunities. For example, over the past 150 years, comparative advantage in producing cotton textiles has shifted from the United Kingdom to the United States, to Japan, to Hong Kong, to Taiwan, and to China. The classical model of comparative advantage also does not address certain other issues such as the effect of uncertainty and information costs, the role of differentiated products in imperfectly competitive markets, and economies of scale.

Nevertheless, although the world is a long way from the pure theory of comparative advantage, the general principle of comparative advantage is still valid. The closer the world gets to true international specialization, the more world production and consumption can be increased, provided that the problem of equitable distribution of the benefits can be solved to the satisfaction of consumers, producers, and political leaders. Complete specialization, however, remains an unrealistic limiting case, just as perfect competition is a limiting case in microeconomic theory.

Comparative advantage is still a relevant theory to explain why particular countries are most suitable for exports of goods and services that support the global supply chain of both MNEs and domestic firms. The comparative advantage of the twenty-first century, however, is one that is based more on services, and their cross-border facilitation by telecommunications and the Internet. The source of a nation's comparative advantage, however, is still the mixture of its own labor skills, access to capital, and technology.

For example, India has developed a highly efficient and low-cost software industry. This industry supplies not only the creation of custom software, but also call centers for customer support, and other information technology services. The Indian software industry is composed of subsidiaries of MNEs and independent companies. If you own a Hewlett-Packard computer and call the customer support center number for help, you are likely to reach a call center in India. Answering your call will be a knowledgeable Indian software engineer or programmer who will "walk you through" your problem. India has a large number of well-educated, English-speaking technical experts who are paid only a fraction of the salary and overhead earned by their U.S. counterparts. The overcapacity and low cost of international telecommunication networks today further enhance the comparative advantage of an Indian location.

The extent of global outsourcing is already reaching every corner of the globe. From financial back offices in Manila, to information technology engineers in Hungary, modern telecommunications now bring business activities to labor rather than moving labor to the places of business.

## 1.3 What Is Different about International Financial Management?

Exhibit 1.3 details some of the main differences between international and domestic financial management. These component differences include institutions, corporate governance, foreign exchange, and political risks, and the modifications required of financial theory and financial instruments. As illustrated in *Global Finance in Practice 1.3*, foreign exchange risks impact all businesses, even the digital specter of the Pokémon.

Multinational financial management requires an understanding of cultural, historical, and institutional differences such as those affecting corporate governance. Although both domestic firms and MNEs are exposed to foreign exchange risks, MNEs alone face certain unique risks, such as political risks, that are not normally a threat to domestic operations. MNEs also face other risks that can be classified as extensions of domestic finance theory.

For example, the normal domestic approach to the cost of capital, sourcing debt and equity, capital budgeting, *working capital management*, taxation, and credit analysis need to be modified to accommodate foreign complexities. Moreover, a number of financial instruments that are used in domestic financial management have been modified for use in international financial management. Examples are foreign currency options and futures, interest rate and currency swaps, and letters of credit.

**EXHIBIT 1.3 What Is Different about International Financial Management?**

| Concept | International | Domestic |
|---|---|---|
| Culture, history, and institutions | Each foreign country is unique and not always understood by MNE management | Each country has a known base case |
| Corporate governance | Foreign countries' regulations and institutional practices are all uniquely different | Regulations and institutions are well known |
| Foreign exchange risk | MNEs face foreign exchange risks due to their subsidiaries, as well as import/export and foreign competitors | Foreign exchange risks from import/export and foreign competition (no subsidiaries) |
| Political risk | MNEs face political risk because of their foreign subsidiaries and high profile | Negligible political risks |
| Modification of domestic finance theories | MNEs must modify finance theories like capital budgeting and the cost of capital because of foreign complexities | Traditional financial theory applies |
| Modification of domestic financial instruments | MNEs utilize modified financial instruments such as options, forwards, swaps, and letters of credit | Limited use of financial instruments and derivatives because of few foreign exchange and political risks |

## GLOBAL FINANCE IN PRACTICE 1.3

### The Peso, Dollar, Yen—and Pokémon GO

The launch of Pokémon GO had been a bit delayed, from January to July 2016, but was highly successful when the game did finally hit the market. By August, people all over the world were wandering about with their phone in hand in search of Pokéstops and Pokémon. But despite all its success, for one of its owners—Nintendo of Japan (holding part interest)—it was not proving to be all that profitable. The problem was exchange rates. The Japanese yen had been gaining in value against most of the world's currencies, including the U.S. dollar. And in turn, many emerging market country currencies like the Mexican peso had been weakening against the dollar.

Consider the case of Crystal Gomez of Mexico City. Crystal purchased 100 Pokécoins for 17 Mexican pesos (MXN or Ps). The price of the Pokécoins in U.S. dollars in January 2016 would have equaled $0.9798 when converted to U.S. dollars (USD or $) at the spot exchange rate of Ps17.35/$ in January 2016.

$$\text{Price}^{\$}_{\text{Jan 2016}} = \frac{\text{Price in pesos}}{\text{Spot exchange rate in pesos per dollar}} = \frac{\text{Ps17}}{\text{Ps17.35/\$}} = \$0.9798$$

Crystal's payment would go to Niantic (U.S.), the primary developer of Pokémon GO. Nintendo of Japan would only receive its share of the sale proceeds after being converted from U.S. dollars to Japanese yen (JPY or ¥). In January, the spot exchange rate between the dollar and the yen was ¥119.00/$, so Nintendo could have earned ¥116.60 on the sale to Crystal Gomez.

$$\begin{aligned}\text{Nintendo proceeds in ¥}_{\text{Jan 2016}} &= \text{Proceeds}^{\$} \times \text{Spot rate (¥/\$)} \\ &= \$0.9798 \times ¥119.00/\$ \\ &= ¥116.60\end{aligned}$$

Unfortunately for Nintendo, by August, the Mexican peso was down to Ps18.75/$, and the dollar was down to ¥102.50/$, so the yen proceeds from Crystal's purchase had fallen by 25.5%, from ¥116.60 to only ¥92.93.

$$\begin{aligned}\text{Nintendo proceeds in ¥}_{\text{Aug 2016}} &= \frac{\text{Ps17}}{\text{Ps18.75/\$}} \times ¥102.50/\$ \\ &= ¥92.93\end{aligned}$$

Unfortunately, the original launch date had slid from January to late July, and during that time exchange rates had moved against Nintendo.

The main theme of this book is to analyze how an MNE's financial management evolves as it pursues global strategic opportunities and as new constraints emerge. In this chapter, we introduce the challenges and risks associated with Ganado Corporation (Ganado), a company we use as an example throughout this book. Ganado is a company evolving from being domestic in scope to becoming truly multinational. The discussion includes constraints that a company will face in terms of managerial goals and governance as it becomes increasingly involved in multinational operations. But first we need to clarify the unique value proposition and advantages that the MNE was created to exploit.

## Market Imperfections: A Rationale for the Existence of the Multinational Firm

MNEs strive to take advantage of imperfections in national markets for products, factors of production, and financial assets. Imperfections in the market for products translate into market opportunities for MNEs. Large international firms are better able to exploit such competitive factors as economies of scale, managerial and technological expertise, product differentiation, and financial strength than are their local competitors. In fact, MNEs thrive best in markets characterized by international oligopolistic competition, where these factors are particularly critical. In addition, once MNEs have established a physical presence abroad, they are in a better position than purely domestic firms to identify and implement market opportunities through their own internal information network.

## Why Do Firms Go Global?

Strategic motives drive the decision to invest abroad and become an MNE. These motives can be summarized under the following categories:

1. *Market seekers* produce in foreign markets either to satisfy local demand or to export to markets other than their home market. U.S. automobile firms manufacturing in Europe for local consumption are an example of market-seeking motivation.
2. *Raw material seekers* extract raw materials wherever they can be found, either for export or for further processing and sale in the country in which they are found—the host country. Firms in the oil, mining, plantation, and forest industries fall into this category.
3. *Production efficiency seekers* produce in countries where one or more of the factors of production are underpriced relative to their productivity. Labor-intensive production of electronic components in Taiwan, Malaysia, and Mexico is an example of this motivation.
4. *Knowledge seekers* operate in foreign countries to gain access to technology or managerial expertise. For example, German, Dutch, and Japanese firms have purchased U.S. electronics firms for their technology.
5. *Political safety seekers* acquire or establish new operations in countries that are considered unlikely to expropriate or interfere with private enterprise. For example, Hong Kong firms invested heavily in the United States, United Kingdom, Canada, and Australia in anticipation of the consequences of China's 1997 takeover of the British colony.

These five types of strategic considerations are not mutually exclusive. Forest products firms seeking wood fiber in Brazil, for example, may also find a large Brazilian market for a portion of their output.

In industries characterized by worldwide oligopolistic competition, each of the above strategic motives should be subdivided into proactive and defensive investments. Proactive investments are designed to enhance the growth and profitability of the firm itself. Defensive investments are designed to deny growth and profitability to the firm's competitors. Examples of the latter are investments that try to preempt a market before competitors can get established in it, or capture raw material sources and deny them to competitors.

### You the Professional and Multinational Financial Management

So where do you fit professionally within the global landscape of multinational finance? Mass media has a tendency to characterize the global marketplace by corporate names—IBM, Lafarge, Rolls-Royce, Tata, Google, Apple, Haier, Cemex—among thousands. But these multinational enterprises are made up of people—hard-working, ambitious, driven, experienced, educated, talented people. As a student of global business, you need to develop the skills, knowledge, and insights to not only be one of those people, but also to excel.

In the recent past, much of the business development in these companies was led by cross-functional teams, combining marketing, operations, finance, the supply chain, among others. So the international financial elements of any prospective business deal were handled by a specialist. In that arena, a professional like yourself who understands the implications of cross-border risks arising from currencies, interest rates, commodity prices, capital controls, and political risks could work within your team to elevate the financial concerns relevant to the successful execution of the business. This is the international financial professional.

But the pace of global business, and the organizational structure of global business, are changing. Teams are increasingly virtual and unique, each team custom-tailored for the business proposal or opportunity, and often drawing upon the available talent across geographies, markets, and cultures. Organizational agility, a phrase often used to describe decision-making rather than the decision-makers, requires different skills. This requires business professionals who are fundamentally competent over a broader array of functional fields—and that would include more than a passing knowledge of multinational finance and how it impacts investments and operations. And as more organizations empower their people, more of their people on all levels of global enterprises, and hold them accountable for outcomes, knowledge of the financial dimensions of the business in the international business environment is more and more a concern for all; that's you.

## 1.4 The Globalization Process

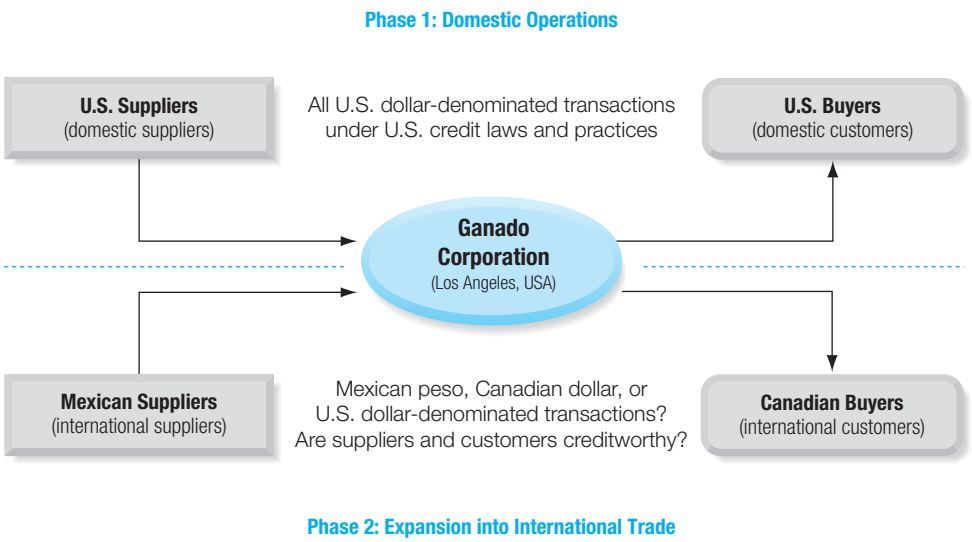
Ganado is a hypothetical U.S.-based firm that is used as an illustrative example throughout the book to demonstrate the phases of the globalization process—the structural and managerial changes and challenges experienced by a firm as it moves its operations from domestic to global.

### Global Transition I: Domestic Phase to the International Trade Phase

Ganado is a young firm that manufactures and distributes an array of telecommunication devices. Its initial strategy is to develop a sustainable competitive advantage in the U.S. market. Like many other young firms, it is constrained by its small size, competitors, and lack of access to cheap and plentiful sources of capital. The top half of Exhibit 1.4 shows Ganado in its early domestic phase.

Ganado sells its products in U.S. dollars to U.S. customers and buys its manufacturing and service inputs from U.S. suppliers, paying U.S. dollars. The creditworthiness of all suppliers and buyers is established under domestic U.S. practices and procedures. A potential issue for Ganado at this time is that, although Ganado is not international or global in its operations, some of its competitors, suppliers, or buyers may be. This is often the impetus to push a firm like Ganado into the first phase of the globalization process—into international trade. Ganado was founded in Los Angeles by James Winston in 1948 to make telecommunications equipment. The family-owned business expanded slowly but steadily over the following 40 years. The demands of continual technological investment in the 1980s, however, required that the firm raise additional equity capital in order to compete. This need for capital led to its initial

**EXHIBIT 1.4 Ganado Corp: Initiation of the Globalization Process**




public offering (IPO) in 1988. As a U.S.-based publicly traded company on the New York Stock Exchange, Ganado's management sought to create value for its *shareholders*.

As Ganado became a visible and viable competitor in the U.S. market, strategic opportunities arose to expand the firm's market reach by exporting products and services to one or more foreign markets. The *North American Free Trade Agreement* (NAFTA) made trade with Mexico and Canada attractive. This second phase of the globalization process is shown in the lower half of Exhibit 1.4.

Ganado responded to these globalization forces by importing inputs from Mexican suppliers and making export sales to Canadian buyers. We define this phase of the globalization process as the International Trade Phase. Exporting and importing products and services increase the demands of financial management over and above the traditional requirements of the domestic-only business in two ways. First, direct foreign exchange risks are now borne by the firm. Ganado may now need to quote prices in foreign currencies, accept payment in foreign currencies, or pay suppliers in foreign currencies. As the values of currencies change from minute to minute in the global marketplace, Ganado will increasingly experience significant risks from the changing values associated with these foreign currency payments and receipts.

Second, the evaluation of the credit quality of foreign buyers and sellers is now more important than ever. Reducing the possibility of non-payment for exports and non-delivery of imports becomes a key financial management task during the international trade phase. This credit risk management task is much more difficult in international business, as buyers and suppliers are new, subject to differing business practices and legal systems, and generally more challenging to assess.

## Global Transition II: The International Trade Phase to the Multinational Phase

If Ganado is successful in its international trade activities, the time will come when the globalization process will progress to the next phase. Ganado will soon need to establish foreign sales and service affiliates. This step is often followed by establishing manufacturing operations

abroad or by licensing foreign firms to produce and service Ganado's products. The multitude of issues and activities associated with this second, larger global transition is the real focus of this book.

Ganado's continued globalization will require it to identify the sources of its competitive advantage, and with that knowledge, expand its intellectual capital and physical presence globally. A variety of strategic alternatives are available to Ganado—the foreign direct investment sequence—as shown in Exhibit 1.5. These alternatives include the creation of foreign sales offices, the licensing of the company name and everything associated with it, and the manufacturing and distribution of its products to other firms in foreign markets.

As Ganado moves further down and to the right in Exhibit 1.5, the extent of its physical presence in foreign markets increases. It may now own its own distribution and production facilities, and ultimately, it may want to acquire other companies. Once Ganado owns assets and enterprises in foreign countries, it has entered the multinational phase of its globalization.

## The Multinational Enterprise's Consolidated Financial Results

Ganado will create more and more foreign subsidiaries as it expands globally. Some MNEs may only have one foreign subsidiary, while others, like Johnson & Johnson (U.S.), have nearly 200. Each subsidiary will have its own set of financial statements and results (income statement, balance sheet, and statement of cash flow). Each subsidiary is also likely operating in a different currency, subject to differing tax rates, accounting practices such as depreciation, and a multitude of other financial parameters. The company, however, must periodically consolidate all those financial results and report them in the currency of its home country.

**EXHIBIT 1.5 Ganado's Foreign Direct Investment Sequence**

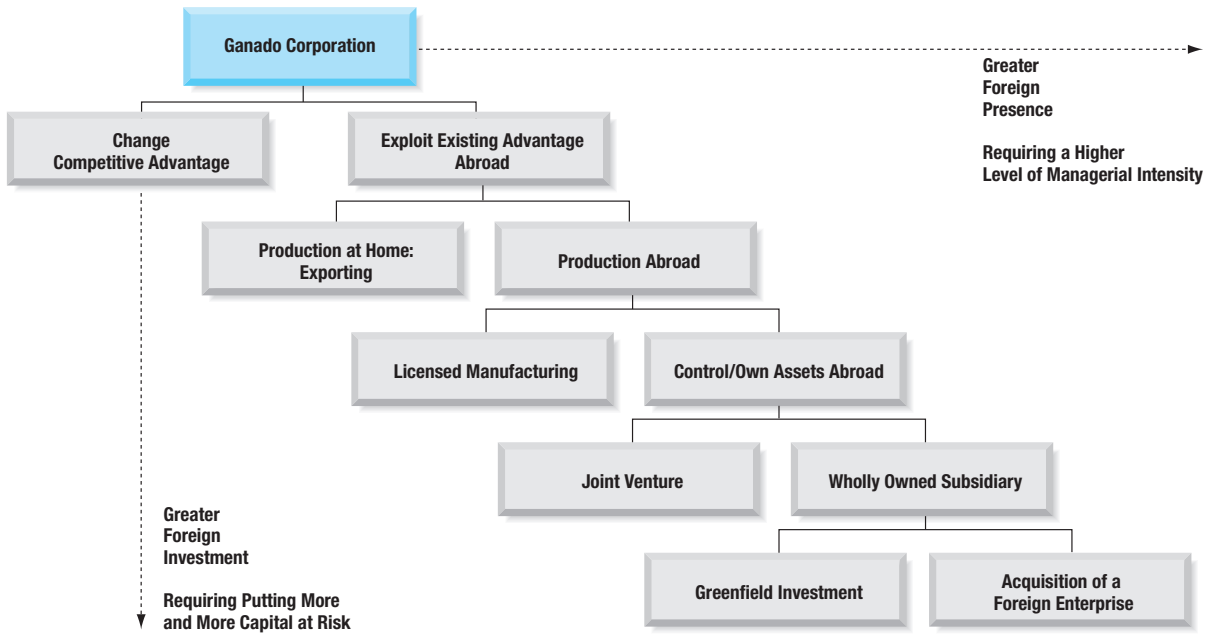


Exhibit 1.6 illustrates a simplified income statement consolidation for Ganado. Assuming that U.S.-based Ganado has two foreign subsidiaries, one in Europe and one in China, in addition to its U.S. operations, it converts the various income statement items to U.S. dollars from euros and Chinese renminbi at the average exchange rate for each currency pair for the period (in this case, the year). As we will see in later chapters, this process results in a number of currency risks and exposures, as exchange rates may change in ways that increase or decrease consolidated results.

## The Limits to Financial Globalization

The theories of international business and international finance introduced in this chapter have long argued that with an increasingly open and transparent global marketplace in which capital may flow freely, capital will increasingly flow and support countries and companies based on the theory of comparative advantage. Since the mid-twentieth century, this has indeed been the case as more and more countries have pursued more open and competitive markets. But the past decade has seen the growth of a new kind of limit or impediment to financial globalization: the increasing influence and self-enrichment of organizational insiders.

One possible representation of this process can be seen in Exhibit 1.7. If influential insiders in corporations and sovereign states continue to pursue the increase in firm value, there will be a definite and continuing growth in financial globalization. But, if these same influential insiders pursue their own personal agendas, which may increase their personal power and influence or personal wealth, or both, then capital will not flow into these sovereign states and corporations. The result is the growth of financial inefficiency and the segmentation of globalization outcomes, creating winners and losers. As we will see throughout this book, this barrier to international finance may indeed become increasingly troublesome. This growing dilemma is also something of a composite of what this book is about. The three fundamental

**EXHIBIT 1.6 Selected Consolidated Income Results for Ganado (U.S.)**

As a U.S.-based multinational company, Ganado must consolidate the financial results (in this case, sales and earnings from the income statements) of its foreign subsidiaries. This requires converting foreign currency values into U.S. dollars.

| Country | Currency | Sales (millions) | Avg Exchange Rate for Year | Sales (millions US$) | Percent of Total |
|---|---|---|---|---|---|
| **United States** | U.S. dollar ($) | $300 | | $300.0 | 57% |
| **Europe** | European euro (€) | €120 | $1.12 = €1.00 | 134.4 | 26% |
| **China** | Chinese renminbi (¥) | ¥600 | ¥6.60 = $1.00 | 90.9 | 17% |
| | | | | $525.3 | 100% |

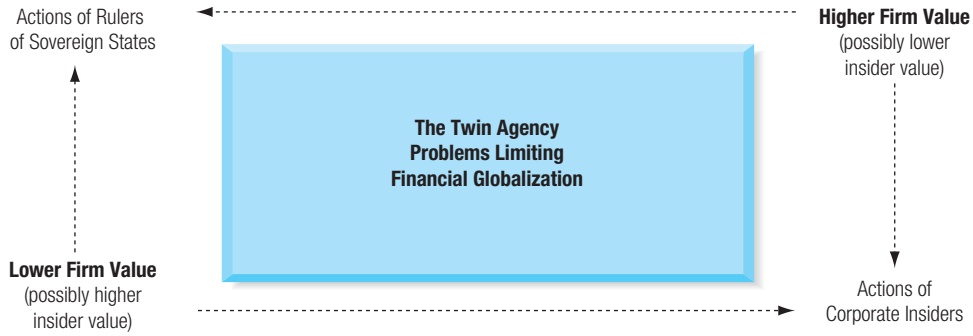
| Country | Currency | Earnings (millions) | Avg Exchange Rate for Year | Earnings (millions US$) | Percent of Total |
|---|---|---|---|---|---|
| **United States** | U.S. dollar ($) | $28.6 | | $28.6 | 56% |
| **Europe** | European euro (€) | €10.50 | $1.12 = €1.00 | 11.8 | 23% |
| **China** | Chinese renminbi (¥) | ¥71.40 | ¥6.60 = $1.00 | 10.8 | 21% |
| | | | | $51.2 | 100% |

Ganado, for the year shown, generated 57% of its global sales in the United States, with those U.S. sales making up 56% of its consolidated profits. From quarter to quarter and year to year, both the financial performance of the individual subsidiaries will change in addition to exchange rates.

* This is a simplified consolidation. Actual consolidation accounting practices require a number of specific line item adjustments not shown here.

**EXHIBIT 1.7 The Limits of Financial Globalization**

There is a growing debate over whether many of the insiders and rulers of organizations with enterprises globally are taking actions consistent with creating firm value or consistent with increasing their own personal stakes and power.




If these influential insiders are building personal wealth over that of the firm, it will indeed result in preventing the flow of capital across borders, currencies, and institutions to create a more open and integrated global financial community.

*Source*: Constructed by authors based on "The Limits of Financial Globalization," Rene M. Stulz, *Journal of Applied Corporate Finance*, Vol. 19, No. 1, Winter 2007, pp. 8–15.

elements—financial theory, global business, and management beliefs and actions—combine to present either the problem or the solution to the growing debate over the benefits of globalization to countries and cultures worldwide. And as highlighted by *Global Finance in Practice 1.4*, the objectives and responsibilities of the modern multinational enterprise have grown significantly more complex with these elements.

## GLOBAL FINANCE IN PRACTICE 1.4

### Corporate Responsibility and Corporate Sustainability

> *Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs.*
>
> —Brundtland Report, 1987, p. 54.

What is the purpose of the corporation? It is accepted that the purpose of the corporation is to certainly create profits and value for its stakeholders, but the responsibility of the corporation is to do so in a way that inflicts no costs on society, including the environment. As a result of globalization, this growing responsibility and role of the corporation in society have added a level of complexity to the leadership challenges faced by the multinational firm.

This developing controversy has been somewhat hampered to date by conflicting terms and labels—corporate goodness, corporate responsibility, corporate social responsibility (CSR), corporate philanthropy, and *corporate sustainability*, to list but a few. Confusion can be reduced by using a guiding principle—that sustainability is a goal, while responsibility is an obligation. It follows that the obligation of leadership in the modern multinational is to pursue profit, social development, and the environment, all along sustainable principles.

The term *sustainability* has evolved greatly within the context of global business in the past decade. A traditional primary objective of the family-owned business has been the "sustainability of the organization"—the long-term ability of the company to remain commercially viable and provide security and income for future generations. Although narrower in scope, the concept of environmental sustainability shares a common core thread—the ability of a company, a culture, or even the earth, to survive and renew over time.

We close this chapter and open this book with the simple words of one of our colleagues in a recent conference on the outlook for global finance and global financial management:

*Welcome to the future. This will be a constant struggle. We need leadership, citizenship, and dialogue.*

—Donald Lessard, in *Global Risk, New Perspectives and Opportunities*, 2011, p. 33.

## SUMMARY POINTS

- The creation of value requires combining three critical elements: (1) an open marketplace; (2) high-quality strategic management; and (3) access to capital.
- The theory of comparative advantage provides a basis for explaining and justifying international trade in a model world of free and open competition.
- International financial management requires an understanding of cultural, historical, and institutional differences, such as those affecting corporate governance.
- Although both domestic firms and MNEs are exposed to foreign exchange risks, MNEs alone face certain unique risks, such as political risks, that are not normally a threat to domestic operations.
- MNEs strive to take advantage of imperfections in national markets for products, factors of production, and financial assets.
- The decision whether or not to invest abroad is driven by strategic motives and may require the MNE to enter into global licensing agreements, joint ventures, cross-border acquisitions, or greenfield investments.
- If influential insiders in corporations and sovereign states pursue their own personal agendas, which may increase their personal power, influence, or wealth, then capital will not flow into these sovereign states and corporations. This will, in turn, create limitations to globalization in finance.

## Mini-Case

### CROWDFUNDING KENYA[1]

The concept of *crowdfunding* has a number of parallels in traditional Kenyan culture. *Harambee* is a long-used practice of collective fundraising for an individual obligation like travel or medical expenses. Another Kenyan practice, *chama*, involves group fundraising for loans or investments by private groups. In either case, they have strong links to the fundamental principle of a community. In the case of crowdfunding, it is an online community.

Crowdfunding is an Internet-enabled method of raising capital for business startups without going through the arduous, costly, and time-consuming process of traditional equity capital fundraising. The rapid growth in crowdfunding over recent years has been based primarily in the major industrial country markets of North America and Western Europe where there is a highly organized, developed, and deep financial sector, but a sector that often shuts out the small, innovative, non-traditional entrepreneur.

The concept of raising funds from a large crowd or group is not new. It is a technique that has been employed by individuals, organizations, and even governments for centuries. Beethoven and Mozart both raised funds for their work through pre-creation subscriptions. The United States and France both used an early form of crowdfunding fundraising to construct the Statue of Liberty. But crowdfunding's real potential may now lie in funding new business startups in emerging markets—markets where the capital sources and institutions available to small and medium enterprises (SMEs) within the country may be limited. If crowdfunding can provide access to capital that many entrepreneurs need, tapping into a larger, more affordable cross-border financial ecosystem, then business, economic, and social development in the emerging markets may be able to take a great step forward. Kenya is one country attempting to pilot the effort.

 This case was prepared by Professor Michael H. Moffett for the purpose of classroom discussion only. The author would like to thank Sherwood Neiss of Crowdfunding Capital Advisors for helpful comments.

## The Capital Lifecycle

The ability of a startup business to access affordable capital through the early stages of its lifecycle has been the focus of a multitude of financial innovations in the past two decades. But until recently, there have been a number of gaps in the *capital lifecycle*—the institutions and sources of capital available to an enterprise as it evolves—putting many startup businesses at risk.

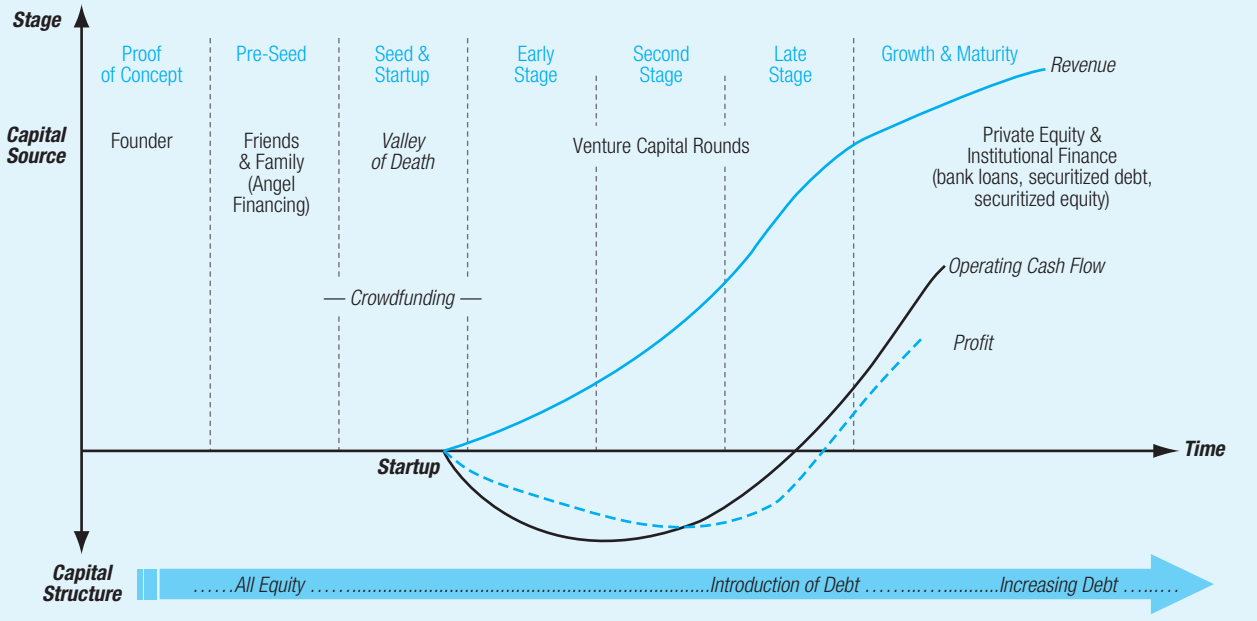
Exhibit A illustrates the capital lifecycle of a for-profit enterprise. An entrepreneur—the founder—puts up his own money in the first stage, the proof of concept. This is followed by further pre-seed capital typically funded from friends and family, or in some cases, angel financing from angel investors. *Angel investors* are individuals or small groups of professional investors who invest at the earliest stages of business development, playing the role of a "guardian angel." The principle is to provide the capital to move the business opportunity further along while still protecting the interests of the entrepreneurial owners. This is often referred to as the pre-seed stage of business development.

It is immediately after this, in the Seed Startup, that many firms fail to advance in their development due to a gap of available capital and capital providers. This gap, often referred to as the *Valley of Death*, occurs at a critical period in which the firm is building and moving toward operational launch. But without operating activities, and therefore revenues and cash flows, additional investors and access to capital is scarce. It is this gap that crowdfunding has filled in many industrial country markets. Following their launch, promising businesses often pursue venture capital for financing rapid growth—the venture capital rounds. *Venture capitalists* (VCs) are investment firms focused on taking an equity position in new businesses that are showing revenue results, but may not yet be positive in terms of cash flow or profitability. VCs focus their attention on businesses that are considered to have high growth potential but need capital now to acquire the scale and assets needed to pursue the growth opportunity.

The final stage of the capital lifecycle is that of the growing and maturing company. It is only at this stage that the business possesses the track record of sales, profits, and cash flow that assure bank lenders of the creditworthiness of the firm. Bank loan-based debt is now accessible. It is also at this time that the firm may consider an initial public offering (IPO), to issue equity and raise capital in the marketplace.

Firms gain access to debt—bank loans—after operations have commenced and operating cash flow capability has been demonstrated. However, debt service obligations are not desirable in rapid growth businesses trying to retain as much capital as possible during early growth stages. If a business appears to have solid growth prospects, it may catch the eye of *private equity* (PE). Private equity firms invest in greater amounts at later stages of business development. PE investors provide capital to businesses that are fully established and successful, but are in need of capital for growth and business strategy fulfillment. They rarely

**EXHIBIT A** **The Capital Lifecycle**



invest in a startup business, searching instead for investment opportunities that will yield higher rates of return than traditional investments in public companies.

## Crowdfunding Principles

> *I believe that crowdfunding may have the potential to help catalyze existing efforts to create entrepreneurial cultures and ecosystems in developing nations. Development organizations like the World Bank and other institutions will play an ongoing role to act as "trusted third parties" in creating these new models of funding and providing mentorship, capacity building as well as ongoing monitoring and reporting.*
>
> —Steve Case, Chairman and CEO, Revolution, and Founder, America Online[2]

Crowdfunding began as an online extension of the pre-seed stage in which traditional financing relies upon friends and family to pool funds to finance business development. It seeks to connect an extended group of interested investors, still based on friends and family—the so-called crowdfunding ecosystem—directly with startups in need of seed capital. It attempts to open up these funding channels by bypassing the traditional regulatory and institutional barriers, restrictions, costs, and burdens that capital raising carries in every country around the globe.

Crowdfunding structures typically fall into any one of four categories: donation-based, rewards-based, loan or debt-based, or equity-based.[3]

1. **Donation-based.** Non-profit foundations often employ crowdfunding methods to raise funds for causes of all kinds. Contributors receive nothing in return for their gifts other than positive emotional and intellectual gratification.
2. **Rewards-based.** In rewards-based crowdfunding efforts contributors receive a perk, a benefit, a T-shirt, a ticket, a back-stage pass, some small form of reward. One highly successful platform using this structure is Kickstarter, a U.S.-based arts and project-based fundraiser. As with donation-based funds, there is no guarantee of the project's execution or success, and no return on the investment other than a small reward, perk, or token benefit.
3. **Debt-based.** Debt-based or lending-based crowdfunding efforts provide capital to individuals and organizations in need of growth capital in return for repayment of principal. Micro-finance organizations like Grameen Bank have long used this structure successfully to fund entrepreneurial efforts particularly in emerging markets. The investor is typically promised repayment of principal, but often—as is the case of kiva.org, no payment of interest is made by the borrower or paid to the "investor."
4. **Equity-based.** Investors gain a share of ownership in the project or company. These are enterprise funding efforts to support for-profit business development, with the investor receiving voting rights and the possibility (but not the promise) of a return on their capital. This is an investment, not a gift, and although the investors may be drawn from interested or like-minded groups, returns on investment are expected and therefore the business plan and prospects are evaluated critically.

The last two are fundraising efforts focused on business development, and categorically referred to as investment-geared crowdfunding (IGCF). For longer-term sustainable market-based economies, it is category four—equity-based crowdfunding—that is thought to offer the greatest potential for economic development and employment.

## Critical Requirements

There are at least three critical components to a successful equity-based crowdfunding initiative: (1) a well-defined and capable crowdsourcing ecosystem; (2) a defined solid business plan and competitive analysis; and (3) a motivated, capable, and committed entrepreneur. Crowdfunding's true singular strength is the ability of a potential investment to reach an extended crowdfunding ecosystem—a linked crowd accessible via the Internet and therefore not limited by geography, currency, or nationality. It is based on the digital reach of the Internet via social networks and viral marketing, rather than on the traditional institutional structure of the financial and investment sectors in countries. However, given that the object of the investment is a for-profit business that is resident in a difficult-to-fund or finance marketplace, a successful ecosystem will still be defined by some commonality of experience, culture, ethnicity, or diaspora.[4] As many in the crowdfunding sector will note, when you are raising funds for a for-profit investment anywhere in the world, relationships and linkages play a critical role in moving from a token "gift for a good cause" to an investment in a business.

Secondly, a business plan must be defined. Crowdfunding is not based on the madness of crowds, but rather their

[2] *Crowdfunding's Potential for the Developing World*, infoDev/The World Bank, by Jason Best, Sherwood Neiss, and Richard Swart, Crowdfunding Capital Advisors (CCA), 2013.

[3] "Issue Brief: Investment-Geared Crowdfunding," CFA Institute, March 2014.

[4] "Issue Brief: Investment-Geared Crowdfunding," CFA Institute, March 2014.

strength in numbers, knowledge, and will. If enough small individual investors collectively support a startup enterprise, anywhere in the world, they can fund the development and growth of the business. But to even reach the proposal stage at which point a crowdfunding platform will entertain discussions, the entrepreneur will need to have refined a business plan. This must include prospective profitability, financial forecasts, and competitive analysis. Any business anywhere, needs a plan to generate sales, control costs, and compete if it is to eventually make a profit.

Finally, as it has been since the beginning of time, success will only come from a truly capable and committed founder—the entrepreneur. Even a business which is well-funded, well-defined, and exceptionally innovative will fail without an entrepreneur who is willing to roll up his sleeves, day after day after day, to go the extra mile (or kilometer) to achieve success. Whether that entrepreneur is named John D. Rockefeller, Bill Gates, Steve Jobs, Oprah Winfrey, J. K. Rowling, Zhang Yin, or Mark Zuckerberg, commitment, passion, and hunger for success must be ingrained in his or her DNA.

### Kenyan Challenge

Kenya is not all that different from many other major emerging markets when it comes to business startups: a shortage of capital, institutions, and interest in funding new business development. Funding startups, particularly SMEs, is always challenging, even in the largest and most developed industrial countries. Gaining access to affordable capital in a country like Kenya, even with a burgeoning domestic economy, is extremely difficult.

After a series of successive rounds of evaluation and competition, four crowdfunding projects were identified for a pilot program by infoDev of the World Bank Group, working through its Kenya Climate Innovation Center (KICC) with the support of Crowdfund Capital Advisors (CCA).

- **Lighting Up Kenya.** Join the Solar Generation creation in Kenya. Help us extinguish kerosene lamps and improve lives. Co-Founder of Skynotch Energy Africa, Patrick Kimathi is trying to bring clean lighting solutions (solar lamps) for off-grid indoor lighting.
- **Wanda Organic.** Nurture the Soil. Climate Smart Agriculture. Help us improve access to bio-organic fertilizer and biotechnology for farmers in Kenya. Marion Moon, founder of Wanda Organic, wants to enable Kenyan farmers to produce more, increase profitability and family income, improve nutrition, and create new employment in rural economies, while restoring and strengthening the health of Kenya's soil.
- **Briquette Energy Drive.** Biomass Briquettes are made from agricultural plant waste and are a replacement for fossil fuels, such as oil or coal, and they burn hotter, cleaner, and longer. Allan Marega is the managing director of Global Supply Solutions, whose goal is to make briquettes, the preferred replacement to charcoal and wood fuel.
- **Coal Concepts.** James Nyaga, Director of Strategy and Innovation at iCoal Concepts, wants to use recycled charcoal dust to make briquettes that are denser, burn longer, and that are odorless and smokeless, to ultimately reduce indoor air pollution.

The Kenyan projects are among a number of pilot programs testing crowdfunding applications in emerging markets. Only time and experience will tell if crowdfunding delivers sustainable financial development for the global economy.

### Mini-Case Questions

1. Where does crowdfunding fit in the capital lifecycle of business development?
2. Is crowdfunding really all that unique? What does it offer that traditional funding channels and institutions do not?
3. What is likely to differentiate successes from failures in emerging market crowdfunding programs?

## QUESTIONS

These questions are available in MyLab Finance.

**1.1 Globalization Risks in Business.** What are some of the risks that come with the growing globalization of business?

**1.2 Globalization and the Multinational Enterprise (MNE).** The term globalization has become widely used in recent years. How would you define it?

**1.3 Assets, Institutions, and Linkages.** Which assets play the most critical role in linking the major institutions that make up the global financial marketplace?

**1.4 Currencies and Symbols.** What technological innovation is changing the symbols we use in the representation of different country currencies?

**1.5 Eurocurrencies and LIBOR.** Why have eurocurrencies and LIBOR remained the centerpiece of the global financial marketplace for so long?

**1.6 Theory of Comparative Advantage.** Define and explain the theory of comparative advantage.

**1.7 Limitations of Comparative Advantage.** The key to understanding most theories is found in what those theories say and what they don't. Name four or five key limitations to the theory of comparative advantage.

**1.8 International Financial Management.** What is different about international financial management?

**1.9 Ganado's Globalization.** After reading the chapter's description of Ganado's globalization process, how would you explain the distinctions between international, multinational, and global companies?

**1.10 Ganado, the MNE.** At what point in the globalization process did Ganado become a multinational enterprise (MNE)?

**1.11 Role of Market Imperfections.** What is the role of market imperfections in the creation of opportunities for the multinational firm?

**1.12 Why Go.** Why do firms become multinational?

**1.13 Multinational Versus International.** What is the difference between an international firm and a multinational firm?

**1.14 Ganado's Phases.** What are the main phases that Ganado passed through as it evolved into a truly global firm? What are the advantages and disadvantages of each?

**1.15 Financial Globalization.** How do the motivations of individuals, both inside and outside the organization or business, define the limits of financial globalization?

## PROBLEMS

These problems are available in MyLab Finance.

**1.1 Rio Games and the Brazilian Reais.** Ryan Lock had planned his trip to the Olympic Games in Rio de Janeiro, Brazil, for many months. He had budgeted—saved—$15,000 for expenses while in Rio. But he had postponed exchanging the dollars for Brazilian currency—reais (BRL or R$)—until the very last minute on August 8th, doing it in the airport in the United States at BRL 3.1805 = 1.00 USD. Given the following average monthly exchange rates in 2016, when should he have exchanged the dollars for reais to maximize his Brazilian spending money?

| Month | BRL = 1.00 USD |
|---|---|
| January | 4.0553 |
| February | 3.9651 |
| March | 3.6984 |
| April | 3.5639 |
| May | 3.5416 |
| June | 3.4236 |
| July | 3.2785 |

**1.2 Pokémon GO.** Crystal Gomez, who lives in Mexico City (as noted in Global Finance in Practice 1.2 in the chapter), bought 100 Pokécoins for 17 Mexican pesos (Ps or MXN). Nintendo of Japan, one of the owners of Pokémon GO, will need to convert the Mexican pesos (Ps or MXN) into its home currency, the Japanese yen, in order to record the financial proceeds. The current spot exchange rate between the Mexican peso and the U.S. dollar is 18.00 (MXN = 1.00 USD), and the current spot rate between the dollar and the Japanese yen (¥ or JPY) is 100.00. What are the yen proceeds of Crystal Gomez's purchase?

**1.3 Isaac Díez of Brazil.** Isaac Díez Peris lives in Rio de Janeiro, Brazil. While attending school in Spain, he meets Juan Carlos Cordero from Guatemala. Over the summer holiday, Isaac decides to visit Juan Carlos in Guatemala City for a couple of weeks. Isaac's parents give him some spending money, 4,500 Brazilian reais (BRL). Isaac wants to exchange his Brazilian reais for Guatemalan quetzals (GTQ). He collects the following rates:

Spot rate on the GTQ/EUR: GTQ10.5799 = EUR1.00
Spot rate on the EUR/BRL: EUR0.4462 = BRL1.00

a. What is the Brazilian reais/Guatemalan quetzal cross rate?
b. How many Guatemalan quetzals will Isaac get for his Brazilian reais?

**1.4 Munich to Moscow.** For your post-graduation celebratory trip, you decide to travel from Munich, Germany, to Moscow, Russia. You leave Munich with 15,000 euros (EUR) in your wallet. Wanting to exchange all of them for Russian rubles (RUB), you obtain the following quotes:

Spot rate on the dollar/euro cross rate: USD1.0644/EUR
Spot rate on the ruble/dollar cross rate: RUB59.468/USD

a. What is the Russian ruble/euro cross rate?
b. How many Russian rubles will you obtain for your euros?

**1.5 Moscow to Tokyo.** After spending a week in Moscow, you get an email from your friend in Japan. He can get you a very good deal on a plane ticket and wants you to meet him in Tokyo next week to continue your post-graduation celebratory trip. You have 450,000 Russian rubles (RUB) left in your money pouch. In preparation for the trip, you want to exchange your Russian rubles for Japanese yen (JPY) so you get the following quotes:

Spot rate on the rubles/dollar cross rate: RUB30.96/USD
Spot rate on the yen/dollar cross rate: JPY84.02/USD

a. What is the Russian ruble/yen cross rate?
b. How many Japanese yen will you obtain for your Russian rubles?

**1.6 Chantal DuBois in Brussels.** Chantal DuBois lives in Brussels. She can buy a U.S. dollar for €0.7600. Christopher Keller, living in New York City, can buy a euro for $1.3200. What is the foreign exchange rate between the dollar and the euro?

**1.7 Mexico's Cada Seis Años.** Mexico was famous—or infamous—for many years for having two things every six years (*cada seis años* in Spanish): a presidential election and a currency devaluation. This was the case in 1976, 1982, 1988, and 1994. In its last devaluation on December 20, 1994, the value of the Mexican peso (Ps) was officially changed from Ps3.30/$ to Ps5.50/$. What was the percentage devaluation?

**1.8 Kyle's Competing Job Offers.** Kyle, after an arduous post-graduation job search, has received an offer of the following three different country posts with a major multinational company. Each of the three countries—the United Kingdom, the Czech Republic, and France—offers a different starting salary and a different signing bonus, but in a different currency. Kyle wants to first compare all of the compensation packages in a common currency, the U.S. dollar. Use the data below to determine which offer represents the greatest initial U.S. dollar compensation package.

**Problem 1.8: Kyle's Competing Job Offers**

| Country | ISO | Currency | Salary | Signing Bonus | Currency = $1.00 |
|---|---|---|---|---|---|
| United Kingdom | GBP | pounds (£) | £73,000.00 | £20,000.00 | 0.7000 |
| Czech Republic | CZK | koruna (Kč) | 1,850,000.00 Kč | 325,000.00 Kč | 24.35 |
| France | EUR | euros (€) | € 83,000.00 | € 17,000.00 | 0.9000 |

**1.9 Comparing Cheap Dates Around the World.** Comparison of prices or costs across different country and currency environments requires translation of the local currency into a single common currency. This is most meaningful when the comparison is for an identical or near-identical product or service across countries. Deutsche Bank has recently started publishing a comparison of cheap dates—an evening on the town for two to eat at McDonald's, see a movie, and drink a beer. Once all costs are converted to a common currency, the U.S. dollar in this case, the cost of the date can be compared across cities relative to the base case of a cheap date in USD in New York City. After completing the table below and on the next page, answer the following questions.

**Problem 1.9: Comparing Cheap Dates Around the World**

| Country | City | Cheap Date in Local Currency | Exchange Rate Quote | Exchange Rate 7 April 2014 | In USD | Relative to NYC |
|---|---|---|---|---|---|---|
| Australia | Sydney | AUD 111.96 | USD = 1 AUD | 0.9290 | _____ | ____% |
| Brazil | Rio de Janeiro | BRL 135.43 | USD = 1 BRL | 0.4363 | _____ | ____% |
| Canada | Ottawa | CAD 78.33 | USD = 1 CAD | 0.9106 | _____ | ____% |
| China | Shanghai | CNY 373.87 | USD = 1 CNY | 0.1619 | _____ | ____% |
| France | Paris | EUR 75.57 | USD = 1 EUR | 1.3702 | _____ | ____% |
| Germany | Berlin | EUR 76.49 | USD = 1 EUR | 1.3702 | _____ | ____% |
| Hong Kong | Hong Kong | HKD 467.03 | USD = 1 HKD | 0.1289 | _____ | ____% |
| India | Mumbai | INR 1,379.64 | USD = 1 INR | 0.0167 | _____ | ____% |
| Indonesia | Jakarta | IDR 314,700 | USD = 1 IDR | 0.0001 | _____ | ____% |

(*continued*)

| Country | City | Cheap Date in Local Currency | Exchange Rate Quote | Exchange Rate 7 April 2014 | In USD | Relative to NYC |
|---|---|---|---|---|---|---|
| Japan | Tokyo | JPY 10,269.07 | USD = 1 JPY | 0.0097 | _____ | ____% |
| Malaysia | Kuala Lumpur | MYR 117.85 | USD = 1 MYR | 0.3048 | _____ | ____% |
| Mexico | Mexico City | MXN 423.93 | USD = 1 MXN | 0.0769 | _____ | ____% |
| New Zealand | Auckland | NZD 111.52 | USD = 1 NZD | 0.8595 | _____ | ____% |
| Phillipines | Manila | PHP 1,182.88 | USD = 1 PHP | 0.0222 | _____ | ____% |
| Russia | Moscow | RUB 2,451.24 | USD = 1 RUB | 0.0283 | _____ | ____% |
| Singapore | Singapore | SGD 77.89 | USD = 1 SGD | 0.7939 | _____ | ____% |
| South Africa | Cape Town | ZAR 388.58 | USD = 1 ZAR | 0.0946 | _____ | ____% |
| United Kingdom | London | GBP 73.29 | USD = 1 GBP | 1.6566 | _____ | ____% |
| United States | New York City | USD 93.20 | 1 USD | 1.0000 | _____ | ____% |
| United States | San Francisco | USD 88.72 | 1 USD | 1.0000 | _____ | ____% |

*Source:* Data drawn from *The Random Walk, Mapping the World's Prices 2014*, Deutsche Bank Research, 09 May 2014, Figures 30 and 32, with author calculations.

Note: The *cheap date* combines the local currency cost of a cab ride for two, two McDonald's hamburgers, two soft drinks, two movie tickets, and two beers. In 2013 Deutsche Bank had included sending a bouquet of roses in the date, but did not include that in the 2014 index, making the two years not directly comparable.

a. Which city in the table truly offers the cheapest date?
b. Which city in the table offers the most expensive cheap date?
c. If the exchange rate in Moscow on the Russian ruble (RUB) was 0.04200, instead of 0.0283, what would be the USD price?
d. If the exchange rate in Shanghai was CNY 6.66 = 1 USD, what would be its cost in USD and relative to a cheap date in New York City?

**1.10 Blundell Biotech.** Blundell Biotech is a U.S.-based biotechnology company with operations and earnings in a number of foreign countries. The company's profits by subsidiary, in local currency (in millions), are shown in the first table given below for 2013 and 2014. The average exchange rate for each year, by currency pairs, appears in the second table. Use these data to answer the following questions.

a. What were Blundell Biotech's consolidated profits in U.S. dollars in 2013 and 2014?
b. If the same exchange rates were used for both years—what is often called a "constant currency basis"—did the change in corporate earnings occur on a constant currency basis?
c. Using the results of the constant currency analysis in part (b), is it possible to separate Blundell's growth in earnings between local currency earnings and foreign exchange rate impacts on a consolidated basis?

**1.11 Peng Plasma Pricing.** Peng Plasma is a privately held Chinese business. It specializes in the manufacture of plasma cutting torches. Over the past eight years, it has held the Chinese renminbi price of the PT350 cutting torch fixed at Rmb 18,000 per unit. Over that same period, it has worked to reduce costs per unit, but has struggled of late due to higher input costs. Over that

**Problem 1.10: Blundell Biotech**

| Net Income | Japanese Subsidiary | British Subsidiary | European Subsidiary | Chinese Subsidiary | Russian Subsidiary | United States Subsidiary |
|---|---|---|---|---|---|---|
| 2013 | JPY 1,500 | GBP 100.00 | EUR 204.00 | CNY 168.00 | RUB 124.00 | USD 360.00 |
| 2014 | JPY 1,460 | GBP 106.40 | EUR 208.00 | CNY 194.00 | RUB 116.00 | USD 382.00 |

| Exchange Rate | JPY=1USD | USD=1GBP | USD=1EUR | CNY=1USD | RUB=1USD | USD |
|---|---|---|---|---|---|---|
| 2013 | 97.57 | 1.5646 | 1.3286 | 6.1484 | 31.86 | 1.0000 |
| 2014 | 105.88 | 1.6473 | 1.3288 | 6.1612 | 38.62 | 1.0000 |

**Problem 1.11: Peng Plasma Pricing**

**Fixed RMB Pricing of the PT350 Plasma Cutting Torch**

| Year | Cost (Rmb) | Margin (Rmb) | Price (Rmb) | Margin (percent) | Average Rate (Rmb/US$) | Price (US$) | Percent Chg in US$ Price |
|---|---|---|---|---|---|---|---|
| 2007 | 16,000 | 2,000 | 18,000 | 11.1% | 7.61 | 2,365 | — |
| 2008 | 15,400 | _____ | _____ | _____ | 6.95 | _____ | _____ |
| 2009 | 14,800 | _____ | _____ | _____ | 6.83 | _____ | _____ |
| 2010 | 14,700 | _____ | _____ | _____ | 6.77 | _____ | _____ |
| 2011 | 14,200 | _____ | _____ | _____ | 6.46 | _____ | _____ |
| 2012 | 14,400 | _____ | _____ | _____ | 6.31 | _____ | _____ |
| 2013 | 14,600 | _____ | _____ | _____ | 6.15 | _____ | _____ |
| 2014 | 14,800 | _____ | _____ | _____ | 6.16 | _____ | _____ |
| Cumulative | | | | | | | _____ |

same period, the renminbi has continued to be revalued against the U.S. dollar by the Chinese government. After completing the table—assuming the same price in renminbi for all years—answer the following questions.

a. What has been the impact of Peng's pricing strategy on the US$ price? How would you expect its U.S. dollar-based customers to have reacted to this?
b. What has been the impact of this pricing strategy on Peng's margins?

**1.12 Santiago Pirolta's Compensation Agreement.** Santiago Pirolta has accepted the managing director's position for Vitro de Mexico's U.S. operations. Vitro is a Mexico-based manufacturer of flat and custom glass products. Much of its U.S. sales are based on a variety of bottle products, both mass market (e.g., glass bottles for soft drinks and beer) as well as specialty products (high-end cosmetics bottles with rare metal coloring and quality).

Santiago will live and work in the United States (Dallas, Texas) and wishes to be paid in U.S. dollars. Vitro has agreed that his base salary of USD350,000 will be paid in U.S. dollars, but Vitro wishes to tie his annual performance bonus (potentially 10% to 30% above his base salary) to the Mexican peso value of U.S. sales since Vitro consolidates all final results for reporting to stockholders in Mexican pesos (MXN). Santiago, however, is a bit uncertain about having his bonus based on the Mexican peso values of U.S. sales. As a close friend and colleague, what advice would you give him based on your completion of the table below?

**Problem 1.12: Santiago Pirolta's Compensation Agreement**

| Year | (million USD) | Change | MXN = 1 USD | (million MXN) | Change |
|---|---|---|---|---|---|
| 2011 | USD 820 | | 12.80 | MXN _____ | |
| 2012 | USD 842 | ____% | 13.30 | MXN _____ | ____% |
| 2013 | USD 845 | ____% | 12.70 | MXN _____ | ____% |
| 2014 | USD 860 | ____% | 13.40 | MXN _____ | ____% |

**Americo Industries—2017**. Problems 1.13–1.17 are based on Americo Industries. Americo is a U.S.-based multinational manufacturing firm with wholly owned subsidiaries in Brazil, Germany, and China, in addition to domestic operations in the United States. Americo is traded on the NASDAQ. Americo currently has 650,000 shares outstanding. The basic operating characteristics of the various business units are as follows:

**Problems 1.13–1.17: Americo Industries**

| Business Performance (000s) | U.S. Parent (US$) | Brazilian Subsidiary (reais, R$) | German Subsidiary (euros, €) | Chinese Subsidiary (yuan, ¥) |
|---|---|---|---|---|
| Earnings before taxes (EBT) | $4,500 | R$6,250 | €4,500 | ¥2,500 |
| Corporate income tax rate | 35% | 25% | 40% | 30% |
| Average exchange rate for the period | --- | R$1.80/$ | €0.7018/$ | ¥7.750/$ |

**1.13 Americo Industries' Consolidate Earnings.** Americo must pay corporate income tax in each country in which it currently has operations.

a. After deducting taxes in each country, what are Americo's consolidated earnings and consolidated earnings per share in U.S. dollars?
b. What proportion of Americo's consolidated earnings arise from each individual country?
c. What proportion of Americo's consolidated earnings arise from outside the United States?
d. Americo has been watching the new U.S. tax plan in Congress. The latest news is that the U.S. may cut its corporate income tax rate to 21% beginning in 2018. How would this change Americo's EPS?

**1.14 Americo's EPS Sensitivity to Exchange Rates (A).** Assume a major political crisis wracks Brazil, first affecting the value of the Brazilian reais and, subsequently, inducing an economic recession within the country. What would be the impact on Americo's consolidated EPS if the Brazilian reais were to fall in value to R$3.00/$, with all other earnings and exchange rates remaining the same?

**1.15 Americo's EPS Sensitivity to Exchange Rates (B).** Assume a major political crisis wracks Brazil, first affecting the value of the Brazilian reais and, subsequently, inducing an economic recession within the country. What would be the impact on Americo's consolidated EPS if, in addition to the fall in the value of the reais to R$3.00/$, earnings before taxes in Brazil fell as a result of the recession to R$5,800,000?

**1.16 Americo's Earnings and the Fall of the Dollar.** The dollar has experienced significant swings in value against most of the world's currencies in recent years.

a. What would be the impact on Americo's consolidated EPS if all foreign currencies were to appreciate 20% against the U.S. dollar?
b. What would be the impact on Americo's consolidated EPS if all foreign currencies were to depreciate 20% against the U.S. dollar?

**1.17 Americo's Earnings and Global Taxation.** All MNEs attempt to minimize their global tax liabilities. Return to the original set of baseline assumptions and answer the following questions regarding Americo's global tax liabilities:

a. What is the total amount—in U.S. dollars—that Americo is paying across its global business in corporate income taxes?
b. What is Americo's effective tax rate (total taxes paid as a proportion of pre-tax profit)?
c. What would be the impact on Americo's EPS and global effective tax rate if Germany instituted a corporate tax reduction to 28%, and Americo's earnings before tax in Germany rose to €5,000,000?

## INTERNET EXERCISES

**1.1 Global Financial Integrity.** The field of international finance has always been one where the best and worst of economic behaviors may flourish. Explore the website of Global Financial Integrity, a relatively new organization seeking to shine light on many of these dark global behaviors.

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|---|---|
| Global Financial Integrity | www.gfintegrity.org/ |

**1.2 International Capital Flows: Public and Private.** Major multinational organizations attempt to track the relative movements and magnitudes of global capital investment. Using the following web pages and others you may find, prepare a two-page executive briefing on the question of whether capital generated in the industrialized countries is finding its way to the less developed and emerging markets. Is there some critical distinction between "less-developed" and "emerging"?

| | |
|---|---|
| The World Bank | www.worldbank.org |
| OECD | www.oecd.org |
| European Bank for Reconstruction and Development | www.ebrd.org |

**1.3 External Debt.** The World Bank regularly compiles and analyzes the external debt of all countries globally. As part of its annual publication on World Development Indicators (WDI), it provides summaries of the long-term and short-term external debt obligations of selected countries online like that of Poland shown here. Go to the World Bank's website and find the decomposition of external debt for Brazil, Mexico, and the Russian Federation.

| | |
|---|---|
| The World Bank | www.worldbank.org/data |

**1.4 World Economic Outlook.** The International Monetary Fund (IMF) regularly publishes its assessment of the prospects for the world economy. Choose a country of interest and use the IMF's current analysis to form your own expectations of its immediate economic prospects.

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|---|---|
| IMF Economic Outlook | www.imf.org/external/index.htm |

**1.5 *Financial Times* Currency Global Macromaps.** The *Financial Times* provides a very helpful real-time global map of currency values and movements online. Use it to track the movements in currency.

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|---|---|
| *Financial Times* | http://markets.ft.com/research/Markets/Currencies |

CHAPTER

# 2 The International Monetary System

*The price of every thing rises and falls from time to time and place to place; and with every such change the purchasing power of money changes so far as that thing goes.*

—Alfred Marshall, *Principles of Economics*, 8th ed. New York: Cosimo Inc., 2009.

## LEARNING OBJECTIVES

**2.1** Explore how the international monetary system has evolved from the days of the gold standard to today's eclectic currency arrangement

**2.2** Examine how the choice of fixed versus flexible exchange rate regimes is made by a country in the context of its desires for economic and social independence and openness

**2.3** Describe the tradeoff a nation must make between a fixed exchange rate, monetary independence, and freedom of capital movements—the impossible trinity

**2.4** Explain the dramatic choices the creation of a single currency for Europe—the euro—required of the European Union's member states

**2.5** Study the complexity of exchange rate regime choices faced by many emerging market countries today including China

This chapter begins with a brief history of the international monetary system, from the days of the classical gold standard to the present time. The first section describes contemporary currency regimes and their construction and classification. The second section examines fixed versus flexible exchange rate principles. The third section, what we would consider the theoretical core of the chapter, describes the attributes of the ideal currency and the choices nations must make in establishing their currency regime. The fourth section describes the creation and development of the euro for European Union participating countries. The fifth and final section details the difficult currency regime choices faced by many emerging market countries today. The chapter concludes with the Mini-Case, *The Internationalization (or Not) of the Chinese Renminbi*, which examines both the theoretical principles and practical processes associated with the globalization of a currency.

# 2.1 History of the International Monetary System

Over the centuries, currencies have been defined in terms of gold, silver, and other items of value, all within a variety of different agreements between nations to recognize these varying definitions. A review of the evolution of these systems, shown in Exhibit 2.1, provides a useful perspective against which to understand today's rather eclectic system of fixed rates, floating rates, *crawling pegs*, and others, and helps us to evaluate weaknesses in and challenges for all enterprises conducting global business.

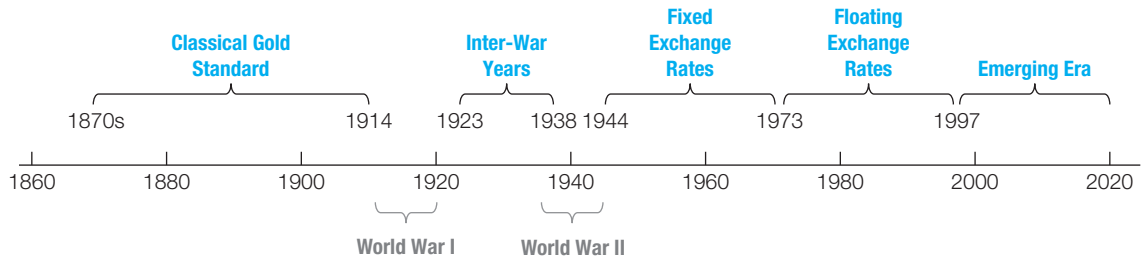
## The Gold Standard (1876–1913)

Since the days of the pharaohs (about 3000 B.C.), gold has served as a medium of exchange and a store of value. The Greeks and Romans used gold coins, and this tradition persisted to the nineteenth century. The great increase in trade during the late nineteenth century led to a need for a more formalized system for settling international trade balances. One country after another set a par value for its currency in terms of gold and then tried to adhere to the so-called *rules of the game*. This later came to be known as the *classical gold standard*. The gold standard, as an international monetary system, gained acceptance in Western Europe in the 1870s. The United States was something of a latecomer to the system, not officially adopting the gold standard until 1879.

Under the gold standard, the rules of the game were clear and simple: each country set the rate at which its currency unit (paper or coin) could be converted to a given weight of gold. The United States, for example, declared the dollar to be convertible to gold at a rate of $20.67 per ounce (this rate remained in effect until the beginning of World War I). The British pound was pegged at £4.2474 per ounce of gold. As long as both currencies were freely convertible into gold, the dollar/pound exchange rate was

$$\frac{\$20.67/\text{ounce of gold}}{£4.2474/\text{ounce of gold}} = \$4.8665/£$$

**EXHIBIT 2.1 The Evolution and Eras of the Global Monetary System**

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|---|---|---|---|---|---|---|
| **Impact on Trade** | Trade dominated capital flows | | Increased barriers to trade & capital flows | Capital flows begin to dominate trade | Capital flows dominate trade | Selected emerging nations open capital markets |
| **Impact on Economies** | Increased world trade with limited capital flows | | Protectionism & nationalism | Expanded open economies | Industrial economies increasingly open; emerging nations open slowly | Capital flows drive economic development |

Because the government of each country on the gold standard agreed to buy or sell gold on demand at its own fixed parity rate, the value of each individual currency in terms of gold, and therefore exchange rates between currencies, were fixed. Maintaining reserves of gold that were sufficient to back its currency's value was very important for a country under this system. The system also had the effect of implicitly limiting the rate at which any individual country could expand its money supply. Growth in the money supply was limited to the rate at which official authorities (government treasuries or central banks) could acquire additional gold.

The gold standard worked adequately until the outbreak of World War I interrupted trade flows and the free movement of gold. This event caused the main trading nations to suspend operation of the gold standard.

## The Interwar Years and World War II (1914–1944)

During World War I and through the early 1920s, currencies were allowed to fluctuate over fairly wide ranges in terms of gold and in relation to each other. Theoretically, supply and demand for a country's exports and imports caused moderate changes in an exchange rate about a central equilibrium value. This was the same function that gold had performed under the previous gold standard. Unfortunately, such flexible exchange rates did not work in an equilibrating manner. On the contrary: international speculators sold the weak currencies short, causing them to fall further in value than warranted by real economic factors. *Selling short* is a speculation technique in which an individual speculator sells an asset, such as a currency, to another party for delivery at a future date. The speculator, however, does not yet own the asset and expects the price of the asset to fall before the date by which the speculator must purchase the asset in the open market for delivery.

The reverse happened with strong currencies. Fluctuations in currency values could not be offset by the relatively illiquid forward exchange market, except at exorbitant cost. The net result was that the volume of world trade did not grow in the 1920s in proportion to world gross domestic product. Instead, it declined to a very low level with the advent of the Great Depression in the 1930s.

The United States adopted a modified gold standard in 1934 when the U.S. dollar was devalued to $35 per ounce of gold from the $20.67 per ounce price in effect prior to World War I. Contrary to previous practice, the U.S. Treasury traded gold only with foreign central banks, not private citizens. From 1934 to the end of World War II, exchange rates were theoretically determined by each currency's value in terms of gold. During World War II and its chaotic aftermath, however, many of the main trading currencies lost their convertibility into other currencies. The dollar was one of the few currencies that continued to be convertible.

## Bretton Woods and the International Monetary Fund (1944)

As World War II drew to a close in 1944, the Allied Powers met at Bretton Woods, New Hampshire, to create a new postwar international monetary system. The Bretton Woods Agreement established a U.S. dollar-based international monetary system and provided for two new institutions: the International Monetary Fund and the World Bank. The *International Monetary Fund* (IMF) was created to aid countries with balance of payments and exchange rate problems. The *International Bank for Reconstruction and Development* (IBRD or as it is more commonly called, the *World Bank*) was formed to help fund postwar reconstruction and has since supported general economic development. *Global Finance in Practice 2.1* provides some insight into the debates at Bretton Woods.

The IMF was the key institution in the new international monetary system, and it has remained so to the present day. The IMF was established to render temporary assistance to member countries trying to defend their currencies against cyclical, seasonal, or random