16TH EDITION

MULTINATIONAL BUSINESS FINANCE

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Multinational Business Finance

Sixteenth Edition

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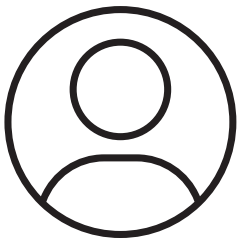

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Preface

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 digital currencies to global fintech. We 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 recommendations were included.

- **Corporate Governance, Activists, and Stakeholder Capitalism.** Chapter 4 on corporate governance, including elements of ownership, financial objectives, and the growing role of activist investors, has been revised and expanded. Of special note is the growth of stakeholder capitalism and its multiple objective framework as compared to stockholder wealth maximization.
- **The Impossible Trinity.** A core international financial principle, the *Impossible Trinity*'s use as a unifying theoretical link across multiple subjects—whether it be Iceland's financial crisis or choices made by the European Union on capital flows—is increasingly leveraged.
- **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.
- **Currency Manipulation.** This is a politically charged topic between the U.S. and China, and we explore in depth the motivations, methods, and metrics associated with currency manipulation. Included is a new mini-case that seeks to determine whether China is or is not a currency manipulator.
- **Emerging Market Regimes.** The sixteenth edition offers new insights into the currency and capital regime choices of many emerging market countries; many recognizing that they are trade-dependent economies in search of currency stability in lieu of attracting other capital account elements such as foreign direct investment.
- **International Taxation.** Integrally linked to a world of digital commerce, multinational tax management continues to rise in its significance in multinational financial management. We have expanded our coverage of this critical determinant of global finance, with emphasis on the constantly changing U.S. tax rates and rules.
- **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.

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 nongovernmental organizations (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 the coming introduction of digital currencies, all adding to the complexity of international business.

Multinational Business Finance, Sixteenth Edition, is aimed at university-level courses in international financial management, international business finance, international finance, and similar titles. It can be used either at 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. We continue to try to service this greater global audience with multicountry companies, markets, and challenges, whether in theoretical applications, practice boxes, mini-cases, or end-of-chapter problems.

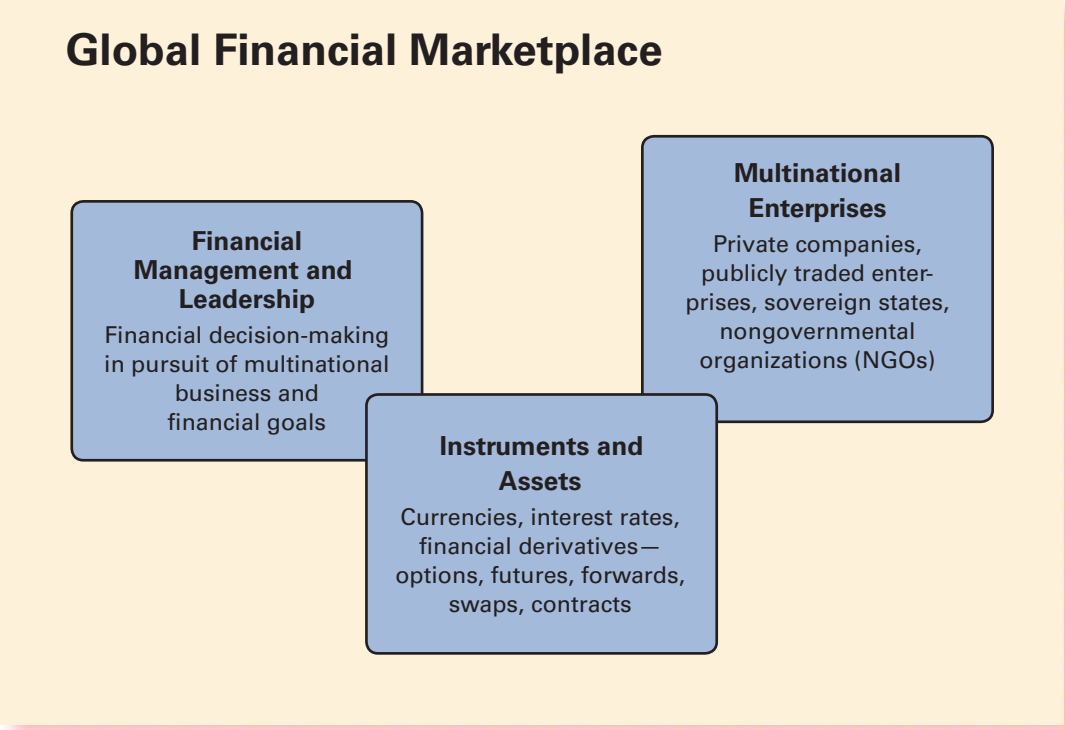
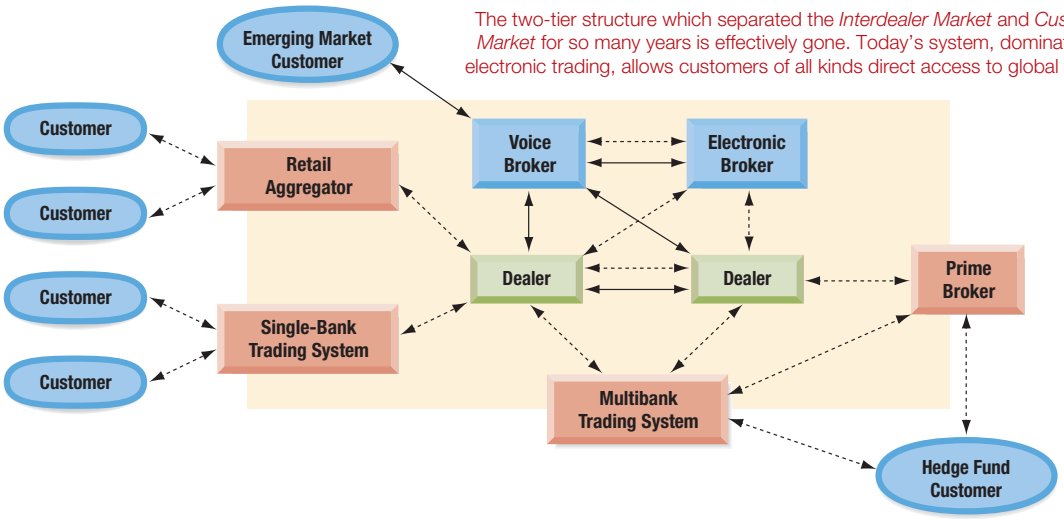


EXHIBIT 5.4 The Foreign Exchange Market Today



Constructed by authors based on a number of sources including "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, *BIS Quarterly Review*, December 2013.

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.

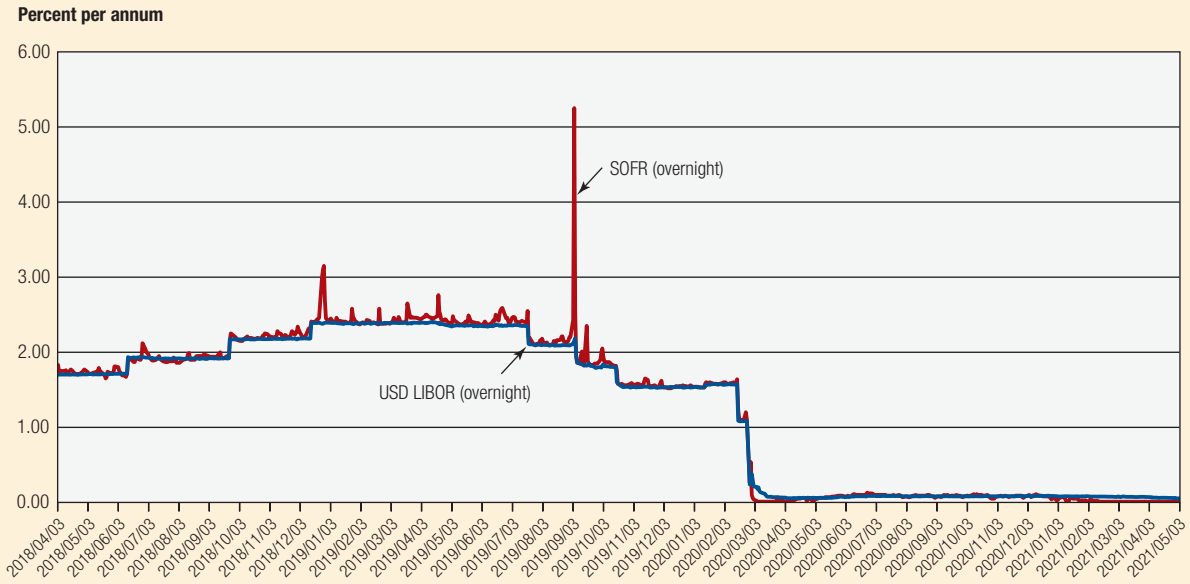
Pedagogical Tools

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 B **Comparison of SOFR and Overnight USD LIBOR**



Source: Constructed by authors from Federal Reserve Bank of New York and Federal Reserve Bank of St. Louis (FRED) data bases. Period: April 3, 2018–June 6, 2021.

The continuing popularity of our mini-cases has prompted us to introduce 11 new mini-cases in the sixteenth edition. The new topics, among others, include the following:

- **Global fintech.** Global fintech's continuing role in opening the emerging world to global finance.
- **Digital currencies.** The rise of digital currencies like the Chinese eYuan.
- **Toshiba's corporate governance challenges.**
- **International remittances.** The role international remittances may play in alleviating global income inequality and opportunity.
- **Replacing LIBOR.** The rationale and complexity of replacing the global financial system's interest rate centerpiece—LIBOR.
- **Currency volatility.** The rise and fall of currency volatility during the year of COVID.
- **Google tax.** The U.S. development of what many term "the Google tax."
- **Saudi Aramco.** The initial public offering of the world's most profitable company, Saudi Aramco.

- **Hostile acquisitions.** A detailed exploration of one of the world's most hostile international acquisitions, Mittal's acquisition of Arcelor.
- *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 regions 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 post-COVID stimulus programs fall further and further into the past.

Impacts on Banks. Banks in the UK are already incurring sizeable 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*, and 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, offering either alternative services or competitive rates, they are starting to feel the impacts of reduced services and increased costs. As a result of rising bank fees and fewer alternatives, borrowers have experienced rising costs of debt.

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, have 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.

- A multitude of end-of-chapter questions and problems 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.

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Professor Stonehill received a BA (History) from Yale University (1953); an MBA from Harvard Business School (1957); and a PhD in Business Administration from the University of California, Berkeley (1965). He was awarded honorary doctorates from the Aarhus School of Business (Denmark, 1989), the Copenhagen Business School (Denmark, 1992), and Lund University (Sweden, 1998).

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Michael H. Moffett. Michael H. Moffett is Continental Grain Professor in Finance at the Thunderbird School of Global Management at Arizona State University, where he has been since 1994. He also has held teaching or research appointments at Oregon State University (1985–1993); the University of Michigan, Ann Arbor (1991–1993); the Brookings Institution, Washington, D.C.; the University of Hawai'i at Mānoa; the Aarhus School of Business (Denmark); the Helsinki School of Economics and Business Administration (Finland), the International Centre for Public Enterprises (Yugoslavia); and the University of Colorado, Boulder.

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He has authored, coauthored, or contributed to a number of books, articles, case studies, and other publications. He has coauthored two books with Art Stonehill and David Eiteman, *Fundamentals of Multinational Finance*, and this book, *Multinational Business Finance*. His articles have appeared in the *Journal of Financial and Quantitative Analysis, Journal of Applied Corporate Finance, Journal of International Money and Finance, Journal of International Financial Management and Accounting, Contemporary Policy Issues, Brookings Discussion Papers in International Economics*, and others. He has contributed to a number of collected works including the *Handbook of Modern Finance*, the *International Accounting and Finance Handbook*, and the *Encyclopedia of International Business*. He is also coauthor of two books in multinational business with Michael Czinkota and Ilkka Ronkainen, *International Business* (7th edition) and *Global Business* (4th edition), and *The Global Oil and Gas Industry: Strategy, Finance, and Management*, with Andrew Inkpen.

Brief Contents

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Contents

PART 1

Global Financial Environment

1

Multinational Financial Management: Opportunities and Challenges

The objects of a financier are, then, to secure an ample revenue; to impose it with judgment 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.

It is a brave new world, a new world in which digital startups may become multinational enterprises in hours, 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 change—radical, disruptive, rapid, whatever terminology you prefer—from the growing role of the Chinese currency, the *yuan*; the continuing recuperative efforts to economies following the global pandemic; or the possible sea change likely to come from the introduction of digital currencies. In 2021 the world even saw the first country, El Salvador, adopt a cryptocurrency, Bitcoin, as legal tender. In the following chapters we will explore everything from how the international financial community is in the process of changing its global benchmark (LIBOR) of the past 50 years, to the changes in currency volatility during the global pandemic, to the entry of the world's most profitable company (Saudi Aramco) into the public security markets. Change is indeed the constant.

Multinational 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, *Global Fintech*, that examines how financial technology is changing all financial functions and services, how it offers the power to overcome barriers to access and inclusion across the globe, but also how its adoption faces many political and institutional barriers along the way.

1.1 The Global Financial Marketplace

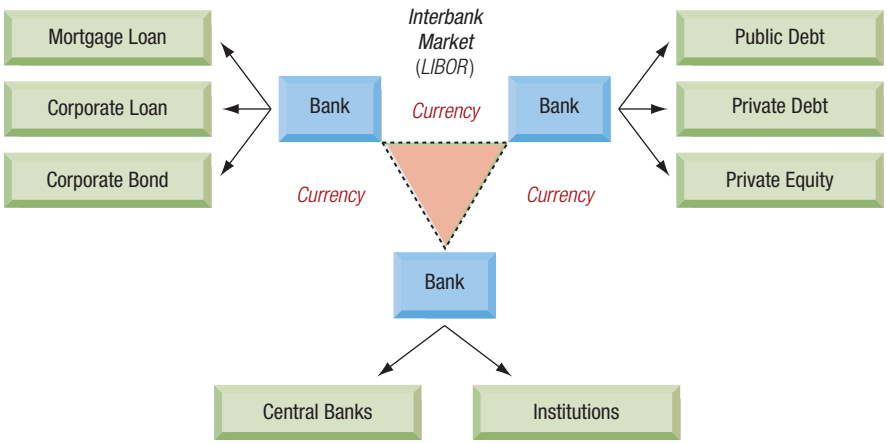
Business—domestic, international, global—involves the interaction of individuals and individual organizations for the exchange of products, services, and capital across markets. The global *capital markets* and business marketplace is in many ways the field of play. This is the landscape upon which the daily activities of global business play out. Like all institutions created by humans, 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.

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 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 use currencies, bases its pricing through the single most widely quoted interest rate in the world—LIBOR (the London Interbank Offered Rate).

Securities. The securities—financial assets—at the heart of the global capital markets are the debt securities issued by highly industrialized country governments (e.g., U.S. Treasury Bonds, U.K. gilts). 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 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, is 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. (In Chapter 8 we will examine the international effort to replace LIBOR and what it may mean for financial instruments and markets.)

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 dollars per euro" or simply abbreviated as $1.1274 = €1.00. This exchange rate can also be stated as "USD1.1274 = EUR1.00" using the three-digit ISO codes. 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.

Exchange Rate Quotations and Terminology. Exhibit 1.2 lists currency exchange rates for June 19, 2021, 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

EXHIBIT 1.2 Selected Global Currency Exchange Rates for June 18, 2021

Country	Currency	Symbol	Code	Currency to equal 1 Dollar	Currency to equal 1 Euro	Currency to equal 1 Pound
Argentina	nuevo peso	Ps	ARS	95.3800	113.1875	131.8533
Australia	dollar	A$	AUD	1.3342	1.5833	1.8444
Brazil	real	R$	BRL	5.0522	5.9949	6.9800
Canada	dollar	C$	CAD	1.2406	1.4722	1.7150
Chile	peso	$	CLP	743.68	882.53	1,028.06
China	yuan	¥	CNY	6.4500	7.6542	8.9165
Czech Republic	koruna	Kc	CZK	21.5280	25.5470	29.7600
Denmark	krone	Dkr	DKK	6.2649	7.4346	8.6606
Eurozone	euro	€	EUR	0.8424	1.0000	1.1645
Hong Kong	dollar	HK$	HKD	7.7643	9.2116	10.7295
Hungary	forint	Ft	HUF	299.730	355.760	414.240
India	rupee	Rs	INR	74.083	87.914	102.412
Indonesia	rupiah	Rp	IDR	14,495.25	17,052.88	19,865.09
Israel	shekel	Shk	ILS	3.2795	3.8889	4.5266
Japan	yen	¥	JPY	110.38	130.99	152.59
Kuwait	dinar	KD	KWD	0.2971	0.3524	0.4104
Malaysia	ringgit	RM	MYR	4.1370	4.9123	5.7190
Mexico	new peso	$	MXN	20.6905	24.5534	28.6025
Morocco	dirham	DH	MAD	8.7967	10.4350	12.1501
New Zealand	dollar	NZ$	NZD	1.4397	1.7095	1.9905
Norway	krone	NKr	NOK	8.6678	10.2861	11.9824
Pakistan	rupee	Rs	PKR	153.1770	181.7477	211.5997
Philippines	peso	?	PHP	47.8400	56.7228	66.0317
Peru	new sol	Sl	PEN	3.7814	4.4856	5.2229
Poland	zloty	zl	PLN	3.8335	4.5519	5.3002
Russia	ruble	R	RUB	72.4350	86.0093	100.1470
Saudi Arabia	riyal	—	SAR	3.7117	4.4009	5.1231
Singapore	dollar	S$	SGD	1.3441	1.5960	1.8584
South Africa	rand	R	ZAR	14.2702	16.9344	19.7271
South Korea	won	W	KRW	1,134.93	1,347.12	1,568.35
Sweden	krona	SKr	SEK	8.6176	10.2310	11.9147
Switzerland	franc	Fr.	CHF	0.9217	1.0938	1.2742
Taiwan	dollar	T$	TWD	27.8020	33.0121	38.4390
Thailand	baht	B	THB	31.4700	37.3675	43.5100
Turkey	lira	YTL	TRY	8.7136	10.3465	12.0474
United Arab Emirates	dirham	—	AED	3.6726	4.3583	5.0770
United Kingdom	pound	£	GBP	0.7236	0.8582	1.0000
United States	dollar	$	USD	1.0000	1.1867	1.3824
Vietnam	dong	d	VND	22,450.00	26,618.45	30,986.89

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

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 real per dollar, Hong Kong dollars per dollar, etc. They are also frequently quoted against other major world currencies like the euro and pound. For example, the Japanese yen is commonly quoted against the dollar, euro, and pound, as ¥110.38 = $1.00, ¥130.99 = €1.00, and ¥152.59 = £1.00, as illustrated in Exhibit 1.2.

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 $ = €1.00—for example, $1.1867 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 $ = £1.00—for example, $1.3824 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.

Global Finance in Practice 1.1 introduces the topic that is fundamental to this entire field of study, the quotation of currencies.

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 the following section, it requires a careful calculation of even the amount of the change—percentage change.

GLOBAL FINANCE IN PRACTICE 1.1

Exchange Rate Quotations

Exchange rate quotation would seemingly be a simple thing. It is not. For example, on the same day (April 24, 2021), these were the spot currency quotes across three major business and financial publications for the price of the euro in terms of the U.S. dollar:

Financial Times:	EURUSD 1.2099
Bloomberg:	EUR-USD 1.2096
Wall Street Journal:	Euro (EUR/USD) 1.2098

To be clear, all three are saying nearly the same thing: that one dollar and 21 cents ($1.2099 or $1.2096 or $1.2098) is equivalent to one euro (€1.00). But there are obvious differences.

- First, they use the three-letter ISO-4217 code for each currency, EUR instead of € and USD instead of $. The ISO codes came into common use with increasing digital financial communications and trading roughly 25 years ago. Yet, in journalism, research articles, and business contracts, the $ and € remain in common use.
- Second, the order is always the same, EUR and then USD, but the "punctuation" differs. All three are different, one not using a separator, a second using a hyphen as a separator, and the third using a slash as a separator.
- Third, all of these are different from the way currencies were quoted for decades, when the common way to express these would have been $1.2099/€, spoken as "$1.2099 per euro."
- Fourth, to just state the obvious, all three are slightly different values.

Our objective in this book is to both educate and familiarize the reader with how international finance is both conducted and communicated today. That means we will use both forms of currency symbols, $ and USD, € and EUR, £ and GBP, etc. Everyone has their preferences, but both are used in business today. Most likely, older readers prefer the singular symbols ($, €, £), and younger readers are more comfortable with the three-letter codes (USD, EUR, GBP). We hope to bridge the gap across generations!

The issue of order in quotation is best solved by simply stating the exchange rate as USD1.2099 = EUR1.00 or using the singular currency symbols, $1.2099 = €1.00. This book will use this form whenever possible. But, and there's always a "but," in equations it can be extremely awkward to use this extended form. But we will try.

The final difference, the fact that all three numbers are slightly different although they are currency quotes for the same day, well, that is a big messy subject for Chapter 5. For now, let's just say that it depends on who you are, where you are, and at what time (Greenwich Mean Time [GMT]) you are. Now back to your previously scheduled program. . . .

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 (%Δ) in the foreign currency becomes

$$\%\Delta = \frac{\text{Begin rate} - \text{End rate}}{\text{End rate}} \times 100 = \frac{\text{MXN16.00} - \text{MXN20.00}}{\text{MXN20.00}} \times 100 = -20.00\%$$

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 age change in the foreign currency is

$$\%\Delta = \frac{\text{End rate} - \text{Begin rate}}{\text{Begin rate}} \times 100 = \frac{\text{USD0.05000} - \text{USD0.06250}}{\text{USD0.06250}} \times 100 = -20.00\%$$

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 value less beginning value over beginning value); 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 important.

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.

$$\%\Delta = \frac{\text{Begin rate} - \text{End rate}}{\text{End rate}} \times 100 = \frac{\text{ARG9.7908} - \text{ARG13.6160}}{\text{ARG13.6160}} \times 100 = -28\%$$

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. 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 . . . what 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.

Much of the discussion dominating global financial markets today is centered on 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 firm or the state-owned enterprise dominates in many countries, changing corporate objectives and expectations for financial performance (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 attitude of governments toward market intervention, such as the possible intentional undervaluation of one's own currency, is the subject of *Global Finance in Practice 1.2*.

Eurocurrency Interest Rates. The reference rate of interest in the eurocurrency market is the *London Interbank Offered Rate*, or 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. But as prevalent and central LIBOR is to the global financial system, it is now slated for replacement, the subject of our mini-case in Chapter 8.

GLOBAL FINANCE IN PRACTICE **1.2**

Why Don't African Countries Undervalue Their Currencies?

One of the oldest strategies to promote a country's exports is to undervalue its currency, maintain its traded value against other currencies at a rate of exchange that makes it relatively cheap. And if the currency is cheap, products that are priced in that currency—the country's exports—will be relatively cheap. And, theoretically, cheaper prices mean greater sales. It is not a secret that many of the countries of south Asia maintained undervalued currencies for many years in pursuit of export-led growth. If it worked for them, why not Africa?

A representative of the International Monetary Fund (IMF) once encouraged the president of Tanzania to weaken its currency. The president, Julius Nyerere, responded, "I will devalue the shilling over my dead body." That perspective is commonly held across Africa. Countries like Nigeria use all possible ways to maintain their currency at a value that many in the world believe is either slightly overvalued or about equilibrium, but hardly ever will one find a currency significantly undervalued.

That's not to say that African currencies are famously solid. The Zimbabwe currency is infamous in its inability to maintain its value as a result of bouts of hyperinflation and rampant money printing by the government. And there are others. But the international markets keep a watchful eye on any African country's currency showing any sign of weakness and will pounce (or maybe *flee* is the more appropriate term) if they smell smoke. For much of Africa, however, maintaining the value of their currency is a matter of pride and demonstrated resilience and stability, and even if a weaker or cheaper home currency might help boost exports and therefore their economy, in their eyes, the "cost" is too much.

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 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 EU 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.

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, political risks, and the modifications required of financial theory and financial instruments.

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 needs 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.

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

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

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 aforementioned 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. But as highlighted by *Global Finance in Practice 1.3*, the objectives and responsibilities of the modern multinational enterprise have grown significantly more complex with these elements.

GLOBAL FINANCE IN PRACTICE 1.3

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.

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.

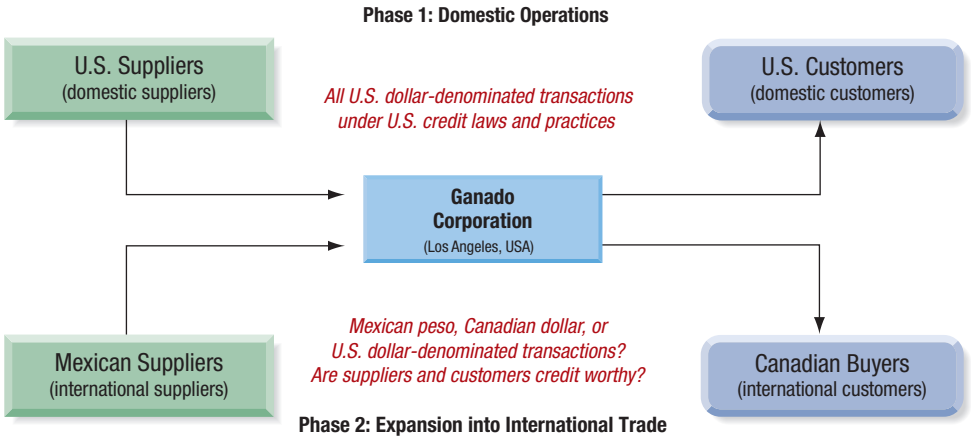
Global Transition I: Domestic Phase to the International Trade Phase

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 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

EXHIBIT 1.4 Ganado Corp: Initiation of the Globalization Process



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.

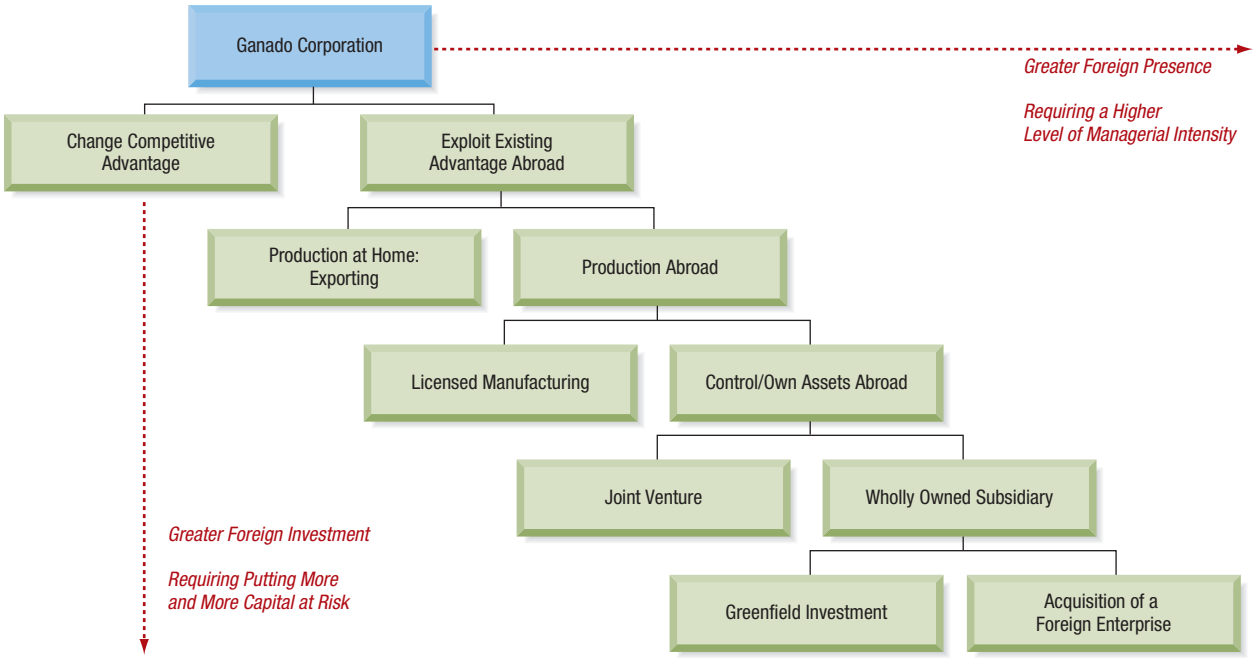
Second, the evaluation of the credit quality of foreign buyers and sellers is now more important than ever. Reducing the possibility of non-payment for exports and non-delivery of imports becomes a key financial management task during the international trade phase. This credit risk management task is 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

EXHIBIT 1.5 Ganado's Foreign Direct Investment Sequence



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 1.6 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.

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.

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 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.

We close this chapter and open this book with the simple words of one of our colleagues 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.

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.

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

Global Fintech[1]

Fintech—financial technology—will, in the eyes of some, revolutionize the world. To others, it is just the most recent evolutionary stage of the financial industry. It has, however, the power to overcome barriers of access and inclusion to people in many countries, altering the trajectory of economic betterment for many. Fintech could conceptually include any technology associated with the movement of or transactions involving money. The abacus, cash register, and automated teller machine (ATM) are all examples of financial technological developments. The term today is more commonly associated with online payments processing, such as AliPay, PayPal, or M-Pesa and cryptocurrencies like Bitcoin and Litecoin.[2]

[1] This case was prepared by Professor Michael H. Moffett for the purpose of classroom discussion only.

But fintech is much more than just payments processing or cryptocurrencies.[3] Developments in financial technology associated with Internet access and mobile communications can potentially disrupt nearly every dimension of financial services. At present, across the globe, from Kenya to Kathmandu, new platforms and processes and products are advancing as rapidly as most nations will allow them to. The potential for fintech across countries will in many ways cross three different axes of national development: (1) level of economic development, (2) financial sector infrastructure, and (3) bank/financial services regulatory landscapes. But like all technologies, they are not inherently good or evil; the societal outcome depends on how they are applied.

Financial Landscape

> *Access to critical financial services, such as payments, savings and insurance, helps people improve their lives. But access is unequal and poor people and small firms typically have many fewer options. Fintech has shown its potential to close gaps in the delivery of financial services to households and firms in emerging markets and developing economies. Initially, such benefits were channeled via mobile money and digital payments solutions.*
>
> *Research conducted at country and regional level, and more recently at global level, has shown the effectiveness of such solutions for financial inclusion. Other types of fintech firms, such as lending and capital raising platforms, are showing their potential to improve access to finance for underserved groups, including SMEs, although these platform solutions are still at an early stage in the majority of emerging markets and developing economies. Finally, firms that provide supporting services such as credit scoring or digital ID solutions are helping to expand the benefits of fintech across the entire financial sector.* —"The Global Covid-19 FinTech Market Rapid Assessment Study," World Bank Group, 2020, p. 8.

What is fintech's real potential? Which societal financial functions are likely to be impacted? A basic overview of which financial functions and services society utilizes has been somewhat missing from the discussion. The World Economic Forum offered up a basic description of the financial landscape, what it called the *Wheel,* a number of years ago that is helpful in understanding the multitude of financial service sectors that could potentially be impacted by fintech. The Wheel identifies six sectors of potential impact.[4]

1. **Payments**. The execution of payment processing for both B2C and B2B transactions was the first and generally easiest financial service to be impacted by fintech. The movement toward digital payments is already quite advanced in a number of nations where the people are often ahead of the institutions, both banks and regulators.
2. **Market provisioning**. The development of technological data collection and analysis, some using artificial intelligence for rapid financial assessments, some using artificial intelligence, is expected to be a key area of impact. This sector is still considered in its infancy, as the artificial intelligence and big data necessary to support its use are still considered developing.
3. **Investment management**. The increased reach of fintech to previously ignored and underserved demographic and income sectors (e.g., Robinhood) has already proven both powerful and disruptive. The promise of the developing world is enormous in changing spending/saving-investment behaviors.
4. **Insurance**. Access to insurance services, particularly affordable services, is one of the key development barriers in emerging economies. Insurance is often one of the requirements for acquiring and utilizing assets for business and economic development. But new digital insurance providers are rapidly changing who and what is insured at what costs.
5. **Deposits and lending**. This is one of the core traditional banking functions that is already undergoing disruptive change. Financial institutions have been rapidly adopting fintech apps for deposit taking but have been slow to advance the lending functions. Fintech lending has some of the greatest potential but also some of the greatest risks—for example, the experience China has had with peer-to-peer (P2P) lending—for the global financial system.
6. **Capital raising**. Internet-based capital-raising channels such as crowdfunding have rapidly developed their own financial ecosystems. More innovation than disruption, fintech capital raising represents some of the greatest potential improvements in society through economic development.

This is just one taxonomy of societal financial functions. But regardless of how the financial service cake is sliced, it is clear that fintech's potential to alter the lives of people in all countries and markets is real and, in many cases, already here. The recent global pandemic provided a multitude of examples of how fintech could provide more

[2]Many of these developments and platforms use blockchain technology. Blockchain is an encrypted list of records, called blocks, that are linked together. Although fundamental to cryptocurrencies like Bitcoin, it is not a uniquely financial technology.

[3]El Salvador in 2021 became the first country to declare a cryptocurrency, Bitcoin, official legal tender, money.

[4]"The Future of Financial Services: How Disruptive Innovations Are Reshaping the Way Financial Services Are Structured, Provisioned and Consumed," World Economic Forum, Prepared in collaboration with Deloitte, Final Report, June 2015.

information and more financial services to people everywhere, partially in support of the world's struggle to ease human suffering from COVID.

> *Digital financial services are faster, more efficient, and typically cheaper than traditional financial services and, therefore, increasingly reaching lower-income households and small- and medium-sized enterprises (SMEs). During the COVID-19 health crisis, digital financial services can and are enabling contactless and cashless transactions. Where digital financial inclusion is advanced, they are helping facilitate the efficient and quick deployment of government support measures, including to people and firms affected by the pandemic.* —"The Promise of Fintech, Financial Inclusion in the Post COVID-19 Era," Ratna Sahay, Ulric Eriksson von Allmen, Amina Lahreche, Purva Khera, Sumiko Ogawa, Majid Bazarbash, and Kim Beaton, International Monetary Fund, No. 20/09, 2020.

Country Reach

One of the curious facets of fintech is that it may have the greatest impact on countries which are largely under-banked and, simultaneously, those that are over-banked.

Like mobile phones in countries without existing landline infrastructures, fintech can leapfrog the legacy physical infrastructure of traditional banking. It can potentially provide all of the basic financial services that the large marble-columned edifices have provided in older industrial markets for centuries at a fraction of the cost, both capital and operating. In these countries—for example, those in Sub-Saharan Africa—banking sectors are in some cases rudimentary, with a large part of the population not having access to traditional banking services. Here fintech can be fundamental, accessible at low cost, and powerful in reach. There is little to "disrupt"; here fintech can be seen in the role of a new financial infrastructure. And that can in turn act as a device for inclusion.

At the same time, fintech's potential may also be quite impactful and disruptive in the older highly banked industrialized markets. These are markets—for example, the United States or Mexico—where banks have operated profitably for more than two centuries. They are established within a societal structure of laws, regulations, and institutions that shelter and protect their activities and markets. And that long-term protection has in many cases resulted in low rates of innovation, most importantly in the under-investment in digital and cellular financial services that many customers now desire—now that people have discovered what those services may offer and cost. The traditional highly banked developed markets may be ripe for fintech disruption, as new digital financial services may be much cheaper and more efficient than the bureaucratic, stodgy banking empires of the past. But that will only happen if they can break down the political power and breach the turf of the established institutions.

The one sector of possibly the greatest potential benefit in global business is digital lending. A naive or simplistic view of the world might be to visualize that the rich, highly industrialized countries, that play host to most of the world's capital, could see massive opportunities in getting the capital to the business entrepreneurs, startups, and under-capitalized enterprises in the emerging world. This access, once again, has been somewhat denied as established banking industries in countries, not foreign investors or lenders, define the rules of access. Again, fintech innovations, like FairMoney in Nigeria or Goldman Sachs in Mexico, are finding their way through the forests of national regulatory barriers and data deficiencies to offer small enterprises access to capital.[5]

Cross-Border Potential

One example of the potential power of fintech for good is that of international money transfers. Migrant workers all over the world continue to suffer extremely high transfer costs, often ranging between 5% to 25%, to simply transfer the income they have generated in a host country back to their families and friends in their home countries.

International money transfers in many ways represent one of the biggest challenges of fintech: low-income populations, with no legal standing, political standing, or banking access, attempting to move small amounts of money across borders. Fintech firms have started building their own international correspondent relationships, some banking, allowing these transfers to bypass the legacy banking systems that exploited lower-income migrant populations. Unfortunately, that does not mean that the fintech providers do not similarly exploit low-income customers. M-Pesa, a payment processing platform founded in Kenya and then expanded to a multitude of countries across Africa, is considered by many one of the true success stories of fintech. But a multitude of studies have cited its monopoly status. With no real competitors, it has been able to charge high fees for its use. Once again technology does not assure healthy societal outcomes.

Promise and Peril

Probably no single case exemplifies the risks and rewards of fintech better than Alipay and China. China, all agree, is the leader in fintech development, in some ways because it is a nexus of both categories of markets described in the previous section—under-banked and over-banked. And China also offers a powerful device of expediting

[5]See for example "Why Goldman Sachs Is Interested in a Small Bike Shop in Mexico, Bank's Credit Line to Fintech Firm Credijusto Is Latest Example of Growing Market of Alternative Lenders to Local Business," by Robbie Whelan, *The Wall Street Journal*, March 14, 2019; and "FinTechs Find Lending's 'Atomic Data Points' in Emerging Markets," by *PYMNTS*, February 26, 2021.

fintech—those most capable of embracing digital transactions are also those with some of the greatest income/wealth-generating capabilities. Oh, to be young.

Home to an old, bureaucratic, and politically powerful banking industry, it has seen the advancement of two of the world's largest and most successful digital payments systems, WeChatPay (a unit of Tencent) and AliPay (a unit of Ant Group). These digital payments applications allow buying and selling of all things economic without the use of traditional cash, bank checks, or credit cards while operating outside the traditional banking system. AliPay, the largest, is a third-party mobile and online payment platform utilizing a Quick Response (QR) code on a personal phone to conduct electronically recorded transactions in an instant. As the world's largest online payment platform it grew in market share and reach with the most advanced of consumers in Shanghai (over-banked) to the poorest of farmers in the inland provinces (under-banked).

In November 2020, AliPay's parent company, the Ant Group, was 48 hours away from its initial public offering (IPO) when the Chinese government stepped in and stopped it. Expected to be the largest IPO in financial history, the Ant Group and its founder Jack Ma had purportedly grown so large and so powerful that Chinese authorities worried about its impact on their financial system's stability. One specific activity was Ant's role in originating loans, playing a middleman role in connecting borrowers with lenders (banks) through its digital interface. The fear was that it was starting to operate similar to bank lending seen in the U.S. leading up to the financial crisis of 2008, where a lack of prudent due diligence in lending led to subprime borrowing—and repayment delinquencies—at record rates.[6] In the months that followed, the Chinese government rolled out a series of additional regulations to ensure that most lending remained in the hands of the banks themselves, for now.

Fintech Themes

Fintech offers new and impactful opportunities for money and capital to flow outside the brick-and-mortar institutions of the past and present. Strangely, whether fintech will threaten the banks, partner with the banks, or both is dominating much of the discussion at present. Yet the banks or existing financial institutions are largely only distributors, the plumbing and plumber, moving the capital from those who have it to those who wish to use it. With greater capital freedom will come risks and failures that cause governments to take one step back with each two steps forward. Such is experience. The net result, that's positive.

MINI-CASE QUESTIONS

1. Why do you think fintech's relationship to banking systems is the focal point of such debate?
2. Why has China proven to be the leader in fintech?
3. In your opinion, is fintech revolutionary or evolutionary?

[6]Although Ant's lending activities was the common explanation for the regulatory crackdown, it is estimated that total Ant lending was less than 1% of total Chinese bank lending.

Questions

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 do not have. 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 among 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

1.1 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?

1.2 Mexico's Cada Seis Años. Mexico was famous—or infamous—or 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 = $1.00 to Ps5.50 = $1.00. What was the percentage devaluation?

1.3 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—offer different starting salaries and different signing bonuses, but in different currencies. Kyle wants to first compare all of the compensation packages in a common currency, the U.S. dollar. Use the data at the bottom of this page to determine which offer represents the greatest initial U.S. dollar compensation package.

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 U.S. dollar to euro cross rate: USD1.0644 = EUR1.00

Spot rate on the Russian ruble to dollar cross rate: RUB59.468 = USD1.00

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

1.5 Tokyo Olympic Games. Giselle Nolan had planned her trip to the Olympic Games in Tokyo, Japan, for many months. She had budgeted—saved—USD15,000 for expenses while in Tokyo. Giselle had waited till the last minute, however, to exchange the dollars for Japanese yen (JPY), doing it in the San Francisco airport in the United States on July 30 at JPY109.70 = 1.00USD. Given the following average exchange rates in the spring and summer of 2021, when should she have exchanged the dollars for yen to maximize her Tokyo spending money?

Month	JPY = 1.00 USD	Month	JPY = 1.00 USD
January	103.78	May	109.14
February	105.38	June	110.13
March	108.74	July	110.18
April	108.97		

1.6 Pokémon Go. Crystal Gomez, who lives in Mexico City, 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 MXN18.00 = USD1.00, and the current spot rate between the dollar and the Japanese yen (¥ or JPY) is JPY100.00 = USD1.00. What are the yen proceeds of Crystal Gomez's purchase?

1.7 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 real (BRL). Isaac wants to exchange his Brazilian real for Guatemalan quetzals (GTQ). He collects the following rates:

Spot rate, Guatemalan quetzals per euro: GTQ10.5799 = EUR1.00

Spot rate, Euros per Brazilian real: 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?

Problem 1.3

Country	ISO	Currency	Salary	Signing Bonus	Currency = $1.00
United Kingdom	GBP	pounds (£)	73,000.00	20,000.00	0.700
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

1.8 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 Russian ruble to U.S. dollar cross rate: RUB30.96 = USD1.00
Spot rate on the Japanese yen to U.S. dollar cross rate: JPY84.02 = USD1.00

a. What is the Russian ruble/yen cross rate?

b. How many Japanese yen will you obtain for your Russian rubles?

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 the 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 have a drink. 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, answer the following questions.

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?

Problem 1.9

Country	City	Cheap Date in Local Currency	Exchange Rate Quote	Exchange Rate	In USD	Relative to NYC
Australia	Sydney	AUD 111.96	USD = 1 AUD	0.9290	104.01	112%
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	_____	_____
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	_____	_____
Philippines	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	93.20	100%
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.

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 following table for 2013 and 2014. The average exchange rate for each year, by currency pairs, was the following. Use this 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"—was the change in corporate earnings 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?

Net Income	Japanese Subsidiary	British Subsidiary	European Subsidiary	Chinese Subsidiary	Russian Subsidiary	U.S. 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

The average exchange rate for each year, by currency pairs, was the following. Use this data to answer the following questions.

Exchange Rate	JPY = 1 USD	USD = 1 GBP	USD = 1 EUR	CNY = 1 USD	RUB = 1 USD	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

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 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 their U.S. dollar-based customers to have reacted to this?
b. What has been the impact on Peng's margins from this pricing strategy?

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							_____

1.12 Santiago Pirolta's Compensation Agreement. Santiago Pirolta has accepted the Managing Director 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) as well as specialty products (high-end cosmetic 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 following table?

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 _____	_____%

NexusTech Industries—2017. Problems 13–17 are based on NexusTech Industries. NexusTech 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. NexusTech is traded on the NASDAQ. NexusTech currently has 650,000 shares outstanding. The basic operating characteristics of the various business units is as follows:

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 = $1.00	€0.7018 = $1.00	¥7.750 = $1.00

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

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

1.14 NexusTech's EPS Sensitivity to Exchange Rates. 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 NexusTech'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 NexusTech's EPS Sensitivity to Exchange Rates. 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 NexusTech'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 NexusTech'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 NexusTech's consolidated EPS if all foreign currencies were to appreciate 20% against the U.S. dollar?
b. What would be the impact on NexusTech's consolidated EPS if all foreign currencies were to depreciate 20% against the U.S. dollar?

1.17 NexusTech'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 NexusTech's global tax liabilities:

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

2

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
- 2.6 Evaluate trends in global reserve currencies and how the introduction of digital currencies may impact the future of the international monetary system

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 section details the difficult currency regime choices faced by many emerging market countries today. We then conclude with both data and thoughts on global reserve currencies and what the future might hold. The chapter concludes with the mini-case *The Promise of the Digital Yuan*, which examines the rapid development of China's government-sponsored digital currency.

2.1 History of the International Monetary System

No world central bank issues a separate currency for commerce across national boundaries. Instead, a "system" of national monies works more or less well in providing a medium of exchange and unit of account for current international transactions, as well as a store of value and standard of deferred payment for longer-term borrowing and lending.

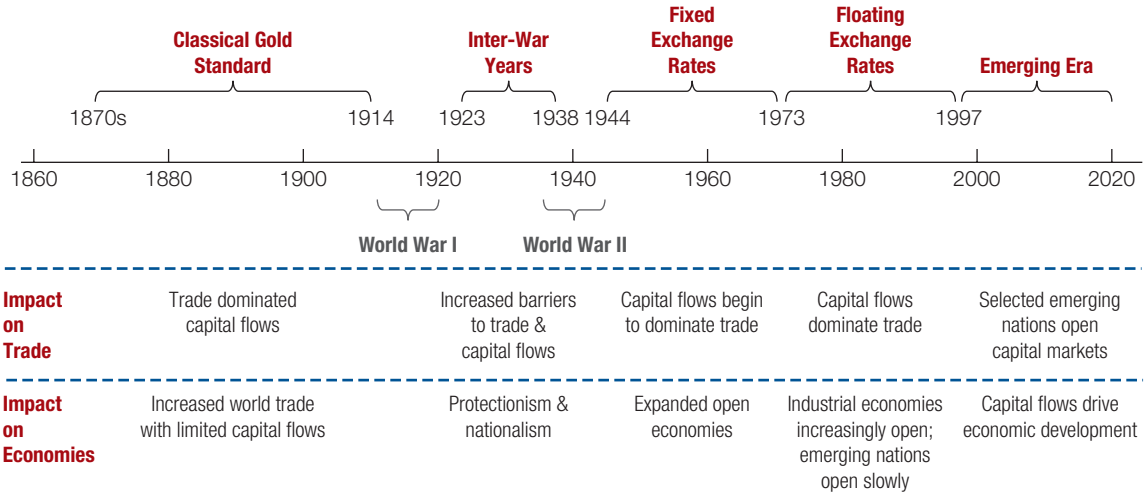
—Ronald I. McKinnon, The Rules of the Game: International Money in Historical Perspective, *Journal of Economic Literature*, Vol. 31, No. 1, March 1993, pp. 1–44

The system of international money, as noted by McKinnon above, is essentially a loose agreement between nations to exchange their currencies. 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 over the past two centuries, shown in Exhibit 2.1, provides one perspective against which to understand how we arrived at 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 Classical Gold Standard (1879–1913)

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 through 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 or silver and then tried to adhere to the so-called *rules of the game*.[1]

EXHIBIT 2.1 The Evolution of the Global Monetary System



[1]Although the expression "rules of the game" is often attributed to John Maynard Keynes, he actually never listed what he thought those rules were. Keynes, in the "Economic Consequences of Mr. Churchill" (1925), described the Bank of England reducing credit as a result of the "rules of the gold standard game."

Some countries, like the U.S., first defined their currency in terms of both gold and silver (a bi-metallic standard), setting a ratio between the two (e.g., 1 unit of gold equaling 15 units of silver). If the market values of gold and silver diverged from this ratio, for example, if silver became relatively more valuable, then it (silver) would flow out of the nation leaving the other metal (gold) as the surviving metal backing the currency. The U.S. altered ratios and convertibility a number of times in the mid-1800s, even ending convertibility during the Civil War years of 1861–1865. In order to finance its war effort, the U.S. government suspended convertibility and printed paper money. The paper notes, printed in green on their back ("greenbacks"), had no intrinsic value and no exchange value in gold or silver and therefore were considered *fiat money*, money by decree. Following the Civil War the U.S. moved back to convertibility. As the rise of gold as the single metal (or *specie*) became prevalent across countries, the *classical gold standard* was born.

The gold standard as an international monetary system gained acceptance in Western Europe in the 1870s. France moved to gold alone in 1873, followed by Germany. Great Britain, far ahead of the other major powers of the time, had officially adopted a gold standard in 1844 under the Bank Charter Act, which made Bank of England notes fully convertible to gold. The U.S. was a bit 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. For example, prior to the first world war the United States declared the U.S. dollar to be convertible to gold at a rate of $20.67 per Troy ounce, while Great Britain pegged the British pound sterling at £4.2474 per Troy ounce of gold. As long as both currencies were freely convertible into gold within each nation, the rate of exchange between the two monies—the *parity*—was set:

$$\frac{\$20.67 \;=\; 1\,\text{ounce of gold}}{£4.2474 \;=\; 1\,\text{ounce of gold}} = \$4.8665/£1.0$$

Because the government of each country on the gold standard agreed to buy or sell gold on demand at its own fixed parity rate, *convertibility*, the value of each individual currency in terms of gold, and therefore exchange rates between currencies, was fixed. But the validity of each parity rate, whether the U.S. dollar, British pound, Russian rouble, or German mark, was based on the ability of an individual to exchange the currency for the metal—gold. Maintaining reserves of gold, gold ready to be exchanged for the currency on demand, was therefore critical in order for a government to maintain the faith of its citizens in its monetary system.

The system simultaneously implicitly limited the rate at which any individual government 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. This restriction was deemed essential to prevent governments from printing money and stoking inflationary forces. 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. And as described in *Global Finance in Practice 2.1*, the gold standard allowed some governments to raise capital on the international markets by assuring investors of fixed rates of exchange.

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

GLOBAL FINANCE IN PRACTICE 2.1

Czar Nicholas IV's Russian Gold Loan of 1894 (Bond)

Czar Nicholas IV of Russia issued a 100-year bearer bond in 1894. Each of the Gold Rouble bonds were 125 roubles in principal, paying 4% annual interest quarterly (e.g., 1% of principal paid on each quarterly coupon). A *bearer bond* is a security sold to an investor in which the *bearer* of the bond (the holder) is entitled to receive an interest payment at regularly scheduled dates as listed on the bond. No record is kept by any authority on who the owner of the bond is, allowing the investor to earn interest without tax authorities knowing the investor's identity. This allowed the bond issuer, in this case the czar, to raise capital at lower interest rates because investors would most likely be able to avoid paying taxes on the interest income they received. And that interest on the czar's bond could be collected in six different currencies: French francs, German marks, British pounds, Dutch florins, U.S. dollars, and its home currency, Russian (gold) roubles.

In order for the investor to receive their interest payments, the bond contained a sheet of coupons which were numbered and dated. In this case, 100 years of quarterly coupons (400 individual coupons), each individually numbered, dated, and amount payable in all six currencies detailed. Individual coupons were clipped from the sheet and taken to one of the listed banks globally in order to receive payment. The individual interest payments in six different currencies was only possible through the use (or assumption of validity) of fixed exchange rates under the international gold standard of the time.

BOND of one hundred and twenty-five Gold Roubles
= 500 Francs = 404 German Marks = 19 Pounds Sterling
15 shill. 6 pence = 239 Dutch Flor.
= 96.25 United States Gold Dollars

The currency of payment was at the choice of the bearer. The bond and all coupons listed the six different paying agents by city.

in St. Petersburg:	at the State Bank, in Gold Roubles or Credit Roubles, at the rate of exchange of the day;
in Paris:	at the Banque de Paris et des Pays-Bas, at the Crédit Lyonnais, at the Comptoir National d'Escompte de Paris, at the office of the Russian Bank for Foreign Trade and at Messrs Hottingeur & Co, in Francs;
in London:	at the Russian Bank for Foreign Trade (London-branch), in Pounds Sterling;
in Berlin:	at Messrs Mendelssohn & Co, in German Marks
in Amsterdam:	at Messrs Lippmann, Rosenthal & Co, in Dutch Florins;
in New York:	at Messrs Baring, Magoun & Co, in Gold Dollars.

The 118th coupon in the series, which the bearer could present for payment beginning June 18, 1923, is reproduced below.

RUSSIAN 4% GOLD LOAN, SIXTH ISSUE, 1894
Talon of the Bond of 187 Rouble 50 Cop.
(1/Rouble = 1/15 Imper.)
118th Coupon of the Bond, due 18 June/1 July 1923:
in Paris 5 Francs, in Berlin 4 Mark 4 Pf., in London 3
Schill. 11 ½ P., in Amsterdam 2 Flor. 39 C.,
In New York 96 1/4 Cents.

Valid for 10 years.

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.

GLOBAL FINANCE IN PRACTICE 2.2

Britain Leaves the Gold Standard: Press Notice (Excerpts of September 19, 1931)

His Majesty's Government have decided after consultation with the Bank of England that it has become necessary to suspend for the time being the operation of Subsection (2) of Section 1 of the Gold Standard Act of 1925 which requires the Bank to sell gold at a fixed price. A Bill for this purpose will be introduced immediately and it is the intention of His Majesty's Government to ask Parliament to pass it through all its stages on Monday, 21st of September. In the meantime the Bank of England have been authorised to proceed accordingly in anticipation of the action of Parliament.

The reasons which have led to this decision are as follows. Since the middle of July funds amounting to more than £200 millions have been met partly from gold and foreign currency held by the Bank of England, partly from the proceeds of a credit of £50 millions which shortly matures secured by the Bank of England from New York and Paris and partly from the proceeds of the French and American credits amounting to £80 millions recently obtained by the Government. During the last few days the withdrawals of foreign balances have accelerated so sharply that His Majesty's Government have felt bound to take the decision mentioned above.

This decision will of course not affect obligations of His Majesty's Government or the Bank of England which are payable in foreign currencies.

The gold holding of the Bank of England amounts to some £130 millions and having regard to the contingencies which may have to be met it is inadvisable to allow the reserve to be further reduced.

His Majesty's Government are well aware that the present step is bound to have serious consequences both at home and abroad. But during the last few days the International financial markets have become demoralised and seem bent on liquidating their foreign assets in a spit of panic. In the circumstances there was no alternative but to protect the economy of this country the only means at our disposal.

Source: The National Archives. https://www.nationalarchives.gov.uk/wp-content/uploads/2014/03/t163-68-181.jpg

Britain had returned to the gold standard in 1925, but as a result of onset of the depression and the flight of gold out of Britain in 1931, it was forced to abandon the standard in September 1931. *Global Finance in Practice 2.2* presents excerpts of His Majesty's Government's decision.

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 now 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 2.3* 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

GLOBAL FINANCE IN PRACTICE 2.3

Hammering out an Agreement at Bretton Woods

The governments of the Allied powers knew that the devastating impacts of World War II would require swift and decisive policies. In the summer of 1944 (July 1–22), representatives of all 45 allied nations met at Bretton Woods, New Hampshire, for the United Nations Monetary and Financial Conference. Their purpose was to plan the postwar international monetary system. It was a difficult process, and the final synthesis was shaded by pragmatism.

The leading policymakers at Bretton Woods were the British and the Americans. The British delegation was led by Lord John Maynard Keynes, known as "Britain's economic heavy weight." The British argued for a postwar system that would be more flexible than the various gold standards used before the war. Keynes argued, as he had after World War I, that attempts to tie currency values to gold would create pressures for deflation in many of the war-ravaged economies.

The American delegation was led by the director of the U.S. Treasury's monetary research department, Harry D. White, and the U.S. Secretary of the Treasury, Henry Morgenthau, Jr. The Americans argued for stability (fixed exchange rates) but not a return to the gold standard itself. In fact, although the U.S. at that time held most of the gold of the Allied powers, the U.S. delegates argued that currencies should be fixed in parities* but that redemption of gold should occur only between official authorities like central banks.

On the more pragmatic side, all parties agreed that a postwar system would be stable and sustainable only if there was sufficient credit available for countries to defend their currencies in the event of payment imbalances, which they knew to be inevitable in a reconstructing world order. The conference divided into three commissions for weeks of negotiation. One commission, led by U.S. Treasury Secretary Morgenthau, was charged with the organization of a fund of capital to be used for exchange rate stabilization. A second commission, chaired by Lord Keynes, was charged with the organization of a second "bank" whose purpose would be for long-term reconstruction and development. A third commission was to hammer out details such as what role silver would have in any new system.

After weeks of meetings, the participants came to a three-part agreement—*the Bretton Woods Agreement*. The plan called for: (1) fixed exchange rates, termed an *adjustable peg*, among members; (2) a fund of gold and constituent currencies available to members for stabilization of their respective currencies, called the International Monetary Fund (IMF); and (3) a bank for financing long-term development projects (eventually known as the World Bank). One proposal resulting from the meetings, which was not ratified by the U.S., was the establishment of an international trade organization to promote free trade.

* *Fixed in parities* is an old expression in this field, which means that the value of currencies should be fixed at rates that equalize their value, typically measured by purchasing power.

member countries trying to defend their currencies against cyclical, seasonal, or random occurrences. It also assists countries having structural trade problems if they promise to take adequate steps to correct their problems. If persistent deficits occur, however, the IMF cannot save a country from eventual devaluation. In recent years, the IMF has attempted to help countries facing financial crises, providing massive loans as well as advice to Russia, Brazil, Greece, Indonesia, and South Korea, to name but a few.

Under the original provisions of Bretton Woods, all countries fixed the value of their currencies in terms of gold, but they were not required to exchange their currencies for gold. Only the dollar remained convertible into gold (at $35 per ounce). Each country established its exchange rate vis-à-vis the dollar and then calculated the gold par value of its currency to create the desired dollar exchange rate. Participating countries agreed to try to maintain the value of their currencies within 1% (later expanded to 2.25%) of par by buying or selling foreign exchange or gold as needed. Devaluation was not to be used as a competitive trade policy, but if a currency became too weak to defend, devaluation of up to 10% was allowed without formal approval by the IMF. Larger devaluations required IMF approval. This became known as the *gold-exchange standard*.