Richard M. Levich

International Financial Markets

Prices and Policies

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ABOUT THE AUTHOR

Richard M. Levich is Professor of Finance and International Business at New York University's Leonard N. Stern School of Business. From 1984–88 he served as the Chairman of the International Business Program at the Stern School. He is also a Research Associate with the National Bureau of Economic Research in Cambridge, Massachusetts, and he currently serves as Editor of *The Journal of International Financial Management and Accounting.*

Professor Levich has been a visiting faculty member at many distinguished universities in the United States and abroad including Yale University, the University of Chicago, *Ecole des Hautes Etudes Commerciales* (HEC) in France, the Australian Graduate School of Management at the University of New South Wales, and City University Business School in London. Professor Levich has lectured in many executive education programs including the Wharton Executive MBA Program, Kiel (Germany) World Institute, International Center for Money and Banking (Geneva), J. P. Morgan, Chase Manhattan Bank, and Bankers Trust. He has been a consultant or visiting scholar at the Federal Reserve Board of Governors, the International Monetary Fund and the World Bank.

Professor Levich has published more than 50 articles on various topics dealing with international finance, and is the author or editor of 10 books including *The International Money Market: An Assessment of Alternative Forecasting Techniques and Market Efficiency* (JAI Press, 1979), *Exchange Risk and Exposure: Current Developments in International Financial Management* (Lexington Books, 1980), *ECU: The European Currency Unit* (Euromoney Publications, 1987), *The ECU Market: Current Developments and Future Prospects* (Lexington Books, 1987), *The Capital Market Effects of International Accounting Diversity* (Dow Jones-Irwin, 1990) co-authored with Frederick Choi, and *Exchange Rates and Corporate Performance* (Irwin Professional Publishing, 1994).

Professor Levich received his Ph.D. from the University of Chicago.

The purpose of *International Financial Markets* is to analyze the key financial markets and instruments that facilitate trade and investment activity on a global scale. The scope of inquiry spans two areas—first, the economic determinants of prices, price changes, and price relationships in the major financial markets; and second, the policy issues that result for private enterprises and public policymakers.

Within the first objective, I bring together the current theories of pricing financial instruments in an international context. I develop the economic determinants of financial prices, discuss the limitations and implications of these models, and assess the empirical evidence related to some of their theoretical predictions. Under the second objective, I outline the decisions facing private individuals and enterprises and public policymakers. For private individuals and enterprises, I analyze how decisions regarding capital financing, investing, and risk management should be approached given our discussion of the markets. For public policymakers, the decisions facing monetary authorities, fiscal and tax authorities, banking and financial market regulators, and accounting standard setting bodies are also examined, again within the context of the economics of markets and the incentives facing private individuals and enterprises.

Through this book, I hope that readers will see both the breadth of innovative financial instruments and the linkages that tie these products and markets together. My aim is to clarify the economic underpinnings of various financial markets, and the economic incentives facing private individuals and enterprises who trade in or are affected by these markets. My goal is to demonstrate how various strategic and policy decisions often depend on a particular economic model or a particular empirical view of the world. I hope to present sufficient empirical evidence to explain why some public policy issues and prescriptive strategies offered to firms appear settled, while others remain in dispute. Finally, I hope the reader will gain fresh insights on a central problem facing public policymakers—whether national financial policies and regulations ought to be harmonized or, instead, tailored to each country's individual environment and interests.

The Underlying Philosophy

The primary theme of *International Financial Markets* is that despite the burgeoning of financial products and expanding network of national market linkages, a small number of concepts guide the *pricing* of securities in international financial markets and guide the selection of *policies* by both private market participants and official market regulators. The key concept is that the seemingly distinct components of a national financial market and the seemingly distinct national financial markets themselves are really part of an integrated international financial market where prices tend to be set efficiently so as to reflect available information and to eliminate unusual profit opportunities. The key mechanism is arbitrage and arbitrage–like transactions that bind together spot and forward exchange rates, onshore and offshore money markets, forward rates and option prices, forward rates and swap rates, and other financial contracts.

Pricing efficiency and market integration imply a set of linkages for various financial market products both within and between national financial markets, and a consistency in market pricing. Whether at *the level of corporate financial officers* who wish to maximize investment returns, minimize funding costs, or establish acceptable levels of exposure to risks, or at *the level of national market regulators* who seek to promote the growth and ensure the safety and soundness of their own institutions—it follows that policies must be set giving full allowance to the market forces of efficient pricing and integration. Private individuals will naturally try to exploit the breadth of international markets to overcome the regulatory burden placed on local markets or the general inadequacy of local markets. Given the scope of financial alternatives open to private individuals, I show that the ability of national market regulators to set policies that deviate far from the norm is constrained.

Organization of the Text

Part I of the book begins with an overview of the changes that have occurred in international financial markets since the 1960s. I highlight the policy issues that face individuals, firms, and governments and the central role that foreign exchange plays for all countries. In Chapter 2, I review the history of international financial systems over the last century, and document recent price behavior in international financial markets.

The heart of the book is contained in the next four parts that divide the international financial markets into four major groups: (1) foreign exchange, (2) offshore markets, (3) derivative securities, and (4) international asset portfolios. Under each category, my objective is to describe the institutional setting and economics of pricing in these markets, and then to outline the policy issues affecting both private individuals and public policymakers.

Part II contains six chapters concerned with the foreign exchange market. Chapter 3 looks at the structure and institutional aspects of these markets. I discuss the competitive pressures that affect the foreign exchange market and how this affects the use of the market by private firms and the management of trading activity. The parity conditions in international finance, which are now a standard part of any text in this field, are introduced in Chapters 4 and 5. In reviewing these parity conditions, I emphasize the empirical evidence regarding parity, the factors that lead to systematic (rather than transitory) departures from parity, and the policy rules that might be triggered in response to deviations from parity. In Chapter 6, I address the economic determinants of exchange rates. A vast literature on this topic has evolved over the last 20 years. I review the main themes of this research and highlight the policy questions that remain for private firms and public policymakers.

Closely related to the efforts at exchange rate modeling are the themes of market efficiency and exchange rate forecasting that are the topics of Chapters 7 and 8. I review the theory and evidence on foreign exchange market efficiency and forecasting, giving attention also to policy issues such as whether private individuals should attempt to forecast exchange rates and speculate in currency markets, and whether public officials should intervene to improve the efficiency of markets and reduce the risks facing private enterprises.

In Part III, our attention turns to the Euromarkets, the offshore markets for financial instruments that began their development in the early 1960s. In Chapter 9, I focus on the short-term bank deposits and loans of the Eurocurrency markets. I examine the pricing of Eurocurrency instruments and the geographic spread of the market. The policy matters in this market concern the relative regulatory burden in offshore markets versus onshore markets, and the risks of Eurocurrency deposits. The longer-term end of the offshore markets, the Eurobond market, is the subject of Chapter 10. Again, the determinants of Eurobond prices and Eurobond activity are examined. Effective utilization of the market by issuers and investors is discussed, along with policies to regulate the Eurobond market or affect its competitiveness with traditional onshore bond markets.

The expanding market for new financial derivative products encompassing futures, options and swaps is the topic of Part IV. The institutional features and pricing relationships for futures, options, and swaps are analyzed in Chapters 11, 12, and 13 respectively. In each case, I consider the economic underpinnings of the market and the adequacy of existing pricing models to explain actual market prices. And in each chapter, I review the general techniques for using futures, options, and swaps in financial risk management. Public policy issues here concern the regulation of these new financial instruments and their impact on the traditional spot, or cash, markets.

In Part V, I look at developments in international asset portfolios. In Chapter 14, I examine the dimensions of international bond markets. A central theme is the calculation of returns on bond investments, both on an unhedged and currency-hedged basis. Evidence on the diversification potential of international bond portfolios is presented, supplemented by the evidence for currency-hedged bond portfolios. A similar analysis for international equity portfolios is presented in Chapter 15. I discuss the dimensions of these markets and the range of investment vehicles available to investors. I also review the findings on the pricing of equities in an international context as well as the evidence on international portfolio diversification. The issues of concern to private agents here include the tendency of investors to show a "home country bias" and overweight domestic securities in their portfolios and whether investors can continue to count on diversification gains in the future as international markets become more integrated. On the public policy side I consider the case for harmonization of listing requirements, trading and settlement requirements, and accounting practices.

In Part VI (Chapter 16), I examine the measurement and management of risk in international financial positions. I consider the corporate manager's situation, in which risk is derived from the firm's financial positions as well as the firm's operating activities. And I also analyze similar risk measurement and management issues for purely financial portfolios. While various techniques for measuring these exposures (such as regression analysis, scenario analysis, and the recently developed value-at-risk method) are discussed, I emphasize that all of these methods rely on assumptions that may limit the accuracy of these risk measurements.

The book concludes with Part VII (Chapter 17) that explores how regulators may give direction to international financial markets, a critical issue as markets have become global, footloose, huge, and some would say, beyond the power of regulatory authorities. I examine the pros and cons of competitive versus coordinated and harmonized approaches to regulating national financial markets. And finally, I investigate whether central bank intervention can be effective in containing foreign exchange rate behavior.

As the reader will note, entire books could be (and have been) written about each of the topics covered in the 17 chapters of this book. My coverage is necessarily selective, concerned primarily with what can be said about the economic setting of markets and the pricing of international financial instruments, and on what conclusions one can draw for private enterprises that must act in these markets and for public policymakers who either directly regulate or indirectly influence them.

Intended Audience

This textbook is designed for a one-semester course in international financial markets or international financial management either in a finance department of a business school or an economics department. The text is appropriate for students in an MBA program, master's degree programs, or advanced undergraduate courses. Students should have had an introduction to the basic principles of international economics (such as the theory of comparative advantage, balance of payments issues, and so forth) as well as a course in financial markets or investments that covers the basics of cash flow valuation, asset pricing models, and financial market efficiency.

The text contains discussion of numerous empirical studies and numerous graphs and tables that represent the results of those studies. Students should be familiar with the basics of hypothesis testing and regression analysis in order to interpret these empirical results.

Pedagogic Approach

Each chapter typically includes a discussion of the historical origins of a market and/or the present institutional organization of the market. The institutional setting is an important part of understanding how a market "works," and why the market might not behave in the precise way predicted by a stylized economic model.

Not surprisingly, each chapter also contains theoretical material to establish some baseline predictions about how prices in a market are determined, how they should behave over time, and how they may respond to macroeconomic events. I take the view that theory can be practical, as it often points the way to pricing a new product, to hedging the risk in an existing product, or to structuring a particular investment policy or borrowing strategy. However, all theories require testing. The chapters present the results of empirical studies so the reader can assess some of the important empirical regularities in international finance and see what puzzles remain to be resolved.

Graphs are used extensively throughout the text to convey the material in a visual way that complements the text. I use figures often to show the institutional organization of a market, to explain the pattern of cash flows associated with a single financial contract or a set of contracts, or to explain the results of an empirical study or financial strategy or risk management technique. Hopefully, the use of graphs and real life data make the topics and the theories seem more vivid.

The text also contains numerous boxed examples. Some boxes show the details of a financial calculation. Other boxes report examples from recent newspaper stories, again illustrating the practical implications of theory and empirical findings in the chapters.

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