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1969

THE EFFECTIVE COST OF PRIVATE VERSUS PUBLIC
DEBT ISSUES FOR CORPORATE ISSUERS

DISSERTATION

Presented in Partial Fulfillment of the
Requirements for the Degree Doctor of
Philosophy in the Graduate School
of The Ohio State University

By

Adi Sessaiah Karna, B.A.(Hons) ., M.A., M.B.A.

* * * * *

The Ohio State University
1968

Approved by

Adviser
Department of Business
Organization

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VITA

May 10, 1935	Born--Talamanchi, Nellore, Dt., Andhra Pradesh, India
1956	B.A.(Hons) ., Andhra University, Waltair, India
1957	M.A., Andhra University, Waltair, India
1957-1959 .	Investigator and Research Assistant, All India Handicrafts Board, Ministry of Commerce and Industry, Government of India, New Delhi
1959-1962 .	Manager, Handlooms (Government of India), Kuala Lumpur, Malaya
1962-1963 .	Management Trainee, Bajaj Electricals, Bombay, India
1964	M.B.A., The Ohio State University, Columbus, Ohio
1967-1968 .	Assistant Professor, Department of Business Administration, North Carolina A & T State University, Greensboro, North Carolina

FIELDS OF STUDY

Major Field: Business Organization

Studies in Finance: Professors Leo D. Stone and John K. Pfahl

Studies in Management: Professors Michael J. Jucius and Irving Abramowitz

Studies in Real Estate: Professor Halbert C. Smith

Studies in Economics: Professor Alvin E. Coons

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CHAPTER I

NATURE AND SCOPE OF THE STUDY

Introduction

During the 1920's and 1930's the principal method of raising funds from external sources was through the sale of securities to the public via a middleman. The importance of this method began to decline toward the latter part of the 1930's, as corporations looked more to the alternative method of selling securities directly to the institutional investors, such as insurance companies and pension funds. When one examines the nature of corporate securities sold annually during the period 1934¹-1966 he may note that the share of private placements has been increasing in dollar volume. And this share exceeded that of public offerings for the first time in 1963-1965. Debt share of private placements accounted for at least 93 per cent of their total capital raised annually during 1934-1966, and it was as high as 100 per cent in 1934 (Table 1). That is in terms of dollar volume. Similar observations can be made in terms of number of issues. Debt placements accounted for more than 90 per cent of all private placements each year during 1950-1966 (Table 2).

¹Data on private placements for the period prior to 1934 are not available from the sources published by the Securities and Exchange Commission.

Table 1
Corporate Securities Offered Privately
for Cash in the United States by
Type of Security, 1934-1966
(Amounts in \$ Millions)

Year	All Issues		Bonds and Notes		Preferred		Common	
	Amount	%	Amount	%	Amount	%	Amount	%
1934	92	100	92	100.0	0	0	0	0
1935	387	100	385	99.5	2	0.5	0	0
1936	373	100	369	98.9	1	0.3	3	0.8
1937	330	100	327	99.1	3	0.9	0	0
1938	692	100	691	99.9	1	0.1	0	0
1939	706	100	703	99.6	3	0.4	1	0.1
1940	765	100	758	99.1	2	0.3	5	0.7
1941	813	100	811	99.8	1	0.1	1	0.1
1942	420	100	411	97.9	9	2.1	0	0
1943	372	100	369	99.2	0	0	3	0.8
1944	787	100	778	98.9	7	0.9	2	0.3
1945	1,022	100	1,004	98.2	11	1.1	7	0.7
1946	1,917	100	1,863	97.2	42	2.2	12	0.6
1947	2,235	100	2,147	96.1	79	3.5	9	0.4
1948	3,087	100	3,008	97.4	59	1.9	20	0.6
1949	2,502	100	2,453	98.0	42	1.7	7	0.3
1950	2,680	100	2,560	95.5	112	4.2	8	0.3
1951	3,415	100	3,326	97.4	76	2.2	12	0.4
1952	4,002	100	3,957	98.9	42	1.0	3	0.1

Table 1--Continued

Year	All Issues		Bonds and Notes		Preferred		Common	
	Amount	%	Amount	%	Amount	%	Amount	%
1953	3,318	100	3,228	97.3	83	2.5	7	0.2
1954	3,668	100	3,484	95.0	163	4.4	22	0.6
1955	3,477	100	3,301	94.9	119	3.4	57	1.6
1956	3,886	100	3,777	97.2	62	1.6	47	1.2
1957	3,925	100	3,839	97.8	35	0.9	51	1.3
1958	3,490	100	3,320	95.1	137	3.9	32	0.9
1959	3,755	100	3,632	96.7	87	2.3	35	0.9
1960	3,497	100	3,275	93.7	188	5.4	33	0.9
1961	5,022	100	4,720	94.0	233	4.6	69	1.4
1962	4,640	100	4,529	97.6	85	1.8	26	0.6
1963	6,413	100	6,158	96.0	184	2.9	71	1.1
1964	7,504	100	7,243	96.5	232	3.1	29	0.4
1965	8,550	100	8,150	95.3	364	4.3	35	0.4
1966	7,703	100	7,543	97.9	136	1.8	23	0.3

Source: This table is prepared from the data obtained from the Securities and Exchange Commission through personal correspondence.

Table 2
Private Placements, 1950-1966
(Number of Issues)¹

Year	All Issues		Bonds and Notes		Preferred		Common	
	Number	%	Number	%	Number	%	Number	%
1950	877	100.0	815	92.9	46	5.2	16	1.8
1951	897	100.0	837	93.3	31	3.5	29	3.2
1952	827	100.0	786	95.0	16	1.9	25	3.0
1953	763	100.0	710	93.1	30	3.9	23	3.0
1954	832	100.0	746	89.7	53	6.4	33	4.0
1955	913	100.0	821	89.9	57	6.2	35	3.8
1956	952	100.0	887	93.2	33	3.5	32	3.4
1957	900	100.0	849	94.3	15	1.7	36	4.0
1958	820	100.0	757	92.3	36	4.4	26	3.2
1959	949	100.0	877	92.4	29	3.1	43	4.5
1960	1,111	100.0	1,012	91.1	38	3.4	61	5.5
1961	1,220	100.0	1,106	90.7	54	4.4	60	4.9
1962	1,272	100.0	1,199	94.3	31	2.4	42	3.3
1963	1,393	100.0	1,287	92.4	62	4.4	44	3.2
1964	1,567	100.0	1,475	94.1	69	4.4	23	1.5
1965	1,921	100.0	1,821	94.8	89	4.6	11	0.6
1966	1,511	100.0	1,437	95.1	46	3.0	28	1.9

¹Data on the number of issues are not available from the sources published by the Securities and Exchange Commission.

Source: Investment Dealers' Digest, "Private Placements," Corporate Financing Directory, Section 11, February 6, 1967, Tables XII, p. 121.

The change in the relative importance of the methods of selling corporate securities has been brought about by the increasing importance of financial institutions.¹ Their prominence in buying corporate securities makes the method of private placement an important consideration for corporations, particularly in light of the requirements of the Securities Act of 1933. The present study explores the significance of private placements to corporate issuers, primarily in terms of effective cost as opposed to their going public. This chapter explains the importance, objectives, and the organization of the study.

Importance of the Study

As indicated earlier, the most profound change in the corporate bond market in the postwar period has been the coming of the age of private placements as distinguished from underwritten issues offered to the public at large. Although many have written about private placements and of the prominent place they occupy in the capital market, very little systematic information is available.

The present study is directed to private placements by business corporations of all sizes. Many earlier studies on private placements have covered extensively the advantages and disadvantages of private placements to corporate issuers. As such, the relative advantages associated with private placements as opposed to public

¹Ernest W. Walker, Essentials of Financial Management, Prentice-Hall, Inc., Englewood Cliffs, New Jersey, 1965, p. 182.

offerings are not covered as a matter of primary concern in this study. Some oblique references to the advantages of private placements are made, however, where it is appropriate to do so. Major importance is given to the study of effective cost on privately-placed debt issues.

Raising capital in sufficient amounts by proper means, at appropriate times, and at reasonable cost is one of the most demanding problems that calls for solution by corporate management. Any firm which faces the problem of raising capital may have many possibilities. Generally, a sound company generates a large part of its capital requirements internally. But many companies sooner or later reach a stage when they must seek external capital to finance their growth. Capital from a single individual is almost an impossibility for medium-sized and larger companies when they need new capital in larger amounts. Aside from the public sale of corporate securities, a large sum of capital can be obtained only from the large pools of capital—such as life insurance companies, banks, and pension funds which assemble capital from a great number of individual investors (see Figures 1 and 2).

This study will have served its purpose if it provides a general guide to problems and methods and a more specific guide to effective cost involved in private placements.

Figure 1

Alternative Ways of Selling Corporate Securities

Source: Joseph F. Bradley, Administrative Financial Management, Holt, Rinehart, & Winston, New York, 1963, p. 456.

Figure 2¹

The Private Route to New Capital

¹Prepared by the author.

Objective of the Research

The review of literature, presented later in this study, has brought to the author's mind the question of why in the face of lack of advantage in interest cost and a possible disadvantage of being unable to buy back securities at lower prices, the bulk of corporate bonds are placed directly. The possible answers could be:

1. Avoiding the requirements of the Securities Act of 1933 may be a more important consideration than cost to the issuers.
2. Corporate management may have been under a misconception as to the relative economy of private placements and have been stressing flotation cost saving without giving sufficient weight to interest rate cost.

Yields on private placements in 1950's and 1960's have been consistently higher than yields on comparable quality issues sold publicly.¹ The question is whether corporations are paying more in the form of interest rate cost than what they save in flotation cost by going private instead of public. Hence, it is felt that a detailed study regarding the effective cost on private placements would shed light on the actual situation and add more to the knowledge of finance men and industry personnel. The major objective of this study is

¹James J. O'Leary, 1966 Record of Life Insurance Investments, Life Insurance Association of America, New York, December 14, 1966, p. 48. Joseph W. Conard, The Behavior of Interest Rates, A Progress Report, National Bureau of Economic Research, New York, 1966, pp. 37,38.

thus to explore the actual effective cost situation in the private placement market and to suggest what the corporate financial management may do to evaluate the use of the private placement versus the underwriting method for raising their new capital under the then existing conditions. The costs of financing through different sources differ. The financial manager may seek to choose the one which has the lowest possible cost to his firm.

In brief, the study has two general objectives: first, to develop some comprehensive body of knowledge concerning private placements, their effective cost situation, problems, practices, and importance in the capital market; second, to organize and summarize this knowledge so that both the financial theorists and practitioners may gain new insights and knowledge concerning the process of placing corporate securities directly with institutional investors. To be specific:

1. Concepts and data relating to the factors that have — been affecting the changes in private placements are summarized.
2. Individual companies are studied to determine whether they have had effective cost advantage in going private instead of public and to learn the implications of these cost results to the financial management.

Organization of the Study

The behavior of private placements with respect to volume and cost to corporate issuers is examined in the present study. The

first Chapter gives a brief introduction on private placements, then the importance of the study, objectives of the study, and finally the organization of the study.

Chapter 2 presents the various definitions and terms used in connection with private placements and a review of the existing literature on the subject. In Chapter 3, the historical development of private placements and the various economic factors affecting their growth are traced in detail. The prominent role the private placements have come to play in the capital market is reflected in this chapter. In Chapter 4, the passage of the Securities Act of 1933 and its subsequent effects on private placements are traced. This chapter provides the legislative framework within which the private placements are now being carried out.

Chapter 5 covers the discussion on sources and nature of the data used, and the different aspects of research methodology followed in conducting this work. Chapter 6 provides the summary results of the quantitative analysis of effective cost of privately-placed debt issues to corporations relative to going public.

Chapter 7 gives a brief summary of the major objective and the procedures of research followed to attain it and then discusses the conclusions drawn from the cost analysis and their implications to the corporate financial management.

CHAPTER II

DEFINITIONS; REVIEW OF THE LITERATURE

The purpose of this chapter is to present a brief review of the literature pertinent to private placement financing. Important works with respect to private placements are presented. The first section deals with various definitions and terms used for private placements. The Section following it on review of the literature is divided into five parts, viz., dissertations, articles, research publications, text books, and conclusion.

Definitions

"Private placement" refers to a financial mechanism or procedure whereby corporations sell securities by means of a private, as opposed to a public offering. Private placements are conventionally defined to include issues of more than one-year maturity, sold without public offering, but to exclude bank term loans and mortgages.¹

According to the Securities and Exchange Commission, a private placement is an issue sold for cash to a restricted number of investors, without public offering, with maturity of one year or longer but excluding bank term loans and amounts contracted for, but not taken

¹Conard, op. cit., p. 33.

down, during the period covered by the statistics.¹ Most private placements are negotiated with financial institutions rather than with individuals, although this need not be the case. A private placement of bonds or stocks is exempt from registration with the SEC because the issue is offered and sold to so few investors that no "public offering" is involved. Usually these purchases are deemed to be made for investment without intent of resale through a public distribution.

At different times and in different contexts, the phrases "private deal," "private sale," "private placement," and "direct placement" have been used to describe the process by which capital is provided for the use of business firms by means of direct negotiations either between the suppliers and recipients of funds or between the suppliers and agents for the recipients. Private placement of corporate securities has been characterized as both bad and good. It has been called a means to and a symptom of institutional control of capital, as a device for evading statutory regulation, and as an unfair business practice aided by discriminatory legislation. It has also been called a technique for fulfilling an essential community responsibility.²

For purposes of this study, a private placement is defined as an

¹Securities and Exchange Commission, Statistical Bulletin, Government Printing Office, Washington, February, 1967, p. 19.

²Warner H. Mendel, "Institutional Investment Through Private Placement of Corporate Securities," Columbia Law Review, June, 1953, p. 804.

issue of corporate debt securities, with a maturity of over one year and usually ten years or longer, the terms of which are negotiated directly between the corporate issuer and the institutional investor, with or without the aid of an intermediary, in which the title to the issue passes directly from the corporation to the institutional investor.

In the present study, term loans are not included within the meaning of private placements. The close similarity between privately-placed debt issues and term loans can easily be noted. Covenants that tend to be characteristic of one are often found in the other, and both involve direct negotiation between the borrower and the lender. Term loans, however, are typically made for smaller amounts and for shorter maturities than are private placements.

The majority of term loan agreements stipulate that repayment shall be made in equal installments over the life of the loan, which is not the case with private placements. These distinctions are significant enough to justify excluding term loans from the definition of private placements.

After a search of existing literature on the topic "Corporate Financing Through Private Placement," three related doctoral dissertations, some articles and a few other studies have been found.

Dissertations

The three doctoral dissertations related to the subject were written by Raymond E. Corey,¹ Elliott L. Atamian² and Lewis P. Freitas.³

Corey's work covers the time period 1946-49. During this period, in some years more than 90 per cent of the securities placed directly were taken by the life insurance companies, and an overwhelming proportion of it was taken by the 18 largest insurance companies.⁴ Corey's quantitative data relating to direct placements are drawn largely from the records of the 18 largest life insurance companies for the period 1946-49.⁵ His general analysis is supplemented with four case histories of corporations that either placed issues directly, or considered and rejected such placement. Conclusions drawn from the case studies were used in his general analysis.

¹Raymond Corey, Direct Placement of Corporate Securities, Graduate School of Business Administration, Harvard University, Boston, 1951.

²Elliott L. Atamian, Limiting Risk in the Administration of Direct Placements by Life Insurance Companies Headquartered in New England (Unpublished Ph.D. Dissertation), Graduate School of Business Administration, Harvard University, February, 1962.

³Lewis P. Freitas, Private Placements and Their Role in the Growth of Selected Industries (Unpublished Ph.D. Dissertation), Columbia University, 1966.

⁴Corey, op. cit., p. 6.

⁵Ibid., p. 8.

The four case histories were on:

1. Boston Edison Company
2. Continental Can Company
3. Standard Oil Company (New Jersey)
4. Colorado Fuel and Iron Corporation

Corey attempts to answer various questions relating to the development of corporate financing through direct placement. To the question as to what influences are responsible for the rapid growth in direct placement, Corey mentions (1) government regulation, (2) growth of life insurance assets, (3) flotation costs, (4) "tailor-made" terms, and (5) firm commitment in direct negotiation. However, no direct study relating the growth in life insurance assets and the growth in private placements is made. Corey also deals with term-lending from commercial banks, which is not relevant to this study.

From the case studies, Corey concludes that the large life insurance companies exercise an involuntary leadership in the direct placement market. They are active in distributing to other institutional investors portions of direct placements which they have negotiated. He mentions that the life insurance companies entertain the concept of a minimum yield in negotiating private placements with corporate issuers.¹ Even where it can be determined with reasonable accuracy what price an issue would probably bring on the public market, insurance companies, on occasion, ignore this criterion if the price thus established for a private placement falls below a certain minimum yield figure.

¹Ibid., p. 117.

Corey points out that with the use of private placements we have a two-market system in corporate financing and that the laws and regulations which have created the distinction have probably had undesirable effects.¹ The private market is restricted. Many issuers are denied its benefits because of competitive bidding or other requirements. Also, many investors, because of size, are excluded from the chance to purchase high quality securities privately sold. Thus the division of the market tends to deprive both issuers and investors of maximum competition. It may not be out of place to see as to what intentions the Congress had in adopting Section 4(1) of Securities Act of 1933 which permits corporations to make direct placements.

When Section 4(1) was adopted, Congress did not intend to create a two-market system of securities distribution. In fact, other causes explain the great increase in private placement that has taken place over the last two or three decades. To mention one, there has been a tremendous increase of investment funds with institutional investors during the period for which it has been necessary to find an outlet.

As a matter of simple pragmatics, therefore, it is reasonable to recognize that there are two securities markets. Corey raises a question as to what may be done to bring the direct placement market into line with basic tenets of the public security market. He suggests

¹Ibid., p. 144.

that the Securities Act be revised (1) to make public offering a far more attractive method of security flotation and (2) to broaden the private market.¹ He does not, however, attempt to offer detailed measures of action.

Atamian's work deals only with the business terms of agreements which are associated with private placements. Writers and investment personnel sometimes refer to these terms as "the protective covenants." These are the provisions which help the lender to administer the loan subsequent to its authorization. They include the provisions of the loan agreement which establish the standards to be met by the borrower. They also include the machinery whereby the lender can provide the loan and thus make sure that the borrower complies with the terms. Atamian's work leans heavily on a depth study of one lending institution's administrative practices and problems associated with the direct placement portfolio. The Baker Company was selected for his depth study.

The dissertation submitted by Lewis P. Freitas to Columbia University in 1966 is an empirical study of the role of private placements in financing the growth of three industries: natural gas transmission, sales and consumer finance, and jet air transportation. The three case studies supported the hypothesis that the proportion of an industry's debt financed by private placements is a function of the age of an industry or an innovation within an industry.

¹Ibid., p. 149.

New industries such as the natural gas transmission companies in the immediate postwar period could find an easier acceptance of their securities in private placements than in the public debt market. Also, industries implementing major innovations and thereby experiencing a substantial acceleration of debt capital requirements would not have ready access to the public bond market for the amount of funds required.

Articles

One of the earliest studies on the subject in question has been made by Harold G. Fraine.¹ Fraine points out that private placements were not new in the United States, that for many years, even before the Securities Act of 1933, such sales had been consummated although the relative volume has increased greatly in later years.² During the period 1900-1933 the dollar volume of issues directly sold appears to have been equal to more than one-tenth of the volume offered publicly in several years and in one year to more than a fifth of that volume.³ This would seem to suggest that the present volume of private sales may be the result of economic conditions rather than the mere avoidance of certain mechanisms associated with the Securities Act of 1933.

¹Harold G. Fraine, "Direct Sale of Security Issues," Journal of the American Association of University Teachers of Insurance, March, 1949, pp. 40-56.

²Ibid., p. 41.

³Ibid.

Discussing the causes for high volume of private placements, Fraine mentions that as far as known costs of flotation are concerned, private placements are more likely to take place to save costs of public distribution that exist regardless of registration requirements than to save merely the relatively minor portion that can be attributed to the Securities Act.¹ However, it is important that the borrower should not concentrate his attention solely on savings in flotation costs in deciding how to obtain funds. Flotation cost is only one factor determining total cost of funds incurred at the time of security issuance. The interest rate cost, which is recurring, will change the cost of funds over the life of the debt issue. Having determined the possible cost of funds, the borrower will, of course, recognize that still other factors,² such as flexibility, publicity associated with public offering, and possible risks associated with registration requirements in public sale, enter into the decision as to how to finance. Individual opinion may, however, differ as to which of these factors is the most important.

Another factor responsible for growth in private placements, according to Fraine, is changed supply and demand relationship for corporate debt.³ Before the 1930's, the flow of corporate securities tended to be far in excess of the requirements of large investing institutions. Issuers in general were forced to sell their securities

¹Ibid., p. 43.

²Ibid., pp. 43, 50, 51.

³Ibid., p. 47.

through a mechanism that would reach smaller investors. In the late 1930's and in the 1940's, however, the financial demands of the large institutions alone were far in excess of the flow of corporate bonds to market.¹ Issuers no longer needed wide distribution to sell those of their securities which were of the character needed by the large investing institutions.

Fraine adds that the rise in proportion of private placements to total offerings has resulted chiefly from a change in the relationship between the demand for, and supply of, corporate bonds and would have come about despite passage of the Securities Act of 1933. Mentioning the same point, Lindsay and Sametz indicate that since 1948 the demand for corporate debt has slackened relative to the supply of new corporate debt issues, despite the growth of financial institutions vis-a-vis non-financial corporations.² In view of these observations, one may say that for earlier periods demand caused greater increase in private placements whereas for recent years supply accounts for the increase. One of the reasons Fraine gives for greater importance of life insurance companies in private placement market is that they tend to hold securities over their whole lives to a greater extent than other institutional investors and are less dependent in their investment decisions on intermediate market quotations.³

¹Ibid.

²Robert Lindsay and Arnold W. Sametz, Financial Management: An Analytical Approach, Richard D. Irwin, Inc., Homewood, Illinois, 1963, p. 443.

³Fraine, op. cit., p. 56.

Another early work on private placement is that of George T. Conklin, Jr.¹ Conklin has quantified the flotation cost savings in direct placement and the possible allocation of these savings among borrower and lender. To Conklin, the passage of the Securities Act of 1933 was just a coincidence with the rise in private placements and not a cause of it. Conklin maintains that a number of fundamental economic forces led to the widespread development of private placement, all of which are interrelated.

Conklin indicates that many who mention cost advantages of direct placement look only to the results of what takes place at the time the funds are obtained. A corporate issuer, he believes, would be wrong to concentrate his attention solely on savings in flotation costs in deciding how to obtain funds. He also adds that the investment banking fraternity bears some, and perhaps considerable, responsibility for the trend toward direct placements.² This may seem strange in view of public pronouncements against direct placements by the underwriting industry. It is not, however, when viewed from the point of view of an individual banker. In the case of an individual banking firm which places an issue directly, the firm will receive a commission on the entire private offering whereas in the case of a public issue, the firm will receive an underwriting commission only on

¹George T. Conklin, Jr., "Direct Placements," The Journal of Finance, June, 1951, pp. 85-118.

²Ibid., p. 109.

the portion of the issue which it underwrites. This amount of money usually is small compared to expense and underwriting risk which the firm has.

One may recall Corey's diagnosis of the two-market system and the problems created in the capital market as a result of the growth in private placements. As a cure, general registration of all private placements is suggested by some. In this connection Professor Steffen's opinion is quoted.

If congressional purpose is to be served, it would seem that any offering that is in a substantial amount, or made to more than a few persons, may be of such public concern as to call for registration. It may well be that large institutional investors have the ability to "fend for themselves"—though they are by no means infallible—but it does not follow that security purchases by them aggregating over three billion dollars each year do not involve any public offering.¹

In brief, Professor Steffen is saying that, because such large sums of money are involved, everyone has a "right" to know what goes on. It was in fact the original intent of Congress that everyone should know "what goes on." As to Steffen, any issuer who is considering negotiating a private placement of three million dollars or more should be required to disclose full facts and the proposed issue be registered with the SEC.²

Steffen also says that the private placement market tends to be dominated by a few large life insurance companies.

¹Roscoe Steffen, "The Private Placement Exemption: What to do About a Fortuitous Combination in Restraint of Trade," The University of Chicago Law Review, Volume 3, No. 1, Winter, 1963, p. 222.

²Ibid., p. 239.

It has been the unhappy role of the small institutional investor, over the last quarter century, to stand on the sidelines and watch while great numbers of the top grades of private debt securities have gone directly to the big insurance companies.¹

Presumably, Professor Steffen believes that if private placements were required to be registered, more issues would find their way into the public market and would hence be available for purchase by small investors. Also, corporate issuers would be able to approach both large and small investors without fear of running afoul of Section 4(1). It would enable issuers to "shop around" for better prices and terms. Thus, in Professor Steffen's opinion, registration of private placements would restore fair competition among investors and issuers in the capital market. Steffen, however, adds, "Plainly, the culprit is Section 4(1)."² There may be more free "shopping around" by issuers among investors if Section 4(1) is reasonably interpreted.

In reply to Professor Steffen's article, Professor Cohan wrote an article³ criticizing Steffen's idea that all private placements should be registered. In Cohan's words, "Direct placement has responded to a genuine need."⁴ Large number of corporate issuers have found

¹Ibid., p. 213.

²Ibid., p. 231.

³Avery B. Cohan, "Should Direct Placements be Registered," North Carolina Law Review, Volume 43, February, 1962, p. 298.

⁴Ibid., p. 307.

private placement to be the alternative available to them. Cohan goes on to add that issuers have greater chances to reduce their effective cost of money as a result of the two-market system we now have.

Life insurance companies and other institutional investors benefit because they have a ready outlet for larger quantities of investable funds. Yields to the investors in the private market are higher than they would otherwise obtain in the public market. In short, issuers have chances to pay less and investors to earn more than they would otherwise.

During the last two or three decades, issuers and institutional investors alike appear to have been insisting that the ability to close a deal at once is of great importance in the private placement market. Of course, to require that private placement securities should be registered, as other securities are, would mean that no sale could be made until after the usual twenty-day waiting period or more had elapsed. This raises the question how important the "waiting period" is. If there is more myth than fact in the dangers associated with this "waiting period" much of the argument against registration of all securities will disappear.

Research Publications

The U. S. Securities and Exchange Commission made a detailed study on the cost of flotation of securities placed privately and

publicly for the period 1951-53-55 in 1957.¹ For the time period covered, the data indicate that in all comparable size classes, the cost of negotiating a private placement is significantly less than that of floating a public issue. The cost differential is particularly larger for smaller issues, diminishing gradually as the size of issue increases (Table 3). A major part of this wide differential is accounted for by the relatively high underwriting cost of public offering. Nearly all costs of distribution are avoided in direct placement, with the exception of modest fees paid to agents. The differential is even wider when the services of an agent are not required.

In making comparisons of the relative costs of offering securities publicly or privately, recognition should, however, be given to the fact that different functions are performed by investment bankers in private placements than in public offerings and that expenses in one type of distribution are considerably different from that of another.

The SEC study also reveals that investment bankers were used in approximately half of all private placements of debt issues, and were employed more frequently in large than in small issues.² In the case of equity issues placed privately, which comprised approximately seven per cent in number of issues and 3.5 per cent by dollar amount of all

¹Securities and Exchange Commission, Cost of Flotation of Corporate Securities, 1951-1955, U. S. Government Printing Office, Washington, D. C., June, 1957.

²Ibid., Table 20, pp. 62, 63.

Table 3

Flotation Costs of Public Offerings and Private Offerings
of Debt Securities for all Corporations, Classified
by Size of Issue, 1951, 1953 and 1955

Size of Issue (\$ Millions)	Public Offerings			Direct Placements			Cost Differen- tial
	Underwriting Spread	Other Expenses	Total	Fees	Expenses	Total	
	(as a % of Proceeds)			(as a % of Proceeds)			
0.5 - 0.9	7.53	3.96	11.49	1.31	0.83	2.14	9.35
1.0 - 1.9	5.80	2.37	8.17	0.97	0.59	1.56	6.61
2.0 - 4.9	2.37	1.41	3.78	0.69	0.43	1.12	2.66
5.0 - 9.9	1.01	0.82	1.83	0.49	0.34	0.83	1.00
10.0 - 19.9	0.88	0.64	1.52	0.31	0.32	0.63	0.89
20.0 - 49.9	0.85	0.48	1.33	0.22	0.22	0.44	0.89
50.0 and over	0.88	0.32	1.19	0.22	0.22	0.44	0.75

Source: SEC, Cost of Flotation, Table 1, p. 37; Table 21, p. 64; Table 23, p. 66.

private placements, agents were used more frequently than in debt issues.¹

Avery B. Cohan is another contributor to the knowledge on private placements. One of his studies, "Cost of Flotation of Long-Term Corporate Debt Since 1935,"² explains changes that have occurred since 1935 in the cost of selling corporate debt to the public. He attempts to show that the cost of flotation on all types of offerings, with the possible exception of rail offerings, declined substantially between 1935 and the late 1940's or early 1950's, but thereafter remained at a level.³

One of Cohan's most recent works on private placements, published in 1967, is concerned with the construction of new quarterly series on interest rates paid by corporations on bonds sold directly to institutional investors.⁴ Cohan drew a sample of private placements made by twenty-three life insurance companies and one pension fund during the period 1951-61.

Cohan recorded some eighteen characteristics of private debt offerings, including, of course, amount, maturity, security type, industry, size of capitalization, debt ratio, and call protection.

¹Ibid.

²Avery B. Cohan, Cost of Flotation of Long-Term Corporate Debt Since 1935, School of Business Administration, University of North Carolina, April, 1961.

³Ibid., p. 60.

⁴Avery B. Cohan, Yields on Corporate Debt Directly Placed, National Bureau of Economic Research, New York, 1967.

He found two variables of notable significance determining yields on private debt issues: earnings before interest and taxes, and size of company (as measured by total capital).¹ The effect of duration (i.e., average term and maturity) on yield is not consistently in one direction.² This was true for both industrials and utilities.

Cohan's study also reveals that yields on private placements were higher, on the average over the whole period, than yields on public offerings, even after the latter had been adjusted for cost of flotation.³ The difference in favor of public offerings is not, however, constant for all sizes of issues.

Text Book Treatment of Private Placement

All text books have covered private placement very briefly and more or less in the same way. Nothing new could be added to what has already been noted from the articles and other studies referred to earlier. Consequently, a great many text books are omitted in this review. Bradley mentions that life insurance companies purchase over 90 per cent in amount of all securities sold through private placement.⁴ The major reason stated for growth in private placements is the large amount of cash available with life insurance companies.

¹Ibid., p. 18.

²Ibid.

³Ibid., p. 22.

⁴Joseph F. Bradley, Administrative Financial Management, Holt, Rinehart, and Winston, New York, 1963, p. 453.

Brandt feels that private placements simplify the capital raising procedure and hold costs to a minimum.¹ He also adds that the investment banker who keeps close contacts with large institutional investors is able to secure lower interest rates than the company itself could secure. Cohen and Robbins, however, express their doubt whether total costs on private placements are lower than on public offerings.² Lindsay and Sametz feel that the influence of the Securities Act should not be exaggerated and that the rise of private placements would have come about regardless of securities regulation.³

Conclusion

The foregoing survey has been intended to give an overview of past efforts by various writers to study private placements, and their method of financing. This rather large subcontinent of the capital market is virtually unexplored in certain areas of knowledge regarding it. For example, there has been no work regarding the factors that have been affecting the changes in private placements and the significance of those factors to issuers and investors as well; regarding the effective cost to corporate issuers on private placements; and regarding the changing role of different institutional investors over-time, etcetera. Of these unexplored areas, it is felt that a study

¹Louis K. Brandt, Business Finance, A Management Approach, Englewood Cliffs: Prentice-Hall, Inc., 1965, p. 427.

²Jerome B. Cohen and Sidney M. Robbins, The Financial Manager, Harper & Row, Publishers, New York, 1966, p. 523.

³Lindsay and Sametz, op. cit., p. 458.

regarding the effective cost on private placements would be a better contribution to the field of corporate finance. As a result, in the present study the major interest is concerned with making an empirical study of the effective cost to business firms in selling their new issues private versus public.

CHAPTER III

HISTORICAL DEVELOPMENT AND THE NEED FOR PRIVATE PLACEMENT

This chapter is aimed at providing the reader a good picture of the historical development of private placements and the prominent role they have come to play in the capital market. The evolution of private placements is discussed chronologically by dividing it into the following four periods:

1. The period prior to 1933
2. The period from 1933 to 1947
3. The period from 1948 to 1959
4. The period from 1960 to 1966

The basis of separation is that each period has its own operational and financial developments as influenced by legislative, political, economic, and business factors. For each period separately, concepts and data relating to the factors that have been affecting the changes in private placements are summarized and analyzed to draw meaningful conclusions.

Private Placements Prior to 1933

The rapid development of privately-placed corporate securities with institutional investors can be traced to the depression of 1929-1933. Prior to this period, the principal method of raising

funds from external sources was through the sale of securities to the public, via a middleman.

Many writers have indicated that private placements arose as a result of the passage of the Securities Act of 1933 and its registration requirements. However, in the period 1900-1933, corporate debt private placements are estimated to have been roughly 2.7 per cent of all corporate debt cash offerings. This percentage is based on the estimate of one billion dollars of private placements out of a total of 36.6 billion dollars of total corporate bond issues sold for the period of 1900 to 1933.¹

The widespread impression that private placements are largely due to the Securities Act appears to be based upon the significant dependence for knowledge upon the statistics of private placements published by the Securities and Exchange Commission. These are undoubtedly the most comprehensive statistics on the volume of private placements since the establishment of the Securities and Exchange Commission. The only statistics for the years prior to 1934 were compiled by the Corporate Bond Study, which limited its study of issues to those described in the financial manuals.² It is indicated that from 1900 to 1933 the dollar volume of issues placed directly was more than one-tenth of the volume offered publicly in several years and in one year more than one-fifth of that volume.³ Beginning,

¹Fraine, op. cit., p. 40.

²Ibid., p. 41.

³Ibid.

however, after the business recession of the autumn of 1929, an increasing proportion of corporate securities in the portfolios of large life insurance companies were privately placed.¹

In the 1920's and prior years, insurance companies and banks were far from a dominant influence in the corporate bond market; the supply of investment outlets was more than ample to take care of their needs, and there was no real investment problem.² Interest rates were relatively high and income taxes relatively low; consequently the individual was interested in corporate bonds for investment. The small investor thus was a very important part of the market, and almost any issue of corporate bonds had to be widely distributed in order to secure its success.

During the period 1900-1933, corporate debts had generally increased more than was necessary to take care of institutional investors. The amount outstanding in long-term corporate bonds increased more than the increase in the total admitted assets of all life insurance companies (see Figure 3 and Table 4).

Private Placements, 1933-1947

The enormous growth in the volume of securities sold since 1933 to institutions for investment in so-called private placements is one

¹Arthur Dewing, The Financial Policy of Corporation, Volume II, New York, Ronald Press Company, 1952, pp. 1107-1108.

²Conklin, Jr., op. cit., p. 93.

Figure 3
Growth in Assets of Life Insurance Companies
and Outstanding Railroad, Public Utility
and Industrial Bonds, United States
1900-1932

¹Railroad, Utility, and Industrial Bonds Outstanding.

²Life Insurance Assets.

Source: Fraine, op. cit., p. 46.

Table 4
Changes in Life Insurance Assets and Corporate Debt
Outstanding During 1916-1932

Year	Life Insurance Assets in \$ Billion		Corporate Debt Outstanding in \$ Billion	
	Total Assets	Change for one period	Total	Change for one period
1916	5.5		29.1	
1917	5.9	0.4	29.7	0.6
1918	6.5	0.6	30.2	0.5
1919	6.8	0.3	31.0	0.8
1920	7.3	0.5	32.6	1.6
1921	7.9	0.6	33.8	1.2
1922	8.7	0.8	34.4	0.6
1923	9.5	0.8	36.2	1.8
1924	10.4	0.9	38.5	2.3
1925	11.5	1.1	39.7	1.2
1926	12.9	1.4	41.7	2.0
1927	14.4	1.5	44.4	2.7
1928	16.0	1.6	46.1	1.7
1929	17.5	1.5	47.3	1.2
1930	18.9	1.4	51.1	3.8
1931	20.2	1.3	50.3	-0.8
1932	20.8	0.6	49.2	-1.1

Table 4--Continued

Sources: 1966 Life Insurance Fact Book, Institute of Life Insurance, New York,
1966, p. 64.

U. S. Bureau of the Census, Historical Statistics of the United States,
Colonial Times to 1957, Washington, D. C., U. S. Government Printing Office,
1960, p. 664.

of the significant developments of the period. The trend began almost immediately after the enactment of the Securities Act of 1933, Section 4(1) of which exempted securities sold by private placement from registration requirements of the Act. While it is true that the passage of the Securities Act of 1933 with its exemption for private placement in all probability gave impetus to this method of financing, the author feels that the depression-born economic forces might have been responsible for its subsequent growth.

In the early 1930's, usual investment markets were effectively closed because of the depressed prices of securities. At the same time, bewildered investors who had lost confidence in their own judgment in the selection of corporate securities continued to pour money into the banks and life insurance companies. Corporate long-term debt reached a peak just before the passage of the Securities Act of 1933, and declined steadily thereafter as evident from Tables 4 and 5. The tables reveal that in the period coincident with the passage of the Securities Act, the corporate debt was declining while life insurance assets were increasing. These conditions brought a serious investment problem for institutional investors. They came to desire more corporate bonds.

Thus, the success of any issue of corporate bonds no longer required widespread distribution. The issue could be distributed to a few institutional investors who were eager to invest large sums in a qualified issue. Not only was a widespread distribution of bond issues unnecessary to their success, but it would have also been highly

Table 5
Changes in Life Insurance Assets and Corporate Debt
Outstanding During 1933-1947

Year	Life Insurance Assets in \$ Billion		Corporate Debt Outstanding in \$ Billion	
	Total	Change for one period	Total	Change for one period
1933	20.9	0.1	47.9	-1.3
1934	21.8	0.9	44.6	-3.3
1935	23.2	1.4	43.6	-1.0
1936	24.9	1.7	42.5	-0.9
1937	26.2	1.3	43.5	1.0
1938	27.8	1.6	44.8	1.3
1939	29.2	1.4	44.4	-0.4
1940	30.8	1.6	43.7	-0.7
1941	32.7	1.9	43.6	-0.1
1942	34.9	2.2	42.7	-0.9
1943	37.8	2.9	41.0	-1.7
1944	41.0	3.2	39.8	-1.2
1945	44.8	3.8	38.3	-1.5
1946	48.2	3.4	41.3	3.0
1947	51.7	3.5	46.1	4.8

Sources: 1966 Life Insurance Fact Book, p. 64.

U. S. Bureau of the Census, Historical Statistics, p. 664.

impractical, because the small individual investor was no longer interested in such issues. It was no wonder that a distribution mechanism which was appropriate to the conditions of the 1920's and prior years underwent fundamental changes when faced with the greatly changed conditions of the 1930's.

Thus, a complete reversal of the supply-demand picture took place almost coincident with the passage of the Securities Act of 1933. At about the same time, institutional investment interest in industrial bonds increased markedly.¹ Prior to the thirties, insurance companies invested relatively little in industrial bonds. During the thirties, however, insurance companies began to invest considerable sums in such bonds. This type of investment might have been the result of several factors. The whole railroad bond field, which had been the primary bond investment medium for life insurance companies,² fell into disrepute as a result of the experience of the depression. Secondly, the investment reputé of industrial bonds increased during the 1930's.³ As a result, they became a natural outlet for institutional funds.

Finally and much more important was a 1928 amendment to the insurance laws of New York.⁴ Prior to that time life insurance

¹O'Leary, op. cit., p. 68.

²Ibid.

³Conklin, Jr. op. cit. p. 94.

⁴Commission on Money and Credit, Report of the Commission, Life Insurance Companies as Financial Institutions, Englewood Cliffs, N. J.: Prentice-Hall, Inc., 1962, p. 76.

companies had been permitted to invest only in obligations which were adequately secured, either by physical property or by other security. By the 1928 amendment, life insurance companies were permitted for the first time to invest in what might be termed credit obligations, where the lender looks to the continued earning power of the borrower as reflected in its past earning record rather than to physical security. This change directly affected life insurance companies incorporated in New York, and indirectly those companies incorporated in other states but licensed to do business in New York.

The effect of these factors on growth of life insurance investments in industrial bonds is evident from Table 6. In 1933 life insurance companies had total assets of \$20.9 billion of which \$5.4 billion was invested in corporate securities and less than \$0.4 billion was in industrials and miscellaneous securities. At the end of 1947, the assets of these life insurance companies had grown to \$51.7 billion, of which \$4.9 billion were in industrials and miscellaneous securities and \$16.1 billion in all corporate securities. Thus, the holding of "industrials and miscellaneous" by all U. S. Life Insurance Companies rose from 1.8 per cent of their total assets to 9.6 per cent during 1933 - 1947. Consequently, an industrial firm began to have greater choice in securing long term capital--either it could seek to obtain the capital through the mechanism of a public offering provided by investment bankers or it could seek to obtain the funds by a direct sale in a very sizeable market.

Table 6

Distribution of Assets of Life Insurance Companies by
Type of Corporate Bonds, 1933 and 1947
(Amounts in \$ Millions)

Life Insurance Assets in Corporate Bonds					
Year	Life Insurance Assets	Railroad	Public Utility	Industrial and Miscellaneous	Total
1933	20,896	2,775	1,757	369	5,388
Percent to Total Assets	100.0	13.3	8.4	1.8	25.8
1947	51,743	3,844	6,941	4,969	16,144
Percent to Total Assets	100.0	5.5	13.4	9.6	31.2

Source: 1966 Life Insurance Fact Book, pp. 60, 68-71.

1956 Life Insurance Fact Book, pp. 62, 64.

An analysis of Table 7 reveals that since about 1940, total private placements of public utility securities have decreased materially in relative importance; direct sales of railroad securities have remained relatively low; and direct sales of industrial-and-miscellaneous issues have accounted for a larger and larger share of the total. The reason for the declining use of private placement among utilities is that they are forced to go competitive either by the Securities and Exchange Commission under the Holding Company Act or by their state public utility commission.

Effective Cost Components of Private
Versus Public Offerings

Professor Cohan attributes the effective cost of a corporate issue to two elements, (1) cost of flotation and (2) yield to maturity.¹ Data on cost of flotation compiled by the Securities and Exchange Commission for the period 1938-1941 indicate that the major cost of floating a public issue is the commission for underwriting and distribution (Table 8). Other expenses are minor in comparison. Only a part of these other expenses can be attributed to the registration requirements. The underwriting and distribution commission accounts for more than 60 per cent of the total flotation costs. Thus, the avoidance of the underwriting commission can be designated as a cause of preference for private placements.

¹Avery B. Cohan, Private Placements and Public Offerings: Market Shares Since 1935, School of Business Administration, University of North Carolina, Chapel Hill, April, 1961, p. 15.

Table 7
Private Placements Classified by Major Industry
Group for 1934-1947
(Amounts in \$ Millions)

Year	Total		Manufacturing Commercial and Miscellaneous		Public Utility		Railroad		Finance and Real Estate	
	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%
1934	92	100	42	45.7	48	52.2	1	1.1	0	0
1935	387	100	194	50.1	152	39.3	4	10.3	37	9.6
1936	373	100	105	28.2	218	58.4	16	4.3	34	9.1
1937	330	100	244	73.9	61	18.5	20	6.1	5	1.5
1938	692	100	384	55.5	299	43.2	8	11.6	1	1.4
1939	706	100	144	20.4	457	64.7	20	2.8	85	12.0
1940	765	100	289	37.8	391	51.1	9	11.8	112	14.6
1941	813	100	271	33.3	438	53.9	20	2.6	64	7.9
1942	420	100	223	53.1	190	45.2	6	14.3	2	0.5
1943	372	100	230	61.8	101	27.2	39	10.5	2	0.5
1944	787	100	392	49.8	297	37.7	91	11.6	6	7.6
1945	1022	100	682	66.7	290	28.4	21	2.1	29	2.8
1946	1917	100	1408	73.4	325	17.0	35	1.8	149	7.8
1947	2235	100	1541	68.9	529	23.7	1	0.04	164	12.8

Source: Securities and Exchange Commission, 17th. Annual Report, 1951, pp. 187, 188.

Table 8

Cost of Flotation of Debt Issues Between \$1,000,000
and \$5,000,000 in Size, Registered Under the
Securities Act for Sale to the Public
1938-1941

Year	Underwriting Distributing Commission	Other Flotation Expenses	Total Cost of Flotation
(% of Gross Proceeds)			
1938	2.4	1.5	3.9
1939	2.5	0.9	3.4
1940	2.8	1.2	4.0
1941	2.3	1.0	3.3

Source: Fraine, Op. Cit., p. 43.

But cost of flotation is only part of the effective cost of money. Yield to maturity is also an important component. Comparison of yields on public offerings to those of private offerings for the period 1935 to 1947 is shown in Table 9. This table compares yields on all straight industrial-financial-services and public utility public offerings of one million dollars and over with yields on all straight industrial-financial-services and public utility private placements of one million dollars and over.

Average yields on industrial-financial-services and public utility private placements were in fact less than average yields on their public offerings during 1935-1947, except for a few years. This indicates that until about the mid-1940's insurance companies were quoting consistently lower effective cost on private offerings. The two components of the total cost of money, (1) flotation cost and (2) yield to maturity, were generally lower for private placements than for public offerings throughout the period 1935-1947. During 1935-1947 the demand of life insurance companies for corporate bonds exceeded the amount of capital that the corporations wanted to raise through the sale of new bonds. This could be attributed as a cause for lower yields in the private placement market.

Private Placements, 1948-1959

During the period 1948-1959 the volume of privately-placed corporate security issues was consistently at a lower level than the volume of public offerings. However, the debt share of private

Table 9
 Yields at Offering on New Straight
 Corporate Debt Issues \$1 Million
 or More, by Industrial
 Category and Type of
 Transaction,
 1935-1947

Year	Industrial-Financial-Service		Public Utility	
	Public Offering %	Private Placement %	Public Offering %	Private Placement %
1935	4.32	4.11	4.11	3.98
1936	4.01	3.52	3.80	3.71
1937	4.38	3.65	3.69	3.66
1938	3.94	3.65	3.56	3.57
1939	3.38	3.43	3.66	3.67
1940	3.34	3.56	3.38	3.62
1941	3.20	3.24	3.21	3.46
1942	3.49	3.43	4.11	3.31
1943	3.49	3.60	3.05	3.33
1944	3.65	3.52	3.41	3.36
1945	3.23	3.11	3.19	3.17
1946	2.76	3.16	2.83	3.13
1947	3.01	3.25	3.35	3.04

Source: Cohan, Private Placements, p. 17.

placements to all debt issues was higher than that of publicly-offered debt issues for a good number of years during 1948-1959, the period under review. Table 10 shows that, in terms of dollar volume of private placements, manufacturing firms accounted for the largest share of private placements. The average share of manufacturing firms of all private placements ranged around 40 per cent for the period under review. Public utility, finance, and real estate firms stood next in importance.

The private placements had an erratic growth throughout the period 1948-1959. The fundamental economic forces, such as the effective cost of private placements as compared with the effective cost of public offerings, as well as the supply and demand for corporate bonds during the period and their inter-relationships, must have had great influence on the kind of growth private placements had during the time.

Since 1947, as is evident from Table 11, the supply of corporate investment media has grown at a rapid rate relative to the growth in assets of life insurance companies. In addition, life insurance companies which had a great desire for corporate bonds found refuge in mortgages.¹ This changed supply-demand relationship for corporate bonds, in contrast with that of the period 1933-1947, brought about different effects on private placements and the relationship of those involved with private placement. In comparison to available

¹Leary, op. cit., p. 69.

Table 10
Private Placements Classified by Industry
Group for 1948-1959
(Amount in \$ Million)

Year	All Industry Groups		Manufacturing		Public Utility		Commercial		Finance and Real Estate		All Others	
	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%
1948	3,087	100	1,544	50.0	576	18.7	310	10.0	473	15.3	184	6.0
1949	2,502	100	833	33.3	587	23.4	267	10.7	425	17.0	390	15.6
1950	2,680	100	810	30.2	684	25.5	397	14.8	541	20.2	248	9.3
1951	3,415	100	1,975	57.8	639	18.7	365	10.7	223	6.5	213	6.3
1952	4,002	100	2,241	56.0	665	16.6	354	8.8	312	7.8	430	10.7
1953	3,318	100	1,071	32.3	731	22.0	218	6.6	887	26.7	411	12.4
1954	3,668	100	1,300	35.4	870	23.7	203	5.5	534	14.6	761	20.8
1955	3,477	100	1,197	34.4	596	17.1	236	6.8	807	23.2	641	18.5
1956	3,886	100	1,613	41.5	616	15.9	175	4.5	1,028	26.5	454	11.6
1957	3,925	100	1,657	42.2	666	17.0	184	4.7	715	18.2	703	17.9
1958	3,490	100	1,397	40.0	617	17.7	187	5.4	502	14.4	787	22.5
1959	3,755	100	979	26.1	677	18.0	275	7.3	983	26.2	841	22.4

Source: This table is prepared from the data obtained from the Securities and Exchange Commission through personal correspondence.

Table 11

Changes in Life Insurance Assets and Corporate
Debt Outstanding During 1948-1959

Year	Life Insurance Assets in \$ Billion			Corporate Debt Outstanding in \$ Billion		
	Total	Change for one period	Rate of Change %	Total	Change for one period	Rate of Change %
1948	55.5	3.8	7.4	52.5	6.4	13.9
1949	59.6	4.1	7.4	56.5	4.0	7.6
1950	64.0	4.4	7.4	60.1	3.6	6.4
1951	68.3	4.3	6.7	66.6	6.5	10.8
1952	73.4	5.1	7.5	73.3	6.7	10.1
1953	78.5	5.1	6.9	78.3	5.0	6.8
1954	84.5	6.0	7.6	82.9	4.6	5.9
1955	90.4	5.9	7.0	90.0	7.1	8.6
1956	96.0	5.6	6.2	100.1	19.1	11.2
1957	101.3	5.3	5.5	112.1	12.0	12.0
1958	107.6	6.3	6.2	121.2	9.1	8.1
1959	113.7	6.1	5.7	129.3	8.1	6.7

Sources: 1966 Life Insurance Fact Book, p. 64.

U. S. Bureau of the Census, Historical Statistics, p. 664.

U. S. Bureau of the Census, "Public and Private Debt: 1940 to 1966,"
Statistical Abstract of the United States, U. S. Government Printing Office,
Washington, D. C., 1967, Table 563, p. 404.

investment outlets, life insurance companies were no longer flooded with excess funds. In brief, the flow of funds through life insurance companies did not keep pace with the corporate demand for debt financing.

Life insurance companies began having a greater influence in determining the terms of sale that corporate issuers provided for private placements. The life insurance companies seldom seek control in corporate affairs; their main interest lies in earning greater returns on their investments. The advantageous position of life insurance companies in making deals for private placements might have led to greater yields on private placements in comparison with public offerings (Table 12).

Effective Cost Components of Private
Versus Public Offerings

The share of private placements to total corporate offerings steadily and continuously declined between 1951 and 1958. The possible reason may be found in the behavior of the effective cost of private placements as compared with the effective cost of public offerings. The differential between yields on private placements and yields on public offerings rose steeply and steadily between 1951 and 1958 (see Table 12). The average cost of flotation of public and private placement remained virtually stable during this period,¹ and hence the rising yield differential must have diverted more and more offerings into the public market.

¹Cohan, Private Placements, p. 31.

Table 12
 Yields at Offering on New Straight Corporate
 Debt Issues, \$1 Million or More,
 by Industrial Category and
 Type of Transaction,
 1948-1958

Year	Industrial-Financial-Service		Public Utility	
	Public Offering %	Private Placement %	Public Offering %	Private Placement %
1948	3.56	3.48	3.61	3.35
1949	3.16	3.60	3.30	3.25
1950	3.64	3.55	2.77	3.14
1951	3.63	3.67	3.41	3.38
1952	3.48	4.15	3.28	3.82
1953	3.99	4.32	3.93	4.13
1954	3.28	4.14	3.41	3.78
1955	3.83	4.17	3.66	3.81
1956	4.23	4.53	4.29	4.24
1957	4.84	5.16	5.14	5.05
1958	4.44	5.20	4.61	4.83

Source: Cohan, Private Placements, p. 17.

Private Placements, 1960-1966

A review of the experience during the period 1960-66 is presented to highlight the major characteristics of private placements in recent years. The dollar volume of corporate issues placed privately and without registration has exceeded that of the issues registered and sold publicly for the first time in 1963; this same situation continued to 1965. Prior to the decade of the 1960's, the majority of all funds raised from external sources was secured through the sale of securities to the public via middlemen.

The importance of private placements among manufacturers continued in the period 1960-1966. Their share of total private placements exceeded the individual share of any other industry group (Table 13). However, while private placements of manufacturing firms continued to be a major component in the total volume of private placements, the relative influence moderated somewhat in the 1960's by the growing importance of financial and real estate firms. In terms of the percentage of dollar volume, manufacturing firms accounted for an average of 38.0 per cent of all private placements in 1960-1966, while companies in the financial and real estate field were the second most important, accounting for about 28 per cent annually. Public utilities and commercials each accounted for roughly 10 per cent of the dollar volume of private issues in 1960-66, while all others accounted for only about 15 per cent.

Table 13
Private Placements Classified by Industry
Group, 1960-1966
(Amounts in \$ Millions)

Year	All Industry		Manufacturing		Public Utility		Commercial		Finance & Real Estate		All Other	
	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%
1960	3497	100.0	958	27.4	518	14.8	304	8.7	1093	31.3	624	17.8
1961	5022	100.0	1805	35.9	817	16.2	441	8.8	1163	23.2	796	15.9
1962	4640	100.0	2106	45.4	458	9.9	366	7.9	1187	25.6	523	11.2
1963	6413	100.0	2329	36.3	691	10.8	499	7.8	2072	32.3	822	12.8
1964	7504	100.0	2439	33.2	631	6.3	594	7.9	2666	36.4	1174	15.6
1965	8550	100.0	3564	41.7	808	9.5	597	7.0	2395	28.0	2286	13.8
1966	7703	100.0	3393	44.0	560	7.3	778	10.1	1494	19.4	1478	19.2

Source: This table is prepared from the data obtained from the SEC through Personal Correspondence.

Like the situation in the period 1948-1959, the supply-demand relationship for corporate debt continued for the period 1960-66 (Table 14). The supply of corporate investment media grew at a higher rate relative to the growth in assets of life insurance companies. The importance of mortgages in life insurance companies' investment portfolios has remained the same as in the previous period.¹ The life insurance companies were not flooded with excess funds compared to the available investment outlets. This continued supply-demand relationship between life insurance companies and corporate debt issuers did not significantly change some of the characteristics of the private placement market in the 1960's compared to the earlier period.

Effective Cost Components of Private Versus Public Offerings

Yields on private placements have exceeded yields on public offerings throughout the period 1960-66, though the differential narrowed throughout, and particularly in late 1965 and 1966.² This narrowing yield differential in recent years can be traced to the supply-demand relationship for privately-placed corporate debt. Life insurance companies are facing heavier competition for private placements from the pension funds.³ One pension portfolio manager of a

¹O'Leary, op. cit., p. 69.

²Ibid, p. 48.

³"How They Raise Money Without Much of a Fuss," Business Week, October 17, 1964, p. 164.

Table 14

Changes in Life Insurance Assets and Corporate
Debt Outstanding During 1960-1966

Year	Life Insurance Assets in \$ Billion			Corporate Debt Outstanding in \$ Billion		
	Total	Change for one Period	Rate of Change %	Total	Change for one period	Rate of Change %
1960	119.6	5.9	5.2	139.1	9.8	7.6
1961	126.8	7.2	6.0	149.3	10.2	7.3
1962	133.3	6.5	5.1	161.2	11.9	8.0
1963	141.1	7.8	5.9	174.4	13.2	8.2
1964	149.5	8.4	5.9	189.2	14.0	8.5
1965	158.9	9.4	6.3	207.5	18.3	9.7
1966	167.0	8.1	5.1	224.3	16.8	8.1

Sources: 1966 Life Insurance Fact Book, p. 64.

U. S. Statistical Abstract, 1967, Table 563, p. 404 and Table 667, p. 473.

large New York bank is quoted saying, "Every year we get bigger and every year we take more private placements."¹

As against this yield differential favorable to public offerings, the flotation costs on private offerings are consistently lower than on public offerings for all issue sizes. This leads to the further inquiry as to what has been the actual effective cost situation on private offerings as compared to public offerings. This question is taken as the major concern of this study and is dealt with extensively in Chapter 5 and 6.

Conclusion

The history of private placements shows the prominent role that they have come to play in the capital market. Their economic significance to both issuers and investors has been reflected in this chapter.

¹Ibid., p. 164.

CHAPTER IV

EFFECT OF THE SECURITIES ACT OF 1933 ON PRIVATE PLACEMENTS

In Chapter 1, the question of why business firms have been placing the bulk of corporate bonds directly when they are faced with the possible disadvantages of higher interest cost and of being unable to buy back securities at lower prices was posed. One possible answer suggested was that avoiding the requirements of the Securities Act may be more important to corporations than avoiding the greater cost (see Chapter 1, p. 9). Hence the present chapter is devoted to explaining this possible answer, that is, how the corporations have been motivated to go private in order to avoid the requirements of the Securities Act of 1933.

Section 4(1) of the Securities Act of 1933

The Securities Act of 1933 while setting up the regulations for controlling the public sale of securities made provisions for exempting the private sale of securities from those regulations. This exemption is set forth in Section 4(1) of the Act (now Section 4(2) of the Act as amended in 1964)¹. It exempts from registration with the Securities

¹U. S. Securities and Exchange Commission, Securities Act of 1933, as Amended to August 20, 1964, U. S. Government Printing Office, Washington, D. C. 1964, p. 5.

and Exchange Commission "transaction by an issuer not involving any public offering." The Securities Act contains no description of what constitutes a "public offering." The vital concept of the Act is disclosure. Under the Securities Act a public offering of corporate securities, with certain exceptions, must be registered with the Securities and Exchange Commission. Transactions by an issuer not involving any public offering as stated under Section 4(1) of the Act is the basis for exempted private placements.

The question of what constitutes a "public offering" has itself been a problem arising out of the Securities Act of 1933. The administrative interpretation of Section 4(1) of the Act, referred to by the Securities and Exchange Commission, is reflected by a statement made in 1934 by John J. Burns, its general Counsel. For this statement, the reader may see the Federal Reporter of June, 1953, in which the portions of Burns' opinion which discuss the factors to be considered in attempting to determine whether an offering is public or private are published.¹ These factors are (1) investment intent, (2) number of offerees, and (3) ability to fend for themselves. In the next few following paragraphs each of these are discussed separate to show how they would cause growth in private offerings relative to public offerings.

¹"Securities and Exchange Commission vs. Ralston Purina Company Case," Federal Reporter, Series 200, St. Paul, Minn., West Publishing Co., 1953, pp. 91-93.

Investment Intent

The way the term "underwriter" is defined makes the question of investment intent very important in private placements. So far as the investment intent is concerned, each purchaser of an issue sold privately in the market declares at the time of purchase that he is purchasing for his own account for investment and not with a view to or for sale in connection with any distribution of the security purchased. If there is an intent to resell, the exemption does not apply because the purchasers in effect become underwriters, buying for the purpose of resale. This does not mean, however, that the investors who buy securities at a private sale cannot resell them. They can do so, and do it without registering them with the Securities and Exchange Commission, provided the original purchase was made with bona fide investment intent. Investment intent is, however, a subjective concept, and the burden of proof, if the intent is challenged, can be sustained only by objective facts and circumstances.

When the purchaser is a life insurance company, the question of investment intent is not too troublesome. The experience of life insurance companies shows that it is extremely rare that such a purchaser has ever disposed of a security acquired through private placement.¹ But the Securities and Exchange Commission has always viewed with considerable skepticism any claim that an investment banker or a broker dealer acquires a security with the intention of holding it

¹Roy M. D. Richardson, "The Private Placement Method of Financing," Chicago Bar Record, April, 1964, p. 331.

for investment purposes and not with the intention of distributing it.¹ Thus, transactions effected through direct negotiation by the issuer with the ultimate purchasers who are not members of the securities industry are more likely to be considered non-public.

Number of Offerees in Private Placement

When the Securities Act first came into existence, the number of offerees was considered important. The Securities and Exchange Commission has never made any pronouncement on number, other than to name it as a factor. A conventional rule was to limit the number of potential purchasers to whom the security was to be offered to between 12 and 25.² As time went on the number was gradually expanded.

There have been a few instances in which as many as 100 purchasers have been solicited in a private sale, but the Securities and Exchange Commission did not raise any question as to the availability of corporate offering exemptions if all were institutional investors such as insurance companies and pension funds.³ However, if the number were indiscriminately increased, the spirit behind the exemption would be violated.

¹Andrew D. Orrick, "Non-public Offerings of Corporate Securities-- Limitations on the Exemption Under the Federal Securities Act," University of Pittsburg Law Review, Volume 21, No. 1, October, 1959, p. 1.

²John F. Childs, Long-Term Financing, Prentice-Hall, Inc., Englewood Cliffs, New Jersey, 1962, p. 213.

³Richard W. Jennings and Harold Marsh, Jr., Securities Regulation, Cases and Materials, Brooklyn, The Foundation Press, 1963, p. 300.

Ability to Fend for Themselves

The Securities Act was primarily designed to protect the unsophisticated investors against inadequate and misleading information. The large institutional investors such as insurance companies, banks, and pension funds, with their well-trained staffs of analysts, can protect themselves better than the individual investors whom the Act meant to protect with its minimum requirements. Therefore, offerings limited in scope to institutional investors can justifiably be exempted from the Act.

The Discriminatory Influence of the Three Factors

Each of the three factors discussed above clearly indicate how they might act as sources for certain exclusive privileges that the institutional investors can make use of in their attempts to secure private placements. These factors make the institutional investors more than other investors to go to private placement market for investment purpose. The law thus discriminates in favor of institutional investors, creating a two-market system in the capital market. Thus any increase in the demand for corporate bonds from institutional investors would more likely show up as an increase in private placements.

Private Placement and the Securities and Exchange Commission

In the following paragraphs, attempts are made to sketch briefly how the corporate issuers' financial activities are affected by the requirements of the Securities Act which the issuers have to meet with

the Securities and Exchange Commission in their attempts to sell new securities public.

The Registration Statement

One of the often quoted reasons for the drift of corporate issuers from the public market to the private market, after the passage of the Securities Act of 1933, is the burden that registration imposed on all parties in flotation of securities. Imprisonment and fines are the prescribed penalties for the filing of registration statements that are materially inaccurate or incomplete as such acts constitute willful violation. In addition, corporations give some weight to the expenses associated with the registration process to be carried in public sale of their new issues. These expenses can largely be avoided if the corporate issuer goes into the private placement market.

The Waiting Period

After submission of the registration statement, time must be allowed for the SEC to examine the statement for completeness and accuracy. By law, this period is 20 days; but, in fact, the SEC can "accelerate" or extend it as needed. Although the Securities and Exchange Commission attempts to expedite the registration process, in recent years the average time lapse between the original filing and the effective date of registration has become longer than the legally stipulated time of 20 days. The average amount of time between the original filing of registration statements and the effective date

ranged from 36 to as high as 78 days in the 1960's (see Table 15).

Effect of the Waiting Period on
the Sale of Corporate Issues

The average time lapse between the original filing and the effective date of registration is of such length that corporate issuers might face a definite risk in going public. This is particularly so when the market is unsettled and when interest rates in the next month or so are a matter of considerable speculation. Under such circumstances private placements offer notable advantage over public offerings to the corporate issuers.

When the issuer markets his securities through an underwriting firm, preliminary negotiations will cover all details of the issue except the price the underwriter is to pay to the seller. The company, proceeds with the preparation of a registration statement, having no assurance that the issue will be sold ultimately at a satisfactory price. The long period required to prepare the statement and the waiting period which must elapse after filing, subject the issuer to market conditions in a comparatively distant and unpredictable future. It would be informative to note in this regard that a study of security issues that were withdrawn after being registered with the SEC in the period from July, 1965, to June, 1966, showed that 16.8 per cent of these issues were withdrawn primarily because of unfavorable market conditions (Table 16).

Typically, an underwriter will not make a firm commitment as

Table 15

Average Elapsed Time Between the Original
Filing and the Effective Date of
Registration with SEC During
1960-1966

Year	Registration Statements	Average Elapsed Time in Days
1960	1275	43
1961	1389	55
1962	1646	78
1963	985	52
1964	960	36
1965	1097	36
1966	1280	38

Source: For 1960-62
SEC, 28th. Annual Report, 1963, p. 24.

For 1963-66
SEC, 32nd. Annual Report, 1966, p. 23.

Table 16
Reasons for Withdrawal of Registrations
Filed with SEC in 1966

Reason for Withdrawal Request	Number Withdrawn	Per cent of Number Withdrawn
1. Withdrawal requested after receipt of staff's letter of comment.	20	13.5
2. Registrant was advised that institution of stop order proceedings would be recommended if statement not withdrawn.	1	0.7
3. Change in financing plans	86	58.2
4. Other changes in plans or in registrant's circumstances	9	6.1
5. Change in market conditions	25	16.8
6. Registrant unable to negotiate agreement with underwriter	7	4.7
Total	<u>148</u>	<u>100</u>

Source: SEC, 32nd. Annual Report, p. 28.

to the rate until the end of the waiting period.¹ Even then, he generally hedges his risk by the insertion of a termination or a market-out clause. Under a termination clause the underwriter is privileged to cancel the agreement for any reason whatsoever prior to some agreed-upon date, such as the date of public offering or the date of payment. A market-out clause allows the investment banker to withdraw his commitment in the face of adverse market conditions.

The primary advantage to be achieved through private placement is the ability on the part of the issuer to obtain a firm commitment as to terms at the close of negotiations. Before the financing is consummated, regardless of market conditions, the institutional investor offers the corporate issuer the possibility of carrying out his proposed financing on the basis of mutually acceptable terms. Vice-President Edward P. Lebens of the First Boston Corporation has stated, "It is not surprising that in any uncertain market there is a tendency for corporate borrowers to use direct placements because of the speed with which a commitment can be obtained."²

Conclusion

The above discussion will serve as a basis to answer the question pointed out at the beginning of this chapter. Private placements are

¹Jean Ross Skinner, "The Private Route to New Capital," Dun's Review and Modern Industry, January, 1963, p. 36.

²Skinner, op. cit., p. 36.

found to have advantages which could appeal to both investors and issuers. These advantages, however, are non-cost considerations that might compensate corporations for the possible cost disadvantage in going private.

Corporate issuers have chances to benefit from the tailoring of the private placement agreements to fit their particular situations to a greater extent than was customary in public offerings. They consider it advantageous to have a loan in the hands of one or a limited number of experienced investors whom they might approach for indenture changes if circumstances were altered. Besides, as life insurance companies became familiar with the new field of investment, issuers found the private placement market as a means to obtain a much speedier decision on the availability of funds than was possible under the public offering procedure, particularly in the light of the requirements of the Securities Act of 1933.

CHAPTER V

RESEARCH METHODOLOGY AND LIMITATIONS

This chapter describes the research methodology followed in this study and the limitations of this methodology. The research methodology is discussed in the following order: (1) development of the cost model, (2) population chosen for the study, and (3) steps in the derivation of "r" for the purpose of cost analysis. Since the present study is primarily concerned with effective cost analysis, the methodology is naturally quantitative in nature. Before the procedures followed in conducting this research work are gone into, the sources and nature of data are briefly discussed.

Sources and Nature of Data

The principal sources of information on private placements are the publications of the Securities and Exchange Commission and Investment Dealers' Digest.

The Securities and Exchange Commission has published in its annual report and statistical bulletins data on total private placements, annually since 1934. Historical data on private placements by industry of issue and by type of issue have not been repeated in current publications of the Securities and Exchange Commission, but are available on request. The Securities and Exchange Commission

does not publish a cross classification by type of security and by industry of issue, nor does it publish data on private placements by investor.

The February and August issues of the Investment Dealers' Digest, also referred to hereinafter as IDD, contain a separate section entitled "Corporate Financing Directory." The Directory contains a separate section "Corporate issues placed privately," which shows details on each private debt issue sold during the prior six months' period ending in June and December respectively. The following details of known deals are usually listed: the issuer, type of issue, maturity, amount, coupon rate, investment banker serving as the agent, and the buyer (s).

Indications are made, however, that there could be some difference between the annual totals of Securities and Exchange Commission and the Investment Dealers' Digest.¹ This variance may exist because the SEC excludes securities which institutions have contracted to purchase but which have not been taken down during the period covered by the statistics, whereas the Investment Dealers' Digest includes such data.² Further, the Securities and Exchange Commission does not take into account issues of less than \$100,000 whereas this is not the case with the Investment Dealers' Digest.³ Though the sources of

¹Cohan, Private Placements, p. 40.

²Investment Dealers' Digest, Corporate Financing Directory, Dealers Digest Publishing Company, New York, February 6, 1967, pp. 6,8.

³Ibid., p. 8.

data are the same for both, the compilations thus differ in many respects.

For general analysis, data on private placements are taken from the sources published, and the information obtained directly from the Securities and Exchange Commission. The Investment Dealers' Digest is used here as a source only in places where no data from the SEC's publications are available. For example, for purpose of effective cost analysis on privately-placed debt issues, data on each issue are obtained from the information given by the IDD. Hence the variations between the two sources of data will not affect the purposes of this study.

Development of the Cost Model¹

Effective cost is made up of two elements: (1) cost of flotation and (2) yield to maturity. The cost of selling debt issues in a private market is less than the cost of selling a similar size issue to the public through an underwriter. The differential flotation cost advantage diminishes gradually, however, as the size of issue increases. But flotation cost is only a part of the total cost of money to the firm. Yield to maturity is also an important component of the effective cost of money. Thus the evaluation of these two elements become necessary to determine the effective cost on a private debt

¹The model is designed on the basis of the principles involved in the present value concept whose application can be seen in most of the text books of business finance. For example, see J. Fred Weston and Eugene F. Brigham, Essentials of Managerial Finance, Holt, Rinehart and Winston, Inc., New York, 1968, pp. 112, 113.

issue compared to a public debt issue.

The following cost model is designed to find out what the actual effective cost has been on privately-placed debt issues. The model is also meant to be used by the financial manager of a business firm to evaluate the effective cost involved in a proposed sale of his firm's securities, private versus public.

$$Cs = \frac{IRs}{1+r} + \frac{IRs}{(1+r)^2} + \dots + \frac{IRs}{(1+r)^n}$$

$$= IRs \sum_{t=1}^n \frac{1}{(1+r)^t}$$

The notations used in the model are:

Cs= Flotation cost difference between public and private methods of the sale of issues of comparable size and which represents a saving to the firm.

IRs= Dollar interest cost difference between a private debt issue and a public debt issue of comparable quality for each year over the life of the issue.

r= Discount rate or internal rate of return which equates the present value of future differential interest rate costs (IRs) with the present flotation cost difference (Cs).

n= Years of maturity of the debt issue.

The cost model indicates a situation where neither of the two parties involved in a private sale would be at a disadvantageous position. The corporate issuer would incur the same total costs by raising funds in private as in public. Any deviations from the normal situation indicated by the above model would place either of the two

parties in a more advantageous position than the other. As the author is interested here in evaluating the effective cost to corporate issuers on private placements, the present study is involved in determining the value of "r," the internal rate of return, through plugging the values for Cs, IRs, and t in the above model, for each of the selected private debt issues. The value of "r," thus obtained, is useful for cost analysis.

The Population for the Study

In approaching the problem of determining the effective cost of privately-placed debt issues, reliance can be made on the study of the universe or a small proportion statistically selected of the universe in order to estimate the characteristics of the universe. Analysis of the universe is chosen here because it is felt that the results obtained from analyzing a sample may never be assumed to give exactly the same results that would be secured if the entire universe were included in the study and also because of the manageable size of the universe.

The data on private placements used in this area of the study consist, in principle, of pure debt private placements that were sold in 1962 and 1966. These two years are selected because the proportions of privately-placed bond issues to total bond issues in these years are close to the corresponding average proportion for the entire

period 1934-1966.¹ Thus they are more likely to represent the typical of private market in recent years.

The Investment Dealers' Digest referred to earlier published data on the dollar amount, coupon rate, and other information of virtually the whole "universe" of private placements. These data are used to derive the value of "r" for cost analysis by size of issue, quality of issue, and maturity of issue separately for manufacturing, public utility, and commercial company placements. The debt placements of only the manufacturing, public utility, and commercial firms are considered for the purpose of cost analysis.

Finance, real estate, transportation, and other industry groups are not considered for purposes of cost analysis. Yield figures for most of these industry groups by quality of issue sold in the public market are not available. Even among the manufacturing, public utility, and commercial company placements, the following types of offerings

¹The following calculations on percentage share of the dollar volume of privately-placed debt issues to the dollar volume of all debt issues for different periods during 1934-1966 are made from the data obtained from the Securities and Exchange Commission through personal correspondence.

Period	Proportion of Privately-placed debt issues to total debt issues (%)
1934-66	46.2
1940-66	47.8
1950-66	49.9
1960	40.5
1961	50.1
1962	50.5
1963	56.6
1964	66.7
1965	59.4
1966	48.4

are excluded from the present area of the study.

1. Lease arrangements
2. Mortgage instruments
3. Term loans
4. Railway Equipment Trust Certificates
5. Serials
6. Convertibles
7. Issues of less than \$500,000 of par amount for manufacturing and commercial firms, and issues of less than \$1,000,000 of par amount for public utility firms
8. Issues rated Ba and less than Ba
9. Issues of companies with a networth of less than \$1,000,000

The first three items are excluded by convention from the definition of private placements and are therefore excluded in this study. Items four and five are excluded because they do not have a single fixed coupon rate or a single fixed maturity. It would not be possible without formidable labor to calculate weighted average yields and maturity for such offerings. A convertible (Item 6) is, in effect, part bond and part stock, and inasmuch as the subject of this area of the study is debt offerings, convertibles are excluded. Item 7 is excluded because details on flotation costs for issues less than \$500,000 of par amount for manufacturings and commercials and for issues less than \$1,000,000 of par amount for public utilities are not available. Item 8 is excluded because yields on public issues rated Ba and less than Ba are difficult to obtain. Item 9 is excluded because it is felt that a firm with a net worth of less than \$1,000,000 is more likely to be a poor risk for an issue of \$500,000 or more.

Thus this area of the study is concerned with the new straight corporate debt offerings, sold for cash in private to the institu-

tional investors, of face amount \$500,000 or more, rated Baa or better.

The number of issues selected here for cost analysis that meet the selection criteria laid out above are 421 in 1962 and 515 in 1966 for manufacturing, public utility, and commercial groups all together. These issues represent roughly 35.0 per cent of all private debt issues in 1962 and 36.0 per cent in 1966.¹ Of 421 issues studied in 1962, 215 are manufacturing, 91 public utility and 115 commercial placements. In 1966 for a total of 515 issues studied, 315 are manufacturing, 95 public utility, and 105 commercial company placements. By dollar amount, the private debt issues selected for cost analysis represent roughly \$2.8 billion out of total debt placements of \$5.7 billion in 1962 and \$4.8 billion out of total debt placements of \$10.0 billion in 1966.² On a percentage basis the dollar amounts are 49.1 per cent and 48.0 per cent respectively.

When the proportions of the dollar volume of the issues studied for cost analysis are calculated for each of the three industry groups separately, the percentage figures are sufficiently high (Table 17). This is true because there are more industry groups in the total than the three included in this study. By dollar volume more than three-quarters of the private debt issues are covered in the cost analysis for

¹Investment Dealers' Digest, op. cit., p. 121. The total number of private debt issues are 1199 in 1962 and 1437 in 1966.

²Ibid., The data on dollar volume of private placements given by the Investment Dealers' Digest differ from the data given by SEC.

Table 17

Proportion of Private Debt Issues Used
for Purpose of Cost Analysis to
Individual Industry Total,
1962 and 1966
(In Dollar Volume)

Industry	1962		
	Total Private Debt Amount (\$ Millions)	Dollar Volume of the Issues Selected for Cost Analysis (\$ Millions)	Proportion of the Dollar Volume of Issues under Study to Total Private Debt %
Manufacturing	2,118	1,837	86.7
Public Utility	527	475	90.1
Commercial	504	457	90.6

Table 17--Continued

Total Private Debt Amount (\$ Millions)	1966	
	Dollar Volume of the Issues Selected for Cost Analysis (\$ Millions)	Proportion of the Dollar Volume of Issues Under Study in Proportion to Total Private Debt %
4,345	3,707	85.5
688	643	93.6
570	438	77.0

Sources: Investment Dealers' Digest, op. cit., p. 121.

Securities and Exchange Commission.

Appendix C.

each industry group. These proportions are, however, rough approximations. The Investment Dealers' Digest gives only the total dollar volume of private placements annually for all industries. The SEC breaks down the total dollar volume by industry. Each industry's share of the IDD total figure of debt placements is obtained by multiplying the percentage of each industry's dollar volume in the SEC total by the total dollar volume of private debt issues as given by IDD.

Tables 18 and 19 show the proportion of private debt issues selected for cost analysis as they are distributed in number and dollar volume by issue size group for manufacturing, public utility, and commercial groups in 1962 and 1966. The major proportion of private debt issues by number is concentrated in smaller issue size groups as against the concentration of a large proportion of issues by dollar volume in larger issue size groups.

Tables 20 and 21 show the distribution of issues by quality for manufacturing, public utility and commercial groups in 1962 and 1966. The proportion of private debt issues in lower qualities is high for both years, this being more true with manufacturing and commercial firms than with the public utility firms.

Tables 22 and 23 show the distribution of these issues for the three industry groups by maturity of the issue in 1962 and 1966. The proportion of private debt issues, which have maturity less than 20 years, is significantly high for manufacturings and commercials.

Table 18

Proportion of Privately-Placed Debt Issues in Each Issue
Size Group for Manufacturing, Public Utility,
and Commercial, 1962

Issue Size (\$ Millions)	Manufacturing ¹		Public Utility ²		Commercial ³	
	No. of Issues	Dollar Amount in 1,000's	No. of Issues	Dollar Amount in 1,000's	No. of Issues	Dollar Amount in 1,000's
0.5 - 0.9	42 (19.5)	28,002 (1.5)			19 (16.5)	13,350 (2.9)
1.0 - 1.9	44 (20.5)	55,298 (3.0)	30 (33.0)	38,650 (8.1)	33 (28.7)	42,420 (9.3)
2.0 - 4.9	50 (23.2)	143,637 (7.8)	29 (31.8)	88,220 (18.6)	33 (28.7)	96,402 (21.1)
5.0 - 9.9	31 (14.4)	208,882 (11.4)	20 (22.0)	123,600 (26.0)	17 (14.8)	108,100 (23.6)
10.0 - 19.9	18 (8.4)	226,565 (12.3)	7 (7.7)	82,900 (17.4)	11 (9.6)	142,500 (31.2)

Table 18--Continued

Issue Size (\$ Millions)	Manufacturing ¹		Public Utility ²		Commercial ³	
	No. of Issues	Dollar Amount in 1,000's	No. of Issues	Dollar Amount in 1,000's	No. of Issues	Dollar Amount in 1,000's
20.0 - 49.9	21 (9.8)	600,200 (32.8)	5 (5.5)	142,000 (29.9)	2 (1.7)	54,500 (11.9)
50.0	9 (4.2)	574,000 (31.2)				
Total	215 (100.0)	1,836,603 (100.0)	91 (100.0)	475,370 (100.0)	115 (100.0)	457,272 (100.0)

Note: Percentages shown in brackets.

Source: ¹Sections C-1 to C-7, Appendix C.

²Sections C-8 to C-12, Appendix C.

³Sections C-13 to C-18, Appendix C.

Table 19

Proportion of Privately-Placed Debt Issues in each Issue
Size Group for Manufacturing, Public Utility,
and Commercial, 1966

Issue Size (\$Millions)	Manufacturing ¹		Public Utility ²		Commercial ³	
	No. of Issues	Dollar Amount in 1,000's	No. of Issues	Dollar Amount in 1,000's	No. of Issues	Dollar Amount in 1,000's
0.5 - 0.9	59 (18.7)	37,629 (1.0)			27 (25.7)	18,533 (4.2)
1.0 - 1.9	59 (18.7)	74,847 (2.0)	28 (29.5)	37,322 (5.8)	26 (24.7)	32,760 (7.5)
2.0 - 4.9	69 (21.9)	211,023 (5.7)	29 (30.5)	79,750 (12.4)	29 (27.6)	82,245 (18.8)
5.0 - 9.9	44 (14.0)	263,900 (7.2)	17 (17.9)	118,968 (18.5)	13 (12.4)	81,200 (18.5)
10.0 - 19.9	35 (11.2)	460,750 (12.4)	13 (13.7)	170,000 (26.4)	5 (4.8)	79,250 (18.1)

Table 19--Continued

Issue Size (\$Millions)	Manufacturing ¹		Public Utility ²		Commercial ³	
	No. of Issues	Dollar Amount in 1,000's	No. of Issues	Dollar Amount in 1,000's	No. of Issues	Dollar Amount in 1,000's
20.0 - 49.9	30 (9.5)	719,750 (19.4)	7 (7.4)	187,000 (29.1)	5 (4.8)	144,200 (32.9)
50.0+	19 (6.0)	1,939,000 (52.3)	1 (1.0)	50,000 (7.8)		
Total	315 (100.0)	3,706,899 (100.0)	95 (100.0)	643,040 (100.0)	105 (100.0)	438,188 (100.0)

Note: Percentages shown in brackets.

Source: ¹Sections C-19 to C-25, Appendix C.

²Sections C-26 to C-31, Appendix C.

³Sections C-32 to C-37, Appendix C.

Table 20
Number of Privately-Placed Debt Issues
by Quality and Industry Group, 1962

Quality of the Issue	Manufacturing ¹	Public Utility ²	Commercial ³
Aaa	4 (1.9)	3 (3.3)	
Aa	17 (7.9)	22 (24.2)	9 (7.8)
A	51 (23.7)	23 (25.3)	13 (11.3)
Baa	143 (66.5)	43 (47.2)	93 (80.9)
Total	215 (100.0)	91 (100.0)	115 (100.0)

Note: Percentages shown in brackets.

Source: ¹Sections C-1 to C-7, Appendix C.

²Sections C-8 to C-12, Appendix C.

³Sections C-13 to C-18, Appendix C.

Table 21
 Number of Privately-Placed Debt Issues
 by Quality and Industry Group,
 1966

Quality of the Issue	Manufacturing ¹	Public Utility ²	Commercial ³
Aaa	11 (3.5)	3 (3.2)	
Aa	36 (11.4)	21 (22.1)	5 (4.8)
A	75 (23.8)	27 (28.4)	22 (20.9)
Baa	193 (61.3)	44 (46.3)	78 (74.3)
Total	315 (100.0)	95 (100.0)	105 (100.0)

Note: Percentages shown in brackets.

Source: ¹Sections C-19 to C-25, Appendix C.

²Sections C-26 to C-31, Appendix C.

³Sections C-32 to C-37, Appendix C.

Table 22
Number of Privately-Placed Debt Issues by
Maturity and Industry Group, 1962

Maturity of the Issue	Manufacturing ¹	Public Utility ²	Commercial ³
0 - 4	1 (0.5)		
5 - 9	3 (1.4)	1 (1.1)	3 (2.6)
10 - 14	57 (26.5)	3 (3.3)	31 (27.0)
15 - 19	112 (52.1)	4 (4.4)	56 (48.7)
20 - 24	31 (14.4)	17 (18.7)	19 (16.5)
25	11 (5.1)	66 (72.5)	6 (5.2)
Total	215 (100.0)	91 (100.0)	115 (100.0)

Note: Percentages shown in brackets.

Source: ¹Sections C-1 to C-7, Appendix C.

²Sections C-8 to C-12, Appendix C.

³Sections C-13 to C-18, Appendix C.

Table 23

Number of Privately-Placed Debt Issues by
Maturity and Industry Group, 1966

Maturity of the Issue	Manufacturing ¹	Public Utility ²	Commercial ³
0 - 4	2 (0.6)		
5 - 9	7 (2.2)		5 (4.8)
10 - 14	73 (23.2)	2 (2.1)	30 (28.5)
15 - 19	151 (47.9)	6 (6.3)	49 (46.7)
20 - 24	67 (21.3)	17 (17.9)	13 (12.4)
25	15 (4.8)	70 (73.7)	8 (7.6)
Total	315 (100.0)	95 (100.0)	105 (100.0)

Note: Percentages shown in brackets.

Source: ¹Sections C-19 to C-25, Appendix C.

²Sections C-26 to C-31, Appendix C.

³Sections C-32 to C-37, Appendix C.

This has been the case in 1962 and 1966 as well. For utilities, issues with a maturity of 25 years and over represent more than 70 per cent in both years.

Why Study Individual Companies

No study so far has been made regarding the effective cost on private placements. Professor Cohan made a detailed study on yields on corporate debt directly placed. Cohan's study is an aggregate analysis of corporate bond yields for the time period 1951-1961. Aggregate analysis is useful in presenting an overall picture of the changes in yields, but it is not useful in evaluating the effective cost position specifically. To do that, the study of individual companies would seem to give better results.

The primary determinants of yield on privately-placed debt issues, in order of their importance, were, according to Cohan, the size of the company, as measured by total capital, and the earnings before interest and taxes.¹ His study further reveals that the influence of term to maturity on yield is one of the most difficult to unravel for many reasons. Maturity affects yield in a variety of ways, some of these even being in opposite directions, hence tending to cancel each other. The association between maturity and yield is often nonlinear and difficult to identify.² However, maturity of the issue is one of the determinants of "r," the internal rate of return as is shown later in

¹Cohan, Yields, p. 18.

²Ibid., p. 78.

this chapter. This "r" tells whether the firm has any cost advantage in going private instead of public.

Effective Cost Analysis: Determination of "r"

It may be recalled that effective cost is made up of two elements: (a) cost of flotation and (b) yield to maturity. Information on cost of flotation is obtained from the study made by the Securities and Exchange Commission on the cost of flotation of securities sold publicly and privately for the period 1951-1953-55. Although the study covered only the years 1951-1953-55, several works indicate that the conclusions arrived at by the Securities and Exchange Commission in its study of June, 1957, are applicable even for recent years.¹ The SEC data indicate that in all comparable size classes, the cost of selling debt issues in a private market is less than the cost of selling a similar size issue to the public through an underwriter. This differential cost advantage in terms of percentage figures is particularly larger for smaller issues, diminishing gradually as the size of issue increases. The flotation cost differential in favor of private placements is quite sizeable for manufacturings and commercials compared to utilities, although the differential diminishes as the size of issue increases (see Table 24).

Flotation cost is only a part of the effective cost of the debt issue. Yield to maturity is probably the most important component.

¹Federal Reserve Bank of Cleveland, Economic Review, March, 1965, p. 8.

Table 24

Comparative Costs of Floating Corporate Debt Securities
 Publicly and Privately, Classified by Size of
 Issue and Industry of Issuer, 1951,
 1953 and 1955
 (Percent of Proceeds)

Size of Issue (\$ Millions)	Manufacturing			Public Utility		
	Public	Private	Cost Differential	Public	Private	Cost Differential
0.5 - 0.9	12.12	2.07	10.05		2.30	
1.0 - 1.9	9.03	1.48	7.55	5.00	1.72	3.28
2.0 - 4.9	6.16	1.08	5.08	2.23	1.43	0.80
5.0 - 9.9	3.47	0.71	2.76	1.52	0.93	0.59
10.0 - 19.9	2.34	0.55	1.79	1.28	0.82	0.46
20.0 - 49.9	1.71	0.46	1.25	1.20	0.61	0.59
50.0 and over	1.30	0.46	0.84	1.15	0.61	0.54

Table 24--Continued

Size of Issue (\$ Millions)	Commercial		Cost Differential
	Public ¹	Private	
0.5 - 0.9	10.54	1.98	8.56
1.0 - 1.9	6.94	1.63	5.31
2.0 - 4.9	6.26	0.95	5.31
5.0 - 9.9	3.35	0.86	2.49
10.0 - 19.9	1.97	0.85	1.12
20.0 - 49.9	1.74	0.31	1.43
50.0 and over	1.15	0.31	0.84

¹Commercial and miscellaneous are shown under "other" in SEC study.

Source: SEC, Cost of Flotation, Table 2, p. 38; Table 22, p. 64; Table 24, p. 67.

Yield determination on each private debt issue is thus important. Each private issue selected for cost analysis is identified with one of the first four quality ratings, Aaa, Aa, A and Baa, that are used by Moody's for public issues. The procedure followed by the author to determine the quality ratings of private issues is discussed later in this chapter, and in the preface to Appendix B as well. Yields on the above ratings for publicly sold debt securities are obtained from Moody's.

In a private placement, the institutional investor pays a price of 100 per cent to the face value of the bond or note used by the firm for raising new funds.¹ Institutional investors bargain for higher coupon rate on private placements than on comparable quality of public issues.² Yield on a private issue is obtained by relating the coupon rate to the net proceeds of private issue to the company after deducting the financing expenses. The yield figure on a private issue, when subtracted from the yield on a comparable quality of public issue, would give the yield differential. This differential when multiplied with the net proceeds of private issue to the company gives the differential interest cost the corporate issuer will have every year by going private instead of public.

¹Schedule D-Part 3 of Annual Statements of Life Insurance Companies for the years 1962 and 1966 filed with the Insurance Department of the State of North Carolina, Raleigh. Roughly 95 per cent of the corporate issues bought by the life insurance companies direct were at 100 per cent of the face value of bonds. The nation's life insurance companies provide perhaps more than 90 per cent of private placement funds. Cohan, Yields, p. 28.

²Lindsay and Sametz, op. cit., p. 450.

In cases where the yield on a private issue is less than what the yield would have been if it had been sold public, the firm has an absolute cost advantage in the private placement market. An absolute cost advantage which is identified with the + sign for "r" in the cost data (Appendix C) indicates that the firm has flotation cost saving and interest cost saving as well for having had the private sale instead of the public sale of its securities. But in cases where the yield on a private issue is more than the yield would have been in the public market, the question is whether the flotation cost saving enjoyed by the firm in going private is more (or less) than the present value of future additional interest cost amounts that the firm will incur over the life of the issue, when discounted at some appropriate rate.

For the purpose of cost analysis, efforts are made here to calculate the value of "r," the discount rate which equates the present value of future additional interest cost amounts with the present flotation cost saving. This step is carried to each private debt issue with the suggested exclusions among manufacturing, public utility, and commercial company placements for 1962 and 1966. The major particulars of the effective cost calculations are shown in the Appendix C. To facilitate the discussion here of the process followed in deriving the value of "r" for cost analysis, a specific example of a private issue is given.

The selected example is the debt issue sold by the General Electric

Company in 1966 direct to the institutional investors.¹ The quantitative results in this example are presented in Table 25 in summary form. The steps followed to derive the value of "r" in this specific case are presented later in this chapter. In the following paragraphs, an explanation of each of the major terms that appear in the table is presented.

Size of Issue: The size of issue is the principal amount of the offering.

Quality: All private debt issues selected for purpose of cost analysis in manufacturing, public utility, and commercial groups have been classified by quality according to Moody's rating at public offering into one or another of the following grades: Aaa, Aa, A and Baa. In determining the quality rating of a private issue, the author relied primarily on the credit rating assigned to the company (issuer) by Dun & Bradstreet in their reference books. The similarity of Dun & Bradstreet and Moody's ratings cannot be denied. It is the purpose for which these two types of ratings are used that differs; nevertheless, the basis of their determination is more or less the same (see Appendix B, pages 263, 264). Dun & Bradstreet indicate that companies rated "high" in Dun & Bradstreet would tend to carry the higher ratings (Aaa and Aa) in Moody's, and companies rated "good" in Dun & Bradstreet would tend to carry the average ratings (A and Baa) in Moody's (see Appendix B, pages 262-264).

¹Investment Dealers' Digest, op. cit., p. 104.

Table 25

Calculation of "r" for General Electric
Company's Private Debt Issue Sold in
1966

Name of the Company	Size of Issue (\$)	Quality	Coupon Rate	Perent Flotation Cost Saving to Issuer	Flotation Cost Saving (\$)
1	2	3	4	5	6 (= 2 X 5)
General Electric	125,000,000	Aaa	5.75	0.84	1,050,000

Net Proceeds at 100 Par on Private Issue to the Company	Net Proceeds of the Issue to the Company	Yield on Private Placement	Average Yield on Public Issue of Similar Quality	Yield Differential
7	8 (= 2 X 7)	9 (= 4 ÷ 7)	10	11 (= 9 - 10)
99.54	124,425,000	5.78	5.12	0.66

Table 25--Continued

Annual Additional Interest Cost to the Firm (\$) 12 (= 8 X 11)	Present Value Factor 13 (= 6 ÷ 12)	Maturity of the Issue in Years 14	"r" (Internal Rate of Return) % 15
821,205	1.28	25	> 50.0

In addition to the ratings obtained from Dun & Bradstreet, the writer depended on a few other factors that are felt to have some bearing on the yield of a private issue. Recalling Cohan's findings, one is reminded that the most significant yield determining variables are the size of the company (as measured by total capital) and earnings before interest and taxes. The industry nature and issue size are also indicated. Thus, major reliance is placed on size of the company, size of issue, and nature of the industry, in addition to the Dun & Bradstreet rating, while assigning a rating, identical to one of Moody's first four quality ratings, to each of the private debt issues selected for cost analysis in this study. Size of the company, even though not a good measure of the credit position of the company, is broadly accepted as a factor having some bearing on the yield of the issue. It is indicated that institutional investors feel more comfortable to consummate a private placement with a large company rather than a small company.¹

The asset size classifications used for different ratings on private issues are shown in Table 26. These classifications are established roughly approximating the mean values used by Cohan to determine the yields on private placements by quality class. These mean values for different industries differ.

Size of the issue is also used to make sure that the new issue will not disturb certain acceptable relationships between the long

¹Cohan, Yields, p. 34.

term debt after the sale of issue and the total capital. It is felt that issues of manufacturing and commercial companies whose long term debt will be more than $1/3$ of the total capital can be rated less than Baa. For public utilities this ratio is used as 0.50.

Finally, all issues have been classified for rating by type of business of the issuer. The average quality of one industry issue may be above or below the average quality of another industry issue. For example, the average quality of a manufacturing issue may be above the average quality of a commercial issue. In Moody's, the highest rating assigned to any commercial issue is Aa. The highest rating assigned to a commercial private issue in this study is also Aa (see Table 26). Even among the utilities, distinctions have been made between the water companies and the rest. Table 26 shows the basis of classifying a private issue, once it has met the selection criteria, laid out above, into one or the other of the four quality ratings, Aaa, Aa, A, and Baa.

Percent Flotation Cost Differential: The percent of flotation cost differential refers to the percentage cost difference between the two costs of floating debt securities publicly and privately. The flotation cost savings are converted into dollar amounts by multiplying the percentage by the size of the issue.

Yield Differential: The yield differential is the difference between the yield to maturity on a particular private issue and the yield to maturity on the issue if it were sold as a public offering. Thus the same issue is being compared with itself. The yield

Table 26

The Basis of Classifying a Private Issue into
one or the Other of the Four Quality
Ratings Aaa, Aa, A, and Baa

<u>Industry</u>	Dun & Bradstreet Rating of the Company		
Size of the Company (in \$ Million)	High	Good	
<hr/>			
Manufacturing			
500.0 +	Aaa		
<500.0		Aa	
100.0 +			A
<100.0			Baa
<hr/>			
<u>Public Utility</u>			
Electric, gas & Telephone Co.			
200.0 +	Aaa		
<200.0		Aa	
50.0 +			A
<50.0			Baa
Water Co.			
20.0 +	Aaa		A
<20.0		Aa	Baa
<hr/>			
Commercial			
100.0 +	Aa		
<100.0		A	
All			Baa

differentials are obtained by issue quality separately for manufacturing, public utility, and commercial placements. A positive residual means that the computed yield on the private placement is higher than the yield on the issue if it were sold public. The positive residual gives the additional interest cost the firm would incur every year during the life of the issue by going into the private placement market instead of the public market, when multiplied with the net proceeds of the private issue to the company.

Present Value Factor: The present value factor is the figure obtained by dividing the initial flotation cost saving to the firm with the additional interest cost that the firm would incur each year over the life of the issue by going private instead of public.

Maturity: Maturity refers to the number of years to the nearest whole year from the date of offering to maturity.

"r": The term "r" is the internal rate of return or discount-rate which equates the present value of future additional interest costs to the firm with the present flotation cost saving to the firm. the value of "r" is obtainable from a present value table of an annuity of one dollar when the present value factor and the maturity of the issue are known. This "r" is important to the financial management of business firms to signify which method of fund raising, private sale or public sale of securities, is preferred in terms of total cost. The following section will tell exactly how the value of "r" is obtained for the General Electric issue.

Steps Followed to Calculate "r" for
the General Electric Issue as
Shown in Table 25

To arrive at "r" for the General Electric private debt issue, the author first calculated the flotation cost saving and the annual differential interest cost to the firm on that particular issue. The size of the debt issue in this case is \$125,000,000 (column 1). The per cent of flotation cost saving to the company for having gone into the private placement market instead of the public market is 0.84¹ (column 5). When this percentage figure is multiplied by the size of the issue, the dollar volume of the flotation cost saving is obtained. It amounts to \$1,050,000 (column 6).

The yield on the private issue is obtained by dividing the coupon rate 5.75 (column 4) by 99.54 (column 7) which is the net proceeds at 100 par on the issue to the General Electric Company. This yield figure is 5.78 (column 9). The issue could have been sold publicly for 66 basis points less (column 11). This yield differential when multiplied with the net proceeds of the private issue to the company, which is \$124,425,000 (column 8), gives the annual additional interest cost to the company over the life of the issue. This annual additional interest cost is \$821,205 (column 12).

Thus in this specific issue case Cs (as used in the cost model)

¹The cost of selling the issue of its size in public is 1.30 per cent of the issue size in dollar volume and cost of selling the same issue in private placement is 0.46 per cent (see Table 24, p. 90).

is \$1,050,000 and IRs (as used in the model) is \$821,205. When IRs is divided into Cs the present value factor which is

$$\sum_{t=1}^n \frac{1}{(1+r)^t}$$

in the model is obtained. The present value factor is 1.28 (column 13). The maturity of the issue in years is 25 (column 14). Knowing these two figures "r" value is obtained from the present value table of an annuity of one dollar. The value of "r" (internal rate of return) to the General Electric Company on this specific issue is more than 50.0 per cent (column 15).

The summary results of the cost analysis are presented in Tables 1 to 86 in Appendix A. Tables 1 to 43 show the cost results by quality of issue for different issue size groups in manufacturing, public utility, and commercial. The different issue size groups are \$0.5 - 0.9, \$1.0 - 1.9, \$2.0 - 4.9, \$5.0 - 9.9, \$10.0 - 19.9, \$20.0 - 49.9, \$50.0 and over in millions. Tables 44 to 86 show the cost results by maturity of issue. The cost results are expressed in terms of number and proportion of privately-placed debt issues. The tables are made separately for 1962 and 1966.

Limitations of the Study

It should be noted that in carrying out the present study, the author noted several limitations for the purpose of cost analysis. The following are felt to be the most significant limitations.

Cost of Flotation

Costs of floating debt issues in public and private markets as obtained from the SEC study of 1957 are not for specific sizes of individual issues, such as \$1.0 million or \$1.5 million precisely, but are averages for issues falling within certain issue size groups, such as \$1.0 - \$1.9 million or \$2.0 - \$4.9 million. The weaknesses of using these averages for specific cases as in this study are to be noted.

The SEC data on cost of flotation, referred to above also suffer from the following defects: first, they are available only for scattered years and, second, they are based on untested assumptions as to those characteristics of a bond which are relevant to variations in cost of flotation. The latter defect means that a system of cross classification such as that used by the SEC based on size of offering and industry of issuer simply assumes that changes in such things as quality rating, yield, maturity, and type of transaction are not relevant to changes in cost of flotation. This assumption may be questionable, but the data given by the SEC is the best available

Quality of Debt Issues

Quality has a direct effect on the cost of debt. As an aid, we can use the quality ratings assigned to debt securities by Standard and Poor's Corporation or Moody's Investors Service. Rating signifies the quality or inherent risk in a security. Ratings are a result of judgment based on a careful study of different facts which have both a direct and indirect effect on the quality of a company's securities.

They are not an exact guide to quality because they cannot be determined on a mathematical basis, but the long experience of the credit rating agencies minimizes the possibility of error.

All selected private debt issues in manufacturing, public utility, and commercial groups for the years 1962 and 1966 are identified with one or other of the first four quality ratings that are used by Moody's for public issues. The ratings assigned to private issues are based primarily on a combination of two elements, (1) asset size of the company and (2) the credit rating given by Dun & Bradstreet. The factors on which these ratings are based are more or less the same on which Moody's relies to determine its ratings on bond issues. The number of quality classifications made on 100's of these issues is also the same. Thus, the same limitations stated below concerning Moody's ratings might be applicable as well to the ratings assigned to the private debt issues in the study:

Bonds carrying the same ratings are not claimed to be of absolutely equal quality. In a broad sense they are alike in position, but since these are only few rating classes used in grading thousands of bonds, it follows that the symbols cannot reflect the fine shadings of risks which actually exist. Therefore, it should be evident . . . that two bonds identically rated are most unlikely to be precisely identical in quality.¹

After the private issues are identified with one or other of the four quality ratings the yield differential for each issue is calculated. The yield differential is the difference between the yield to maturity

¹Moody's Industrial Manual, "Moody's Bond Ratings," Moody's Investors Service, Inc., New York, June, 1967, p. V.

on the private issue and the yield to maturity on the issue if it had been sold public. Yields for different quality ratings of publicly sold issues as obtained from Moody's are used in place of what the yields would have been if the private issues had been sold public. Yield figures as obtained from Moody's are averages, and hence the defects involved in using these averages for specific cases are to be noted.

This methodology, with the limitations stated, was followed in this study for cost analysis.

CHAPTER VI

EFFECTIVE COST OF PRIVATE PLACEMENTS: ANALYSIS AND CONCLUSIONS

This chapter presents an analysis of the results of the cost calculations made on each of the private debt issues studied. The related tables are shown in Appendix A. The cost analysis for each issue size group is presented first by quality of issue and then by maturity of issue, separately, for manufacturing, public utility, and commercial company placements. Tables in Appendix A are numbered from A-1 to A-86. Throughout this chapter hereafter, reference to the tables is made by their number without reference to the appendix.

Cost Analysis by Quality of Issue

Manufacturing

Tables A-1 and A-2 show the results of the cost analysis made for manufacturing issues of sizes ranging from \$0.5 million to \$0.9 million for 1962 and 1966. There are no issues in this size range for 1962 and 1966 in Aaa quality. There are two issues of Aa quality in 1962 and one with "r" value of less than 1.0 per cent and the other with "r" value of 13.9 per cent. Of quality A, there are two issues, both with "r" value of 12.6 per cent. In 1966 out of six quality A issues, four have "r" value of less than 5.0 per cent and the other two have "r" values of 10.4 and 13.9 per cent. In 1962,

for a total of 38 Baa quality issues, 79.0 per cent have "r" value of less than 10.0 per cent, 18.4 per cent have "r" value of between 10.0 and 14.9 per cent, and 2.6 per cent have "r" value of between 15.0 and 19.9 per cent. Compared to this, out of 53 issues in 1966, 86.8 per cent have "r" value of less than 5.0 per cent, 11.3 per cent have "r" value of between 5.0 and 9.9 per cent, and 1.9 per cent have "r" value of between 10.0 and 14.9 per cent.

For the same issue size group in 1962, out of 42 issues of all qualities studied, 35.7 per cent have "r" value of less than 5.0 per cent as against 84.7 per cent in 1966, and 73.8 per cent have "r" value of less than 10.0 per cent in 1962 as against 94.9 per cent in 1966. Issues showing "r" value of greater than 10.0 per cent are 26.2 per cent in 1962 and 5.1 per cent in 1966. Thus the effective cost on private issues of issue size group \$0.5 - \$0.9 million was lower in both years than if they had been sold in the public offering market.

Tables A-3 and A-4 show the results of cost analysis made for issue sizes of \$1.0 million to \$1.9 million. There are two Aa quality issues in 1962 with their "r" values being 14.0 and 24.7 per cent. For quality A in 1962, eight out of nine issues studied have "r" value of more than 10.0 per cent as against only three out of a total of thirteen in 1966. For quality Baa 54.6 per cent of the issues studied for 1962 have "r" value of more than 10.0 per cent as against 4.4 per cent in 1966. For issues of all qualities, 13.6 per cent have "r" value of less than 5.0 per cent, 22.7 per cent have "r" value of between 5.0 and 9.9 per cent, 63.7 per cent have "r" value of greater than 10.0 per cent in 1962 as against 67.8 per cent of issues with "r" less than

5.0 per cent, 23.7 per cent have "r" value of between 5.0 and 9.9 per cent, and 8.5 per cent have "r" value of greater than 10.0 per cent in 1966. Thus issues of this size group had lower effective cost in 1966 than in 1962.

Tables A-5 and A-6 show the results for issue sizes of \$2.0 million to \$4.9 million. There was no issue in Aaa or Aa quality in 1962. There were five issues of Aa quality in 1966 of which three have "r" greater than 10.0 per cent. For quality A in 1962, 12 out of 13 have "r" of more than 10.0 per cent. In 1966, 64.3 per cent of the issues have "r" value of less than 10.0 per cent. For quality Baa, 18.9 per cent of issues have "r" of less than 10.0 per cent in 1962 as against 88.0 per cent in 1966. For issues of all qualities in this size group, only 16.0 per cent have "r" value of less than 10.0 per cent in 1962 against 79.7 per cent in 1966.

Tables A-7 and A-8 show the results for issue size \$5.0 million to \$9.9 million. Two Aa quality issues studied for 1962 have "r" value of greater than 50.0 per cent. In 1966, six out of nine Aa issues studied have "r" value of less than 10.0 per cent. For quality A, 17 out of 18 issues studied for 1962 have "r" value of greater than 20.0 per cent. In 1966 for the same quality issues, 58.8 per cent have "r" value of less than 10.0 per cent. For Baa quality issues in 1962, 27.3 per cent of issues have "r" of less than 10.0 per cent as against 72.0 per cent in 1966. For issues of all qualities in this size group, 12.9 per cent have "r" of less than 10.0 per cent in 1962 as against

66.0 per cent in 1966. Thus for the above two issue size groups, \$2.0 - \$4.9 and \$5.0 - \$9.9 million, this analysis shows that issues sold in 1962 had greater effective cost than if they were sold public, and issues sold in 1966 had lower effective cost than if they were sold public assuming the cut-off value of "r" as 10.0 per cent.

Tables A-9 and A-10 show the results for issue size \$10.0 million to \$19.9 million. In 1962 for quality Aa, all four issues studied have "r" of greater than 50.0 per cent. For quality A, all three issues studied have "r" of greater than 25.0 per cent. In 1966, 60.0 per cent of the issues of Aa quality have "r" of greater than 10.0 per cent. For quality A issues this percentage is 86.7. For Baa quality issues eight out of ten issues studied for 1962 have "r" of more than 10.0 per cent. In 1966, there are five out of nine with "r" value of more than 15.0 per cent.

For issues of all qualities in this size group three out of eighteen issues have "r" of less than 10.0 per cent in 1962 as against ten out of 35 issues in 1966. Thus issues having "r" value of greater than 10.0 per cent are 83.2 per cent in 1962 and 71.4 per cent in 1966. These observations are somewhat different from those made on issues belonging to smaller issue size groups of less than \$10.0 million. The cost differential for issues of size group \$10.0 - \$19.9 million, however, narrowed down between 1962 and 1966 as in the case of smaller issue size groups. But for the issue size group \$10.0 million to \$19.9 million, there is a greater proportion of issues with "r" of more than 10.0 or even 15.0 per cent for both 1962 and 1966 in contrast with the

findings made for smaller issue size groups. Thus assuming the cut-off value of "r" as 10.0 per cent, the effective cost on private issues of more than \$10.0 million in size was greater than if they had been sold in the public offering market in both 1962 and 1966.

Tables A-11 and A-12 show the results of the cost analysis for issue size group \$20.0 - \$49.9 million. In 1962, for qualities Aaa, Aa and A, all issues studied have "r" of greater than 25.0 per cent. For Baa quality, eight out of twelve issues studied have "r" of greater than 25.0 per cent and the rest have "r" of less than 5.0 per cent. In 1966 roughly 67.0 per cent of issues of the first three quality ratings have "r" of greater than 10.0 per cent. For Baa, however, only 35.7 per cent of issues studied have "r" of greater than 10.0 per cent. For issues of all qualities in this size group, a larger proportion of issues have "r" value of more than 10.0 per cent or even 15.0 per cent in both years 1962 and 1966. Thus the effective cost on these issues was more in both years. Also higher rated issues had greater effective cost than lower rated issues.

Tables A-13 and A-14 show the results of the cost analysis made for issues of \$50 million and over in size. These tables reveal similar conclusions as derived from Tables A-11 and A-12. This indicates that even though the cost differential between public and private issues has declined for all issue sizes in manufacturing between 1962 and 1966, the proportion of issues with "r" value of greater than 10.0 or even 15.0 per cent is much larger for issue sizes of \$10 million and over than for issue sizes of less than \$10 million. This higher

"r" value for a greater proportion of issues in the larger issue size groups has been the case for both years, even though the magnitude of the proportion of issues with "r" of greater than 10.0 per cent was less in 1966 compared to 1962. This clearly indicates that private placements have not been attractive for issues of more than \$10 million in manufacturing.

Tables 27 and 28 summarize the results of the cost analysis for the debt issues of all sizes in manufacturing. These results are, however, repeated in Tables A-15 and A-16 of Appendix A. For qualities Aaa and Aa, issues having "r" value of more than 10.0 per cent account for more than 75.0 per cent in 1962 and roughly 60.0 per cent in 1966. For quality A, 92.1 per cent have "r" of more than 10.0 per cent in 1962 as against 49.3 per cent in 1966. For Baa issues 57.3 per cent have "r" of more than 10.0 per cent in 1962 as against 14.0 per cent in 1966. This clearly indicates that private placements have higher effective cost on issues rated Aaa and Aa than if they were sold in the public offering market. The issuer might be better off to sell such higher rated issues in the public market on a low yield basis. Against this, however, private placements have lower effective cost on issues rated A and Baa than if they were sold in the public offering market. For issues of all qualities, 55.4 per cent of 215 manufacturing issues studied have "r" value of more than 15.0 per cent in 1962 as against 22.9 per cent of 315 issues studied in 1966. Thus issues sold in 1962 had greater effective cost in the private placement market than those

Table 27
Effective Cost Analysis of
Manufacturing Private Debt
Issues by Quality, 1962
(Number of Issues)

r %	Quality of the Issue				Total
	Aaa	Aa	A	Baa	
+				5 (3.5)	5 (2.3)
0-4.9		1 (5.9)	3 (5.9)	25 (17.5)	29 (13.5)
5.0-9.9	1 (25.0)		1 (2.0)	31 (21.7)	33 (15.3)
10.0-14.9		2 (11.8)	8 (15.7)	19 (13.3)	29 (13.5)
15.0-19.9			5 (9.8)	23 (16.1)	28 (13.0)
20.0-24.9		1 (5.9)	4 (7.8)	7 (4.9)	12 (5.6)
25.0-49.9	1 (25.0)		25 (49.0)	26 (18.2)	52 (24.2)
50.0+	2 (50.0)	13 (76.5)	5 (9.8)	7 (4.9)	27 (12.6)
Total	4 (100.0)	17 (100.0)	51 (100.0)	143 (100.0)	215 (100.0)

Note: Percentages shown in brackets.

Source: Sections C-1 to C-7, Appendix C.

Table 28
Effective Cost Analysis of
Manufacturing Private Debt
Issues by Quality, 1966
(Number of Issues)

r %	Quality of the Issue				Total
	Aaa	Aa	A	Baa	
+	2 (18.2)	7 (19.4)	6 (8.0)	21 (10.9)	36 (11.4)
0-4.9	2 (18.2)	5 (13.9)	24 (32.0)	118 (61.1)	149 (47.3)
5.0-9.9		3 (8.3)	8 (10.7)	27 (14.0)	38 (12.1)
10.0-14.9	1 (9.1)	3 (8.3)	12 (16.0)	4 (2.1)	20 (6.3)
15.0-19.9		4 (11.1)	5 (6.7)	7 (3.6)	16 (5.1)
20.0-24.9		2 (5.6)	3 (4.0)	3 (1.6)	8 (2.5)
25.0-49.9	3 (27.3)	6 (16.7)	14 (18.7)	7 (3.6)	30 (9.5)
50.0+	3 (27.3)	6 (16.7)	3 (4.0)	6 (3.1)	18 (5.7)
Total	11 (100.0)	36 (100.0)	75 (100.0)	193 (100.0)	315 (100.0)

Note: Percentages shown in brackets.

Source: Sections C-19 to C-25, Appendix C.

sold in 1966 relative to what they would have had in the public offering market.

Conclusions.--The above analysis for manufacturing debt issues reveals that for issues of less than \$2.0 million in size private placements had lower effective cost in both 1962 and 1966. For issues between \$2.0 million and \$10.0 million in size, private placements had lower effective cost in 1966 but not in 1962. But for issues of more than \$10.0 million in size, a larger proportion of them had greater effective cost in 1962 and 1966 as well, though the proportion was much less in the latter year. It may be recalled that by dollar volume roughly two-thirds of the issues were concentrated in issue size groups beyond \$10 million. Thus it is more likely that the private placement market was more costly than the public offering market when the total dollar volume of all private placements is evaluated. Even though this has been the trend in 1962 and 1966, the latter year showed a considerable decline in the effective cost to the issuer on private placements over the former year. The above analysis for manufacturings also reveals that for high quality issues such as Aaa and Aa private placements had greater effective cost than if they had been sold in the public offering market. But a large proportion of private placements in A and Baa ratings had lower effective cost than if they had been sold public. Thus issues rated A and Baa appear to be having a competitive advantage in the private placement market than issues rated Aaa and Aa.

Public Utility

Tables A-17 and A-18 show the results of the cost analysis made for public utility private debt issues of the size group \$1.0 to \$1.9 million. For Aa quality out of four issues studied in 1962, three have "r" of less than 10.0 per cent. In 1966 for the same quality all four have "r" of less than 10.0 per cent. Quality A issues show opposite tendencies for 1962 and 1966 as well. For Baa quality, 38.1 per cent have "r" of less than 10.0 per cent in 1962 as against 83.3 per cent of issues in 1966.

Tables A-19 and A-20 show the results for issue size group \$2.0 million to \$4.9 million. In 1962, for a total of 29 issues in all qualities, 10.3 per cent of them have "r" of less than 10.0 per cent as against 51.7 per cent of 29 issues in 1966. This was the same tendency for each quality class in this issue size group. Thus public utility issues of the above two issue size groups sold in 1966 have a lower effective cost, but not the issues sold in 1962.

Tables A-21 and A-22 show the results for the issue size group \$5.0 million to \$9.9 million. A greater proportion of issues in both years have "r" value of greater than 10.0 per cent; however, the proportion is more significant in 1962. This applies for issues in each quality class as well. Tables A-23 to A-27 indicate that for issues of more than \$10 million in size, a larger proportion have "r" of more than even 15.0 per cent in both 1962 and 1966. Thus, assuming a cut-off value of 10.0 or 15.0 per cent for "r," public utility issues of more than \$5.0 million in size had greater effective cost in both 1962 and 1966.

Conclusions.--The data analyzed above show that public utility issues studied for 1962 have greater effective cost. This has been the case for issues in all size groups. For issues studied in 1966 the effective cost is lower for those of less than \$5.0 million in size. Issues of more than \$5.0 million in size have greater effective cost. Of a total of 91 public utility issues studied for 1962, only 20.9 per cent have "r" of less than 10.0 per cent as against 48.5 per cent of 95 issues studied for 1966 (see Tables 29 and 30). Thus public utility private issues in general had greater effective cost than if they were sold in the public offering market. They would have cost less had they been sold publicly.

Commercial

Tables A-30 and A-31 show the results of the cost analysis for commercial issues of the size group \$0.5 million to \$0.9 million. A large number of issues are of quality Baa and have "r" of less than 10.0 per cent in both years. For issues of all qualities in this size group, 68.4 per cent have "r" of less than 10.0 per cent in 1962 as against 92.6 per cent in 1966. Thus commercial issues of this size group had lower effective cost in both 1962 and 1966.

Tables A-32 and A-33 show the results for issues of \$1.0 million to \$1.9 million. All three quality A issues studied for 1962 have "r" of greater than 10.0 per cent. In 1966, four out of seven have "r" of greater than 10.0 per cent. For Baa issues, 20.7 per cent of them have "r" of less than 10.0 per cent in 1962 as against 63.2 per cent of issues in 1966. The tendency has been similar for issues of all

Table 29
Effective Cost Analysis of Public Utility
Private Debt Issues by Quality, 1962
(Number of Issues)

r %	Quality of the Issue				Total
	Aaa	Aa	A	Baa	
+		3 (13.6)	1 (4.3)		4 (4.4)
0-4.9		3 (13.6)	1 (4.3)	2 (4.7)	6 (6.6)
5.0-9.9		2 (9.1)	1 (4.3)	6 (14.0)	9 (9.9)
10.0-14.9			1 (4.3)	1 (2.3)	2 (2.2)
15.0-19.9		2 (9.1)	3 (13.0)	2 (4.7)	7 (7.7)
20.0-24.9	2 (66.7)	4 (18.2)	1 (4.3)	2 (4.7)	9 (9.9)
25.0-49.9			4 (17.4)	16 (37.2)	20 (22.0)
50.0+	1 (33.3)	8 (36.4)	11 (47.9)	14 (32.5)	34 (37.4)
Total	3 (100.0)	22 (100.0)	23 (100.0)	43 (100.0)	91 (100.0)

Note: Percentages shown in brackets.

Source: Sections C-8 to C-12, Appendix C.

Table 30

Effective Cost Analysis of Public Utility
Private Debt Issues by Quality, 1966
(Number of Issues)

r %	Quality of the Issue				Total
	Aaa	Aa	A	Baa	
+		8 (38.1)	7 (25.9)	24 (54.5)	39 (41.1)
0-4.9			1 (3.7)	2 (4.5)	3 (3.2)
5.0-9.9		3 (14.3)		1 (2.3)	4 (4.2)
10.0-14.9		1 (4.8)	1 (3.7)	5 (11.4)	7 (7.4)
15.0-19.9		2 (9.5)			2 (2.1)
20.0-24.9		1 (4.8)	3 (11.1)		4 (4.2)
25.0-49.9		3 (14.3)	4 (14.8)	4 (9.1)	11 (11.6)
50.0+	3 (100.0)	3 (14.3)	11 (40.7)	8 (18.2)	25 (26.3)
Total	3 (100.0)	21 (100.0)	27 (100.0)	44 (100.0)	95 (100.0)

Note: Percentages shown in brackets.

Source: Sections C-26 to C-31, Appendix C.

qualities in this size group for 1962 and 1966. It can be seen that issues of 1966 had lower effective cost than issues of 1962 in this size group.

Tables A-34 and A-35 show the results for the issue size group of \$2.0 million to \$4.9 million. All seven quality A issues studied for 1962 have "r" value of more than 15.0 per cent whereas in 1966 all four issues studied have "r" of less than 15.0 per cent. But for quality Baa, 65.2 per cent of 23 issues have "r" value of less than 10.0 per cent in 1962 and 87.5 per cent of 24 issues in 1966. For issues of all qualities in this size group, 48.5 per cent of 33 issues have "r" of less than 10.0 per cent in 1962 as against 86.2 per cent of 29 issues in 1966. Thus issues rated Baa had lower effective cost in both years whereas issues rated better than Baa had lower cost in 1966 but not in 1962.

Tables A-36 and A-37 show the results for issue size group \$5.0 to \$9.9 million. For issues in each quality rating as well as for issues of all quality ratings together, the year 1966 was attractive for private placements in comparison with 1962. Of issues studied in 1966, 61.6 per cent of them have "r" of less than 10.0 per cent. In 1962 15 out of 17 have "r" value of greater than 10.0 per cent. Similar readings can be made for Tables A-38 to A-41. Thus for issues of more than \$5.0 million in size private placements had lower effective cost in 1966 but not in 1962, assuming a cut-off value of 10.0 per cent for "r."

Conclusions.--This data therefore shows that the commercial issues sold in 1966 had lower effective cost irrespective of the size of the issue. However, such was not the case in 1962, when only issues in sizes of less than \$5.0 million had lower effective cost. Those above \$5.0 million had higher effective cost. As for quality, issues rated less than high (particularly the Baa quality class) had lower effective cost in the private placement market. Of 115 commercial issues studied for 1962, thirty-three per cent of them had "r" of less than 10.0 per cent as against 74.3 per cent of 105 issues studied for 1966 (see Tables 31 and 32). Thus commercial private issues irrespective of their size had lower effective cost in 1966 but only those of \$5.0 million or less in size in 1962. Thus for commercial issues the private placement market appears to have been offering a competitive advantage over the public offering market in terms of cost.

General Conclusions of the Cost
Analysis by Quality of Issue

The analysis of the cost results for the three industry groups by quality of issue suggests that yields on private placements exceeded in general the yields on public offerings for both 1962 and 1966, even though the differential narrowed down considerably between 1962 and 1966. The manufacturing private placements were attractive in terms of cost for issues of less than \$2.0 million in size for both years under study. For issues between \$2.0 million and \$10.0 million private placements had lower effective cost in 1966 but not in 1962. However, for issues of more than \$10.0 million in size, a larger

Table 31
Effective Cost Analysis of Commercial Private
Debt Issues by Quality, 1962
(Number of Issues)

r %	Quality of the Issue				Total
	Aaa	Aa	A	Baa	
+				2 (2.2)	2 (1.7)
0-4.9		1 (11.1)		16 (17.2)	17 (14.8)
5.0-9.9				19 (20.4)	19 (16.5)
10.0-14.9				8 (8.6)	8 (7.0)
15.0-19.9		1 (11.1)	5 (38.5)	22 (23.7)	28 (24.3)
20.0-24.9		2 (22.2)	3 (23.1)	12 (12.9)	17 (14.8)
25.0-49.9		2 (22.2)	2 (15.4)	8 (8.6)	12 (10.4)
50.0+		3 (33.3)	3 (23.1)	6 (6.5)	12 (10.4)
Total		9 (100.0)	13 (100.0)	93 (100.0)	115 (100.0)

Note: Percentages shown in brackets.

Source: Sections C-13 to C-18, Appendix C.

Table 32
Effective Cost Analysis of Commercial Private
Debt Issues by Quality, 1966
(Number of Issues)

r %	Quality of the Issue				Total
	Aaa	Aa	A	Baa	
+		1 (20.0)	1 (4.5)	13 (16.6)	15 (14.3)
0-4.9		2 (40.0)	7 (31.8)	37 (47.4)	46 (43.8)
5.0-9.9		1 (20.0)	5 (22.8)	11 (14.1)	17 (16.2)
10.0-14.9			5 (22.8)	9 (11.6)	14 (13.3)
15.0-19.9		1 (20.0)	4 (18.1)	4 (5.1)	9 (8.6)
20.0-24.9				4 (5.1)	4 (3.8)
25.0-49.9					
50.0+					
Total		5 (100.0)	22 (100.0)	78 (100.0)	105 (100.0)

Note: Percentages shown in brackets.

Source: Sections C-32 to C-37, Appendix C.

proportion of them had greater effective cost in 1962 and 1966 as well, though the proportion was much less in the latter year. For public utilities, private placements were unattractive from the effective cost point of view for issues of all sizes in 1962. In 1966, public utility private offerings in sizes of less than \$5.0 million did well in terms of effective cost, but those above \$5.0 million were unattractive as in 1962. For commercial issues in sizes of less than \$5.0 million, both years had lower effective cost. But for issues of more than \$5.0 million, private placements had lower effective cost only in 1966.

This analysis of the cost results reveals that private placements were attractive among manufacturing and commercial firms in contrast with public utility firms. The major reason for this may be traced to the flotation cost savings being higher for manufacturings and commercials than for public utilities and to yield differentials being more or less the same for the three industry groups. With flotation cost savings being much smaller for public utilities than for other industry groups, the additional interest costs which the public utilities incur by going private make the private placements less attractive among them in terms of effective cost compared to manufacturings and commercials.

As for quality of issue, private placements in general had lower effective cost on issues rated A and Baa irrespective of the industry type. For issues of qualities Aaa and Aa the private placement market was more costly to issuers than the public offering market. The

issuer might have been better off in terms of effective cost to sell such a high quality issue on a low yield basis in the public offering market.

Cost Analysis by Maturity of Issue

Manufacturing

Tables A-44 to A-59 show the results of the cost analysis for private debt issues by maturity in manufacturing. These tables are prepared separately for 1962 and 1966. For both years, issues in sizes of less than \$5.0 million exhibit some logical relationship between the value of "r," the internal rate of return, and the maturity of issue. This is seen in tables A-44 to A-49 for issue size groups of \$0.5 - 0.9, \$1.0 - 1.9 and \$2.0 - 4.9 million, respectively. For issues of less than \$5.0 million in size, one can see that the value of "r" tends to increase with the increase in the maturity of the issue. So larger values of "r" are associated with longer maturities. This reveals that there is a tendency for the effective cost on privately-placed debt issues to increase with the increase in the maturity of the issue.

But for issues of more than \$5.0 million in size, the cost results of both 1962 and 1966 exhibit no consistent relationship between the value of "r" and the maturity of the issue. Tables A-50 to A-57 show the results of the cost analysis by maturity for issues of size groups \$5.0 - 9.9, \$10.0 - 19.9, \$20.0 - 49.9, and \$50 million and over. Each of these tables reveals that the value of "r" varies with no logical or direct relationship to the maturity of the issue.

However, for larger-sized issues, say issues of more than \$10.0 million in size, the "r" value was high for a greater proportion of issues compared to smaller-sized issues, and thus the effective cost was more. It is also true that larger-sized issues are more often associated with longer maturities. Hence whether the high effective cost on larger-sized issues is due to the longer maturity or larger size of the issue is difficult to tell, but it may be a result of both. From the above cost analysis the impact of maturity on effective cost of the issue is clearly observed in case of smaller-sized issues compared to the larger-sized issues. In spite of no visible relationship between "r" and maturity of the issue for larger-sized issues one can still conclude that the effective cost of a private issue is influenced by changes in the maturity of the issue.

Tables 33 and 34 summarize the results of the cost analysis made on all manufacturing issues by their maturity. These results are plotted with "r" values against maturities of issues as in figures four and five. These figures show that the value of "r" tends to increase with the increase in the maturity of the issue. However, the increase in the value of "r" with the increase in the maturity of the issue is roughly observed up to a certain point in maturity, specifically up to 15 years. For issues with more than 15 years of maturity, the changes in the value of "r" are not consistently explained by the variations in the maturity of the issue. From this it is difficult to tell what maturities of issues fare better in the private placement market as against the public offering market in terms of cost.

Table 33

Effective Cost Analysis of Manufacturing
Private Debt Issues by Maturity, 1962
(Number of Issues)

r %	Maturity of the Issues in Years						Total
	0-4	5-9	10-14	15-19	20-24	25+	
+					2 (6.5)	3 (27.3)	5 (2.3)
0-4.9	1 (100.0)	2 (66.7)	14 (24.6)	7 (6.3)	4 (12.9)	1 (9.1)	29 (13.5)
5.0-9.9			12 (21.1)	17 (15.2)	2 (6.5)	2 (18.2)	33 (15.3)
10.0-14.9			14 (24.6)	14 (12.5)	1 (3.2)		29 (13.5)
15.0-19.9		1 (33.3)	8 (14.0)	18 (16.1)	1 (3.2)		28 (13.0)
20.0-24.9			1 (1.8)	9 (8.0)	2 (6.5)		12 (5.6)

Table 33-Continued

r %	Maturity of the Issues in Years						Total
	0-4	5-9	10-14	15-19	20-24	25+	
25.0-49.9			6 (10.5)	31 (27.7)	12 (38.7)	3 (27.3)	52 (24.2)
50.0+			2 (3.5)	16 (14.3)	7 (22.6)	2 (18.2)	27 (12.6)
Total	1 (100.0)	3 (100.0)	57 (100.0)	112 (100.0)	31 (100.0)	11 (100.0)	215 (100.0)

Note: Percentages shown in brackets.

Source: Sections C-1 to C-7, Appendix C.

Table 34

Effective Cost Analysis of Manufacturing
Private Debt Issues by Maturity, 1966
(Number of Issues)

r %	Maturity of the Issues in Years						Total
	0-4	5-9	10-14	15-19	20-24	25+	
+			5 (6.8)	11 (7.3)	11 (16.4)	9 (60.0)	36 (11.4)
0-4.9	2 (100.0)	7 (100.0)	48 (65.8)	78 (51.7)	12 (17.9)	2 (13.3)	149 (47.3)
5.0-9.9			7 (9.6)	21 (13.9)	10 (14.9)		38 (12.1)
10.0-14.9			4 (5.5)	11 (7.3)	5 (7.5)		20 (6.3)
15.0-19.9			3 (4.1)	9 (6.0)	4 (6.0)		16 (5.1)
20.0-24.9			1 (1.4)	4 (2.6)	3 (4.5)		8 (2.5)

Table 34--Continued

r %	Maturity of the Issues in Years						Total
	0-4	5-9	10-14	15-19	20-24	25+	
25.0-49.9			3 (4.1)	14 (9.2)	11 (16.4)	2 (13.3)	30 (9.5)
50.0+			2 (2.7)	3 (1.0)	11 (16.4)	2 (13.3)	18 (5.7)
Total	2 (100.0)	7 (100.0)	73 (100.0)	151 (100.0)	67 (100.0)	15 (100.0)	315 (100.0)

Note: Percentages shown in brackets

Source: Sections C-19 to C-25, Appendix C.

Figure 4

The Relationship of "r" to the Maturity of
the Issue of Manufacturing Private
Placements in 1962

Source: Sections 1 to 7 in Appendix C.

Figure 5

The Relationship of "r" to the Maturity of
the Issue of Manufacturing Private
Placements in 1966

Source: Sections 19 to 25 in Appendix C.

Public Utility

Tables A-60 to A-70 show the results of the cost analysis for public utility issues in different size groups by maturity. These tables prepared separately for 1962 and 1966 do not show any logical or consistent relationship between the value of "r," the internal rate of return, and the maturity of the issue. Summary results of all the public utility issues as shown in Tables 35 and 36 also reveal the same. These results are, however, plotted with "r" values against maturities of public utility issues as shown in Figures six and seven. Study of these figures also reveal that no meaningful relationship between "r" and maturity of the issue is to be observed for public utility placements. For these placements probably the size and quality of the issue have greater impact on the determination of the cost than the maturity of the issue.

Commercial

Tables A-73 to A-86 show the results of the cost analysis for commercial private debt issues by maturity for 1962 and 1966. Similar to manufacturing issues, commercial issues in smaller issue size groups show a meaningful relationship between "r" and maturity of the issue. The value of "r" tends to increase with the increase in the maturity of the issue. But for larger-sized issues this direct relationship between "r" and maturity of the issue is not clearly revealed.

Summary results of all commercial issues are shown in Tables 37 and 38. These results are plotted as shown in Figures eight and nine with "r" values against maturities of issues. These figures show that

Table 35
Effective Cost Analysis of Public Utility
Private Debt Issues by Maturity, 1962

r %	Maturity of the Issues in Years						Total
	0-4	5-9	10-14	15-19	20-24	25+	
+						4 (6.1)	4 (4.4)
0-4.9						6 (9.1)	6 (6.6)
5.0-9.9					2 (11.8)	7 (10.6)	9 (9.9)
10.0-14.9						2 (3.0)	2 (2.2)
15.0-19.9						7 (10.6)	7 (7.7)
20.0-24.9						9 (13.6)	9 (9.9)

Table 35--Continued

r %	Maturity of the Issues in Years						Total
	0-4	5-9	10-14	15-19	20-24	25+	
25.0-49.9			1 (33.3)	3 (75.0)	5 (29.4)	11 (16.7)	20 (22.0)
50.0+		1 (100.0)	2 (66.7)	1 (25.0)	10 (58.8)	20 (30.3)	34 (37.4)
Total		1 (100.0)	3 (100.0)	4 (100.0)	17 (100.0)	66 (100.0)	91 (100.0)

Note: Percentages shown in brackets

Source: Sections C-8 to C-12, Appendix C.

Table 36

Effective Cost Analysis of Public Utility
Private Debt Issues by Maturity, 1966
(Number of Issues)

r %	Maturity of the Issues in Years						Total
	0-4	5-9	10-14	15-19	20-24	25+	
+			1 (50.0)	3 (50.0)	8 (47.1)	27 (38.6)	39 (41.1)
0-4.9					2 (11.8)	1 (1.4)	3 (3.2)
5.0-9.9						4 (5.7)	4 (4.2)
10.0-14.9						7 (10.0)	7 (7.4)
15.0-19.9						2 (2.8)	2 (2.1)
20.0-24.9			1 (50.0)		1 (5.9)	2 (2.8)	4 (4.2)

Table 36--Continued

r %	Maturity of the Issues in Years						Total
	0-4	5-9	10-14	15-19	20-24	25+	
25.0-49.9				1 (16.7)	2 (11.8)	8 (11.4)	11 (11.6)
50.0+				2 (33.3)	4 (23.5)	19 (27.1)	25 (26.3)
Total			2 (100.0)	6 (100.0)	17 (100.0)	70 (100.0)	95 (100.0)

Note: Percentages shown in brackets

Source: Sections C-26 to C-31, Appendix C.

Figure 6

The Relationship of "r" to the Maturity of
the Issue of Public Utility Private
Placements in 1962

Source: Sections 8 to 12 in Appendix C.

Figure 7

The Relationship of "r" to the Maturity of
the Issue of Public Utility Private
Placements in 1966

Source: Sections 26 to 31 in Appendix C.

Table 37

Effective Cost Analysis of Commercial Private
Debt Issues by Maturity, 1962
(Number of Issues)

r %	Maturity of the Issues in Years						Total
	0-4	5-9	10-14	15-19	20-24	25+	
+				2 (3.5)			2 (1.7)
0-4.9		2 (66.7)	7 (22.6)	3 (5.4)	3 (15.8)	2 (33.3)	17 (14.8)
5.0-9.9		1 (33.3)	6 (19.4)	8 (14.3)	2 (10.5)	2 (33.3)	19 (16.5)
10.0-14.9			4 (12.9)	2 (3.6)	1 (5.3)	1 (16.7)	8 (7.0)
15.0-19.9			5 (16.1)	18 (32.1)	5 (26.3)		28 (24.3)
20.0-24.9			3 (9.7)	9 (16.1)	4 (21.1)	1 (16.7)	17 (14.8)

Table 37--Continued

r %	Maturity of the Issues in Years						Total
	0-4	5-9	10-14	15-19	20-24	25+	
25.0-49.9			4 (12.9)	6 (10.7)	2 (10.5)		12 (10.4)
50.0+			2 (6.5)	8 (14.3)	2 (10.5)		12 (10.4)
Total		3 (100.0)	31 (100.0)	56 (100.0)	19 (100.0)	6 (100.0)	115 (100.0)

Note: Percentages shown in brackets

Source: Sections C-13 to C-18, Appendix C.

Table 38
Effective Cost Analysis of Commercial
Private Debt Issues by Maturity
1966
(Number of Issues)

r %	Maturity of the Issues in Years						Total
	0-4	5-9	10-14	15-19	20-24	25+	
+			2 (6.7)	7 (14.3)	3 (23.1)	3 (37.5)	15 (14.3)
0-4.9		5 (100.0)	12 (40.0)	21 (42.9)	5 (38.5)	3 (37.5)	46 (43.8)
5.0-9.9			6 (20.0)	9 (18.4)	1 (7.7)	1 (12.5)	17 (16.2)
10.0-14.9			5 (16.7)	7 (14.3)	2 (15.4)		14 (13.3)
15.0-19.9			4 (13.3)	3 (6.1)	1 (7.7)	1 (12.5)	9 (8.6)
20.0-24.9			1 (3.3)	2 (4.1)	1 (7.7)		4 (3.8)

Table 38--Continued

Maturity of the Issue in Years							
r %	0-4	5-9	10-14	15-19	20-24	25+	Total
<hr/>							
25.0-49.9							
<hr/>							
50.0+							
<hr/>							
Total		5 (100.0)	30 (100.0)	49 (100.0)	13 (100.0)	8 (100.0)	105 (100.0)

Note: Percentages shown in brackets

Source: Sections C-32 to C-37, Appendix C.

Figure 8

The Relationship of "r" to the Maturity of
the Issue of Commercial Private
Placements in 1962

Source: Sections 13 to 18 in Appendix C.

Figure 9

The Relationship of "r" to the Maturity of
the Issue of Commercial Private
Placements in 1966

Source: Sections 32 to 37 in Appendix C.

the value of "r" tends to increase with the increase in the maturity of the issue. However, this relationship is noticeable up to a certain point in the maturity of the issue, say 15 years, beyond which no consistent relationship between "r" and maturity of the issue is observed. For issues of more than 15 years of maturity, the changes in the value of "r" are not clearly explained by the variations in the maturity of the issue.

General Conclusions of Cost Analysis by Maturity of Issue

From the above analysis, one may draw the following conclusions about the influence of maturity on the cost for the three industry groups. For manufacturing issues of less than \$5.0 million in size, the value of "r" tends to increase with the increase in maturity of the issue. Thus the effective cost of an issue is likely to increase with the increase in maturity of the issue. However, no linear relationship between the value of "r" and the maturity of the issue is revealed in the analysis made for issues of more than \$5.0 million in size. This holds true for both 1962 and 1966. But when issues of all sizes are studied, it is observed that the value of "r" tends to increase with the increase in the maturity of the issue (see Figures 4 and 5). Of course, this holds true roughly for issues with maturities of less than 15 years only.

For public utility issues the cost analysis does not show any logical or consistent relationship between "r" and maturity of the issue irrespective of the size of the issue.

However, for commercial issues a meaningful relationship between "r" and maturity of the issue is again observed. The value of "r" tends to increase with the increase in the maturity of the issue as in the case of manufacturing issues.

Thus the above cost results for all the three groups indicate that the effective cost of a private issue is affected by changes in the maturity of the issue. One may infer that the effective cost tends to increase with the increase in the maturity of the issue. However, with the observations made from Figures 4 to 9 it is difficult to tell what maturities of issues are more likely to have lower effective cost in the private placement market as against the public offering market.

In cases where no visible relationship between "r" and maturity of the issue is seen, it must not be inferred that changes in maturity do not affect the effective cost of these issues. It may be recalled that higher effective costs are associated with larger-sized issues and higher quality issues. Hence in those cases where no visible relationship between "r" and maturity of the issue is observed, it could only mean that the size and quality of the issue have greater influence on the effective cost such that the impact of maturity on the cost is poorly exhibited.

An Overview of the Above Cost Analysis

The cost analysis made for private debt issues in 1962 and 1966 reveals some interesting conclusions. The corporate issuers in general have been paying more in the form of interest cost than what they

save in flotation cost by going private instead of public. This has been more true with the public utility placements than with the manufacturing and commercial company placements. Even for these latter two industry groups, smaller-sized issues did better than the larger-sized issues in terms of effective cost despite the fact that the yield differential on smaller-sized issues is greater than on the larger ones. This reflects the importance of the flotation cost saving on smaller-sized issues.

In general, then, the cost analysis shows that as far as effective cost is concerned, the proportion of issues with "r" value of more than 10.0 per cent increases as the size of the issue gets larger. A larger proportion of issues with "r" value of more than 10.0 per cent is to be seen in larger issue size groups than in smaller issue size groups. This is indicated by Tables 39 and 40, which are summaries of the data in Appendix A. This increase in the value of "r" with the increase in the size of the issue is true for all the three industry groups in both years under study. In other words, the value of "r" tends to increase with the increase in the size of the issue, and hence the effective cost is more on larger-sized issues than on smaller-sized issues in the private placement market as against the public offering market.

It may be noted at the same time that usually larger-sized issues are sold by larger and well-known firms and that the smaller-sized issues are sold by medium-sized and lesser-known firms. Thus one may deduce that the private placement market appears to be offering a

Table 39

Proportion of Issues With "r" of More Than 10.0 Per cent
by Issue Size Group in Manufacturing, Public Utility,
and Commercial for 1962

Issue Size (\$ Millions)	Manufacturing ¹			Public Utility ²		
	Total Number of Issues	Number of Issues With "r" > 10.0 Per cent	Proportion of Issues With "r" > 10.0 Per cent to the Total %	Total Number of Issues	Number of Issues With "r" > 10.0 Per cent	Proportion of Issues With "r" > 10.0 Per cent to the Total %
0.5 - 0.9	42	11	26.2			
1.0 - 1.9	44	28	63.6	30	18	60.0
2.0 - 4.9	50	42	84.0	29	26	89.7
5.0 - 9.9	31	27	87.1	20	18	90.0
10.0 - 19.9	18	15	83.2	7	6	85.7
20.0 - 49.9	21	17	80.9	5	4	80.0
50.0 +	9	8	88.9			
Total	215	148	68.9	91	72	79.1

Table 39--Continued

Issue Size (\$ Millions)	Commercial ³		
	Total Number of Issues	Number of Issues With "r" > 10.0 Per cent	Proportion of Issues With "r" > 10.0 Per cent to the Total %
0.5 - 0.9	19	6	31.6
1.0 - 1.9	33	27	81.8
2.0 - 4.9	33	17	51.5
5.0 - 9.9	17	15	88.2
10.0 - 19.9	11	10	90.9
20.0 - 49.9	2	2	100.0
50.0 +			
Total	115	77	77.0

Source: ¹Tables 1, 3, 5, 7, 9, 11, 13, 15 in Appendix A.

²Tables 17, 19, 21, 23, 25, 28 in Appendix A.

³Tables 30, 32, 34, 36, 38, 40, 42 in Appendix A.

Table 40

Proportion of Issues With "r" of More Than 10.0 Per cent
by Issue Size Group in Manufacturing, Public Utility,
and Commercial for 1966

Issue Size (\$ Millions)	Manufacturing ¹			Public Utility ²		
	Total Number of Issues	Number of Issues With "r" > 10.0 Per cent	Proportion of Issues With "r" > 10.0 Per cent to the Total %	Total Number of Issues	Number of Issues With "r" > 10.0 Per cent	Proportion of Issues With "r" > 10.0 Per cent to the Total %
0.5 - 0.9	59	3	5.1			
1.0 - 1.9	59	5	8.5	28	8	28.5
2.0 - 4.9	69	14	20.2	29	14	48.2
5.0 - 9.9	44	15	34.0	17	10	58.8
10.0 - 19.9	35	25	71.5	13	10	76.9
20.0 - 49.9	30	18	60.1	7	6	85.7
50.0 +	19	12	63.2	1	1	100.0
Total	315	92	29.2	95	49	51.5

Table 40--Continued

Issue Size (\$ Millions)	Commercial ³		
	Total Number of Issues	Number of Issues With "r" > 10.0 Per cent	Proportion of Issues With "r" > 10.0 Per cent to the Total %
0.5 - 0.9	27	2	7.4
1.0 - 1.9	26	11	42.3
2.0 - 4.9	29	4	13.8
5.0 - 9.9	13	5	38.5
10.0 - 19.9	5	2	40.0
20.0 - 49.9	5	3	60.0
50.0 +			
Total	105	27	25.7

Source: ¹Tables 2, 4, 6, 8, 10, 12, 14, 16 in Appendix A.

²Tables 18, 20, 22, 24, 26, 27, 29 in Appendix A.

³Tables 31, 33, 35, 37, 39 41, 43 in Appendix A.

competitive advantage to the issues of medium-sized and lesser-known firms than to the issues of larger and well-known firms. However, it should not be inferred that these two markets are meant to serve different classes of issuers. In fact very large and well-known firms have sold their larger-sized issues in the private placement market and have got low yields in recent years. But these are exceptions and do not negate the above conclusions.

The cost analysis also reveals that the private debt issues which are ranked high in quality are frequently associated with greater effective cost than if they were sold in the public market. This would indicate that the yield differential for lower-quality issues between the private placement market and the public offering market tends to be proportionately smaller than that of higher quality issues. As far as the maturity of the issue is concerned, it is inconclusive from the analysis made in this study as to what maturities of issues are more likely to have lower effective cost in the private placement market as against the public offering market.

The past experiences of the private placement market as analyzed here indicate that in general the effective cost on privately-placed debt issues is affected by changes in the size of the issue, quality of the issue, and maturity of the issue. A company might be better off by going private instead of public when the issue for sale is small in dollar volume and rated less than high in quality. In general, it appears that the private placement costs more for high quality issues, rated Aaa and Aa, and issues in sizes of more than \$10.0 million.

The company might be better off in terms of the effective cost to sell such an issue on a low yield basis in the public market than to sell it in the private market.

The cost results also indicate that a larger proportion of private placements had lower effective cost to the issuers in 1966 than they had in 1962. This is evident from Tables 39 and 40. There were 68.9 per cent of issues in manufacturing with an "r" value of more than 10.0 per cent, 79.1 per cent in public utility with an "r" value of more than 10.0 per cent, and 77.0 per cent in commercial with an "r" value of more than 10.0 per cent in 1962. Against this in 1966 there were 29.2 per cent of issues in manufacturing with an "r" value of more than 10.0 per cent, 51.5 per cent in public utility, and 25.7 per cent in commercial.

This reflects in part the fact that increasing institutional acceptance of this type of financing, coupled with ready availability of funds, might have resulted in a downward adjustment in the earlier relationship between yields on private placements and on public offerings. This downward trend in yield differentials may have been accentuated, however, in recent years by heavier competition the life insurance companies are facing from other institutional investors, mainly pension funds.

Conclusion

The major findings of the cost analysis thus indicate that the private placement market has been offering a competitive advantage to

the issues of medium-sized or smaller and lesser-known companies.

In contrast, the public market is more likely to offer a competitive advantage to the issues of larger and well-known companies. A private placement is more likely to have less effective cost than when the same issue is sold in public if the issue is less than \$10.0 million in size and is rated A or Baa. But as to the maturity of the issue, no specific maturity or maturity group in years can be that effectively stated in this connection. The issuer might be better off in terms of effective cost to sell a larger-sized issue with higher quality rating on a low yield basis in the public offering market than to sell it in the private placement market.

CHAPTER VII

CONCLUSIONS AND THEIR IMPLICATIONS FOR CORPORATE FINANCIAL MANAGEMENT

The major objective of this study was to determine the effective cost to the corporate issuer in going private instead of public, and to learn the implications of the cost analysis to the corporate financial management. This chapter summarizes the research methods used in this study and presents the conclusions drawn from the effective cost analysis and their implications to corporate financial management.

The data on private placements used for the purpose of effective cost analysis consisted, in principle, of pure debt private placements with the exceptions indicated in Chapter 5 (see page 75). This data on each issue was obtained from the information given by the Investment Dealers' Digest.¹ Only debt issues of manufacturing, public utility, and commercial firms were selected. The total number of issues chosen for cost analysis were 421 in 1962 and 515 in 1966. These issues represented roughly 35.0 per cent of all private debt issues in 1962 and 36.0 per cent in 1966. However, when the proportions of the dollar volume of the issues studied for cost analysis were calculated separately for each of the three industry groups, they

¹The February and August issues of the Investment Dealers' Digest contain a separate section entitled "Corporate Financing Directory." The Directory contains a separate section "Corporate Issues Placed Privately," which shows details on each private placement that was sold during the prior six months' period ending in June and December respectively.

accounted for more than 75.0 per cent of the individual industry totals.

Of 421 issues studied in 1962, 215 were manufacturing, 91 public utility, and 115 commercial placements. In 1966 for a total of 515 issues studied, 315 were manufacturing, 95 public utility, and 105 commercial. These two years were selected because the proportions of privately-placed debt issues in these years were close to the corresponding average proportion for the entire period 1934-1966. Thus they are more likely to represent the typical of private market in recent years.

Limitations

While carrying out the present study, the author noted several limitations of the cost analysis. The following were the most significant limitations.

First, the data on cost of flotation was obtained from the study made by the Securities and Exchange Commission in 1957. The SEC data was prepared not for specific sizes of individual issues, such as \$1.0 million or \$1.5 million precisely, but for issues falling within certain issue size groups, for example, \$2 - 4.9 million or \$5 - 9.9 million broadly. Thus the data on cost of flotation as obtained from the SEC study were averages for issues of that particular issue size group. Hence the weaknesses of using the averages to determine the effective costs of specific issues should be noted.

Second, the author had to calculate the yield differential for each private debt issue in order to evaluate the two elements,

(1) cost of flotation and (2) interest cost, involved in determining the effective cost of an issue. The calculation of the yield differential was necessary to answer the question: If the particular private placement had been sold when it was sold, not as a private placement but as a public offering, what would the yield on it have been? Thus the actual yield to maturity on a private issue was compared with what the yield to maturity on it would have been if the issue had been sold public. The yield figures for different quality ratings of publicly sold issues as obtained from Moody's were used for what the yield on a private issue would have been if it had been sold public. These yield figures as obtained from Moody's, however, are averages, and hence the weaknesses involved in using the averages for specific issues should be noted.

Third, the author did not obtain the exact values of "r" in cases where the "r" values were less than 1.0 per cent and where the "r" values were more than 50.0 per cent. The present value tables, referred to by the author, did not have "r" values of less than 1.0 per cent and of more than 50.0 per cent.

Determination of "r"

Effective cost is made up of two elements: (1) cost of flotation and (2) yield to maturity. The SEC study of cost of flotation has shown that the cost of selling debt issues in a private market is less than the cost of selling a similar size issue to the public through an underwriter. The advantage in differential per cent flotation cost

diminishes gradually as the size of issue increases. Flotation cost, however, is only a part of the total cost of money to the firm. Yield to maturity is also an important component of the effective cost of money. Hence these two elements were evaluated for each issue to determine the effective cost. For purposes of evaluating these two elements in determining the effective costs involved in private placements the following cost model was designed. The model was based on the principles involved in the present value concept whose applications may be found in most of the basic finance texts.

$$Cs = IRs \sum_{t=1}^n \frac{1}{(1+r)^t}$$

The following procedures were used to obtain the value of "r" for each issue. First, values for each notation in the cost model were calculated. The dollar volume of flotation cost saving to the firm (Cs in the model) for having gone into the private placement market instead of the public offering market was obtained by multiplying the percent of flotation cost differential by the net proceeds of the private issue to the company. The percentage figures of flotation cost differential as obtained from the SEC study decrease as the size of the issue becomes larger.

Interest cost was another important element of the effective cost. Yield determination was thus important. Each private issue selected for cost analysis was identified with one of the first four quality ratings, Aaa, Aa, A and Baa, that are used by Moody's for public

issues. Yields on these ratings for publicly sold debt securities were obtained from Moody's. The yield on a private issue was obtained by dividing its coupon rate by the net proceeds at 100 par of the private issue to the company. Since most private placements are sold at par, the net proceeds of the issue to the company were taken as the face value of the issue after the flotation cost expenses were deducted. The yield differential was obtained when the yield figure on a private issue was subtracted from the yield on a comparable quality of public issue. This differential when multiplied by the net proceeds of the private issue to the company gave the differential interest cost (IRs in the model) which the corporate issuer had to incur every year during the life of the issue.

After values for each notation in the cost model were calculated, the next step was to find the value of "r". By plugging the values for Cs and IRs into the model and then dividing IRs into Cs, the present value factor, which is

$$\sum_{t=1}^n \frac{1}{(1+r)^t}$$

was obtained. The known values of the present value factor and the maturity of the issue were used to obtain the value of "r" from a present value table of an annuity of one dollar. This "r" (internal rate of return) was calculated for each selected private issue. The "r" value measures the effective cost of the private issue as compared with what the cost would have been if the issue had been sold publicly. The cost analysis was made by quality, size, and maturity of the issue

separately for manufacturings, utilities, and commercials.

Conclusions Concerning Effective
Cost on Private Placements

The cost analysis made on private debt issues sold in 1962 and 1966 reveals some interesting conclusions. Corporate issuers in general have been paying more in interest cost than they save in flotation cost by going private instead of public. This disadvantage has occurred more with the public utility than with the manufacturing and commercial company placements. Even for these latter two industry groups, larger-sized issues had higher effective cost. It may be recalled at this point that issues of more than \$10.0 million in size did represent roughly two-thirds of the total dollar volume of private debt issues in both 1962 and 1966. Thus it is more likely that private placements, considering their total dollar volume, had greater effective cost than if the same issues were sold in the public offering market.

Larger-sized issues were often associated with higher values of "r" which in turn measures the effective cost on a private issue versus a public issue. Smaller-sized issues were often associated with lower values of "r". This shows that the larger-sized issues had higher effective cost in the private placement market than if they were sold in the public offering market and that the smaller-sized issues had lower effective cost. It may also be noted at the same time that usually larger-sized issues are sold by larger and well-known companies

and that the smaller-sized issues are sold by medium-sized and lesser-known companies. From this one may deduce that the private placement market is offering a competitive advantage to the issues of medium-sized and lesser-known companies than to the issues of larger and well-known companies. For the latter group, the public offering market is less costly.

The private placement market and the public offering market appear to have been serving, in general, different classes of issuers. However, it should not be inferred that these two markets are meant to serve exclusively different classes of issuers. In fact, very large and better-known companies have gone into the private placement market for larger-sized issues in recent years at yields lower than in the public offering market. However, these are exceptions.

The cost analysis also reveals that the private debt issues which are ranked high in quality rating frequently incurred a greater cost than if they were sold in the public market. Private issues rated A and Baa had lower effective cost than they would have had if they had been sold in public. This would indicate that the yield differential for lower-quality issues between the private placement market and the public offering market tends to be proportionately smaller than that of higher quality issues. As to the maturity of the issue, it may be difficult to draw definite conclusions from the analysis made in this study concerning what maturities of issues have a competitive advantage in terms of cost in the private placement market over the public offering market.

The study also reveals that a great proportion of private placements had lower effective cost in 1966 than in 1962. Assuming a cut-off value of 10.0 per cent for "r" (i.e., the cost of capital is assumed as equal to 10.0 per cent), it is evident from Table 41 that 68.9 per cent of manufacturing issues, 79.1 per cent of public utility issues, and 77.0 per cent of commercial issues had greater effective cost in 1962 than if they had been sold public. Against this, in 1966 there were 29.2 per cent in manufacturing, 51.5 per cent in public utility, and 25.7 per cent in commercial. However, these proportions vary for different issue size groups. The percentage of issues with "r" value of more than 10.0 per cent in each issue size group was increasingly larger as the issue size group got larger. This data is presented to indicate how many times the issuers might have made wrong decisions in terms of cost in going private instead of public in 1962 and 1966, assuming a cost of capital of 10.0 per cent.

The lower effective cost in 1966 than in 1962 could be attributed to the changing role of financial institutions in the capital market. The institutional investors are getting more acquainted with the problems and methods of private placements and thus are accepting this type of investment more readily. In addition, the fact that institutional funds are readily available and are competing for private placements might have resulted in a downward adjustment in recent years as compared to the earlier relationship between yields on private placements and on public offerings.

Table 41

Proportion of Private Debt Issues With "r" Value of More
Than 10.0 per cent in Manufacturing, Public Utility,
and Commercial for 1962 and 1966

Industry	1962 ¹			1966 ²		
	Total Number of Issues	Issues with "r" > 10.0 Per cent	Proportion of Issues with "r" > 10.0 Per cent to the Total %	Total Number of Issues	Issues with "r" > 10.0 Per cent	Proportion of Issues with "r" > 10.0 Per cent to the Total %
Manufacturing	215	148	68.9	315	92	29.2
Public Utility	91	72	79.1	95	49	51.5
Commercial	115	77	77.0	105	27	25.7

Source: ¹Tables 15, 28, 42 in Appendix A.

²Tables 16, 29, 43 in Appendix A.

Implications of the Cost Analysis for
Corporate Financial Management

When seeking new capital, the financial manager of a business firm needs to evaluate effective costs involved in different methods of raising money. This section discusses how the results obtained from the cost calculations made on private debt issues, discussed in Chapter 6, can be useful in guiding the corporate financial management in future placements.

For the purpose of determining the effective costs involved in a proposed sale of securities, private versus public, the author recommends that the financial manager follow the procedures stated earlier in using the cost model to determine the effective costs involved in a proposed sale of the new issue private versus public. To use the model, the financial manager first has to obtain the individual flotation costs he might be incurring in the public market and the private market. The differential between these two is a saving to the firm (C_s in the cost model).

Then he has to obtain the other cost involved, which is the interest rate cost. To judge this, the financial manager has to determine separately the yields to maturity on the proposed sale of the new issue in the public market and in the private market. The yield on a firm's issue if it is to be sold to the public, can be obtained from the investment banker. The yield on that issue, if it is to be sold private, can be obtained by dividing the coupon rate that the institutional investor asks by the amount of net proceeds that the firm

gets from the issue. The percentage differential between these two yield figures, when multiplied with the net proceeds of the private issue to the company, would give the differential interest cost that the firm would be incurring each year over the life of the private issue (IRs in the cost model). With the known values of C_s and IRs in the model the financial manager can determine the value of " r " following the procedures indicated earlier (see pages 158, 159). This " r " should then be compared with the cost of capital of the firm to judge the financial merits of the private issue versus the public issue. The financial manager would see that under all usual circumstances, when his firm proposes to go private for new money, the calculated value of " r " on that issue should not exceed the firm's cost of capital.

The financial manager may, however, allow some margin to the value of " r ," calculated as above, depending upon the individual firm's circumstances while considering the private market as a source for his fund-raising operations. If this " r " is more than the firm's cost of capital, the corporation might be better off financially to investigate the alternative method of selling its securities. But when " r " is less than the firm's cost of capital, private sale of securities is more likely to bring greater returns to the owners of the firm than public sale, providing the rate of return on total invested capital remains the same or increases over the firm's returns prior to the sale of the new issue.

The past experiences of the private placement market as judged in

this study would tell the financial manager that he might be better off by going private instead of public in terms of cost when the issue for sale is small in dollar volume and rated less than high in quality. As to the maturity of the issue, however, it is difficult to tell what maturities of issues are more likely to have lower effective cost in the private placement market as against the public offering market. It appears that the private placement market is more costly for high quality issues, rated Aaa and Aa, in all industry groups and for issues in sizes of more than \$10.0 million for manufacturing and commercial and of more than \$5.0 million for public utility. The company might be better off in terms of effective cost to sell such an issue on a low yield basis in the public market than in the private market. Thus, issues smaller in size (roughly less than \$10.0 for manufacturing and commercial placements and less than \$5.0 million for public utility placements), and rated less than high (A and Baa—this being the same for all the three industry groups) are more likely to have lower effective cost when sold in the private placement market than in the public offering market. It is felt that these characterizations of issues can serve as guidelines to the financial manager, and he can handle the exceptions to them by careful evaluation of the different costs involved.

By presenting an effective cost analysis of private placements versus public offerings, this study has cleared some of the doubts earlier writers had regarding effective cost on private placements. It has shown the characteristics regarding the size and quality of an issue that make it competitively advantageous or disadvantageous

in both types of offerings. As to the maturity of the issue, however, it is difficult to draw conclusions from the analysis made in this study as to what specific maturities of issues are competitively advantageous in terms of cost in the private placement market over the public offering market. The study has also provided what the author considers a workable cost model for the financial manager in determining, from the effective cost point of view, whether debt should be sold publicly or privately.

A P P E N D I X E S

APPENDIX A

FINAL TABLES OF THE EFFECTIVE COST ANALYSIS

APPENDIX A

This appendix presents the effective cost analysis in the form of final tables. These tables are prepared from the data presented in Appendix C. These tables are prepared separately for manufacturings, utilities, and commercials for 1962 and 1966. The analysis was carried in terms of number of issues, and hence the results in these tables are presented in terms of number of issues with their percentages shown in the brackets. The percentages may not add up to 100 in all cases due to the rounding of decimals. The + sign shown for "r" in the classification of "r" values in these tables indicate that on those specific issues which are shown against + for "r" the firms had flotation cost saving and interest cost saving as well for having gone into the private placement market instead of the public market.

Appendix A contains 86 tables, each being identified with a particular issue size group. These groups are in millions of dollars 0.5 - 0.9, 1.0 - 1.9, 2.0 - 4.9, 5.0 - 9.9, 10.0 - 19.9, 20.0 - 49.9, and 50.0 and over. Tables A-1 to A-16, A-17 to A-29, and A-30 to A-43 present the cost results by quality of issue for manufacturings, utilities, and commercials respectively. Tables A-44 to A-59, A-60 to A-72, and A-73 to A-86 present the same results by maturity of issue for the three industry groups, respectively. Analysis and conclusions of these results were presented in Chapter 6.

Table A-1

Manufacturing

**Effective Cost Analysis of Privately-Placed Debt Issues By Quality
for 1962**

(Number of Issues)

Issue Size: \$0.5 - 0.9 Million

%	Quality of the Issue				
	Aaa	Aa	A	Baa	Total
+					
0 - 4.9		1 (50.0)		14 (36.8)	15 (35.7)
5.0 - 9.9				16 (42.1)	16 (38.1)
10.0 - 14.9		1 (50.0)	2 (100.0)	7 (18.4)	10 (23.8)
15.0 - 19.9				1 (2.6)	1 (2.4)
20.0 - 24.9					
25.0 - 49.9					
50.0+					
Total		2 (100.0)	2 (100.0)	38 (100.0)	42 (100.0)

Note: Percentages Shown in brackets.

Source: Section C-1, Appendix C.

Table A-2

Manufacturing

**Effective Cost Analysis of Privately-Placed Debt Issues By Quality
for 1966**

(Number of Issues)

Issue Size: \$0.5 - 0.9 Million

%	Quality of the Issue				
	Aaa	Aa	A	Baa	Total
+					
0 - 4.9			4 (66.7)	46 (86.8)	50 (84.7)
5.0 - 9.9				6 (11.3)	6 (10.2)
10.0 - 14.9			2 (33.3)	1 (1.9)	3 (5.1)
15.0 - 19.9					
20.0 - 24.9					
25.0 - 49.9					
50.0+					
Total			6 (100.0)	53 (100.0)	59 (100.0)

Note: Percentages Shown in brackets.

Source: Section C-19, Appendix C.

Table A-3

Manufacturing

Effective Cost Analysis of Privately-Placed Debt Issues By Quality
for 1962

(Number of Issues)

Issue Size: \$1.0 - 1.9 Million

%	Quality of the Issue				
	Aaa	Aa	A	Baa	Total
+					
0 - 4.9			1 (11.1)	5 (15.2)	6 (13.6)
5.0 - 9.9				10 (30.3)	10 (22.7)
10.0 - 14.9		1 (50.0)	3 (33.3)	6 (18.2)	10 (22.7)
15.0 - 19.9			2 (22.2)	12 (36.4)	14 (31.8)
20.0 - 24.9		1 (50.0)	3 (33.3)		4 (9.1)
25.0 - 49.9					
50.0+					
Total		2 (100.0)	9 (100.0)	33 (100.0)	44 (100.0)

Note: Percentages Shown in brackets.

Source: Section C-2, Appendix C.

Table A-4

Manufacturing

**Effective Cost Analysis of Privately-Placed Debt Issues By Quality
for 1966**

(Number of Issues)

Issue Size: \$1.0 - 1.9 Million

%	Quality of the Issue				
	Aaa	Aa	A	Baa	Total
+				3 (6.5)	3 (5.1)
0 - 4.9			5 (38.5)	32 (69.6)	37 (62.7)
5.0 - 9.9			5 (38.5)	9 (19.6)	14 (23.7)
10.0 - 14.9			2 (15.4)	1 (2.2)	3 (5.1)
15.0 - 19.9			1 (7.7)	1 (2.2)	2 (3.4)
20.0 - 24.9					
25.0 - 49.9					
50.0+					
Total			13 (100.0)	46 (100.0)	59 (100.0)

Note: Percentages Shown in brackets.

Source: Section C-20, Appendix C.

Table A-5

Manufacturing

Effective Cost Analysis of Privately-Placed Debt Issues By Quality
for 1962

(Number of Issues)

Issue Size: \$2.0 - 4.9 Million

%	Quality of the Issue				
	Aaa	Aa	A	Baa	Total
+					
0 - 4.9			1 (7.7)	3 (8.1)	4 (8.0)
5.0 - 9.9				4 (10.8)	4 (8.0)
10.0 - 14.9			3 (23.1)	5 (13.5)	8 (16.0)
15.0 - 19.9			3 (23.1)	8 (21.6)	11 (22.0)
20.0 - 24.9				6 (16.2)	6 (12.0)
25.0 - 49.9			6 (46.1)	11 (29.7)	17 (34.0)
50.0+					
Total			13 (100.0)	37 (100.0)	50 (100.0)

Note: Percentages Shown in brackets.

Source: Section C-3, Appendix C.

Table A-6

Manufacturing

**Effective Cost Analysis of Privately-Placed Debt Issues By Quality
for 1966**

(Number of Issues)

Issue Size: \$2.0 - 4.9 Million

%	Quality of the Issue				
	Aaa	Aa	A	Baa	Total
+				7 (14.0)	7 (10.1)
0 - 4.9		2 (40.0)	7 (50.0)	31 (62.0)	40 (58.0)
5.0 - 9.9			2 (14.3)	6 (12.0)	8 (11.6)
10.0 - 14.9		1 (20.0)	4 (28.6)	2 (4.0)	7 (10.1)
15.0 - 19.9		2 (40.0)		2 (4.0)	4 (5.8)
20.0 - 24.9				1 (2.0)	1 (1.4)
25.0 - 49.9			1 (7.1)	1 (2.0)	2 (2.9)
50.0+					
Total		5 (100.0)	14 (100.0)	50 (100.0)	69 (100.0)

Note: Percentages Shown in brackets.

Source: Section C-21, Appendix C.

Table A-7

Manufacturing

**Effective Cost Analysis of Privately-Placed Debt Issues By Quality
for 1962**

(Number of Issues)

Issue Size: \$5.0 - 9.9 Million

%	Quality of the Issue				
	Aaa	Aa	A	Baa	Total
+				1 (9.1)	1 (3.2)
0 - 4.9			1 (5.6)	1 (9.1)	2 (6.5)
5.0 - 9.9				1 (9.1)	1 (3.2)
10.0 - 14.9					
15.0 - 19.9				2 (18.2)	2 (6.5)
20.0 - 24.9			1 (5.6)		1 (3.2)
25.0 - 49.9			14 (77.8)	5 (45.5)	19 (61.3)
50.0+		2 (100.0)	2 (11.1)	1 (9.1)	5 (16.1)
Total		2 (100.0)	18 (100.0)	11 (100.0)	31 (100.0)

Note: Percentages Shown in brackets.

Source: Section C-4, Appendix C.

Table A-8

Manufacturing

**Effective Cost Analysis of Privately-Placed Debt Issues By Quality
for 1966**

(Number of Issues)

Issue Size: \$5.0 - 9.9 Million

%	Quality of the Issue				
	Aaa	Aa	A	Baa	Total
+			3 (17.6)	6 (33.3)	9 (20.5)
0 - 4.9		3 (33.3)	6 (35.3)	6 (33.3)	15 (34.1)
5.0 - 9.9		3 (33.3)	1 (5.9)	1 (5.6)	5 (11.4)
10.0 - 14.9			2 (11.8)		2 (4.5)
15.0 - 19.9		2 (22.2)	2 (11.8)		4 (9.1)
20.0 - 24.9			1 (5.9)	1 (5.6)	2 (4.5)
25.0 - 49.9		1 (11.1)	2 (11.8)	3 (16.7)	6 (13.6)
50.0+				1 (5.6)	1 (2.3)
Total		9 (100.0)	17 (100.0)	18 (100.0)	44 (100.0)

Note: Percentages Shown in brackets.

Source: Section C-22, Appendix C.

Table A-9

Manufacturing

**Effective Cost Analysis of Privately-Placed Debt Issues By Quality
for 1962**

(Number of Issues)

Issue Size: \$10.0 - 19.9 Million

%	Quality of the Issue				
	Aaa	Aa	A	Baa	Total
+				1 (10.0)	1 (5.6)
0 - 4.9				1 (10.0)	1 (5.6)
5.0 - 9.9	1 (100.0)				1 (5.6)
10.0 - 14.9				1 (10.0)	1 (5.6)
15.0 - 19.9					
20.0 - 24.9				1 (10.0)	1 (5.6)
25.0 - 49.9			2 (66.7)	4 (40.0)	6 (33.3)
50.0+		4 (100.0)	1 (33.3)	2 (20.0)	7 (38.8)
Total	1 (100.0)	4 (100.0)	3 (100.0)	10 (100.0)	18 (100.0)

Note: Percentages Shown in brackets.

Source: Section C-5, Appendix C.

Table A-10

Manufacturing

Effective Cost Analysis of Privately-Placed Debt Issues By Quality
for 1966

(Number of Issues)

Issue Size: \$10.0 - 19.9 Million

%	Quality of the Issue				
	Aaa	Aa	A	Baa	Total
+		4 (40.0)		1 (11.1)	5 (14.3)
0 - 4.9			2 (13.3)	2 (22.2)	4 (11.4)
5.0 - 9.9				1 (11.1)	1 (2.9)
10.0 - 14.9		1 (10.0)	2 (13.3)		3 (8.6)
15.0 - 19.9			1 (6.7)	1 (11.1)	2 (5.7)
20.0 - 24.9		1 (10.0)	1 (6.7)		2 (5.7)
25.0 - 49.9	1 (100.0)	3 (30.0)	9 (60.0)	2 (22.2)	15 (42.9)
50.0+		1 (10.0)		2 (22.2)	3 (8.6)
Total	1 (100.0)	10 (100.0)	15 (100.0)	9 (100.0)	35 (100.0)

Note: Percentages Shown in brackets.

Source: Section C-23, Appendix C.

Table A-11

Manufacturing

**Effective Cost Analysis of Privately-Placed Debt Issues By Quality
for 196 2**

(Number of Issues)

Issue Size: \$20.0 - 49.9 Million

%	Quality of the Issue				
	Aaa	Aa	A	Baa	Total
+				3 (25.0)	3 (14.3)
0 - 4.9				1 (8.3)	1 (4.8)
5.0 - 9.9					
10.0 - 14.9					
15.0 - 19.9					
20.0 - 24.9					
25.0 - 49.9	1 (100.0)		1 (33.3)	4 (33.3)	6 (28.6)
50.0+		5 (100.0)	2 (66.7)	4 (33.3)	11 (52.4)
Total	1 (100.0)	5 (100.0)	3 (100.0)	12 (100.0)	21 (100.0)

Note: Percentages Shown in brackets.

Source: Section C-6, Appendix C.

Table A-12

Manufacturing

Effective Cost Analysis of Privately-Placed Debt Issues By Quality
for 1966

(Number of Issues)

Issue Size: \$20.0 - 49.9 Million

%	Quality of the Issue				
	Aaa	Aa	A	Baa	Total
+		1 (14.3)	2 (28.6)	4 (28.6)	7 (23.3)
0 - 4.9				1 (7.1)	1 (3.3)
5.0 - 9.9				4 (28.6)	4 (13.3)
10.0 - 14.9	1 (50.0)	1 (14.3)			2 (6.7)
15.0 - 19.9			1 (14.3)	2 (14.3)	3 (10.0)
20.0 - 24.9		1 (14.3)	1 (14.3)		2 (6.7)
25.0 - 49.9	1 (50.0)	2 (28.6)	1 (14.3)	1 (7.1)	5 (16.7)
50.0+		2 (28.6)	2 (28.6)	2 (14.3)	6 (20.0)
Total	2 (100.0)	7 (100.0)	7 (100.0)	14 (100.0)	30 (100.0)

Note: Percentages Shown in brackets.

Source: Section C-24, Appendix C.

Table A-13

Manufacturing

**Effective Cost Analysis of Privately-Placed Debt Issues By Quality
for 1962**

(Number of Issues)

Issue Size: \$50.0 + Million

%	Quality of the Issue				
	Aaa	Aa	A	Baa	Total
+					
0 - 4.9					
5.0 - 9.9			1 (33.3)		1 (11.1)
10.0 - 14.9					
15.0 - 19.9					
20.0 - 24.9					
25.0 - 49.9			2 (66.7)	2 (100.0)	4 (44.4)
50.0+	2 (100.0)	2 (100.0)			4 (44.4)
Total	2 (100.0)	2 (100.0)	3 (100.0)	2 (100.0)	9 (100.0)

Note: Percentages Shown in brackets.

Source: Section C-7, Appendix C.

Table A-14

Manufacturing

**Effective Cost Analysis of Privately-Placed Debt Issues By Quality
for 1966**

(Number of Issues)

Issue Size: \$50.0 + Million

%	Quality of the Issue				
	Aaa	Aa	A	Baa	Total
+	2 (25.0)	2 (40.0)	1 (33.3)		5 (26.3)
0 - 4.9	2 (25.0)				2 (10.5)
5.0 - 9.9					
10.0 - 14.9					
15.0 - 19.9				1 (33.3)	1 (5.3)
20.0 - 24.9				1 (33.3)	1 (5.3)
25.0 - 49.9	1 (12.5)		1 (33.7)		2 (10.5)
50.0+	3 (37.5)	3 (60.0)	1 (33.3)	1 (33.3)	8 (42.1)
Total	8 (100.0)	5 (100.0)	3 (100.0)	3 (100.0)	19 (100.0)

Note: Percentages Shown in brackets.

Source: Section C-25, Appendix C.

Table A-15

Manufacturing

**Effective Cost Analysis of Privately-Placed Debt Issues By Quality
for 1962**

(Number of Issues)

Issue Size: All

%	Quality of the Issue				
	Aaa	Aa	A	Baa	Total
+				5 (3.5)	5 (2.3)
0 - 4.9		1 (5.9)	3 (5.9)	25 (17.5)	29 (13.5)
5.0 - 9.9	1 (25.0)		1 (2.0)	31 (21.7)	33 (15.3)
10.0 - 14.9		2 (11.8)	8 (15.7)	19 (13.3)	29 (13.5)
15.0 - 19.9			5 (9.8)	23 (16.1)	28 (13.0)
20.0 - 24.9		1 (5.9)	4 (7.8)	7 (4.9)	12 (5.6)
25.0 - 49.9	1 (25.0)		25 (49.0)	26 (18.2)	52 (24.2)
50.0+	2 (50.0)	13 (76.5)	5 (9.8)	7 (4.9)	27 (12.6)
Total	4 (100.0)	17 (100.0)	51 (100.0)	143 (100.0)	215 (100.0)

Note: Percentages Shown in brackets.

Source: Sections C-1 to C-7, Appendix C.

Table A-16

Manufacturing

**Effective Cost Analysis of Privately-Placed Debt Issues By Quality
for 1966**

(Number of Issues)

Issue Size: All

%	Quality of the Issue				
	Aaa	Aa	A	Baa	Total
+	2 (18.2)	7 (19.4)	6 (8.0)	21 (10.9)	36 (11.4)
0 - 4.9	2 (18.2)	5 (13.9)	24 (32.0)	118 (61.1)	149 (47.3)
5.0 - 9.9		3 (8.3)	8 (10.7)	27 (14.0)	38 (12.1)
10.0 - 14.9	1 (9.1)	3 (8.3)	12 (16.0)	4 (2.1)	20 (6.3)
15.0 - 19.9		4 (11.1)	5 (6.7)	7 (3.6)	16 (5.1)
20.0 - 24.9		2 (5.6)	3 (4.0)	3 (1.6)	8 (2.5)
25.0 - 49.9	3 (27.3)	6 (16.7)	14 (18.7)	7 (3.6)	30 (9.5)
50.0+	3 (27.3)	6 (16.7)	3 (4.0)	6 (3.1)	18 (5.7)
Total	11 (100.0)	36 (100.0)	75 (100.0)	193 (100.0)	315 (100.0)

Note: Percentages Shown in brackets.

Source: Sections C-19 to C-25, Appendix C.

Table A-17
Public Utility
Effective Cost Analysis of Privately-Placed Debt Issues By Quality
for 196²

(Number of Issues)

Issue Size: \$1.0 - 1.9 Million

%	Quality of the Issue				
	Aaa	Aa	A	Baa	Total
+					
0 - 4.9		1 (25.0)		2 (9.5)	3 (10.0)
5.0 - 9.9		2 (50.0)	1 (25.0)	6 (28.6)	9 (30.0)
10.0 - 14.9			1 (25.0)	1 (4.8)	2 (6.7)
15.0 - 19.9			1 (25.0)	2 (9.5)	3 (10.0)
20.0 - 24.9	1 (100.0)	1 (25.0)	1 (25.0)		3 (10.0)
25.0 - 49.9				9 (42.8)	9 (30.0)
50.0+				1 (4.8)	1 (3.3)
Total	1 (100.0)	4 (100.0)	4 (100.0)	21 (100.0)	30 (100.0)

Note: Percentages Shown in brackets.

Source: Section C-8, Appendix C.

Table A-18

Public Utility

**Effective Cost Analysis of Privately-Placed Debt Issues By Quality
for 1966**

(Number of Issues)

Issue Size: \$1.0 - 1.9 Million

%	Quality of the Issue				
	Aaa	Aa	A	Baa	Total
+		3 (75.0)		12 (66.7)	15 (53.6)
0 - 4.9			1 (16.7)	2 (11.1)	3 (10.7)
5.0 - 9.9		1 (25.0)		1 (5.6)	2 (7.1)
10.0 - 14.9			1 (16.7)	3 (16.7)	4 (14.3)
15.0 - 19.9					
20.0 - 24.9			2 (33.3)		2 (7.1)
25.0 - 49.9			2 (33.3)		2 (7.1)
50.0+					
Total		4 (100.0)	6 (100.0)	18 (100.0)	28 (100.0)

Note: Percentages Shown in brackets.

Source: Section C-26, Appendix C.

Table A-19

Public Utility

**Effective Cost Analysis of Privately-Placed Debt Issues By Quality
for 1962**

(Number of Issues)

Issue Size: \$2.0 - 4.9 Million

%	Quality of the Issue				
	Aaa	Aa	A	Baa	Total
+		1 (25.0)			1 (3.4)
0 - 4.9		1 (25.0)	1 (7.1)		2 (6.9)
5.0 - 9.9					
10.0 - 14.9					
15.0 - 19.9		1 (25.0)	2 (14.3)		3 (10.3)
20.0 - 24.9				2 (18.2)	2 (6.9)
25.0 - 49.9			4 (28.5)	3 (27.3)	7 (24.1)
50.0+		1 (25.0)	7 (50.0)	6 (54.5)	14 (48.3)
Total		4 (100.0)	14 (100.0)	11 (100.0)	29 (100.0)

Note: Percentages Shown in brackets.

Source: Section C-9, Appendix C.

Table A-20

Public Utility

**Effective Cost Analysis of Privately-Placed Debt Issues By Quality
for 1966**

(Number of Issues)

Issue Size: \$2.0 - 4.9 Million

%	Quality of the Issue				
	Aaa	Aa	A	Baa	Total
+		1 (33.3)	3 (33.3)	9 (56.3)	13 (44.8)
0 - 4.9					
5.0 - 9.9		2 (66.7)			2 (6.9)
10.0 - 14.9				1 (6.2)	1 (3.4)
15.0 - 19.9					
20.0 - 24.9					
25.0 - 49.9			1 (11.1)	4 (25.0)	5 (17.2)
50.0+	1 (100.0)		5 (55.6)	2 (12.5)	8 (27.6)
Total	1 (100.0)	3 (100.0)	9 (100.0)	16 (100.0)	29 (100.0)

Note: Percentages Shown in brackets.**Source:** Section C-27, Appendix C.

Table A-21

Public Utility

**Effective Cost Analysis of Privately-Placed Debt Issues By Quality
for 1962**

(Number of Issues)

Issue Size: \$5.0 - 9.9 Million

%	Quality of the Issue				
	Aaa	Aa	A	Baa	Total
+		2 (18.2)			2 (10.0)
0 - 4.9					
5.0 - 9.9					
10.0 - 14.9					
15.0 - 19.9		1 (9.1)			1 (5.0)
20.0 - 24.9		3 (27.3)			3 (15.0)
25.0 - 49.9				1 (16.7)	1 (5.0)
50.0+		5 (45.5)	3 (100.0)	5 (83.3)	13 (65.0)
Total		11 (100.0)	3 (100.0)	6 (100.0)	20 (100.0)

Note: Percentages Shown in brackets.

Source: Section C-10, Appendix C.

Table A-22

Public Utility

**Effective Cost Analysis of Privately-Placed Debt Issues By Quality
for 1966**

(Number of Issues)

Issue Size: \$5.0 - 9.9 Million

%	Quality of the Issue				
	Aaa	Aa	A	Baa	Total
+		2 (50.0)	2 (40.0)	3 (42.9)	7 (41.2)
0 - 4.9					
5.0 - 9.9					
10.0 - 14.9		1 (25.0)		1 (14.3)	2 (11.8)
15.0 - 19.9					
20.0 - 24.9					
25.0 - 49.9		1 (25.0)			1 (5.9)
50.0+	1 (100.0)		3 (60.0)	3 (42.9)	7 (41.2)
Total	1 (100.0)	4 (100.0)	5 (100.0)	7 (100.0)	17 (100.0)

Note: Percentages Shown in brackets.

Source: Section C-28, Appendix C.

Table A-23

Public Utility

**Effective Cost Analysis of Privately-Placed Debt Issues By Quality
for 1962**

(Number of Issues)

Issue Size: \$10.0 - 19.9 Million

%	Quality of the Issue				
	Aaa	Aa	A	Baa	Total
+			1 (100.0)		1 (14.3)
0 - 4.9					
5.0 - 9.9					
10.0 - 14.9					
15.0 - 19.9					
20.0 - 24.9					
25.0 - 49.9				2 (66.7)	2 (28.6)
50.0+	1 (100.0)	2 (100.0)		1 (33.3)	4 (57.1)
Total	1 (100.0)	2 (100.0)	1 (100.0)	3 (100.0)	7 (100.0)

Note: Percentages Shown in brackets.

Source: Section C-11, Appendix C.

Table A-24

Public Utility

**Effective Cost Analysis of Privately-Placed Debt Issues By Quality
for 1966**

(Number of Issues)

Issue Size: \$10.0 - 19.9 Million

%	Quality of the Issue				
	Aaa	Aa	A	Baa	Total
+		1 (16.7)	2 (50.0)		3 (23.1)
0 - 4.9					
5.0 - 9.9					
10.0 - 14.9					
15.0 - 19.9		2 (33.3)			2 (15.4)
20.0 - 24.9			1 (25.0)		1 (7.7)
25.0 - 49.9		1 (16.7)	1 (25.0)		2 (15.4)
50.0+		2 (33.3)		3 (100.0)	5 (38.5)
Total		6 (100.0)	4 (100.0)	3 (100.0)	13 (100.0)

Note: Percentages Shown in brackets.

Source: Section C-29, Appendix C.

Table A-25

Public Utility

**Effective Cost Analysis of Privately-Placed Debt Issues By Quality
for 1962**

(Number of Issues)

Issue Size: \$20.0 - 49.9 Million

%	Quality of the Issue				
	Aaa	Aa	A	Baa	Total
+					
0 - 4.9		1 (100.0)			1 (20.0)
5.0 - 9.9					
10.0 - 14.9					
15.0 - 19.9					
20.0 - 24.9	1 (100.0)				1 (20.0)
25.0 - 49.9				1 (50.0)	1 (20.0)
50.0+			1 (100.0)	1 (50.0)	2 (40.0)
Total	1 (100.0)	1 (100.0)	1 (100.0)	2 (100.0)	5 (100.0)

Note: Percentages Shown in brackets.

Source: Section C-12, Appendix C.

Table A-26

Public Utility

**Effective Cost Analysis of Privately-Placed Debt Issues By Quality
for 1966**

(Number of Issues)

Issue Size: \$20.0 - 49.9 Million

%	Quality of the Issue				
	Aaa	Aa	A	Baa	Total
+		1 (25.0)			1 (14.3)
0 - 4.9					
5.0 - 9.9					
10.0 - 14.9					
15.0 - 19.9					
20.0 - 24.9		1 (25.0)			1 (14.3)
25.0 - 49.9		1 (25.0)			1 (14.3)
50.0+		1 (25.0)	3 (100.0)		4 (57.1)
Total		4 (100.0)	3 (100.0)		7 (100.0)

Note: Percentages Shown in brackets.

Source: Section C-30, Appendix C.

Table A-27

Public Utility

**Effective Cost Analysis of Privately-Placed Debt Issues By Quality
for 1966**

(Number of Issues)

Issue Size: \$50.0 + Million

%	Quality of the Issue				
	Aaa	Aa	A	Baa	Total
+					
0 - 4.9					
5.0 - 9.9					
10.0 - 14.9					
15.0 - 19.9					
20.0 - 24.9					
25.0 - 49.9					
50.0+	1 (100.0)				1 (100.0)
Total	1 (100.0)				1 (100.0)

Note: Percentages Shown in brackets.

Source: Section C-31, Appendix C.

Table A-28

Public Utility

**Effective Cost Analysis of Privately-Placed Debt Issues By Quality
for 1962**

(Number of Issues)

Issue Size: A11

%	Quality of the Issue				
	Aaa	Aa	A	Baa	Total
+		3 (13.6)	1 (4.3)		4 (4.4)
0 - 4.9		3 (13.6)	1 (4.3)	2 (4.7)	6 (6.6)
5.0 - 9.9		2 (9.1)	1 (4.3)	6 (14.0)	9 (9.9)
10.0 - 14.9			1 (4.3)	1 (2.3)	2 (2.2)
15.0 - 19.9		2 (9.1)	3 (13.0)	2 (4.7)	7 (7.7)
20.0 - 24.9	2 (66.7)	4 (18.2)	1 (4.3)	2 (4.7)	9 (9.9)
25.0 - 49.9			4 (17.4)	16 (37.2)	20 (22.0)
50.0+	1 (33.3)	8 (36.4)	11 (47.9)	14 (32.5)	34 (37.4)
Total	3 (100.0)	22 (100.0)	23 (100.0)	43 (100.0)	91 (100.0)

Note: Percentages Shown in brackets.

Source: Sections C-8 to C-12, Appendix C.

Table A-29

Public Utility

**Effective Cost Analysis of Privately-Placed Debt Issues By Quality
for 1966**

(Number of Issues)

Issue Size: All

%	Quality of the Issue				
	Aaa	Aa	A	Baa	Total
+		8 (38.1)	7 (25.9)	24 (54.5)	39 (41.1)
0 - 4.9			1 (3.7)	2 (4.5)	3 (3.2)
5.0 - 9.9		3 (14.3)		1 (2.3)	4 (4.2)
10.0 - 14.9		1 (4.8)	1 (3.7)	5 (11.4)	7 (7.4)
15.0 - 19.9		2 (9.5)			2 (2.1)
20.0 - 24.9		1 (4.8)	3 (11.1)		4 (4.2)
25.0 - 49.9		3 (14.3)	4 (14.8)	4 (9.1)	11 (11.6)
50.0+	3 (100.0)	3 (14.3)	11 (40.7)	8 (18.2)	25 (26.3)
Total	3 (100.0)	21 (100.0)	27 (100.0)	44 (100.0)	95 (100.0)

Note: Percentages Shown in brackets.

Source: Sections C-26 to C-31, Appendix C.

Table A-30

Commercial

**Effective Cost Analysis of Privately-Placed Debt Issues By Quality
for 1962**

(Number of Issues)

Issue Size: \$0.5 - 0.9 Million

%	Quality of the Issue				
	Aaa	Aa	A	Baa	Total
+					
0 - 4.9				5 (26.3)	5 (26.3)
5.0 - 9.9				8 (42.1)	8 (42.1)
10.0 - 14.9				4 (21.1)	4 (21.1)
15.0 - 19.9				2 (10.5)	2 (10.5)
20.0 - 24.9					
25.0 - 49.9					
50.0+					
Total				19 (100.0)	19 (100.0)

Note: Percentages Shown in brackets.

Source: Section C-13, Appendix C.

Table A-31

Commercial

**Effective Cost Analysis of Privately-Placed Debt Issues By Quality
for 1966**

(Number of Issues)

Issue Size: \$0.5 - 0.9 Million

%	Quality of the Issue				
	Aaa	Aa	A	Baa	Total
+					
0 - 4.9				17 (73.9)	17 (63.0)
5.0 - 9.9			3 (75.0)	5 (21.7)	8 (29.6)
10.0 - 14.9			1 (25.0)	1 (4.3)	2 (7.4)
15.0 - 19.9					
20.0 - 24.9					
25.0 - 49.9					
50.0+					
Total			4 (100.0)	23 (100.0)	27 (100.0)

Note: Percentages Shown in brackets.

Source: Section C-32, Appendix C.

Table A-32

Commercial

**Effective Cost Analysis of Privately-Placed Debt Issues By Quality
for 196²**

(Number of Issues)

Issue Size: \$1.0 - 1.9 Million

%	Quality of the Issue				
	Aaa	Aa	A	Baa	Total
+					
0 - 4.9				2 (6.9)	2 (6.1)
5.0 - 9.9				4 (13.8)	4 (12.1)
10.0 - 14.9				1 (3.4)	1 (3.0)
15.0 - 19.9			2 (66.7)	11 (37.9)	13 (39.4)
20.0 - 24.9		1 (100.0)		7 (24.1)	8 (24.2)
25.0 - 49.9			1 (33.3)	4 (13.8)	5 (15.2)
50.0+					
Total		1 (100.0)	3 (100.0)	29 (100.0)	33 (100.0)

Note: Percentages Shown in brackets.

Source: Section C-14, Appendix C.

Table A-33

Commercial

**Effective Cost Analysis of Privately-Placed Debt Issues By Quality
for 1966**

(Number of Issues)

Issue Size: \$1.0 - 1.9 Million

%	Quality of the Issue				
	Aaa	Aa	A	Baa	Total
+				2 (10.5)	2 (7.7)
0 - 4.9			2 (28.6)	6 (31.6)	8 (30.8)
5.0 - 9.9			1 (14.3)	4 (21.1)	5 (19.2)
10.0 - 14.9			2 (28.6)	3 (15.8)	5 (19.2)
15.0 - 19.9			2 (28.6)	4 (21.0)	6 (23.1)
20.0 - 24.9					
25.0 - 49.9					
50.0+					
Total			7 (100.0)	19 (100.0)	26 (100.0)

Note: Percentages Shown in brackets.

Source: Section C-33, Appendix C.

Table A-34

Commercial

**Effective Cost Analysis of Privately-Placed Debt Issues By Quality
for 1962**

(Number of Issues)

Issue Size: \$2.0 - 4.9 Million

%	Quality of the Issue				
	Aaa	Aa	A	Baa	Total
+					
0 - 4.9		1 (33.3)		8 (34.8)	9 (27.3)
5.0 - 9.9				7 (30.4)	7 (21.2)
10.0 - 14.9				1 (4.3)	1 (3.0)
15.0 - 19.9		1 (33.3)	3 (42.9)	6 (26.1)	10 (30.3)
20.0 - 24.9			3 (42.9)	1 (4.3)	4 (12.1)
25.0 - 49.9		1 (33.3)	1 (14.3)		2 (6.1)
50.0+					
Total		3 (100.0)	7 (100.0)	23 (100.0)	33 (100.0)

Note: Percentages Shown in brackets.

Source: Section C-15, Appendix C.

Table A-35

Commercial

**Effective Cost Analysis of Privately-Placed Debt Issues By Quality
for 1966**

(Number of Issues)

Issue Size: \$2.0 - 4.9 Million

%	Quality of the Issue				
	Aaa	Aa	A	Baa	Total
+				9 (37.5)	9 (31.0)
0 - 4.9		1 (100.0)	3 (75.0)	11 (45.8)	15 (51.7)
5.0 - 9.9				1 (4.2)	1 (3.5)
10.0 - 14.9			1 (25.0)	2 (8.3)	3 (10.3)
15.0 - 19.9					
20.0 - 24.9				1 (4.2)	1 (3.5)
25.0 - 49.9					
50.0+					
Total		1 (100.0)	4 (100.0)	24 (100.0)	29 (100.0)

Note: Percentages Shown in brackets.

Source: Section C-34, Appendix C.

Table A-36

Commercial

**Effective Cost Analysis of Privately-Placed Debt Issues By Quality
for 1962**

(Number of Issues)

Issue Size: \$5.0 - 9.9 Million

%	Quality of the Issue				
	Aaa	Aa	A	Baa	Total
+				2 (16.7)	2 (11.8)
0 - 4.9					
5.0 - 9.9					
10.0 - 14.9				2 (16.7)	2 (11.8)
15.0 - 19.9				2 (16.7)	2 (11.8)
20.0 - 24.9		1 (33.3)		3 (25.0)	4 (23.5)
25.0 - 49.9		1 (33.3)		3 (25.0)	4 (23.5)
50.0+		1 (33.3)	2 (100.0)		3 (17.6)
Total		3 (100.0)	2 (100.0)	12 (100.0)	17 (100.0)

Note: Percentages Shown in brackets.

Source: Section C-16, Appendix C.

Table A-37

Commercial

**Effective Cost Analysis of Privately-Placed Debt Issues By Quality
for 1966**

(Number of Issues)

Issue Size: \$5.0 - 9.9 Million

%	Quality of the Issue				
	Aaa	Aa	A	Baa	Total
+					
0 - 4.9		1 (33.3)	1 (25.0)	3 (50.0)	5 (38.5)
5.0 - 9.9		1 (33.3)	1 (25.0)	1 (16.7)	3 (23.1)
10.0 - 14.9			1 (25.0)	2 (33.3)	3 (23.1)
15.0 - 19.9		1 (33.3)	1 (25.0)		2 (15.4)
20.0 - 24.9					
25.0 - 49.9					
50.0+					
Total		3 (100.0)	4 (100.0)	6 (100.0)	13 (100.0)

Note: Percentages Shown in brackets.

Source: Section C-35, Appendix C.

Table A-38

Commercial

**Effective Cost Analysis of Privately-Placed Debt Issues By Quality
for 1962**

(Number of Issues)

Issue Size: \$10.0 - 19.9 Million

%	Quality of the Issue				
	Aaa	Aa	A	Baa	Total
+					
0 - 4.9				1 (12.5)	1 (9.1)
5.0 - 9.9					
10.0 - 14.9					
15.0 - 19.9					
20.0 - 24.9				1 (12.5)	1 (9.1)
25.0 - 49.9				1 (12.5)	1 (9.1)
50.0+		2 (100.0)	1 (100.0)	5 (62.5)	8 (72.7)
Total		2 (100.0)	1 (100.0)	8 (100.0)	11 (100.0)

Note: Percentages Shown in brackets.

Source: Section C-17, Appendix C.

Table A-39

Commercial

Effective Cost Analysis of Privately-Placed Debt Issues By Quality
for 1966

(Number of Issues)

Issue Size: \$10.0 - 19.9 Million

%	Quality of the Issue				
	Aaa	Aa	A	Baa	Total
+		1 (100.0)	1 (50.0)		2 (40.0)
0 - 4.9			1 (50.0)		1 (20.0)
5.0 - 9.9					
10.0 - 14.9				1 (50.0)	1 (20.0)
15.0 - 19.9					
20.0 - 24.9				1 (50.0)	1 (20.0)
25.0 - 49.9					
50.0+					
Total		1 (100.0)	2 (100.0)	2 (100.0)	5 (100.0)

Note: Percentages Shown in brackets.

Source: Section C-36, Appendix C.

Table A-40

Commercial

**Effective Cost Analysis of Privately-Placed Debt Issues By Quality
for 1962**

(Number of Issues)

Issue Size: \$20.0 - 49.9 Million

%	Quality of the Issue				
	Aaa	Aa	A	Baa	Total
+					
0 - 4.9					
5.0 - 9.9					
10.0 - 14.9					
15.0 - 19.9				1 (50.0)	1 (50.0)
20.0 - 24.9					
25.0 - 49.9					
50.0+				1 (50.0)	1 (50.0)
Total				2 (100.0)	2 (100.0)

Note: Percentages Shown in brackets.

Source: Section C-18, Appendix C.

Table A-41

Commercial

**Effective Cost Analysis of Privately-Placed Debt Issues By Quality
for 1966**

(Number of Issues)

Issue Size: \$20.0 - 49.9 Million

%	Quality of the Issue				
	Aaa	Aa	A	Baa	Total
+				2 (50.0)	2 (40.0)
0 - 4.9					
5.0 - 9.9					
10.0 - 14.9					
15.0 - 19.9			1 (100.0)		1 (20.0)
20.0 - 24.9				2 (50.0)	2 (40.0)
25.0 - 49.9					
50.0+					
Total			1 (100.0)	4 (100.0)	5 (100.0)

Note: Percentages Shown in brackets.

Source: Section C-37, Appendix C.

Table A-42

Commercial

**Effective Cost Analysis of Privately-Placed Debt Issues By Quality
for 1962**

(Number of Issues)

Issue Size: A11

%	Quality of the Issue				
	Aaa	Aa	A	Baa	Total
+				2 (2.2)	2 (1.7)
0 - 4.9		1 (11.1)		16 (17.2)	17 (14.8)
5.0 - 9.9				19 (20.4)	19 (16.5)
10.0 - 14.9				8 (8.6)	8 (7.0)
15.0 - 19.9		1 (11.1)	5 (38.5)	22 (23.7)	28 (24.3)
20.0 - 24.9		2 (22.2)	3 (23.1)	12 (12.9)	17 (14.8)
25.0 - 49.9		2 (22.2)	2 (15.4)	8 (8.6)	12 (10.4)
50.0+		3 (33.3)	3 (23.1)	6 (6.5)	12 (10.4)
Total		9 (100.0)	13 (100.0)	93 (100.0)	115 (100.0)

Note: Percentages Shown in brackets.

Source: Sections C-13 to C-18, Appendix C.

Table A-43

Commercial

Effective Cost Analysis of Privately-Placed Debt Issues By Quality
for 1966

(Number of Issues)

Issue Size: All

%	Quality of the Issue				
	Aaa	Aa	A	Baa	Total
+		1 (20.0)	1 (4.5)	13 (16.6)	15 (14.3)
0 - 4.9		2 (40.0)	7 (31.8)	37 (47.4)	46 (43.8)
5.0 - 9.9		1 (20.0)	5 (22.8)	11 (14.1)	17 (16.2)
10.0 - 14.9			5 (22.8)	9 (11.6)	14 (13.3)
15.0 - 19.9		1 (20.0)	4 (18.1)	4 (5.1)	9 (8.6)
20.0 - 24.9				4 (5.1)	4 (3.8)
25.0 - 49.9					
50.0+					
Total		5 (100.0)	22 (100.0)	78 (100.0)	105 (100.0)

Note: Percentages Shown in brackets.

Source: Sections C-32 to C-37, Appendix C.

Table A-44

Manufacturing

Effective Cost Analysis of Privately-Placed Debt Issues by
Maturity for 1962

(Number of Issues)

Issue Size: \$0.5 - 0.9 Million

r %	Maturity of the Issues in Years						Total
	0-4	5-9	10-14	15-19	20-24	25+	
+							
0-4.9		1 (100.0)	11 (50.0)	3 (16.7)			15 (35.7)
5.0-9.9			6 (27.3)	9 (50.0)	1 (100.0)		16 (38.1)
10.0-14.9			5 (22.7)	5 (27.8)			10 (23.8)
15.0-19.9				1 (5.6)			1 (2.4)
20.0-24.9							
25.0-49.9							
50.0 +							
Total		1 (100.0)	22 (100.0)	18 (100.0)	1 (100.0)		42 (100.0)

Note: Percentages Shown in brackets

Source: Section C-1, Appendix C.

Table A-45

Manufacturing

Effective Cost Analysis of Privately-Placed Debt Issues by
Maturity for 1966

(Number of Issues)

Issue Size: \$0.5 - 0.9 Million

r %	Maturity of the Issues in Years						Total
	0-4	5-9	10-14	15-19	20-24	25+	
+							
0-4.9		2 (100.0)	24 (88.9)	22 (81.4)	2 (66.7)		50 (84.7)
5.0-9.9			2 (7.4)	3 (11.1)	1 (33.3)		6 (10.2)
10.0-14.9			1 (3.7)	2 (7.4)			3 (5.1)
15.0-19.9							
20.0-24.9							
25.0-49.9							
50.0 +							
Total		2 (100.0)	27 (100.0)	27 (100.0)	3 (100.0)		59 (100.0)

Note: Percentages Shown in brackets

Source: Section C-19, Appendix C.

Table A-46

Manufacturing

Effective Cost Analysis of Privately-Placed Debt Issues by
Maturity for 1962

(Number of Issues)

Issue Size: \$1.0 - 1.9 Million

r %	Maturity of the Issues in Years						Total
	0-4	5-9	10-14	15-19	20-24	25+	
+							
0-4.9		1 (100.0)	1 (6.7)	2 (8.0)	2 (66.7)		6 (13.6)
5.0-9.9			5 (33.3)	5 (20.0)			10 (22.7)
10.0-14.9			4 (26.7)	6 (24.0)			10 (22.7)
15.0-19.9			4 (26.7)	9 (36.0)	1 (33.3)		14 (31.8)
20.0-24.9			1 (6.7)	3 (12.0)			4 (9.1)
25.0-49.9							
50.0 +							
Total		1 (100.0)	15 (100.0)	25 (100.0)	3 (100.0)		44 (100.0)

Note: Percentages Shown in brackets

Source: Section C-2, Appendix C.

Table A-47

Manufacturing

**Effective Cost Analysis of Privately-Placed Debt Issues by
Maturity for 1966**

(Number of Issues)

Issue Size: \$1.0 - 1.9 Million

r %	Maturity of the Issues in Years						Total
	0-4	5-9	10-14	15-19	20-24	25+	
+			2 (13.3)	1 (2.5)			3 (5.1)
0-4.9	1 (100.0)		9 (60.0)	25 (62.5)	1 (50.0)	1 (100.0)	37 (62.7)
5.0-9.9			4 (26.7)	10 (25.0)			14 (23.7)
10.0-14.9				2 (5.0)	1 (50.0)		3 (5.1)
15.0-19.9				2 (5.0)			2 (3.4)
20.0-24.9							
25.0-49.9							
50.0 +							
Total	1 (100.0)		15 (100.0)	40 (100.0)	2 (100.0)	1 (100.0)	59 (100.0)

Note: Percentages Shown in brackets

Source: Section C-20, Appendix C.

Table A-48

Manufacturing

**Effective Cost Analysis of Privately-Placed Debt Issues by
Maturity for 1962**

(Number of Issues)

Issue Size: \$2.0 - 4.9 Million

r %	Maturity of the Issues in Years						Total
	0-4	5-9	10-14	15-19	20-24	25+	
0-4.9	1 (100.0)		1 (6.7)	2 (7.1)			4 (8.0)
5.0-9.9			1 (6.7)	2 (7.1)	1 (20.0)		4 (8.0)
10.0-14.9			5 (33.3)	2 (7.1)	1 (20.0)		8 (16.0)
15.0-19.9		1 (100.0)	4 (26.7)	6 (21.4)			11 (22.0)
20.0-24.9				4 (14.3)	2 (40.0)		6 (12.0)
25.0-49.9			4 (26.7)	12 (42.9)	1 (20.0)		17 (34.0)
50.0 +							
Total	1 (100.0)	1 (100.0)	15 (100.0)	28 (100.0)	5 (100.0)		50 (100.0)

Note: Percentages Shown in brackets

Source: Section C-3, Appendix C.

Table A-49

Manufacturing

**Effective Cost Analysis of Privately-Placed Debt Issues by
Maturity for 1966**

(Number of Issues)

Issue Size: \$2.0 - 4.9 Million

r %	Maturity of the Issues in Years						Total
	0-4	5-9	10-14	15-19	20-24	25+	
+			2 (11.8)	3 (7.3)	2 (28.6)		7 (10.1)
0-4.9		4 (100.0)	11 (64.7)	21 (51.2)	4 (57.1)		40 (58.0)
5.0-9.9			1 (5.9)	6 (14.7)	1 (14.3)		8 (11.6)
10.0-14.9			2 (11.8)	5 (12.3)			7 (10.1)
15.0-19.9			1 (5.9)	3 (7.3)			4 (5.8)
20.0-24.9				1 (2.4)			1 (1.4)
25.0-49.9				2 (4.8)			2 (2.9)
50.0 +							
Total		4 (100.0)	17 (100.0)	41 (100.0)	7 (100.0)		69 (100.0)

Note: Percentages Shown in brackets

Source: Section C-21, Appendix C.

Table A-50

Manufacturing

Effective Cost Analysis of Privately-Placed Debt Issues by
Maturity for 1962

(Number of Issues)

Issue Size: \$5.0 - 9.9 Million

r %	Maturity of the Issues in Years						Total
	0-4	5-9	10-14	15-19	20-24	25+	
+						1 (50.0)	1 (3.2)
0-4.9					1 (20.0)	1 (50.0)	2 (6.5)
5.0-9.9				1 (5.0)			1 (3.2)
10.0-14.9							
15.0-19.9				2 (10.0)			2 (6.5)
20.0-24.9				1 (5.0)			1 (3.2)
25.0-49.9			2 (50.0)	13 (65.0)	4 (80.0)		19 (61.3)
50.0 +			2 (50.0)	3 (15.0)			5 (16.1)
Total			4 (100.0)	20 (100.0)	5 (100.0)	2 (100.0)	31 (100.0)

Note: Percentages Shown in brackets

Source: Section C-4, Appendix C.

Table A-51

Manufacturing

Effective Cost Analysis of Privately-Placed Debt Issues by
Maturity for 1966

(Number of Issues)

Issue Size: \$5.0 - 9.9 Million

r %	Maturity of the Issues in Years						Total
	0-4	5-9	10-14	15-19	20-24	25+	
+			1 (12.5)	3 (15.0)	3 (25.0)	2 (100.0)	9 (20.5)
0-4.9	1 (100.0)	1 (100.0)	3 (37.5)	7 (35.0)	3 (25.0)		15 (34.1)
5.0-9.9				2 (10.0)	3 (25.0)		5 (11.4)
10.0-14.9			1 (12.5)	1 (5.0)			2 (4.5)
15.0-19.9			1 (12.5)	2 (10.0)	1 (8.3)		4 (9.1)
20.0-24.9			1 (12.5)	1 (5.0)			2 (4.5)
25.0-49.9			1 (12.5)	3 (15.0)	2 (16.7)		6 (13.6)
50.0 +				1 (5.0)			1 (2.3)
Total	1 (100.0)	1 (100.0)	8 (100.0)	20 (100.0)	12 (100.0)	2 (100.0)	44 (100.0)

Note: Percentages Shown in brackets

Source: Section C-22, Appendix C.

Table A-52

Manufacturing

Effective Cost Analysis of Privately-Placed Debt Issues by
Maturity for 1962

(Number of Issues)

Issue Size: \$10.0 - 19.9 Million

r %	Maturity of the Issues in Years						Total
	0-4	5-9	10-14	15-19	20-24	25+	
+					1 (16.7)		1 (5.6)
0-4.9			1 (100.0)				1 (5.6)
5.0-9.9						1 (100.0)	1 (5.6)
10.0-14.9				1 (10.0)			1 (5.6)
15.0-19.9							
20.0-24.9				1 (10.0)			1 (5.6)
25.0-49.9				4 (40.0)	2 (33.3)		6 (33.3)
50.0 +				4 (40.0)	3 (50.0)		7 (38.9)
Total			1 (100.0)	10 (100.0)	6 (100.0)	1 (100.0)	18 (100.0)

Note: Percentages Shown in brackets

Source: Section C-5, Appendix C.

Table A-53

Manufacturing

**Effective Cost Analysis of Privately-Placed Debt Issues by
Maturity for 1966**

(Number of Issues)

Issue Size: \$10.0 - 19.9 Million

r %	Maturity of the Issues in Years						Total
	0-4	5-9	10-14	15-19	20-24	25+	
+				2 (13.3)	3 (16.7)		5 (14.3)
0-4.9				3 (20.0)	1 (5.6)		4 (11.4)
5.0-9.9					1 (5.6)		1 (2.9)
10.0-14.9				1 (6.7)	2 (11.1)		3 (8.6)
15.0-19.9			1 (50.0)		1 (5.6)		2 (5.7)
20.0-24.9				1 (6.7)	1 (5.6)		2 (5.7)
25.0-49.9			1 (50.0)	6 (40.0)	8 (44.4)		15 (42.9)
50.0 +				2 (13.3)	1 (5.6)		3 (8.6)
Total			2 (100.0)	15 (100.0)	18 (100.0)		35 (100.0)

Note: Percentages Shown in brackets

Source: Section C-23, Appendix C.

Table A-54

Manufacturing

**Effective Cost Analysis of Privately-Placed Debt Issues by
Maturity for 1962**

(Number of Issues)

Issue Size: \$20.0 - 49.9 Million

r %	Maturity of the Issues in Years						Total
	0-4	5-9	10-14	15-19	20-24	25+	
+					1 (11.1)	2 (66.7)	3 (14.3)
0-4.9					1 (11.1)		1 (4.8)
5.0-9.9							
10.0-14.9							
15.0-19.9							
20.0-24.9							
25.0-49.9				1 (11.1)	4 (44.4)	1 (33.3)	6 (28.6)
50.0 +				8 (88.9)	3 (33.3)		11 (52.4)
Total				9 (100.0)	9 (100.0)	3 (100.0)	21 (100.0)

Note: Percentages Shown in brackets

Source: Section C-6, Appendix C.

Table A-55

Manufacturing

Effective Cost Analysis of Privately-Placed Debt Issues by
Maturity for 1966

(Number of Issues)

Issue Size: \$20.0 - 49.9 Million

r %	Maturity of the Issues in Years						Total
	0-4	5-9	10-14	15-19	20-24	25+	
+				2 (25.0)	3 (17.6)	2 (100.0)	7 (23.3)
0-4.9			1 (33.3)				1 (3.3)
5.0-9.9					4 (23.5)		4 (13.3)
10.0-14.9					2 (11.8)		2 (6.7)
15.0-19.9				2 (25.0)	1 (5.9)		3 (10.0)
20.0-24.9				1 (12.5)	1 (5.9)		2 (6.7)
25.0-49.9			1 (33.3)	3 (37.5)	1 (5.9)		5 (16.7)
50.0 +			1 (33.3)		5 (29.4)		6 (20.0)
Total			3 (100.0)	8 (100.0)	17 (100.0)	2 (100.0)	30 (100.0)

Note: Percentages Shown in brackets

Source: Section C-24, Appendix C.

Table A-56

Manufacturing

Effective Cost Analysis of Privately-Placed Debt Issues by
Maturity for 1962

(Number of Issues)

Issue Size: \$50.0 + Million

r %	Maturity of the Issues in Years						Total
	0-4	5-9	10-14	15-19	20-24	25+	
+							
0-4.9							
5.0-9.9						1 (20.0)	1 (11.1)
10.0-14.9							
15.0-19.9							
20.0-24.9							
25.0-49.9				1 (50.0)	1 (50.0)	2 (40.0)	4 (44.4)
50.0 +				1 (50.0)	1 (50.0)	2 (40.0)	4 (44.4)
Total				2 (100.0)	2 (100.0)	5 (100.0)	9 (100.0)

Note: Percentages Shown in brackets

Source: Section C-7, Appendix C.

Table A-57

Manufacturing

Effective Cost Analysis of Privately-Placed Debt Issues by
Maturity for 1966

(Number of Issues)

Issue Size: \$50.0 + Million

r %	Maturity of the Issues in Years						Total
	0-4	5-9	10-14	15-19	20-24	25+	
+						5 (50.0)	5 (26.3)
0-4.9					1 (12.5)	1 (10.0)	2 (10.5)
5.0-9.9							
10.0-14.9							
15.0-19.9					1 (12.5)		1 (5.3)
20.0-24.9					1 (12.5)		1 (5.3)
25.0-49.9						2 (20.0)	2 (10.5)
50.0 +			1 (100.0)		5 (62.5)	2 (20.0)	8 (42.1)
Total			1 (100.0)		8 (100.0)	10 (100.0)	19 (100.0)

Note: Percentages Shown in brackets

Source: Section C-25, Appendix C.

Table A-58

Manufacturing

Effective Cost Analysis of Privately-Placed Debt Issues by
Maturity for 1962

(Number of Issues)

Issue Size: All

r %	Maturity of the Issues in Years						Total
	0-4	5-9	10-14	15-19	20-24	25+	
+					2 (6.5)	3 (27.3)	5 (2.3)
0-4.9	1 (100.0)	2 (66.7)	14 (24.6)	7 (6.3)	4 (12.9)	1 (9.1)	29 (13.5)
5.0-9.9			12 (21.1)	17 (15.2)	2 (6.5)	2 (18.2)	33 (15.3)
10.0-14.9			14 (24.6)	14 (12.5)	1 (3.2)		29 (13.5)
15.0-19.9		1 (33.3)	8 (14.0)	18 (16.1)	1 (3.2)		28 (13.0)
20.0-24.9			1 (1.8)	9 (8.0)	2 (6.5)		12 (5.6)
25.0-49.9			6 (10.5)	31 (27.7)	12 (38.7)	3 (27.3)	52 (24.2)
50.0 +			2 (3.5)	16 (14.3)	7 (22.6)	2 (18.2)	27 (12.6)
Total	1 (100.0)	3 (100.0)	57 (100.0)	112 (100.0)	31 (100.0)	11 (100.0)	215 (100.0)

Note: Percentages Shown in brackets

Source: Sections C-1 to C-7, Appendix C.

Table A-59

Manufacturing

**Effective Cost Analysis of Privately-Placed Debt Issues by
Maturity for 1966**

(Number of Issues)

Issue Size: All

r %	Maturity of the Issues in Years						Total
	0-4	5-9	10-14	15-19	20-24	25+	
+			5 (6.8)	11 (7.3)	11 (16.4)	9 (60.0)	36 (11.4)
0-4.9	2 (100.0)	7 (100.0)	48 (65.8)	78 (51.7)	12 (17.9)	2 (13.3)	149 (47.3)
5.0-9.9			7 (9.6)	21 (13.9)	10 (14.9)		38 (12.1)
10.0-14.9			4 (5.5)	11 (7.3)	5 (7.5)		20 (6.3)
15.0-19.9			3 (4.1)	9 (6.0)	4 (6.0)		16 (5.1)
20.0-24.9			1 (1.4)	4 (2.6)	3 (4.5)		8 (2.5)
25.0-49.9			3 (4.1)	14 (9.2)	11 (16.4)	2 (13.3)	30 (9.5)
50.0 +			2 (2.7)	3 (1.0)	11 (16.4)	2 (13.3)	18 (5.7)
Total	2 (100.0)	7 (100.0)	73 (100.0)	151 (100.0)	67 (100.0)	15 (100.0)	315 (100.0)

Note: Percentages Shown in brackets

Source: Sections C-19 to C-25, Appendix C.

Table A-60

Public Utility

Effective Cost Analysis of Privately-Placed Debt Issues by
Maturity for 1962

(Number of Issues)

Issue Size: \$1.0 - 1.9 Million

r %	Maturity of the Issues in Years						Total
	0-4	5-9	10-14	15-19	20-24	25+	
+							
0-4.9						3 (13.6)	3 (10.0)
5.0-9.9					2 (66.7)	7 (31.8)	9 (30.0)
10.0-14.9						2 (9.1)	2 (6.7)
15.0-19.9						3 (13.6)	3 (10.0)
20.0-24.9						3 (13.6)	3 (10.0)
25.0-49.9			1 (100.0)	3 (75.0)	1 (33.3)	4 (18.2)	9 (30.0)
50.0 +				1 (25.0)			1 (3.3)
Total			1 (100.0)	4 (100.0)	3 (100.0)	22 (100.0)	30 (100.0)

Note: Percentages Shown in brackets

Source: Section C-8, Appendix C.

Table A-61

Public Utility

**Effective Cost Analysis of Privately-Placed Debt Issues by
Maturity for 1966**

(Number of Issues)

Issue Size: \$1.0 to 1.9 Million

r %	Maturity of the Issues in Years						Total
	0-4	5-9	10-14	15-19	20-24	25+	
+			1 (100.0)	1 (50.0)	4 (66.7)	9 (47.4)	15 (53.6)
0-4.9					2 (33.3)	1 (5.3)	3 (10.7)
5.0-9.9						2 (10.5)	2 (7.1)
10.0-14.9						4 (21.1)	4 (14.3)
15.0-19.9							
20.0-24.9						2 (10.5)	2 (7.1)
25.0-49.9				1 (50.0)		1 (5.3)	2 (7.1)
50.0 +							
Total			1 (100.0)	2 (100.0)	6 (100.0)	19 (100.0)	28 (100.0)

Note: Percentages Shown in brackets

Source: Section C-26, Appendix C.

Table A-62

Public Utility

Effective Cost Analysis of Privately-Placed Debt Issues by
Maturity for 1962

(Number of Issues)

Issue Size: \$2.0 - 4.9 Million

r %	Maturity of the Issues in Years						Total
	0-4	5-9	10-14	15-19	20-24	25+	
+						1 (4.5)	1 (3.4)
0-4.9						2 (9.1)	2 (6.9)
5.0-9.9							
10.0-14.9							
15.0-19.9						3 (13.6)	3 (10.3)
20.0-24.9						2 (9.1)	2 (6.9)
25.0-49.9					1 (20.0)	6 (27.3)	7 (24.1)
50.0 +		1 (100.0)	1 (100.0)		4 (80.0)	8 (36.4)	14 (48.3)
Total		1 (100.0)	1 (100.0)		5 (100.0)	22 (100.0)	29 (100.0)

Note: Percentages Shown in brackets

Source: Section C-9, Appendix C.

Table A-63

Public Utility

Effective Cost Analysis of Privately-Placed Debt Issues by
Maturity for 1966

(Number of Issues)

Issue Size: \$2.0 - 4.9 Million

r %	Maturity of the Issues in Years						
	0-4	5-9	10-14	15-19	20-24	25+	Total
+				2 (50.0)	2 (50.0)	9 (42.9)	13 (44.8)
0-4.9							
5.0-9.9						2 (9.5)	2 (6.9)
10.0-14.9						1 (4.8)	1 (3.4)
15.0-19.9							
20.0-24.9							
25.0-49.9					2 (50.0)	3 (14.3)	5 (17.2)
50.0 +				2 (50.0)		6 (28.6)	8 (27.6)
Total				4 (100.0)	4 (100.0)	21 (100.0)	29 (100.0)

Note: Percentages Shown in brackets

Source: Section C-27, Appendix C.

Table A-64

Public Utility

**Effective Cost Analysis of Privately-Placed Debt Issues by
Maturity for 1962**

(Number of Issues)

Issue Size: \$5.0 - 9.9 Million

r %	Maturity of the Issues in Years						Total
	0-4	5-9	10-14	15-19	20-24	25+	
+						2 (11.8)	2 (10.0)
0-4.9							
5.0-9.9							
10.0-14.9							
15.0-19.9						1 (5.9)	1 (5.0)
20.0-24.9						3 (17.6)	3 (15.0)
25.0-49.9						1 (5.9)	1 (5.0)
50.0 +			1 (100.0)		2 (100.0)	10 (58.8)	13 (65.0)
Total			1 (100.0)		2 (100.0)	17 (100.0)	20 (100.0)

Note: Percentages Shown in brackets

Source: Section C-10, Appendix C.

Table A-65

Public Utility

Effective Cost Analysis of Privately-Placed Debt Issues by
Maturity for 1966

(Number of Issues)

Issue Size: \$5.0 - 9.9 Million

r %	Maturity of the Issues in Years						Total
	0-4	5-9	10-14	15-19	20-24	25+	
+					2 (40.0)	5 (41.7)	7 (41.2)
0-4.9							
5.0-9.9							
10.0-14.9						2 (16.7)	2 (11.8)
15.0-19.9							
20.0-24.9							
25.0-49.9						1 (8.3)	1 (5.9)
50.0 +					3 (60.0)	4 (33.3)	7 (41.2)
Total					5 (100.0)	12 (100.0)	17 (100.0)

Note: Percentages Shown in brackets

Source: Section C-28, Appendix C.

Table A-66

Public Utility

Effective Cost Analysis of Privately-Placed Debt Issues by
Maturity for 1962

(Number of Issues)

Issue Size: \$10.0 - 19.9 Million

r %	Maturity of the Issues in Years						Total
	0-4	5-9	10-14	15-19	20-24	25+	
+						1 (33.3)	1 (14.3)
0-4.9							
5.0-9.9							
10.0-14.9							
15.0-19.9							
20.0-24.9							
25.0-49.9					2 (50.0)		2 (28.6)
50.0 +					2 (50.0)	2 (66.7)	4 (57.1)
Total					4 (100.0)	3 (100.0)	7 (100.0)

Note: Percentages Shown in brackets

Source: Section C-11, Appendix C.

Table A-67

Public Utility

**Effective Cost Analysis of Privately-Placed Debt Issues by
Maturity for 196 6**

(Number of Issues)

Issue Size: \$10.0 - 19.9 Million

r %	Maturity of the Issues in Years						Total
	0-4	5-9	10-14	15-19	20-24	25+	
+						3 (27.3)	3 (23.1)
0-4.9							
5.0-9.9							
10.0-14.9							
15.0-19.9						2 (18.2)	2 (15.4)
20.0-24.9					1 (50.0)		1 (7.7)
25.0-49.9						2 (18.2)	2 (15.4)
50.0 +					1 (50.0)	4 (36.4)	5 (38.5)
Total					2 (100.0)	11 (100.0)	13 (100.0)

Note: Percentages Shown in brackets

Source: Section C-29, Appendix C.

Table A-68

Public Utility

Effective Cost Analysis of Privately-Placed Debt Issues by
Maturity for 1962

(Number of Issues)

Issue Size: \$20.0 - 49.9 Million

r %	Maturity of the Issues in Years						Total
	0-4	5-9	10-14	15-19	20-24	25+	
+							
0-4.9						1 (50.0)	1 (20.0)
5.0-9.9							
10.0-14.9							
15.0-19.9							
20.0-24.9						1 (50.0)	1 (20.0)
25.0-49.9					1 (33.3)		1 (20.0)
50.0 +					2 (66.7)		2 (40.0)
Total					3 (100.0)	2 (100.0)	5 (100.0)

Note: Percentages Shown in brackets

Source: Section C-12, Appendix C.

Table A-69

Public Utility

Effective Cost Analysis of Privately-Placed Debt Issues by
Maturity for 1966

(Number of Issues)

Issue Size: \$20.0 - 49.9 Million

r %	Maturity of the Issues in Years						Total
	0-4	5-9	10-14	15-19	20-24	25+	
*						1 (16.7)	1 (14.3)
0-4.9							
5.0-9.9							
10.0-14.9							
15.0-19.9							
20.0-24.9			1 (100.0)				1 (14.3)
25.0-49.9						1 (16.7)	1 (14.3)
50.0 +				-		4 (66.7)	4 (57.1)
Total			1 (100.0)			6 (100.0)	7 (100.0)

Note: Percentages Shown in brackets

Source: Section C-30, Appendix C.

Table A-70

Public Utility

Effective Cost Analysis of Privately-Placed Debt Issues by
Maturity for 1966

(Number of Issues)

Issue Size: \$50.0 + Million

r %	Maturity of the Issues in Years						Total
	0-4	5-9	10-14	15-19	20-24	25+	
0-4.9							
5.0-9.9							
10.0-14.9							
15.0-19.9							
20.0-24.9							
25.0-49.9							
50.0 +						1 (100.0)	1 (100.0)
Total						1 (100.0)	1 (100.0)

Note: Percentages Shown in brackets

Source: Section C-31, Appendix C.

Table A-71

Public Utility

**Effective Cost Analysis of Privately-Placed Debt Issues by
Maturity for 1962**

(Number of Issues)

Issue Size: All

r %	Maturity of the Issues in Years						
	0-4	5-9	10-14	15-19	20-24	25+	Total
+						4 (6.1)	4 (4.4)
0-4.9						6 (9.1)	6 (6.6)
5.0-9.9					2 (11.8)	7 (10.6)	9 (9.9)
10.0-14.9						2 (3.0)	2 (2.2)
15.0-19.9						7 (10.6)	7 (7.7)
20.0-24.9						9 (13.6)	9 (9.9)
25.0-49.9			1 (33.3)	3 (75.0)	5 (29.4)	11 (16.7)	20 (22.0)
50.0 +		1 (100.0)	2 (66.7)	1 (25.0)	10 (58.8)	20 (30.3)	34 (37.4)
Total		1 (100.0)	3 (100.0)	4 (100.0)	17 (100.0)	66 (100.0)	91 (100.0)

Note: Percentages Shown in brackets

Source: Sections C-8 to C-12, Appendix C.

Table A-72

Public Utility

Effective Cost Analysis of Privately-Placed Debt Issues by
Maturity for 1966

(Number of Issues)

Issue Size: All

r %	Maturity of the Issues in Years						Total
	0-4	5-9	10-14	15-19	20-24	25+	
+			1 (50.0)	3 (50.0)	8 (47.1)	27 (38.6)	39 (41.1)
0-4.9					2 (11.8)	1 (1.4)	3 (3.2)
5.0-9.9						4 (5.7)	4 (4.2)
10.0-14.9						7 (10.0)	7 (7.4)
15.0-19.9						2 (2.8)	2 (2.1)
20.0-24.9			1 (50.0)		1 (5.9)	2 (2.8)	4 (4.2)
25.0-49.9				1 (16.7)	2 (11.8)	8 (11.4)	11 (11.6)
50.0 +				2 (33.3)	4 (23.5)	19 (27.1)	25 (26.3)
Total			2 (100.0)	6 (100.0)	17 (100.0)	70 (100.0)	95 (100.0)

Note: Percentages Shown in brackets

Source: Sections C-26 to C-31, Appendix C.

Table A-73

Commercial

Effective Cost Analysis of Privately-Placed Debt Issues by
Maturity for 1962

(Number of Issues)

Issue Size: \$0.5 - 0.9 Million

r %	Maturity of the Issues in Years						Total
	0-4	5-9	10-14	15-19	20-24	25+	
+							
0-4.9			4 (30.8)			1 (50.0)	5 (26.3)
5.0-9.9			5 (38.5)	3 (75.0)			8 (42.1)
10.0-14.9			2 (15.4)	1 (25.0)		1 (50.0)	4 (21.1)
15.0-19.9			2 (15.4)				2 (10.5)
20.0-24.9							
25.0-49.9							
50.0 +							
Total			13 (100.0)	4 (100.0)		2 (100.0)	19 (100.0)

Note: Percentages Shown in brackets

Source: Section C-13, Appendix C.

Table A-74

Commercial

**Effective Cost Analysis of Privately-Placed Debt Issues by
Maturity for 1966**

(Number of Issues)

Issue Size: \$0.5 - 0.9 Million

r %	Maturity of the Issues in Years						Total
	0-4	5-9	10-14	15-19	20-24	25+	
+							
0-4.9		3 (100.0)	7 (58.3)	6 (60.0)		1 (50.0)	17 (63.0)
5.0-9.9			5 (41.7)	2 (20.0)		1 (50.0)	8 (29.6)
10.0-14.9				2 (20.0)			2 (7.4)
15.0-19.9							
20.0-24.9							
25.0-49.9							
50.0 + -							
Total		3 (100.0)	12 (100.0)	10 (100.0)		2 (100.0)	27 (100.0)

Note: Percentages Shown in brackets

Source: Section C-32, Appendix C.

Table A-75

Commercial

Effective Cost Analysis of Privately-Placed Debt Issues by
Maturity for 1962

(Number of Issues)

Issue Size: \$1.0 - 1.9 Million

r %	Maturity of the Issues in Years						Total
	0-4	5-9	10-14	15-19	20-24	25+	
+							
0-4.9				2 (12.5)			2 (6.1)
5.0-9.9			1 (9.1)	2 (12.5)		1 (100.0)	4 (12.1)
10.0-14.9			1 (9.1)				1 (3.0)
15.0-19.9			3 (27.3)	6 (37.5)	4 (80.0)		13 (39.4)
20.0-24.9			3 (27.3)	4 (25.0)	1 (20.0)		8 (24.2)
25.0-49.9			3 (27.3)	2 (12.5)			5 (15.2)
50.0 +							
Total			11 (100.0)	16 (100.0)	5 (100.0)	1 (100.0)	33 (100.0)

Note: Percentages Shown in brackets

Source: Section C-14, Appendix C.

Table A-76

Commercial

Effective Cost Analysis of Privately-Placed Debt Issues by
Maturity for 1966

(Number of Issues)

Issue Size: \$1.0 - 1.9 Million

r %	Maturity of the Issues in Years						Total
	0-4	5-9	10-14	15-19	20-24	25+	
+			1 (9.1)	1 (7.1)			2 (7.7)
0-4.9		1 (100.0)	2 (18.2)	5 (35.7)			8 (30.8)
5.0-9.9			1 (9.1)	4 (28.6)			5 (19.2)
10.0-14.9			3 (27.3)	2 (14.3)			5 (19.2)
15.0-19.9			4 (36.4)	2 (14.3)			6 (23.1)
20.0-24.9							
25.0-49.9							
50.0 +							
Total		1 (100.0)	11 (100.0)	14 (100.0)			26 (100.0)

Note: Percentages Shown in brackets

Source: Section C-33, Appendix C.

Table A-77

Commercial

Effective Cost Analysis of Privately-Placed Debt Issues by
Maturity for 1962

(Number of Issues)

Issue Size: \$2.0 - 4.9 Million

r %	Maturity of the Issues in Years						Total
	0-4	5-9	10-14	15-19	20-24	25+	
+							
0-4.9		2 (66.7)	3 (75.0)	1 (5.6)	2 (40.0)	1 (33.3)	9 (27.3)
5.0-9.9		1 (33.3)		3 (16.7)	2 (40.0)	1 (33.3)	7 (21.2)
10.0-14.9			1 (25.0)				1 (3.0)
15.0-19.9				9 (50.0)	1 (20.0)		10 (30.3)
20.0-24.9				3 (16.7)		1 (33.3)	4 (12.1)
25.0-49.9				2 (11.1)			2 (6.1)
50.0 +							
Total		3 (100.0)	4 (100.0)	18 (100.0)	5 (100.0)	3 (100.0)	33 (100.0)

Note: Percentages Shown in brackets

Source: Section C-15, Appendix C.

Table A-78

Commercial

Effective Cost Analysis of Privately-Placed Debt Issues by
Maturity for 1966

(Number of Issues)

Issue Size: \$2.0 - 4.9 Million

r %	Maturity of the Issues in Years						Total
	0-4	5-9	10-14	15-19	20-24	25+	
+			1 (33.3)	5 (29.4)	2 (33.3)	1 (33.3)	9 (31.0)
0-4.9			1 (33.3)	9 (52.9)	3 (50.0)	2 (66.7)	15 (51.7)
5.0-9.9				1 (5.9)			1 (3.4)
10.0-14.9			1 (33.3)	1 (5.9)	1 (16.7)		3 (10.3)
15.0-19.9							
20.0-24.9				1 (5.9)			1 (3.4)
25.0-49.9							
50.0 +							
Total			3 (100.0)	17 (100.0)	6 (100.0)	3 (100.0)	29 (100.0)

Note: Percentages Shown in brackets

Source: Section C-34, Appendix C.

Table A-79

Commercial

Effective Cost Analysis of Privately-Placed Debt Issues by
Maturity for 1962

(Number of Issues)

Issue Size: \$5.0 - 9.9 Million

r %	Maturity of the Issues in Years						Total
	0-4	5-9	10-14	15-19	20-24	25+	
+				2 (20.0)			2 (11.8)
0-4.9							
5.0-9.9							
10.0-14.9				1 (10.0)	1 (16.7)		2 (11.8)
15.0-19.9				2 (20.0)			2 (11.8)
20.0-24.9				2 (20.0)	2 (33.3)		4 (23.5)
25.0-49.9				2 (20.0)	2 (33.3)		4 (23.5)
50.0 +			1 (100.0)	1 (10.0)	1 (16.7)		3 (17.6)
Total			1 (100.0)	10 (100.0)	6 (100.0)		17 (100.0)

Note: Percentages Shown in brackets

Source: Section C-16, Appendix C.

Table A-80

Commercial

Effective Cost Analysis of Privately-Placed Debt Issues by
Maturity for 1966

(Number of Issues)

Issue Size: \$5.0 - 9.9 Million

r %	Maturity of the Issues in Years						Total
	0-4	5-9	10-14	15-19	20-24	25+	
+							
0-4.9		1 (100.0)	2 (66.7)		2 (66.7)		5 (38.5)
5.0-9.9				2 (40.0)	1 (33.3)		3 (23.1)
10.0-14.9			1 (33.3)	2 (40.0)			3 (23.1)
15.0-19.9				1 (20.0)		1 (100.0)	2 (15.4)
20.0-24.9							
25.0-49.9							
50.0 +							
Total		1 (100.0)	3 (100.0)	5 (100.0)	3 (100.0)	1 (100.0)	13 (100.0)

Note: Percentages Shown in brackets

Source: Section C-35, Appendix C.

Table A-81

Commercial

Effective Cost Analysis of Privately-Placed Debt Issues by
Maturity for 1962

(Number of Issues)

Issue Size: \$10.0 - 19.9 Million

r %	Maturity of the Issues in Years						Total
	0-4	5-9	10-14	15-19	20-24	25+	
+							
0-4.9					1 (50.0)		1 (9.1)
5.0-9.9							
10.0-14.9							
15.0-19.9							
20.0-24.9					1 (50.0)		1 (9.1)
25.0-49.9			1 (50.0)				1 (9.1)
50.0 +			1 (50.0)	7 (100.0)			8 (72.7)
Total			2 (100.0)	7 (100.0)	2 (100.0)		11 (100.0)

Note: Percentages Shown in brackets

Source: Section C-17, Appendix C.

Table A-82

Commercial

Effective Cost Analysis of Privately-Placed Debt Issues by
Maturity for 196⁶

(Number of Issues)

Issue Size: \$10.0 - 19.9 Million

r %	Maturity of the Issues in Years						Total
	0-4	5-9	10-14	15-19	20-24	25+	
+						2 (100.0)	2 (40.0)
0-4.9				1 (100.0)			1 (20.0)
5.0-9.9							
10.0-14.9					1 (33.3)		1 (20.0)
15.0-19.9							
20.0-24.9					1 (33.3)		1 (20.0)
25.0-49.9							
50.0 +							
Total				1 (100.0)	2 (100.0)	2 (100.0)	5 (100.0)

Note: Percentages Shown in brackets

Source: Section C-36, Appendix C.

Table A-83

Commercial

Effective Cost Analysis of Privately-Placed Debt Issues by
Maturity for 196 2

(Number of Issues)

Issue Size: \$20.0 - 49.9 Million

r %	Maturity of the Issues in Years						Total
	0-4	5-9	10-14	15-19	20-24	25+	
+							
0-4.9							
5.0-9.9							
10.0-14.9							
15.0-19.9				1 (100.0)			1 (50.0)
20.0-24.9							
25.0-49.9							
50.0 +					1 (100.0)		1 (50.0)
Total				1 (100.0)	1 (100.0)		2 (100.0)

Note: Percentages Shown in brackets

Source: Section C-18, Appendix C.

Table A-84

Commercial

Effective Cost Analysis of Privately-Placed Debt Issues by
Maturity for 1966

(Number of Issues)

Issue Size: \$20.0 - 49.9 Million

r %	Maturity of the Issues in Years						Total
	0-4	5-9	10-14	15-19	20-24	25+	
+				1 (50.0)	1 (50.0)		2 (40.0)
0-4.9							
5.0-9.9							
10.0-14.9							
15.0-19.9					1 (50.0)		1 (20.0)
20.0-24.9			1 (100.0)	1 (50.0)			2 (40.0)
25.0-49.9							
50.0 +							
Total			1 (100.0)	2 (100.0)	2 (100.0)		5 (100.0)

Note: Percentages Shown in brackets

Source: Section C-37, Appendix C.

Table A-85

Commercial

Effective Cost Analysis of Privately-Placed Debt Issues by
Maturity for 196²

(Number of Issues)

Issue Size: All

r %	Maturity of the Issues in Years						Total
	0-4	5-9	10-14	15-19	20-24	25+	
+				2 (3.5)			2 (1.7)
0-4.9		2 (66.7)	7 (22.6)	3 (5.4)	3 (15.8)	2 (33.3)	17 (14.8)
5.0-9.9		1 (33.3)	6 (19.4)	8 (14.3)	2 (10.5)	2 (33.3)	19 (16.5)
10.0-14.9			4 (12.9)	2 (3.6)	1 (5.3)	1 (16.7)	8 (7.0)
15.0-19.9			5 (16.1)	18 (32.1)	5 (26.3)		28 (24.3)
20.0-24.9			3 (9.7)	9 (16.1)	4 (21.1)	1 (16.7)	17 (14.8)
25.0-49.9			4 (12.9)	6 (10.7)	2 (10.5)		12 (10.4)
50.0 +			2 (6.5)	8 (14.3)	2 (10.5)		12 (10.4)
Total		3 (100.0)	31 (100.0)	56 (100.0)	19 (100.0)	6 (100.0)	115 (100.0)

Note: Percentages Shown in brackets

Source: Sections C-13 to C-18, Appendix C.

Table A-86

Commercial

Effective Cost Analysis of Privately-Placed Debt Issues by
Maturity for 1966

(Number of Issues)

Issue Size: All

r %	Maturity of the Issues in Years						Total
	0-4	5-9	10-14	15-19	20-24	25+	
+			2 (6.7)	7 (14.3)	3 (23.1)	3 (37.5)	15 (14.3)
0-4.9		5 (100.0)	12 (40.0)	21 (42.9)	5 (38.5)	3 (37.5)	46 (43.8)
5.0-9.9			6 (20.0)	9 (18.4)	1 (7.7)	1 (12.5)	17 (16.2)
10.0-14.9			5 (16.7)	7 (14.3)	2 (15.4)		14 (13.3)
15.0-19.9			4 (13.3)	3 (6.1)	1 (7.7)	1 (12.5)	9 (8.6)
20.0-24.9			1 (3.3)	2 (4.1)	1 (7.7)		4 (3.8)
25.0-49.9							
50.0 +							
Total		5 (100.0)	30 (100.0)	49 (100.0)	13 (100.0)	8 (100.0)	105 (100.0)

Note: Percentages Shown in brackets

Source: Sections C-32 to C-37, Appendix C.

APPENDIX B

QUALITY RATINGS OF PRIVATE DEBT ISSUES

APPENDIX B

This Appendix explains the details followed by the author to determine the quality ratings of private placements. The major references relied upon while determining the quality class of each of these issues are:

1. Avery B. Cohan, Yields on Corporate Debt Directly Placed, New York: National Bureau of Economic Research, 1967.
2. Dun's Reference Book of Manufacturers, Volumes 1 & 2, Dun & Bradstreet, Inc., 1963 and 1967 issues.
3. Dun's Reference Books, Sections 1, 2, 3, and 4, Dun & Bradstreet, Inc., 1963 and 1967 issues.
4. Middle Market Directory, Dun & Bradstreet, Inc., January, 1967.
5. Million Dollar Directory, Dun & Bradstreet, Inc., January, 1967.
6. Moody's Industrial Manual, Moody's Investors Service, Inc., New York, 1963 and 1967 issues.
7. Moody's Public Utility Manual, Moody's Investors Service, Inc., New York, 1963 and 1967 issues.
8. Correspondence with Dun & Bradstreet (see pages 262-264).

The quality of a private issue is primarily determined by the financial strength of the issuer, size of issue, and nature of the industry.¹ Financial strength of the company is measured in this study by two elements, (1) asset size of the company and (2) the

¹Avery B. Cohan, Yields, p. 18.

credit rating assigned to the company by Dun & Bradstreet. Size of the company, even though not a good measure of the credit position of the company, is broadly accepted as a factor having some bearing on the yield of the issue. It is indicated that institutional investors feel more comfortable in consummating a private placement with a large company rather than with a small company.¹

The asset size classifications used for different ratings on private issues are shown in Table B-1. These classifications are established roughly approximating the mean values used by Cohan to determine the yields on private placements by quality class. These mean values for different industries differ.

Size of the issue is also used to make sure that the new issue will not disturb certain acceptable relationships between the long term debt after the sale of issue, and the total capital. It is felt that issues of manufacturing and commercial companies whose long term debt will be more than 1/3 of the total capital can be rated less than Baa. For public utilities this ratio is used as 0.50.

Finally, all issues have been classified for rating by type of business of the issuer. It is felt that the average quality of one industry issue may be above or below the average quality of another industry issue. For example, the average quality of a manufacturing issue may be above the average quality of a

¹Ibid., p. 34.

commercial issue. In Moody's the highest rating assigned to any commercial issue is Aa. The highest rating assigned to a commercial private issue in this study is also Aa (see Table B-1). Even among the public utilities, distinctions have been made between the water companies and the rest. Table B-1 shows the basis of classifying a private issue, once it has met the selection criteria referred to above, into one or the other of the four quality ratings. It is indicated that issues rated "high" in Dun & Bradstreet would tend to be rated as Aaa or Aa in Moody's and issues rated "good" in Dun & Bradstreet would tend to be rated as A or Baa in Moody's (see pages 262-264).

Table B-1

The Basis of Classifying a Private Issue
into one or the Other of the Four
Quality Ratings Aaa, Aa, A and Baa

Industry	Dun & Bradstreet Rating of the Company	
	High	Good
Size of the Company (\$ Millions)		
<u>Manufacturing</u>		
500.0 +	Aaa	
< 500.0	Aa	
100.0 +		A
< 100.0		Baa
<u>Public Utility</u>		
Electric, Gas & Telephone Co.		
200.0 +	Aaa	
< 200.0	Aa	
50.0 +		A
< 50.0		Baa
<u>Water Co.</u>		
20.0 +	Aaa	A
< 20.0	Aa	Baa
<u>Commercial</u>		
100.0 +	Aa	
< 100.0	A	
All		Baa

RAYMOND J. PRICE
DISTRICT MANAGER
527 S. HIGH STREET
COLUMBUS, OHIO 43215
TEL: (614) 221-5335

Dun & Bradstreet, Inc.

PUBLICATIONS AND SERVICES FOR MANAGEMENT

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December 21, 1967

Mr. Adi Seshaiiah Karna
96 E. 16th Ave.
Columbus, Ohio

Dear Mr. Karna:

This is to confirm that we made available to you, for use in preparing your doctor's dissertation, our Reference Books which list the credit ratings of concerns throughout the United States.

It was agreed at the beginning that you were not to identify the concerns by name in your writings.

There is no direct means of translating Dun & Bradstreet credit ratings into the Moody Investors Service ratings. It would, in my opinion, hold true that high rated concerns in Dun & Bradstreet would tend to carry the higher ratings in Moodys and that the smaller and less well rated companies in Dun & Bradstreet would tend to carry lower ratings in Moodys.

Sincerely,

J. Fred Lauer
District Reporting Manager

JFL/nr

Dun & Bradstreet, Inc.

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PUBLICATIONS AND SERVICES FOR MANAGEMENT

May 13, 1968

CHARLES L. DECK

MANAGER

BOX 22015

200 W. WENDOVER AVE.

GREENSBORO, N. C. 27401

TELEPHONE: 919 275-5331

Mr. Adi Seshajiah Karna
1335 Meadow Street
Greensboro, N. C.

Dear Mr. Karna:

In accordance with our conversation today the following, I believe will accurately describe how a Dun & Bradstreet rating is assigned, and the analogy between it and Moody's rating of a bond issue.

First of all the Dun & Bradstreet rating of a business is based on:

1. Manner of trade payments
2. Financial strength
3. Net worth
4. Proper organization according to law and clear identification of ownership
5. Length of time in business
6. History of management
7. Balance of management experience
8. Earnings

The level at which the rating will be placed is determined by the net worth. For example, businesses worth over a million dollars fall in the Aa bracket. If after all factors are considered the business is considered to be a high credit risk, a rating of AaA1 would be assigned to it if it was worth over \$1,000,000. If the business is considered a good credit risk, but something short of high, then a rating of Aa1 would be assigned.

While a Moody's rating of a bond issue is assigned independently of a Dun & Bradstreet rating, there are certain similarities:

1. Both ratings consider financial strength
2. Both ratings consider earnings
3. Both ratings consider longevity
4. Both ratings consider management

One major difference in the ratings is that no matter what the size of the business, if Moody's considers the bond issue high grade then a rating of Aaa would be assigned. However, if the Dun & Bradstreet composite credit appraisal of a business is high, the letter assigned would depend on the size or net worth of the business. For example, both F 2½ and AaA1 are high ratings with the F indicating a net worth between \$10,000 and \$20,000, and the Aa indicating a net worth of over \$1,000,000.

The Dun & Bradstreet and Moody's ratings may be compared as follows:

Dun & Bradstreet

AaA1

Aa1

Moody's

Aaa & Aa

A & Baa

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I trust the foregoing analogy is sufficient for your needs.

Very truly yours,

M. W. Thomas

P. S. This letter is in reference to the facilities made available to you in our office to obtain the Dun & Bradstreet credit ratings.

APPENDIX C

CALCULATION OF "r" FOR MANUFACTURING,
PUBLIC UTILITY, AND COMMERCIAL
COMPANY PRIVATE DEBT ISSUES,
1962 AND 1966

APPENDIX C

This appendix is devoted to tabular description of the "r" values calculated on each of the selected private debt issues. Table C-1 gives the major particulars of the cost calculations made on a private debt issue sold by South Carolina Electric and Gas Company in 1966.¹ This is treated here as an example. Data in rest of the appendix are confined to presenting the value of "r" for each issue along with its quality, size, and maturity separately for manufacturings, utilities, and commercials. These data are presented separately for 1962 and 1966 in Sections C-1 to C-37, each section being identified with a particular size group. These groups have been mentioned earlier. In places where "r" value is shown by the + sign in different sections of this appendix, it indicates that the firm had interest cost saving besides the flotation cost saving on that particular issue by going private instead of public. In cases where the derived value of "r" was less than 1.0 per cent, or more than 50.0 per cent, they are indicated in this appendix by < sign for "less than" and by > sign for "more than."

The calculations made on private issues, as shown in Table C-1, are in response to the following question: If the particular

¹Investment Dealers' Digest, "Corporate Issues Placed Privately, First Half of 1966," Corporate Financing Directory, Section 11, August 15, 1966, p. 106.

Table C-1

Calculation of "r" for South Carolina
Electric and Gas Company's Private Debt
Issue sold in 1966

Name of the Company	Size of Issue (\$)	Quality	Coupon Rate	Percent Flotation Cost Saving to Issuer	Flotation Cost Saving (\$)
1	2	3	4	5	6 (= 2 X 5)
South Carolina Electric and Gas Company	15,000,000	A	5.45	0.46	69,000

Net Proceeds at 100 Par on Private Issue to the Company	Net Proceeds of the Issue to the Company (\$)	Yield on Private Placement	Average Yield on Public Issue of Similar Quality	Yield Differ- ential
7	8 (= 2 X 7)	9 (= 4 ÷ 7)	10	11 (9 10)
99.18	14,877,000	5.49	5.35	0.14

Table C-1--Continued

Annual Additional Interest Cost to the Firm (\$)	Present Value Factor	Maturity of the Issue in Years	"r" (Internal Rate of Return) %
12 (= 8 X 11)	13 (= 6 ÷ 12)	14	15
20,828	3.31	30	30.2

private placement had been sold, when it was sold, not as a private placement but rather as a public offering, what would the effective cost on it have been? The derivation of "r" was felt to be the better answer. This "r" tells the effective cost on private placement relative to what it would have been if the issue had been sold in the public market. The steps followed to derive the value of "r" for the South Carolina Electric and Gas Company private debt issue as shown in Table C-1 are stated below.

To arrive at "r" for the South Carolina Electric and Gas Company private debt issue, the author first calculated the flotation cost saving and the annual differential interest cost to the firm on that particular issue. The size of the issue in this case is \$15,000,000 (column 1). The per cent flotation cost saving to the company for having sold the issue private instead of public is 0.46¹ (column 5). When this percentage is multiplied by the size of the issue, the dollar volume of the flotation cost saving is obtained. It amounts to \$69,000 (column 6).

The coupon rate on the issue is 5.45 (column 4). The yield on the private debt issue is obtained by dividing the coupon rate with 99.18 (column 7) which is the net proceeds at 100 par on the issue to the company. This yield figure is 5.49 (column 9). The issue could have been sold publicly at an yield of 5.35 (column 10). Thus

¹The costs of selling the issue in public and private markets separate are 1.28 per cent and 0.82 per cent of the issue size respectively (see Table 24, page 90).

the yield differential in favor of public offering is 0.14 (column 11). When this differential is multiplied with the net proceeds of the private debt issue to the company which is \$14,877,000 (column 8), the annual additional interest cost to the firm over the life of the issue is obtained. This additional interest cost amounts to \$20,828 (column 12).

Thus Cs (as used in the cost model) is \$69,000 and IRS (as used in the cost model) is \$20,828. When Cs is divided by IRs the present value factor which is

$$\sum_{t=1}^n \frac{1}{(1+r)^t}$$

in the model is obtained. The present value factor in this case is 3.31 (column 13). The maturity of the issue in years is 30 (column 14). Using these known values of the present value factor and the maturity of the issue in years the value for "r" is obtained from a present value table of an annuity of one dollar. The value of "r" for this specific issue of the South Carolina Electric and Gas Company is 30.2 per cent (column 15).

Sources for 1962 and 1966 Data

The following sources were used for 1962 data:

1. Investment Dealers' Digest, "Corporate Issues Placed Privately, First Half of 1962," Corporate Financing Directory Section II, July 30, 1962, pp. 112-118.
2. Investment Dealers' Digest, "Corporate Issues Placed Privately, Last Half of 1962," Corporate Financing Directory, Section II, January 28, 1963, pp. 95-102.

The following sources were used for 1966 data:

1. Investment Dealers' Digest, "Corporate Issues Placed Privately, First Half of 1966," Corporate Financing Directory, Sections II, August 15, 1966, pp. 100-107.

2. Investment Dealers' Digest, "Corporate Issues Placed Privately, Last Half of 1966," Corporate Financing Directory, Section II, February 6, 1967, pp. 101-109.

Section C-1

Manufacturing, 1962

Issue Size: \$0.5 - 0.9 Million

Number	Quality	Size of Issue	Maturity —	"r"
1	Aa	897,200	8	1.0
2	Aa	750,000	15	13.9
3	A	850,000	12	12.6
4	A	650,000	12	12.6
5	Baa	675,000	15	7.3
6	Baa	560,000	14	11.8
7	Baa	750,000	12	4.0
8	Baa	865,000	10	2.1
9	Baa	750,000	10	2.1
10	Baa	500,000	15	7.3
11	Baa	650,000	14	6.5
12	Baa	750,000	14	4.4
13	Baa	500,000	14	2.7
14	Baa	500,000	14	9.0
15	Baa	840,000	15	16.6
16	Baa	900,000	15	7.3
17	Baa	800,000	11	7.5
18	Baa	500,000	12	6.0
19	Baa	600,000	15	12.3
20	Baa	700,000	15	1.0
21	Baa	750,000	15	7.3
22	Baa	600,000	12	4.9
23	Baa	600,000	15	1.0
24	Baa	550,000	13	7.7
25	Baa	800,000	15	1.0
26	Baa	650,000	12	12.0
27	Baa	600,000	13	1.8
28	Baa	800,000	15	7.3
29	Baa	600,000	15	10.6
30	Baa	575,000	20	9.3
31	Baa	565,000	15	10.7
32	Baa	750,000	10	2.1
33	Baa	850,000	15	7.3
34	Baa	520,000	10	6.1
35	Baa	500,000	10	2.1
36	Baa	500,000	14	1.0

Section C-1 (Continued)

Number	Quality	Size of Issue	Maturity	"r"
<hr/>				
37	Baa	500,000	12	4.8
38	Baa	600,000	15	7.3
39	Baa	850,000	16	9.3
40	Baa	500,000	15	9.9
41	Baa	475,000	14	10.6
42	Baa	900,000	15	10.7

Section C-2

Manufacturing, 1962

Issue Size: \$1.0 - 1.9 Million

Number	Quality	Size of Issue	Maturity	"r"
1	Aa	1,590,000	14	14.0
2	Aa	1,000,000	12	24.7
3	A	1,250,000	14	13.5
4	A	1,500,000	5	2.7
5	A	1,000,000	15	22.2
6	A	1,700,000	15	12.4
7	A	1,000,000	15	20.3
8	A	1,000,000	15	20.3
9	A	1,200,000	12	19.0
10	A	1,700,000	12	19.0
11	A	1,500,000	15	13.0
12	Baa	1,150,000	15	14.6
13	Baa	1,000,000	14	9.1
14	Baa	1,370,000	15	11.7
15	Baa	1,000,000	10	18.4
16	Baa	1,000,000	12	9.7
17	Baa	1,500,000	12	9.8
18	Baa	1,000,000	15	19.8
19	Baa	1,250,000	15	17.4
20	Baa	1,500,000	15	18.3
21	Baa	1,200,000	10	16.1
22	Baa	1,250,000	12	14.0
23	Baa	1,800,000	15	2.1
24	Baa	1,500,000	15	15.8
25	Baa	1,000,000	12	4.9
26	Baa	1,600,000	20	4.7
27	Baa	1,000,000	15	7.0
28	Baa	1,000,000	16	16.1
29	Baa	1,725,000	15	9.7
30	Baa	1,000,000	15	15.8
31	Baa	1,500,000	15	9.7
32	Baa	1,000,000	10	7.3
33	Baa	1,000,000	15	9.8
34	Baa	1,000,000	15	19.7
35	Baa	1,500,000	15	11.8
36	Baa	1,500,000	15	15.8

Section C-2 (Continued)

Number	Quality	Size of Issue	Maturity	"r"
37	Baa	1,000,000	15	15.6
38	Baa	1,012,500	20	17.0
39	Baa	1,650,000	15	13.9
40	Baa	1,000,000	12	10.0
41	Baa	1,250,000	15	2.0
42	Baa	1,300,000	10	7.3
43	Baa	1,200,000	20	1.0
44	Baa	1,000,000	15	8.3

Section C-3

Manufacturing, 1962

Issue Size: \$2.0 - 4.9 Million

Number	Quality	Size of Issue	Maturity	"r"
1	A	3,100,000	15	31.4
2	A	2,250,000	14	31.3
3	A	3,000,000	15	36.4
4	A	2,000,000	14	14.5
5	A	3,500,000	15	26.0
6	A	2,000,000	10	11.2
7	A	3,500,000	15	4.8
8	A	2,000,000	5	18.0
9	A	3,000,000	15	15.0
10	A	3,000,000	12	16.5
11	A	4,500,000	20	10.4
12	A	2,400,000	15	31.4
13	A	2,000,000	15	41.5
14	Baa	4,500,000	15	30.3
15	Baa	2,500,000	3	1.0
16	Baa	2,500,000	15	37.9
17	Baa	3,000,000	15	32.9
18	Baa	2,835,000	17	20.3
19	Baa	3,000,000	15	32.9
20	Baa	4,000,000	15	19.8
21	Baa	2,500,000	15	24.9
22	Baa	2,000,000	20	23.2
23	Baa	2,000,000	13	12.8
24	Baa	3,000,000	15	7.4
25	Baa	2,000,000	15	13.8
26	Baa	2,000,000	15	35.1
27	Baa	2,250,000	15	25.2
28	Baa	2,000,000	15	19.8
29	Baa	3,340,000	15	7.4
30	Baa	2,500,000	13	25.0
31	Baa	3,000,000	13	12.7
32	Baa	2,000,000	10	9.8
33	Baa	2,500,000	13	16.0
34	Baa	3,300,000	15	22.7
35	Baa	3,000,000	15	4.0
36	Baa	3,000,000	12	29.6

Section C-3 (Continued)

Number	Quality	Size of Issue	Maturity	"r"
37	Baa	3,200,000	14	13.3
38	Baa	2,000,000	20	20.8
39	Baa	2,700,000	15	19.8
40	Baa	2,500,000	15	19.7
41	Baa	3,750,000	21	9.7
42	Baa	2,500,000	15	13.9
43	Baa	4,000,000	10	16.7
44	Baa	3,500,000	15	27.7
45	Baa	3,787,500	20	33.3
46	Baa	4,000,000	12	1.0
47	Baa	4,070,000	10	16.7
48	Baa	2,500,000	15	24.5
49	Baa	2,154,000	15	19.2
50	Baa	4,000,000	12	34.5

Section C-4

Manufacturing, 1962

Issue Size: \$5.0 - 9.9 Million

Number	Quality	Size of Issue	Maturity	"r"
1	Aa	6,000,000	14	> 50.0
2	Aa	8,000,000	15	> 50.0
3	A	8,500,000	15	39.7
4	A	6,000,000	15	44.5
5	A	5,000,000	14	29.9
6	A	6,000,000	15	38.1
7	A	5,000,000	20	40.0
8	A	5,000,000	18	21.3
9	A	7,500,000	16	> 50.0
10	A	8,000,000	13	39.3
11	A	6,000,000	15	25.7
12	A	5,000,000	15	39.7
13	A	6,000,000	15	35.0
14	A	6,500,000	15	> 50.0
15	A	7,500,000	16	45.0
16	A	7,500,000	25	< 1.0
17	A	8,000,000	20	30.8
18	A	5,500,000	15	39.7
19	A	5,500,000	18	40.0
20	A	9,000,000	15	39.7
21	Baa	7,600,000	20	33.7
22	Baa	9,500,000	19	19.5
23	Baa	6,000,000	20	38.0
24	Baa	5,545,000	15	47.5
25	Baa	7,500,000	15	28.5
26	Baa	7,500,000	20	1.7
27	Baa	5,000,000	15	39.9
28	Baa	6,000,000	15	7.3
29	Baa	7,000,000	15	18.6
30	Baa	8,500,000	14	50.0
31	Baa	7,237,000	25	+

Section C-5

Manufacturing, 1962

Issue Size: \$10.0 - 19.9 Million

Number	Quality	Size of Issue	Maturity	"r"
1	Aaa	15,000,000	28	6.0
2	Aa	15,000,000	20	> 50.0
3	Aa	15,000,000	15	50.0
4	Aa	12,000,000	15	> 50.0
5	Aa	12,000,000	19	> 50.0
6	A	10,000,000	20	> 50.0
7	A	13,900,000	20	33.2
8	A	11,500,000	15	47.5
9	Baa	10,000,000	18	30.3
10	Baa	10,000,000	15	37.3
11	Baa	15,000,000	15	22.8
12	Baa	11,165,000	17	> 50.0
13	Baa	12,000,000	20	+
14	Baa	10,000,000	15	14.3
15	Baa	15,000,000	10	< 1.0
16	Baa	10,000,000	20	30.4
17	Baa	13,000,000	15	44.0
18	Baa	16,000,000	20	50.0

Section C-6

Manufacturing, 1962

Issue Size: \$20.0 - 49.9 Million

Number	Quality	Size of Issue	Maturity	"r"
1	Aaa	25,000,000	22	27.0
2	Aa	20,000,000	15	50.0
3	Aa	20,000,000	20	50.0
4	Aa	20,500,000	18	50.0
5	Aa	20,000,000	20	50.0
6	Aa	35,000,000	20	50.0
7	A	25,000,000	15	50.0
8	A	29,000,000	20	35.0
9	A	35,200,000	18	50.0
10	Baa	36,000,000	19	50.0
11	Baa	20,000,000	20	44.0
12	Baa	48,000,000	25	+
13	Baa	40,000,000	19	44.0
14	Baa	25,000,000	15	50.0
15	Baa	20,000,000	20	1.0
16	Baa	48,000,000	25	+
17	Baa	46,500,000	20	+
18	Baa	20,000,000	18	50.0
19	Baa	22,000,000	18	50.0
20	Baa	20,000,000	20	40.0
21	Baa	25,000,000	25	33.3

Section C-7

Manufacturing, 1962

Issue Size: \$50.0 + Million

Number	Quality	Size of Issue	Maturity	"r"
1	Aaa	50,000,000	25	50.0
2	Aaa	50,000,000	25	50.0
3	Aa	50,000,000	20	50.0
4	Aa	114,000,000	16	50.0
5	A	100,000,000	30	7.2
6	A	50,000,000	25	40.0
7	A	50,000,000	31	40.0
8	Baa	50,000,000	20	31.8
9	Baa	60,000,000	18	34.1

Section C-8

Public Utility, 1962

Issue Size: \$1.0 - 1.9 Million

Number	Quality	Size of Issue	Maturity	"r"
1	Aaa	1,700,000	29	22.0
2	Aa	1,750,000	29	20.2
3	Aa	1,000,000	30	8.2
4	Aa	1,500,000	30	8.2
5	Aa	1,000,000	30	3.1
6	A	1,200,000	20	8.2
7	A	1,000,000	25	24.0
8	A	1,000,000	30	12.4
9	A	1,500,000	25	15.8
10	Baa	1,700,000	25	4.1
11	Baa	1,500,000	25	9.0
12	Baa	1,800,000	25	17.4
13	Baa	1,500,000	25	9.0
14	Baa	1,850,000	20	32.9
15	Baa	1,000,000	10	39.2
16	Baa	1,000,000	25	13.5
17	Baa	1,500,000	25	25.2
18	Baa	1,250,000	25	8.9
19	Baa	1,500,000	17	32.3
20	Baa	1,000,000	15	40.2
21	Baa	1,000,000	15	27.7
22	Baa	1,750,000	25	33.0
23	Baa	1,800,000	25	17.4
24	Baa	1,500,000	25	9.0
25	Baa	1,000,000	25	25.2
26	Baa	800,000	25	4.1
27	Baa	800,000	15	50.0
28	Baa	850,000	20	7.9
29	Baa	1,000,000	25	9.0
30	Baa	900,000	25	33.0

Section C-9

Public Utility, 1962

Issue Size: \$2.0 - 4.9 Million

Number	Quality	Size of Issue	Maturity	"r"
1	Aa	3,500,000	30	18.9
2	Aa	3,500,000	30	+
3	Aa	2,400,000	30	> 50.0
4	Aa	2,500,000	30	3.2
5	A	4,500,000	25	> 50.0
6	A	3,000,000	30	28.2
7	A	2,500,000	20	> 50.0
8	A	2,700,000	30	> 50.0
9	A	2,500,000	20	> 50.0
10	A	4,000,000	30	> 50.0
11	A	2,200,000	30	> 1.0
12	A	2,500,000	25	34.5
13	A	2,000,000	30	50.0
14	A	4,000,000	30	19.3
15	A	3,000,000	25	> 50.0
16	A	3,000,000	30	34.5
17	A	2,500,000	25	19.1
18	A	4,050,000	25	40.8
19	Baa	2,400,000	25	39.8
20	Baa	4,570,000	14	> 50.0
21	Baa	3,000,000	25	> 50.0
22	Baa	3,000,000	25	39.9
23	Baa	3,000,000	24	39.1
24	Baa	4,000,000	29	24.7
25	Baa	2,000,000	25	> 50.0
26	Baa	2,500,000	20	> 50.0
27	Baa	3,850,000	21	> 50.0
28	Baa	2,350,000	9	50.0
29	Baa	3,200,000	25	24.6

Section C-10

Public Utility, 1962

Issue Size: \$5.0 - 9.9 Million

Number	Quality	Size of Issue	Maturity	"r"
1	Aa	5,000,000	29	> 50.0
2	Aa	8,000,000	30	20.1
3	Aa	8,500,000	30	20.1
4	Aa	7,500,000	30	> 50.0
5	Aa	9,000,000	30	20.1
6	Aa	6,000,000	30	> 50.0
7	Aa	8,000,000	30	+
8	Aa	5,500,000	30	+
9	Aa	6,000,000	25	16.4
10	Aa	5,000,000	25	50.0
11	Aa	5,000,000	25	> 50.0
12	A	6,000,000	25	50.0
13	A	5,000,000	25	> 50.0
14	A	5,000,000	25	> 50.0
15	Baa	5,300,000	25	50.0
16	Baa	5,000,000	12	> 50.0
17	Baa	6,000,000	20	50.0
18	Baa	5,000,000	28	29.6
19	Baa	7,800,000	20	> 50.0
20	Baa	5,000,000	25	> 50.0

Section C-11

Public Utility, 1962

Issue Size: \$10.0 - 19.9 Million

Number	Quality	Size of Issue	Maturity	"r"
1	Aaa	12,000,000	20	50.0
2	Aa	10,000,000	25	50.0
3	Aa	11,200,000	25	50.0
4	A	19,200,000	25	+
5	Baa	10,500,000	20	50.0
6	Baa	10,000,000	22	36.7
7	Baa	10,000,000	22	36.6

Section C-12

Public Utility, 1962

Issue Size: \$20.0 - 49.9 Million

Number	Quality	Size of Issue	Maturity	"r"
1	Aaa	25,000,000	30	21.3
2	Aa	25,000,000	30	1.0
3	A	37,000,000	20	50.0
4	Baa	25,000,000	20	50.0
5	Baa	30,000,000	20	47.5

Section C-13

Commercial, 1962

Issue Size: \$.5 - .9 Million

Number	Quality	Size of Issue	Maturity	"r"
1	Baa	750,000	15	10.1
2	Baa	500,000	12	11.8
3	Baa	520,000	11	6.6
4	Baa	500,000	10	1.0
5	Baa	750,000	10	17.5
6	Baa	800,000	30	12.8
7	Baa	700,000	30	1.0
8	Baa	875,000	14	15.0
9	Baa	675,000	11	2.0
10	Baa	700,000	12	3.2
11	Baa	550,000	10	1.0
12	Baa	750,000	10	9.6
13	Baa	800,000	12	7.7
14	Baa	600,000	15	9.9
15	Baa	600,000	10	9.6
16	Baa	800,000	15	9.9
17	Baa	800,000	13	10.7
18	Baa	900,000	15	9.9
19	Baa	750,000	12	7.7

Section C-14

Commercial, 1962

Issue Size: \$1.0 - 1.9 Million

Number	Quality	Size of Issue	Maturity	"r"
1	Aa	1,500,000	15	20.2
2	A	1,750,000	20	15.9
3	A	1,500,000	15	30.3
4	A	1,000,000	20	18.6
5	Baa	1,500,000	15	6.5
6	Baa	1,500,000	12	28.7
7	Baa	1,150,000	15	25.5
8	Baa	1,200,000	14	12.8
9	Baa	1,000,000	10	27.5
10	Baa	1,500,000	15	22.0
11	Baa	1,000,000	15	22.2
12	Baa	1,000,000	12	17.3
13	Baa	1,320,000	20	20.2
14	Baa	1,000,000	10	16.0
15	Baa	1,625,000	15	1.0
16	Baa	1,800,000	15	19.2
17	Baa	1,400,000	14	18.9
18	Baa	1,000,000	12	23.5
19	Baa	1,000,000	15	19.2
20	Baa	1,500,000	15	19.2
21	Baa	1,800,000	15	19.2
22	Baa	1,800,000	16	19.5
23	Baa	1,025,000	12	23.5
24	Baa	1,000,000	20	15.0
25	Baa	1,390,282	13	24.0
26	Baa	1,000,000	12	5.1
27	Baa	1,000,000	15	7.5
28	Baa	1,000,000	20	15.1
29	Baa	1,500,000	15	1.0
30	Baa	975,000	15	19.2
31	Baa	1,235,000	30	5.4
32	Baa	1,200,000	10	27.5
33	Baa	1,250,000	15	24.6

Section C-15

Commercial, 1962

Issue Size: \$2.0 - 4.9 Million

Number	Quality	Size of Issue	Maturity	"r"
1	Aa	2,500,000	5	1.0
2	Aa	2,250,000	15	27.3
3	Aa	4,000,000	20	17.0
4	A	2,000,000	15	24.1
5	A	2,500,000	15	19.5
6	A	2,500,000	15	24.9
7	A	2,500,000	15	16.9
8	A	3,000,000	15	19.5
9	A	2,525,000	16	25.6
10	A	4,500,000	15	22.2
11	Baa	2,000,000	12	11.0
12	Baa	4,000,000	15	15.9
13	Baa	3,000,000	15	15.9
14	Baa	4,000,000	25	9.7
15	Baa	4,875,000	15	6.7
16	Baa	3,500,000	20	1.8
17	Baa	3,100,000	9	7.0
18	Baa	2,000,000	15	6.6
19	Baa	3,000,000	6	1.0
20	Baa	2,675,000	10	1.0
21	Baa	2,000,000	15	18.5
22	Baa	2,000,000	15	3.1
23	Baa	2,500,000	12	1.0
24	Baa	3,000,000	15	18.5
25	Baa	4,000,000	20	5.6
26	Baa	2,000,000	15	6.6
27	Baa	2,300,000	20	8.7
28	Baa	2,532,000	30	20.7
29	Baa	3,360,000	20	1.8
30	Baa	2,150,000	15	16.8
31	Baa	3,635,000	25	1.0
32	Baa	4,000,000	10	1.0
33	Baa	2,500,000	15	18.5

Section C-16

Commercial, 1962

Issue Size: \$5.0 - 9.9 Million

Number	Quality	Size of Issue	Maturity	"r"
1	Aa	8,000,000	20	22.0
2	Aa	7,000,000	20	39.7
3	Aa	8,500,000	21	50.0
4	A	8,000,000	15	50.0
5	A	8,000,000	14	50.0
6	Baa	5,000,000	15	25.9
7	Baa	5,000,000	20	11.0
8	Baa	7,000,000	15	21.4
9	Baa	5,000,000	15	16.5
10	Baa	5,100,000	15	15.9
11	Baa	7,000,000	15	21.3
12	Baa	7,000,000	18	13.0
13	Baa	5,000,000	15	46.7
14	Baa	6,000,000	21	43.0
15	Baa	6,500,000	20	22.2
16	Baa	5,000,000	15	+
17	Baa	5,000,000	15	+

Section C-17

Commercial, 1962

Issue Size: \$10.0 - 19.9 Million

Number	Quality	Size of Issue	Maturity	"r"
1	Aa	10,000,000	17	> 50.0
2	Aa	10,000,000	16	> 50.0
3	A	14,000,000	16	50.0
4	Baa	16,000,000	15	50.0
5	Baa	14,000,000	14	> 50.0
6	Baa	17,000,000	20	23.1
7	Baa	16,000,000	20	1.0
8	Baa	11,500,000	13	39.0
9	Baa	10,000,000	15	> 50.0
10	Baa	12,000,000	15	50.0
11	Baa	12,000,000	15	> 50.0

Section C-18

Commercial, 1962

Issue Size: \$20.0 - 49.9 Million

Number	Quality	Size of Issue	Maturity	"r"
1	Baa	24,500,000	19	15.4
2	Baa	30,000,000	20	50.0

Section C-19

Manufacturing, 1966

Issue Size: \$0.5 - 0.9 Million

Number	Quality	Size of Issue	Maturity	"r"
1	A	520,000	6	1.0
2	A	750,000	15	10.4
3	A	900,000	8	1.0
4	A	700,000	12	1.0
5	A	800,000	16	13.9
6	A	720,000	15	2.3
7	Baa	500,000	15	1.0
8	Baa	600,000	20	1.0
9	Baa	500,000	12	1.0
10	Baa	600,000	12	2.0
11	Baa	690,000	10	1.0
12	Baa	800,000	15	1.0
13	Baa	500,000	15	1.0
14	Baa	500,000	20	7.0
15	Baa	750,000	15	1.0
16	Baa	600,000	10	3.2
17	Baa	500,000	15	1.0
18	Baa	800,000	15	1.0
19	Baa	600,000	12	2.0
20	Baa	800,000	13	1.0
21	Baa	720,000	15	1.0
22	Baa	750,000	11	1.0
23	Baa	569,000	10	1.0
24	Baa	900,000	12	2.0
25	Baa	800,000	15	1.0
26	Baa	600,000	15	1.0
27	Baa	500,000	12	2.0
28	Baa	500,000	22	1.0
29	Baa	500,000	11	1.0
30	Baa	600,000	15	1.0
31	Baa	650,000	13	8.8
32	Baa	900,000	15	2.7
33	Baa	600,000	15	4.7
34	Baa	500,000	10	1.0
35	Baa	600,000	11	1.0
36	Baa	500,000	13	10.5

Section C-19 (Continued)

Number	Quality	Size of Issue	Maturity	"r"
37	Baa	500,000	13	1.0
38	Baa	600,000	15	4.7
39	Baa	935,000	16	8.1
40	Baa	600,000	16	1.2
41	Baa	650,000	10	1.0
42	Baa	700,000	15	6.6
43	Baa	500,000	12	1.0
44	Baa	480,000	15	1.0
45	Baa	650,000	13	3.1
46	Baa	750,000	15	6.7
47	Baa	500,000	10	6.6
48	Baa	500,000	12	1.0
49	Baa	850,000	10	1.0
50	Baa	500,000	15	1.0
51	Baa	715,000	13	1.0
52	Baa	485,000	15	1.0
53	Baa	500,000	15	1.0
54	Baa	490,000	15	1.0
55	Baa	525,000	15	1.0
56	Baa	900,000	12	1.0
57	Baa	700,000	15	1.0
58	Baa	580,000	13	1.0
59	Baa	700,000	12	1.0

Section C-20

Manufacturing, 1966

Issue Size: \$1.0 - 1.9 Million

Number	Quality	Size of Issue	Maturity	"r"
1	A	1,000,000	15	1.0
2	A	1,250,000	15	1.7
3	A	1,700,000	25	1.0
4	A	1,460,000	4	1.0
5	A	1,500,000	15	5.8
6	A	1,500,000	15	6.8
7	A	1,800,000	15	5.8
8	A	1,400,000	20	12.8
9	A	1,600,000	15	19.1
10	A	1,000,000	15	11.2
11	A	1,000,000	12	9.1
12	A	1,500,000	12	9.2
13	A	1,000,000	15	1.6
14	Baa	1,250,000	20	1.0
15	Baa	1,000,000	12	1.0
16	Baa	1,500,000	14	2.9
17	Baa	1,500,000	15	1.0
18	Baa	1,250,000	12	7.0
19	Baa	1,350,000	15	1.0
20	Baa	1,000,000	15	1.0
21	Baa	1,200,000	15	3.6
22	Baa	1,200,000	14	1.0
23	Baa	1,200,000	15	1.0
24	Baa	1,250,000	15	3.5
25	Baa	1,000,000	15	1.0
26	Baa	1,800,000	14	+
27	Baa	1,000,000	15	1.0
28	Baa	1,500,000	17	+
29	Baa	1,800,000	16	1.0
30	Baa	1,000,000	15	1.0
31	Baa	1,000,000	15	8.6
32	Baa	1,500,000	15	1.0
33	Baa	1,500,000	12	+
34	Baa	1,000,000	15	1.0
35	Baa	1,925,000	14	5.9
36	Baa	1,000,000	15	1.0

Section C-20 (Continued)

Number	Quality	Size of Issue	Maturity	"r"
37	Baa	1,700,000	14	1.0
38	Baa	1,000,000	12	1.0
39	Baa	1,000,000	15	1.0
40	Baa	1,400,000	12	1.0
41	Baa	1,000,000	15	6.4
42	Baa	1,250,000	15	6.4
43	Baa	1,000,000	16	8.4
44	Baa	1,000,000	11	1.0
45	Baa	1,250,000	15	17.5
46	Baa	1,075,000	15	3.5
47	Baa	1,500,000	15	1.0
48	Baa	1,000,000	15	8.5
49	Baa	1,037,000	15	1.0
50	Baa	1,100,000	15	1.4
51	Baa	1,300,000	15	12.9
52	Baa	1,000,000	15	3.5
53	Baa	1,500,000	15	8.7
54	Baa	1,300,000	15	3.6
55	Baa	1,000,000	17	1.0
56	Baa	1,500,000	15	8.7
57	Baa	1,500,000	15	1.0
58	Baa	1,000,000	14	1.0
59	Baa	1,000,000	12	1.0

Section C-21

Manufacturing, 1966

Issue Size: \$2.0 - 4.9 Million

Number	Quality	Size of Issue	Maturity	"r"
1	Aa	3,000,000	20	< 1.0
2	Aa	4,000,000	15	18.3
3	Aa	2,000,000	15	18.3
4	Aa	4,850,000	14	1.5
5	Aa	3,000,000	15	10.9
6	A	4,700,000	18	< 1.0
7	A	3,000,000	15	13.3
8	A	3,000,000	15	13.3
9	A	3,000,000	20	< 1.0
10	A	3,000,000	15	< 1.0
11	A	2,890,000	15	< 1.0
12	A	2,750,000	16	13.7
13	A	3,000,000	14	< 1.0
14	A	4,500,000	16	7.2
15	A	3,250,000	15	6.8
16	A	2,500,000	15	27.1
17	A	3,800,000	15	12.7
18	A	3,892,000	18	< 1.0
19	A	3,000,000	16	< 1.0
20	Baa	4,500,000	15	< 1.0
21	Baa	2,000,000	15	< 1.0
22	Baa	3,200,000	15	9.3
23	Baa	4,000,000	15	< 1.0
24	Baa	2,600,000	15	+
25	Baa	2,300,000	15	6.0
26	Baa	2,200,000	15	9.3
27	Baa	2,600,000	12	7.0
28	Baa	4,000,000	10	< 1.0
29	Baa	2,000,000	11	12.9
30	Baa	3,000,000	15	2.0
31	Baa	2,000,000	17	< 1.0
32	Baa	2,000,000	15	+
33	Baa	3,750,000	14	1.0
34	Baa	2,000,000	14	15.0
35	Baa	2,700,000	15	2.0
36	Baa	2,150,000	8	1.0

Section C-21 (Continued)

Number	Quality	Size of Issue	Maturity	"r"
37	Baa	2,000,000	5	1.0
38	Baa	4,500,000	19	1.0
39	Baa	3,000,000	9	1.0
40	Baa	2,500,000	15	20.9
41	Baa	2,578,000	11	1.0
42	Baa	3,500,000	20	1.0
43	Baa	2,700,000	12	1.0
44	Baa	2,700,000	6	1.0
45	Baa	2,000,000	15	1.0
46	Baa	3,200,000	16	2.7
47	Baa	4,500,000	21	+
48	Baa	4,500,000	14	1.2
49	Baa	2,350,000	15	9.2
50	Baa	2,000,000	15	26.4
51	Baa	2,250,000	20	1.0
52	Baa	2,000,000	15	1.0
53	Baa	2,000,000	12	13.9
54	Baa	2,300,000	13	1.0
55	Baa	2,000,000	13	1.0
56	Baa	2,500,000	20	8.7
57	Baa	4,800,000	15	1.0
58	Baa	4,500,000	16	2.7
59	Baa	3,500,000	20	+
60	Baa	4,700,000	12	1.0
61	Baa	2,500,000	15	15.5
62	Baa	4,000,000	14	+
63	Baa	3,000,000	13	1.0
64	Baa	2,500,000	15	1.0
65	Baa	4,000,000	12	+
66	Baa	4,000,000	15	2.0
67	Baa	3,500,000	15	+
68	Baa	2,000,000	15	2.0
69	Baa	2,812,500	15	1.0

Section C-22

Manufacturing, 1966

Issue Size: \$5.0 - 9.9 Million

Number	Quality	Size of Issue	Maturity	"r"
1	Aa	6,500,000	15	27.0
2	Aa	5,300,000	21	1.0
3	Aa	6,000,000	6	1.0
4	Aa	6,000,000	20	5.9
5	Aa	6,000,000	20	18.0
6	Aa	7,000,000	13	1.0
7	Aa	6,000,000	15	15.1
8	Aa	6,000,000	20	7.4
9	Aa	5,000,000	20	5.9
10	A	5,000,000	12	1.0
11	A	5,000,000	15	5.7
12	A	5,000,000	15	1.0
13	A	9,500,000	15	1.0
14	A	5,600,000	12	15.9
15	A	5,000,000	20	+
16	A	8,000,000	10	14.0
17	A	5,000,000	15	22.6
18	A	5,000,000	20	+
19	A	5,000,000	11	1.0
20	A	5,000,000	16	1.0
21	A	5,000,000	20	28.0
22	A	5,000,000	16	40.0
23	A	5,000,000	3	1.0
24	A	7,200,000	15	17.3
25	A	8,000,000	20	+
26	A	7,000,000	15	10.7
27	Baa	5,000,000	17	1.0
28	Baa	6,000,000	25	+
29	Baa	5,000,000	16	1.0
30	Baa	8,000,000	14	20.8
31	Baa	7,000,000	15	+
32	Baa	8,000,000	22	1.0
33	Baa	5,000,000	12	+
34	Baa	5,400,000	15	27.3
35	Baa	5,500,000	14	38.0
36	Baa	7,500,000	15	9.7

Section C-22 (Continued)

Number	Quality	Size of Issue	Maturity	"r"
37	Baa	6,000,000	27	+
38	Baa	6,500,000	15	> 50.0
39	Baa	6,000,000	20	31.5
40	Baa	5,000,000	20	< 1.0
41	Baa	8,500,000	15	+
42	Baa	5,000,000	16	+
43	Baa	5,000,000	15	< 1.0
44	Baa	6,000,000	15	< 1.0

Section C-23

Manufacturing, 1966

Issue Size: \$10.0 - 19.9 Million

Number	Quality	Size of Issue	Maturity	"r"
1	Aaa	15,000,000	20	36.4
2	Aa	10,000,000	15	49.0
3	Aa	15,000,000	20	13.9
4	Aa	15,000,000	20	+
5	Aa	13,000,000	20	49.0
6	Aa	10,000,000	19	+
7	Aa	13,000,000	20	+
8	Aa	10,000,000	15	48.0
9	Aa	10,000,000	20	23.5
10	Aa	15,500,000	15	50.0
11	Aa	13,000,000	20	+
12	A	16,000,000	15	25.1
13	A	15,000,000	19	13.6
14	A	16,500,000	16	20.5
15	A	10,000,000	20	28.7
16	A	10,500,000	14	15.5
17	A	15,000,000	19	1.0
18	A	18,000,000	15	2.9
19	A	17,500,000	20	13.9
20	A	18,000,000	20	34.5
21	A	10,000,000	20	42.8
22	A	10,000,000	20	28.7
23	A	10,000,000	15	42.6
24	A	10,000,000	20	28.7
25	A	12,000,000	15	37.0
26	A	10,700,000	20	28.7
27	Baa	10,000,000	15	+
28	Baa	17,500,000	14	48.0
29	Baa	17,500,000	20	19.3
30	Baa	12,500,000	19	1.3
31	Baa	15,500,000	20	6.2
32	Baa	12,000,000	16	33.6
33	Baa	15,000,000	20	1.0
34	Baa	12,000,000	20	50.0
35	Baa	10,000,000	16	50.0

Section C-24

Manufacturing, 1966

Issue Size: \$20.0 - 49.9 Million

No.	Quality	Size of Issue	Maturity	"r"
1	Aaa	22,500,000	18	32.4
2	Aaa	25,000,000	20	10.2
3	Aa	30,000,000	11	50.0
4	Aa	25,000,000	25	+
5	Aa	35,000,000	20	12.1
6	Aa	29,000,000	16	20.5
7	Aa	20,000,000	15	28.7
8	Aa	20,000,000	20	50.0
9	Aa	20,000,000	20	30.1
10	A	20,000,000	25	+
11	A	20,000,000	20	+
12	A	20,000,000	20	20.8
13	A	23,000,000	15	31.0
14	A	37,000,000	21	50.0
15	A	22,000,000	15	19.8
16	A	20,000,000	20	50.0
17	Baa	41,500,000	20	+
18	Baa	30,500,000	19	+
19	Baa	20,000,000	20	6.0
20	Baa	20,000,000	15	17.2
21	Baa	25,000,000	20	18.5
22	Baa	27,500,000	10	1.0
23	Baa	25,000,000	20	6.0
24	Baa	24,450,000	18	+
25	Baa	20,000,000	14	27.6
26	Baa	23,000,000	20	6.0
27	Baa	25,000,000	20	6.0
28	Baa	20,000,000	22	50.0
29	Baa	20,000,000	20	50.0
30	Baa	25,000,000	20	+

Section C-25

Manufacturing, 1966

Issue Size: \$50.0 + Million

Number	Quality	Size of Issue	Maturity	"r"
1	Aaa	60,000,000	25	+
2	Aaa	100,000,000	25	< 1.0
3	Aaa	150,000,000	25	+
4	Aaa	100,000,000	25	33.0
5	Aaa	125,000,000	25	> 50.0
6	Aaa	150,000,000	20	1.0
7	Aaa	50,000,000	30	> 50.0
8	Aaa	50,000,000	20	> 50.0
9	Aa	100,000,000	25	+
10	Aa	94,000,000	10	> 50.0
11	Aa	50,000,000	25	+
12	Aa	100,000,000	23	> 50.0
13	Aa	85,000,000	22	> 50.0
14	A	100,000,000	25	+
15	A	65,000,000	20	> 50.0
16	A	200,000,000	25	28.3
17	Baa	60,000,000	22	24.7
18	Baa	125,000,000	24	18.7
19	Baa	175,000,000	20	> 50.0

Section C-26

Public Utility, 1966

Issue Size: \$1.0 - 1.9 Million

Number	Quality	Size of Issue	Maturity	"r"
1	Aa	1,900,000	30	+
2	Aa	1,800,000	30	9.8
3	Aa	1,000,000	30	+
4	Aa	1,250,000	29	+
5	A	1,600,000	25	10.0
6	A	1,500,000	15	26.5
7	A	1,400,000	25	22.5
8	A	1,500,000	30	22.3
9	A	1,000,000	30	38.0
10	A	1,000,000	25	1.0
11	Baa	945,000	12	+
12	Baa	1,200,000	25	+
13	Baa	1,500,000	30	+
14	Baa	1,250,000	30	11.0
15	Baa	1,600,000	25	+
16	Baa	1,000,000	25	+
17	Baa	1,000,000	25	+
18	Baa	1,200,000	24	+
19	Baa	1,000,000	19	+
20	Baa	800,000	25	+
21	Baa	1,395,000	20	4.3
22	Baa	1,500,000	20	1.0
23	Baa	1,000,000	20	+
24	Baa	1,335,000	20	+
25	Baa	1,250,000	25	5.6
26	Baa	1,900,000	25	14.7
27	Baa	1,600,000	20	+
28	Baa	1,800,000	25	14.3

Section C-27

Public Utility, 1966

Issue Size: \$2.0 - 4.9 Million

Number	Quality	Size of Issue	Maturity	"r"
1	Aaa	2,250,000	30	50.0
2	Aa	4,000,000	25	+
3	Aa	3,500,000	30	8.7
4	Aa	2,500,000	30	8.7
5	A	3,000,000	30	+
6	A	3,500,000	19	+
7	A	3,000,000	30	+
8	A	3,000,000	30	50.0
9	A	2,000,000	30	50.0
10	A	4,000,000	25	50.0
11	A	4,000,000	30	28.4
12	A	2,500,000	30	50.0
13	A	2,500,000	30	50.0
14	Baa	3,000,000	19	+
15	Baa	2,400,000	25	+
16	Baa	2,500,000	25	+
17	Baa	3,000,000	20	+
18	Baa	3,100,000	20	40.8
19	Baa	3,000,000	25	45.0
20	Baa	2,000,000	20	45.0
21	Baa	2,500,000	25	+
22	Baa	2,000,000	15	50.0
23	Baa	2,000,000	15	50.0
24	Baa	2,000,000	25	28.8
25	Baa	3,000,000	30	+
26	Baa	2,000,000	25	+
27	Baa	2,000,000	25	+
28	Baa	3,500,000	22	+
29	Baa	2,000,000	25	12.8

Section C-28

Public Utility, 1966

Issue Size: \$5.0 - 9.9 Million

Number	Quality	Size of Issue	Maturity	"r"
1	Aaa	6,250,000	20	50.0
2	Aa	7,000,000	24	+
3	Aa	7,500,000	25	33.5
4	Aa	9,000,000	30	13.2
5	Aa	9,500,000	20	+
6	A	5,000,000	25	+
7	A	7,000,000	25	+
8	A	8,000,000	25	50.0
9	A	5,000,000	25	50.0
10	A	7,000,000	30	50.0
11	Baa	5,000,000	25	+
12	Baa	7,218,000	30	+
13	Baa	9,000,000	20	50.0
14	Baa	5,250,000	25	13.3
15	Baa	5,000,000	20	50.0
16	Baa	9,000,000	25	50.0
17	Baa	7,250,000	30	+

Section C-29

Public Utility, 1966

Issue Size: \$10.0 - 19.9 Million

Number	Quality	Size of Issue	Maturity	"r"
1	Aa	15,000,000	30	15.9
2	Aa	12,000,000	30	+
3	Aa	18,000,000	30	31.7
4	Aa	16,000,000	30	15.9
5	Aa	18,000,000	30	50.0
6	Aa	10,000,000	30	50.0
7	A	10,000,000	30	+
8	A	10,000,000	20	23.0
9	A	12,000,000	30	+
10	A	15,000,000	30	31.7
11	Baa	12,000,000	30	50.0
12	Baa	12,000,000	20	50.0
13	Baa	10,000,000	25	50.0

Section C-30

Public Utility, 1966

Issue Size: \$20.0 - 49.9 Million

Number	Quality	Size of Issue	Maturity	"r"
1	Aa	32,000,000	10	23.7
2	Aa	20,000,000	25	+
3	Aa	30,000,000	25	50.0
4	Aa	40,000,000	25	30.3
5	A	20,000,000	25	50.0
6	A	25,000,000	25	50.0
7	A	20,000,000	30	50.0

Section C-31

Public Utility, 1966

Issue Size: \$50.0 + Million

Number	Quality	Size of Issue	Maturity	"r"
1	Aaa	50,000,000	30	>50.0

Section C-32

Commercial, 1966

Issue Size: \$.5 - .9 Million

Number	Quality	Size of Issue	Maturity	"r"
1	A	750,000	13	6.2
2	A	750,000	19	7.3
3	A	750,000	15	13.3
4	A	744,000	13	8.2
5	Baa	900,000	15	1.0
6	Baa	900,000	12	4.6
7	Baa	750,000	10	1.0
8	Baa	500,000	10	1.0
9	Baa	700,000	15	1.0
10	Baa	900,000	25	1.0
11	Baa	700,000	14	1.0
12	Baa	589,000	15	2.6
13	Baa	600,000	13	5.6
14	Baa	800,000	6	1.0
15	Baa	592,000	8	1.0
16	Baa	605,000	15	9.3
17	Baa	640,000	15	1.0
18	Baa	475,000	13	5.6
19	Baa	700,000	10	1.2
20	Baa	600,000	15	11.0
21	Baa	700,000	14	6.4
22	Baa	720,000	8	1.0
23	Baa	580,000	13	1.0
24	Baa	960,000	25	6.6
25	Baa	500,000	15	2.6
26	Baa	625,000	15	1.0
27	Baa	500,000	13	1.0

Section C-33

Commercial, 1966

Issue Size: \$1.0 - 1.9 Million

Number	Quality	Size of Issue	Maturity	"r"
1	A	1,000,000	16	10.8
2	A	1,000,000	12	11.2
3	A	1,500,000	14	1.0
4	A	1,500,000	14	9.6
5	A	1,000,000	15	1.0
6	A	1,500,000	15	18.7
7	A	1,100,000	14	17.3
8	Baa	1,250,000	15	2.3
9	Baa	1,200,000	13	1.0
10	Baa	1,250,000	15	1.0
11	Baa	1,750,000	15	2.3
12	Baa	1,000,000	5	1.0
13	Baa	1,000,000	12	13.6
14	Baa	1,250,000	15	2.3
15	Baa	1,000,000	14	11.9
16	Baa	1,000,000	12	16.7
17	Baa	1,010,000	12	16.0
18	Baa	1,300,000	16	9.9
19	Baa	1,100,000	15	12.6
20	Baa	1,750,000	16	9.8
21	Baa	1,500,000	15	9.3
22	Baa	1,000,000	15	9.1
23	Baa	1,500,000	17	16.0
24	Baa	1,500,000	14	+
25	Baa	1,500,000	12	15.0
26	Baa	1,300,000	15	+

Section C-34

Commercial, 1966

Issue Size: \$2.0 - 4.9 Million

Number	Quality	Size of Issue	Maturity	"r"
1	Aa	3,220,000	15	4.7
2	A	3,000,000	20	1.0
3	A	3,000,000	12	11.2
4	A	2,500,000	15	1.0
5	A	2,450,000	25	1.0
6	Baa	3,000,000	16	6.3
7	Baa	3,600,000	15	+
8	Baa	3,000,000	15	1.0
9	Baa	2,730,000	16	+
10	Baa	2,670,000	29	+
11	Baa	4,875,000	15	1.0
12	Baa	2,000,000	15	2.3
13	Baa	2,000,000	12	+
14	Baa	4,000,000	20	3.8
15	Baa	3,500,000	15	+
16	Baa	2,500,000	15	14.5
17	Baa	2,000,000	15	1.0
18	Baa	2,000,000	20	10.2
19	Baa	3,400,000	14	1.0
20	Baa	3,500,000	20	+
21	Baa	2,500,000	15	2.0
22	Baa	2,500,000	20	1.0
23	Baa	3,000,000	15	1.0
24	Baa	3,500,000	15	+
25	Baa	3,000,000	20	+
26	Baa	2,500,000	25	1.0
27	Baa	2,000,000	17	+
28	Baa	2,000,000	15	20.0
29	Baa	2,000,000	15	1.0

Section C-35

Commercial, 1966

Issue Size: \$5.0 - 9.9 Million

Number	Quality	Size of Issue	Maturity	"r"
1	Aa	5,000,000	20	1.0
2	Aa	5,000,000	16	7.7
3	Aa	5,000,000	25	15.5
4	A	8,000,000	15	19.4
5	A	5,000,000	20	2.8
6	A	9,000,000	22	9.7
7	A	7,500,000	14	14.0
8	Baa	5,000,000	15	12.7
9	Baa	5,400,000	12	1.0
10	Baa	5,000,000	12	1.0
11	Baa	5,000,000	15	6.2
12	Baa	8,000,000	7	1.6
13	Baa	8,300,000	15	11.5

Section C-36

Commercial, 1966

Issue Size: \$10.0 - 19.9 Million

Number	Quality	Size of Issue	Maturity	"r"
1	Aa	15,000,000	25	+
2	A	18,250,000	19	1.0
3	A	18,500,000	25	+
4	Baa	12,500,000	22	10.4
5	Baa	15,000,000	22	22.8

Section C-37

Commercial, 1966

Issue Size: \$20.0 - 49.9 Million

Number	Quality	Size of Issue	Maturity	"r"
1	A	34,050,000	20	17.2
2	Baa	26,150,000	15	+
3	Baa	27,000,000	11	22.2
4	Baa	35,000,000	16	23.5
5	Baa	22,000,000	20	+

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