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FOREIGN EXCHANGE & MONEY MARKETS

Managing Foreign and Domestic Currency Operations

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McGRAW-HILL BOOK COMPANY
New York St. Louis San Francisco Auckland
Bogotá Hamburg Johannesburg London Madrid
Mexico Montreal New Delhi Panama Paris
São Paulo Singapore Sydney Tokyo Toronto

Library of Congress Cataloging in Publication Data

Riehl, Heinz.
Foreign exchange and money markets.

Rev. ed. of: Foreign exchange markets. c1977.
Includes index.
1. Foreign exchange. 2. International finance.
3. Money market. I. Rodriguez, Rita M., date.
II. Title.
HG3851.R47 1983 332.4'5 82-14855
ISBN 0-07-052671-0

Portions of this book were published under the title
Foreign Exchange Markets, copyright © 1977.

234567890 KGP/KGP 89876543

ISBN 0-07-052671-0

The editors for this book were William R. Newton and Martha
Cameron, the designer was Elliot Epstein, and the production su-
pervisor was Teresa F. Leaden. It was set in Melior by ComCom.

Printed and bound by The Kingsport Press.

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Heinz Riehl is a senior vice president of Citibank, N.A., in New York and one of that bank's most experienced treasury officers. Since joining Citibank in Germany in 1960, he has held many different treasury-related positions and established a reputation as an imaginative problem solver and consultant on foreign exchange and money market matters. He travels globally and is a much sought-after speaker. He is adjunct professor of international business at New York University, and he also teaches courses in international treasury management at the Asian Management Institute and other academic institutions.

Rita M. Rodriguez serves as a member of the board of directors of the Export-Import Bank of the United States. She is on leave from her position as professor of finance at the University of Illinois at Chicago. Earlier she was an associate professor at Harvard Business School. She has written and coauthored numerous texts and articles on international finance, including one of the leading texts in the field, *International Financial Management*, and *Foreign Exchange Management in U.S. Multinationals.* A consultant to both U.S. and foreign corporations, she is a reviewer of articles for several academic journals. She obtained her M.B.A. and Ph.D. degrees from New York University.

Preface

With the growth of international business and the spread of the multinational enterprise, the treasury function has acquired a new meaning. No longer are treasury operations restricted to the borrowing and placing of funds in only one money market. The treasury function now includes a diversity of currencies which can be converted into one another through the exchange markets and which are transacted in many money markets. When excess funds are available, say in Swiss francs, these funds may be invested in the Swiss money market or in any other money market if the appropriate transactions in the exchange markets are executed. Treasury business is a global business.

This broadened definition of treasury operations sets the scope for this book. We want to present an integrated discussion of exchange markets and money markets which can serve as the basis for treasury operations as conducted in an international business. In addition, we want to make this presentation in practical terms which bridge the gap between the generalized conclusions of the economist and the concise but mystifying comments of the trader.

When we compare the scope of this book with the scope of its predecessor, *Foreign Exchange Markets,* we find three major differences:

1. The earlier book discussed money markets only inasmuch as they are important to understanding exchange markets. A discussion of money markets per se was not one of the objectives of that book; it is one of the objectives of this book.

2. The earlier book tended to concentrate on situations closely related to the banking business. In this book we have extended the coverage to include operations of the treasury department in any business—banking, commercial, or industrial.

3. New in this book is the inclusion of a number of problems at the end of most chapters. These problems and their accompanying answers are designed to provide the reader with additional examples of the situations discussed in the text. Mastery of the concepts discussed in this book requires practice; these problems are designed to provide this additional practice.

This book is organized into three major parts. In the first part, we dissect the links among participants and among different segments of each market involved to provide a basic understanding of the functioning of exchange markets and money markets. In the second part, the generalized knowledge developed in the first part is applied to specific problems encountered in the treasury department. These problems include operations in a trading room, funds management in the exchange markets and in the money markets, and management of exposure to exchange risk. In the third part, we discuss the issues involved in controlling treasury operations in both exchange markets and money markets.

The presentation does not assume any background in the field; we want the book to be accessible to those who do not have any previous acquaintance with financial markets. Therefore, it begins with essentials that probably will be familiar to many readers. This is particularly true in Chapter 1. The reader who feels some of the introductory sections to be too elementary will be well advised to skip these sections. However, it should be noted that the discussion moves quickly from these essentials to more specialized areas. For example, even though we start Chapter 1 with a discussion of the nature of interest rates and how they are expressed in percentage terms, by the end of the chapter we have moved the discussion to the field of Eurodollar markets.

We wish to apologize to the non-U.S. Americans for our use of the word "American" to refer to the United States. Since the United States is the largest financial market on the American continents, the use of "American" to refer to the United States is very prevalent in practice, and we have followed this practice here. On the other hand, to make the discussion more accessible to the reader, the language of the book departs at times from common trading-room usage when it involves specialized trading jargon. Although all specialized terminology is discussed in detail, some of the jargon peculiar to trading rooms has been avoided.

It should also be kept in mind that the examples presented in the text use rates that can vary widely. Therefore, no effort was made to use current rates, which might well change before the reader sees this book. However, the points made by these examples remain valid regardless of the prevailing rates.

Given the significant amount of material from *Foreign Exchange Markets* which is presented in this book, we must renew our thanks to those who contributed in the preparation of that book. This appreciation is particularly special for Mr. Adam Blistein, who was named "honorary editor" of that book for his contribution to the readability of the manuscript. Thanks were also due to those who commented on the manuscript: Mr. Hugh Conway, of U.S. Federal Deposit Insurance Corp., Mr. David Darst, of Goldman, Sachs & Co., Dr. Yoon S. Park, of the World Bank, and Mr. Edwin I. Pomeroy, of Citibank in New York.

To the debts of gratitude just mentioned we must add our thanks to those who collaborated in the preparation of this book, particularly Dr. James L. Paddock, Massachusetts Institute of Technology, who patiently reviewed and commented on the whole manuscript. We also thank Mr. Joseph Spadaford and Mr. Richard Pregiato, both Vice Presidents of Citibank, New York, who were very helpful in the preparation of Chapter 13 on accounting for exchange and money market transactions. We also appreciate the efforts of Ms. Linda Cuatico, Vice President of Citibank in Taiwan, who contributed the raw material for many of the problems presented at the end of the chapters, and Mr. Kenneth Adamitis, research assistant at the University of Illinois at Chicago, who helped to prepare many of the exhibits in this book.

Mr. Riehl wishes to thank Citibank in New York for the encouragement it provided in the preparation of *Foreign Exchange Markets,* as well as the current book. In particular, he wishes to express his gratitude to the late Freeman H. Huntington for his special support of this project. At the time of the writing of the first book Freeman Huntington was Senior Vice President of Citibank. Both authors wish to thank Citibank for granting permission to adapt slides from its videotaped presentations on foreign exchange markets.

Heinz Riehl
Rita M. Rodriguez

Contents

PART · 1

Foreign Exchange and Money Markets

When we enter the world of financial management in the foreign exchange and money markets, we should first go through a brief period of initiation. This is what Part 1 of this book is all about.

We need to know who the main participants are in this area where we intend to operate. Thus, the cast of characters is introduced in Chapter 1. Then, we must understand the language which these characters speak. The language is one that expresses the price of money, and it does so through the use of quotes. The mechanics of understanding market quotes are discussed in Chapter 2. Finally, we introduce the leading actor in our story, the funds manager. The problems of this individual, who must manage funds in both the money market and the foreign exchange market, lead us (in Chapter 3) to an understanding of the interdependence of these two markets. Chapters 4 and 5 discuss further the nature of these markets and the funds manager's problems, assuming a two-way market—a market in which both bid and offer rates are quoted. Finally, Chapters 6 and 7 present the general economic and political factors which affect exchange rates and interest rates.

The seven chapters in Part 1 of this book provide the foundations of the world in which the funds manager operates. When we understand its structure, we shall look in Part 2 at specific examples which illustrate efficient operations in the money and foreign exchange markets.

CHAPTER · 1

Who's Who in the Markets

Do you remember the first time that you visited an Arab bazaar or a cattle auction? Do you remember the first time that you entered the visitors' gallery at the New York Stock Exchange or a foreign exchange trading room? Your reaction to these experiences is likely to have been one of bafflement combined with a bit of amusement. However, if you stop to think what all these experiences had in common, you soon realize that in every case people were just buying and selling something. This is what a market is all about; the foreign exchange market and the money market are no exception. The degree of colorfulness and noise may be different from market to market. However, the basic fact remains that in every market people buy and sell certain articles; they make a market in those articles. In the foreign exchange room, the traders are just making a market in foreign exchange, pieces of paper denominated in foreign currencies. Never mind that at the cattle auction buyers and sellers face one another in a given physical place, whereas in the foreign exchange trading room all transactions are made via the telephone or telex throughout a geographical area that covers the world. In both situations there is an ongoing market.

No market exists in isolation. In addition to the interactions among the participants in each market, there are other markets that have a bearing on the performance of the given market. In the case of the foreign exchange market, the other market which it is essential to understand is the money market. The money market and the foreign exchange market are so interlocked that it is impossible to understand one without understanding the other. In the following sections we shall introduce these two markets, as well as the foreign sister of the money market, in some detail. However, the discussion of how these markets are related is reserved for Chapter 3.

MONEY MARKET

What the Money Market Is

We begin with the money market because it is the one in which we all have operated at one time or another. Anybody who has a checking account is a participant in the money market. The article that is bought and sold in this market is "money" or "near-money." Money or near-money is nothing more than financial paper representing a sum of money that one person (or enterprise) owes to another. In the case of currency, that is, cash in your pocket, it is the government that owes the money to you as the bearer of the currency.[1] In the case of a Treasury bill, it is also the government that owes an equivalent value to the owner of the bill. Here, however, a specified time has to elapse before the piece of financial paper—the Treasury bill—becomes payable in hard cash by the government, i.e., before the date of the maturity of the document. In the first case, the government currency is actually money. In the second instance, the Treasury bill is only near-money. It would not be very hard to sell the Treasury bill to another person; however, the government itself is not liable for the payment of the money represented by the bill until the instrument matures.

The bulk of the financial assets traded in the money market have a maturity of less than a year. However, active trading is carried on in documents of up to five years' maturity. Anything above five years is pretty much the domain of the investors in the capital markets where these longer-term securities are traded.

Actors in the Money Market

We can list the major actors in the money market in order of importance as reflected by the volume of transactions they execute in this market. The major actors are commercial banks, central banks, large corporations, institutions that make a market in specialized instru-

[1]Money is money is money . . . ! Presenting a $2 bill to the U.S. Treasury for redemption will meet with one of two responses: The Treasury will exchange a $2 bill for either another $2 bill or two $1 bills.

ments such as Treasury bills, and the public at large which uses money for various purposes. Let's have a glimpse at what makes each of these actors tick.

COMMERCIAL BANKS

The large role of these institutions in the money market can be easily envisioned by looking at their assets and liabilities. A major portion of their liabilities are demand deposits, which, by definition, is money itself. Another large portion of banks' liabilities are time deposits, which are considered to be near-money. On the asset side, in addition to loans, banks have part of their assets invested in marketable securities.

If one asks why commercial banks operate in the money market, one can rank the objectives in the following order:

1. To maintain the liquidity, and therefore the solvency, of the bank
2. To use excess funds so that they produce the highest possible return, given the constraints imposed by the first objective
3. To borrow necessary funds at the lowest possible cost

From the previous two paragraphs it is easy to have an intuitive feeling that commercial banks must wheel and deal a lot in the type of paper that we call money market instruments. Let's see, in more detail, how these institutions are triggered to enter the money market. Without trying to be comprehensive, let's take one example.

Energetic Corp., which keeps its cash balances with commercial bank ABC, makes a payment to Creditor Corporation in the amount of $10 million. Creditor Corp. deposits the check drawn on commercial bank ABC in the bank that it usually deals with, commercial bank XYZ.

Assuming that both commercial banks ABC and XYZ were happy with their cash positions before the Energetic Corp. decided to pay its creditor, and that Creditor Corp. deposited the check, we see that each of the two banks now has a problem. Bank ABC will feel that its liquidity has been impaired by the loss of $10 million. On the other hand, bank XYZ has to find a profitable use for the $10 million it has received. These are the forces that will send the two banks into the money market. In this simplified example, where no other changes take place, the easiest solution will be for bank XYZ to lend its excess funds to bank ABC. This