THE EVOLUTION OF ACCOUNTING THOUGHT AND PRACTICES RELATED TO BOND REFUNDING

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ABSTRACT

THE EVOLUTION OF ACCOUNTING THOUGHT AND PRACTICES RELATED TO BOND REFUNDING

By

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Accounting for the several types of cost incurred in the refunding of bonds was the subject of considerable controversy during the 1930s. Continuing interest shown in the problem by accounting and regulatory authorities during recent years prompted this study. More specifically, its objectives are as follows:

1. To review developments in accounting thought related to bond refunding.

2. To compare practices and analyze size relationships between refunding-related costs, earnings, and dividends of public utility and nonregulated industrial firms.

3. To determine inferable support for alternative accounting procedures from recent models of accounting theory.

4. To investigate the question of whether different procedures may be justified for public utilities than for nonregulated firms.

The literature indicates that theoretical argument has revolved around whether refunding-related costs should be subject to immediate write-off or one of several gradual

write-off procedures. Advocates of immediate write-off tend to view these costs as a loss realized upon refunding. Advocates of gradual write-off usually attempt to relate the costs to perceived periods of interest savings.

Data concerning practices by samples of utility and industrial firms during the periods 1936-1945 and 1956-1965 were obtained largely from questionnaires and previous reports. Utilities tended to use gradual write-off to a greater extent than immediate write-off during the earlier period. But there was increased use of immediate write-off during 1956-1965. A majority of industrials used immediate write-off during both periods.

Utilities deferring write-off tended to have larger amounts of such costs relative to retained earnings and net income than industrials or utilities using immediate write-off during 1936-1945. Percentages were smaller and less conclusive for the 1956-1965 period. A chi-square test indicated significantly higher median dividends for utilities using immediate write-off during both periods. Similar results were not obtained for industrials. The results of a correlation test of refunding-related costs and dividends were not strong but did not refute the inference that the relative size of these costs was at least partially

responsible for use of gradual write-off procedures by public utilities during 1936-1945.

Accounting for bonds outstanding at current values and their related interest at market rates is proposed by Eldon S. Hendriksen in Accounting Theory. Complete application of this procedures, called the full-accrual approach in this study, requires continuous adjustment of premium or discount since the bond liability is always stated at the amount required for current redemption. Prior complete accrual of this amount leaves no unamortized cost related to a refunded issue in the accounts. The Hendriksen model is described, illustrated, and analyzed in the study. Guidelines stated by Raymond J. Chambers in Accounting, Evaluation and Economic Behavior and by Robert T. Sprouse and Maurice Moonitz in Accounting Research Study No. 3 are summarized and interpreted as lending support for the full-accrual approach.

The standard of relevance of accounting data to expected use, as proposed in the American Accounting Association's A Statement of Basic Accounting Theory, is inferred to permit capitalization and amortization of refunding-related costs (in the historical-cost model) when such procedure conforms accounting data to that used

by utility commissions in the rate-making process. But the A. A. A. model proposes the reporting of current-cost as well as historical-cost data, and this current-cost model, as applied to bond liabilities, yields results that agree with the Hendriksen full-accrual approach.

The writer recommends (1) conformity of externally reported utility data to that used in rate making, (2) rejection of current practice of reporting what appear to be irrelevant data, (3) further consideration of current costs for use in rate making and financial reporting, and (4) research of user views and predictive assistance of data based on different procedures of accounting for debt.

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CHAPTER I

INTRODUCTION

Historically, one of the major problems in accounting has been the assignment of items of cost and revenue to the proper periods to achieve realistic measurement of business income. Closely related is the problem of fair presentation of assets and liabilities in the balance sheet. Discount, issue cost, and premium related to long-term debt have been among the items of controversy as to proper accounting treatment. A particularly troublesome question has been that of appropriate disposition of these items when bonds are refunded prior to maturity.

Refunding usually involves retirement of a bond issue by using cash proceeds of other bonds issued for the purpose of acquiring funds to be used to retire the original debt. A direct exchange of issues is also considered a form of refunding.

The central concern of the accounting problem has been whether financing costs applicable to the retired issue and remaining in the accounts at the date of refunding

should be written off immediately upon retirement or deferred and charged off gradually over some future period. Proposed alternatives have also included some prior disposition of the items such that no balance remains upon the occurrence of refunding. Accounting and regulatory authorities have issued various pronouncements concerning the matter. Pro and con discussion of procedures has appeared in the literature of accounting theory many times. But, to date, there has not been general agreement in the accounting profession as to superiority of a particular procedure sufficient to exclude acceptance of other alternatives.

Objectives of the Dissertation

In view of the historical controversy and evidence that the problem still exists, the areas of investigation in this study involve two phases of research. The first phase consists of an historical review of thought and practice trends related to accounting for bond refunding, accompanies by an analysis of size-relationships between financing costs applicable to bonds refunded and net income, retained earnings, and dividends.[1] The second phase

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[1]For definition of financing costs, see pp. 19-21, infra.

consists of an investigation to determine what procedures may be supported by application of guidelines proposed in recently developed generalized models of accounting theory.

The specific objectives of the study are:

1. To show developments in accounting thought related to refunding, with emphasis upon pro and con argument prevailing in the literature near the time of approval of various procedures by accounting bodies and regulatory authorities.

2. To determine practice trends, if any, indicated by procedures used during periods of attention to the problem by accounting and regulatory groups and what pragmatic basis for adoption of certain procedures may be inferred from the size-relationships analysis.

3. To determine whether logically consistent application of guidelines comprising the main framework of each of three recently developed accounting theory models leads to the full-accrual approach or permits some historical cost procedure.[1]

4. To determine whether different procedures appear warranted for public utilities than for nonregulated industrial firms by application of usefulness oriented evaluation standards and communication guidelines

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[1] Eldon S. Hendriksen, Accounting Theory (Rev. ed.; Homewood: Richard D. Irwin, Inc., 1970), pp. 450-455, contains perhaps the strongest statement of the case for what is referred to in this dissertation as the full-accrual approach. The procedure consists of accounting for the bond liability and related interest charge at current market price and yield rate. Complete application of the procedure achieves automatic adjustment for premium and discount as part of the accrual.

proposed in the American Accounting Association's A Statement of Basic Accounting Theory.

Hypotheses and Methodology

Research related to the first objective consists of summarization and discussion of theoretical and practical argument offered in the literature by proponents and critics of various procedures. This review includes statements of regulatory commissions, federal income tax authorities, and professional accounting organizations as well as proposals of individual writers. To show the variety of procedures currently in effect, a tabulation of those approved by the various authorities will be presented. This includes the results of a questionnaire survey of the state commissions.

Certain questions as to possible findings related to the second and third objectives prompted the researcher to formulate working hypotheses for these aspects of the study. These are given as tentative assertions of possible findings of the research. Hypothesis No. 1 and Hypothesis No. 2 are related to the second objective. Hypothesis No. 3 is related to the third objective. The statement of each is followed by a description of the methodology to be used in its investigation and a statement of the basis for

adoption of the hypothesis.

The first hypothesis related to the second objective is given below.

> Hypothesis No. 1.--A pragmatic basis for gradual write-off of financing costs applicable to bonds refunded may be inferred for public utilities, in contrast to industrials, on the grounds that utility balances of such costs tend to be of sufficient size to significantly impair earnings available for dividends.

Using a list of refunding firms reported by Lemke as a working nucleus and obtaining additional information from financial summaries published in Moody's Manuals, amounts of discount, issue cost, and call premium applicable to the issues retired were determined for 40 utility cases and 33 industrial cases of refundings during the period 1936-1945.[1] By a combination of investment manual statistics, Securities and Exchange Commission reports, and questionnaires similar data were obtained for 36 utility and 27 industrial refundings occurring during 1956-1965. As a test of Hypothesis No. 1, the data for these two periods are analyzed and reported in the study as follows:

1. Unamortized financing costs applicable to refunded bonds, the amount charged

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[1]Bernhard C. Lemke, "The Treatment of Bond Discount and Premium in Connection with Refundings," (unpublished Ph.D. thesis, University of Minnesota, 1946), pp. 175-176, 184.

off in the year of refunding, and the dividend for that year are shown as per cents of retained earnings and net income before charge-off. Cross comparisons are made for:

a) Public utilities vs. nonregulated industrials.

b) Immediate write-off vs. deferred write-off.

c) Decade ended December 31, 1945 vs. decade ended December 31, 1965.

2. The results of certain statistical tests are reported. These are:

a) A runs test of 1956-1965 utility and industrial samples assumed to be representative of populations consisting of known refundings for the period. Randomness was assumed for the 1936-1945 samples since these included many of the cases reported, although analyzed differently, in prior studies.

b) A median test for differences in dividends of firms deferring write-off of refunding-related financing costs and those of firms writing these costs off entirely in the year of refunding.

c) A correlation test of association between dividends and refunding-related charges written off in the year of refunding.

The basis for Hypothesis No. 1 was provided primarily by the results of the Lemke study. That report showed aggregate amounts of unamortized bond financing costs appearing in balance sheets at or near refunding as per cents of retained earnings and total assets.[1] Amounts

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[1] Ibid.

applicable to refunded issues specifically were not distinguished in most cases. Other sources referring to similar size-relationships have not shown quantitative documentation.

The second hypothesis related to the second objective is stated below.

> Hypothesis No. 2.--There has been a trend during the 1956-1965 period toward greater use of write-off over the life of the new issue by public utilities than indicated by earlier studies for the 1936-1945 period.

Methodology for the second hypothesis consists of tabulations of practices for 1956-1965 compared to patterns reported by Lemke and Clendenin for the 1936-1945 period.[1,2] The Clendenin study reported practices determined by a survey in 1941 but did not include any analysis of quantitative data.

Approval of write-off over the life of the new issue by the Accounting Principles Board of the American Institute of Certified Public Accountants in 1965 was the basis for Hypothesis No. 2. Introductory remarks in Opinion No. 6 indicated that currently accepted practice influenced revisions of positions previously taken in the

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[1] Ibid., pp. 180, 193.

[2] J. C. Clendenin, "How 118 Major Corporations Account for Bond Discount," The Journal of Accountancy, LXXII (July, 1941), 40-43.

Accounting Research Bulletin series.[1] Also, since anticipated rising interest rates as well as currently lower rates were mentioned as circumstances justifying the procedure, there arises the question of a tendency of firms to relate accounting write-off to the life of the new issue when that period is employed in rate-of-return calculations for capital budgeting purposes.

A third hypothesis is related to the third objective and is stated below.

> Hypothesis No. 3.--Logically consistent application of guidelines contained in the deductive models used in the study, including those which do not specifically discuss refunding, provides greater support for the full-accrual approach than for other procedures of accounting for long-term debt and related interest.

The methodology related to Hypothesis No. 3 consists of presentation of the full-accrual approach as developed and supported in the Hendriksen book and examination of two other accounting theory models as follows:

1. Sprouse-Moonitz Postulates-Principles Model:

   Sprouse, Robert., and Moonitz, Maurice. "A Tentative Set of Broad Accounting Principles for Business Enterprises," Accounting Research Study No. 3. American Institute of Certified Public Accountants, 1962.

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[1]American Institute of Certified Public Accountants, Accounting Principles Board, "Status of Accounting Research Bulletins," Opinion No. 6 (New York, 1965), pp. 38, 43.

2. Chambers Current-Cash-Equivalent Model:

Chambers, Raymond J. Accounting, Evaluation and Economic Behavior. Englewood Cliffs: Prentice-Hall, Inc., 1966.

The use of the models in this study will consist of describing the general framework of the approach taken in each model and drawing from it the guidelines shown or inferred to be related closely to accounting for long-term debt. The author's supporting argument will be summarized, but extensive derivations will not be attempted. The purpose of this analysis is merely to show what solution to the bond-refunding accounting problem would follow from logically consistent application of the guidelines contained in the models.

The basis for the third hypothesis lies in the general controversy over the many alternative procedures of accounting for various types of transactions, of which bond refunding is just one example. In 1959 the American Institute of Certified Public Accountants launched a research program aimed at reduction of inconsistencies and narrowing the areas of differences in accounting practice by formulating accounting principles based on research other than just surveys of practices that exist.[1] Since that time

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[1]American Institute of Certified Public Accountants, Special Committee on Research Program, "Report to Council of the Special Committee on Research Program," The Journal of Accountancy, CVI (December, 1958), 62-63.

several proposals purported to be contributions toward the development of theoretically sound accounting guidelines based largely on deductive logic have appeared in the literature. The essence of Hypothesis No. 3 is that three such models can be shown to support the full-accrual approach, essentially as developed by Hendriksen.

Most models of financial accounting theory examined by this researcher appear directed primarily to general-purpose income measurement and reporting. But the evaluation standards and communication guidelines proposed in the American Accounting Association's Statement represent a pragmatic approach to accounting theory development related to the criterion of usefulness in achieving desired results. In this study, the model is used to evaluate procedures related to utility accounting under rate regulation as opposed to those of firms operating in the nonregulatory environment. No particular hypothesis is asserted with respect to the fourth objective of the dissertation, although there is a discussion of the extent of support for the full-accrual approach as well as others in the light of the "standards and guidelines."

Background for the Study

The Practice of Bond Refunding

Historically, the usual purpose of refunding bonds has been to reduce the cost of long-term debt financing during periods of low interest rates.[1] But contraction of a cumbersome number of different issues, getting rid of indenture restrictions, and postponement of ultimate repayment have all been cited as reasons for refunding.[2]

While little refunding occurred until around the turn of the century, about 60 per cent of all bonds retired during the entire period 1900-1943 were refunded.[3] Refunding issues accounted for around 45 per cent of approximately $72 billion total face amount of straight bonds offered to investors during these years.[4] Most of the refunding was done by railroads and public utilities, but refunding bonds comprised about 35 per cent of total offerings by nonregulated firms during the period.[5]

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[1]Raymond P. Kent, Corporate Financial Management (Homewood: Richard D. Irwin, Inc., 1964), pp. 745-746.

[2]Ibid.

[3]W. B. Hickman, The Volume of Corporate Bond Financing Since 1900 (Princeton: Princeton University Press, 1953).

[4]Ibid., pp. 111, 113.

[5]Pearson Hunt, Charles W. Williams, and Gordon Donaldson, Basic Business Finance (Homewood: Richard D. Irwin, Inc., 1961), pp. 562-563.

A record volume of refunding occurred during the 1944-1947 period when interest rates were lower than for any comparable period since the 1920s.[1] Since the 1940s, the practice has continued but at a relatively lower level. Upturns have been evident during the 1954-1955 and 1962-1963 periods.[2,3]

Much of the evidence indicates that bond refunding is a major financial practice primarily of regulated industry, although it is engaged in to some extent by non-regulated industrials. Heavy fixed capital requirements and the conditions of rate regulation tend to limit availability of equity funds to the regulated firm. Hence, public utilities continually rely on bond issues as a major source of long-term funds.

Securities and Exchange Commission policy under the Public Utility Holding Company Act of 1935 requires that bonds and preferred stock of companies subject to the act must be fully refundable at the option of the issuing

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[1]Pearson Hunt, Charles W. Williams, and Gordon Donaldson, Basic Business Finance (Homewood: Richard D. Irwin, Inc., 1961), pp. 562-563.

[2]Ibid.

[3]Arthur J. Stegeman, "tlst Annual Statistical Report-1965," Electrical World, CLXIII (February 22, 1965), 113.

corporation.[1] The commission reported that a majority of electric and gas issues offered at competitive bidding from mid-1957 to mid-1966 were refundable bonds.[2] It does not seem unreasonable to anticipate that many high-yield issues of recent years will be refunded in the event of future rate declines, although it is not a purpose of this study to predict such phenomena of the financial market-place.

At any rate, bond refunding continues to a sufficient extent to attract the attention of professional accounting bodies and regulatory authorities. It has also been discussed in the literature of capital budgeting in recent years.[3]

Related Accounting Problems

The accounting problems related to bond financing stem largely from issuance at prices other than face value, perhaps the rule rather than the exception as bond prices and interest rates react to conditions in the securities

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[1] U. S. Securities and Exchange Commission, 32nd Annual Report (Washington: U. S. Government Printing Office, 1966), p. 82.

[2] Ibid., pp. 82-83.

[3] Oswald D. Bowlin, "The Refunding Decision: Another Special Case in Capital Budgeting," The Journal of Finance, XXI (March, 1966), 55-68, and Earl A. Spiller, Jr., "Time- Adjusted Rate of Refunding," Financial Executive, XXXI (July, 1963), 32-35.

market. By the time refunding reached peak proportions in the 1930s, the view of premium and discount as adjustments of the interest rate and, hence, of the effective bond liability was receiving considerable support in the literature. But the procedure usually followed in practice was to show the liability at face value and carry discount as a deferred charge on the asset side of the balance sheet.[1]

The practice of refunding created additional problems with respect to accounting for remaining balances including some combination of unaccumulated discount, issue costs, call premium, incidental call costs, and duplicate interest charges applicable to the bonds retired. Some examples of the different views prevailing in the 1930s are as follows:

1. The National Association of Railroad and Utility Commissioners approval of immediate write-off as the basic procedure.[2]

2. The state of Wisconsin's stipulation of write-off over the life of the refunding issue to the extent that the resulting "effective" rate was not greater than

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[1]Thomas H. Sanders, Henry R. Hatfield, and Underhill Moore, A Statement of Accounting Principles (New York: American Institute of Certified Public Accountants, 1938), p. 78.

[2]National Association of Railroad and Utility Commissioners, Uniform System of Accounts for Electric Utilities (New York: The State Law Reporting Company, 1937), p. 14.

that for the retired issue prior to refunding.[1]

3. A writer's recommendation of a hybrid approach involving immediate write-off at refunding of discount and issue cost of the old issue but deferral of call premium over the life of the new issue.[2]

Attention to the problem by the American Institute of Certified Public Accountants has included the following:

1. Approval of immediate write-off and write-off over the period to normal maturity of the retired issue in 1939.[3]

2. Recommendation of a charge in the income statement at least equal to the tax saving resulting from deduction of the items related to refunded bonds regardless of the disposition of the remainder to be written off.[4]

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[1]Herbert C. Freeman, "The Treatment of Unamortized Discount and Premium on Retirement in Refunding Operations," The Journal of Accountancy, LX (October, 1935), 255.

[2]V. Childs Klug, "The Accounting Treatment of Unamortized Discount and Premium in Utility Refunding Operations," The Journal of Land and Public Utility Economics, XII (November, 1938), 411.

[3]American Institute of Certified Public Accountants, Committee on Accounting Procedure, "Unamortized Discount and Redemption Premium on Bonds Refunded," Accounting Research Bulletin No. 2 (New York, 1939) (As reprinted in indexed volume of numbers 1 through 37, 1949, pp. 9-10),

[4]American Institute of Certified Public Accountants, Committee on Accounting Procedure, "Unamortized Discount and Redemption Premium on Bonds Refunded (Supplement)," Accounting Research Bulletin No. 18 (New York, 1942) (As reprinted in indexed volume of numbers 1 through 37, 1949, p. 151).

3. Reaffirmation of the 1939 position in 1953 but expression of a definite preference for write-off over the original life of the refunded bonds.[1]

4. The previously noted approval in 1965 by the Accounting Principles Board of write-off over the life of the new issue.[2]

Since inception of the Institute's new research program, one study sponsored by the organization, Accounting Research Study No. 3, held that unaccumulated discount and call premium on refunded bonds should be written off as a loss.[3] But the research studies do not represent the official position of the Institute. Official pronouncements are issued by the Accounting Principles Board at the present time. These were formerly given by the Committee on Accounting Procedure in the Accounting Research Bulletin series.

Two significant developments on the part of national regulatory authorities have occurred since the 1940s. One

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[1]American Institute of Certified Public Accountants, Committee on Accounting Procedure," Restatement and Revision of Accounting Research Bulletins," Accounting Research Bulletin No. 43 (New York: 1953), p. 142.

[2]A. I. C. P. A., Accounting Principles Board, op. cit., p. 43.

[3]Robert T. Sprouse and Maurice Moonitz, "A Tentative Set of Broad Accounting Principles for Business Enterprises," Accounting Research Study No. 3 (New York: American Institute of Certified Public Accountants, 1962), p. 40.

of these was adoption in 1958 of a variation of payback time as an allowable alternative to immediate write-off.[1] This involves write-off over the period required for interest savings to accumulate to the amount to be written off and may be used without prior permission of the commission. Formerly, immediate write-off was the basic requirement, but departures from the general rule have apparently been liberally allowed. The other development was a proposal in 1971 by the Federal Power Commission to adopt the three procedures approved by the American Institute of Certified Public Accountants.[2]

Surveys of practices around the time of the Institute's publication of Bulletin No. 2 disclosed that public utilities tended to adopt some form of gradual write-off to a much greater extent than nonregulated industrials.[3,4]

Reasoning offered in support of the various procedures has included references to the completed-transaction

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[1]National Association of Railroad and Utility Commissioners, Uniform System of Accounts for Class A and Class B Utilities (Washington: N. A. R. U. C., 1959), pp. 59-60.

[2]U. S. Federal Power Commission, "Notice of Proposed Rule-making," Docket No. R-424 (August 6, 1971), pp. 5, 13-14.

[3]Lemke, op. cit., pp. 180-193.

[4]Clendenin, op. cit., pp. 40-43.

concept, the "doctrine" of conservatism, and different views concerning matching of costs and benefits. In addition to theoretical argument, pragmatic considerations, especially in relation to public utility circumstances, seem to have been given significant attention in judging the acceptability of procedures.[1]

Significance of the Study

Any area of accounting in which a considerable diversity of opinions and practices exists appears to be fair game for further research. Since bond refunding is such an area, perhaps the analysis and conclusions of this study may contribute toward narrowing the areas of differences in accounting procedures by suggesting criteria for acceptance or rejection of alternatives.

While it may be argued that bond financing costs might not be of material amount in the statements of a given firm, the line of distinction between materiality and immateriality is sometimes quite nebulous. Furthermore, inappropriate accounting for several "immaterial" items may aggregate to considerable distortion in a financial report.

Specific factors that appear indicative of the

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[1]George O. May, "Accounting Principles and Regulatory Expediency," The Journal of Accountancy, LXXI (February, 1941), 116.

relevance of the study as a current research project include the following:

1. The Securities and Exchange Commission policy on refundability of bonds under the Public Utility Holding Company Act of 1935 and the large proportion of total offerings consisting of refundable bonds in recent years.[1]

2. Approval by regulatory authorities and professional accounting organizations of different procedures within the 1956-1965 period and the more recent proposed rule-making of the Federal Power Commission.

3. Recent attention in financial literature to bond refunding as a capital budgeting problem.

4. Recent evidence of interest in the problem by the Canadian Institute of Chartered Accountants as well as the American Institute of Certified Public Accountants.[2]

5. Lack of quantitative documentation in the literature of size relationships between financing costs applicable to refunded bonds and retained earnings, net income, and dividends.

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[1]Moody's Public Utility Manual (August, 1969), pp. a144 and a174, contains lists of bonds that are noncallable and nonrefundable, at least for a number of years. Nonrefundable bonds are noncallable for the purpose of being refunded. Regulatory authorities usually do not allow noncall provisions, but exceptions are made in the interests of parties affected. S. E. C. policy is aimed at preventing diseconomies in raising capital that might result from issuance of bonds that cannot be refunded, according to Public Utilities Fortnightly, LX (September 12, 1957), pp. 417-418.

[2]H. S. Moffet, Accounting for Costs of Financing (Toronto: The Canadian Institute of Chartered Accountants, 1964), p. 19.

6. The opportunity afforded by the study to examine a long-standing controversial problem by reference to theoretical models proposed during the recent era of emphasis upon the deductive approach to accounting principles development.

Limitations in Scope

In the foregoing statements of problems, objectives, and research methods, some limitations were stated in the interest of clarity. Certain other constraints are considered necessary to keep the project within manageable proportions in relation to time limits, costs and feasibility of the research, and the aims of the study as defined.

Although interest in accounting for bond refunding has recently been indicated by neighboring foreign accountants, the present study is confined to the United States.

Selection of the specific period 1956-1965 was made for two reasons as follows:

1. To present data for a recent period during which national regulatory and accounting authorities have taken official action on refunding accounting.

2. To present data for a recent period of comparable length to the earlier period represented by the Lemke study.

Except as to reported practices, the present study is not strictly comparable to that of Lemke because of the different variables and techniques used. The Lemke study

included percentage relationships only of bond financing costs to retained earnings and total assets. In this study, no analysis is made of assets. Instead, computations were made for net income and dividends as well as retained earnings. This was done under the assumption that effects on current and prior earnings and, hence, desired dividend position are more likely to influence the choice of write-off procedures than relationships between financing costs and total assets.

Data representing practices and size-relationships for regulated industry are confined primarily to the class of public utilities generally consisting of gas, electric power, and water companies. A few telephone companies were included. Quantitative data concerning railroad refundings were omitted because of limited availability and to provide comparisons for firms similar to those primarily reported upon by Lemke and Clendenin.

Of 118 firms surveyed by Clendenin, 14 were railroads, but Lemke provided only limited footnote reference ro railroad refunding.[1,2] Past and present Interstate Commerce Commission requirements are mentioned in the study,

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[1]Clendenin, op. cit., 37.

[2]Lemke, op. cit., p. 147.

but statistics and effects are not given except by reference to the Clendenin report.

This dissertation is intended to be a study in the history and theory of accounting procedures rather than of financial management related to bond refunding. Relevance of some mention of capital budgeting lies in the possibility that accounting write-off may be related to the period of expected benefits employed in making the refunding decision.

It is not a purpose of this study to rigorously analyze the theoretical models used as to the validity of claims or implications of logic methodology except as to consistency of specific conclusions in the general framework of the model. Also, the propriety of logic as a tool of accounting theory will not be discussed. This has already been extensively treated in the Dominiak study and in other writings.[1]

Note on Terminology

There seems to this writer to be little doubt that the lack of uniformity in accounting terminology is part of a problem of effective communication between the accountant

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[1]Gerald F. Dominiak, "An Investigation of the Applicability of Methods of Logic to the Analysis of Accounting Problems," (unpublished Ph. D. dissertation, Michigan State University, 1966).

and the lay user of financial statements. And bond accounting is one of the areas in which terminology is not standardized.

Some writers use tht term "accumulation" to refer to the periodic build-up of the effective liability by the amount of the discount write-off and "amortization" to mean gradual reduction of the liability balance by the premium adjustment. Such usage is predicated on the assumption that discount and premium are deducted from or added to the principal on the liability side of the balance sheet.

Examination of a number of actual financial statements indicates that "amortization" is often used to refer to the write-off process, whether in reference to a debit or a credit balance. The balance is often a debit consisting of one or more elements of discount, issue cost, call premium, duplicate interest, and incidental redemption costs. Such a balance is often labeled, especially in public utility reports, as "unamortized debt discount and expense." Writers on the subject often ignore some of the specific components of the balance and designate the package as "unamortized discount and call premium."

Sometimes a credit representing premium received upon issuance of bonds is netted out against the other items. Where the netting out process results in a credit

balance or the premium is shown separately, the balance is often labeled "unamortized premium" or "net unamortized premium."

In this dissertation, "accumulation" is accepted as appropriate when used to refer specifically to the discount adjustment, but "amortization" appears more descriptive of gradual write-off of the other items. For convenience, the more general term "write-off" will often be used.

The amount to be written off will be designated as "unaccumulated discount, issue cost, and call premium" except where a collective term such as "financing costs" or "refunding-related items" seems adequate and more convenient or where individual components are discussed in isolation.

Organization of the Dissertation

Chapter I contains an overall preview of the study The historical background and present state of the problem are reviewed. Objectives, hypotheses, and research methods are stated and discussed.

Chapter II provides a review of the history of accounting thought related to bond refunding, with special attention to developments near the time of approval of alternative procedures by accounting and regulatory organizations. A tabulation of presently sanctioned procedures

is included.

Chapter III shows comparative tabulations of practices for the periods 1936-1945 and 1956-1965. Financing costs are analyzed percentagewise and by application of certain statistical tests in comparison to dividends in relation to retained earnings and net income.

Chapter IV includes a summary of the characteristics and rationale of the full-accrual approach based on the Hendriksen model. Application of the procedure is illustrated. Guidelines from two other models are summarized and discussed as to procedures supported for long-term debt accounting, with emphasis upon implications for the refunding problem.

Chapter V provides a discussion of accounting for long-term debt in the light of the evaluative standards and communication guidelines proposed in the American Accounting Association's A Statement of Basic Accounting Theory. Procedures are discussed under two sets of assumed circumstances: those related to general-purpose financial reporting in the nonregulated environment and those of the public utility firm under rate regulation.

Chapter VI concludes the study with a review of the highlights of previous chapters and principal conclusions of the dissertation. Certain fundamental constraints

are discussed as criteria for limiting the differences between public utility and nonregulated industrial accounting for bonds refunded.

CHAPTER II

THE HISTORY OF ACCOUNTING THOUGHT RELATED TO BOND REFUNDING

This chapter contains a review of theoretical and practical argument concerning the nature of bond financing costs and accounting procedures for refundings. The writings are reviewed from the early 1900s to the late 1960s, although much of the controversy was concentrated in the 1930s and 1940s. The discussion includes pronouncements of regulatory commissions, tax authorities, and professional accounting organizations as well as the proposals of individual writers. Emphasis is placed upon views prevailing near dates of significant attention to the refunding problem by accounting and regulatory authorities. A summary of procedures currently approved by various authoritative bodies is presented to show the divergence that still exists.

The Basic Nature of Bond Financing Costs

The literature of economics, accounting, and finance is replete with concepts and theories of interest. Most of these revolve around the question of the function performed

by the interest rate. In some way, all convey the notion that the interest rate is a price of capital. Hicks says of the interest rate that "it is a price, like other prices, and must be determined with them as part of a mutually interdependent system."[1]

But Hicks points out that there is actually a whole system of interest rates in any economy having more than one type of lending.[2] Corporate bond rates are only one category. And there is usually a prevailing rate for a given class of bonds according to risk, term to maturity, and other characteristics.

A corporation usually issues bonds at a price related to the prevailing yield or market rate of interest. Proceeds often differ from face value by the amount of a premium or discount. Hence, the relevant rate of interest for the measurement of expense (or investor's earnings) is correspondingly different from the nominal rate on face value.

Legally, of course, the bonds must be redeemed at face value if held by the lender until maturity. And periodic cash outlays must be made according to the nominal

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[1] J. R. Hicks, Value and Capital (London: Oxford University Press, 1946), p. 154.

[2] Ibid.

rate of interest. Redemption prior to maturity usually requires payment of a call premium in addition to face value.

The accountant must find some way of recording and reporting on the several elements of bond transactions. While the bonds are outstanding the main concern is with appropriate reflection of the liability and the periodic interest charge. The presumed objective is fair presentation of financial position and results of operations. This requires accrual accounting and adherence to the matching principle.

Few published guidelines for accrual accounting were available through the nineteenth century. Littleton indicated that only about ten per cent of about fifty bookkeeping texts appearing during the period 1788-1899 attempted to discuss accruals.[1] He cited National Bookkeeping, 1861, by Bryant and Stratten, as an apparent rarity in that it provided for mortgage interest to be shown as a liability in the balance sheet, offsetting a red-ink debit to an interest account.[2] But the increased use of long-term borrowing that accompanied the growth of

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[1]A. C. Littleton, Accounting Evolution to 1900 (New York: American Institute Publishing Company, 1933), p. 150.

[2]Ibid.

the large-scale corporate organization required greater attention to accounting procedures related to debt transactions.

Nineteenth century courts favored charging capital asset accounts with interest paid during construction, apparently considering the borrowing to be tantamount to acquiring the property for which the funds were used.[1] Littleton indicated that professional accounting opinion prevailing at the time seemed to be fairly well reflected by these early court decisions.[2] Tax authorities and regulatory commissions have continued to authorize charging interest to construction within prescribed limits. The practice is quite common in the public utility area, as revealed by examination of a number of annual reports.[3]

Much of the problem in accounting for premium, discount, and issue costs seems to involve differences in views as to the nature of these items. In 1906, George O. reported almost universal treatment of bond discount as a

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[1] Ibid., pp. 218-219.

[2] Ibid., p. 221.

[3] Consumers Power Company, Annual Report 1966, p. 23, is typical of many.

capital charge.[1] "Capital charge" apparently referred to a charge to a physical asset account since May reported the basis of the charge to be the view of discount as representing a share in future enhancement in value of property expected to accrue to the stockholders' benefit.[2]

Around the time of May's writing, however, a policy of conservative capitalization only on the basis of costs incurred or results achieved appeared to be underway. That such a change was indeed evolving was evidenced by the Interstate Commerce Commission requirement in 1907 that the railroads end the practice of charging property accounts with discount upon issuance of the bonds.[3] Uniform systems of accounts prescribed by commissions in recent years do not seem to allow the charge to physical plant accounts except possibly as a prorata portion of the interest attributable to the construction period.[4]

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[1]George O. May, "The Proper Treatment of Premium and Discount on Bonds," The Journal of Accountancy, II (July, 1906), 176.

[2]Ibid.

[3]Robert E. Healy, "Treatment of Debt Discount and Premium Upon Refunding," The Journal of Accountancy, LXXIII (March, 1942), 201.

[4]U. S. Federal Power Commission, Uniform System of Accounts Prescribed for Public Utilities and Licensees, Class A and Class B, effective March 1, 1965 (Washington: U. S. Government Printing Office, 1965), pp. 9, 37. Other national systems appear subject to similar interpretation.

May considered charging a proportionate part of the discount to expense over the life of the bonds to be a conservative practice. But, also citing conservatism, he suggested it as a write-off against intangible assets or extraordinary expenses. And he considered crediting premium gradually to income over the life of the bonds to be an acceptable practice.[1]

May did object to crediting the entire amount of premium to income in the year of receipt and to using it as an offset against regular expenses. He apparently visualized the investor as losing the premium if the bonds were held to maturity and the issuer as having to return it in the event of retirement prior to maturity. Hence, it should not be written off immediately after issuance of the bonds. But discount was apparently regarded as accruing to the benefit of the bondholder if the firm achieved sufficient success to redeem the bonds at a price equal to or greater than face value.[2] Although recommending different treatment of premium and discount, May did concede that both could be considered capitalized changes in the

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[1]May, "The Proper Treatment of Premium and Discount on Bonds," 177.

[2]Ibid., pp. 176-177.

interest rate.[1]

By the 1930s, the view of premium and discount as components of the effective interest rate appeared to be widely supported in the literature. But, following the era of charging discount directly to property accounts, the item continued to be carried on the asset side of the balance sheet in practice. Apparently the first published indictment of the practice to attract significant attention among accountants was a statement by the American Accounting Association in 1936. The Executive Committee of the association held unaccumulated discount to be a proper deduction from face value of the obligation.[2]

In defending the committee's position, Paton claimed that discount was a measure of the difference between proceeds of the loan and the stated amount due at maturity and, hence, a part of the true interest accruing over time.[3] He thought the treatment of discount as an

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[1] Ibid., p. 177.

[2] American Accounting Association, Executive Committee, "A Tentative Statement of Accounting Principles," Accounting and Reporting Standards for Corporate Financial Statements and Preceding Statements and Supplements (Reprinted from the Accounting Review, June, 1936), p. 61.

[3] W. A. Paton, "Presentation of Bond Discount," Paton on Accounting (Reprinted from The Accounting Review, September, 1937), ed. H. F. Taggart (Ann Arbor: Bureau of Business Research, University of Michigan, 1964), p. 340.

asset was a leftover from the early view of the balance sheet as a final statement of debit and credit ledger balances and a reflection of the concept of face value as the true liability for accounting purposes.[1]

Some present-day textbooks claim that showing discount among the assets represents the proprietary view of creditorship equities as claims to assets rather than the entity concept of liabilities as sources of assets.[2]

Sometimes discount is still referred to as a type of prepaid interest.[3] But Paton pointed out that discount remains unpaid until maturity.[4] Actually, it remains unpaid until retirement whether at or before maturity.

The typical theory text holds that the effective interest rate encompasses premium and discount and that these are proper additions to or deductions from face value of bonds outstanding to show the effective liability. The effective rate (the investor's yield rate) reflects the difference between net proceeds received and total

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[1] Ibid., p. 335.

[2] N. M. Bedford, K. W. Perry, and A. R. Wyatt, Advanced Accounting (2nd ed.; New York: John Wiley and Sons, Inc., 1967), pp. 67-68.

[3] Ibid.

[4] Paton, "Presentation of Bond Discount," p. 340.

outlays required over the life of the bonds to pay interest at the nominal rate and redeem the debt at maturity.[1]

Application of the effective rate in the accrual process represents the interest method of discount and premium amortization recently approved as a theoretically sound procedure by the Accounting Principles Board.[2] At least one writer regards the true effective rate to be the current market rate, the application of which in the accrual process results in stating the liability at the current market price of the bonds.[3] This is the amount required to retire the bonds at the balance sheet date.

According to Paton, the relevant proceeds on which to base the effective rate consist of the issue price paid in by the first bona fide bondholder.[4] Apparently an intermediary who aids in marketing the issue is not regarded as a bona fide bondholder, and issue costs such as

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[1] G. A. Welsch, C. T. Zlatkovich, and J. A. White, Intermediate Accounting (Homewood: Richard D. Irwin, Inc., 1968), Chapter 20, includes the typical intermediate theory presentation.

[2] American Institute of Certified Public Accountants, Accounting Principles Board, "Omnibus Opinion-1967," Opinion No. 12 (New York, 1967), p. 194.

[3] Eldon S. Hendriksen, Accounting Theory (Rev. ed.; Homewood: Richard D. Irwin, Inc., 1970), p. 452.

[4] Paton, "Presentation of Bond Discount," p. 338.

commissions paid to him by the issuer are not included in interest as viewed by Paton. Unlike interest paid for the use of funds, issue costs are viewed as payments for services rendered in aiding the firm to raise capital. Likening bond issue costs to organization costs and architect's fees, Paton and Littleton clearly place them in the asset classification.[1]

In contrast to unpaid discount, issue costs are typically prepaid. Paton and Littleton recommend systematic write-off of issue costs over the life of the bonds, but they do not include them in the adjustment of face value to the amount of the effective liability.[2] These writers regard the effective liability of the issuing corporation to be reciprocal to the effective receivable (the carrying value of the investment) from the lender's side of the transaction.[3]

In the event of premature retirement of the bonds, call premium must be dealt with by the accountant. Unlike discount, issue cost, and premium received upon issuance,

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[1] W. A. Paton and A. C. Littleton, An Introduction to Corporate Accounting Standards (American Accounting Association, 1940), p. 32.

[2] Ibid., p. 95.

[3] Ibid., pp. 39-40.

call premium is incurred only if the bonds are retired prior to the regular maturity date. In practice there is usually no provision made for call premium in the periodic interest accrual. On an after-the-fact basis, however, the amount turns out to be part of the total outlays to the bondholder when premature retirement occurs.

The entire package of financing costs to be disposed of in some manner when bonds are redeemed prior to maturity usually includes some combination of the following:

1. Unaccumulated discount
2. Unamortized premium received at issuance
3. Issue costs
4. Call premium
5. Incidental call costs
6. Duplicate interest (see below)

The last item usually arises when there is a refunding and both the old and the new issue are outstanding simultaneously for a short time. Some firms then charge interest on the issue being retired to the "unamortized" balance.

Proposed Alternative Accounting Procedures Related to Refunding

As noted in Chapter I, the controversy surrounding the accounting treatment of refunding-related items developed largely during the low-interest, high-volume refunding activity of the 1930s. In 1942, Walter A. Staub indicated that bond refunding was not a live problem in accounting until about a decade before.[1] Apparently his statement was an accurate one.

A system of accounts prescribed by the Federal Power Commission in 1922 provided for writing off to profit and loss the discount, expense (issue cost), and premium on reacquired securities but did not mention specifically reacquisition by refunding.[2] A book published in 1926 as a reference review of utility accounting practices briefly discussed refunding but did not indicate specific accounting procedures.[3]

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[1]Walter A. Staub, "Treatment of Discounts and Premiums in the Refunding of Bonds," The Accountants Digest, VII (March, 1942), 266, (Reprinted from The Controller, January, 1942).

[2]U. S. Federal Power Commission, System of Accounts Prescribed for Licensees Under the Federal Water Power Act, (Washington: U. S. Government Printing Office, 1922), pp. 12, 79-80.

[3]W. G. Bailey, and D. E. Knowles, Accounting Procedures for Public Utilities (Chicago: A. W. Shaw Company, 1926), p. 424.

In the 1930s, however, conflicting opinions and practices developed as firms were faced with the problem of accounting for large balances of unamortized financing costs remaining at refunding. The sections which follow are concerned with the procedures that were the subject of a controversy which remains unsettled.

Immediate Write-off In The Year of Refunding

When the Committee on Accounting Procedure approved immediate write-off of the entire balance of unamortized financing costs in 1939, the procedure was said to conform most (of the three considered) to hitherto accepted accounting doctrine.[1] Such doctrine included the completed-transaction view that losses or expenses should be accounted for as such no later than the time of completion of the series of transactions resulting in their incurrence.[2]

The achievement of balance-sheet conservatism was also cited as an advantage of the procedure.[3] In those days, the "doctrine" of conservatism was generally taken

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[1]American Institute of Certified Public Accountants, Committee on Accounting Procedure, "Unamortized Discount and Redemption Premium on Bonds Refunded," Accounting Research Bulletin No. 2 (New York, 1939) (As reprinted in indexed volume of numbers 1 through 37, 1949, p. 9).

[2]Ibid., p. 14.

[3]Ibid.

to mean that accountants should anticipate no profits and provide for all losses. In slightly different language, it meant that balance sheet figures should be kept within the historical dollar-cost limits of expected economic benefits, the probable realization of which was considered objectively indicated. Freeman indicated about four years before the committee's action that accountants favored immediate write-off for fear of overstating retained earnings by the amount that would otherwise be deferred.[1]

Freeman claimed that the broad finance view in support of immediate write-off was that the current cost of money should not be distorted by superimposition of costs incurred in a previous period and related to closed transactions.[2]

The Committee on Accounting Procedure favored making the write-off to income instead of retained earnings. The increasing importance of the income statement over the balance sheet was cited in support of this attitude, and charging retained earnings was said to understate charges

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[1]Herbert C. Freeman, "The Treatment of Unamortized Discount and Premium on Retirement in Refunding Operations," The Journal of Accountancy, LX (October, 1935), 256.

[2]Ibid.

to income for borrowing costs.[1]

In addition to the arguments of accounting theory, the committee cited approval of immediate write-off by regulatory authorities.[2] Immediate write-off to retained earnings (then called surplus) was the general rule prescribed in regulatory systems of accounts. But the systems often contained the escape clause that gradual write-off could be followed with special permission of the commission.[3] Among the national commissions, the Interstate Commerce Commission was exceptional in not providing such a clause but allowing premature write-off to retained earnings up to 1943.[4]

In published regulations and rulings, statements concerning accounting theory observed by the commissions are often skimpy at best. In favoring immediate write-off, the commissions apparently accepted the accountants' usual

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[1] A. I. C. P. A., Committee on Accounting Procedure, Accounting Research Bulletin No. 2 (Reprint 1-37, pp. 9-10).

[2] Ibid., p. 9.

[3] National Association of Railroad and Utility Commissioners, Uniform System of Accounts for Electric Utilities (New York: The State Law Reporting Company, 1937), p. 14.

[4] Bernhard C. Lemke, "The Treatment of Bond Discount and Premium in Connection with Refundings," (unpublished Ph.D. thesis, University of Minnesota, 1946), p. 170.

arguments of conservatism and the completed-contract concept. But departures from the general rule on the bases of "the public interest," "administrative expediency," and the like were not unusual.

An example was the Pennsylvania Water and Power Company case in 1940. In this case the Federal Power Commission declared immediate write-off to represent sound accounting principles and claimed that financing costs related to bonds refunded were subject to the same kind of accounting as losses from fires and floods.[1] But the commission argued that the interests of investors and ratepayers (customers) were sometimes best served by gradual write-off where the amounts involved were large enough to create a deficit in retained earnings and possibly preclude advantageous financing.[2]

The alternatives considered in the Pennsylvania case were within the bounds of guidelines approved by the Committee on Accounting Procedure. But May criticized the commission for unnecessarily subordinating accounting principles to administrative expediency.[3]

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[1]George O. May, "Accounting Principles and Regulatory Expediency," The Journal of Accountancy, LXXI (February, 1941), 116-118.

[2]Ibid.

[3]Ibid.

The Federal Power Commission represents the class of regulatory authorities whose function is to insure adequate service and protection from price exploitation for utility consumers. The Securities and Exchange Commission performs a different function--policing the securities markets. The S. E. C. was mainly interested in full disclosure of material information and did not specify a particular write-off procedure except in connection with bond retirements from the proceeds of capital stock sales.[1] The requirement of immediate write-off in such cases may be considered a part of the general body of support for the procedure, although this type of transaction falls outside the usual concept of refunding discussed in this study.

Cranstown opposed the S. E. C.'s position on the grounds that so long as cash was used to retire bonds, the accounting should not be dictated by whether the funds were obtained through the issuance of stocks or new bonds.[2]

Tax requirements constitute yet another class of regulation. In general, the federal income tax approach has been that financing costs related to retired bonds are

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[1]William D. Cranstown, "S. E. C. Release No. 10," The Journal of Accountancy (Commentator Department), LXVII (March, 1939), 179.

[2]Ibid.

components of gain or loss in the year of retirement for cash, regardless of the means of acquiring the cash. This was the position taken in the Great Western Power Company case in 1936 and in previous cases cited as precedents.[1]

At the time the Great Western case came before the Supreme Court, the tax regulations, essentially as promulgated under the Revenue Act of 1918, referred directly to discount and premium but were silent as to issue cost.[2] The disposition of these costs was a principal issue before the court. The ruling was that issue costs were deductible under the same theory as discount but that the items were subject to write-off over the life of the new bonds in a case of direct exchange of issues rather than a cash refunding.[3]

Besides theoretical argument in support of other procedures, objections to immediate write-off have generally followed a pragmatic line similar to that taken in the Pennsylvania Water and Power Company ruling. For example, Accounting Research Bulletin No. 2 contains the admonition that depletion of retained earnings by immediate write-off

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[1]Great Western Power Company v. Commissioner of Internal Revenue, 297 U. S. 543 (1936).

[2]Ibid.

[3]Ibid.

might sometimes render temporarily illegal the payment of preferred dividends.[1]

Freeman argued that the notion of retirement of the old bonds as terminating a disadvantageous contract misplaced the emphasis.[2] He proposed emphasis on the new contract but held that part of the cost of the new benefits consisted of items originally determined in the old one.[3]

Having expressed some misgivings about making the complete write-off to retained earnings in its original pronouncement, the Committee on Accounting Procedure in 1942 declared showing the full charge in the income statement to be sound accounting in accordance with tax purposes.[4] Taken at face value, the point may imply that a procedure is sound because it is acceptable for tax purposes. But, rather than insisting on the full-charge

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[1]A. I. C. P. A., Committee on Accounting Procedure, Accounting Research Bulletin No. 2 (Reprint 1-37, p. 16).

[2]Herbert C. Freeman, "Unamortized Discount and Premium on Bonds Refunded," The Journal of Accountancy (Correspondence), LXVIII (December, 1939), 399.

[3]Ibid.

[4]American Institute of Certified Public Accountants, Committee on Accounting Procedure, "Unamortized Discount and Redemption Premium on Bonds Refunded (Supplement)," Accounting Research Bulletin No. 18 (New York, 1942) (As reprinted in indexed volume of numbers 1 through 37, 1949, p. 151).

treatment in the income statement, the committee recommended deduction of an amount at least equal to the tax reduction, regardless of the procedure followed for the remainder.[1] The argument offered was that charging the loss to retained earnings and reducing the tax charge to income would give the misleading appearance of increasing net income for the year.[2]

The committee suggested that the offsetting credit should be to the unamortized financing costs or to a reserve for future taxes.[3] This position was later modified to specify that any write-off to retained earnings or over the life of the old issue should be limited to the remainder after allowing for the tax reduction.[4]

Support for the immediate write-off procedure has continued to appear in the literature since the Institute's original pronouncement. Writing in 1940, Paton and Littleton stated the following:[5]

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[1] Ibid., p. 152.

[2] Ibid.

[3] Ibid.

[4] American Institute of Certified Public Accountants, Committee on Accounting Procedure, "Restatement and Revision of Accounting Research Bulletins," Accounting Research Bulletin No. 43 (New York, 1953), pp. 130-131, 142.

[5] Paton and Littleton, op. cit., p. 95.

> ...there is scant justification for carrying forward costs attaching to a closed contract; to do so would inflate the cost of securing funds just as the carrying forward of a part of the cost of retired plant would overstate the amount invested in the existing layout of facilities.

Somewhat similar reasoning has been stated more recently by Bierman. He considers discount a liability valuation account and suggests that failure to write it off upon retirement is similar to leaving the allowance for depreciation in the accounts after disposal of a fixed asset.[1]

Lemke concluded immediate write-off to be appropriate on the basis of consistency with approved practice for nonrefunded retirements and the view of the old and new bond issues as separate transactions.[2]

Other very recent advocates of immediate write-off have included Moffet, Sprouse-Moonitz, and Hendriksen.

In his 1964 Canadian study, Moffet expressed a preference for immediate write-off on the basis of consistency with recognition in practice of profits and losses in accordance with realization.[3]

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[1]Harold Bierman, Jr., Financial Accounting Theory (New York: The MacMillan Company, 1965), p. 89.

[2]Lemke, op. cit., p. 158.

[3]H. S. Moffet, Accounting for Costs of Financing (Toronto: The Canadian Institute of Chartered Accountants, 1964), p. 19.

In the Henriksen and Sprouse-Moonitz studies, the balance of unaccumulated discount and call premium remaining at refunding is held to be a realized loss resulting from interest rate and bond price changes.[1,2] Hendriksen differs from the other writers, however, in advocating use of the current market rate of interest in the accrual process and recognition of holding gains and losses while the bonds are outstanding. The Sprouse-Moonitz and Hendriksen cases are discussed extensively in Chapter IV of this study.

Write-Off to Normal Maturity of Retired Bonds

Although approving immediate write-off in the 1939 bulletin, the Committee on Accounting Procedure stated perhaps a stronger case for gradual write-off over the remaining life to normal maturity of the refunded issue. This procedure was deemed clearly permissible. But the committee refrained from expressing a preference of sufficient definitiveness to require qualification in auditors' reports when some other approach was used.[3]

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[1]Robert T. Sprouse and Maurice Moonitz, "A Tentative Set of Broad Accounting Principles for Business Enterprises," Accounting Research Study No. 3 (New York: American Institute of Certified Public Accountants, 1962), p. 41.

[2]Hendriksen, op. cit., pp. 453-454.

[3]A. I. C. P. A., Committee on Accounting Procedure, Accounting Research Bulletin No. 2 (Reprint 1-37, p. 10).

Reasoning given in support of this second alternative included the following:[1]

1. The merit of reflecting expense appropriately in a series of income accounts.

2. The claim to close conformity with the (then) current trend in accounting opinion.

The committee cited a tendency to bring an increased number of transactions within the rule of charging income with costs over periods of expected future benefits rather than when payment is made or ascertained.[2]

Apparently with the matching concept in mind, the committee attributed merit to spreading discount and premium over the remaining normal life of the old issue when savings exceeded the amount to be written off.[3] Also, the potential illegality of preferred dividend payments, cited as a disadvantage of immediate write-off, was avoidable by use of gradual write-off.[4]

Walter A. Staub, a member of the Committee on Accounting Procedure, indicated that he had concurred with other members in approving write-off over the normal life

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[1] Ibid.

[2] Ibid., pp. 14-15.

[3] Ibid., p. 16.

[4] Ibid.

of the old issue on the basis of the argument that this was the period of direct benefits from a lower interest rate.[1] This view, simply stated, seems to have been the essence of much of the support for this procedure in the 1930s and 1940s when the almost obvious purpose of most refundings was achievement of interest savings. Application of the matching concept to the "objectively determinable" period of savings was considered to provide sufficient theoretical support. It was easy to see that the higher rate on the old issue would have continued to be paid over that period in the absence of retirement.

In revising previous bulletins in 1953, the Committee on Accounting Procedure stated a definite preference for write-off over the life of the old bond issue.[2] The evidence offered seemed to consist mainly of a summary of the previous argument. One apparent difference was more precise emphasis on the view of discount as the cost of an option enabling the firm to enter into a more advantageous arrangement from the point of refunding to the original maturity date of the first issue.[3]

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[1]Staub, op. cit., p. 268.

[2]A. I. C. P. A., Committee on Accounting Procedure, Accounting Research Bulletin No. 43, p. 131.

[3]Ibid.

The view expressed was similar to that of Cranstown around the time of the first pronouncement. He claimed that discount might be viewed as a demand charge to secure continuation of capital availability.[1] The concept of a "demand charge" seems to imply that discount is a concession to induce the prospective lender to take bonds subject to premature call at the option of the issuer.

Very little outright advocacy of write-off over the original life of the refunded issue has appeared in theory literature in recent years. The typical theory text usually contains a limited discussion of the procedures acceptable to the Institute but seldom offers new argument pro or con.

No accounting system published by a utility commission and examined by this writer actually prescribed write-off over the period to normal maturity of the refunded issue. But the procedure has been allowed on a permissive basis. For example, the California commission was reported to have allowed all three of the alternatives dealt with by the Institute's committee, each in different cases.[2]

Objections to the procedure cited by the Committee on Accounting Procedure included lack of balance sheet

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[1] Cranstown, op. cit., 180.

[2] Freeman, "Unamortized Discount and Premium on Bonds Refunded," 397.

conservatism and the view of the items involved as more properly representing costs of terminating a disadvantageous contract than of entering into a better one.[1] Thus, objections to the procedure seem to take the form of positive arguments in favor of other alternatives.

Freeman expressed the opinion that if the saving in interest over the remaining life of the old issue were the sole purpose of refunding, then the maturity of the new issue would be made to coincide with that of the old.[2] He thought the company should, apparently as a general rule, be able to refinance on a more favorable basis over the shorter period.[3]

Robert E. Healy, senior member of the Securities and Exchange Commission at the time of his writing in 1942, said that write-off over the remaining life of the old issue was less supportable in logic than either of the other two considered by the Institute's committee.[4] His reasoning was that the procedure had no relation to any facts existing

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[1]A. I. C. P. A., Committee on Accounting Procedure, Accounting Research Bulletin No. 2 (Reprint 1-37, p. 19).

[2]Freeman, "Unamortized Discount and Premium on Bonds Refunded," 399.

[3]Ibid.

[4]Healy, op. cit., 206.

at the time of making the entries, including the literal nonexistence of a maturity date for an issue that has already been retired.[1]

Write-off to Maturity of Refunding Bonds

In rejecting write-off over the life of the new issue in 1939, the Committee on Accounting Procedure stated very little in favor of the alternative but a great deal in opposition to it. Basically, the procedure was held to be in conflict with generally accepted accounting principles and lacking in theoretical support.[2] Specific disadvantages mentioned were as follows:[3]

1. The use of the procedure might encourage disadvantageous refunding by exaggeration of annual savings.

2. No logical relationship existed between the unaccumulated discount on the old debt and the term of the new.

3. The use of the procedure was said to understate the annual cost of money over the remaining portion of the original life of the retired issue.

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[1] Ibid.

[2] A. I. C. P. A., Committee on Accounting Procedure, Accounting Research Bulletin No. 2 (Reprint 1-37, p. 10).

[3] Ibid., pp. 18-19.

4. The procedure was unconservative with respect to both the balance sheet and the income statement.

5. No basis existed for assuming benefits beyond the normal maturity date of the retired issue because of the difficulty of foreseeing interest rates that far in advance.

Concerning the last point, the committee indicated that the benefits would have to be measured by the difference between the rate which a new loan would bear if made at the normal maturity date of the old issue rather than prior to that time.[1] Cases of refinancing of refunding issues, apparently in response to unanticipated rate changes, were cited in substantiation of the stand taken on write-off over the life of the new issue.[2]

But the procedure had its proponents among those writing on the subject. Freeman mentioned the view that refunding just involves retention of capital already raised.[3] He said that this seemed to reasonably relate unaccumulated discount on the old bonds to the new issue. In addition, he thought that call premium on the old could, in effect, be considered a discount on the new bonds

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[1] Ibid., p. 18.

[2] Ibid.

[3] Freeman, "The Treatment of Unamortized Discount and Premium on Retirement in Refunding Operations," 258.

and a relevant cost of refinancing that could be avoided by not calling the original issue prior to maturity. He suggested that since the firm obtains the benefits of the refinancing over the entire term to maturity of the new issue the shorter period should not be burdened with the cost of benefits received later.[1]

May, who was vice-chairman of the Committee on Accounting Procedure, replied to Freeman that a "modest" amount of premium and discount on the old bonds might be assigned to the new ones when refunding occurred near the maturity date of the first issue. He assumed that in such a situation management's purpose would be related to the future and not primarily concerned with interest savings over the short period to maturity of the old issue.[2] But May did not support such a procedure in the general case.

In his 1942 article, Healy stated reasoning similar to that of Freeman, holding that the costs of both issues should be considered relevant to the combined periods.[3] But he thought that practice should follow procedures

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[1] Ibid. 257-259.

[2] George O. May, "Unamortized Discount and Premium on Bonds Refunded," The Journal of Accountancy, LXIX (January, 1940), 50.

[3] Healy, op. cit., 206.

supported by court decisions for tax purposes under the conditions prevailing at the time.[1]

Apparently the conditions to which Healy referred were that many firms engaging in refunding had sufficiently large balances of financing costs to effect substantial tax reductions in the year of refunding. As previously noted, immediate write-off was the basic requirement, and interperiod tax allocation had not yet become popular.

Gushee criticized Healy for failure to stand by his theoretical convictions and the Institute for failure to consider an accounting approach recognizing face value and the coupon rate as of only nominal character.[2] He held that the legalistic aspects of the old and new issues as separate contracts to be of little consequence as to the propriety of accounting procedure.[3] His main point appeared to be that cost of redeeming the old issue was a legitimate cost of the new financing, analogous to the cost of removing old debris as part of the cost of a new building.[4] To reinforce his view, Gushee cited the case

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[1] Ibid., 209.

[2] Charles H. Gushee, "Bond Discount or Premium at Refunding," The Accounting Review, XXI (January, 1946), 61.

[3] Ibid., 63.

[4] Ibid., 64.

of a firm refunding at an even higher rate of interest than borne by the retired issue, the action being taken for the specific purpose of extending the time of the loan.[1]

Similarly, when the Committee on Accounting Procedure reconsidered the matter in 1953, Perry Mason contended that write-off over the life of the new issue was justified in instances of refunding to extend the present rate of interest in anticipation of higher future rates.[2] Mason was the only outright dissenter to reapproval of the stand essentially taken by the 1939 committee membership.

In its 1965 Opinion, the Accounting Principles Board indicated that the circumstances of refunding because of lower current interest rates or anticipated higher future rates appeared to reasonably relate benefits to the life of the new issue.[3] Thus, proper matching would require costs to be written off over that period. But no mention was made of refunding to effect an extension of the loan for purposes other than interest savings.

Bierman reasoned that unaccumulated discount on

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[1] Ibid., 65.

[2] A. I. C. P. A., Committee on Accounting Procedure, Accounting Research Bulletin No. 43, p. 133.

[3] A. I. C. P. A., Accounting Principles Board, Opinion No. 6, p. 43.

bonds refunded at a higher rate could be considered a loss on retirement that could be avoided by not redeeming the issue prematurely.[1] He somehow saw fit to claim that the discount is not being carried forward; instead, the amount of the carryover was labeled a "cost factor" associated with the loss, the future interest benefits, and the lengthening of the debt period.[2] Thus, write-off over the life of the new issue was held to be reasonable.

Until very recent years, the history of regulatory sanction of gradual write-off of unamortized financing costs related to refunded bonds seems to indicate about as much support for write-off over the life of the new issue as for any procedure except immediate write-off. Alternatives to immediate write-off were usually allowed through special rulings. No national body specifically prescribed any gradual write-off procedure at the time of the Institute's attention to the matter in 1939.

At the state level in the mid-thirties, two applications of the concept of conservatism seemed to prevail. Immediate write-off was based on balance sheet conservatism, while gradual write-off emphasized conservatism with respect

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[1]Bierman, op. cit., pp. 89-90.

[2]Ibid., p. 90.

to future earnings measurement and reporting.[1]

Wisconsin, in 1934, required write-off over the life of the new issue up to the annual limit of the effective rate on the old issue but stipulated that the excess over that level be written off directly as a loss.[2] The apparent intent of such a requirement was to insure against consumer rate disturbances in years following the refunding.

The Wisconsin requirement was included in that state's prescribed system of accounts for electric utilities. But Michigan, having no specific provision for such items in its system at the time, handed down an order around 1935 that write-off was to be over the life of the new issue.[3]

In considering a direct exchange of new for old bonds in the Great Western tax case, the Supreme Court seemed to view the new issue as a substitute contract merely establishing a different time period to which costs originally assignable to the life of the old issue should be applied.[4] Accountants accepting the same view with

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[1]Freeman, "The Treatment of Unamortized Discount and Premium on Retirement in Refunding Operations," 256.

[2]Ibid., 255.

[3]Ibid., 256.

[4]Great Western v Commissioner, op. cit.

respect to retirements from cash proceeds of new bonds appear to regard the difference between the two types of transactions as a matter of form rather than substance.

Objections to write-off over the life of the new issue as viewed by the Committee on Accounting Procedure have already been mentioned. Its list seems to be fairly representative of the opposition to the procedure.

Other Proposed Procedures

The Committee on Accounting Procedure published only passing comment on alternatives other than the three apparently believed to be most commonly advocated and practiced. But certain others have been commented upon to some degree in this chapter. Additional ones are discussed below.

Most of the national agencies have allowed acceleration of the write-off of financing costs while the bonds were outstanding.[1] The relevance of the acceleration procedure, sometimes referred to as premature write-off, for refunding is that it is one way that discount and issue cost may be eliminated prior to retirement. The amounts involved may be disposed of immediately upon issuance of

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[1] N. A. R. U. C., Uniform System of Accounts for Electric Utilities (1937), p. 14. Systems of member commissions show a similar provision.

bonds or at such other time of management's choosing. The balance prematurely charged off, however, has been required to be of "insignificant" amount in most cases.

A variation of accelerated write-off subsequent to refunding but prior to the normal maturity date of the retired issue was deemed an acceptable middle course by the 1939 Committee on Accounting Procedure.[1] Conservatism and convenience to management seem to be the only points mentioned in the literature in support of this procedure.

Klug advocated a hybrid procedure involving write-off of discount and issue cost over the remaining life of the old issue but call premium over the life of the new. His reasoning was that call premium should be related to the benefits of a later maturity date.[2]

In 1958 national regulatory authorities made the first major change in accounting procedures adopted for general use in connection with refundings since World War II. The National Association of Railroad and Utility Commissioners approved revisions of its model system to permit

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[1] A. I. C. P. A., Committee on Accounting Procedure, Accounting Research Bulletin No. 2 (Reprint 1-37, p. 21).

[2] V. Childs Klug, "The Accounting Treatment of Unamortized Discount and Premium in Utility Refunding Operations," The Journal of Land and Public Utility Economics, XII (November, 1936), 411.

write-off of items applicable to a refunded issue over the period required for interest savings associated with the refunding to just equal the amount to be written off.[1] This version of payback time, currently in effect, may be adopted by a utility without explicit prior permission provided that three important conditions are met. These are as follows:[2]

1. Any balance of items applicable to "'grandfather'" issues previously refunded by the bonds being currently refunded must be charged off entirely to retained earnings.

2. An amount equal to the tax saving related to the refunding must be charged against income in the year of refunding.

3. Accumulation or amortization must be by equal monthly charges of the remaining balance, after giving effect to the above and any additional income taxes attributable to the net annual saving in interest and related charges, over the period so determined.

The procedure was adopted officially by the Federal Power Commission to take effect in 1961.[3] Many states also

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[1]National Association of Railroad and Utility Commissioners, Uniform System of Accounts for Class A and Class B Utilities (Washington: N. A. R. U. C., 1959), pp. 59-60.

[2]Ibid., p. 60.

[3]U. S. Federal Power Commission, Uniform System of Accounts Prescribed for Public Utilities and Licensees, effective January 1, 1961 (Washington: U. S. Government Printing Office, 1960), p. 32.

follow the N.A.R.U.C. system or allow similar procedures, at least in the regulation of electric, gas, and water utilities. This is indicated by Exhibit I (p. 65).

As a practical matter, use of the payback procedure results in nullification of the effects of the refunding until the write-off has been completed, provided that tax allocation based on the refunding deductions is confined to the net-of-tax approach described in the above instructions.

The prescribed treatment of the tax-saving equivalent in the N.A.R.U.C. system is in accordance with the previously cited A.I.C.P.A. recommendations in Accounting Research Bulletin No. 18 and No. 43 for write-off procedures other than immediate charge of the entire balance to income.

Present State of Authoritative Sanction

In spite of much agitation in recent years to find the "one best way" in accounting or at least to narrow the areas of differences, of which bond refunding is only one, wide latitudes of choice remain. The philosophy expressed by George O. May in 1940 still prevails. May likened accounting procedure to the law in the sense that it is determined by a combination of many forces--including history, custom, tradition, and concepts of public interest.[1]

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[1]May, "Unamortized Discount and Premium on Bonds Refunded," 51.

He suggested that it is seldom possible to designate a single procedure as the only proper one or, conversely, as entirely unacceptable.[1]

In Exhibit I on the following page is shown a summary of procedures currently required or expressly approved by national accounting and regulatory authorities and that were in effect in various states in 1968. The procedures listed are officially approved for use by firms under the regulatory jurisdiction indicated without obtaining explicit prior permission.

Interestingly, no national uniform system of accounts examined specifically prescribes write-off over the life of the old issue or of the new. But the Federal Power Commission announced in August, 1971, that it proposes to adopt both of these procedures in addition to immediate write-off.[2] The commission also proposed adoption of comprehensive tax allocation in accordance with Accounting Principles Board Opinion No. 11.[3] This is apparently intended to replace the net-of-tax approach currently

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[1] Ibid.

[2] U. S. Federal Power Commission, "Notice of Proposed Rule-making," Docket No. R-424 (August 6, 1971), pp. 13-14.

[3] Ibid., p. 5.

EXHIBIT I

ACCOUNTING PROCEDURES FOR ITEMS RELATED TO BONDS REFUNDED AS APPROVED OR REQUIRED BY REGULATORY AUTHORITIES AND PROFESSIONAL ACCOUNTING ORGANIZATIONS

1968

Procedure	Sanctioning Organization
1. Immediate write-off to income or retained earnings in the year of refunding[a]	American Institute of Certified Public Accountants; American Accounting Association; National Association of Regulatory Utility Commissioners;[b] Federal Power Commission; Interstate Commerce Commission; Internal Revenue Service; Federal Communications Commission; forty state commissions and the District of Columbia.
2. Write-off over remaining life to normal maturity of the refunded issue	American Institute of Certified Public Accountants.
3. Write-off over the life of the refunding issue	American Institute of Certified Public Accountants; Internal Revenue Service;[c] one state commission (Maine).
4. Write-off over period of equalization of savings and amount to be written off (payback time)	National Association of Regulatory Utility Commissioners; Federal Power Commission; thirty-one state commissions.
5. Accelerated write-off	American Institute of Certified Public Accountants;[d] National Association of Regulatory Utility Commissioners; Federal Power Commission; Federal Communications Commission; Interstate Commerce Commission; thirty-two state commissions.
6. No formal regulation	One state commission (Alaska).

[a]A.I.C.P.A., F.P.C., and I. C. C. guidelines currently indicate a charge to income; F.C.C. guidelines indicate a charge to retained earnings for telephone companies but to income for certain other media.

[b]Formerly National Association of Railroad and Utility Commissioners.

[c]For direct exchange of issues only. (Continued on page 66)

prescribed for refunding accounting. Stated reasons for the proposed changes, which had not been officially acted upon at the date of this writing, include bringing utility accounting for long-term debt more into line with generally accepted accounting principles.[1]

The Federal Communications Commission indicated that write-off over the life of the old issue may be permitted on the grounds that "true" interest cost for rate

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[d]Over period shorter than remaining life of old bonds.

Sources: Manuals and other publications previously cited plus additional sources as follows:

1) American Institute of Certified Public Accountants, Accounting Principles Board, Opinion No. 9 (December, 1966).

2) State of Michigan, 1960 Annual Administrative Code Supplement.

3) U. S. Federal Communications Commission, Rules and Regulations, VIII (Washington: U. S. Government Printing Office, 1965).

4) U. S. Federal Communications Commission, Rules and Regulations, IX (Washington: U. S. Government Printing Office, 1968).

5) U. S. Federal Power Commission, Uniform System of Accounts Prescribed for Public Utilities and Licensees (Washington: U. S. Government Printing Office, 1970).

6) U. S. Interstate Commerce Commission, Uniform System of Accounts for Class I and Class II Common and Contract Motor Carriers of Property (Washington: U. S. Government Printing Office, 1969).

7) Mail survey of state commissions, 1968. Responses were received from forty-nine states and the District of Columbia. Iowa did not respond to initial and follow-up requests.

[1]Ibid., p. 3.

purposes should include a prorata portion of discount and call premium related to a refunded issue over the period to its normal maturity date.[1]

At the state level, Maine indicated approval of write-off over the life of the new issue without qualification. But California and Maryland mentioned approval of this procedure under special circumstances. California indicated occasional approval for a firm's accounting purposes but not for rate proceedings. Maryland said that the procedure was allowed when the refunding was to modify underlying mortgage requirements and not considered a normal refunding. A "normal" refunding was inferred to be for the usual purpose of securing interest savings.

The payback write-off has not been specifically discussed in Institute pronouncements on bond refunding. But acceptance of accelerated write-off over a period shorter than the normal life to maturity of the retired issue apparently would permit use of the payback procedure. Accelerated write-off is indicated to be an acceptable procedure in a provision of Accounting Research Bulletin No. 43 which has not been changed by Board opinion.[2]

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[1]Letter from Kelley E. Griffith, Chief, Domestic Rates Division, Federal Communications Commission, November 17, 1969.

[2]A. I. C. P. A., Committee on Accounting Procedure, Accounting Research Bulletin No. 43, p. 132.

As indicated in Footnote "a", some differences in requirements concerning the immediate write-off charge still exist. In Accounting Research Bulletin No. 43 the position taken was that the charge should be to income rather than to retained earnings unless a misleading distortion of net income would be the result.[1] Support for the all-inclusive income statement contained in Accounting Principles Board Opinion No. 9, issued in 1966, appears to require the charge to income.[2] The inferred view is that the gain or loss arising in connection with a refunding should be considered a result of a transaction of the current period rather than a prior period adjustment. Sources cited for Exhibit I indicate that the charge to income has been prescribed in systems of accounts issued by the Federal Power Commission and the Federal Communications Commission since publication of Opinion No. 9.

Including accelerated write-off, four alternative procedures of accounting for financing costs related to bonds refunded are acceptable to the American Institute of Certified Public Accountants at the present time. But only two of these are significantly favored in published

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[1] Ibid., p. 142.

[2] A. I. C. P. A., Accounting Principles Board, Opinion No. 9, pp. 112-116.

regulations of utility commissions currently in effect. Whether the changes proposed by the Federal Power Commission are indicative of a future trend toward closer agreement between the accounting profession and regulatory authorities remains to be determined. At any rate, the historical evidence appears to clearly support a conclusion that bond refunding is an area in which differences in accounting procedures have not been narrowed.

Summary

The interest rate is viewed by economists as a price of capital. In accounting it is regarded as the price of borrowed capital. Varying interest rates result in the issuance of bonds at prices differing from face value. Thus, premium and discount enter into the determination of the effective rate of interest or yield rate.

Physical property accounts were often charged with bond discount during the early 1900s. But by the 1930s bond premium and discount were well accepted as components of the effective interest rate and, hence, of the effective bond liability.

Before 1958 most of the developments concerning accounting for bond refundings revolved around three principal procedures of writing off financing costs related

to the refunded issue. These were:

1. Write-off immediately at refunding, either against income or directly to retained earnings.

2. Write-off over the remaining period to normal maturity of the refunded issue.

3. Write-off over the life of the refunding issue.

Theoretical argument in support of the first procedure has been based largely on the concept of conservatism and the view of the refunded issue as a completed transaction. Advocates of immediate write-off hold the difference between redemption cost and the carrying value of the liability to be a gain or loss realized upon retirement of the bonds. Consistent with this view, current A. I. C. P. A. guidelines and those of some utility commissions require that the immediate write-off charge be made to income rather than to retained earnings.

Advocates of the second procedure view the period to normal maturity of the refunded issue as the objectively determinable period of interest savings. Hence, proper matching of costs and benefits is said to result from write-off over the life of the old issue.

Some proponents of write-off over the life of the new issue regard financing costs applicable to the old issue as capital-retention costs properly assignable to

the old issue but recommend write-off of call premium over the life of the new issue on the basis that it is related to extending the time of the loan.

Refunding in anticipation of higher future interest rates is held by some authorities to justify write-off over the life of the new issue. Under these circumstances, the expected benefits are assumed to result from refunding at a lower rate than would be incurred at maturity of the old issue.

The American Institute of Certified Public Accountants approved the first two of the above procedures in 1939 and the third in 1965.

Historically, write-off in the year of refunding has been in accordance with tax requirements and the basic rule of utility regulatory commissions. But departures from the general rule have often been allowed by the commissions. Since 1958, write-off over the payback period has been adopted by several commissions. The two gradual write-off procedures emphasized and approved by the American Institute of Certified Public Accountants are not specifically stated as acceptable in regulatory uniform systems of accounts currently in effect. But the Federal Power Commission has proposed future adoption of the procedures approved by the Institute.

In most theoretical discussion of accounting for bond liabilities, the investor's historical yield rate is advocated for use in the accrual process. But Hendriksen proposes a "full-accrual" approach based on the current market rate. Complete application of this procedure to the date of call leaves no remaining balance of premium or discount to be written off at refunding.

CHAPTER III

TRENDS AND EFFECTS OF ACCOUNTING PRACTICES

In general, the purpose of this chapter is to show trends in accounting treatment of unamortized financing costs related to bonds refunded and to compare size-relationships of amounts involved as to possible effects on retained earnings, net income, and dividends. Specifically, the chapter contains the following:

1. A brief review of practices related to bonds outstanding.

2. Comparative data concerning write-off practices of public utilities and industrials related to refunding during the periods 1936-1945 and 1956-1965.

3. An analysis of size-relationships of financing costs applicable to bonds refunded as per cents of REBCO and NIBCO for firms writing these costs off immediately and for those deferring write-off.[1]

4. An analysis of dividend size relative to REBCO and NIBCO for firms writing refunding-related items off immediately and for those deferring write-off.

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[1]REBCO: Retained Earnings Before Charge-Off (of both dividends and refunding-related items).

NIBCO: Net Income Before Charge-Off (of refunding-related items deducted in the income statement).

5. Certain statistical tests of representativeness of data and of relationships between dividends and charges related to refunded bonds.

The results provide some evidence of earnings and dividend effects as a basis for deferred write-off, especially during the earlier period, but show increased use of immediate write-off by public utilities refunding during the later period.

General Practices Related To Bonds Outstanding

A review of practices related to bonds oustanding is considered necessary for complete coverage of the subject of accounting for refunding. This is because pre-refunding disposition of discount, issue cost, and premium received upon issuance may have a bearing upon the procedures used when refunding occurs.

The era of charging discount to physical plant accounts, mentioned in the previous chapter, was apparently followed by a period of divided practices of either charging the amounts directly against retained earnings upon issuance of the bonds or deferring them in the balance sheet to be gradually written off over the life of the bonds.[1]

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[1]American Institute of Certified Public Accountants, Committee on Accounting Procedure, "Unamortized Discount and Redemption Premium on Bonds Refunded," Accounting Research Bulletin No. 2 (New York, 1939) (As reprinted in indexed volume of numbers 1 through 37, 1949, p. 12).

Gradual write-off was practiced by a majority of firms included in a survey by Clendenin in 1941, approximately two years after publication of Accounting Research Bulletin No. 2 on the refunding problem.[1]

Most published references to balance sheet treatment of deferred debit balances related to bonds report the carrying of the amounts on the asset side. Among those reporting this as almost universally practiced, especially with respect to bond discount, were Paton in 1937[2] and Lemke in 1946.[3] Financial statement data gathered for the period 1956-1965 indicate that little change has occurred in accounting for financing costs applicable to outstanding bonds since the 1936-1945 period. Data concerning the practices of 66 firms during the more recent period are summarized in Table 1 below.

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[1]J. C. Clendenin, "How 118 Major Corporations Account for Bond Discount," The Journal of Accountancy, LXXII (July, 1941), 38.

[2]W. A. Paton, "Presentation of Bond Discount," Paton on Accounting (Reprinted from The Accounting Review, September, 1937), ed. H. F. Taggert (Ann Arbor: Bureau of Business Research, University of Michigan, 1964), p. 335.

[3]Bernhard C. Lemke, "The Treatment of Bond Discount and Premium in Connection with Refunding," (unpublished Ph. D. Thesis, University of Minnesota, 1946), p. 43.

TABLE 1

PRACTICES OF ACCOUNTING FOR FINANCING COSTS
RELATED TO BONDS OUTSTANDING 1956-1965

Write-off Procedure	Public Utilities		Industrials	
	Number	Per Cent	Number	Per Cent
Straight-line accumulation or amortization	19	54	8	26
Straight-line adjusted for sinking fund retirements	7	20	--	--
Bond-month-dollars	2	6	1	3
Bond-year-dollars	2	6	--	--
Premature write-off[a]	1	3	2	6
Deferred; basis undetermined[b]	4	11	20	65
Totals	35	100	31	100

[a]Discount, premium, or issue cost written off immediately upon issuance of the bonds.

[b]All firms included in the "undetermined" category were inferred from remaining balances to have used some form of gradual write-off up to the time of refunding.

Sources: Moody's Manuals, Questionnaires, and S. E. C. Reports.

Practices Related to Refunding During the Period 1936-1945

The Clendenin Report

The Clendenin study in 1941 was apparently the first documented report of practices embracing a broad range of firms. The study was based on a questionnaire survey of 118 firms. Accounting practices were reported

but not the amounts involved in refunding transactions.[1] The findings of the study for public utilities and unregulated industrials are shown in Table 2 (p. 78). The cases tabulated represent those for these two groups responding as to treatment of unaccumulated discount and issue cost upon refunding. Fourteen railroads were included in the survey, but these are omitted from the present study for reasons discussed in Chapter I (see "limitations" pp. 20-22).

The most notable results of the Clendenin report were the reverse pattern of preferences between public utilities and industrials for immediate write-off and gradual write-off and the emphasis upon write-off over the life of the retired issue among those deferring write-off.

Clendenin summarized reasons mentioned by firms in support of the various procedures to some extent. Those favoring immediate write-off were mentioned primarily by industrials and railroads and included the following:[2]

1. The retired issue was viewed as a completed transaction.
2. The procedure was considered conservative with respect to the balance sheet.
3. Immediate write-off conformed to income tax requirements.

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[1] Clendenin, op. cit., 37.

[2] Ibid., 41.

TABLE 2

ACCOUNTING TREATMENT OF UNAMORTIZED FINANCING COSTS APPLICABLE TO BONDS REFUNDED AS REPORTED BY CLENDENIN 1941

Write-off Procedure	Public Utilities		Industrials	
	Number	Per Cent	Number	Per Cent
Immediate charge to-				
retained earnings	19	35	33	80
income	--	--	3	8
	19	35	36	88
Deferred over-				
life of retired issue	23	42	4	10
life of new issue	4	7	1	2
payback period	2[a]	4	--	--
life of old issue or life of new, whichever is shorter	7	12	--	--
	36	65	5	12
Totals	55[b]	100	41[c]	100

[a]Time required for cumulative interest savings to equal the total amount to be written off.

[b]Treatment of call premium in a manner different than accorded discount and issue cost was indicated by 10 firms, of which 9 deferred write-off of call premium over the life of the new issue.

[c]Six additional industrials, or a total of 47, replied as to treatment of call premium. Three treated this item in some manner different than that applied to discount and issue cost.

Source: Clendenin, op. cit., 40-43.

Concerning the last item, Clendenin reported that one-third of the industrials indicated that their accounting was influenced by law or regulation, apparently meaning tax requirements and possibly Securities and Exchange Commission preferences.[1] Specific distribution of mentions of the other items was not given. The author noted that the firms mentioning the advantages of immediate write-off usually had retained earnings balances of sufficient size to absorb the charge without serious results.[2]

Reasons in support of gradual write-off, inferred to have been given largely by public utilities, included the following:[3]

1. The notion that stockholders' equity is, in effect, increased by a profitable refunding.
2. The view of funded debt financing as an on-going transaction until ultimate discharge with equity funds.
3. Authoritative support found in Accounting Research Bulletin No. 2 and regulatory commission rulings.

Regulation was mentioned as an influence by one-half of the utilities.[4]

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[1] Ibid.

[2] Ibid.

[3] Ibid., 42.

[4] Ibid., 43.

Clendenin reported that some firms using gradual write-off made a charge in the income statement equal to the tax saving, as later recommended in Accounting Research Bulletin No. 18.[1] The remaining balance of unamortized financing costs related to the retired issue was then written off over subsequent periods.

The Lemke Report

The Lemke study in 1946 reported practices of 30 public utilities and 30 industrials refunding bonds at various times during the decade 1936-1945. Including multiple refundings by some firms, 31 utility and 34 industrial cases were reported upon.[2] The findings of this study are summarized in Table 3 (p. 81).

Similar to the Clendenin study, the Lemke report showed a majority of utilities deferring write-off and the opposite for industrials. But the results differed somewhat as to specific procedures within the two main write-off categories. The Lemke study reported refundings up to four years later than the Clendenin study and showed a larger proportion of industrials making the immediate write-off charge to income rather than to retained earnings.

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[1] Ibid., 42.

[2] Lemke, op. cit., pp. 180, 193.

TABLE 3

ACCOUNTING TREATMENT OF UNAMORTIZED FINANCING COSTS APPLICABLE TO BONDS REFUNDED AS REPORTED BY LEMKE FOR THE PERIOD 1936-1945

Write-off Procedure	Public Utilities		Industrials	
	Number	Per Cent	Number	Per Cent
Immediate charge to-				
retained earnings	10	30	14[d]	41
income	1	3	11[d]	32
capital surplus	--	--	1	3
	11	35[c]	26	76
Deferred over-				
life of retired issue	4	13	2	6
life of new issue	6	19	--[d]	--
payback period	4	13	--	--
other	5[a]	16	--	--
	19	61	2	6
Premature write-off	1[b]	3	6	18
Totals	31	100[c]	34	100

[a]Various periods shorter than the remaining normal life of the retired issue.

[b]Discount and issue cost prematurely written off; call premium deferred over life of new issue.

[c]Rounded

[d]Apparent hybrid procedures involved charging call premium to retained earnings in 18 cases (53%), to income in 12 cases (35%), and writing it off over the life of the new issue in one case (3%).

Source: Lemke, op. cit., pp. 180, 193.

On the other hand, public utilities continued to charge retained earnings. Within the deferred write-off category, Lemke showed a much smaller percentage of utilities using write-off over the remaining life to normal maturity of the retired issue and somewhat greater percentages for the other procedures.

Having compiled his data largely from prospectuses rather than by contact with the companies, Lemke did not obtain stated reasons for the use of particular procedures for most of the cases. Like Clendenin, however, Lemke called attention to the relatively small retained earnings balances of many of the utilities compared to those of the industrials.[1] Both writers indicated that deficits would have existed for some of the deferring firms if unamortized financing costs had been written off immediately upon refunding.[2,3]

The Lemke study included greater attention to the tax effects of refunding than did the Clendenin report. Many of the cases reported by Lemke occurred during the war years when there was emphasis on the excess profits tax. Also, many occurred following publication of Accounting

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[1] Ibid., pp. 148-149.

[2] Ibid.

[3] Clendenin, op. cit., 41.

Research Bulletin No. 18 in 1942, whereas Clendenin's study was conducted the year before.

Lemke's findings concerning treatment of the tax saving are reported in Table 5 and related comments (pp. 87-88) for comparison with 1956-1965 data. The relevance of the discussion of this matter lies in the effect upon the amount of the write-off. Reducing the amount of unamortized financing costs by the credit offsetting the charge in the income statement for the tax-saving equivalent can make a substantial difference in future charges to income where a large balance is involved.

Practices Related to Refunding During the Period 1956-1965

The decade 1956-1965 was quite different than 1936-1945 as to general conditions in the economic environment. Rather than depression followed by war, peacetime (or cold-war) prosperity prevailed for the most part. Interest rates were relatively higher than in the thirties and forties and generally rising. Downward fluctuations occurred sometimes but not often. Nevertheless, bond refunding continued to be practiced, especially by public utilities and to some extent by industrials.

By tracing details of issues reported in lists of bonds redeemed in Moody's Public Utility Manual and

Industrial Manual, 69 utilities and 38 industrials were determined to have engaged in refunding during 1956-1965. From the investment manual reports and other sources tabulated in Table 7 (p. 93) of the statistical analysis section, adequate data for use in the study were obtained for 36 utility and 27 industrial refundings during the period.

Regulated Public Utilities

Practices of public utilities compared to industrials during the 1956-1965 period are presented in Table 4 (p. 85). In comparison to the findings reported by Lemke and Clendenin for the 1936-1945 period, the 1956-1965 data indicate a definite increase in the practice of immediate write-off by the public utilities, 50 per cent of the sample against 35 per cent found by each of the two previous writers. Including the two hybrid cases in which one of the items was charged to retained earnings upon refunding, cases of immediate write-off were actually in the majority in the sample for the more recent period.

Within the deferred write-off category, substantially less use of write-off over the life of the retired issue is shown by the 1956-1965 data than indicated by Clendenin in 1941. But a similar result was shown by Lemke's report covering 1936-1945. Greater use of payback

TABLE 4

ACCOUNTING TREATMENT OF UNAMORTIZED FINANCING COSTS APPLICABLE TO BONDS REFUNDED DURING THE PERIOD 1956-1965

Write-off Procedure	Public Utilities		Industrials	
	Number	Per Cent	Number	Per Cent
Immediate charge to-				
retained earnings	18	50	--	--
income	--	--	20	71
	18	50	20	71
Deferred over-				
life of retired issue	7	19	1	3
life of new issue	--	--	2	7
payback period	9	25	--	--
period undetermined	--	--	3	11
	16	44	6	21
Hybrid treatment	2[a]	6	2[b]	7
Totals	36	100	28	100[c]

[a]Issue costs prematurely written off and call premium charged to retained earnings in one case; issue costs charged to retained earnings and call premium deferred over the remaining life of the retired issue in one case. In the analysis of quantitative data hybrid cases were classified according to disposition of the largest amount remaining at refunding.

[b]Issue costs prematurely written off and no other items involved in one case of a direct exchange of issues. Issue costs prematurely written off and call premium charged to retained earnings in one case.

[c]Rounded

Sources: Moody's Manuals, Securities and Exchange Commission reports, and questionnaires.

time, or the cumulative interest-savings period, for the write-off is shown by the 1956-1965 survey than by either of the two former studies. This is possibly related to recent official sanction of the procedure by utility commissions as discussed in Chapter II.

In view of the recent approval of write-off over the life of the new issue by the A. I. C. P. A. Accounting Principles Board, Hypothesis No. 2 held that a trend toward greater use of that procedure would be shown by the public utility statistics. Such was not the case, since no instance of write-off over the life of the new issue was found among the utility firms included in the 1956-1965 sample.

Unregulated Industrial Corporations

Comparing Table 4 with Table 2 and Table 3 shows that a clear majority of industrials practiced immediate write-off during 1956-1965 as well as 1936-1945. During the later period, the charge was made against income exclusively, whereas the earlier studies showed the write-off as being made to retained earnings in many cases. The almost complete switch since 1941 may possibly be attributable to the Institute's advocacy of the charge to income in Accounting Research Bulletins Nos. 2, 18, and 43.[1]

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[1]See Ch. II, pp. 41, 45, and 68, supra.

In contrast, utilities continued to charge retained earnings, although some commissions have recently prescribed the charge to income.[1]

Tax Effects

The Lemke report included a tabulation of public utility cases in which the tax-saving equivalent was charged to income. A comparison of the findings of that study and those of the 1956-1965 survey is provided in Table 5 (p. 88). In the first three categories, the offsetting credit was made to the balance of unamortized financing cost in the year of refunding.

Although the Lemke study did not give details for firms not charging the tax-saving equivalent to income, the closeness of the percentages for that procedure seems to just indicate continuation of approximately the general pattern reported in that study as becoming popular in the 1940s.[2] The impetus given to the practice by Accounting Research Bulletin No. 18 was perhaps later reinforced by the several additional Institute publications dealing with the subject of tax allocation.[3]

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[1] Ibid., p. 65.

[2] Lemke, op. cit., pp. 152, 193.

[3] American Institute of Certified Public Accountants, Committee on Accounting Procedure, Accounting Research Bulletins Nos. 23 (1944); 43 (1953; No. 44 (1954) (Revised, 1958); and 51 (1959).

TABLE 5

ACCOUNTING TREATMENT OF TAX EFFECTS RELATED TO REFUNDINGS BY PUBLIC UTILITIES DURING THE PERIODS 1936-1945 AND 1956-1965

Accounting Charged or Other Disposition	1936-1945 (Lemke Report)		1956-1965	
	Number	Per Cent	Number	Per Cent
Income	19	61	20	55
Retained earnings	--	--	6	17
Accrued taxes	--	--	2	6
Deferred over-				
life of retired issue	--	--	3	8
life of new issue	--	--	1	3
Not available	12	39	4	11
Totals	31	100	36	100

Sources: Lemke, op. cit., p. 193; Moody's Manuals, and questionnaires.

Since little information was available concerning the practice by industrials not using immediate write-off and the more recent data show the entire write-off to income in the first place for most cases, no similar analysis is presented for these firms.

Procedure-Selection Reasons

In the questionnaire used in the 1956-1965 survey, firms were asked to indicate the primary reasons for the choice of procedure used. The results are shown in Table 6 (p. 89). The relatively large proportion of the utility

TABLE 6

STATED REASONS FOR CHOICE OF PROCEDURES
1956-1965

Reasons	Public Utilities		Industrials	
	Deferred Write-off	Immediate Write-off	Deferred Write-off	Immediate Write-off
Amortization over period of interest savings due to issuance of refunding bonds at rate actually lower than rate on old bonds	4	--	--	--
View of refunding as primarily having the effect of extending maturity of the original debt to new due date	--	--	2	--
Procedure approved by the American Institute of Certified Public Accountants	3	--	1	2
Procedure approved for Federal income tax purposes	2[a]	2	1[a]	3
Regulatory commission requirements	11	9	--	--
View of unamortized items as gain or loss in year of refunding	--	3	--	2
Materiality of amount	1	2	--	3
Convenience or expediency	1	--	--	1
Other	--	2	--	--
Totals	22[b]	18[b]	4[c]	11[c]

[a]Direct exchanges of issues in 2 cases; apparent misinterpretation of the question in 1 case. Deferred write-off is not acceptable for tax purposes except in connection with a direct exchange.

[b]Multiple reasons indicated by 7 utilities and 3 industrials; totals include responses by 29 utilities and 8 industrials.

Source: Questionnaire responses.

sample indicating regulatory requirements to be the basis of choice appears to be in line with the Clendenin findings.

Among the list of possible reasons was included "effect upon dividend pattern." Interestingly, no firm checked this item. Also, there were fewer mentions of materiality, convenience, and expediancy than might have been expected because of the small amounts of financing costs relative to retained earnings and net income of firms refunding in recent years.

Firms were asked to indicate whether write-off was in accordance with the period of expected realization of savings according to capital budgeting calculations used in making the refunding decision. An implied assumption of Hypothesis No. 2 was that some rate of return over the period to maturity of the new issue might have been used and the write-off basis determined accordingly. This was not indicated by the responses received. But the notion that capital budgeting considerations played some part in selection of accounting procedure seems borne out to some extent by the proportion of firms shown by the practice statistics to have used a variation of payback time as the write-off period.

In view of the small number of industrials that answered the questionnaire, the responses by this group

might be considered relatively inconclusive. But since Table 4 shows that most industrials used immediate write-off, the observations may be made that:

1. The procedure is approved by the American Institute of Certified Public Accountants.
2. The procedure is approved for tax purposes.
3. Quantitative data subsequently presented show that industrials using immediate write-off had lower median balances of unamortized financing costs relative to net income and retained earnings before charge-off than either utilities or industrials using deferred write-off.

Comparative Statistics of Net Income and Retained Earnings Relationships of Bond Financing Costs and Dividend Payouts

It is the purpose of this section to present data related to Hypothesis No. 1, which held that a pragmatic basis for gradual write-off of financing costs of refunded bonds could be inferred for public utilities. The grounds for such an inference were expected to be the greater relative size of the unamortized balances for public utilities than for industrials. Hence, immediate write-off would impair earnings and dividend position of the utilities to a greater extent than of industrials.

Investigation of this hypothesis included application of certain tests as follows:

1. The Wald-Wolfowitz runs test of representativeness of the 1956-1965 data.

2. A percentage analysis of unamortized financing costs, the amount of such costs charged off in the year of refunding, and the annual dividend in relation to REBCO and NIBCO.

3. A median test of differences between dividends of firms deferring write-off of refunding-related financing costs and those of firms writing such amounts off immediately upon refunding.

4. A correlation test of association between dividends and refunding-related charges written off in the year of refunding.

The analysis subsequently presented shows some degree of support for the hypothesis.

The amounts of bond financing costs used in this part of the study pertain solely to the issues retired by refunding and were obtained from sources indicated in Table 7 (p. 93).

Although methods of selection of cases were not clearly disclosed by the Lemke and Clendenin reports, for purposes of the present study representativeness of the 1936-1945 data was assumed. Since the 1956-1965 data were obtained according to availability from the sources shown in Table 7 rather than by random sampling, nonparametric techniques were used for the statistical tests. These do not require specified conditions concerning the parameters of the population, e.g., a normal

TABLE 7

FREQUENCY OF DATA BY SOURCE AND PERIOD

Source	Period			
	1936-1945		1956-1965	
	Utilities	Industrials	Utilities	Industrials
Lemke study, supplemented by investment manual reports	17[a]	--	--	--
Moody's Public Utility Manual	23	--	4[b]	--
Moody's Industrial Manual	--	33	--	3[b]
Questionnaires	--	--	32	8
Securities and Exchange Commission files	--	--	--	17[c]
Totals	40	33	36[d]	28[d]

[a]Lemke presented primarily balance sheet aggregates, with separate listing of amounts applicable specifically to the refunded issues in 17 cases. Some of these were obtained from statements apparently issued some time in advance of actual retirement and did not reflect final amounts (see Lemke, op. cit., pp. 175, 184). Above totals include 28 utility and 27 industrial cases listed by Lemke. Amounts applicable to refunded issues were determined mainly from footnote data accompanying statements published in Moody's Manuals during this period of heavy refunding activity.

[b]The entire list of 1956-1965 refundings was initially obtained from the Manuals. Questionnaires were used to obtain details not adequately disclosed in the published data.

[c]In view of the limited responses by industrials, files were examined in the Washington office for data.

[d]These are the cases for which adequate data for the study were obtained out of 69 utility and 38 industrial refundings determined from the Manuals to have occurred during the period. One industrial case involved no unamortized balance at refunding; hence, it is omitted from the analysis subsequently presented.

distribution.[1]

The Wald-Wolfowitz runs test was applied to establish a basis as to representativeness of the cases for which data adequate for analysis in the study were obtained. Basically, this involves testing the null hypothesis (H_o) of no difference between two independent samples against the alternative hypothesis (H_1) of a difference in any respect.[2] Failure to reject the null hypothesis warrants a conclusion that the two samples have been drawn from the same population.

For this purpose, cases for which data related to the refunded issues were available were viewed as one sample, and those for which such data were not available but were firms determined to have engaged in refunding during the period were viewed as another. Balance sheet aggregates of unamortized bond financing costs, retained earnings, and dividends (with one exception) were available for all cases. The first two are affected by the accounting for refunding charges and the third is assumed

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[1]Sidney Siegel, Nonparametric Statistics for the Behavioral Sciences (New York: McGraw-Hill Book Company, 1956), pp. vii, 31; W. J. Conover, Practical Nonparametric Statistics (New York: John Wiley and Sons, Inc., 1971), pp. 93-94.

[2]Siegel, op. cit., p. 136.

to be by Hypothesis No. 1 of this study. Thus, the public utility and industrial categories were each grouped as described above and tested on the basis of unamortized bond financing costs appearing in balance sheets at December 31 and the annual dividend for the year of refunding as per cents of retained earnings. REBCO could not be computed for the cases for which charges applicable to the retired issues were not distinguished.

Specific application involves combining the two variables in a single ranking in the order of increasing size. Then, the number of runs is determined, a run being defined as any sequence of values from the same group. Using the number of runs determined in this manner, Z values for samples larger than 20 are computed by the basic formula:[1]

$$z = \frac{r - \mu_r}{\sigma_r}$$

where r = number of runs

μ_r = mean of the population of r's

σ_r = standard deviation of the population of r's

Rejection of H_o depends on the number of runs (r) being too small to generate a z that is significant at a

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[1] Ibid., p. 140.

certain level. Significance of z is determined by reference to a table of probabilities. If the observed z has an associated probability equal to or less than a predetermined level of significance (α), then the null hypothesis may be rejected at that level of significance.

Application of the test to the public utility and industrial variables yielded the results shown in Table 8 (p. 97).

Since the probabilities are greater than $\alpha = .01$ for all of the z values, the null hypothesis is not rejected. No significant difference between the samples is indicated at $\alpha = .01$.

For the analyses other than the runs test, refunding-related variables and dividends were placed on common bases relative to REBCO, NIBCO, or both, depending on the test. The computations of REBCO and NIBCO are described and illustrated below. The purpose was to develop figures such as might be examined by management in appraising the effects of accounting procedures, given that the desirability of refunding has been established on other grounds, such as interest savings. An assumption reflected in Hypothesis No. 1 is that the accounting procedure to be used might be influenced by the relative size of balances prior to write-off.

TABLE 8

WALD-WOLFOWITZ RUNS TEST OF UNAMORTIZED BOND FINANCING COSTS AND DIVIDENDS AS PER CENTS OF RETAINED EARNINGS 1956-1965

Variables		Utilities		Industrials	
		UBFC	Dividends	UBFC	Dividends
n_1	Cases for which refunding data were available	36	36	27	27
n_2	Cases for which refunding data were not available	33	33	11	10[a]
N	$n_1 + n_2$	69	69	38	37
z	Observed value	.83	.35	.86	1.24
p	Probability of z as extreme as observed value in normal distribution	.21	.38	.21	.11

[a]Dividend not available for one case.

Sources: Methodology per Siegel, op. cit., pp. 136-145, 247; Conover, op. cit., pp. 349-356; raw data per sources tabulated in Table 7 (p. 93).

REBCO (Retained Earnings Before Charge-Off) was computed by adding the bond-related charge-off and dividend payout back to the year-end retained earnings balance and subtracting the tax-saving equivalent, adjusted by the tax rate according to income statement treatment determined or inferred from the data examined.

The actual effect of the saving obtained by deduction of the aggregate balance of financing costs related

to a retired issue is present, regardless of statement treatment. Treatment of the tax-saving equivalent was not clear from available data for 14 utilities and 7 industrials in the 1936-1945 group and for 4 utilities and 5 industrials in the 1956-1965 group. In the computations for these cases, deduction of a charge equal to the tax effect was assumed in accordance with the guidelines of Accounting Research Bulletin Nos. 18 (1942) and 43 (1953).[1]

The tax rate used in the computations was the per cent borne by the tax-saving equivalent to the aggregate deduction in all cases in which this information was available. This was done because the tax provision shown in the income statement for many of the 1936-1945 cases was based on taxable income rather than book income. Inter-period tax allocation had not yet become popular at that time. Where neither the specific amount nor the tax rate was available, an estimate was made using the maximum rate to which the firm would be subject in the year of refunding. The maximum rate was inferred to be more realistic than an average because of

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[1]See p. 87, supra.

some evidence of the timing of refundings to take advantage of tax benefits in given years.[1,2]

The computation made for several utilities refunding after 1942 is illustrated below. Unamortized financing cost of $1,000 deducted in the tax return in the year of refunding results in a tax saving of $500 at an assumed 50 per cent rate. An amount equal to the tax saving is charged to income, and the balance of unamortized financing cost is reduced by the offsetting credit. The net-of-tax remainder is assumed to be written off on a straight-line basis over five years. Inter-period tax allocation is not used, at least with respect to the refunding effects. Hence, the actual tax charge in the income statement is $500 less than if the $1,000 deduction had not been available. But net income is unaffected because of the offsetting charge equal to the tax saving. The refunding is assumed to occur on January 1, however, and the $100 amortization charge is reflected in net income transferred to retained earnings.

NIBCO (Net Income Before Charge-Off) is determined by adjusting net income reported for the year for the

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[1]Lemke, op. cit., p. 152.

[2]Questionnaire comments of Puget Sound Power Company regarding 1963 and 1964 refundings.

financing costs charged off and the tax effect. For the assumed case, the computation is as follows:

Net income per statement		$15,000
Add: Amortization	$100	
Tax-saving equivalent	500	600
		$15,600
Deduct: Tax saving		500
NIBCO		$15,100

The resulting figure would be reported net income in the absence of any write-off related to the retired bonds. It differs from reported income only by the amount of the annual amortization charge in the case assumed. If the refunding had been at the end of the year, NIBCO and reported net income would be the same.

Assuming dividends of $4,400 were declared, REBCO is computed as follows:

Retained earnings per statement		$50,000
Add: Amortization per income statement	$100	
Tax-saving equivalent per income statement	500	600
Dividend charged to retained earnings		4,400
		$55,000
Deduct: Tax saving		500
REBCO		$54,500

The resulting figure would be the retained earnings balance in the absence of any write-off related to the retired bonds of any dividend charge. REBCO differs from reported retained earnings by the amount of the dividend

plus the amortization charge in this case. It is necessary to adjust retained earnings for the latter because of its reflection in reported net income as actually transferred to retained earnings.

The observations of Clendenin and Lemke that public utilities tended to have greater balances of unamortized refunding-related items relative to retained earnings than the industrials during the 1930s and 1940s are supported by the general pattern of per cents shown in Table 9 (p. 102). The range and median per cents are considerably higher for utilities in both write-off categories than for industrials in the 1936-1945 group. Also, those for public utilities deferring write-off are higher than for public utilities writing the amounts off immediately in the year of refunding. The very high median for unamortized financing costs related to NIBCO for the deferring utilities indicates that more than half of these firms would have shown losses in the income statement had the entire charge been made to income in the year of refunding.

During the 1956-1965 decade, the percentages in the various categories had declined to considerably lower levels compared to the 1936-1945 group. There were some exceptions at the upper limits of the ranges of per cents of NIBCO for the industrials, but the median appears to best

TABLE 9

PERCENTAGE RELATIONSHIPS OF REFUNDING-RELATED ITEMS TO RETAINED EARNINGS AND NET INCOME BEFORE CHARGE-OFF

Period and Write-off Procedure	Public Utilities			Industrials		
	N	Median	Range	N	Median	Range
Immediate write-off 1936-1945						
Unamortized financing costs-						
As per cents of REBCO	23	28	2 -71	30	4	1 -36
As per cents of NIBCO	23	73	7-113	30	16	3 -55
Amounts charged off-[a]						
As per cents of REBCO	23	12	1 -39	30	2	0 -24
As per cents of NIBCO	23	26	1 -65	30	9	1 -39
Deferred write-off 1936-1945						
Unamortized financing costs-						
As per cents of REBCO	17	53	10-109	3	13	6 -29
As per cents of NIBCO	17	118	26-169	3	33	11 -61
Amounts charged off-[b]						
As per cents of REBCO	17	3	0 -19	3	1	0 -5
As per cents of NIBCO	17	5	0 -27	3	3	1 -11
Immediate write-off 1956-1965						
Unamortized financing costs-						
As per cents of REBCO	19	3	0 -20	21	1	0 -19
As per cents of NIBCO	19	10	0 -24	21	3	0 -67
Amounts charged off-[a]						
As per cents of REBCO	19	2	0 -11	21	0[c]	0 -9
As per cents of NIBCO	19	5	0 -11	21	1	0 -32
Deferred write-off 1956-1965						
Unamortized financing costs-						
As per cents of REBCO	17	3	0 -72	6	2	1 -27
As per cents of NIBCO	17	9	1 -60	6	12	3-150
Amounts charged off-[b]						
As per cents of REBCO	17	0[c]	0 -3	6	0[c]	0 -1
As per cents of NIBCO	17	0	0 -3	6	1	0 -7

[a] Net of tax-saving equivalent.

[b] Annual amortization of net-of-tax amount.

[c] Less than 0.5% rounded to zero.

Sources: Raw data from sources tabulated in Table 7 (p. 93).

represent the general pattern.

Since potential effect on dividend paying ability was assumed to be an important influence in the selection of write-off procedures in formulating Hypothesis No. 1, tests for significant differences between the median dividends as a per cent of REBCO for firms deferring write-off of refunding-related balances and that of firms using immediate write-off were applied. The null hypothesis is that there is no difference between the medians of the populations represented by the two groups. The alternative hypothesis for a one-tailed test is that the median dividend of the population of firms deferring write-off of bond charges is higher than that of the population of firms writing such costs off immediately upon refunding. The results of the test are shown in Table 10 (p. 104).

The results shown in Table 10 are significant at $\alpha = .01$ for the 1936-1945 utility group and $\alpha = .05$ for the 1956-1965 utilities. The result for the latter is not significant at the .01 level. Hence, the result for the first group is stronger, although .05 might be regarded as a reasonable standard. The conclusion is that a difference significant at the levels indicated existed between the median dividend of utilities deferring write-off of

TABLE 10

RESULTS OF MEDIAN TEST OF DIVIDENDS OF FIRMS USING IMMEDIATE AND DEFERRED WRITE-OFF PROCEDURES FOR FINANCING COSTS RELATED TO BONDS REFUNDED

Period and Industry Group	N	X^2 Test		Fisher Test	
		Observed Values	α	Observed Values	α
1936-1945					
Public Utilities	40	8.59	.01	--	--
Industrials	33[a]	--	--	14	--[b]
1956-1965					
Public Utilities	36	4.01	.05	--	--
Industrials	27	--		9	--[b]

[a]Computation included 30 cases. Median and values next above and below were dropped to accommodate critical value table for a maximum N of 30.

[b]Maximum level of significance shown by critical value table used is .05. Not significant at $\alpha \leq .05$.

Sources: Methodology per Siegel, op. cit., pp. 95-115, 249, 256-270; Conover, op. cit., pp. 167-172, 367; raw data per sources tabulated in Table 7 (p. 93).

refunding costs and that of utilities using immediate write-off in each of the two periods.

The one-tailed test requires testing on the basis of probabilities equal to or less than one-half the value of alpha. The probabilities of occurrence of the values shown in the table under the condition of H_o (no significant difference) are $p<.005$ for the 1936-1945 utilities and $p<.025$ for the 1956-1965 utilities. Hence, the null

hypothesis (H_o) is rejected in favor of the alternative hypothesis (H_1) of higher dividends of utility firms using gradual write-off of unamortized financing costs of bonds refunded.

Due to certain values too low for relevant use of the chi-square test, the Fisher Exact Probability Test was used for the industrial cases. The results shown in Table 10 are not significant at $\alpha \leq .05$. The null hypothesis is not rejected for industrials in either period.

Taking the median per cents shown in Table 11 (p. 107) as the most representative indicators of the general pattern, public utilities in all categories tended to pay higher dividends relative to both REBCO and NIBCO than the industrials. The seemingly very high upper limits of the ranges for the 1956-1965 industrial dividends represent very few cases.

Since results of the median test indicated significant differences between relative dividends of utilities in the two write-off categories, correlation coefficients were computed to test for association between dividends and refunding costs actually charged off. A question related to Hypothesis No. 1 is whether firms experience an inverse relationship between these two variables or adopt accounting procedures having the effect of precluding such a

relationship. The latter point would be supported by failure to reject the null hypothesis of no correlation.

The dividends and bond charges were tested as related to REBCO since retained earnings is ultimately affected by both variables. Dividends are not charged against income in the income statement, although the amount of net income may affect dividend payments.

The results of the Spearman Rank Correlation test are shown with the percentages in Table 11. All are positive. Those for industrials using immediate write-off are significant for both periods at $\alpha < .05$. But for tests of significance of correlation coefficients to be relevant, the samples should be randomly drawn.[1] Also, rejection of the null hypothesis on the basis of a one-tailed test requires observed values in the direction predicted by H_1, negative coefficients in this case.[2] Assuming randomness, partly supported by results of the runs test, the correlation results do not warrant rejection of H_o.

Although deliberate selection of accounting procedures on the basis of effects on dividend position cannot be proved by the means used in this research, some measure

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[1]Siegel, op. cit., p. 210.

[2]Ibid., p. 211.

TABLE 11

DIVIDENDS DECLARED IN THE YEAR OF REFUNDING AS PER CENTS OF REBCO AND NIBCO AND AS CORRELATED WITH BOND FINANCING COSTS CHARGED OFF AS PER CENTS OF REBCO

Category by Refunding-Related Write-off Procedure and Period	N	Dividends		Dividends and Bond Charges Correlated
		Median	Range	r_s
Dividends of Public Utilities				
Immediate write-off 1936-1945:				
As per cents of REBCO	23	23	11 -59	.21
As per cents of NIBCO	23	59	23 -98	
Deferred write-off 1936-1945:				
As per cents of REBCO	17	36	23 -81	.03
As per cents of NIBCO	17	61	35 -93	
Immediate write-off 1956-1965:				
As per cents of REBCO	19	22	13 -56	.36
As per cents of NIBCO	19	71	23-133	
Deferred write-off 1956-1965:				
As per cents of REBCO	17	38	0-111	.34
As per cents of NIBCO	17	72	0-120	
Dividends of Industrials				
Immediate write-off 1936-1945:				
As per cents of REBCO	30	14	4 -39	.55
As per cents of NIBCO	30	50	15-107	
Deferred write-off 1936-1945:				
As per cents of REBCO	3	18	9 -20	.54
As per cents of NIBCO	3	39	19 -51	
Immediate write-off 1956-1965:				
As per cents of REBCO	21	11	0 -62	.38
As per cents of NIBCO	21	48	0-654	
Deferred write-off 1956-1965:				
As per cents of REBCO	6	1	0 -10	.33
As per cents of NIBCO	6	5	0-168	

Sources: Methodology per Siegel, op. cit., pp. 202-213, 284; Conover, op. cit., pp. 243-249, 390; raw data per sources tabulated in Table 7 (p. 93).

of support for Hypothesis No. 1 appears to be established. On balance, the three-way analysis--consisting of percentage comparisons, the median test, and the correlation test--seems to support an inference of a pragmatic basis for deferred write-off related to the dividend pattern of public utilities. The evidence, however, appears much stronger for the 1936-1945 period than for 1956-1965, when the percentages were much lower.

Summary

In this chapter, historical comparisons of accounting practices related to bond refunding by public utilities and nonregulated industrial firms and certain analyses of size-relationships of items involved were presented.

Public utilities practiced immediate write-off of refunding-related balances of discount, issue costs, and call premium to a greater extent during the 1956-1965 period than during 1936-1945. The charge was usually made to retained earnings directly during both periods. A majority of utilities sampled for earlier studies used deferred write off.

The majority of industrial firms reported upon used immediate write-off during both periods. The 1956-1965 group charged income exclusively, whereas the

1936-1945 group often charged retained earnings.

Little use was made of write-off over the life of the new bond issue by either utilities or industrials during 1956-1965. This finding is in contrast to the expectation of Hypothesis No. 2 for public utilities.

Regulatory requirements were cited most frequently as reasons for the choice of accounting procedures by utilities during both periods. Reasons were stated by very few industrials in the 1956-1965 group. Approval for tax purposes was mentioned in both periods. Approval by the American Institute of Certified Public Accountants was mentioned for 1956-1965.

As per cents of REBCO and NIBCO, unamortized financing costs related to bonds refunded were considerably larger for public utilities than for industrials in corresponding write-off categories in the 1936-1945 samples. Utilities deferring write-off tended to have greater balances than those using immediate write-off. Differences existed in the 1956-1965 samples, but percentages in general were much lower than in the earlier period.

Public utilities in all categories tended to pay higher dividends, as measured by the median per cents of REBCO and NIBCO, than industrials. By means of a chi-square median test, significant differences between dividends of

public utilities deferring refunding-related charges and those using immediate write-off were determined for both periods. Similar tests for industrials did not produce significant results. Correlation results for dividends and bond charges were not strong, and did not refute inferences based on the other tests.

In general, the tests applied appear to support the assertion of Hypothesis No. 1 of a pragmatic basis for deferred write-off of unamortized financing costs of refunded bonds related to effects on earnings and dividend position of public utilities during the 1936-1945 period. Results for 1956-1965 were less conclusive in view of the small percentages involved.

CHAPTER IV

APPLICATION OF GUIDELINES FROM RECENTLY DEVELOPED MODELS OF ACCOUNTING THEORY

The purpose of this chapter is to present the Hendriksen approach to accounting for bonds payable and related interest charges and to determine the degree of support for that or some other procedure that may be inferred from the guidelines contained in two other deductive models. All of these models have been purported by the authors or by others to have been developed through some variations of the methodology of deductive logic. All explicitly state or implicitly suggest that their aim is to contribute toward a logically unified body of accounting theory to facilitate realistic measurement and reporting of economic data at the firm level.

The Hendriksen approach is described and illustrated in the chapter. In addition, the supporting theoretical argument is summarized. The approach developed in each of the other models is described, and guidelines proposed that are related closely to accounting for long-term debt are summarized and discussed. Inferred

conclusions are stated as to whether the models support the Hendriksen procedure, referred to in this study as the "full-accrual" approach, or some other. Extensive derivations will not be attempted, but the general methodology of each model will be summarized. In some cases, inconsistencies will be pointed out and modifications suggested to show how the argument might be reframed to logically lead to the full-accrual approach.

The Hendriksen Model

In his "eclectic" model, Hendriksen draws upon various forms of methodology but portends to emphasize the deductive process, which he says must accompany any complete theory formulation.[1] Hendriksen's view of the essential elements of the deductive framework as applicable to accounting is summarized as follows:[2]

> The structure of the deductive process should include the following: (1) the formulation of general or specific objectives of financial reporting; (2) a statement of the postulates of accounting concerning the economic, political, and sociological environment in which accounting must operate; (3) a set of constraints to guide the reasoning process; (4) a structure, set of symbols, or framework in which ideas can be expressed and

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[1]Eldon S. Hendriksen, Accounting Theory (Rev. ed.; Homewood: Richard D. Irwin, Inc., 1970), p. 18.

[2]Ibid., p. 4.

> summarized; (5) the development of a set of definitions; (6) the formulation of principles or generalized statements of policy derived by the process of logic; and finally (7) the application of the principles to specific situations and the establishment of procedural methods and rules.

Although Hendriksen does not show rigorous derivation of principles in the sense of formal logic, he seems to have fairly observed the structure stated above in an informal but systematic and well-reasoned manner.

Hendriksen claims that formulation of objectives is the most important element of the deductive system since different objectives may require different structures and lead to different principles.[1] He holds the recording of expenses and losses in the determination of current income to be perhaps the most important objective of both asset and liability valuation.[2] He also says that liability measurement should provide information to investors and creditors that is useful for predictive purposes, for interperiod and intercompany income comparisons, and for comparing the claims of the various equity holders.[3] He indicates that an evaluation of the user's needs should

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[1] Ibid.

[2] Ibid., p. 450.

[3] Ibid.

be included in a logically derived structure for the development of sound accounting practices.[1]

The Full-Accrual Approach

Hendriksen does not use the term "full-accrual" to refer to the procedure recommended for use in accounting for bond liabilities and interest charges. But the label is convenient and seems to fit the process that is described.

Hendriksen advocates that the bond liability valuation should be the discounted present value of all future payments anticipated in the contract.[2] The appropriate discount rate is held to be the yield rate currently prevailing in the market for bonds of similar risk and term.[3] Discounting all future payments by the current market rate results in a value equal to the market price of the bond.

In short, application of the full accrual procedure involves stating the liability at the current market price of the bonds and making the interest charge on the basis of the current market rate. The market has taken care of the discounting process at a given time inasmuch as there exists an inverse relationship between changes in the

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[1] Ibid., p. 94.

[2] Ibid., p. 452.

[3] Ibid.

market yield rate and the market price of the security.

Hendriksen regards the quantification of the bond liability and interest charge by discounting at the original yield rate as something similar to historical cost.[1] In contrast, use of the full-accrual approach results in current cost valuation and recognition of holding gains and losses as changes in market yield rates and bond prices occur.

Hendriksen considers gains to represent net favorable results of transactions or events not related to normal operations of the business and losses as the results of unfavorable occurrences of these.[2] He emphasizes that losses are unrelated to the operations of any period and that they are value expirations rather than cost allocations.[3]

In the absence of general price-level changes, differences between historical cost and specific prices arising during a period are regarded as holding gains and losses.[4] That is, for bond liabilities and related interest charges the holding gains or losses would be the differences

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[1] Ibid.

[2] Ibid., pp. 190-196.

[3] Ibid., p. 196.

[4] Ibid., p. 204.

between current market price and yield rate quantification and the corresponding figures which would result from use of the historical yield rate in the accrual process.

The real gains and losses related to the bond value and interest rate changes are represented by the effects on the assets of the entity. The loss resulting from in increase in the liability value is the decline in previously uncommitted assets, i.e., within the Hendriksen framework, some net asset value has expired. The expiration is viewed as a holding loss because the firm has held the debt during the increase instead of retiring it when the market price was lower.

As the liability value increases, the corresponding decline in the market rate of interest results in a holding loss because the firm has remained committed to greater outlays for use of the funds than would be necessary to obtain them at the current rate. Similarly, decreases in bond values and increases in the market rate of interest result in holding gains.

Recognition of holding gains and losses isolated as applicable to the interest rate changes may be regarded as reflecting the efficiency of financial management. Although the changes are market-determined, a holding gain may be interpreted to mean that management has borrowed

favorably. The commitment to the historical rate is management-determined.

Stating the liability at its current value may be justified not only on the basis of the effects on income measurement but because it is necessary to reflect financial position realistically in the balance sheet. The market value of the bonds simply represents the price at which the debt could be retired at the balance sheet date; i.e., it is the effective amount of the liability in the truest sense. And Hendriksen says that one of the objectives of price-level adjustments (presumably both general and specific) is to restore the balance sheet to the position of a respectable and useful financial statement.[1]

Making the expense charge in the income statement according to the current yield rate may be justified on the basis of several factors. Hendriksen indicates that accounting practice involves application of a combination of several concepts of income.[2] No one concept seems to serve all purposes equally well. But he says that:

> While it may or may not be desirable, it is a realistic fact that users of accounting statements usually interpret net income to mean the return to shareholders.[3]

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[1] Ibid., p. 213.

[2] Ibid., p. 143.

[3] Ibid., p. 153.

Basing the interest charge on the current rate is in harmony with the economist's concept of imputed cost. The current rate represents the interest which the entity would have to incur if the funds were not already available. Since the difference between historical interest and the charge based on the current rate is not actually paid to the bondholder, it accrues as an increment or a decrement to the entrepreneur (the shareholder group for the corporation).

Accounting for the interest charge and the bond liability as well in current terms is in harmony with the all-inclusive concept of income, since the income under this concept includes gains and losses from all sources arising during the period.

Hendriksen mentions that it is important to distinguish between income and return of capital.[1] The full-accrual procedure appears to be quite consistent with the capital-maintenance concept of income. While there are different views of capital-maintenance, one is that for a firm to maintain capital it must stand ready to operate at the end of a period at a capacity as great as that at the beginning. For financial statements to show whether or not this is the case, the capital must be stated in

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[1] Ibid., p. 126.

terms of values or prices required to measure such capacity according to conditions prevailing at the balance sheet date.

If price changes have occurred during a period, the net increase or decrease in capital represented by the residual income statement figure must reflect such changes. Otherwise, capital may erroneously be construed to have been maintained. In such a case, outlays or commitments for, say, dividends may be based on an amount regarded as income when it actually includes recovery of capital, the expiration of which has not been accounted for in the income statement.

Hendriksen also points out that capital maintenance is important to bondholders and other suppliers of capital as well as residual equityholders.[1] They are interested in adequate capital to protect their claims and anticipated return on investment.

The implication of the full-accrual approach for refunding is that it results in stating the liability at the call price on the date of retirement. Discount and premium adjustment is automatically achieved through accrual according to the current yield rate and bond value.

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[1] Ibid., p. 127.

The only write-off required in the year of refunding is that which would be necessary to adjust the accounts for changes to the date of call. At the date of retirement, the call price is the lowest amount at which the debt can be settled at the time.[1] Hence, the call price becomes the relevant valuation at the retirement date. Even if the discounting process based on the current yield rate for bonds of similar risk and term should result in a figure that differs from call price, there is no need for the firm to pay more to retire the bonds. And the rational investor is presumed to be unwilling to settle for less than the call price.

The process from issuance to retirement is illustrated in Table 12 (p. 122). Purely for the purpose of illustrating the accounting procedure, certain assumptions are made as follows:

1. Bonds of $100,000 face value, due in 20 years and bearing interest at 5 per cent payable annually, are issued at 78.81, a price to yield 7 per cent.

2. The contract contains an option permitting call of the bonds at 105 on or after December 31 of the third year.

3. The general price level remains constant during the periods covered in the example.

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[1] Ibid., p. 453.

4. At the end of the first year the market rate of interest has risen to 9 per cent.

5. The market rate of interest has dropped to 8 per cent by the end of the second year, and to 4½ per cent by December 31 of the third year.

6. Allowing for possible tax effects and other relevant matters, management makes capital budgeting calculations indicating that refunding at the end of the third year will result in a substantial saving. At that time the old issue is called and replaced with a new one at the reduced interest rate.

Computation of the bond value at issuance is as follows:

$100,000 of principal to be paid in 20 years, discounted to present value at 7 per cent	$25,840
$5,000 of interest to be paid per year for 20 years, discounted to present value at 7 per cent	52,970
Current market value of bonds	$78,810

At the end of the first year, the current bond value, computed via the discounting process at the new rate for 19 years, would be $64,200. Conceptually, accrual should be continuous as the rate changes during the year, but for convenience in the illustration the interest charge is computed on the basis of average rate and bond value as follows:

$$\text{Average bond value} = \frac{\$78,810 + \$64,200}{2} = \$71,505$$

$$\text{Average interest rate} = \frac{.07 + .09}{2} = .08$$

$$\text{Total interest charge} = \$71,505 \times .08 = \$\ 5,720$$

TABLE 12

THE FULL-ACCRUAL APPROACH ILLUSTRATED

Account	Year 1		Year 2		Year 3	
	Dr.	Cr.	Dr.	Cr.	Dr.	Cr.
Cash	(a) 78,810	(c) 5,000		(c) 5,000		(f) 110,000
Bond interest expense	(b) 5,517 (d) 203		(b) 5,553 (d) 230		(b) 5,592	(d) 64
Holding loss on bonds payable			(e) 7,127		(e) 32,528	
Holding loss on interest charges					(d) 64	
Bonds payable	(e) 15,127	(a) 78,810 (b) 517		(b) 553 (e) 7,127	(f) 105,000	(b) 592 (e) 32,528
Accrued interest payable	(c) 5,000	(b) 5,000	(c) 5,000	(b) 5,000	(f) 5,000	(b) 5,000
Holding gain on bonds payable		(e) 15,127				
Holding gain on interest charges		(d) 203		(d) 230		

KEY: (a) Initial recording at date of issuance.

(b) Accrual of interest at historical yield rate of 7 per cent.

(c) Annual interest payment of 5 per cent.

(d) Holding gain or loss on interest charges.

(e) Holding gain or loss on bonds payable.

(f) Retirement of bonds and final interest payment.

To isolate the holding gain on the interest charge, two entries are made. The first records the interest payable, the interest charge at the historical rate, and the increase in recorded value of the bonds by the amount of the accrual in excess of the required payment. The second entry adjusts the interest charge to the amount based on the current rate and records the holding gain, computed as follows:

Interest at 7 per cent of $78,810	=	$ 5,517
Interest at 8 per cent of $71,505	=	5,720
Holding gain on interest charge		$ 203

The holding gain on bonds payable is computed as follows:

Interest at 7 per cent of $78,810	=	$ 5,517
Interest at 5 per cent of $100,000	=	5,000
Credit to bonds payable		$ 517
Bonds payable beginning balance		78,810
Bonds payable end of year at historical cost		$79,327
Bonds payable end of year at current market value		64,200
Holding gain on bonds payable		$15,127

Similar calculations, with one modification in the variables used, produce the results shown in Table 12 for the second and third years. The modification is that call price is substituted for discounted present value. Using the 4½ per cent market rate for similar bonds would produce a valuation of $105,854, but the liability represented by the specific issue being called is properly stated at

the lowest amount required for retirement. Basically, this consists of the call price, but incidental costs necessary to effect the redemption may be considered part of the liability and result in a valuation slightly higher than the sum of the face value and the call premium. After the entry to record the retirement the bonds payable account would have a zero balance as far as the refunded issue is concerned. The refunding issue would then be recorded at its own price.

Hendriksen does not mention the subject of issue costs specifically. There seems to be a tacit assumption by many writers that "unamortized bond discount and call premium" encompasses issue costs, miscellaneous call costs, and duplicate interest, as well as discount and premium. Of this lot, Paton and Paton consider issue costs to be genuine assets while the bonds are outstanding.[1]

Hendriksen cites several definitions of assets and indicates that the quality of being rights to future economic benefits or services is basic. While several other characteristics are mentioned, severability in the sense of sale is not required.[2]

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[1]W. A. Paton and W. A. Paton, Jr., Corporation Accounts and Statements (New York: The Macmillan Company, 1955), p. 222.

[2]Hendriksen, op. cit., p. 254.

For consistency with the treatment of the bond liability and interest charge in the full-accrual approach, issue costs should also be accounted for in current terms. It does not seem inconceivable that current commission rates, legal fees, and other costs associated with issuing bonds could be obtained. Perhaps it is difficult to relate these to changing bond values, however, and straight-line write-off might be appropriate. This approach is illustrated by Paton and Paton where historical cost is used.[1]

Historical-Cost Procedures:
Hendriksen Evaluation

Granting that accounting practice does not yet accept the current value approach, Hendriksen considers immediate write-off of items applicable to the issue retired by refunding to be the only one of the three alternatives approved by the American Institute of Certified Public Accountants that can be logically justified.[2] His contention that the entire amount of unamortized financing costs related to the refunded issue should be recorded as a realized holding loss is based on reasoning summarized as follows:

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[1]Paton and Paton, op. cit., p. 223.

[2]Hendriksen, op. cit., pp. 453-455.

1. The view that unaccumulated discount and call premium on the old issue relate to past transactions and represent the cost of terminating a disadvantageous contract is considered correct.

2. The value of the debt has changed, and the most favorable method of liquidation is payment of the call price.

3. The balance remains in the accounts only because the accounting process has not recognized changes in the market rate of interest.

4. There is no benefit from any elements of the refunded issue past its retirement date. Any apparent book benefit is based on a false matching concept because true yield rates were not taken into account while the bonds were outstanding.

5. The new bond issue stands on its own merits according to the prevailing rate of interest and value of the liability. These are not affected by whether the proceeds are used to retire other bonds or for some other purpose.

Attacking specifically the Institute's approval of write-off over the life of the new issue, Hendriksen states certain additional points. These are summarized and interpreted as follows:

1. Only the static accounting procedure indicates benefit of costs applicable to a retired issue over the life of a new one. The historical-cost procedure is considered static in that it does not recognize market changes as they occur.

2. The saving in interest cost is based only on the historical yield incurred upon issuance of the bonds. There is no measured reflection

of future rates in the income statement, as there would be if market rates were used and holding gains and losses recognized in accordance with the changes.

3. The procedure results in charging all periods over the life of the new issue with costs of the old issue whether the market rates are higher or not.

The third point might be criticized on the grounds that treatment of the financing costs as period expenses during the life of the new issue properly reflects the purpose of the refunding, regardless of changes that actually occur. But Hendriksen's evaluation is based on the premise that only current yield rates reflect true interest expense related to an outstanding issue.

Although designating the amount of unamortized financing costs to be written off upon refunding as a realized holding loss, Hendriksen suggests abandonment of the concept of realization, replacing it with emphasis on the reporting of all types of valuation changes.[1] And he says that "...when bonds are refunded, the unamortized discount and call premium represent a change in the value of the bonds and should be written off rather than carried forward and allocated over the life of the new bonds." (Italics mine.)[2] His position is quite clear that the

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[1] Ibid., p. 168.

[2] Ibid., p. 196.

loss is regarded as market-determined and does not represent a cost embodying future economic services.

Hendriksen says that the unamortized financing costs should be written off no later than termination of the bond contract.[1] But if part of the unamortized balance remains because of failure to recognize changes in years prior to the year of refunding, the model would allow treatment of that part as a prior period correction. Hendriksen says that:

> To the extent that value expirations represent corrections of the expenses of prior periods, they should not be included among the losses but separately classified as prior period corrections.[2]

But the corrections need not be excluded from the income statement because, as Hendriksen notes, the income reported in any given period really reflects activities and events of several periods.[3] But careful application of the full-accrual approach results in more precise recognition of the changes in the periods of occurrence.

The Sprouse-Moonitz Postulates-Principles Model

Sprouse and Moonitz state rather broad postulates or propositions that essentially describe the accepted setting and set some boundaries for the practice of

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[1] Ibid., p. 454. [2] Ibid., p. 195. [3] Ibid., p. 197.

accounting. These are classified as related to the environment, the field of accounting, and imperatives for accounting. Following the statement of postulates, the authors state their views of the functions of accounting, definitions of major financial statement items, and formulate principles by informal reasoning and drawing upon the testimony of others.[1]

The authors list several functions of accounting, but the statement which sums up their basic view is as follows:

> The principal task of accounting is to measure the history of the resources held by economic entities, to measure all of the resources and all of the changes. (Italics mine.)

The postulate as to what price accounting data should be based on is:

> Postulate B-A. Market prices. ... Accounting data are based on prices generated by past, present, or future exchanges which have actually taken place or are expected to.

Among the imperatives is the postulate of objectivity. It is stated as follows:

> Postulate C-2. Objectivity. Changes in assets and liabilities, and the related effects (if any)

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[1]Robert T. Sprouse and Maurice Moonitz, "A Tentative Set of Broad Accounting Principles for Business Enterprises," Accounting Research Study No. 3 (New York: American Institute of Certified Public Accountants, 1962), pp. 1-59 passim. All of the discussion in pp. 129-134 is based on this source.

> on revenues, expenses, retained earnings, and the like, should not be given formal recognition in the accounts earlier than the point of time at which they can be measured in objective terms.

In later discussion, the authors change the phrasing to a positive statement that "...changes should be recognized 'at the earliest point of time at which they can be measured in objective terms.'" (Italics mine.) They emphasize that objectivity must be present but point out that accounting already employs a wide range of measures, many of which are estimates, and that such a range is in harmony with the stated functions of accounting.

But Sprouse and Moonitz flatly reject the concept of realization based on sales. They say that it lacks analytical precision. The alternative adopted is as follows:

> Instead, our concern is with the real elements, the changes in assets and debts, and the related (derived) effect on profit.

They define profit as follows:

> Profit is a function of an increase in the net resources of the business entity. The measurement of the components of profit (revenue, expense, gain, and loss) must accordingly rest on measurements in the area of assets and liabilities.

Position on Assets

From the three prices mentioned in Postulate B-2, Sprouse and Moonitz choose current market price as the preferred measurement of assets, stating that:

> Since people act in the present and the future, and not in the past, current market price is preferable to past, all other things being equal. Current market price is also superior to past market price (acquisition cost) as a measure of the "foregoing" or "sacrifice" involved in the use or other disposition of the asset.

The authors hold that changes in resources due to general price-level changes result in capital restatements rather than revenues or expenses. But they indicate that changes in replacement costs not accounted for by general price-level changes result in gains or losses.

Definitions of gains and losses are stated as follows:

> "Gains" are increases in net assets other than (a) those resulting from investments by owners or (b) those resulting from revenues. "Losses" are decreases in net assets, other than (a) those resulting from distributions to owners or (b) those resulting from expenses.

Expenses are defined as decreases in net assets related to revenue creation or governmental imposition of taxes. The amount of the decrease in net assets or increase in liabilities should be measured by market price, according to the above statement on asset measurement.

While holding that marketable securities should be measured at current market price, Sprouse and Moonitz indicate that long-term receivables should be measured by present value calculated by using the interest rate in

force at the date of acquisition. Their reasoning is that this indicates the amount and rate of interest actually earned according to the contract. This is a departure from the authors' basic position on asset measurement and gain and loss recognition.

Position on Liabilities

Sprouse and Moonitz indicate that measurement of a liability consists of determining the weight or burden of the debt at the balance sheet date. They define the burden as "... the lowest amount for which the obligation could be effectively discharged."

In the absence of being able to settle immediately with the creditor for cash, the discounted present value of future payments using a market rate of interest is held to be the proper measure of liabilities to be ultimately settled for cash. Liabilities to be settled by noncash means are held to be properly measured by the agreed selling price of goods or services required for settlement.

In discussing long-term liabilities, the authors recommend discounting at the yield rate established upon issuance. It is the market rate when bonds are issued but does not change as the market rate changes while the bonds are outstanding. Hence, at balance sheet dates during the

life of the bonds the liability will not be measured at the lowest amount required for settlement if market price is less than book value calculated by use of the historical rate.

Sprouse and Moonitz do indicate that use of the historical rate alone does not show whether the borrowing continues to be advantageous subsequent to issuance or not. They concede that comparison to market rates would be required for this and that the firm can realize the gain or loss by retiring the bonds at market price or by investing an amount equal to that price in other securities. Their only stated reason for invoking the previously denounced realization concept is that the historical rate reflects the burden of interest which the issuer is actually bearing. This is consistent with their position on long-term receivables. To their credit, they suggest a supplementary analysis indicating whether the historical yield is too high or too low in relation to changes in the market rate.

Sprouse and Moonitz clearly hold that to properly reflect carrying value of the debt the face value should be increased by unamortized premium or decreased by unaccumulated discount. Premium is said to be a part of the liability, and discount is described as a technical device for relating the amount borrowed to face value. Discount

is disqualified from classification as an asset on the basis that it does not embody future economic benefits.

Referring specifically to refunding, the authors hold the sum of the call premium and remaining unaccumulated discount on the old issue to constitute a loss upon retirement. The new issue is said to be properly recorded at its own price. The writers make no statement in justification for carrying forward any amount related to the refunded issue once retirement has occurred.

While the stated recommendation of use of the historical yield rate is not in accordance with the full-accrual approach, the basic character of the Sprouse-Moonitz study is that of a current-value model. Factors supporting this conclusion are as follows:

1. The authors' contention that accounting should measure all of the changes in resources. Changes in the value of liabilities in turn constitute changes in committed resources and, therefore, in net uncommitted resources.

2. The preference for current market price as a measure of assets.

3. The basic position on liabilities that the relevant measure is the lowest amount required for discharge.

4. The rejection of the concept of realization as dependent upon sale.

5. The definitions of gains and losses encompassing changes in replacement costs not

> accounted for by general price-level changes. But general price-level changes are held to result in restatements of capital.

These guidelines appear to reflect the major framework of the model. Had the authors not separately recommended use of the historical yield rate in the discounting process for long-term receivables and bonds payable, the conclusion would be that the model strongly implies use of the full-accrual approach. For accounting to reflect all of the changes in resources, long-term liabilities and related interest charges should be measured in current terms consistent with the measurement held to be relevant for the other items.

The Chambers Current-Cash-Equivalent Model

Chambers says that the function of accounting is to serve "...as a method of retrospective and contemporary monetary calculation the purpose of which is to provide a continuous source of financial information as a guide to future action in markets." The measure which best enables accounting to perform that function is held to be current cash equivalent.[1] The author's definition of current cash

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[1]Raymond J. Chambers, Accounting, Evaluation and Economic Behavior (Englewood Cliffs: Prentice-Hall, Inc., 1966), pp. 1-294 passim. Since most of the discussion of the Chambers model is based on the same source, individual footnotes will be used only for references to sources other than the Chambers model.

equivalent and the reasons why he regards it as the relevant quantification for financial reporting are well stated in comments related to nonmonetary goods as follows:

> Excluding all past prices, there are two prices which could be used to measure the monetary equivalent of any nonmonetary good in possession, the buying price and the selling price. But the buying price, or replacement price, does not indicate capacity, on the basis of present holdings, to go into the market with cash for the purpose of adapting oneself to contemporary conditions, whereas the selling price does. We propose, therefore, that the single financial property which is uniformly relevant at a point of time for all possible future actions in markets is the market selling price or realizable price of any or all goods held. Realizable price may be described as current cash equivalent.

Chambers arrives at his inferences by deduction from postulated assumptions and definitions stated primarily in ordinary language. Chambers says that a system so constructed consists of selected statements from the universe of experience. Those selected are considered sufficient to define the type of system within which accounting has a discoverable function (see above) such that it is systematically linked with human behavior within that system. Such a system may not contain statements that are contradictory or inconsistent.

Chambers further states of the methodology used that "The objective of deduction is to develop fully the meaning of the theory and to provide logical consequences

which would be matters of experience if the theory represented the most satisfactory method of performing the specified functions."

In the present study, closely related propositions and inferences are quoted to show the basic framework of guidelines to accounting for liabilities contained in the Chambers model. These are further discussed, together with additional Chambers commentary, in terms of inferred support for the full-accrual approach or other procedures of accounting for long-term debt.

Of financial position, Chambers states the following:

Proposition: Financial position is the capacity of an entity to engage in indirect exchanges; it is represented by the relationships between the monetary properties of the means in possession and the monetary properties of the obligations of an entity.

Inference: Contemporary financial position is ascertainable objectively by reference to the market, and is relevant to all choices.

Proposition: Measurement is the assignment of numbers to objects and events according to rules specifying the property to be measured, the scale to be used, and the dimension of the unit.

Inference: Prices are measurements, made in the market, of the numerosity of monetary units, paid or payable, and received or receivable.

Inference: In relation to financial position the

> prices assigned to means in possession are realizable prices or current cash equivalents and the prices assigned to obligations are current cash equivalents. (Italics mine.)

With respect to assets and liabilities specifically, Chambers offers the following:

> Proposition: An asset is any severable means in possession of an entity.
>
> Proposition: Liabilities are rights of creditors to the satisfaction of claims against the assets of an entity in priority to the residual equity.
>
> Inference: The monetary measurement of an asset or liability at a point of time is its current cash equivalent at that time.

While realizable price is clearly the intended meaning of current cash equivalent as applied to nonmonetary items, Chambers has several things to say about the measurement of liabilities. He indicates that the current cash equivalent of liabilities is found by discounting the future sum payable to a present value by use of the interest rate required for immediate use of the funds necessary to effect immediate settlement of the debt. Thus, use of the current market rate of interest for discounting would result in a present value equal to the current market value of the debt. This interpretation appears entirely consistent with the realizable price definition of current cash equivalents of nonmonetary items.

Later, in discussing corporate bonds, Chambers departs from his basic pronouncement of current cash equivalent as the relevant measure of liabilities. He indicates the contractual amount of bonds outstanding to be the appropriate measure for balance sheet purposes. Apparently "contractual amount" refers to face value.

In illustrating the balance sheet of a trading venture, Chambers specifies that long-term payables should be discounted at the contractual rate of interest and parenthetically notes that the value so computed would generally be the face amount. In applying the Chambers model to long-term notes, McKeown gives a similar interpretation.[1] For obligations issued at face value, the contracted yield rate and the nominal rate would be the same.

Chambers mentions the advantage of a firm's retirement of bonds when there is a significant margin between current price and the discounted present value of the future payments to maturity. For such a margin to exist, the discounting rate would have to be something other than the current market rate of interest because the resulting present value generated by this rate would be the market

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[1]James C. McKeown, "An Application of A Current Value Accounting Model," (unpublished Ph. D. thesis, Michigan State University, 1969), p. 32.

price, although call price may sometimes be different.

That "contractual rate of interest" also refers to the committed yield rate for bonds issued at prices other than face value is evidenced by additional remarks by Chambers. In discussing obligations for which the rate of interest is not distinguished from the rest of the price, he points out that the interest may be embodied by contractual provisions such that the proceeds of a loan may differ from the amount payable at maturity. Thus, he apparently regards the contractual rate to be the yield initially established between lender and borrower. This interpretation seems also to apply to obligations for which a nominal rate is stated but which are issued at a premium or a discount.

In justification of his departure from the rule previously laid down for the measurement of liabilities, Chambers contends that until actual retirement of the bonds, the market price may be considered to indicate only the possibility of gain. He assumes that in the absence of actual retirement the valuation of the gain from the firm's continuing to employ the resources provided by the loan outweighs the value of freedom from the debt. He makes no mention of the opportunity that may exist for the debt to be refunded by an issue bearing lower interest than the

existing debt.

In contrast to recommended treatment of long-term debt, Chambers holds that marketable bonds and other securities held as investments by a firm should be valued at market prices in accordance with the general rule laid down for other types of assets. By permitting the same credit instrument to be valued at one figure on one side of the transaction and at another on the other side, Chambers does not adhere to the notion of reciprocity between lender and borrower.

On the other hand, in discussing costs and proceeds generally, Chambers says the following:

> Under conditions of interdependence and indirect exchange, we may, therefore, redefine costs as the sacrifice of the command of monetary units entailed by any operation, and proceeds as the gain in the command of monetary units. For any exchange, then, the costs of one party are equivalent to the proceeds of the other for both are expressed in the same number of units of a common scale.

To the extent that borrowing through the issuance of bonds may be considered an exchange, the foregoing definition squares directly with the notion of reciprocity between lender and borrower.

If measurement of assets in current cash equivalents serves as the best guide to future action in the market, then measurement of liabilities by the same guage

appears to meet that objective also. Inappropriate measurement of liabilities at least means inappropriate measurement of net assets.

In the Hendriksen model, current cost essentially means replacement cost, and for bonds payable replacement cost is the current market price. In the Chambers model, current cash equivalent would be the current market price for bonds payable. Logical consistency with the recommended treatment of bonds held as investments, of other types of assets, and with the basic measure advocated for liabilities would require that long-term liabilities be stated in current cash equivalents as well. It is just as important to know what is required to retire a liability as to know what can be obtained from the sale of an asset.

With respect to write-off disposition of bond discount and premium, the procedure that would follow from application of the Chambers guidelines can best be discussed in connection with the author's concepts of assets, income, costs, gains, and losses.

In the first place, none of the financing costs often carried on the asset side of the balance sheet can possibly be assets under the Chambers concept of an asset as a severable means. But Chambers does not clearly indicate what would be done with these while stating the bond

liability at face value. Stating bonds payable at current cash equivalent, consistent with the treatment recommended for liabilities generally, would permit the items to be treated in accordance with the full-accrual approach.

Chambers quite clearly advocates a capital maintenance concept of income. He considers the income statement to be, fundamentally, an inferred derivative of two successive statements of financial position.

In defining income, Chambers draws a distinction between changes in command over resources that are discretionary and those that are of a windfall nature. The first consists of income and costs capable of being expected or planned for in advance, whether realized or not. The second involves gains and losses resulting from fortuitous events not subject to advance evaluation as to incidence of time or magnitude. He defines total income as consisting of the sum of discretionary and windfall gains. For an individual, the difference between total income and total costs is savings for a period. For other types of entities such as business firms, the difference is net income.

Within this framework, interest charges on bonds outstanding, to the extent provided for in the contract, appear to qualify as discretionary costs. On the other hand, basing the interest charges and the bond valuation

on Chambers' initial recommendation of use of the current rate payable for the use of money would require treating that portion of the adjustment resulting from rate changes during the period as a windfall item. The distinction, of course, is useful for information purposes only since the entire amount would be reflected in the computation of net income.

In the case of a planned retirement of a bond issue, assuming that current-cash-equivalent accounting has not been followed, there arises the question of whether unamortized financing costs should be treated as a discretionary item or a windfall item.

Presumably, management is aware of the amount to be written off, including call premium, within close limits in advance of actual retirement. Thus, it might be argued that no windfall gain or loss occurs. But acceptance of the view that gains and losses on bonds payable are generated in the market and not from the act of retirement appears to qualify them as windfall items under the Chambers framework. At least there is no basis inferred that such items should be treated as assets and carried into future periods.

While Chambers' stated position on accounting for long-term debt is in conflict with the full-accrual approach,

the conclusion is that the basic framework of the model does support that procedure. This conclusion is inferred from the guidelines specifically stated for liabilities basically, investments in bonds, and other types of assets.

Summary

The full-accrual approach as developed by Hendriksen requires that bonds payable be stated at the discounted present value of anticipated future payments using the current market rate of interest in the discounting process. The result is current market price of the bonds. The interest charge is based on the current yield or market rate of interest. Holding gains and losses are recognized as differences between the figures computed by application of the current rate and those based on the historical yield rate, to the extent that the differences do not represent the effects of general price-level changes.

Hendriksen holds that any unamortized financing costs applicable to an issue retired by refunding should be written off as a realized holding loss. Complete application of the full-accrual approach to the date of refunding results in stating the liability at the call price. Thus, no balance of discount or premium remains.

Hypothesis No. 3 held that the models used in

Chapter IV to evaluate bond accounting procedures would provide greater support for the full-accrual approach than for other procedures.

All of the models admit prorata portions of discount and premium as components of the periodic interest charge. All support immediate write-off of such items related to the issue retired, whether by refunding or otherwise. The amount so treated, to the extent that it would not be written off as part of the interest charge in the absence of retirement, is classified as a gain or loss in the year of retirement or, in some cases, at least partly as a prior period correction.

Since the Hendriksen study proposes the full-accrual approach in the first place, the hypothesis was formulated with two other models in mind. Specific conclusions related to these are stated below.

The Sprouse-Moonitz Model.--The authors' own stated position on accounting specifically for long-term bonds is that the appropriate valuation should be the discounted present value of future payments using the initial committed yield rate. Hence, interest charges would include the nominal payment plus discount accumulation or minus premium amortization resulting from application of that rate. Upon retirement by refunding or otherwise, the remaining balance

of unamortized financing cost would be treated as a gain or loss in the year of retirement.

But to account for liabilities in a manner consistent with that proposed for assets, including recognition of holding gains and losses, would require application of the full-accrual approach. Also, to account for long-term debt in a manner consistent with that proposed for liabilities generally would be in accordance with the full-accrual approach. The full-accrual approach is inferred to be consistent with the view of the function of accounting to measure all resources and all changes in them.

The Chambers Model.--The Chambers approach is built upon the premise that current cash equivalent is the single price most relevant for knowledgeable action in the market. For assets, this measure is held to be realizable price. For liabilities, it is held to be the present value of the future sum payable discounted at the interest rate payable for immediate use of the funds required for settlement of the debt at the time. But the author adopts a different view with respect to accounting for long-term bonds payable. For these, he advocates measurement at the contractual amount. This position is inconsistent with the logic framework of the model. Adoption of the current-cash-equivalent approach (identical with full-accrual for bonds

payable) would be consistent with guidelines held applicable to the following:

1. Liabilities basically
2. Investments in bonds
3. Other types of assets

On balance, all of the models discussed in the chapter would support the full-accrual approach provided that guidelines inferred to comprise the major framework were logically applied to bonds payable and related interest as well as other financial statement items. Further, no support was inferred from any model for deferring write-off of unaccumulated discount, call premium, or other items applicable to bonds refunded past the year of retirement.

CHAPTER V

APPLICATION OF AMERICAN ACCOUNTING ASSOCIATION STANDARDS AND GUIDELINES

The American Accounting Association's Committee to Prepare a Statement of Basic Accounting Theory established four standards for evaluating accounting information and five guidelines for its communication. It is the purpose of this chapter to evaluate procedures of accounting for long-term debt in the light of these standards and guidelines. Procedures are discussed under two sets of circumstances: those related to general-purpose financial reporting and those of the public utility firm under regulation. The emphasis is upon whether the model indicates logical justification for different accounting procedures for public utilities than for nonregulated firms.

The four standards and the requirements which accounting data must meet to measure up to them are listed below.[1]

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[1]American Accounting Association, Committee to Prepare A Statement of Basic Accounting Theory, A Statement of Basic Accounting Theory (Chicago, 1966), p. 7.

1. Relevance is considered to be the primary standard. For information to be relevant it must bear upon or be usefully associated with actions or results it is designed to facilitate or desired to produce.

2. Verifiability requires that two or more qualified individuals examining the same data would reach essentially similar measures or conclusions.

3. Freedom from bias requires impartial determination and reporting of facts and that development techniques be free of built-in bias.

4. Quantifiability relates to measurability or the assignment of numbers to data being reported. Money is the most common quantitative measure used by accountants, but it is not the only one.

Most "generally accepted" accounting guidelines seem to be aimed mainly toward providing a framework for general financial reporting. In generalized proposals of accounting theory seldom is more than passing attention paid to the peculiar circumstances of firms whose maximum rate of earnings is set by government regulation.

The models cited in Chapter IV of this study provided guidelines designed mainly for general financial reporting, with the emphasis upon income measurement. But the possibility that different guidelines might be appropriate for different objectives was acknowledged.

The American Accounting Association's Statement emphasizes usefulness of accounting information for the

purpose to be achieved. This is evident not only from the standard of relevance but also from the communication guideline of appropriateness to expected use. The five guidelines for communication of accounting data are listed below:[1]

1. Appropriateness to expected use
2. Disclosure of significant relationships
3. Inclusion of environmental information
4. Uniformity of practice within and among entities
5. Consistency of practices through time

Some of the guidelines and standards overlap, but the complete listing appears necessary to establish the foundation for discussion which follows. Further, some accounting procedures provide data that do not seem equally consistent with both the standards and guidelines.

Implications for General-Purpose Reporting

The committee regards the principal external uses of accounting data as stewardship reporting and prediction of earnings, financial position, liquidity, and management effectiveness.[2] Data designed to facilitate the planning and control functions of management are considered of prime

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[1] Ibid.

[2] Ibid., pp. 23-26.

importance internally.[1] Historical costs are said to be relevant but not adequate for all such purposes.[2]

To make general-purpose reports relevant to a wide range of needs, the committee recommends dual reporting of historical and current-cost data.[3] Inclusion of current-cost data is said to improve the predictive value of financial reports and to better measure current wealth and the impact of the environment on the entity than historical data alone.[4]

The concept of current cost recommended in the A.A.A. Statement is that which would enable current replacement of the services embodied in the entity's resources and commitments.[5] The study emphasizes that the principle of current-value reporting is applicable to all resources, obligations, and equities of the entity to which the accounting data relate.[6]

To illustrate accounting for bonds payable and the related interest charge in current terms, the authors

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[1] Ibid., p. 37.

[2] Ibid., p. 19.

[3] Ibid., pp. 19, 23.

[4] Ibid., pp. 32, 34.

[5] Ibid., p. 31.

[6] Ibid., p. 73.

assume a situation involving the following:[1]

1. At a certain date, bonds payable of $2,000,000 face value and bearing interest at 5 per cent payable annually are outstanding with 15 years remaining to maturity. These were issued at face value; thus, no discount or premium is on the books in historical-cost terms.

2. The bonds were converted to current-dollar terms by computing the discounted present value of future outlays to maturity by application of the current yield rate of 5½ per cent. The resulting valuation was $1,900,000 (rounded).

3. The interest rate was assumed to remain stable during the succeeding year. Hence, the interest charge was computed at the prevailing yield rate of 5½ per cent. The difference between historical interest and the charge at the current rate was designated as discount accumulation and added to the previously computed carrying value to state the end-of-year liability at $1,904,500.

4. The results reported in end-of-year statements were as follows:

	Historical Cost	Current Cost
Bonds Payable	$2,000,000	$1,904,500
Interest Expense	100,000	104,500

Since the bonds were issued at face value, the discount accumulation refers to the build-up of carrying value since the current valuation is less than face value.

The model shows purchasing power gains and losses resulting from general price-level changes and also those resulting from specific price changes. The latter are

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[1] Ibid., pp. 84-85, 91.

referred to as specific gains and losses rather than as holding items. In the A. A. A. model, these gains and losses are reported net in the income statement rather than separately for each class of item.[1]

A purchasing power gain was computed on bonds payable as a result of an assumed 4 per cent change in the general price level. But since the interest rate was assumed to remain stable during the year, no specific (or holding) gain or loss was computed for the bonds or interest.[2] Had the market rate and bond price changed specifically in addition to the general price-level change, apparently the results would have been the same as illustrated for the full-accrual approach in Chapter IV of this study.

In discussing means of obtaining current-cost data, market quotations are said to most accurately reflect current economic significance of regularly traded securities held as long-term investments. The same is inferred to be true from the standpoint of the issuing corporation for bonds payable.[3]

For the investments, quoted market prices are held

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[1] Passim, pp. 85-95.

[2] Ibid., p. 91.

[3] Ibid., p. 75.

to be verifiable and free from bias but possibly questionable as to relevance.[1] Current bond values and interest rates are easily verified if based on quoted prices in an organized and active market. They are free from bias in that they are set in the market independently of management preferences.

If the specific securities have not been recently traded, market prices and yield rates of other bonds of similar characteristics may be used as close approximations. An average or modal price would be as verifiable and free from bias as, say, carrying value based on straight-line discount accumulation or premium amortization. Use of the historical yield rate provides less arbitrary information than the straight-line approach. But it is less informative than current cost for some of the purposes discussed below.

Market-determined bond prices and related interest rates appear to be the best available indicators of the direction in which the values have moved in relation to their historical-cost counterparts as of the statement date. Since these items are components of earnings determination their quantification at current cost seems more relevant

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[1] Ibid.

for prediction of future earnings as well as financial position than recorded historical figures which remain unchanged.

In terms of present financial position, creditors and stockholders as well as management are informed by the current data of the amount at which the liability could be settled at the balance sheet date. The interest charge determined by the current rate reveals whether the cost of funds borrowed at the historical rate remains comparatively favorable or unfavorable.

The A. A. A. committee regards reflection of the impact of the environment on the entity beyond the completed transaction as a quality of predictive relevance possessed by current values.[1] Environmental information is thus held to include effects of market forces, e.g., the price system, as well as requirements of regulatory authorities.[2] But statements prepared in accordance with the latter are often special-purpose reports. In this case, the environmental guideline requires disclosure of the nature and purposes of the reports in a manner to indicate that they are not appropriate for general use.[3]

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[1] Ibid., p. 30.

[2] Ibid., pp. 16, 31.

[3] Ibid., p. 16.

The committee points out that for reports of stewardship to be meaningful the accountant needs to be aware of or be able to accurately postulate the relationship between the parties to the transaction.[1] In this connection, it is inferred that any evaluation of management on the basis of changes in bond values and interest rates should also take into consideration the following:

1. Terms of the bond indenture as to call options, restrictive convenants, and the like.
2. Availability and terms of alternative financing.
3. Desired long-term capital structure of the firm.

From the standpoint of management uses, current costs are relevant in evaluating the firm's position with respect to possible action in the market as to retirements, advisability of refunding, or whether to directly expand or contract certain types of long-term financing.

In the case of premature retirement of bonds by refunding, application of the current-cost approach would permit no carryover of unamortized financing costs related to the retired issues. But this might be permitted in historical-cost terms if the information could be established as relevant to future uses. To report current costs applicable to outstanding issues only in periods following

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[1] Ibid., p. 26.

the year of refunding and companion historical-cost charges related to retired issues might appear to be an inconsistency. But in developing its proposed standards, the Committee to Prepare A Statement of Basic Accounting Theory said that "...the all-inclusive criterion is the usefulness of the information."[1] Some evidence of internal manipulative use of data in relation to dividend policies was presented in Chapter III. But whether gradual write-off of costs applicable to refunded bonds provides information that is relevant to the uses of external recipients of accounting statements is a question requiring careful analysis.

Accounting Under Regulation

The subject of public utility accounting is seldom extensively discussed in the literature without some reference to rate-making policies and practices. Appropriate composition of the rate base and what always constitutes a fair return are far from settled matters as disclosed in recent writings on the subject and in actual rate cases. Trebing and Howard define the rate of return as follows:

> The optimal rate of return reflects the opportunity cost of capital, and it is typically a

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[1] Ibid., p. 3.

> residual after operating expenses, depreciation, and taxes have been met.[1]

A definition of the rate base which appears to convey the general meaning of the concept as discussed in most writings is stated by Bonbright as follows:

> The rate base, or "valuation" as it was called in former years, represents the total quantum of invested capital or of property "values" on which the company is entitled to a reasonable rate of compensation.[2]

But specific composition and measurement of both the rate base and the cost of capital represented by the return vary among rate-making bodies and to some extent between cases under the same jurisdiction. These circumstances are perhaps a natural result of the task with which rate regulators are charged--that of determining a return which is fair to both the firm and the consumers.

To be fair, the return must be sufficient to cover fixed debt charges and reasonable dividend requirements and permit the rendering of services deemed adequate and proper at reasonable cost.[3] The attitude of utility

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[1]Harry M. Trebing and R. Hayden Howard, eds., Rate of Return Under Regulation: New Directions and Perspectives (East Lansing: Michigan State University Division of Research, MSU Public Utilities Studies, 1969), p. vii.

[2]James C. Bonbright, Principles of Public Utility Rates (New York: Columbia University Press, 1961), p. 150.

[3]Ibid., p. 241.

commissions toward determination of a fair rate seems to be well expressed by the Federal Power Commission's statement in a 1965 case as follows:

> It is axiomatic that the determination of a fair rate of return for utilities subject to our jurisdiction is not to be determined by the mechanical application of a mathematical formula. The determination we must make requires the exercise of our informed judgment on the whole of the relevant evidence in the particular case.[1]

Bonbright lists four functions which he says that rates of return are required to perform in the American economy. These are as follows:

1. The production-motivation or capital-attraction function
2. The efficiency-incentive function
3. The demand-control or consumer-rationing function
4. The income-distributive function

Economists writing on rate theory are said to regard consumer rationing as the most important function of utility rates, but companies and commissions have both emphasized capital attraction in actual cases.[2]

Composition of the rate base has been a problem of major proportions in rate regulation. Basically, the base

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[1] Re Southwestern Public Service Company, 57 PUR (3d), 407 (1965).

[2] Bonbright, op. cit., pp. 48-58.

consists of physical plant property devoted to the public service, but certain intangibles, working-capital allowances, and property not used in utility operations have been matters of controversy. Measurement of the base involves application of various concepts of orginal cost, trended original cost, reproduction cost, and fair value.

The allowable rate represents what is determined to be the economic cost of both debt and equity capital, weighted according to debt and equity components of the capital structure deemed appropriate. A utility benefits from a reasonable proportion of debt in its capital structure because debt is often cheaper than equity capital and too much equity capital can penalize both the rate-paying consumer and the stockholder.[1] On the other hand, the higher the proportion of debt the higher the degree of risk and, hence, the more difficult the task of raising capital from prudent investors.[2]

Costs of Debt Capital In the Rate Base

Which elements of debt cost and appropriate measures thereof to be included in the rate base and in the cost of

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[1]George E. Turner, Trends and Topics in Utility Regulation (Washington: Public Utilities Reports, Inc., 1969), p. 508.

[2]Ibid., p. 509.

capital allowance in the rate of return have been matters of divided opinion as disclosed by a review of writings on the subject, including cases cited in the Public Utilities Reports series.

As noted in Chapter II, bond discount was often charged to property accounts in the early years of this century. And apparently issue costs were similarly treated under some jurisdictions for some time, but Davidson cites two cases in which the Federal Power Commission directed firms to remove these costs from plant accounts in the 1940s.[1]

Lemke cited testimony by Bonbright in a 1945 case advocating capitalizing of unamortized discount and call premium on refunded bonds into the rate base.[2] But there was no indication that this was actually allowed. In his book, which was published sixteen years later, Bonbright suggested that either immediate or gradual write-off may be regarded as tenable and fair if consistently applied

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[1]Mississippi Power and Light Company, 3 FPC 1101 (1943) and The Washington Water Power Company, 4 FPC 692 (1944), cited by Sidney Davidson, The Plant Accounting Regulations of the Federal Power Commission (Ann Arbor: Bureau of Business Research, School of Business Administration, University of Michigan, 1952), pp. 51, 141.

[2]Bernhard C. Lemke, "The Treatment of Bond Discount and Premium in Connection with Refundings," (unpublished Ph. D. thesis, University of Minnesota, 1946), p. 139.

and the rate is set high enough to compensate the stockholders for the risk of loss when immediate write-off is the policy.[1] In the case of a gradual write-off policy, Bonbright suggests that the periodic charge should be considered part of the cost of capital to be covered by the return.[2]

As noted in Chapter II of the present study, Lemke's final conclusion was that unamortized cost applicable to a refunded issue is a loss rather than an asset.[3] But he indicated that, as a practical matter, capitalization sets up an "asset" or a "recoverable deferred charge" when the commission adjusts rates to provide for recovery of the cost.[4] He proposed that commissions allow dividends to be paid even when deficits result from immediate write-off.[5] This solution might not, however, preclude the impairment of future financing that could result from showing losses or deficits even though regular dividends are not interrupted.

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[1]Bonbright, op. cit., pp. 245-246. [2]Ibid.

[3]Lemke, op. cit., p. 158.

[4]Ibid., p. 140. But in his discussion of this point Lemke fails to clearly differentiate between an asset and a measure of an asset. If the unamortized financing cost is a loss incurred at refunding, mere inclusion of the amount as part of the measure of assets employed does not create an additional asset.

[5]Ibid., p. 100.

A review of cases cited in Public Utilities Reports for the years 1935-1969 in which financing costs were cited as issues in the cases reveals no instance in which unamortized financing costs related to refunded issues were designated as components of the rate base. Bond issue costs were allowed in some cases, and costs related to refunded issues were considered part of the cost of capital in some. The latter are subsequently discussed. But the attitudes of commissions concerning inclusion of financing costs in the rate base are believed fairly represented by the following:

1. In a 1940 case, the Pennsylvania Superior Court held, contrary to the finding of the state commission, that costs of financing should be considered an element of value in a reproduction cost estimate. But costs to be included were confined to printing, registering, trustee, counsel, and similar items connected with issuance of the securities. Interest and discount were expressly excluded.[1]

2. In a 1936 case, the Public Service Commission of Missouri said that "We can see no justification for the inclusion, as part of the rate base, of the cost of financing the project."[2]

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[1]Solar Electric Company v Pennsylvania Public Utility Commission et al, 31 PUR (N.S.), 297-298 (1940).

[2]Public Service Commission of Missouri v. St. Joseph Railway, Light, Heat & Power Company, 14 PUR (N.S.), 133 (1936).

Although interest was excluded in the Pennsylvania case, interest charged to construction has been regarded as an appropriate part of the rate base by many jurisdictions, but it often includes an imputed element rather than strictly contractual interest.[1]

Costs of Debt Capital In The Rate of Return

The material reviewed indicates that inclusion of an allowance for the cost of debt capital in the rate of return has long been a settled matter. But whether the allowance should be based on historical or current cost of outstanding issues and whether amortization charges related to retired issues should be included have been matters of divergent opinion in the cases. Examples are as follows:

1. In a 1943 case, the District of Columbia Public Utilities Commission permitted unamortized financing costs--including discount, issue cost, call premium, and duplicate interest--to be included as a continuing element of the cost of capital over the life of the refunding issue.[2]

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[1]J. R. Foster and B. S. Rodey, Public Utility Accounting (New York: Prentice-Hall, Inc., 1951), p. 274; U. S. Federal Power Commission, Uniform System of Accounts Prescribed for Public Utilities and Licensees, effective January 1, 1970 (Washington: U. S. Government Printing Office, 1970), p. 101-7.

[2]Re Washington Gas Light Company, 53 PUR (N.S.), 331 (1943).

2. In a 1954 case, the Federal Power Commission disallowed inclusion of unamortized financing costs of a refunded issue in the cost of debt capital where historical cost was considered fair.[1]

3. In a 1956 case, the Pennsylvania Public Utilities Commission accepted a rate range for the cost of debt capital. The upper limit of the range was determined by including amortization charges related to a refunded issue over the life of the new issue. The commission pointed out that the allowance was not normally based on write-off beyond maturity of the original issue but that the rate determined in this case was considered reasonable to the capital structure appropriate to the long-run financial health of the firm.[2]

4. In a 1960 case, the Vermont Public Service Commission gave effect to refunding costs in determining cost of the long-term debt outstanding.[3]

5. In the previously cited Southwestern Public Service Company case, the Federal Power Commission noted that it was not prepared to accept a projection of higher future interest rates in determining the allowance for the cost of debt capital in the rate of return.[4]

6. Also in a 1965 case, the Pennsylvania Public Utility Commission determined the allowable rate for debt capital by weighing the outstanding issues by current money rates,

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[1] Re Panhandle Eastern Pipe Line Company, 3 PUR (3d), 439 (1954).

[2] Pennsylvania Public Utility Commission vs. Pennsylvania Power and Light Company, 14 PUR (ed), 464-468 (1956).

[3] Re New England Telephone and Telegraph Company, 35 PUR (3d), 111 (1960).

[4] Re Southwestern Public Service Company, 406-407.

> thereby estimating the prospective costs of new issues in the future.[1]

Historically, questions of composition and measurement of the allowance for the cost of debt capital in the rate of return appear to have been more prevalent before the state commission than at the federal level. But Jurisdictional conflicts arise, and firms are sometimes faced with the necessity of preparing reports to conform to more than one set of requirements.[2] Also, the approach taken in rate cases sometimes differs from prescribed or permitted accounting procedures.

As noted in Chapter II, a Federal Communications Commission spokesman indicated that a charge based on costs related to the refunded issue is viewed as part of the "true" interest in cost-of-money studies for rate-making purposes.[3] Although immediate write-off is the commission's basic rule, the rate-making view was cited as justification for allowing write-off over the life of the old issue by special permission.[4] Immediate write-off is also the basic

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[1]Pennsylvania Public Utility Commission vs. Columbia Gas of Pennsylvania, Inc., 60 PUR (3d), 402 (1965).

[2]Turner, op. cit., p. 239.

[3]Letter from Kelley E. Griffith, Chief, Domestic Rates Division, Federal Communications Commission, November 17, 1969.

[4]Ibid.

rule of the California commission, but write-off over the life of the refunding issue was indicated in a questionnaire reply to be sometimes permitted for accounting purposes but not for rate-making purposes.[1] This raises the question: should the accounting information reported to external statement users be consistent with that which is used in the rate-making process?

Statements containing the same information as used in the rate-making process would seem to provide the external user with relevant information for performance evaluation and predictive purposes within the setting established by a particular jurisdiction. But such information would be deficient for comparing a firm under, say, a fair-value jurisdiction with another under an original-cost jurisdiction.

Conformity to the communication guideline of uniformity of practice within and among entities is held by the A. A. A. committee to require consistent measurement by the best available method.[2] And current cost is the measure most strongly advocated in the Statement. But relevance of historical cost for some purposes is acknowledged, and

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[1]Questionnaire of September 17, 1968.

[2]A.A.A., Committee to Prepare A Statement of Basic Accounting Theory, op. cit., p. 17.

the standard of relevance is held to take precedence over uniformity in some circumstances.[1] Such circumstances appear to exist from the standpoint of the firm and its statement users when the rate of return is determined by the commission on the basis of accounting procedures that differ from those observed by other jurisdictions or in other cases.

The use of measures in financial statements that differ from those used in the rate-base valuation and the cost of capital represented by the rate of return appears to convey biased information to the external statement user. In effect, the rate commission may be regarded as an insider since it is in a position to know the difference between the allowable return and the actual return in terms of both composition and measurement. In contrast, the external user may not only be unaware that debt charges in the income statement are different than those considered in setting the allowable rate but is unable to accurately determine the rate base from the balance sheet.

It may be argued that a reasonable approximation of the rate base may be made since it consists mainly of tangible property and that the cost-of-capital allowance

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[1] Ibid., p. 18.

for debt consists primarily of the periodic interest payment based on the nominal rate. But dual reporting of both historical-cost and current-cost data would provide the statement user with a range encompassing most measures used by the commissions. And verifiable current costs would be free from bias, either on the part of management or the rate commission. While freedom from bias may not always indicate relevance, current costs are not subject to the manipulation afforded by availability of several different historical-cost procedures and which may result in diminished relevance. With respect to the reporting of a range of figures, the A. A. A. committee suggests that non-deterministic measures may become a part of future accounting in view of the uncertainties with which the business firm is faced.[1]

Effects of Alternative Procedures

Public utility income statements usually show the income tax charge as an above-the-line item because of its deductibility in determining net operating income or the actual utility return. In contrast, the showing of interest as a below-the-line item amounts to treating it as a distribution of income rather than as a determinant

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[1] Ibid., p. 65.

of it. Hendriksen observes that this procedure is an example of the enterprise concept of income instead of the proprietary concept of income to stockholders.[1] Interest charges are thus regarded as related to financial management rather than to operating activities and constitute the reward to those who supply firm capital through creditorship.

As a below-the-line item, interest enters into achieved utility operating return measurement to the extent reflected in the tax charge and in depreciation where depreciable plant items include interest charged to construction. When flow-through tax procedure is followed, the entire tax effect of a bond retirement is taken into account in one year, regardless of write-off otherwise used for financing costs. In this case, the utility operating return is not affected by deductions related to the refunded bonds after the year of retirement. The same is true for immediate write-off of refunding charges, since interperiod tax allocation is usually held applicable only to timing differences having a reverse effect in later periods.[2] That is, the one-time deduction related to the bond

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[1]Eldon S. Hendriksen, Accounting Theory (Rev. ed.; Homewood: Richard D. Irwin, Inc., 1970), pp. 43-44.

[2]Donald J. Bevis and Raymond E. Perry, Accounting for Income Taxes (New York: American Institute of Certified Public Accountants, 1969), p. 55.

retirement is a permanent difference.

Where gradual write-off is used along with tax allocation the utility return is affected in each period of the write-off. Net income transferred to retained earnings and thus presumably available for dividends is affected by the write-off as well as the tax charge. Since several write-off alternatives are sanctioned by both regulatory authorities and the American Institute of Certified Public Accountants, a firm may be influenced in its choice of a procedure as much by its own dividend policy as by the attitude of rate commissions. As shown in Chapter III, there appears to be some relationship between dividends and refunding charges in the public utility field.

Differences between procedures approved by regulatory authorities and the Institute were reported in Chapter II. But attention was called to proposed adoption by the Federal Power Commission of all three procedures principally approved by the American Institute of Certified Public Accountants and of the Institute's position on tax allocation as enunciated in Accounting Principles Board Opinion No. 11.[1] Previously, the commission had adopted immediate

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[1]U. S. Federal Power Commission, "Notice of Proposed Rule-making," Docket No. R-424 (August 6, 1971), pp. 5, 13-14.

write-off to income rather than to retained earnings.[1] This is in accordance with support for the all-inclusive income statement contained in Accounting Principles Board Opinion No. 9.[2]

To show why a utility might prefer one procedure to another because of the effects on the operating return and net income, an illustration using the three procedures approved by the A. I. C. P. A. and proposed for adoption by the F. P. C. is presented in Table 13 (p. 174). The illustration is based on assumptions as follows:

1. A 7½-per cent, 20 year bond issue of $100,000 face value is outstanding on January 1, at ten years to maturity.

2. Unaccumulated discount on the old bonds is $5,000, and the call price is 105.

3. The bonds are refunded on January 1 by a new 5-per cent, 20-year issue of $100,000.

4. Inter-period tax allocation according to the deferred method is followed where treatment of the bond charges results in a timing difference between book income and taxable income.

5. Revenue and operating expenses other than taxes are assumed to remain constant throughout the write-off period illustrated in each case.

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[1]U. S. F. P. C., Uniform System of Accounts Prescribed for Public Utilities and Licenses (1970), pp. 101-31.

[2]American Institute of Certified Public Accountants, Accounting Principles Board, Opinion No. 9 (December, 1966), pp. 112-116.

TABLE 13

COMPUTATION OF UTILITY RETURN AND NET INCOME USING THREE REFUNDING-RELATED WRITE-OFF PROCEDURES WITH TAX ALLOCATION

Description	Immediate Write-off to Income		Gradual Write-off Over Life of Old Issue		Gradual Write-off Over Life of New Issue	
	Year 1	Year 2	Year 1	Year 2	Year 1	Year 2
Utility Operating Income						
Operating Revenue	$100,000	$100,000	$100,000	$100,000	$100,000	$100,000
Operating Expenses:						
Various	$ 40,000	$ 40,000	$ 40,000	$ 40,000	$ 40,000	$ 40,000
Income Taxes-Fed. (409.1)	22,500	27,500	22,500	27,500	22,500	27,500
Provision for Deferred Income Taxes (410.1)[a]	------	------	4,500		4,750	
Prov. DIT-Cr. (411.1)				(500)		(250)
	$ 62,500	$ 67,500	$ 67,000	$ 67,000	$ 67,250	$ 67,250
Net Utility Operating Income (Utility Return)	$ 37,500	$ 32,500	$ 33,000	$ 33,000	$ 32,750	$ 32,750
Other Income and Deductions	------	------	------	------	------	------
Interest Charges						
Interest on LT Debt (427)	$ 5,000	$ 5,000	$ 5,000	$ 5,000	$ 5,000	$ 5,000
Amortization of Loss[b] on Reacquired Debt (428.1)	10,000	------	1,000	1,000	500	500
	$ 15,000	$ 5,000	$ 6,000	$ 6,000	$ 5,500	$ 5,500
Extraordinary Items	------	------	------	------	------	------
Net Income	$ 22,500	$ 27,500	$ 27,000	$ 27,000	$ 27,250	$ 27,250

[a]Deferred method of allocation. Account 409.1 is charged with actual tax payable computed as 50 per cent of $45,000 taxable income in Year 1 and $55,000 in Year 2. Total income tax expense is 50 per cent of pretax book income, i.e., after giving effect to the interest charges, which are separately classified from "other" items.

[b]The immediate write-off charge is made to the same account as the periodic amortization charge. Account 429.1 is also provided for the recording of a gain.

Source: Case assumed in text. Statement format and item treatment per Attachment C of Docket No. R-424 and accompanying instructions.

6. Straight-line discount accumulation has been used for the old issue. Gradual write-off following the refunding is assumed to be on a straight-line basis.

With the old issue outstanding, utility operating return and net income are $34,000 and $26,000 respectively. Thus, the greatest deviation from this pattern quite obviously results from immediate write-off in the year of refunding. Because of the lower tax charge, utility return appears substantially higher in the year of refunding, but net income is proportionately less. Noting that neither utility return nor net income differs by more than $500 between the procedures in any year except that in which refunding occurs, assuming the new issue remains outstanding to maturity, the practical implications to a firm desiring to minimize disruption of reported earnings available for dividends seems clear.

Immediate write-off to retained earnings and the payback procedure would produce somewhat different results than shown for the other procedures in Table 13. Data presented in Chapter III indicated wide use of these two procedures by public utilities during the period 1956-1965, which was before publication of A.P.B. Opinion No. 9 and No. 11. Whether commissions will completely abandon these alternatives in order to conform to A. I. C. P. A.

guidelines remains to be determined. It is not the purpose of this study to speculate.

Evaluation of Alternative Procedures

In a practical sense at least, accounting according to guidelines that appear sound by the criteria of the non-regulated environment does not always facilitate achievement of objectives conditioned by regulation. If the objective of a firm is to maximize earnings available for dividends, a high increase is retained earnings may be preferred to a high operating return where the difference is a matter of accounting procedures. This is especially likely where the allowable rate of return is subject to downward adjustment by an ordered reduction in consumer rates. On the other hand, a lower achieved return may be used as grounds for requesting a rate increase.

Most asset definitions in some way strongly convey the impression that an asset is either a property possessing economic service potential or a right to such future service. The A. A. A. Statement does not say that unamortized financing costs embody future economic services, but it does recommend capitalization of costs incurred to yield future measurable benefits.[1] The difference between a new

[1]A. A. A., Committee to Prepare A Statement of Basic Accounting Theory, op. cit., p. 19.

contractual interest rate that is lower than a previous one that would have been paid to normal maturity of a refunded issue if retirement had not occurred represents a measurable saving, in historical-cost terms, to the extent that it is not offset by call premium and other costs incurred to effect the refunding. Hence, it might be argued that the costs incurred to secure such a saving should be capitalized. But whether refunding-related financing costs qualify as properly capitalizable assets on the basis of incurrence to yield future benefits independently of the rate-making process appears to require careful analysis of the events which have transpired.

Most of the theoretical argument has been concerned with the question of costs-benefits matching in particular periods. To treat discount as an asset is in conflict with the view held in most present-day theory writing that this item is a component of the effective interest charge and, hence, of the bond liability. While issue cost has been held to be an asset, both discount and issue costs are incurred as part of the costs of funds borrowed over the life of the issue to which they apply. Once retirement has occurred, the benefits of use of the funds are no longer available. Further, these costs are not avoidable by foregoing or postponing refunding. Hence, they are not part of

the costs of the new funds obtained or of the savings effected by the refunding. They do not appear to be properly capitalizable costs after retirement of the bonds except as reflected in rate commission treatment. Even though the Federal Power Commission permits gradual write-off for accounting purposes, its labeling of the remaining balance as an "unamortized loss" appears to be in keeping with the above conclusion, at least insofar as discount and issue costs are concerned.[1]

Call premium and associated call costs might be said to require separate treatment on the basis that they are management-determined costs incurred to secure future benefits and are avoidable by not calling the bonds before maturity. But to take this position is to overlook the fact that if the market interest rate is lower than the historical rate, the "avoidable" costs will be offset, partially if not completely, by continuing interest outlays that are higher than necessary. Further, according to the current-cost approach proposed in the A. A. A. model, a loss has already occurred if the current interest rate is actually lower than the historical rate.

In the foregoing situation, verifiability might be

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[1]U. S. F. P. C., Docket No. R-424, p. 3.

said to be afforded by the discernible difference between the historical yield rates of the old and new issues. But to carry an item forward as an "asset" in historical-cost terms and to treat it as a loss in companion current-cost data appears to be a violation of the standard of freedom from bias. Instead of being useful to the statement user, such information could be quite confusing.

The question of what accounting approach may be justified when a refunding is effected for the purpose of taking advantage of a currently lower rate of interest than is expected to prevail in the future may perhaps best be dealt with by assuming an example. Purely for the purpose of illustrating the accounting implications, it is assumed that:

1. Bonds of $100,000 face value, bearing interest at 5 per cent, are outstanding at 10 years to maturity. Interest is payable semiannually.

2. Unaccumulated discount on these bonds amounts to $2,000. Accumulation has been on a straight-line basis at $200 per year.

3. Interest rates are expected to rise to around 10 per cent within 10 years. In view of the firm's long-term financing needs, the presently outstanding issue will have to be replaced by another either at or before maturity.

4. The bonds have recently sold in the market at face value, i.e., at a yield equal to the nominal interest rate. But the call price is 105.

5. Similar 20-year bonds can be issued at the present time at the current market rate of 5 per cent.

6. A current tax rate of 50 per cent is expected to prevail indefinitely.

Given these circumstances, one cash-flow approach to estimating the advantage of refunding at the present time is presented in Table 14 (p. 181).

Strictly on the basis of the cash flows, it is to be noted that under the circumstances assumed most of the benefits are related to the net after-tax expected interest savings during the ten-year period between the normal maturity date of the old issue and that of the new. Although the new yield rate is actually less than the old in view of the discount on the old bonds, there is no cash saving during the remaining normal life of the retired issue except the reduction in tax outflow due to deduction of the financing costs applicable to this issue.

According to the argument previously developed, the discount on the old issue is not a cost related to benefits of the refunding. But the call premium might be viewed as a management-determined cost incurred to secure benefits during the time by which the term of the new issue exceeds that of the old. Ignoring what has already happened in the market, a hybrid historical-cost approach might appear to

TABLE 14

AN ILLUSTRATION OF ESTIMATED CASH-FLOW BENEFITS OF A TIMELY REFUNDING

Item and Method[a]	Present Value
Expected cash savings:	
Net tax saving of $3,500 from deduction of $7,000 of call premium and discount in the year of retirement, discounted for 1 year at 5 per cent	$ 3,333
Net after-tax interest savings of $1,250 per period for 20 semi-annual periods, discounted at 2½ per cent (5 per cent annual rate), deferred 10 years[b]	11,896
	$15,229
Expected net cash outflows:	
Net annual tax savings of $100 foregone due to discontinued deductibility of annual discount accumulation, discounted for 10 years at 5 per cent	$ 772
Call premium payable immediately	5,000
	$ 5,772
Net present value of expected cash savings	$ 9,457

[a] A complete analysis would include total outlays to retire the old issue, any duplicate interest payments, proceeds and issue costs of the new issue. But the purpose of this illustration is merely to emphasize the timing of expected benefits.

[b] Based on the annual difference of $5,000 before taxes (committed 5 per cent rate vs. estimated 10 per cent rate required if refunding is delayed until maturity of the old issue).

Source: Case assumed in text.

be justified on the basis of costs-benefits matching. This would involve treating the discount as a loss at refunding and deferring write-off of call premium to the period of expected benefits (the second ten years of life of the new issue).

But application of the current-cost approach would require recognition that a loss has already occurred to the extent of the departure of the market interest rate and bond value from the recorded historical-cost figures. This is the case regardless of the source of the funds used in the retirement or whether the debt is even retired at this time, although the loss may or may not equal the difference between carrying value and redemption price unless the call is actually made. If the bonds are called under these conditions, the effect in current-cost terms would be as illustrated for the full-accrual approach in Chapter III. Carrying the premium forward as an asset in the historical-cost figures while reporting the item as a loss in current-cost terms appears to be an inconsistency that is not predicated in the A. A. A. model unless the resulting information could be established as relevant according to rate commission treatment.

Witnesses in rate cases have argued for the use of what Bonbright calls hypothetical costs based on the current

securities market.[1] And in the more recent Columbia Gas of Pennsylvania case, current cost was actually used in determining the rate of return.[2] But Bonbright contends that these costs are not as relevant as experienced costs except as indicators of probable future costs for refunding or new financing.[3]

Relevance for predictive purposes is considered to be of great importance in the A. A. A. Statement. And reporting of both historical and current-cost data would enable the parties concerned to evaluate a return by either criterion.

In a practical sense at least, the dilemma faced by regulators appears somewhat understandable in the light of some of the objections to immediate write-off. Immediate write-off is said to require the stockholder to bear the loss, whereas gradual write-off permits recovery of the charges from consumers where the amount is considered part of the cost of capital by the rate-making authority.[4]

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[1]Bonbright, op. cit., p. 245.

[2]Pennsylvania Public Utility Commission v. Columbia Gas of Pennsylvania, Inc., op. cit.

[3]Bonbright, op. cit., p. 245.

[4]Ibid., pp. 245-246.

Management is said to be reluctant to call high-yield bonds when the loss is forced on the stockholder immediately and the benefits of lower interest costs are passed on to consumers.[1]

The Federal Power Commission apparently intends to solve this problem by stipulating in its proposed new regulations that immediate write-off may be used when the amount is insignificant.[2] The inferred implication is that gradual write-off is to be used for any material amount of refunding-related cost. Adoption of this policy could have the effect of achieving greater uniformity of reported earnings. But the commission proposes to label the amount carried forward in the balance sheet as an unamortized loss.[3] And at least one case has been cited in which the Federal Power Commission rejected inclusion of costs related to a refunded issue in the cost of capital.[4] Thus, the "asset" classification seems to be merely a result of adherence to the double-entry process and generally accepted accounting principles as enunciated by the Accounting Principles Board.

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[1] Ibid., p. 246.

[2] U. S. F. P. C., Docket No. R-424, p. 13.

[3] Ibid.

[4] Re Panhandle Eastern Pipe Line Company, 3 PUR (3d), 439 (1954).

In view of the argument developed in this chapter, it is concluded that gradual amortization of costs applicable to refunded bonds conveys relevant information to the external statement user only if these costs are actually used by the commission in determination of the allowable return or in measurement of the achieved return, say, as a basis for customer rate adjustments. The evidence reviewed disclosed some cases of inclusion in the cost of capital but none of inclusion in the rate base. By definition and as indicated by Table 13 and related discussion, debt charges are not treated as part of the "cost of service" deducted in measuring utility operating return. Any effect on measurement of the achieved return in the income statement depends on the tax-accounting procedure followed in connection with refunding costs.

According to the analysis presented in this chapter as well as in Chapter IV, the unamortized balance qualifies only as a market-determined loss unless it is treated by the commission in a manner such that, in historical-cost terms, some benefit is conferred upon the firm. This is the only condition under which the analysis suggests justification for capitalization and amortization of costs of refunded bonds by public utilities under the historical-cost doctrine in contrast to the theoretically preferred

current-cost approach for nonregulated firms.

Since the cost of capital is determined in the securities market, basing the rate of return on current cost would be more in harmony with conditions actually faced by the firm near the time when the rate is established than reflected by historical costs incurred some time in the past. Then, requiring the reporting of current-cost data in the statements would provide the statement user with information that is not only consistent with that used in the rate-making process but which is more relevant for evaluative and predictive purposes than historical cost. Historical-cost data, however, would still be relevant for comparison purposes, especially as to the source of holding gains and losses shown by the current-cost measurement.

If historical-cost data are to be reported for such purposes, some contraction of the number of allowable historical-cost alternatives appears necessary if statements are to conform to the communication guideline of uniformity of practice within and among entities. Accrual at the committed historical yield rate while the bonds are outstanding and writing off any unamortized balance of financing costs remaining at retirement as a loss is the historical-cost procedure that is consistent with the current-cost approach. Differences would then be due only

to departures of the current interest rate from the historical rate rather than to illogically chosen write-off periods.

The implications of inconsistencies of practices not only among different entities but especially between the rate-making process and the accounting system appear to be well conveyed by a quotation from the A. A. A. Statement as follows:[1]

> Information may be relevant, verifiable, unbiased, and quantifiable, yet the setting in which it is presented and the background knowledge necessary for its proper interpretation may be critical for informed use.

Summary

Of four standards for evaluation of accounting data proposed in the American Accounting Association's A Statement of Basic Accounting Theory, relevance to intended actions or results desired by the statement user is held to be of primary importance. Historical costs are said to be relevant but not adequate for the various purposes which accounting data are required to serve. To make general-purpose financial reports relevant and adequate for a wide range of needs, the study recommends dual reporting of both

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[1] A. A. A., Committee to Prepare A Statement of Basic Accounting Theory, op. cit., p. 16.

historical and current-cost data.

Current costs are said to improve the predictive usefulness of financial statements and to provide better measures of current wealth and the influence of environmental factors beyond the completed transaction than historical costs. Environmental factors include conditions imposed by regulation as well as forces of the free market.

Current cost is defined as that which permits current replacement of the services embodied in all resources, obligations, and equities of the entity. Hence, it applies to long-term debt and related interest charges and is consistent with the full-accrual approach discussed in Chapter IV.

Application of the standards and guidelines to the question of whether different procedures may be justified for public utilities than for nonregulated firms requires careful examination of the conditions of accounting under regulation.

Regulatory authorities permit the public utility to earn what is considered to be a fair return. This is said to be based on the cost of obtaining capital sufficient to maintain adequate and proper service to consumers at reasonable cost. Writers on rate regulation say that to accomplish this objective the return must cover fixed debt

charges and meet reasonable dividend requirements.

Unamortized financing costs related to bonds refunded are seldom included in the rate base by utility commissions. Some commissions consider an amortization charge related to refunded issues to be a legitimate part of the cost of capital to be covered by the return, but others do not. Evidence cited in the chapter indicates that some commissions permit the use of accounting measures in financial statements that differ from those observed in the rate-making process.

The A. A. A. Statement holds that costs incurred to yield future measurable benefits should be capitalized. But application of the concepts embodied in the current-cost approach indicates that unamortized financing costs applicable to bonds refunded qualify only as losses at the time of refunding. Hence, gradual write-off of these costs over periods past the year of refunding provides relevant information to the statement user only if the costs are included in the rate base or the cost of capital or the cost of service as measured by the rate commission.

Basing the rate of return on current cost and requiring the reporting of current-cost data in the statements would provide the statement user with information that is not only consistent with that used in the

rate-making process but which is more relevant for evaluative and predictive purposes than historical cost. Historical costs related to outstanding bonds, however, would still be relevant in the sense that comparison with the current costs would help explain holding gains and losses reflected by the current-cost data.

A major conclusion of this chapter is that utilities are theoretically justified in accounting for refunding-related costs by capitalization and amortization only if such procedure conforms the data to that used in the rate-making process. If it does not, utilities should account for such costs in the same manner as that employed by non-regulated firms.

CHAPTER VI

SUMMARY AND CONCLUSIONS

Objectives of this study were (1) to review the history of thought concerning alternative procedures of accounting for refunding-relating financing costs, (2) to compare practices and analyze their effects on earnings and dividends, (3) to determine inferable support for procedures from recent models of accounting theory, and (4) to investigate the question of justification for different procedures for public utilities than for non-regulated industrial firms. Summaries of three hypotheses of the study and the related conclusions are given below.

> Hypothesis No. 1.--A pragmatic basis for gradual write-off of financing costs applicable to bonds refunded may be inferred for public utilities, in contrast to industrials, on the grounds that utility balances of such costs tend to be of sufficient size to significantly impair earnings available for dividends.

The conclusion is that the hypothesis is reasonably supported by analysis of samples of refunding cases for the period 1936-1945. A chi-square test of median dividends indicated that utilities using gradual write-off

of refunding-related costs tended to pay significantly higher dividends relative to retained earnings during the two ten-year periods, 1936-1945 and 1956-1965, than utilities using immediate write-off. Similar tests for industrials did not produce significant results.

A percentage analysis of dividends and refunding-related financing costs indicated that utilities using gradual write-off tended to have higher unamortized balances of financing costs of bonds refunded relative to retained earnings and net income before charge-off and pay higher dividends than firms in other categories during the earlier period. The results of a correlation test of dividends and refunding-related charges were not strong but did not refute the inference based on the other tests. The percentages for both utilities and industrials were smaller and less conclusive for the 1956-1965 period than for the earlier period.

> Hypothesis No. 2.--There has been a trend during the 1956-1965 period toward greater use of write-off over the life of the new issue by public utilities than indicated by earlier studies for the 1936-1945 period.

Hypothesis No. 2 was not supported. The utility sample for the 1956-1965 period included no instance of write-off over the life of the new issue, although the procedure was used by a few industrials.

Hypothesis No. 3.--Logically consistent application of guidelines contained in the deductive models used in the study provides greater support for the full-accrual approach than for other procedures of accounting for long-term debt and related interest.

The conclusion is that logically consistent application of guidelines inferred to comprise the principal framework of the Chambers and Sprouse-Moonitz studies supports the hypothesis and, hence, the procedure designated in this study as the full-accrual approach, essentially as based on the Hendriksen model in Accounting Theory. The procedure basically consists of accounting for bonds outstanding at the current market price and basing the interest charge on the current yield rate. Holding gains and losses are recognized as current cost departs from recorded historical cost. At refunding, prior complete accrual of the amount required for redemption leaves no balance of unamortized financing costs related to the retired issue remaining in the accounts.

The Sprouse-Moonitz model, Accounting Research Study No. 3, holds the function of accounting to be the measurement of all resources and all changes in them. Hence, current values are held to be proper measures of assets and liabilities generally. The authors, however, specifically recommend use of the historical yield rate

in the accrual process for long-term debt. Logical consistency would seem to require accounting for long-term debt in the manner held appropriate for the other items.

The Chambers model, in Accounting, Evaluation and Economic Behavior, is based on the premise that current cash equivalent is the most relevant single price for knowledgeable action in the market. Current cash equivalent for liabilities is defined as the present value of the future sum payable, computed by discounting at the interest rate required for current use of the funds necessary for immediate settlement of the debt. But Chambers departs from this basic position by recommending measurement of long-term debt at the contractual amount, interpreted to mean face value. Logical consistency would seem to require accounting for bonds payable in current terms as recommended for liabilities basically and for other items.

Particular hypotheses were not stated for the historical review of accounting thought nor for the investigation of the propriety of different procedures for public utilities than for industrials. The findings in relation to these objectives are summarized below.

A review of the literature revealed that theoretical argument has essentially revolved around the alternatives of immediate write-off versus gradual write-off, either

over the remaining normal life of the refunded bonds or over the life of the new ones. Other procedures, however, have been proposed and used in practice to some extent. Pro and con argument concerning the various alternatives is subsequently summarized.

The question as to appropriate procedures in the public utility area was examined in the light of the standards and guidelines proposed in the American Accounting Association's A Statement of Basic Accounting Theory. Relevance to intended actions or desired results is held to be the primary standard. Current costs are said to be more relevant than historical costs for predictive purposes, measurement of current wealth, and reflection of the impact of the environment on the entity. But relevance of historical cost for some purposes is acknowledged. Hence, the study recommends the reporting of both current-cost and historical-cost information in a single set of statements.

Application of the concepts embodied in the current-cost approach proposed in the model indicates that unamortized financing costs applicable to bonds refunded and remaining in the accounts at the date of retirement qualify only as losses. But gradual write-off of these costs over periods past the year of refunding is inferred

to provide information of some relevance to the external statement user if this procedure conforms the data to that actually used by the rate commission in determining the allowable rate of return or in measuring the achieved return, e.g., for rate adjustment purposes. The analysis suggests justification for capitalization and amortization of such costs by public utilities under the historical-cost doctrine, in contrast to the theoretically preferred current-cost approach for nonregulated firms, only if the costs are included in either the rate base, the cost of capital, or the cost of service (operating expenses) as measured by the rate commission.

The historical and theoretical findings are reviewed in somewhat greater detail in the sections which follow.

Historical Review

Theoretical argument in support of immediate write-off of financing costs applicable to refunded bonds has been based on the concept of conservatism and the view of the retired issue as representing a completed transaction. Proponents of this procedure hold that benefits associated with the original issue are terminated upon its retirement and any remaining unassigned costs related to that issue

constitute a loss.

Some proponents of write-off over the life of the new issue view the refunding as a capital-retention action in which an extension of maturity is effected as well as interest savings. Others view discount and issue costs as past costs assignable to the old issue but regard call premium as a cost of extending the time of the loan and, therefore, amortizable over the life of the new issue.

Refunding in anticipation of higher future interest rates is held by some authorities to justify write-off over the life of the new issue. Under these circumstances, the expected benefits are assumed to result from refunding at a lower rate than would be required for new bonds issued at maturity of the original issue.

The Committee on Accounting Procedure of the American Institute of Certified Public Accountants approved immediate write-off and write-off over the life of the old issue in 1939. At the time, immediate write-off was the general rule prescribed in systems of accounts published by utility commissions and was approved for tax purposes. But the evidence reviewed indicates that departures from the basic requirement have often been allowed by special permission of the regulatory authorities.

More recent developments included approval of

write-off over the payback period by the National Association of Railroad and Utility Commissioners in 1958 and subsequent adoption of the procedure for use without prior permission by several member commissions. Then, in 1965, write-off over the life of the new issue was approved by the A. I. C. P. A. Accounting Principles Board. The Federal Power Commission has recently proposed future adoption of the procedures approved by the Institute, but the proposal had not been officially acted upon at the date of this writing.

Reasoning given in Opinion No. 6 as justification for approval of write-off over the life of the new issue by the Accounting Principles Board was essentially as stated above in reference to refunding in anticipation of higher future interest rates. Little theoretical discussion of the payback procedure has appeared in the literature. But, as a practical matter, matching the amortization charges with the interest savings, after adjustment for tax effects, essentially nullifies the effects of the refunding in the income statement until write-off has been completed.

The full-accrual approach represents a relatively new development in theoretical discussion of accounting for long-term debt, at least to the extent of its emphasis in

the Hendriksen model. Except for the brief description of the procedure in the statement of findings for Hypothesis No. 3 above, additional comments concerning the full-accrual approach are deferred to the section on evaluation of procedures below.

Comparison of practices for the periods 1936-1945 and 1956-1965 revealed that public utilities used gradual write-off procedures to a greater extent than immediate write-off during the earlier period. Specific procedures used most frequently during this period were write-off over the life of the old issue or over that of the new. Separate samples reported by earlier writers indicated some differences in frequency of use of these two procedures. Other gradual write-off procedures were also used to some extent, apparently by special permission of the commissions. Immediate write-off was used by 50 per cent of a sample of 36 utilities during 1956-1965. Payback, or the "cumulative interest-savings" method, was the most frequently used gradual write-off procedure during this period. Utilities using immediate write-off usually made the charge directly to retained earnings during both periods.

Industrials usually used immediate write-off during both periods. The charge was often made to retained earnings during the earlier period but against income exclusively

during the later period. The change apparently evolved in response to approval of the charge to income in Accounting Research Bulletin No. 18 in 1942 and in Bulletin No. 43 in 1953. In this respect, industrials have tended to follow A. I. C. P. A. guidelines much more closely than utilities. But utilities have tended to charge income with an amount equal to the tax effect of deducting financing costs at refunding since recommendation of this procedure in Accounting Research Bulletin No. 18. And, as reported in Chapter II, some national commissions have recently prescribed write-off to income in uniform systems of accounts.

Conservatism, the completed-transaction concept, tax requirements, other regulation, and A. I. C. P. A. approval have all been given by firms as reasons for the choice of accounting procedures. But regulatory requirements were cited most frequently by utilities during both periods compared in the study.

Evaluation of Procedures

A principal economic attribute of the full-accrual approach is that it states the liability for outstanding bonds at the price at which the debt could be settled in the market at the balance sheet date. The current market value is held to be more relevant for portrayal of financial

position at that particular time than some other valuation of the liability.

By charging interest expense with the market-determined cost of borrowed bunds held during a period, the full-accrual approach results in matching current costs with current benefits from the use of the funds. Also, the disclosure of holding gains and losses serves as a measure of financial management effectiveness in the sense that present borrowing arrangements are indicated to be favorable or unfavorable in relation to conditions prevailing in the market during the current period. The procedure is also consistent with the capital-maintenance and the all-inclusive concepts of income.

Since the utility faces a relatively inelastic market for its services, its earnings and their measurement are conditioned to a significant extent by regulatory decree. Under these circumstances, financial statement measurement of earnings according to historical-cost procedures observed in the rate-making process appears to convey information possessing some degree of relevance to the external recipient such as the investor. But application of concepts reflected in the current-cost approach emphasized in the A. A. A. Statement as well as in the Hendriksen model leads to a conclusion that a gain or a

loss has already occurred when bonds are redeemed at a price that differs from recorded historical cost.

Hendriksen's stated position is that a balance of unamortized financing cost remaining at refunding represents a loss because the value of the debt has changed. Realization of the loss, in the conventional sense, occurs at termination of the contract and should be recorded no later than the date of redemption. He holds that such a balance remains in the accounts only because the historical-cost accounting process has failed to recognize bond value and interest rate changes on a current basis. Any assumption of future benefits as a basis for amortization of such a balance is said to be based on a false matching concept. The implication for public utility accounting appears to be that benefits from a previously incurred loss could exist only if, in effect, conferred upon the firm by the rate commission.

Two other objectively observable constraints appear to preclude future amortization of costs applicable to a retired bond issue. One constraint is that, legally, each bond issue is a contract separate from any other. And the accountant must draw boundaries between different transactions at some verifiable point. The other constraint is that each issue stands on its own merits in

the market. Costs applicable to a bond issue retired in a previous period are simply not a part of the debt burden being currently borne by the firm.

The communication guideline of uniformity of practices contained in the A. A. A. Statement is aimed at narrowing the areas of differences in accounting procedures. Although exclusion of the best method available in a given situation for the sake of uniformity is considered inappropriate, the model recognizes differences between firms, segments, and industries as possible sources of misleading reports. The statements should thus convey information that is broadly applicable and understood or that is disclosed in a manner such that its applicability only in special circumstances is quite clear.

The matching concept is well accepted in accounting theory. But appropriate application of the concept requires that costs be treated as expenses only in periods in which directly or indirectly related benefits are either realized or can reasonably be expected. Cost expirations to which no benefit can be attributed qualify only as losses.

As pointed out in Chapter II, the concept of the interest rate as a price determined by the interaction of supply and demand for capital is well accepted in economic theory. Thus, the cost of capital is set in the market for

a firm's securities. Measurement of the cost of capital in current terms in both the rate-making process and in financial statements would enable the utility commission to point to the market in establishing the fairness of a rate of return, which has been defined to represent the opportunity cost of capital.

But the accounting profession and the regulatory authorities are not likely to accept accounting for long-term debt in current terms, except as supplementary information, until this basis is adopted for financial statement data generally. The A. A. A. dual-reporting proposal appears to reconcile many of the objections to adoption of current-value reporting exclusively. The reporting of both historical and current-cost data in a single set of statements appears to have considerable potential for achievement of many requirements of the various stated functions of accounting for both regulated and nonregulated industry.

If historical cost is to be reported, the historical-cost procedure for long-term debt and related interest that is most consistent with the full-accrual approach in the periodic matching sense consists of accrual at the yield rate to which the firm is committed in the contract with the bondholder. And immediate write-off at refunding of

any remaining balance of historical financing costs related to the issue retired would be consistent with the concept of loss observed in the full-accrual approach, except as to the timing of recognition. From issuance to retirement, the total actual loss is the same under either procedure.

Recommendations

Any recommendations for departures from present policies concerning acceptability of procedures should perhaps be directed to both the utility commissions and the accounting profession. Also, since the study is primarily theoretical rather than empirical, recommendations related to the standard of relevance must be made under certain assumptions concerning the usefulness of data. Subject to this limitation, the research appears to warrant the recommendations enumerated and discussed below.

> Recommendation No. 1.--External statement users should be given the same information as that used by utility commissions in setting and evaluating rates.

Assuming that external recipients of financial statements actually use the reported information for prediction purposes and future earnings are significantly controlled by utility commissions via the rate-making process, it follows that data found useful in setting and evaluating rates by the commissions should also be useful

to external recipients in predicting earnings and possibly dividends and future security values.

> Recommendation No. 2.--Accounting and regulatory bodies should cooperate in rejecting the reporting of irrelevant data in financial statements.

Investors and others are assumed to compare financial statement data for the purpose of making economic decisions. If this is a valid assumption, comparability is a characteristic of relevance of the data for such use. As noted in Chapter V, the Federal Power Commission's recent proposal to conform permitted procedures to generally accepted accounting principles as enunciated by the Accounting Principles Board might lead to greater uniformity of reported earnings within the utility field if immediate write-off is restricted to immaterial amounts of refunding-related costs. But the proposed gradual write-off procedures, although approved by the Institute, are in conflict with the usual practice of immediate write-off by nonregulated firms.

Furthermore, case reports reviewed for this study disclosed only a few instances of actual rate-making use of refunding-related costs accounted for by capitalization and amortization procedures. Although the use of such data in the rate process is accepted in this study as a criterion

of relevance of the data for other purposes, the theoretical analysis otherwise suggests logical support only for immediate write-off in the historical-cost model. Limiting historical-cost treatment of refunding-related items to immediate write-off would insure greater comparability of reported information between statements of regulated and nonregulated firms as well as within the utility field.

> Recommendation No. 3.--Accounting and regulatory authorities should devote further study to the relevance and practical feasibility of using the current-cost approach in rate-making and in accounting reports.

The investigation of the rate-making process made for this study was possibly too limited to support a direct recommendation for adoption of a particular approach by the commissions in setting or evaluating rates. But the current-cost approach to accounting for long-term debt is compatible with the opportunity-cost concept of the cost of capital said to be represented by the utility rate of return. Hence, it is held that current cost should be seriously considered for possible use in the rate process.

Accounting for debt and assets on different bases has been questioned in this study within the schemes of certain theoretical models, which, however, were interpreted as lending support to the full-accrual approach. Several departures from basic historical cost are already

accepted for use in practice, e.g., in the accounting for inventories and marketable securities held for short-term investment purposes. It seems to follow that the use of a logically supportable current-cost approach for long-term debt would entail no greater violation of the conventional "cost principle" than some procedures which already stand approved.

> Recommendation No. 4.--Additional research should include an attitude survey of users of accounting data and an empirical test of future outcomes predicted on the basis of data generated by alternative procedures of accounting for long-term debt.

Theoretical proposals often include apparently well-reasoned assertions as to the usefulness of information to various financial statement recipients. But whether the views of actual statement users are significantly represented by these assertions is a question frequently left unanswered. The results of a representative survey of the views of investors and rate-making personnel concerning the usefulness of data based on alternative accounting procedures would appear to be one reasonable test of the relationship assumed in this study to exist between rate-making and predictive usefulness of data.

The validity of this assumption might be further researched by observations of future developments in, say,

earnings and dividends following experimental predictions based on data resulting from application of some of the alternative procedures of accounting for long-term debt. To cast significant light on the question of predictive relevance of data conforming to that used in the rate-making process, such a study should include representative samples of cases in which reported accounting data conform to that used in the rate-making process and of cases in which such conformity does not exist.

BIBLIOGRAPHY

BIBLIOGRAPHY

American Institute of Certified Public Accountants Pronouncements

Accounting Principles Board. "Status of Accounting Research Bulletins." Opinion No. 6. New York: American Institute of Certified Public Accountants, 1965.

_____. "Reporting the Results of Operations." Opinion No. 9. New York: American Institute of Certified Public Accountants, 1966.

_____. "Omnibus Opinion--1967." Opinion No. 12. New York: American Institute of Certified Public Accountants, 1967.

Committee on Accounting Procedures. "Unamortized Discount and Redemption Premium on Bonds Refunded." Accounting Research Bulletin No. 2. New York: American Institute of Certified Public Accountants, 1939. Reprinted in indexed volume of numbers 1 through 37, 1949.

_____. "Unamortized Discount and Redemption Premium on Bonds Refunded (Supplement)." Accounting Research Bulletin No. 18. New York: American Institute of Certified Public Accountants, 1942. Reprinted in indexed volume of numbers 1 through 37, 1949.

_____. "Accounting for Income Taxes." Accounting Research Bulletin No. 23. New York: American Institute of Certified Public Accountants, 1944. Reprinted in indexed volume of numbers 1 through 37, 1949.

_____. "Restatement and Revision of Accounting Research Bulletins." Accounting Research Bulletin No. 43. New York: American Institute of Certified Public Accountants, 1953.

_____. "Declining-balance Depreciation." Accounting Research Bulletin No. 44. New York: American Institute of Certified Public Accountants, 1954.

_____. "Declining-balance Depreciation." Accounting Research Bulletin No. 44 (Revised). New York: American Institute of Certified Public Accountants, 1958.

_____. "Consolidated Financial Statements." Accounting Research Bulletin No. 51. New York: American Institute of Certified Public Accountants, 1959.

Books and Monographs

American Accounting Association, Committee to Prepare A Statement of Basic Accounting Theory. A Statement of Basic Accounting Theory. Evanston: American Accounting Association, 1966.

American Accounting Association, Executive Committee. "A Tentative Statement of Accounting Principles." Accounting and Reporting Standards for Corporate Financial Statements and Preceding Statements and Supplements. Madison: American Accounting Association, 1957. Reprinted from The Accounting Review, June, 1936.

Bailey, W. G., and Knowles, D. E. Accounting Procedures for Public Utilities. Chicago: A. W. Shaw Company, 1926.

Bedford, N. M.; Perry, K. W.; and Wyatt, A. R. Advanced Accounting. 2nd ed. New York: John Wiley and Sons, Inc., 1967.

Bevis, Donald J., and Perry, Raymond E. Accounting for Income Taxes. New York: American Institute of Certified Public Accountants, 1969.

Bierman, Harold, Jr. Financial Accounting Theory. New York: The Macmillan Company, 1965.

Bonbright, James C. Principles of Public Utility Rates. New York: Columbia University Press, 1961.

Chambers, Raymond J. Accounting, Evaluation and Economic Behavior. Englewood Cliffs: Prentice-Hall, Inc. 1966.

Conover, W. J. Practical Nonparametric Statistics. New York: John Wiley and Sons, Inc., 1971.

Davidson, Sidney. The Plant Accounting Regulations of the Federal Power Commission. Ann Arbor: Bureau of Business Research, School of Business Administration, University of Michigan, 1952.

Foster, J. R., and Rodey, B. S. Public Utility Accounting. New York: Prentice-Hall, Inc., 1951.

Hendriksen, Eldon S. Accounting Theory. Rev. ed. Homewood: Richard D. Irwin, Inc., 1970.

Hickman, W. B. The Volume of Corporate Bond Financing Since 1900. Princeton: Princeton University Press, 1953.

Hicks, J. R. Value and Capital. London: Oxford University Press, 1946.

Hunt, Pearson; Williams, Charles W.; and Donaldson, Gordon. Basic Business Finance. Homewood: Richard D. Irwin, Inc., 1961.

Kent, Raymond P. Corporate Financial Management. Homewood: Richard D. Irwin, Inc., 1964.

Littleton, A. C. Accounting Evolution to 1900. New York: American Institute Publishing Company, 1933.

Moffet, H. S. Accounting for Costs of Financing. Toronto: Canadian Institute of Chartered Accountants, 1964.

Paton, W. A. "Presentation of Bond Discount." Paton on Accounting. Edited by H. F. Taggert. Ann Arbor: Bureau of Business Research, University of Michigan, 1964. Reprinted from The Accounting Review, September, 1937.

Paton, W. A., and Littleton, A. C. An Introduction to Corporate Accounting Standards. American Accounting Association, 1940.

Paton, W. A., and Paton, W. A., Jr. Corporation Accounts and Statements. New York: The Macmillan Company, 1955.

Sanders, T. H.; Hatfield, H. R.; and Moore, U. A Statement of Accounting Principles. New York: American Institute of Certified Public Accountants, 1938.

Siegel, Sidney. Nonparametric Statistics for the Behavioral Sciences. New York: McGraw-Hill Book Company, 1956.

Sprouse, Robert T., and Moonitz, Maurice. "A Tentative Set of Broad Accounting Principles for Business Enterprises." Accounting Research Study No. 3 New York: American Institute of Certified Public Accountants, 1962.

Trebing, Harry M., and Howard, R. Hayden. eds. Rate of Return Under Regulation: New Directions and Perspectives. East Lansing: Michigan State University Division of Research, MSU Public Utilities Studies, 1969.

Turner, George E. Trends and Topics in Utility Regulation. Public Utilities Reports, Inc., 1969.

Welsch, G. A.; Zlatkovich, C. T.; and White, J. A. Intermediate Accounting. Homewood: Richard D. Irwin, Inc., 1968.

Periodicals

American Institute of Certified Public Accountants, Special Committee on Research Program. "Report to Council of the Special Committee on Research Program." The Journal of Accountancy, CVI (December, 1958), 62-68.

Bowling, Oswald D. "The Refunding Decision: Another Special Case in Capital Budgeting." The Journal of Finance, XXI (March, 1966), 55-68.

Clendenin, J. C. "How 118 Major Corporations Account for Bond Discount." The Journal of Accountancy, LXXII (July, 1941), 37-44.

Cranstown, William D. "S. E. C. Release No. 10." The Journal of Accountancy, LXVII (March, 1939), 179-180.

Freeman, Herbert C. "The Treatment of Unamortized Discount and Premium on Retirement in Refunding Operations." The Journal of Accountancy, LX (October, 1935), 252-259.

_____. "Unamortized Discount and Premium on Bonds Refunded." The Journal of Accountancy, LXVIII (December, 1939), 397-399.

Gushee, Charles H. "Bond Discount or Premium at Refunding." The Accounting Review, XXI (January, 1946), 61-67.

Healy, Robert E. "Treatment of Debt Discount and Premium Upon Refunding." The Journal of Accountancy, LXXIII (March, 1942), 199-212.

Klug, V. Childs. "The Accounting Treatment of Unamortized Discount and Premium in Utility Refunding Operations." The Journal of Land and Public Utility Economics, XII (November, 1936), 410-416.

Lemke, Bernhard C. "The Treatment of Unamortized Discount and Expense Applicable to Bonds Refunded Before Maturity." The Accounting Review, XXII (October, 1947), 379-384.

May, George O. "The Proper Treatment of Premium and Discount on Bonds." The Journal of Accountancy, II (July, 1906), 174-176.

_____. "Unamortized Discount and Premium on Bonds Refunded." The Journal of Accountancy, LXIX (January, 1940), 49-51.

_____. "Accounting Principles and Regulatory Expediency." The Journal of Accountancy, LXXI (February, 1941), 116-118.

Spiller, Earl A., Jr. "Time-Adjusted Rate for Refunding." Financial Executive, XXXI (July, 1963), 32-35.

Staub, Walter A. "Treatment of Discounts and Premiums in the Refunding of Bonds." The Accountants Digest, VII (March, 1942), 266-268. Reprinted from The Controller, January, 1942.

Stegeman, Arthur J. "61st Annual Statistical Report--1965." Electrical World, CLXII (February 22, 1965), 103-130.

Staff. "Progress of Regulation." Public Utilities Fortnightly, LX (September 12, 1957), 417-418.

Public Utility Cases

Great Western Power Company v. Commissioner of Internal Revenue, 297 U. S. 543 (1936).

Pennsylvania Public Utility Commission v. Pennsylvania Power and Light Company, 14 PUR (3d), 464-468, Pa. P. U. C. (1956).

Pennsylvania Public Utility Commission v. Columbia Gas of Pennsylvania, Inc., 60 PUR (3d), 403, Pa. P. U. C. (1965).

Public Service Commission of Missouri v. St. Joseph Railway, Light, Heat & Power Company, 14 PUR (N.S), 133, P. S. C. Mo. (1936).

Re New England Telephone and Telegraph Company, 35 PUR (3d), 111, Vt. P. S. C. (1960).

Re Panhandle Eastern Pipe Line Company, 3 PUR (3d), 439, F. P. C. (1954).

Re Southwestern Public Service Company, 57 PUR (3d), 407, F. P. C. (1965).

Re Washington Gas Light Company, 53 PUR (N.S.), 331, D. C. P. U. C. (1943).

Solar Electric Company v. Pennsylvania Public Utility Commission et al, 31 PUR (N.S.), 297-298, Pa. Super. Ct. (1940).

Uniform Systems of Accounts

National Association of Railroad and Utility Commissioners. Uniform System of Accounts for Electric Utilities. New York: The State Law Reporting Company, 1937.

_____. Uniform System of Accounts for Class A and Class B Utilities. Washington: National Association of Railroad and Utility Commissioners, 1959.

U. S. Federal Communications Commission, Rules and Regulations, VIII, Washington: U. S. Government Printing Office, 1965.

_____. Rules and Regulations, IX, Washington: U. S. Government Printing Office, 1968.

U. S. Federal Power Commission. System of Accounts Prescribed for Licensees Under the Federal Water Power Act. Washington: U. S. Government Printing Office, 1922.

_____. Uniform System of Accounts Prescribed for Public Utilities and Licensees. Washington: U. S. Government Printing Office, 1960.

_____. Uniform System of Accounts Prescribed for Public Utilities and Licensees, Class A and Class B. Washington: U. S. Government Printing Office, 1965.

_____. Uniform System of Accounts Prescribed for Public Utilities and Licensees. Washington: U. S. Government Printing Office, 1970.

U. S. Interstate Commerce Commission. Uniform System of Accounts for Class I and Class II Common and Contract Motor Carriers of Property. Washington: U. S. Government Printing Office, 1969.

Miscellaneous

Consumers Power Company, Annual Report. 1966.

Dominiak, Geraldine F. "An Investigation of the Applicability of Methods of Logic to the Analysis of Accounting Problems." Unpublished Ph. D. dissertation, Michigan State University, 1966.

Lemke, Bernhard C. "The Treatment of Bond Discount and Premium in Connection with Refundings." Unpublished Ph. D. dissertation, University of Minnesota, 1946.

Letter from Kelley E. Griffith, Chief, Domestic Rates Division, Federal Communications Commission, November 17, 1969.

McKeown, James C. "An Application of A Current Value Accounting Model." Unpublished Ph. D. dissertation, Michigan State University, 1969.

Moody's Investor Service. Industrial Manual. 1936-1945. 1956-1965.

_____. Public Utility Manual. 1936-1945, 1956-1965, 1969.

Public Utility Reports. 1936-1969.

Questionnaire replies of forty-nine state public utility commissions and the District of Columbia Public Utility Commission. 1968.

Questionnaire replies of thirty-two public utility firms and eight industrial firms refunding during the period 1956-1965.

State of Michigan. Annual Administrative Code Supplement. 1960.

U. S. Federal Power Commission. "Notice of Proposed Rulemaking." Docket No. R-424. August 6, 1971.

U. S. Securities and Exchange Commission. 32nd Annual Report. Washington: U. S. Government Printing Office, 1966.

U. S. Securities and Exchange Commission. Form 8-K, Form 9-K, and Form 10-K filings of seventeen industrial firms refunding during the period 1956-1965.