Financial Management of Financial Institutions

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PRENTICE-HALL FOUNDATIONS OF FINANCE SERIES

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Editor's Note

The subject matter of financial management is in the process of rapid change. A growing analytical content, virtually nonexistent ten years ago, has displaced the earlier descriptive treatment as the center of emphasis in the field.

These developments have created problems for both teachers and students. On the one hand, recent and current thinking, which is addressed to basic questions that cut across traditional divisions of the subject matter, do not fit neatly into the older structure of academic courses and texts in corporate finance. On the other hand, the new developments have not yet stabilized and as a result have not yet reached the degree of certainty, lucidity, and freedom from controversy that would permit all of them to be captured within a single, straightforward treatment at the textbook level. Indeed, given the present rate of change, it will be years before such a development can be expected.

One solution to the problem, which the present Foundations of Finance Series tries to provide, is to cover the major components of the subject through short independent studies. These individual essays provide a vehicle through which the writer can concentrate on a single sequence of ideas and thus communicate some of the excitement of current thinking and controversy. For the teacher and student, the separate self-contained books provide a flexible up-to-date survey of current thinking on each subarea covered and at the same time permit maximum flexibility in course and curriculum design.

EZRA SOLOMON

Preface

The purpose of this book is to demonstrate modern financial management techniques for financial institutions. Financial institutions are business organizations, the majority of whose assets and liabilities are financial. In this book we emphasize management of the financial resources, both assets and liabilities, of the major financial institutions in the United States. The book is written to be understandable to advanced level undergraduate students and to master's degree level graduate students. While a few symbols and elementary mathematical expressions are embodied in the text, most of this type of material is in footnotes or the appendices.

The book is organized into three basic sections. The first section contains a concise discussion of the economic role of financial institutions and the necessity that they continue to fill this role. We present a general conceptual model for the financial management of any financial institution in Chapter 2. This model abstracts from real-world constraints, such as past practices and regulatory limitations. We demonstrate that, with wealth-maximization as the primary objective, this model can be subdivided for practical financial decisions and linear programming can be used in solving many problems. In Chapter 3 we identify the basic types of assets and liabilities used by financial institutions, indicate how the returns (costs) of these securities can be measured, and integrate the conventional techniques of portfolio analysis into the institution's management decisions. These conceptual financial management ideas are followed by a discussion of the historical patterns of development of our existing financial institutions and the current regulatory environment faced by these institutions.

The second section is organized around the major types of financial institutions: commercial banks, thrift institutions (savings and loan associations, mutual savings banks, and credit unions), insurance companies, and other financial institutions (investment companies, public and private retirement funds, and finance companies). Each chapter discusses the existing asset, liability, and capital (reserve) positions of the financial institutions in light of their historical development and regulatory environ-

ment. Each chapter then demonstrates how the general conceptual model can be adapted and applied in the financial management of the discussed institution in the current environment. We also show how linear programming can be applied as a mathematical model for wealth-maximization in several of these institutions.

In the final section, we demonstrate that the environment in which financial institutions must operate is not static but dynamic. We present some of our forecasts as to how this environment may change in the next few years. While we conclude that financial institutions in tomorrow's environment will be considerably different from today's financial institutions, we strongly believe our general wealth-maximization model will remain the appropriate criteria for financial management decisions in future environments.

Numerous organizations and individuals provided essential data and helpful comments during the preparation of this book. Organizations that provided special assistance include the American Bankers Association, the Federal Deposit Insurance Corporation, the U.S. League of Savings Associations, the National Association of Savings Banks, the Credit Union National Association, the Institute of Life Insurance, the Securities and Exchange Commission, the National Consumer Finance Association, and Alfred M. Best Company, Incorporated. Individuals who gave helpful guidance or comments during the course of preparing the manuscript include Professor Alexander A. Robichek of Stanford University, Dr. George Hanc of the National Association of Savings Banks, Professor William S. Townsend of Southern Methodist University, Professor E. James Pilcher of the University of Michigan, Dr. Kenneth J. Thygerson of the U.S. Savings League, Professor Keith B. Johnson of the University of Connecticut, Professor Lyn D. Pankoff of Washington University, Professor David W. Cole of Ohio State University, Professor David Kidwell of Purdue University, and Professor Richard McEnally of the University of North Carolina. Professor Ezra Solomon of Stanford University provided general guidance as head of Prentice-Hall's Foundation of Finance series. Three graduate students at Washington University, William Marshall, Maurry Tamarkin, and John White, provided assistance in gathering information and with the linear programming examples. Mrs. Dee Goodman typed and retyped the manuscript more than either she or we would like to remember. Finally, the Graduate School of Business Administration at Washington University provided cooperation and support to allow us to complete this book. While the assistance received was essential, we hold ourselves responsible for any remaining errors and for any opinions presented unless so indicated in the text.

GEORGE H. HEMPEL
JESS B. YAWITZ

Contents

The Economic Role of Financial Institutions

SERVICES provided by financial institutions have become so commonplace in the United States that we sometimes forget just how recent their development is in our economy and that they are absent in many areas of the world today. In this chapter we establish the relative size of the financial institutions discussed in this book and consider their role in a market economy. The economic role of financial institutions is emphasized not only because of their importance as an ingredient in economic growth, but, also because an understanding of this role is essential for their proper financial management.

Financial Institutions: Definition and Types

Financial institutions are firms that supply financial services to the economic community. Their assets are almost exclusively financial in nature. These assets consist primarily of money owed them by nonfinancial economic units such as households, businesses, and governments; secondarily, of money owed them by other financial institutions; and, corporate stock. The composition of their assets distinguishes them from other productive units of the economy whose assets are composed of tangible assets such as land, plant, equipment, and inventory. Most financial institutions issue contractual obligations in order to obtain the funds to purchase these financial assets. The institution's net worth (or reserve) position, which results from the sale of stock or the accumulation of re-

tained earnings, represents a relatively minor source of funds. Indeed, it can be argued that financial institutions with the mutual or trusteed forms of organization, as opposed to the corporate form, have only obligations and no net worth.

We have limited the financial institutions discussed in this book to major financial institutions whose primary objectives are (or probably should be) to maximize the wealth of their shareholders. In this way, we are able to analyze the financial institution's objective function with the same basic framework that has proven to be valid for the typical nonfinancial firm. The shareholders may be holders of common stock in the corporate form or organization, deposit or policyholders in the mutual form, or beneficiaries in the trusteed form. (We discuss why we believe wealth-maximization is appropriate for each of these forms of organization in Chapter 2.) Financial institutions whose primary objectives are public policy (even though some are partially privately owned) are not specifically discussed, but some of the management strategies proposed should prove useful in their management. Financial institutions not specifically covered include: mortgage banks, investment banks, dealers and brokers, the Federal Reserve System, the federal land banks, and federal lending agencies such as the Federal National Mortgage Association, the Export-Import Bank, the Commodity Credit Corporation, the Federal Home Loan Banks, and the Rural Electrification Administration. The number and the asset size of the financial institutions in the United States in 1974 appear in Table 1-1. We relate these figures to aggregate economic measures after the discussion of the economic role of financial institutions.

The Role of Financial Instituions

The primary role of financial institutions can be stated very simply—to fill the diverse needs of both ultimate borrowers and ultimate lenders in our economy. Perhaps the best way to understand this important function is to first consider an economy without financial institutions. The simplest such economy is one in which goods and services are exchanged in a barter system; by definition, there is neither money nor other financial assets or liabilities. There are, therefore, no financial institutions. The exchange of economic goods and services takes place in kind. In such an economy any increase in real capital (net investment) would have to be accompanied by simultaneous savings decisions by the investing unit. All economic units would be required to have balanced budgets at all times. External financing is, therefore, absent in a barter economy. A typical exchange in a barter economy involves two economic units and two goods or services. With such an inefficient means of exchange, one would expect the level of capital formation and income would be quite low. Capital formation would be tied rigidly to the distribution of current income and would not be responsive to the profitability criterion.

A more advanced, though still rudimentary, economy might be one in which there exists sufficient money to facilitate transactions but in which

TABLE 1-1 Size of Financial Institutions, December 31, 1974

Type of Institution	*Number of Institutions (in thousands)*	*Assets (in $ billions)*
Commercial banks	14.5[a]	$ 916.3
Savings and loan associations	5.1[b]	295.6
Mutual savings banks	0.5[c]	109.6
Credit unions	23.0	32.0
Life insurance companies	1.8	263.3
Property insurance companies	3.0	81.3
Investment companies	0.7	62.7
Private pension funds	170.0	133.7
Public pension funds	2.1	178.5
Finance companies	3.5	93.4
Investment bankers, dealers, and brokers	0.8	16.8
Others[d]	3.3	593.1
All financial institutions	228.3	$2,776.3

Sources: Federal Reserve Bulletins; 1975 Savings and Loan Fact Book; 1975 National Fact Book of Mutual Savings Banking; CUNA 1975 Yearbook; 1975 Life Insurance Fact Book; Best's Aggregates and Averages, Property-Liability, 1975; Wiesenberger's *Investment Companies* for 1975; *SEC Statistical Bulletins; 1975 Finance Facts Yearbook; Social Security Bulletins; Treasury Bulletins;* and *Governmental Finance.*

[a] The total number of banking offices, including branches, was 42,891.

[b] The total number of association offices, including branches, was 13,922.

[c] The total number of savings bank offices, including branches, was 2,121.

[d] Includes the Federal Reserve System, government lending institutions, trusts, postal savings, and mortgage companies which are not covered in detail.

no other types of financial instruments are available. In such an economy, every unit—household, business enterprise, and government—would still spend roughly as much as it receives and there would be no need for financial intermediaries. In this situation, no economic unit would have external financing—its receipts and any cash balances would have to suffice to finance not only current consumption but also capital expenditures on plant, equipment, housing, and inventory. Enterprise would be severely restrained since economic units with productive ideas and/or a willingness to take greater risks in the ownership of real assets would be unable to expand their holdings of real assets beyond their own net worth. Accumulation would also be constrained because economic units desirous of holding their net worth (accumulated savings) in assets of relatively stable value could only apply their savings to a limited menu of assets—money or perhaps some types of physical capital. While there might be some division of labor in the separation of household and business activities, such an economy would tend to be relatively inefficient in allocating resources and would tend, therefore, to have a low rate of economic growth.[1]

The role of financial liabilities (contractual obligations) in the saving-investment process can be demonstrated quite simply. Two cases are con-

[1] For a more thorough discussion of the inefficiencies and low growth in an economy without financial claims, see James C. Van Horne, *Functions and Analysis of Capital Market Rates* (Englewood Cliffs, N.J.: Prentice-Hall, 1970), pp. 2–11.

sidered: with financial institutions and without financial institutions. In the simplified economy there are two sectors, households and businesses. Households receive in income ($100 of money) an amount equal to the total value of the goods and services produced in the business sector. This income can be from wages, profits, rents, or interest. Figure 1-1 portrays the initial position of the household and business sectors after production has taken place. The first intersectoral flow involves an exchange of money ($80) for consumer goods. (Figure 1-2) After the consumption decision, households desire to save $20 while business desires to invest $20. In an economy without financial liabilities there would be no means whereby the ultimate savers could be matched with ultimate investors. An economy with primary financial liabilities allows for such a matching of interests. Figure 1-3 portrays the transfer of $20 in purchasing power (money) from the household sector to a $20 financial liability on the business sector. After this exchange the business sector has sufficient purchasing power to undertake the desired $20 investment expenditure. The relevant portions of the household and business balance sheets are present in Figure 1-4.

Figure 1-1. Initial Allocation of Purchasing Power and Product

Figure 1-2. Households Purchase Product From Business for Consumption

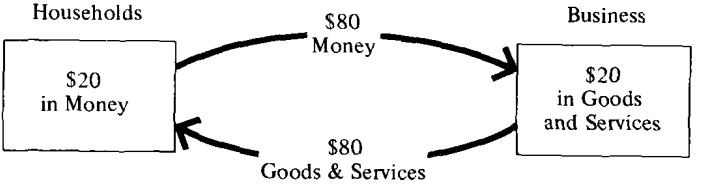

Figure 1-3. Households Purchase Primary Securities from Business to Allow for Investment