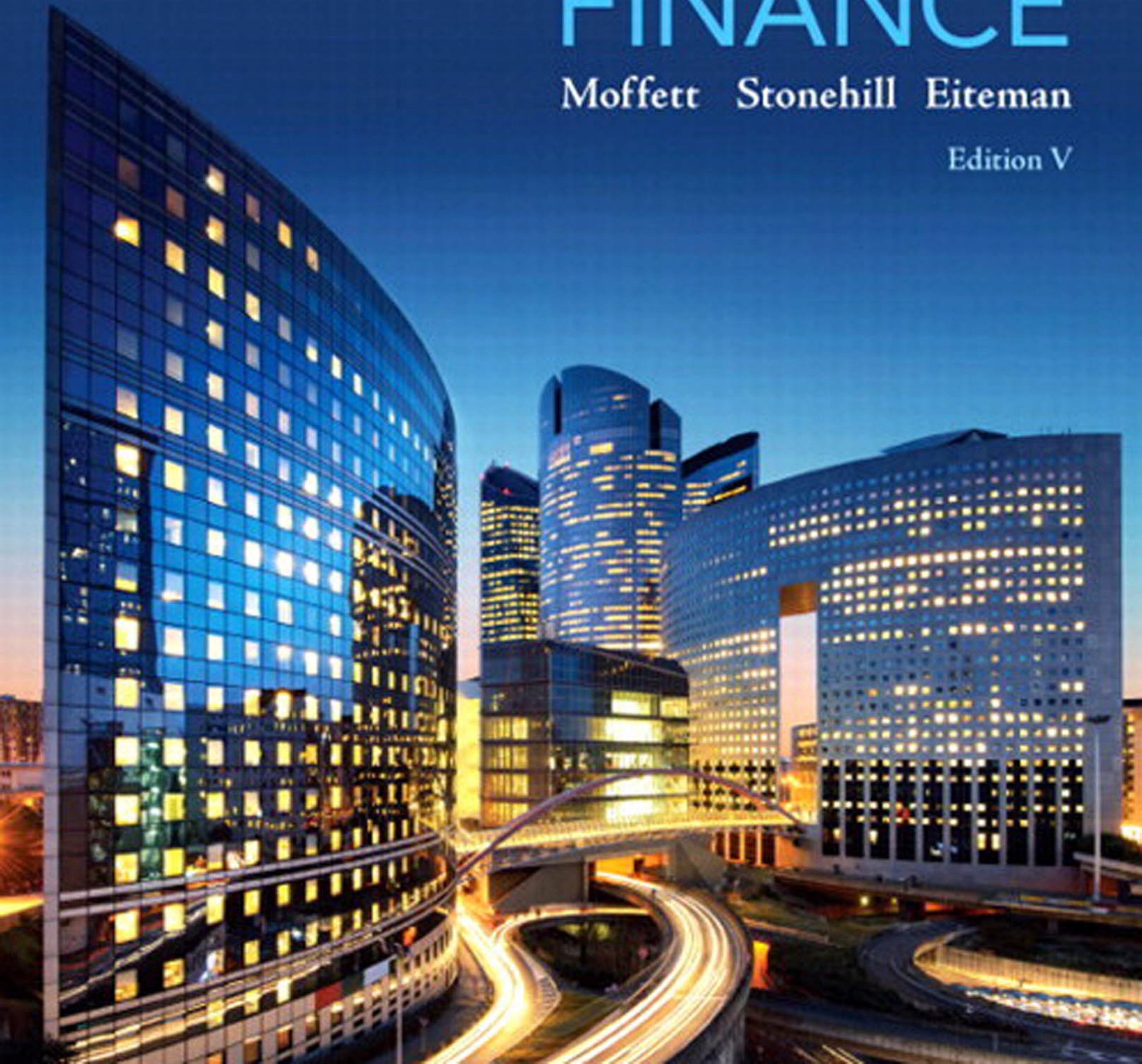
Fundamentals of
MULTINATIONAL FINANCE

Moffett Stonehill Eiteman

Edition V



FUNDAMENTALS OF

MULTINATIONAL FINANCE

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FUNDAMENTALS OF MULTINATIONAL FINANCE

Fifth Edition

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Preface

Fundamentals of Multinational Finance, Fifth Edition, reflects the multitude of changes sweeping over global business today. This edition has been revised to reflect a global marketplace that has moved five years beyond global financial crisis and into an era in which new country markets and players like that of China, India, and Turkey are altering the global financial landscape. The book has been focused on the challenges faced by the business leaders of tomorrow in multinational business—with three points of emphasis.

- **Organizations.** The term *multinational enterprise* (MNE) applies to organizations of all kinds—the publicly traded, the privately held, the state-run, the state-owned organizations—all forms that permeate global business today. Who owns and operates the organization alters its goals and therefore its management.
- **Markets.** Country markets like that of China and India are no longer the sources of low-cost labor for global manufacturers. They are increasingly the focus for sales and growth of all firms, manufacturing and services, for earnings and growth. Although they may still be categorized as "emerging," they are the economic drivers and primary challenges for global finance and global financial management.
- **Leadership.** Individuals in positions of leadership within these organizations and markets are faced with a changing global landscape in which emerging market finance is no longer on the outer edge of financial management, but moving to its core. These leaders of MNEs face numerous foreign exchange and political risks, which are actually more volatile, with global capital moving in and out of countries at an ever-increasing rate. These risks can be daunting but they also present opportunities for creating value if properly understood. In the end, the primary question is whether business leaders are able to navigate the strategic and financial challenges that business faces.

New in the Fifth Edition

The theme for this Fifth Edition could be described as the maturation of the emerging markets. The cast of characters dominating global finance is changing, with economies and currencies from Russia, China, India, Brazil, Turkey, to name a few, moving to the forefront of global business. All companies, from start-ups in Mumbai to mature multinationals in Montreux, are facing similar currency risks and cross-border business risks as more of global commerce has moved to a digital interface across a much greater number of countries.

The MNEs in this new world arise from all countries, industrialized and emerging alike, and are all in search of ever-cheaper labor, raw materials, and outsourced manufacturing, while all are competing for the same customers across all markets for sales, profits, and cash flow. These markets—whether they be labeled as BRICs (Brazil, Russia, India, China) or some other popular label—represent the majority of the earth's population and therefore its consumers. We have pursued this theme throughout the book.

The following is a short overview of the features in the Fifth Edition.

- We have increased the detail on changing currency regimes, theory, and practice, as emerging market currencies become ever-greater contributors to global cash flow.
- We have introduced the challenges faced by governments and central banks as cryptocurrencies like Bitcoin have shaken the very foundations of traditional definitions of "currency."
- We have added new content throughout the book on the growing complexity of major emerging markets which are more open to capital movements, but also subject to sudden government or central bank intervention in pursuit of sovereign goals and objectives.
- We increased our coverage of the multitude of different currency regimes and devices used by sovereigns over their currencies and markets, currencies like the Chinese yuan, the Russian ruble, the Indian rupee, the Turkish lira, and the South African rand.
- We have introduced a number of new Mini-Cases with these currency complexity themes, while retaining a number of the most popular cases from previous editions.
- We have supplemented each chapter with a number of insights into the subtle nuances of the conduct of financial management with new *Global Finance in Practice* boxes.

Fundamentals, Fifth Edition, has been restructured to be much shorter and tighter. The creation of a more intense exploration of global finance without sacrificing depth or detail was achieved through the integration of a number of concepts and topics.

- Chapters on the international monetary system cover both the fundamental principles of defining a currency with the complexities of macroeconomic policy and digital exchange.
- Chapters covering the creation and use of currency and interest rate derivatives for hedging and speculation have been selectively reorganized.
- Chapters on raising equity capital and international portfolio theory have been integrated into one unified exploration of the global cost and availability of capital.
- Chapters on the sources of capital and changing financial structures utilized by multinational firms have been reorganized for a more integrated presentation, combining theory and current practice.

International finance is a subject of sophistication, constant change, yet rich in history. We have tried to bridge the traditional business practices with digital practices with a mix of currency notations and symbols throughout the book, using both the common three-letter currency codes—USD, CNY, EUR—with the traditional currency symbols—$, ¥, £, €—which are seeing a resurgence as countries like Russia and Turkey have introduced new "currency identities" of their own.

Audience

Fundamentals of Multinational Finance, Fifth Edition, is aimed at university-level courses in international financial management, international business finance, international finance, and similar titles. It can be used at either the undergraduate or graduate level as well as 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.

We recognize the fact that a large number of our potential adopters live outside of the United States and Canada. Therefore, we use a significant number of non-U.S. examples, Mini-Cases, and *Global Finance in Practice* examples seen in the business and news press (anecdotes and illustrations).

Organization

Fundamentals of Multinational Finance, Fifth Edition, 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 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 *Fundamentals of Multinational Finance*, Fifth Edition, 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 summary of how those learning objectives were realized.
- A wealth of *illustrations and exhibits* to provide a visual parallel to the concepts and content presented. The entire book uses a multicolor presentation, which we believe provides a visual attractiveness that contributes significantly to reader attention and retention.
- A running case on a hypothetical U.S.-based firm, *Trident 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 finance business environment. And, as noted, six of the 17 are new to the Fifth Edition.
- *Global Finance in Practice* boxes in every chapter illuminate the theory with accounts of actual business practices. These applications extend the concepts without adding to the length of the text itself.
- Every chapter has a number of end-of-chapter Exercises requiring the use of the Internet, while a variety of Internet references are dispersed throughout the chapters in text and exhibits.

- A multitude of end-of-chapter Questions and Problems assess the students' understanding of the course material. All end-of-chapter Problems are solved using spreadsheet solutions. Selected end-of-chapter Problem answers, indicated by an asterisk (*), are now included at the back of the book.

A Rich Array of Support Materials

A robust package of materials for both instructor and student accompanies the text to facilitate learning and to support teaching and testing.

- **Online Instructor's Manual.** The Online Instructor's Manual, prepared by William Chittenden of Texas State University, contains complete answers to all end-of-chapter Questions, Problems, and chapter Mini-Cases. All quantitative end-of-chapter Problems are solved using spreadsheets prepared by the authors, which are also available online.
- **Online Test Item File.** The Online Test Item File, prepared by Borijan Borozanov of the Thunderbird School of Global Management, contains over 1,200 multiple-choice and short essay questions. The multiple-choice questions are labeled by topic and by category: recognition, conceptual, and analytical types.
- **Computerized Test Bank.** The Test Item File is also available in Pearson Education's TestGen Software. Fully networkable, it is available for Windows and Macintosh. TestGen's graphical interface enables instructors to view, edit, and add questions; transfer questions to tests; and print different forms of tests. Search-and-sort features enable the instructor to locate questions quickly and arrange them in a preferred order. The TestGen plug-in automatically grades the exams and allows the instructor to view and print a variety of reports.
- **Online Mini-Case PowerPoint® Presentations.** Each of the 17 Mini-Cases has a stand-alone PowerPoint presentation available online.
- **Online PowerPoint Presentation Slides.** The extensive set of PowerPoint slides provides lecture outlines and selected graphics from the text for each chapter.
- **Web Site.** A dedicated Web site at www.pearsonhighered.com/moffett contains the Web exercises from the book with wired links, electronic flash cards of glossary terms, and selected solutions and spreadsheets for end-of-chapter problems.

All of the teaching resources are available online for download at the Instructor Resource Center at www.pearsonhighered.com/irc.

International Editions

Fundamentals of Multinational Finance and *Multinational Business Finance* have been used throughout the world to teach students of international finance. Our books are published in a number of foreign languages including Chinese, French, Spanish, Indonesian, Portuguese, and Ukrainian.

Acknowledgments

We are very thankful for the many detailed reviews of previous editions and suggestions from a number of colleagues. The final version of *Fundamentals*, Fifth Edition, reflects most of the suggestions provided by these reviewers. The survey reviewers were anonymous, but the detailed reviewers were:

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We would also like to thank all those with Pearson Education who have worked so diligently on this edition: Katie Rowland, Kate Fernandes, Erin McDonagh, and Meredith Gertz. In addition, Gillian Hall, our outstanding project manager, deserves much gratitude.

Finally, we would like to dedicate this book to our parents, Bennie Ruth and the late Hoy Moffett, the late Harold and Norma Stonehill, and the late Wilford and Sylvia Eiteman, who gave us the motivation to become academics and authors. We thank our wives, Megan, Kari, and Keng-Fong, for their patience while we were preparing *Fundamentals of Multinational Finance*.

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He has authored, co-authored, or contributed to a number of books, articles, and other publications. He has co-authored two books with Art Stonehill and David Eiteman, *Multinational Business Finance*, and this book, *Fundamentals of Multinational 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 co-author of a number of books in multinational business with Michael Czinkota and Ilkka Ronkainen, *International Business* (Seventh Edition) and *Global Business* (Fourth Edition), and *The Global Oil and Gas Industry: Strategy, Finance, and Management*, with Andrew Inkpen.

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He has authored or co-authored nine books and 25 other publications. His articles have appeared in *Financial Management*, *Journal of International Business Studies*, *California Management Review*, *Journal of Financial and Quantitative Analysis*, *Journal of International Financial Management and Accounting*, *International Business Review*, *European Management Journal*, *The Investment Analyst (U.K.)*, *Nationaløkonomisk Tidskrift (Denmark)*, *Sosialøkonomen (Norway)*, *Journal of Financial Education*, and others.

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Brief Contents

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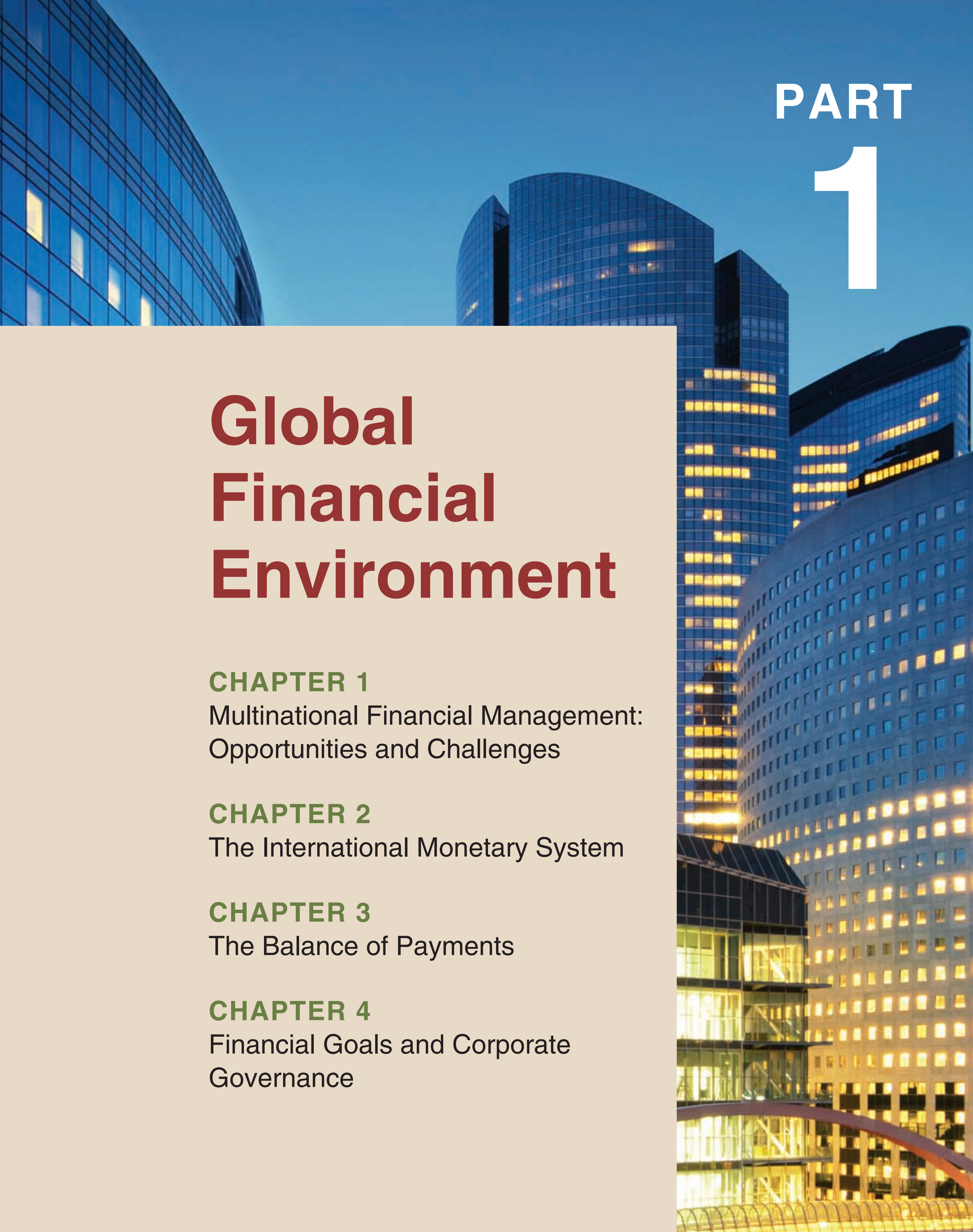


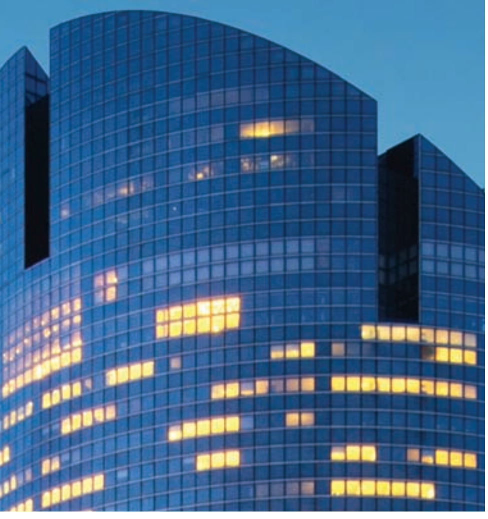
PART 1

Global Financial Environment

CHAPTER

1

Multinational Financial Management: Opportunities and Challenges



I define globalization as producing where it is most cost-effective, selling where it is most profitable, and sourcing capital where it is cheapest, without worrying about national boundaries.

—Narayana Murthy, Founder and Executive Chairman of the Board, Infosys.

LEARNING OBJECTIVES

- Examine the requirements for the creation of value
- Consider the basic theory, *comparative advantage*, and its requirements for the explanation and justification for international trade and commerce
- Discover what is different about international financial management
- Detail which market imperfections give rise to the multinational enterprise
- Consider how the globalization process moves a business from a purely domestic focus in its financial relationships and composition to one truly global in scope
- Examine possible causes of the limitations to globalization in finance

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.

New MNEs are appearing all over the world today, while many of the older and established ones are struggling to survive. Businesses of all kinds are seeing a very different world than in the past. Today's MNEs depend not only on the emerging markets for cheaper labor, raw materials, and outsourced manufacturing, but also increasingly on those same emerging markets for sales and profits. These markets—whether they are emerging, less developed, or developing, or are BRIC (Brazil, Russia, India, and China), BIITS (Brazil, India, Indonesia, Turkey, South Africa, which are also termed the *Fragile Five*), or MINTs (Mexico, Indonesia, Nigeria, Turkey)—represent the majority of the earth's population and, therefore, potential customers. And adding market complexity to this changing global landscape is the risky and-challenging international macroeconomic environment, both from a long-term and short-term perspective. The global financial crisis of 2008–2009 is already well into the business past, and capital is flowing again—although in and out of economies—at an ever-increasing pace.

How to identify and navigate these risks is the focus of this book. These risks may all occur on the playing field of the global financial marketplace, but they are still a question of *management*—of navigating that complexity in pursuit of the goals of the firm.

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 globalisation 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 globalisation 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.

The theme dominating global financial markets today is the complexity of risks associated with financial globalization—far beyond whether it is simply good or bad, but how to lead and manage multinational firms in the rapidly moving marketplace.

- 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 current eurozone crisis, plague most of the major trading countries of the world, complicating fiscal and monetary policies, and ultimately, interest rates and exchange rates (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 amidst a sea of eurozone deficits, or the continuing current account deficit of the United States, all will inevitably move exchange rates (see Chapter 3).
- Ownership, control, and governance vary radically across the world. The publicly traded company is not the dominant global business organization—the privately held or family-owned business is the prevalent structure—and their goals and measures of performance vary dramatically (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 1).
- 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 in and out of both industrial and emerging markets, greatly complicating financial management (Chapter 5 and 8).

These are but a sampling of the complexity of risks. This first chapter is meant only as an introduction and a taste. The Mini-Case at the end of this first chapter, *Bitcoin—Cryptocurrency or Commodity?*, is intended to push you in your thinking about how and why money moves across the globe today.

The Global Financial Marketplace

Business—domestic, international, global—involves the interaction of individuals and individual organizations for the exchange of products, services, and capital through markets. The global capital markets are critical for the conduct of this exchange. The global financial crisis of 2008–2009 served as an illustration and a warning of how tightly integrated and fragile this marketplace can be.

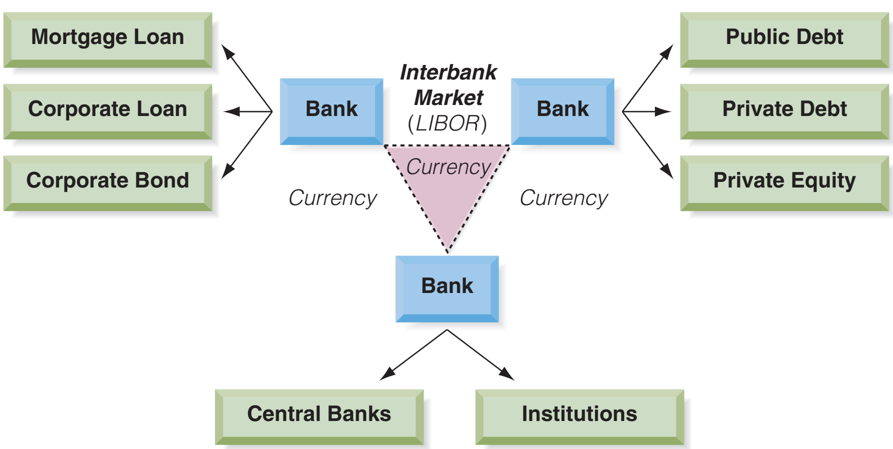
Assets, Institutions, and Linkages

Exhibit 1.1 provides a map of the global capital markets. One way to characterize the global financial marketplace is through its assets, institutions, and linkages.

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

EXHIBIT 1.1 Global Capital Markets

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



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

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 relies 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 network. This network, whose primary price is the London Interbank Offered Rate (LIBOR), is the core component of the global financial system.

The movement of capital across currencies and continents for the conduct of business has existed in many different forms for thousands of years. Yet, it is only within the past 50 years that these capital movements have started to move at 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, some for worse, and as described in *Global Finance in Practice 1.1*, not always without challenges.

GLOBAL FINANCE IN PRACTICE 1.1

The Trouble with LIBOR

"The idea that my word is my Libor is dead."

— Mervyn King, Bank of England Governor.

No single interest rate is more fundamental to the operation of the global financial markets than the *London Interbank Offered Rate* (LIBOR). LIBOR is used in loan agreements, financial derivatives, swap agreements, in different maturities and different currencies, every day—globally. But beginning as early as 2007, a number of participants in the interbank market on both sides of the Atlantic suspected that there was trouble with LIBOR.

LIBOR is published under the auspices of the British Bankers Association (BBA). Each day, a panel of 16 major multinational banks are requested to submit their *estimated borrowing rates* in the unsecured interbank market which are then collected, massaged, and published in three steps.

Step 1. The banks on the LIBOR panels must submit their estimated borrowing rates by 11:10 a.m. London time. The submissions are directly to Thomson Reuters, which executes the process on behalf of the BBA.

Step 2. Thomson Reuters discards the lowest 25% and highest 25% of interest rates submitted. It then calculates an average rate by maturity and currency using the remaining 50% of borrowing rate quotes.

Step 3. The BBA publishes the day's LIBOR rates 20 minutes later, by 11:30 a.m. London time.

This process is used to publish LIBOR for 10 different currencies across 15 different maturities. The three-month and six-month maturities are the most significant maturities due to their widespread use in various loan and derivative agreements, with the dollar and the euro being the most widely used currencies.

The Trouble

One problem with LIBOR is the origin of the rates submitted by banks. First, rates are not limited to those at which actual borrowing occurred, meaning they are not market transaction rates. The logic behind including "estimated borrowing rates" was to avoid reporting only actual transactions, as many banks may not conduct actual transactions in all maturities and currencies each day. As a result, the origin of the rate submitted by each bank becomes, to some degree, discretionary.

Secondly, banks—specifically money-market and derivative traders within the banks—have a number of interests that may be impacted by borrowing costs reported by the bank that day. One such example can be found in the concerns of banks in the interbank market in September 2008, when the credit crisis was in full-bloom. A bank reporting that other banks were demanding it pay a higher rate that day would, in effect, be self-reporting the market's assessment that it was increasingly risky. In the words of one analyst, akin "to hanging a sign around one's neck that I am carrying a contagious disease." Market analysts are now estimating that many of the banks in the LIBOR panel were reporting borrowing rates which were anywhere from 30 to 40 basis points lower than actual rates throughout the financial crisis. As one financial reform advocate so sharply stated it, "the issue is Lie More, not Libor."

Court documents continue to shed light on the depth of the market's manipulation, although it is not really known to what degree attempts at manipulation have been successful.

Hi Guys, We got a big position in 3m libor for the next 3 days. Can we please keep the libor fixing at 5.39 for the next few days. It would really help.

—Barclays New York trader email, September 13, 2006, as reported in Barclays PLC, Barclays Bank PLC, and Barclays Capital Inc., CFTC Docket No. 12-25, CFTC, p.10.

In December 2013, a collection of banks in London and New York agreed to pay $2.3 billion in fines to the European Commission for LIBOR manipulation. And more lawsuits, accusations, and regulations are sure to come.

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 ($ or USD) and the European euro (€ or EUR) may be stated as "1.3654 dollar per euro" or simply abbreviated as $1.3654/€. This is the same exchange rate as when stated "EUR1.00 = USD1.3654." 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 field of international finance, however, has a rich history of using a variety of different symbols in the financial press, and a variety of different abbreviations are commonly used. For example, the British pound sterling may be £ (the pound symbol), GBP (Great Britain pound), STG (British pound sterling), ST£ (pound sterling), or UKL (United Kingdom pound). This book uses the simpler common symbols—the $ (dollar), the € (euro), the ¥ (yen), the £ (pound)—but be warned and watchful when reading the business press!

Exchange Rate Quotations and Terminology. Exhibit 1.2 lists currency exchange rates for January 13, 2014, as would be quoted in New York or London. The exchange rate listed is for a specific country's currency—for example, the Argentina peso against the U.S. dollar is Peso 6.6580/$, against the European euro is Peso 9.0905/€, and against the British pound is Peso 10.9078/£. The rate listed is termed a "mid-rate" 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 most currency trading since the 1940s. As a result, most of the world's currencies have been quoted against the dollar—Mexican pesos per dollar, Brazilian real per dollar, Hong Kong dollars per dollar, etc. This quotation convention is also followed against the world's major currencies, as listed in Exhibit 1.2. For example, the Japanese yen is commonly quoted as ¥103.365/$, ¥141.129/€, and 169.343/£.

Quotation Conventions. Several of the world's major currency exchange rates, however, follow a specific quotation convention that is the result of tradition and history. The exchange rate between the U.S. dollar and the euro is always quoted as "dollars per euro" or $/€. For example, $1.3654 listed in Exhibit 1.2 under "United States." Similarly, the exchange rate between the U.S. dollar and the British pound is always quoted as "dollars per pound" or $/£. For example, $1.6383 listed under "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 or U.S. dollars per Canadian dollar.

EXHIBIT 1.2 Selected Global Currency Exchange Rates

January 13, 2014 Country	Currency	Symbol	Code	Currency to Equal 1 U.S. Dollar	Currency to Equal 1 Euro	Currency to Equal 1 Pound
Argentina	peso	Ps	ARS	6.6580	9.0905	10.9078
Australia	dollar	A$	AUD	1.1043	1.5078	1.8092
Bahrain	dinar	—	BHD	0.3770	0.5148	0.6177
Bolivia	boliviano	Bs	BOB	6.9100	9.4346	11.3207
Brazil	real	R$	BRL	2.3446	3.2012	3.8411
Canada	dollar	C$	CAD	1.0866	1.4836	1.7801
Chile	peso	$	CLP	526.980	719.512	863.351
China	yuan	¥	CNY	6.0434	8.2514	9.9009
Colombia	peso	Col$	COP	1,924.70	2,627.89	3,153.24
Costa Rica	colon	₡	CRC	499.475	681.959	818.291
Czech Republic	koruna	Kc	CZK	20.0425	27.3650	32.8356
Denmark	krone	Dkr	DKK	5.4656	7.4624	8.9542
Egypt	pound	£	EGP	6.9562	9.4977	11.3964
Hong Kong	dollar	HK$	HKD	7.7547	10.5878	12.7045
Hungary	forint	Ft	HUF	218.680	298.575	358.264
India	rupee	₹	INR	61.5750	84.0715	100.8780
Indonesia	rupiah	Rp	IDR	12,050.0	16,452.5	19,741.5
Iran	rial	—	IRR	12,395.5	16,924.2	20,307.5
Israel	shekel	Shk	ILS	3.4882	4.7627	5.7148
Japan	yen	¥	JPY	103.365	141.129	169.343
Kenya	shilling	KSh	KES	86.250	117.761	141.303
Kuwait	dinar	—	KWD	0.2824	0.3856	0.4627
Malaysia	ringgit	RM	MYR	3.2635	4.4559	5.3466
Mexico	new peso	$	MXN	12.9745	17.7148	21.2561
New Zealand	dollar	NZ$	NZD	1.1957	1.6326	1.9590
Nigeria	naira	₦	NGN	159.750	218.115	261.718
Norway	krone	NKr	NOK	6.1216	8.3581	10.0290
Pakistan	rupee	Rs.	PKR	105.535	144.092	172.898
Peru	new sol	S/.	PEN	2.7965	3.8182	4.5816
Phillippines	peso	₱	PHP	44.5950	60.8878	73.0600
Poland	zloty	—	PLN	3.0421	4.1535	4.9839
Romania	new leu	L	RON	3.3133	4.5238	5.4281
Russia	ruble	₽	RUB	33.2660	45.4198	54.4997
Saudi Arabia	riyal	SR	SAR	3.7505	5.1207	6.1444
Singapore	dollar	S$	SGD	1.2650	1.7272	2.0725
South Africa	rand	R	ZAR	10.7750	14.7117	17.6527
South Korea	won	W	KRW	1,056.65	1,442.70	1,731.11
Sweden	krona	SKr	SEK	6.4986	8.8728	10.6466
Switzerland	franc	Fr.	CHF	0.9026	1.2324	1.4788
Taiwan	dollar	T$	TWD	30.0060	40.9687	49.1588
Thailand	baht	B	THB	32.9750	45.0224	54.0230
Tunisia	dinar	DT	TND	1.6548	2.2593	2.7110
Turkey	lira	₺	TRY	2.1773	2.9728	3.5671
Ukraine	hrywnja	—	UAH	8.3125	11.3495	13.6184
United Arab Emirates	dirham	—	AED	3.6730	5.0149	6.0175
United Kingdom	pound	£	GBP	0.6104	0.8334	—
United States	dollar	$	USD	—	1.3654	1.6383
Uruguay	peso	$U	UYU	21.6050	29.4984	35.3955
Venezuela	bolivar fuerte	Bs	VEB	6.2921	8.5910	10.3084
Vietnam	dong	₫	VND	21,090.0	28,795.2	34,551.8
Euro	euro	€	EUR	0.7324	—	1.1999
Special Drawing Right	—	—	SDR	0.6509	0.8887	1.0663

Notes: 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). That is one of the reasons why most of the world's currency markets today use the three-digit currency code for clarity of quotation. All quotes are mid-rates, and are drawn from the *Financial Times*, January 14, 2014. The British pound and euro are quoted here in the identical terms — per dollar, per euro, per pound — as are all other country currencies. However, the *Financial Times*, which is the original source for these currency quotations, will quote the pound and euro in the reciprocal form as is industry practice for these currencies.

Eurocurrencies and LIBOR

One of the major linkages of global money and capital markets is the eurocurrency market and its interest rate, which is LIBOR. *Eurocurrencies* are domestic currencies of one country on deposit in a second country for a period ranging from overnight to more than a year or longer. Certificates of deposit are usually for three months or more and in million-dollar increments. A eurodollar deposit is not a *demand deposit*—it is not created on the bank's books by writing loans against required fractional reserves, and it cannot be transferred by a check drawn on the bank having the deposit. Eurodollar deposits are transferred by wire or cable transfer of an underlying balance held in a correspondent bank located within the United States. In most countries, a domestic analogy would be the transfer of deposits held in nonbank savings associations. These are transferred when the association writes its own check on a commercial bank.

Any convertible currency can exist in "euro-" form. Note that this use of "euro-" should not be confused with the new common 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.).

Eurocurrency markets serve 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. 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 European holders 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.

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 but a few.

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

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

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 with 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 those goods, increased the quality of life for all citizens. Smith based his work on the concept of *absolute advantage*, with every country specializing in the production of those goods for which it was uniquely suited. More would be produced for less. Thus, with each country specializing in products for which it possessed absolute advantage, countries could produce more in total and trade for goods that were cheaper in price than those produced at home.

In his work, *On the Principles of Political Economy and Taxation*, published in 1817, David Ricardo sought to take the basic ideas set down by Adam Smith a few logical steps further. Ricardo noted that even if a country possessed *absolute advantage* in the production of two goods, it might still be relatively more efficient than the other country in one good's