

ALASKA LEGISLATURE SPECIAL COMMITTEE / SUBJECT FILES 8672

146 SCOMM 9: HOUSE SPEC. COMM. ON PERMANENT FUND 1977-78

DISCUSSION

I Standards of Measurement

Total Return

The investment results of a portfolio should be measured in terms of all the results produced. This includes the income generated as well as capital gains and losses both realized and unrealized. These are the three ingredients of performance and, even though a portfolio might not be managed on a "total return" concept, the only proper approach is to measure all of the portfolio's output. There is a considerable body of disagreement on this, particularly regarding the accounting for unrealized capital gains. We recommend that investment results be measured on an accrual accounting basis from period to period and not on a cash accounting basis that might require that the capital gains be realized or income (e.g., bond interest income paid out semi-annually) be received before being credited to portfolio performance. An acceptable procedure to account for income accruals is to estimate income by using the indicated annual rate of income at the beginning of the period. In each quarterly performance computation, this amount would be divided by four.

Rates of Return

Rates of return are of two general types: dollar weighted (or internal) and time weighted. The dollar weighted rate of return has specific value in measuring a given portfolio's results and this is the most appropriate figure for comparison with actuarial assumptions for corporate pension funds. However, when comparing investment results between portfolios, the differences

in size and timing of cash flows can create considerable distortions. It can be argued that a dollar weighted rate of return is appropriate for use when measuring only the common stock portion of a portfolio because the investment manager has control over the timing and amounts of cash flows into and out of equities within the portfolio. However, whereas this is true to some extent, the judgments are often influenced by cash flows into and out of the total portfolio. We have concluded that the time weighted rate of return is appropriate for use in making comparisons between total portfolios as well as various segments of portfolios and, also, with market indices which are by default time weighted because there are no cash flows.

It is difficult for many organizations to provide an exact time weighted rate of return measurement because of the necessity to revalue the entire portfolio whenever significant cash contributions or distributions are made. Therefore, we believe that an approximate time weighted rate of return is satisfactory in most cases and recommend the following principles be observed:

1. The portfolio be valued at least quarterly.
2. A formula should be used to minimize the impact of cash flows on performance results within a measurement period. One such formula is:

$$R = \frac{V^2 - V^1 - C + I}{V^1 + 1/2C}$$

Where V_1^1 = beginning market value = \$1,000,000.
 V_2 = ending market value = \$1,200,000.
 (including reinvested income)
 C = net cash flow = \$ 100,000.
 (from any source including reinvested income)
 I = total measurement = \$ 10,000.
 period income
 R = rate of return

$$R = \frac{\$1,200,000. - \$1,000,000. - \$100,000. + \$10,000.}{\$1,000,000. + 1/2(\$100,000.)}$$

$$R = \frac{\$ 110,000.}{\$1,050,000.} = 10.5\%$$

The formula states that the total rate of return for the time period is equal to what was earned in both price change and income (the numerator) as a percentage of the capital at work (the denominator). The amount earned is the difference between the beginning and the ending market values, adjusted for the net of all capital additions and withdrawals because they are not part of the return, and adjusted again for income because it is part of the total return. The capital at work is the beginning market value plus one-half of the net of all capital additions and withdrawals. The one-half is used because no effort is being made to identify the dates of cash flows. They are being netted together and the assumption is being made that they all took place at the mid-point of the time period. So, rather than saying the entire cash flow was at work for half the time, the formula says one-half the cash flow was at work the entire time. When the contribution C is very large relative to the beginning market value V_1^1 (e.g., over 10%) it may be necessary to modify the use of the above formula or value the portfolio as of the date of the cash flow to remove possible distortions by eliminating any sub-period containing an overly large cash flow.

3. A linked index should be used in keeping a record of this performance data over time and provides a means of developing annual figures from separate quarterly calculations. Such an index would be as follows:

	<u>% Change</u>	<u>Index</u>
Beginning Value	-----	100.0
Period 1	+5.0	105.0
Period 2	-3.6	101.2
Period 3	+1.8	103.0
Period 4	+6.2	109.4
Overall Return	+9.4%	

Total Portfolio and Various Portfolio Segments

The most appropriate comparison between portfolios is to show the results of the total portfolio investments. An extra dimension is given when the total portfolio returns are supplemented by percentage figures showing the proportions held in various portfolio segments. It is often useful to demonstrate bond management or stock management using the bond and stock segments of a total portfolio balanced between bonds and stocks. Therefore, it is also recommended that segments of different portfolios be used for comparisons to measure selection and also the impacts of timing of shifts between portfolio segments. The procedure described above for calculating rates of return on total portfolios is the same used for portfolio segments such as common stocks. When computing the performance of an equities only segment, however, it is necessary to compute the net cash flow as equal to the difference between the total of all common stock purchases and the total of all common stock sales during the period.

Definitions within Portfolio Segments

When comparing segments of portfolios such as the common stock segment of one portfolio with the common stock segment of another portfolio, it is important that the segments have comparable characteristics. It would not, for example, be appropriate to compare the common stock portfolio of a corporate pension fund which was 25% invested in the company's own stock with the common stock portfolio of another pension fund which had no such distortion. Managers inherit portfolios from a variety of sources which might hold concentrations in poorly marketable securities which would take time to

work out of successfully. The manager should not be charged with the distortions produced, good or bad, during a prolonged period of liquidation. There are also differences in treatment of types of holdings. In the case of convertible securities, some treat them as part of the portfolio's bond holdings, some treat them as common stocks and some divide them between those convertible issues selling near their base investment value as a straight bond and those convertible issues selling more on a common stock equivalent basis. Finally, it is not appropriate to compare results for diversified and undiversified portfolios. For example, "bond performance" should not be compared on the basis of one portfolio which has 30% invested in bonds including a diversified list of issues and another portfolio which might be of equal total dollar size but have a much smaller percentage of the total portfolio devoted to bonds and, perhaps, use only one or two issues.

Total Time Period Shown

The five-year time period for investment results is designed to be long enough to cover most business and market cycles. The minimum objective should be a length of time encompassing at least one market cycle containing rising market and declining market periods in order to permit an assessment of investment performance during both types of markets. Depending on the timing of market cycles and the fact that they do not usually open and close in consonance with the calendar, there will inevitably be occasions when a total time period of less than five years will be more appropriate.

Time Intervals Used

Within the total time period shown, the time interval recommended is one year with some indication of results for multiple time periods on a compound annual basis. An example of this type of presentation is illustrated below:

	<u>Annual Rates of Return</u>					<u>Compound Annual Rates of Return</u>			
	<u>1969</u>	<u>1970</u>	<u>1971</u>	<u>1972</u>	<u>1973</u>	<u>2 years '72-'73</u>	<u>3 years '71-'73</u>	<u>4 years '70-'73</u>	<u>5 years '69-'73</u>
Fund 1	-5.2	8.3	12.8	19.0	-15.5	0.3	4.3	5.3	3.1

(All figures are hypothetical)

Variability of Return

It is not sufficient to know that a certain magnitude of return was attained. It is also valuable to know the degree of variability experienced in reaching the return. An appropriate way to express this variability is through the use of some statistical measure of dispersion of the sub-period rates of return around their average rate of return. The standard deviation is recommended as a means of quantifying dispersion. It is a widely used measure and, although there are a number of other techniques to measure dispersion, it is appropriate as a minimum supplement to rate of return figures.

The standard deviation indicates the limits within which the sub-period returns vary in producing an average return for a total time period. In normal distributions of a series of returns, plus or minus one standard deviation from the average would encompass approximately 68% of the returns. Plus or minus two standard deviations from the average would encompass 95% and plus or minus three standard deviations would encompass 99%. The task, then, is to calculate one standard deviation as the basic unit.

It is suggested that the sub-period returns be quarterly figures. The standard deviation of the quarterly rates is found by:

- (1) obtaining the arithmetic average
- (2) calculating the deviations of each rate from the average
- (3) squaring each individual deviation
- (4) taking the average of these squares
- (5) extracting the square root of this average

Since these calculations produce the standard deviation of the quarterly rates, it is necessary to make a conversion so the standard deviation can be used as a supplement to rate of return figures expressed as compound annual rates. This is accomplished by multiplying the standard deviation of the quarterly rates by 2, the square root of the number of quarters in one year.

NOTE: See calculations at end of report.

II Standards of Use

Management Discretion

A primary purpose for generating performance figures is to provide a quantitative basis for evaluating the job done by the portfolio manager. It is only fair, then, for the results to reflect truly the manager's performance without an undue overlay imposed by others. This overlay may take the form of policy constraints (e.g., a current income requirement, ceilings on percentage to be invested in common stocks, restrictions as to the types of securities to be purchased, etc.) or approval mechanisms involving rejection of proposed investments. The investment results should reflect the portfolio manager's decision process. Although we recognize that the effective discretion of a portfolio manager might not be within the legal

definition of "discretionary," we believe a portfolio should be presumed to be discretionary if the portfolio manager can arrange purchases and sales of securities of his selection (within reasonable limits) and vary the portfolio mix between stocks, bonds, or cash equivalents without undue restrictions on his own best professional judgment.

Number of Results Shown

Selection criteria for a statistical sample of any size must be accurately disclosed to identify what the sample includes. The criteria might be complex (e.g., common stocks only of accounts which are fully discretionary, tax-exempt, managed by a firm's New York office for five years, etc.) or simple (e.g., "our best account" or "our three largest accounts") but they must be disclosed. Whatever the basis for selection of investment results to be shown, all accounts described by the selection criteria must be included. Although the quantity of accounts shown can be controlled by the specifics of categorization filters, the account sample must be complete as described.

A broad sample is desirable because the record of one portfolio or several portfolios is not statistically significant as the record of a portfolio manager or an entire firm of portfolio managers managing many portfolios. One account cannot be presumed to be representative of an individual's or firm's work unless the individual or firm so states and is prepared to substantiate. Therefore, it would not usually be appropriate to compare two firms of portfolio managers by comparing one account

of one firm with one account of another firm. This is true for any type of portfolio, including mutual funds or any other commingled funds. The use of one account may be appropriate in representing itself when it is desirable to show the results of specific types of investing such as with a high risk mutual fund, a mutual fund of international securities or a mutual fund whose policy it is to keep pace with general market averages. Furthermore, a single portfolio, pension fund, mutual fund or otherwise, should not be used by any firm as representative of another firm unless that firm has so stated and substantiated. It is not one firm's realm to present another firm's record. A firm's responsibility is to represent itself and not others.

In presenting investment performance results, it is appropriate to use summary statistical techniques such as averages, medians, etc., as long as they are representative of a broad sample of similar portfolios. Statistical and graphic representations should be specifically footnoted to disclose what they represent and a firm using them should be prepared to substantiate the representations by standing ready to describe the details of the underlying calculations. This substantiation should at a minimum contain the data presented in the attached worksheets.

Tax-Exempt Portfolios

The purpose of showing investment results of existing clients to third parties is to provide an illustration of what has been achieved under varying conditions. Due to differences in impact on investment results of various tax brackets, it is difficult to compare the results of different taxable portfolios. In order to demonstrate the investment process, the

common base of tax-exempt portfolios can be used with both tax-exempt and taxable third parties.

Similarity of Investment Objectives

No two portfolios are exactly the same. Inevitably, there is some variation between different portfolios and their objectives. However, comparisons of investment results should be made only for portfolios with generally similar objectives and involving acceptance of the total return approach.

Size

Size is an important consideration and effort should be made to compare portfolios only within reasonable categories of size. It is inappropriate to compare the investment results of very small portfolios with very large portfolios due to the great differences in operational flexibility. The use of a size threshold is suggested such as including only portfolios over \$1 million.

Relevance to Third Parties

The selection of investment results to be shown should have some relationship to the circumstances of those receiving the information. For example, it is logical to show investment results which include a number of employee benefit funds in response to an inquiry from an employee benefit fund.

Mutual fund performance data are often used because they are a "public record." We conclude that this general use relates more to the integrity of an audited public statement rather than to the relevance of this record

and recommend that specifically selected investment results be used which have as close as possible a relationship to the third party viewing them.

Comparative Format

There are three general comparisons which might be drawn by those receiving a statement of investment results and the statement format should facilitate such comparisons.

1. The investor should be interested in the absolute level of accomplishment compared to his own goals. This does not speak to the realism of these goals whether they be achieving an actuarial assumption or some other pre-stated quantitative objective. He wants to assess the accomplishment relative to his own special standard.
2. The investor should be interested in the relative level of accomplishment within various market environments.
3. The investor should be interested in the relative level of accomplishment compared to some general representation of how others fared during the same time.

The first comparison uses the investor's own calculations and standards.

The second comparison requires some representation of the market environment. The widely used market averages involve a variety of calculation methods so that the results vary depending on market circumstances. This means a given index is not necessarily consistent in its reflection of the environment. The most appropriate answer (although not entirely satisfactory) is to review records of several market indices on a total return basis and assess the flow of experience over a sufficient period of time.

The third comparison requires the selection of representative universes of other managed money. This type of information has not been available for

many years but there are available universes of pension funds, mutual funds, bank commingled funds, insurance company separate accounts, etc. The integrity of the information has been high to date and provides a valuable means of comparison.

Distribution of Information

Care should be taken that any information provided third parties regarding portfolio investment results is in compliance with the Investment Advisers Act of 1940 and other guideposts, statutes, rules and court cases. In certain states, for example, any registered investment adviser must file new business materials. The judicial definitions of so-called federal "anti-fraud rules" are continually expanding to include prospect and client communications.

Outlined below are guidelines of what is deemed permissible and not permissible within the context of this report in distributing portfolio investment results.

Permissible:

Investment performance data may generally be shown which are:

1. clear disclosures of all relevant facts,
2. accurate,
3. for objectively justifiable time periods, and
4. for generally recognized categories within portfolios (e.g., total portfolio, total bonds, total common stocks) and for overall categories of portfolios (e.g., large pension funds, all tax-exempt institutional accounts).

Not Permissible:

Investment performance data may not be shown which are:

1. unclear, untrue or otherwise false or misleading and/or,
2. in the case of advertisements as defined under the Investment Advisers Act of 1940, in violation of the rules relating to advertisements.

In the Investment Advisers Act of 1940, a specific guideline is found in Rule 206(4)-1. This rule concerns "advertisements" by investment advisers and, in relation to the subject matter of this report, the most important provisions of the rule define the conditions under which distribution of an "advertisement" may constitute fraud or deception. For these purposes, "advertisement" is defined broadly as any written communication sent to more than one person (The term "person" is defined to include any organized group or persons, so that, for example, a corporate pension fund would be one person, even though it may have four people on its Finance Committee.) or any other notice or announcement in any publication or on radio or television which offers any investment advisory service with regard to securities.

One noteworthy example of circumstances under which an "advertisement" may not be distributed involves any situation where reference is made to past specific recommendations of the investment adviser which were or would have been profitable to anyone, unless the advertisement sets out or offers to furnish a list of all recommendations made by the investment adviser for the immediately preceding period of not less than one year -- a list which must contain specified, detailed information. The list must also contain

language in large type stating "IT SHOULD NOT BE ASSUMED THAT RECOMMENDATIONS MADE IN THE FUTURE WILL BE PROFITABLE OR WILL EQUAL THE PERFORMANCE OF THE SECURITIES ON THIS LIST."

Calculation Worksheet

The attached calculation worksheet utilizes quarterly rates of return derived from the formula described on Pages 7 and 8. The quarterly rates are used to develop:

1. Annual Rates - calculated by linking the quarterly rates geometrically through multiplication (not the same as the arithmetic average).
2. Compound Annual Rates - calculated by linking the annual rates for the specified time period and, then, reference to compound interest tables.
3. Standard Deviation of the Five-Year Quarterly Rates - calculated as indicated (also refer to Page 11 of report).

NOTE: The calculations described are basic to the production of investment performance figures. Of course, in large volume applications, appropriately programmed computers perform these tasks and the calculation worksheet is unnecessary.

Sample Report Format

The attached sample report format embodies the recommendations contained in this report. It is an example of how the recommendations can be used. There are a variety of alternatives and display methods which involve the use of the return figures or graphic representations of the rates of return. This example provides a basic standard for presentation or is appropriate substantiation of statistical or graphic representations. The two pages are companion pieces and the recommendations on Pages 4-5 of this report should be used as a checklist for completeness.

CALCULATION WORKSHEET *
FUND 1

<u>Quarterly Periods</u>	<u>Quarterly Rates</u>	<u>Annual Index</u>	<u>Annual Rates</u>	<u>Compound Annual Rates</u>	<u>Deviation** from Average</u>	<u>Deviations Squared</u>
		100.0				
1.	- 3.3	96.7			6.3	39.69
2.	14.0	110.2			11.0	121.00
3.	2.2	112.7			0.8	0.64
4.	1.5	114.4	14.4	11.4 (5 years)	1.5	2.25
		100.0				
5.	- 2.5	97.5			5.5	30.25
6.	- 2.3	95.3			5.3	28.09
7.	- 0.4	94.9			3.4	11.56
8.	4.5	99.1	- 0.9	10.7 (4 years)	1.5	2.25
		100.0				
9.	- 2.1	97.9			5.1	26.01
10.	-18.0	80.3			21.0	441.00
11.	14.6	92.0			11.6	134.56
12.	9.8	101.0	1.0	14.9 (3 years)	6.8	46.24
		100.0				
13.	8.4	108.4			5.4	29.16
14.	- 1.5	106.8			4.5	20.25
15.	0.9	107.7			2.1	4.41
16.	9.2	117.6	17.6	22.5 (2 years)	6.2	38.44
		100.0				
17.	8.4	108.4			5.4	29.16
18.	4.6	113.4			1.6	2.56
19.	5.6	119.7			2.6	6.76
20.	6.6	127.6	27.6	27.6 (1 year)	3.6	12.90
Total	60.2					1,027.18
Average	3.0					51.36
					Standard Deviation	7.2
					(Conversion Factor to annualize)	x 2
					5 Year Variability	14.4

*squares, square roots and compound rates are readily available in standard statistical tables
 **squaring deviations makes them all positive so minus signs can be ignored

SAMPLE REPORT FORMAT
(Hypothetical Figures Used Below)

COMPARATIVE PERFORMANCE
(All figures are total return including price change plus income)

	<u>Annual Rates of Return</u>					<u>Compound Annual Rates of Return</u>				<u>5 Year Variability</u>
	<u>1969</u>	<u>1970</u>	<u>1971</u>	<u>1972</u>	<u>1973</u>	<u>2 years '72-'73</u>	<u>3 years '71-'73</u>	<u>4 years '70-'73</u>	<u>5 years '69-'73</u>	
ABC INVESTMENT COUNSEL, INC.										
<u>Equity Performance of Selected Tax-Exempt Portfolios</u>										
Fund 1	- 7.6	7.2	12.4	14.2	- 6.8	4.6	8.2	7.1	4.8	8.5
Fund 2	- 5.2	2.8	12.4	22.2	-11.0	3.3	4.1	3.7	2.2	7.9
Fund 3	1.2	- 1.5	19.0	25.6	-10.0	6.7	6.6	5.1	4.5	9.4
Fund 4	3.5	- 2.6	13.9	19.5	-14.4	2.4	8.7	3.6	4.6	8.1
Fund 5	2.0	2.6	15.0	22.6	-17.4	2.1	8.6	5.0	3.0	8.8
Fund 6										
Fund 7										
Fund 8	----- ETC. -----									
Fund 9										
Fund 10										
Fund 11										
Fund 12										
Fund 13	----- ETC. -----									
Fund 14										
Fund 15										
<u>Equity Market Averages</u>										
Dow Jones	-11.8	9.3	9.9	18.5	-13.3	1.4	4.1	5.4	1.7	8.6
S & P 500	- 8.5	3.9	14.3	19.0	-14.9	0.7	5.0	4.7	2.0	7.5
<u>Mutual Fund Averages*</u>										
Growth Funds	-15.6	-16.0	19.8	8.5	-27.8	-11.5	- 2.1	- 5.8	- 7.8	15.2

*Lipper Analytical Services

ALL REPRESENTATIONS IN ACCORDANCE WITH STANDARDS APPROVED BY THE INVESTMENT COUNSEL ASSOCIATION OF AMERICA

SAMPLE REPORT FORMAT

KEY TO EQUITY PERFORMANCE*

	<u>TYPE</u>	<u>SIZE</u> <u>12/31/73</u>
Fund 1	Corporate Pension Fund	\$10.5 million
Fund 2	Corporate Profit Sharing Fund	\$ 6.8 million
Fund 3	College Endowment	\$12.6 million
Fund 4	Charitable Foundation	\$18.4 million
Fund 5	Religious Institution	\$ 5.4 million
Fund 6		
Fund 7		
Fund 8	----- ETC. -----	
Fund 9		
Fund 10		
Fund 11		
Fund 12		
Fund 13	----- ETC. -----	
Fund 14		
Fund 15		

*Discretionary Management

Discretionary money management
short term - in house (cash money management)
longer " & fixed income assets

→ equity investments ←



Behest of audit

PF - at least ^{every} six months - in time for
legislative consideration

may want to make a requirement
that "category I" loan (top rated investments)
be examined first for potential borrower
before "category II"

October , 1976

Dear Mr. .

Enclosed is the portfolio of Insurance Limited as of September 30, 1976 under management by Credit Suisse White Weld Ltd.

The third quarter of the year witnessed a slowdown in the rate of growth of the U.S. economy together with a somewhat lower level of inflationary pressures. As a result, interest rates resumed the downward trend that has been in evidence ever since reaching their peak in the middle of 1974. During the quarter the Eurodollar short term rates eased approximately 3/4% per annum, while medium and long term rates declined by approximately 1/2% per year.

Encouraged by these economic events we shifted a portion of the short term investments into the medium term sector. As a result, short term investments comprised 22% of the portfolio compared to 28% at the end of the previous quarter. Medium term investments rose by 5% to 50%, while long term investments rose by 1% to 13%.

As a result of the modest portfolio shift into higher yielding investments, the yield of the portfolio rose from 8.34% at the end of the last quarter to 8.50% on September 30, 1975.

Benefitting from the declining trend in interest rates, the market value of the straight debt segment of the portfolio rose by 0.8% to a level of 1.8% above cost. The equity linked segment rose by 3.0% compared with a rise in the NYSE index of 0.9% during the comparable period. The portfolio as a whole had a principal market value of \$41,393,331 against a principal cost value of \$41,538,669. The increase during the quarter was 1.0% for the portfolio.

The overall return on the portfolio for the second quarter consists of an average income of approximately 8.44% per annum or 2.1% for the quarter. Adding to this the net portfolio appreciation of 1.0% produces a total return of 3.1% of the average portfolio for the quarter and is about 9.0% for the first nine months of the year.

INSURANCE LIMITED
EURODOLLAR INTEREST RATES

<u>CD's</u>	<u>January 2, 1973</u>	<u>June 30, 1976</u>	<u>September 30, 1976</u>
1 month	5 3/8%	5 3/8%	5 3/8%
3 months	5 7/8	6	5 3/4
6 months	6 1/4	6 5/8	5 7/8
1 year	6 3/8	7 3/16	6 5/16
2 years	6 7/8	7 3/4	7 3/16
3 years	7	8 1/8	7 9/16
4 years	7 1/4	8 5/16	7 13/16
5 years	7 3/8	8 1/2	8 1/16
<u>Straight Bonds</u>			
10 years			
- U.S.	7	8 3/4	8 1/4
- non U.S.	7 1/4	9 1/4	8 3/4
15 years			
- U.S.	7 1/2	9 1/4	8 3/4
- non U.S.	7 3/4	9 1/2	9

PORTFOLIO AS OF SEPTEMBER 30, 1976

Nominal	SHORT TERM INVESTMENTS	Stated Yield or Coupon	Maturity	Yield/Price Bought At	Total Cost	Distribution of Portfolio
	Cash Balance				\$ 16,328	
\$2,000,000	Royal Bank of Canada, London	6 3/16%	11/8/76	7 1/32%	2,001,393	
1,500,000	Bank of America, London	6 31/32	11/30/76	6 15/16	1,501,879	
1,000,000	Morgan Guaranty Trust Co. of New York, London	9 1/4	12/20/76	7 9/16%	1,015,931	
746,000	Italian Credit Consortium, Notes	3	1/1/77	83	727,350	
300,000	Manufacturers Hanover Trust, London	7.225	1/26/77	7 3/16%	500,179	
250,000	Sunbeam International Finance, Notes	8	5/4/77	100 1/4	250,312	
1,000,000	Phelps Dodge Overseas Capital, Notes	7 1/2	5/15/77	87.70	955,400	
750,000	The Sunbeam Bank London	7 5/8	9/15/77	7 1/2%	750,883	
350,000	The Sanwa Bank London	7 5/8	9/21/77	7 1/2	351,118	
					\$9,070,773	21.8%
	<u>MEDIUM TERM INVESTMENTS</u>					
1,000,000	First National Bank of Chicago, London	7 7/16%	11/2/77	3 3/4%	\$ 977,950	
1,000,000	Azeco Overseas Leasing N.V. Notes	10	11/28/77	98 3/4	994,300	
1,000,000	Kyowa Bank Ltd., London	8 3/4	12/1/77	99 1/4	992,500	
1,500,000	Saitama Bank Ltd., London	8 5/8	1/30/78	99 1/4	1,488,750	
2,000,000	Hokkaido Takushoko Bank, Ltd.	8 1/2	2/10/78	99 1/4	1,965,000	
1,000,000	Manufacturers Hanover Trust, London	11 1/8	9/20/78	10 2/16	1,012,003	
2,000,000	Bank of America, London	9 1/4	9/28/78	9 1/4	2,000,000	
500,000	Yasuda Trust & Banking Co. London	7 1/2	9/28/78	99 1/8	892,125	
2,000,000	Morgan Guaranty Trust Co. of New York, London	9 3/32	12/31/78	9 1/32%	2,003,201	
1,000,000	Outokumpu Oy Notes	7 1/2	2/1/79	96 1/8	1,000,520	
1,000,000	Mellon Bank, London	8 5/8	3/1/79	10 1/32%	964,646	
1,500,000	European Economic Community Notes	7 1/2	12/1/79	98 1/4	1,461,874	
500,000	Chrysler Financial Corporation, Notes	7 1/2	1/1/80	99	496,020	
300,000	Asahi Chemical Industry Co. Ltd. Notes	10 1/4	2/13/80	99	297,450	
1,000,000	Banque Francaise de Commerce Exterieur Notes	9 1/8	5/15/80	101 3/4	1,037,777	
600,000	Honda Motor Company, Ltd., Notes	7 1/2	1/15/81	91.66	550,000	
1,000,000	Electricity Council, Notes	8 3/4	3/15/81	98 1/2	987,187	
600,000	Suntory Overseas N.V., Notes	9 1/2	5/15/81	99 1/4	595,500	
1,000,000	First National Bank of Chicago, London	8 1/8	9/3/81	99 1/8	993,732	
					\$20,730,515	49.9%
	<u>LONG TERM STRAIGHT INVESTMENTS</u>					
250,000	City of London	9 1/4%	10/15/81	100	250,000	
450,000	First Pennsylvania Corp.	7 5/8	11/15/81	81 1/4	365,625	
600,000	K-Mart Australia Prop. Finance	7 3/4	12/15/81	87.62	525,750	
250,000	Beecham International	8 1/4	2/1/86	83	222,500	
250,000	Queensland Alumina	8 1/2	3/1/86	68.64	216,612	
500,000	Sandvik	9 1/2	4/15/85	99 1/2	499,083	
500,000	Province of Saskatchewan	8 3/4	9/1/85	100	501,159	
250,000	Norges Kommunalbank	7 1/2	2/1/87	92.29	230,500	
500,000	Rafalon Purina	7 1/2	2/15/87	93.85	469,250	
420,000	Queensland Alumina	8 1/4	4/1/87	89.96	377,848	
500,000	Legal & General Assurance Soc. Ltd.	7 5/8	2/1/88	89 5/8	440,125	
500,000	RHM International Fin.	8	3/1/88	99	495,125	
500,000	Pacific Lighting Overseas	8	5/15/88	97 3/4	488,750	
250,000	Airlease Int'l. Finance	8 3/4	10/1/88	99 1/2	248,750	
500,000	National Coal Board	8 5/8	10/15/88	98 1/2	492,500	
250,000	Mitsubishi Rayon Co. Ltd.	9	4/1/89	98	245,000	
250,000	Callbury Schweppes	7 3/4	10/15/90	69	170,000	
400,000	Cie des Baillies de Guinea	8	12/31/90	81.68	336,581	
500,000	Mortgage Bank of Denmark	7 1/2	1/1/91	96 1/2	482,500	
400,000	Consolidated Foods Co.	7 1/2	1/15/91	90 1/4	367,333	
					\$7,434,991	17.9%
	<u>EQUITY LINKED INVESTMENTS</u>					
210,000	Gummins Int'l. Finance	5%	8/1/88	94.44	217,225	
150,000	Eastman Kodak International	4 1/2	5/15/88	150.4	225,625	
200,000	Firestone Overseas Fin. Corp.	5	5/1/88	91	182,000	
400,000	Ford Int'l. Capital Corp.	5	5/1/88	107	427,875	
150,000	General Electric Overseas	4 1/4	6/15/87	104	156,000	
400,000	Gillette Company	4 3/4	12/1/87	102 1/8	408,500	
450,000	Honeywell Capital N.V.	5	2/15/83	85.55	385,000	
100,000	Honeywell Capital N.V.	6	11/15/86	106 1/4	106,250	
450,000	MassMutual Mortgage & Realty Investors	6 3/4	1/15/87	71.66	322,500	
250,000	J.P. Morgan Overseas	4 1/4	6/15/87	127	317,562	
250,000	I.C. Fenway Int'l. Finance	4 1/2	8/1/87	64	160,000	
400,000	Bank Organization Ltd.	4 1/4	2/15/93	95 1/2	382,250	
450,000	Warner-Lambert Co.	4 1/2	4/1/87	88.58	399,625	
100,000	Nerox Corporation	5	12/1/88	91 5/8	91,625	
135,000	Union Bank of Switzerland	5	5/15/81	100	135,075	
	<u>COMMON STOCK</u>					
1,000 shs.	DMF			179 1/2	180,247	
3,415 shs.	General Electric			65 1/2	224,992	
					\$ 4,323,151	10.4%
	<u>TOTAL</u>				\$ 41,529,679	100%

INSURANCE LIMITED

I SUMMARY OF PORTFOLIO

	<u>COST</u>			<u>%</u>	<u>MARKET VALUE 9/30/76</u>			<u>%</u>	<u>Annual Income</u>	<u>Yield on Investments</u>
	<u>Principal</u>	<u>Accrued Interest</u>	<u>Total</u>		<u>Principal</u>	<u>Accrued Interest</u>	<u>Total</u>			
Total Short Term Investments	\$ 9,070,773		\$9,070,773	21.8%	\$9,168,289	\$220,823	\$ 9,389,112	21.6%	\$ 738,614	8.14%
Total Medium Term Investments	20,730,535		20,730,535	49.9%	21,236,966	772,391	22,068,802	50.8%	1,924,891	9.28%
Total Long Term Investments	7,414,085	\$ 20,906	7,434,991	17.9%	7,455,925	391,572	7,847,497	18.0%	652,462	8.80%
Total Equity Linked Investments	4,323,276	75	4,323,351	10.4%	4,032,131	81,173	4,113,304	9.6%	213,519	4.94%
	<u>\$41,538,669</u>	<u>\$20,981</u>	<u>\$41,559,650</u>	<u>100%</u>	<u>\$41,893,311</u>	<u>\$1,465,959</u>	<u>\$43,418,715</u>	<u>100%</u>	<u>\$3,529,486</u>	<u>8.50%</u>

INSURANCE LIMITED

CHANGE IN PRINCIPAL

	<u>Cost</u> <u>9/30/76</u>	<u>Market Value</u> <u>6/30/76 (1)</u>	<u>Market Value</u> <u>9/30/76</u>	<u>Change</u> <u>During 3rd</u> <u>Quarter 1976</u>	<u>Change</u> <u>From Cost</u>
Short Term Investment	\$9,070,773	\$9,166,744	\$9,168,289		
Medium Term Investment	20,730,535	21,126,625	21,236,966		
Long Term Investment	<u>7,414,085</u>	<u>7,271,644</u>	<u>7,455,925</u>	+ 0.8%	+ 1.75%
TOTAL STRAIGHT DEBT	\$37,215,393	\$37,565,013	\$37,861,180		
Equity Linked Investments	<u>4,323,276</u>	<u>3,909,373</u>	<u>4,032,131</u>	+ 3.0%	- 6.7%
TOTAL PORTFOLIO	<u>\$41,538,669</u>	\$41,474,386	<u>\$41,893,311</u>	+ 1.0%	+ 0.85%

(1) Assuming the net outflow of funds and the reinvestment of income during the third quarter 1976.

SHORT TERM INVESTMENTS

<u>CD's (unless otherwise indicated)</u>	<u>Date of Purchase</u>	<u>Nominal Value</u>	<u>Issue Date</u>	<u>Stated Rate</u>	<u>Maturity</u>	<u>Yield/Price Reported At</u>	<u>Actual Cost</u>	<u>Amortized Cost</u>	<u>Market Yield/Price as of 9/30/76</u>	<u>Market Value as of 9/30/76</u>	<u>Accrued Int. from Purch. or Anniv. Date</u>	<u>Principal At Market Value</u>	<u>Annual Income</u>	<u>Income Received</u>
Cash Balance							\$ 16,328	\$ 16,328		\$ 16,328		\$ 16,328		
Royal Bank of Canada, London	1976	\$2,000,000	5/6/76	6 3/16%	11/6/76	7 1/32%	2,001,393	2,001,393	5 1/4%	2,052,165	\$46,141	2,005,324	\$142,578	
Bank of America, London	1976	1,900,000	5/28/76	6 31/32	11/30/76	6 15/16	1,901,879	1,901,879	5 1/2	1,950,234	43,660	1,906,574	133,641	
Morgan Guaranty Trust Co. of New York, London	1975	1,000,000	12/20/73	9 1/4	12/20/76	7 9/16%	1,107,470	1,015,931	5 5/8%	1,080,308	59,806	1,020,562	78,108	
Italian Credit Consortium, Notes	1975	746,000	-	3	1/1/77	83	613,180	727,350	99 1/4	745,937	5,532	740,405	78,942	11,190
Manufacturers Hanover Trust, London	1973	500,000	1/20/72	7.225	1/26/77	7 3/16%	503,028	300,179	5 11/16%	527,496	24,782	502,714	36,547	
Sunbeam International Finance, Notes	1976	250,000	-	8	5/4/77	100 1/4	267,625	150,312	100 3/4	260,005	8,130	251,875	19,050	
Phelps Dodge Overseas Capital, Notes	1974	1,000,000	-	7 1/2	5/15/77	87.70	897,667	355,400	100 7/8	1,036,874	28,124	1,008,750	120,330	
The Sanwa Bank, London	7/6/76	750,000	9/11/72	7 5/8	9/15/77	7 1/2%	797,231	750,883	6 5/8%	759,089	2,167	756,902	57,054	58,140
The Sanwa Bank, London	7/6/76	950,000	9/21/72	7 5/8	9/21/77	7 1/2	1,008,584	751,116	6 5/8	960,516	1,661	958,655	71,324	73,644
							<u>\$9,118,195</u>	<u>\$9,279,773</u>		<u>\$9,389,112</u>	<u>\$220,623</u>	<u>\$9,101,289</u>	<u>\$753,614</u>	<u>\$142,574</u>

MEDIUM TERM INVESTMENTS

<u>CDs (Unless otherwise indicated)</u>	<u>Date of Purchase</u>	<u>Nominal Value</u>	<u>Issue Date</u>	<u>Stated Rate</u>	<u>Maturity</u>	<u>Yield/Price Bought at</u>	<u>Actual Cost</u>	<u>Amortized Cost</u>	<u>Market Yield/Price as of 9/30/76</u>	<u>Market Value As of 9/30/76</u>	<u>Accrued Int. from Purchase or Anniv. Date</u>	<u>Principal at Market Value</u>	<u>Annual Income</u>	<u>Income Received</u>
First National Bank of Chicago, London	1973	\$1,000,000	12/22/72	7 7/16%	11/2/77	8 3/4%	\$ 991,658	\$ 977,950	6 5/16	\$1,069,379	\$ 65,939	\$1,003,440	\$ 86,954	
Armco Overseas Leasing N.V. Notes	1974	1,000,000	-	10	11/28/77	9 3/4	1,019,444	994,300	10 1/2	1,060,000	25,000	1,025,000	104,400	
Kyowa Bank Ltd., London	1975	1,000,000	12/1/75	8 3/4	12/1/77	9 1/4	992,500	992,500	7 1/8	1,090,537	77,549	1,013,388	88,952	
Saitama Bank Ltd., London	1976	1,500,000	1/30/76	8 5/8	1/30/78	9 1/4	1,488,750	1,488,750	7 5/16	1,610,211	91,225	1,517,986	164,377	
Hokkaido Takushoku Bank, Ltd.	1976	2,000,000	2/3/76	8 1/2	2/10/78	9 1/4	1,985,000	1,985,000	7 5/16	2,137,505	115,282	2,022,223	171,424	
Manufacturers Hanover Trust, London	1974	1,000,000	9/20/74	11 1/8	9/20/78	10 7/16	1,030,204	1,012,003	7 1/4	1,072,702	2,661	1,070,041	107,053	\$ 113,104
Bank of America, London	1973	2,000,000	9/28/73	9 1/4	9/28/78	9 1/4	2,001,410	2,000,000	7 1/4	2,073,740	940	2,072,000	166,060	189,083
Yasuda Trust & Banking Co. CD	9/28/76	900,000	9/28/76	7 1/2	9/28/78	9 1/8	892,125	892,125	7 1/2	908,204	348	907,736	6,195	
Morgan Guaranty Trust Co. of New York, London	1974	2,000,000	12/31/73	9 3/32	12/31/78	9 1/32%	2,005,834	2,003,201	7 5/16	2,208,566	134,597	2,073,979	183,526	
Outokumpu Oy Note	8/9/76	1,000,000	-	7 1/2	2/1/79	9 1/8	1,000,520	1,000,520	9 1/2	985,623	10,023	975,000	50,046	
European Economic Community Notes	1976	1,500,000	-	7 1/2	12/1/79	9 1/4	1,461,874	1,461,874	10 3/4	1,530,825	49,575	1,481,250	116,950	
Mellon Bank, London	1974	1,000,000	3/1/74	8 5/8	3/1/79	10 1/32%	1,005,395	984,000	7 3/8	1,070,684	54,930	1,021,754	96,372	
Chrysler Financial Corporation, Notes	1973	500,000	-	7 1/2	1/1/80	9 1/2	495,000	495,020	8 1/2	503,619	24,019	475,000	47,773	
Asahi Chemical Industry Co. Ltd. Notes	1975	300,000	-	10 1/4	2/15/80	9 1/2	296,060	297,450	10 1/2	335,710	19,210	316,500	32,245	
Banque Francaise de Commerce Extérieur Notes	8/5/76	1,000,000	-	9 1/8	5/15/80	10 1/4	1,037,777	1,037,777	10 1/2	1,043,947	13,740	1,030,000	86,278	
Honda Motor Company, Ltd., Notes	1974/75	800,000	-	7 1/2	1/15/81	9 1/2	550,000	550,000	9 1/2	591,375	9,375	582,000	51,920	22,300
Electricity Council, Notes	1976	1,000,000	-	8 3/4	3/15/81	9 1/2	987,187	987,187	10 3/4	1,054,895	47,395	1,007,500	83,254	
Suntory Overseas N.V., Notes	1974/75	600,000	-	9 1/2	5/15/81	9 1/4	595,500	595,500	10 1/4	645,370	21,370	624,000	57,584	
First National Bank of Chicago, CD	9/14/76	1,000,000	9/3/76	6 1/8	9/1/81	9 1/8	993,732	993,732	8 1/2	1,010,456	3,415	1,007,241	84,026	
							<u>\$20,832,970</u>	<u>\$20,710,535</u>		<u>\$22,009,367</u>	<u>\$772,321</u>	<u>\$21,236,566</u>	<u>\$1,924,691</u>	<u>\$203,667</u>

LONG TERM STRAIGHT INVESTMENTS

	Date of Purchase	Nominal Value	Stated Rate	Maturity	Price Bought At	Adjusted Annual Yield to Maturity	Cost			Market Price As Of 9/30/76	Principal At Market Value	Accrued Interest	Annual Income	Income Received
							Principal	Accrued Interest	Total					
City of Dundee	1973	\$250,000	9 1/4%	10/15/83	100	9.05%	\$250,000		\$250,000	100	\$250,000	\$ 22,161	\$ 23,125	
First Pennsylvania Corp.	1975	450,000	7 5/8	11/15/84	81 1/4	10.58	365,625		365,625	88	396,000	30,022	34,312	
K-Mart Australia Prop. Finance	1973/75/76	600,000	7 3/4	12/15/84	87.62	9.84	525,750		525,750	93	558,000	1,937	46,500	\$46,500
Beecham International	1974	250,000	8 1/4	2/1/86	69	5.62	222,500		222,500	94 1/2	236,250	13,694	20,625	
Queensland Alumina	1974/75	250,000	8 1/2	3/1/86	86.64	10.47	216,612		216,612	97 1/2	243,750	12,336	21,250	
Sandvik	1976	500,000	9 1/2	4/15/86	99 1/2	9.36	497,500	\$1,583	499,083	102 1/4	511,250	21,770	47,500	
Province of Saskatchewan	9/27/76	500,000	8 3/4	9/1/86	100	8.57	500,000	3,159	503,159	100 1/2	502,500	3,524	43,750	
Norges Kommunalbank	1973	250,000	7 1/2	2/1/87	92.20	8.48	230,500		230,500	93 1/2	239,750	12,447	18,750	
Balston Purina	1973	500,000	7 1/2	2/15/87	93.85	8.10	469,250		469,250	98 1/2	492,500	23,436	37,500	
Queensland Alumina	1976	420,000	8 1/4	4/1/87	89.96	9.57	377,848		377,848	94	394,800	17,228	34,650	
Legal & General Assurance Soc. Ltd.	1973/74	500,000	7 5/8	2/1/88	89 5/8	8.75	448,125		448,125	83 3/4	418,750	25,310	36,125	
BIM International Fin.	1973	500,000	8	3/1/88	98	7.96	455,125		455,125	85 3/4	428,750	23,219	40,000	
Pacific Lighting Overseas	1973	500,000	8	4/15/88	97 3/4	8.10	488,750		488,750	97 1/4	486,250	18,331	40,000	
Airlease Int'l. Finance	1973	250,000	8 3/4	10/1/88	99 1/2	5.63	248,750		248,750	96 1/2	241,250	21,813	21,675	
National Coal Board	1973	500,000	8 5/8	10/15/88	98 1/2	8.63	492,500		492,500	92 3/4	463,750	41,327	43,125	
Mitsubishi Rayon Co. Ltd.	1974	250,000	9	4/1/89	98	9.05	245,000		245,000	99	247,500	11,187	22,500	
Carbury Schwepes	1975	250,000	7 3/4	10/15/90	68	12.30	170,000		170,000	82 3/4	206,475	10,567	19,375	
Cie des Bauxites de Guinea	1975/76	400,000	8	12/31/90	61.68	10.25	316,750	9,831	326,581	83	332,000	23,997	32,000	
Mortgage Bank of Denmark	1975	500,000	7 1/2	1/1/91	96 1/2	7.72	482,500		482,500	86	430,000	28,019	37,500	
Consolidated Foods Co.	1976	400,000	7 1/2	1/15/91	90 1/4	8.50	361,000	6,333	367,333	95 1/2	382,000	21,249	30,000	
							<u>\$7,414,005</u>	<u>520,906</u>	<u>\$7,434,911</u>		<u>\$7,429,225</u>	<u>6391,572</u>	<u>\$652,162</u>	<u>\$46,500</u>

EQUITY LINKED INVESTMENTS

CONVERTIBLE BONDS

	Date of Purchase	Nominal Value	Stated Rate	Maturity	Bought At	COST		Market Price as of 9/30/78	Principal At Market Value	Accrued Interest	Annual Income	Income Received
						Principal	Total					
Cummins Int'l. Finance	73/74/76	\$230,000	5%	8/1/88	94.44	\$217,225	\$217,225	124	\$ 285,200	\$ 1,884	\$11,500	\$ 5,750
Eastman Kodak International	1973	150,000	4 1/2	5/15/88	150.4	125,625	225,625	108	162,000	2,531	6,750	
Firestone Overseas Fin. Corp.	1976	200,000	5	5/1/88	91	182,000	182,000	90 1/2	181,000	4,137	10,000	
Ford Int'l. Capital Corp.	1973	400,000	5	5/1/83	107	427,875	427,875	91 1/2	366,000	8,277	20,000	
General Electric Overseas	1973	150,000	4 1/4	6/15/87	104	156,000	156,000	89	133,500	1,859	6,375	
Gillette Company	1973	400,000	4 3/4	12/1/87	102 1/8	408,500	408,500	79	316,000	15,778	19,000	
Honeywell Capital N.V.	1973/74	450,000	5	2/15/83	85.55	385,000	385,000	84	378,000	2,812	22,500	11,250
Honeywell Capital N.V.	1973	100,000	6	11/15/86	106 1/4	106,250	106,250	84	84,000	5,250	6,000	
MassMutual Mortgage & Realty Investors	73/76	450,000	6 3/4	7/15/87	71.66	322,500	322,500	78	351,000	6,328	30,375	30,375
J. P. Morgan Overseas	1973	250,000	4 1/4	6/15/87	127	317,562	317,562	109 1/2	273,750	3,099	10,625	
J. C. Penney Int'l. Finance	1973/74	250,000	4 1/2	8/1/87	64	160,000	160,000	85 1/2	213,750	1,843	11,250	11,250
Bank Organization Ltd.	1973	400,000	4 1/4	2/15/93	95 1/2	382,250	382,250	48	192,000	10,625	17,000	
Warner-Lambert Co.	1973/74	450,000	4 1/2	4/1/87	88.58	398,625	398,625	90	405,000	10,069	20,250	
Xerox Corporation	1973	100,000	5	12/1/88	93 5/8	93,625	93,625	77 1/2	77,500	4,150	5,000	
Union Bank of Switzerland	1976	135,000	5	5/15/81	100	135,000	575 135,075	108 1/4	146,137	2,531	6,750	

COMMON STOCKS

IBM	1,000 shs.	179 1/2	180,247	180,247	281 3/8	281,375		6,300	1,575
General Electric	3,435 shs.	65 1/2	224,992	224,992	54 1/8	185,919		3,844	801
			<u>\$1,173,276</u>	<u>\$ 75</u>	<u>\$4,123,351</u>	<u>\$4,037,131</u>	<u>\$81,173</u>	<u>\$217,519</u>	<u>\$61,181</u>

II SUMMARY OF ALL SALES, REDEMPTIONS, MATURITIES AND PRINCIPAL PAYMENTS

	Nominal Value	Issuer	Stated Coupon	Maturity	Amortized Cost	Date of:		Price Sold At	Principal Received	Interest Received	Total Proceeds	Realized Gain or Loss
						Purchase	Sale					
<u>SHORT TERM INVESTMENTS</u>	\$1,500,000	Bank of America CD	5 7/8%	7/26/76	\$1,529,882	5/26/76	7/26/76	-	\$1,529,682	\$16,640	\$1,544,522	
	300,000	Citibank CD	8 1/8	8/2/76	323,484	7/6/76	8/2/76	-	323,484	1,364	324,848	
	800,000	Citibank CD	5 3/8	8/5/76	807,205	7/6/76	8/5/76	-	807,205	1,733	810,988	
	900,000	Citibank CD	5 3/8	8/5/76	900,300	5/5/76	8/5/76	-	900,000	12,362	912,362	
	1,000,000	Chase Manhattan Bank CD	8 3/8	8/18/76	1,001,932	8/27/75	8/18/76	-	1,001,932	63,213	1,065,145	
	1,000,000	Citibank CD	6 1/8	9/14/76	1,016,197	8/18/76	9/14/76	-	1,016,197	4,049	1,020,246	
	500,000	Fuji Bank CD	7 5/8	9/27/76	<u>523,897</u>	3/24/76	9/27/76	-	<u>520,697</u>	<u>18,236</u>	<u>538,933</u>	
					<u>\$ 6,052,797</u>				<u>\$ 6,050,777</u>	<u>\$ 137,547</u>	<u>\$ 6,238,494</u>	
<u>MEDIUM TERM INVESTMENTS</u>	1,000,000	First Nat'l Bank of Dallas CD	9 3/16	9/5/78	\$ 1,019,745	4/5/76	9/7/76	7 9/16	\$ 1,083,479	\$ 38,282	\$ 1,121,761	
	500,000	F E C Notes	7 1/2	12/1/79	<u>491,150</u>	4/22/76	9/7/76	98 1/4	<u>491,250</u>	<u>10,000</u>	<u>501,250</u>	<u>513,234</u>
					<u>\$ 1,510,895</u>				<u>\$ 1,574,729</u>	<u>\$ 48,282</u>	<u>\$ 1,623,011</u>	
<u>LONG TERM INVESTMENTS</u>	500,000	Cte de Saxeite de Guinea	0	12/31/90	<u>501,175</u>	1975/76	7/6/76	82 1/2	<u>\$ 412,500</u>	<u>\$ 20,606</u>	<u>\$ 433,106</u>	<u>\$ 10,625</u>
					<u>\$ 8,011,167</u>				<u>\$ 8,086,076</u>	<u>\$ 206,295</u>	<u>\$ 8,292,371</u>	<u>\$ 24,359</u>

III RECORD OF RECEIPTS AND DISBURSEMENTS

7/7/76	Received from First National City Bank, London	\$ 2,500,000
7/24/76	Check to First National City Bank, London	(1,500,000)
9/8/76	Check to First National City Bank, London	(1,500,000)
	Net disbursement	\$ (500,000)

IV SUMMARY OF ALL PURCHASES

	<u>Date of Purchase</u>	<u>Nominal Value</u>	<u>Issuer</u>	<u>Stated Coupon</u>	<u>Maturity</u>	<u>Yield/Price Bought At</u>	<u>Actual Cost</u>	<u>Purchased Interest</u>	<u>Total Cost</u>	<u>Yield to Maturity</u>
<u>SHORT TERM INVESTMENTS</u>	7/6/76	\$ 950,000	The Sanwa Bank CD	7 5/8%	9/21/77	7.5%	\$1,008,584	-	\$1,008,584	7.5%
	7/6/76	750,000	The Sumitomo Bank CD	7 5/8	9/15/77	7.5	797,231	-	797,231	7.5
	7/6/76	300,000	Citibank CD	8 1/8	8/2/76	5 5/8	323,484	-	323,484	5 5/8
	7/6/76	800,000	Citibank CD	5 3/8	8/5/76	5 5/8	807,205	-	807,205	5 5/8
	8/18/76	1,000,000	Citibank CD	6 1/8	9/14/76	5 5/16%	<u>1,016,197</u> <u>\$3,952,701</u>	-	<u>1,016,197</u> <u>\$3,952,701</u>	5 5/16
<u>MEDIUM TERM INVESTMENTS</u>	8/5/76	1,000,000	B F C E Notes	9 1/8	5/15/80	101 3/4	1,017,500	20,277	1,037,777	8.60
	8/9/76	500,000	Outokumpo Oy Notes	7 1/2	2/1/79	96 1/8	480,625	19,583	500,208	9.00
	8/10/76	500,000	Outokumpo Oy Notes	7 1/2	2/1/79	96 1/8	480,625	19,687	500,312	9.00
	9/14/76	1,000,000	First National Bank of Chicago CD	8 1/8	9/3/81	99 1/8	991,250	2,482	993,732	8.34
	9/28/76	900,000	Yasuda Trust and Banking CD	7 1/2	9/28/78	99 1/8	892,125 <u>\$3,862,125</u>	- <u>\$62,029</u>	892,125 <u>\$3,924,154</u>	7.83
<u>LONG TERM INVESTMENTS</u>	9/27/76	500,000	Province of Saskatchewan	8 3/4	9/1/86	100	<u>500,000</u>	<u>3,159</u>	<u>503,159</u>	8.57
					TOTAL		<u>\$8,314,826</u>	<u>\$65,188</u>	<u>\$8,380,014</u>	

INSURANCE LIMITED

ACCOUNTING SUMMARY

JULY 1, 1976 - SEPTEMBER 30, 1976

II. CAPITAL FLOWS

Additions	\$ 2,500,000
Withdrawals	(3,000,000)
Net	\$ (500,000)

<u>III. NET INCOME</u>	<u>Cash Basis</u>	<u>Accrual Basis</u>
Short Term Investments	\$ 280,621	\$ 305,413
Medium Term Investments	309,940	401,195
Long Term Investments	64,007	153,199
Convertible & Equities	61,161	53,403
	<u>\$ 715,729</u>	<u>\$ 913,210</u>

IV. TRANSACTION SUMMARY

	<u>Purchases</u>	<u>Sales</u>			<u>Net Purchases for Sales</u>
		<u>Cost</u>	<u>Gains (Loss)</u>	<u>Proceeds</u>	
Short Term Investments	\$3,952,701	\$6,098,797		\$6,098,797	\$(2,146,096)
Medium Term Investments	3,862,125	1,560,995	\$13,734	1,574,729	2,287,396
Long Term Investments	500,000	401,175	10,625	412,500	87,500
Convertibles & Equities	-	-	-	-	-
	<u>\$8,314,826</u>	<u>\$8,061,667</u>	<u>\$24,359</u>	<u>\$8,086,026</u>	<u>\$ 228,800</u>

V. RECONCILIATION OF CASH BALANCE

Beginning Cash Balance	\$ 29,399
Net Income (Cash basis)	715,729
Proceeds of Sales (Principal)	8,086,026
- Cost of Purchases	8,314,826
Net Outflow	(500,000)
Ending Cash Balance	\$ 16,328

7 SUMMARY OF INCOME EARNED

	+	+	-	=	-	+	=
	Income Received Cash Basis (from Inventory Schedule)	Income Received Cash Basis (from Sales Schedule)	Int. Purchased In Current Qtr. (from Purchase Schedule)	Net Income Received Cash Basis	Accrual at Beginning of Period	Accrual at End of Period	Income on Accrual Basis
Short Term Investments	\$142,974	\$137,647	-	\$280,621	\$196,031	\$220,823	\$305,413
Medium Term Investments	323,687	48,282	62,029	309,940	681,136	772,391	401,195
Long Term Investments	46,500	20,666	3,159	64,007	302,380	391,572	153,199
Equities & Convertibles	61,161	-	-	61,161	88,931	81,173	53,403
	<u>\$574,322</u>	<u>\$206,595</u>	<u>\$65,188</u>	<u>\$715,729</u>	<u>\$1,268,478</u>	<u>\$1,465,959</u>	<u>\$913,210</u>

Exhibit VII

Selection of Discretionary Fund Managers

Studies: We have found no single investment manager or investment method with exceptional performance in all market environments.

It is, therefore, necessary to set forth the philosophy of the investment organizations, their approaches to the investment of discretionary funds and the resources they bring to bear on this part of their business.

The first priority should be to identify those characteristics felt to be most important to the fund. The more information one has about managers, the better the chances are of selecting a manager that has the characteristics the fund feels are important.

The following items are important areas of inquiry by the fund in discussions with prospective investment managers.

Organization: An understanding of the business base of the organization and its parent (if any), its current status and any conflicts with the parent's business, and the nature of ownership and capital give an indication of whether the investment management organization is likely to remain structured as it presently is or whether change is likely. The important points to review with the manager may be the importance of the investment entity's profits to the whole, the nature of its client base, how potential conflicts of interest within the management organization are resolved, and what motivation for the staff the form of ownership may provide.

Staff: Staff must be sufficient to support the investment philosophy, system, research capabilities and assets under management. In conjunction with biographies, interviews may provide the basis to assess the experience, maturity and capability of key staff members and portfolio managers, make certain the fund would receive the level of attention it deserves, and determine whether the investment philosophy is accepted throughout the organization.

Assets Under Management: The relative emphasis is on the types of accounts under management at one point in time. It may be important to know whether this reflects the organization's direction for the future. The fund should compare the mix of stock, bond and cash reserve assets to the philosophy, consider the number of stock and bond accounts, and find out how these may differ from the past.

Philosophy: The fund must discern the investment organization's central philosophy and method of implementation to determine whether such organization suits the fund requirements, especially with respect to asset mix, flexibility in

the use of cash reserves, and diversification of securities and issues within a portfolio. The fund must be certain that there is sufficient staff and a defined system in order to implement the philosophy. The fund should also know whether the philosophy is new or relatively long-standing and how it may be affected by extreme market conditions.

System: For a fund to be able to have confidence in a manager, the system must be understandable. It must fit the manager's organization, philosophy and personnel. From biographies or interviews the fund should discern whether key people are performing the most important functions in the system. Along with an understanding of how the system functions should come a sense of how ideas are generated, the main sources of input and the importance of the individual portfolio manager to the process. The account load per manager should also be considered at this point.

Research: This function may not be equally important for all investment philosophies and systems, but its importance and depth should be understood.

Fees: These are very often negotiable and flexible; so the fund should inquire specifically as to fees in relation to the size of the fund and special services required.

Performance: Performance reflects the results of the past and is not a prediction for the future. The performance of most investment organizations is dependent in great measure on general market conditions and must be viewed in relation to market conditions during the specific time period covered. It is important to understand the reason for the organization's performance results in the past (staff, philosophy, style, issue selection or industry weightings, among others).

Types of Money Management Organizations -

- Banks
- Insurance Companies
- Investment Management Firms
- Internal Staff

The great bulk of monies are still managed by banks. A major portion of this money is managed in individual accounts, and the treatment of those funds is very much like that provided by independent investment management companies. The banks have also established pooled investment trusts for funds. These are vehicles that serve a variety of purposes. For small funds they provide a way of getting intensive management in a way that is not practical if they were to be individually handled. For larger funds they offer a way of providing specialized investment opportunities, either in risky securities or in specialized holdings such as short-term investments where it is desirable to get a spread of holdings rather than concentrating in a limited number of issues.

Over the years, banks have emphasized their fiduciary responsibility for the monies under their supervision, and that has been a major selling point with them.

Insurance companies have become increasingly competitive in recent years in offering investment services. The great bulk of the monies which they handle for such funds are held in their general accounts. These are portfolios largely invested in bonds and mortgages but which also include stocks, real estate and various miscellaneous investments. These are massive pools of capital, and the insurance companies are able to offer guarantees with respect to contracts they offer based on their general accounts. Some of those contracts involve one-shot guarantees on a lump-sum deposit made at a specific time, and others provide a guarantee over some period of years.

In addition, insurance companies offer a broad range of separate account investments which are very similar to the pooled trust vehicles offered by banks. They include equity investment, separate accounts, bond investment, short-term investment accounts and, in the case of a few companies, real estate accounts.

The third major category of organizations offering services to funds are investment management firms. These include independent ones and those that are affiliated with brokerage houses or other financial institutions. These organizations typically offer services in the form of managing an individual account and tying the investment management of those funds to the particular needs and circumstances of their fund clients. Some of these organizations are specialists focusing on particular types of securities.

Finally, there are some funds, generally the very largest ones, who use internal staff for management of their assets. That is a possibility that is worth consideration if you are confident that you can hire and retain competent professionals who will be able to work with the trustees of the fund in establishing policies and procedures that will meet their particular needs.

Conclusion: It is clear that there is a very broad menu to choose from in the investment advisory field. A systematic procedure for considering the various characteristics of the different organizations in light of your particular fund's requirements, can substantially increase the likelihood that you are going to be able to satisfy your long-term investment needs.

Exhibit VIII



LEVERAGE

As noted in Exhibit I, one of the principal reasons which motivates a borrower to incur a debt obligation is the ability it provides him, through the acquisition of fixed assets or other uses, to accelerate his rate of growth beyond that which he would otherwise be able to achieve based solely on his ability to generate capital funds internally. As also noted, all lenders are dependent on a borrower's future revenue stream for payment of both interim interest and the principal amount at maturity, either by a direct payment or from the proceeds of a second, refinancing borrowing.

For a corporate borrower, the two limitations on its borrowing capacity are its level of revenues and the amount of its equity capital in relation to its debt. A company's level of revenues is scrutinized as a measure of its ability to meet the interest and principal payments on its obligations, as well as such payments on any subsequent refinancing borrowing, and lenders generally do not make debt available unless they feel assured of an adequate margin to accommodate periodic fluctuations. Similarly, the amount of debt which a corporate borrower is able to incur is limited by the amount of its equity capital which, because of its junior nature in liquidation, provides a margin of safety to creditors under the most adverse circumstances. Importantly, this latter debt constraint assumes that the borrower's revenue stream will cease if and when his other activities cease.

A municipal or local government borrower, unlike a corporate entity, has no equity, but also has a perpetual revenue stream as a result of its power to tax. The constraints on a municipal or local government borrower's debt capacity are thus derived from the extent of the property or income base over which its taxing power extends, with limits being set in recognition for the need for a reserve in the event of an economic reversal that would adversely effect the revenue stream.

As the Permanent Fund, because of its status and of the substantial size and guaranteed nature of its future resources, will be able to issue tax exempt securities bearing the highest credit ratings, it will have access to a large number of attractive leveraging opportunities. Highly rated tax exempt bonds can normally be sold at an extremely advantageous interest cost to the borrower, principally because of the exempt nature of their interest payments.

As discussed in Exhibit IV, the proceeds of a tax exempt security may only be used for certain specified exempt purposes such as public and municipal development projects. As a result, if the Fund were to borrow on a tax exempt basis, it would have to invest the proceeds in qualifying projects and would not, for example, be permitted to invest these funds in corporate securities of any type, whether publicly issued or privately placed. If the Fund wished to borrow to invest in corporate securities, it would have to do so on a taxable basis and, consequently, at a higher interest cost. While we believe that the presence of both taxable and non-taxable debt in the Fund's liability structure would not have an adverse impact on an investor's perception of its credit quality, any taxable financing because of its higher cost would act to slightly reduce the amount of cash available for investment by the Fund. Because of these factors, the Fund may wish to consider utilizing its own borrowing capacity to support public development projects

and to allocate its revenues towards private sector investments. Through the commitment of its resources and financing capacity via investments and guarantees supporting private sector activities, the Fund could, however, permit specific projects to achieve a higher degree of leverage than would otherwise be possible.

As to the form of financing which the Fund might undertake, we do not believe that there is any necessity at this time to contemplate issues other than unsecured senior debentures. Because of the size of the Fund's ultimate equity base, it should not require supplemental subordinated debt and, similarly, should attempt to achieve the longest maturities possible on its borrowings consistent with the objective of interest cost minimization. To the greatest degree practicable, investments made from such borrowings should match the maturities of the Fund's liabilities.

As noted above, through its investment and guarantee policies, the Fund could transfer a portion of its debt capacity to private sector activities. By purchasing equity (preferred or common) securities in a private venture, the Fund would be aiding the entity in the establishment of its capital base and would permit it to raise a larger amount of debt from other non-public sources on more attractive terms than might otherwise be available. Similarly, if the Fund were to purchase long term subordinated debt issues of a private sector project as part of a total financing package, it would be contributing near equity and would thus also encourage the participation of non-public lenders in the senior financing of the project. A similar effect could be achieved if the Fund were to act as the major participant in a syndicated loan to a private borrower or to agree to provide the permanent, long term financing for a private development project. Such a transaction could also be effected if the Fund were to sell participations in its private sector loans to other non-public investors with recourse to itself in the event of default. In effect, the latter type of transaction would represent an indirect form of leverage by the Fund.

The Fund will not, however, be able to leverage itself, either directly or indirectly beyond its capacity to comfortably service its debts (and to provide for future contingencies) and to offer its creditors an adequate margin of safety based on the type of its investments. Although it is impossible to determine exactly how much leverage the Fund will be permitted or will ultimately employ, the quality of its assets will have an important effect on its maximum level of debt. A sound asset base will support a higher level of debt than a pool of speculative or imprudent investments.

Exhibit IX

GUARANTEES

A guarantee is a contractual commitment to assume another's obligations if, for certain reasons, he is unable to meet them himself. Guarantees of financial obligations may be of two types, either a guarantee of performance - where the guarantor has the option of either assuming the debtor's obligations and keeping them outstanding or paying the amount due immediately upon default - or a guarantee of payment - where the guarantor must pay the full amount to the guaranteed party on default. Of the two types of guarantee, a guarantee of payment is the most acceptable to lenders and is most widely used. A guarantee may also be a guarantee of interest, principal or both and either full or partial with the value of a partial guarantee being dependent upon the amount of the guarantee in relation to the total obligation.

A guarantee of a debt obligation substitutes the credit of the guarantor for the credit of the borrower. Because a guarantee provides a lender with protection against loss in the event of default, lenders are generally willing to purchase guaranteed obligations on more attractive terms than non-guaranteed obligations. In the case of certain borrowers of weak credit standing, lenders will not purchase their obligations without a guarantee. A guarantee is of no value, however, if the guarantor is not of sufficient credit standing to easily assume the guaranteed obligation. To compensate for a weak guarantor, guarantees are often secured by assets of the guarantor. Due to the potential liability, guarantors also frequently charge a borrower a fee for issuing a guarantee.

Because of the likely future size of the Fund and its financial strength, its guarantee would be most highly regarded, in our opinion, by other lenders and, if given, would enable a borrower to more easily attract debt and to achieve finer terms on its issues. In certain cases, the Fund's guarantee might enable a borrower unable to obtain credit on its own to secure financing.

From the standpoint of a lender to a guarantor, however, a guarantee constitutes a contingent claim on the guarantor's assets which if called upon might inhibit the payment of his direct obligation. As a result, an entity cannot guarantee obligations indiscriminately without limiting its own debt capacity. Similarly, excessive issuance of guarantees by a guarantor will, over time, reduce their value to third parties. A guarantor has a fiduciary responsibility to maintain the value of its guarantees.

Exhibit X

WAMMERTON
BOND
MICHIGAN

WAMMERTON
BOND
MICHIGAN

CREDIT RATINGS

A credit rating on a debt issue represents an evaluation of the borrower's ability to repay its obligation as agreed and, as such, is an indication of the quality of the particular security as an investment vehicle. The two principal agencies which provide credit ratings are Moody's Investors Service Inc. and Standard & Poor's Corporation. Each of these agencies has its own system of credit quality classifications covering both the highest quality and the most speculative debt issues. A description of these agencies' individual ratings and their intended interpretation for both corporate and municipal securities is contained in this Exhibit.

A credit rating is dependent upon many factors, both objective and subjective, but principal among these are an issuer's size, its level of debt in relation to its capital structure and its level of income in relation to the magnitude of its interest payment obligations. In general, the larger the issuer, the lower an issuer's level of debt and the higher an issuer's level of income in relation to interest expense, the higher the credit rating will be on its debt securities. Importantly, a credit rating does not apply to all the debt securities of an issuer or to its ability to pay its debts in general but only to a single, specific debt issue for which a rating has been requested. As a result, a rating is also dependent upon the terms of the particular issue and to its status in the issuer's capital structure. A secured or guaranteed obligation may, for example, be rated higher than an unsecured obligation of the same issuer and subordinated securities are normally rated one category lower than senior securities. A study of certain of the financial statistics which we believe are important determinants of the various credit ratings is also contained in this Exhibit.

A credit rating greatly assists investors in their evaluation of the credit of an issuer and, in some cases, forms an important part of a buyer's independent analysis of a security's investment merits. Credit ratings also provide an effective determinant of the quality of the assets in an investment portfolio and are frequently used as portfolio management tools, with highly rated issues being especially sought after. As a result, issues with higher credit ratings commonly are able to command finer terms than lesser rated issues. This importance of ratings in the issuance of debt securities requires issuers to be continually cognizant of the likely impact of internal decisions on future financing needs.

Description of Bond Ratings

Standard & Poor's Corporation

AAA

Bonds rated AAA are highest grade obligations. They possess the ultimate degree of protection as to principal and interest. Marketwise they move with interest rates, and hence provide the maximum safety on all counts.

AA

Bonds rated AA also qualify as high grade obligations, and in the majority of instances differ from AAA issues only in small degree. Here, too, prices move with the long term money market.

A

Bonds rated A are regarded as upper medium grade. They have considerable investment strength but are not entirely free from adverse effects of changes in economic and trade conditions. Interest and principal are regarded as safe. They predominantly reflect money rates in their market behavior, but to some extent, also economic conditions.

BBB

The BBB, or medium grade category is borderline between definitely sound obligations and those where the speculative element begins to predominate. These bonds have adequate asset coverage and normally are protected by satisfactory earnings. Their susceptibility to changing conditions, particularly to depressions, necessitates constant watching. Marketwise, the bonds are more responsive to business and trade conditions than to interest rates. This group is the lowest which qualifies for commercial bank investment.

BB

Bonds given a BB rating are regarded as lower medium grade. They have only minor investment characteristics. In the case of utilities, interest is earned consistently but by narrow margins. In the case of other types of obligors, charges are earned on average by a fair margin, but in poor periods deficit operations are possible.

B

Bonds rated as low as B are speculative. Payment of interest cannot be assured under difficult economic conditions.

CCC-CC

Bonds rated CCC and CC are outright speculations, with the lower rating denoting the more speculative. Interest is paid, but continuation is questionable in periods of poor trade conditions. In the case of CC ratings the bonds may be on an income basis and the payment may be small.

C

The rating of C is reserved for income bonds on which no interest is being paid.

DDD-D

All bonds rated DDD, DD and D are in default, with the rating indicating the relative salvage value.

Description of Bond Ratings

Moody's Investor Service

Aaa

Bonds which are rated Aaa are judged to be of the best quality. They carry the smallest degree of investment risk and are generally referred to as "gilt edge." Interest payments are protected by a large or by an exceptionally stable margin and principal is secure. While the various protective elements are likely to change, such changes as can be visualized are most unlikely to impair the fundamentally strong position of such issues.

Aa

Bonds which are rated Aa are judged to be of high quality by all standards. Together with the Aaa group they comprise what are generally known as high grade bonds. They are rated lower than the best bonds because margins of protection may not be as large as in Aaa securities or fluctuation of protective elements may be of greater amplitude or there may be other elements present which make the long term risks appear somewhat larger than in Aaa securities.

A

Bonds which are rated A possess many favorable investment attributes and are to be considered as upper medium grade obligations. Factors giving security to principal and interest are considered adequate but elements may be present which suggest a susceptibility to impairment sometime in the future.

Baa

Bonds which are rated Baa are considered as medium grade obligations, i.e., they are neither highly protected nor poorly secured. Interest payments and principal security appear adequate for the present but certain protective elements may be lacking or may be characteristically unreliable over any great length of time. Such bonds lack outstanding investment characteristics and in fact have speculative characteristics as well.

Ba

Bonds which are rated Ba are judged to have speculative elements; their future cannot be considered as well assured. Often the protection of interest and principal payments may be very moderate and thereby not well safeguarded during both good and bad times over the future. Uncertainty of position characterizes bonds in this class.

B

Bonds which are rated B generally lack characteristics of the desirable investment. Assurance of interest and principal payments or of maintenance of other terms of the contract over any long period of time may be small.

Caa

Bonds which are rated Caa are of poor standing. Such issues may be in default or there may be present elements of danger with respect to principal or interest.

Ca

Bonds which are rated Ca represent obligations which are speculative in a high degree. Such issues are often in default or have other marked shortcomings.

C

Bonds which are rated C are the lowest rated class of bonds and issues so rated can be regarded as having extremely poor prospects of ever attaining any real investment standing.

1976

Industrial
Bond Rating Study

White, Weld & Co.
Incorporated

May 1976

INTRODUCTION

The Industrial Bond Rating Study shows selected financial data on companies with a senior debt rating assigned by Moody's and Standard & Poor's. The companies in the study include those who have issued debt recently and on whom there is complete historical information in the computer data base. The figures in the study are calculated from historical data and do not give effect to issuance of debt after the end of the 1975 fiscal year which, in some cases, could result in a change of a company's rating. The bond ratings are those shown in the May 1976 bond guides published by Moody's and Standard & Poor's and the new issues included in the study are those sold to the public through May 1976. The study is only intended as a general guide to the financial qualifications for a particular rating since other factors such as characteristics of the industry and the qualities of management are also important.

The format of the study has been modified slightly to include pre-tax interest coverage for 1972 in order to give a longer history of coverage figures.

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The foregoing has been prepared solely for informative purposes and is not a solicitation, or an offer, to buy or sell any security. It does not purport to be a complete description of the securities, markets or developments referred to in the material. All expressions of opinion are subject to change without notice. The information is obtained from sources which we consider reliable but we have not independently verified such information and we do not guarantee that it is accurate or complete. We, or our officers and directors, may from time to time have a long or short position in the securities mentioned and may sell or buy such securities.

CHANGES TO BOND RATING STUDY SINCE
PREVIOUS EDITION OF OCTOBER 1975

ADDITIONS

<u>Company</u>	<u>Rating</u>	<u>Company</u>	<u>Rating</u>
Eltra Corporation	Aa-AA	Hospital Corp. of America	A-A
Time Inc.	Aa-AA	Hudson Bay Mining & Smelting Co.	A-A
Texasgulf Inc.	A-AA	International Minerals & Chemicals	A-A
AIRCO Inc.	A-A	Stanley Works	A-A
Big Three Industries Inc.	A-A	Transamerica Corp.	A-A
Cyprus Mines Corp.	A-A	Browning Ferris	Baa-BBB
Greyhound Corporation	A-A		

DELETIONS

<u>Company</u>	<u>Rating</u>	<u>Explanation</u>
Singer	Baa-BBB	Downgraded to Ba-BB
Victor Comptometer	Baa-BBB	Downgraded to Ba-BB
White Motor	Baa-BBB	Downgraded to Ba-BB

UPGRADINGS

<u>Company</u>	<u>Previous Rating</u>	<u>New Rating</u>	<u>Comment on Financial Record</u>
Beatrice Foods	Aaa-AA	Aaa-AAA	Strong Ratios
Sterling Drug	Aa-AA	Aa-AAA	Strong Ratios
International Paper	A-AA	Aa-AA	Strong Ratios
U.S. Steel	Aa-A	Aa-AA	Strong Ratios
Union Camp	A-A	A-AA	Strong Ratios

DOWNGRADING^s

<u>Company</u>	<u>Previous Rating</u>	<u>New Rating</u>	<u>Comment on Financial Record</u>
Cummins Engine	A-A	A-BBE f	Declining coverage, incr. debt.
Federal Mogul	A-A	Baa-A	Declining coverage.
International Harvester	A-A	A-BBB	Low cov., incr. short-term debt.
Chrysler Corporation	Baa-A	Baa-BBB	Declining cov., incr. short-term debt.
A.O. Smith	Baa-A	Baa-BBB	Declining coverage.

EXPLANATION OF HEADINGS ON BOND RATING STUDY

<u>Column</u>	<u>Heading</u>	<u>Explanation</u>
1	1975 EBIT	Earnings before all interest charges and income taxes for 1975 before extraordinary gains or losses.
2	1975 EBIT % Assets	Earnings before all interest charges and income taxes in 1975 as a percent of 1975 assets including all intangible assets.
3	5-Year Growth Sales	Compound annual growth in sales during the past five years.
4	1975 Cash Flow % Debt	Net income plus depreciation and deferred tax items as a percent of total short and long-term debt in 1975.
5, 6, 7, 8	Pretax Interest Coverage 1972, 1973, 1974 and 1975	Pretax coverage of total interest charges in 1972, 1973, 1974 and 1975.
9	1975 Total Capital	Total capitalization in 1975 (including short-term debt and minority interest but excluding deferred taxes).
10	Short-Term Debt as a % of Total 1972 Capital	Short-term debt including current maturities of long-term debt as a percent of total 1972 capitalization (including short-term debt and minority interest but excluding deferred taxes).

<u>Column</u>	<u>Heading</u>	<u>Explanation</u>
11	Short-Term Debt as a % of Total 1975 Capital	Short-term debt including current maturities of long- term debt as a percent of total 1975 capitalization (including short-term debt and minority interest but excluding deferred taxes).
12	Long-Term Debt as a % of Total 1972 Capital	Long-term debt as a percent of total 1972 capitalization (including short-term debt and minority interest but excluding deferred taxes).
13	Long-Term Debt as a % of Total 1975 Capital	Long-term debt as a percent of total 1975 capitalization (including short-term debt and minority interest but excluding deferred taxes).
14	Total Debt as a % of Total 1972 Capital	Total debt as a percent of total 1972 capitalization (including short-term debt and minority interest but excluding deferred taxes).
15	Total Debt as a % of Total 1975 Capital	Total debt as a percent of total 1975 capitalization (including short-term debt and minority interest but excluding deferred taxes).

WHITE, WELD & CO. INCORPORATED
BOND RATING SURVEY
SUMMARY STATISTICS

RATING GROUP	1975 EBIT	1975 EBIT % ASSET	5 YR SALES GROW	1975 CASH FLOW DEBT	PRE-TAX INTEREST COVERAGE				1975 TOTAL CAPITAL	****DEBT AS % OF TOTAL CAPITALIZATION****					
					1972	1973	1974	1975		SHORT DEBT		LONG DEBT		TOTAL DEBT	
					1972	1973	1974	1975		1972	1975	1972	1975	1972	1975
<i>Earnings before interest and taxes</i>															
AAA - AAA															
AVERAGE	1861	17.7	18	82	26.0	21.9	18.7	14.9	7117	5.5	5.0	14.7	17.9	20.2	22.9
MAXIMUM	10232	31.2	32	134	80.6	58.3	40.2	38.1	22784	28.0	11.1	25.7	23.4	40.1	28.9
MINIMUM	193	4.9	9	39	6.8	5.4	3.0	2.3	501	0.8	0.7	3.0	9.1	6.1	13.4
AA - AAA															
AVERAGE	243	19.6	11	110	40.3	35.7	14.3	19.1	938	5.7	8.9	11.1	6.9	16.8	15.9
MAXIMUM	330	21.3	12	112	91.9	33.6	26.2	19.5	1280	12.0	10.7	18.2	9.5	39.2	16.7
MINIMUM	157	17.9	10	108	10.3	10.2	6.5	18.6	595	2.1	7.2	3.0	4.3	6.0	15.0
AA - AA															
AVERAGE	320	14.4	15	63	12.8	12.6	12.2	9.8	1667	4.5	4.9	21.1	24.4	25.5	29.3
MAXIMUM	1096	24.4	32	174	37.8	41.1	43.9	37.8	5715	14.9	21.9	40.7	44.4	41.3	49.0
MINIMUM	41	3.9	9	26	4.5	4.6	4.0	2.8	248	0.0	0.0	0.5	7.9	7.1	10.0
AA - A															
AVERAGE	446	15.9	13	80	7.9	9.5	8.8	16.1	2335	6.2	4.8	25.9	24.1	32.1	28.9
MAXIMUM	1244	27.6	21	180	15.9	22.9	16.2	65.3	6417	18.6	15.7	39.5	35.5	59.6	43.4
MINIMUM	82	10.1	10	25	2.3	5.4	4.4	4.4	226	0.2	0.1	15.7	7.0	18.5	13.3
A - AA															
AVERAGE	261	13.9	13	52	9.0	9.1	9.2	8.0	1410	5.1	5.3	23.2	26.3	28.3	31.6
MAXIMUM	372	26.5	23	92	19.3	20.2	25.5	23.2	3505	10.3	20.5	37.5	55.6	38.5	58.3
MINIMUM	59	7.2	6	13	4.2	4.4	2.6	2.5	331	0.0	0.0	8.2	15.2	14.3	17.8
A - A															
AVERAGE	132	12.3	13	48	10.0	9.6	7.6	7.0	926	4.6	4.1	26.3	29.3	39.9	33.4
MAXIMUM	1074	39.3	56	185	69.0	62.6	33.0	42.6	7600	27.4	22.3	55.7	65.5	62.9	67.6
MINIMUM	-3	-0.1	-7	2	-1.2	2.2	1.3	-0.1	120	0.0	0.0	0.0	8.1	0.0	9.5
A - BBB															
AVERAGE	83	11.2	10	41	6.6	6.9	6.4	5.9	658	5.3	4.3	25.2	28.6	39.5	32.9
MAXIMUM	324	17.9	18	95	19.2	17.7	14.0	14.0	2887	21.6	17.5	34.6	46.0	43.5	50.0
MINIMUM	5	5.6	4	13	1.9	2.9	2.6	1.8	25	0.0	0.2	9.9	12.5	17.0	12.7
BAA - A															
AVERAGE	67	7.4	10	26	7.0	5.4	4.1	2.8	632	6.8	7.4	31.0	31.5	37.8	39.0
MAXIMUM	259	13.7	18	43	19.8	7.2	6.6	4.9	1911	21.3	18.5	49.6	37.2	57.7	42.9
MINIMUM	-14	-3.3	-0	-9	2.7	2.8	2.9	-1.3	193	0.5	3.3	20.6	25.7	23.6	34.4
BAA - BBB															
AVERAGE	71	9.5	12	33	4.9	5.4	4.4	3.9	565	9.6	8.4	33.3	33.0	41.9	41.3
MAXIMUM	379	23.7	50	107	11.4	15.0	12.5	10.9	3926	37.2	35.9	53.7	62.8	61.3	71.4
MINIMUM	1	0.3	0	-5	1.0	1.6	0.7	0.1	107	0.4	0.2	19.5	11.4	26.2	13.3

WHITE, WELD & CO. INCORPORATED
BOND RATING SURVEY

MOODY'S-STANDARD & POOR'S
AAA - AAA

COMPANY NAME	1975 EBIT	1975 EBIT% ASSET	5 YR SALES GROW	1975 CASH FLOW DEBT	PRE-TAX INTEREST COVERAGE				1975 TOTAL CAPITAL	****DEBT AS % OF TOTAL CAPITALIZATION****					
					1972	1973	1974	1975		SHORT DEBT		LONG DEBT		TOTAL DEBT	
					1972	1973	1974	1975		1972	1975	1972	1975	1972	1975
BEATRICE FOODS	NA	NA	NA	NA	13.5	12.8	10.3	NA	NA	1.5	NA	19.6	NA	21.1	NA
CARNATION CO	193	19.2	15	59	14.2	15.4	13.2	11.0	779	5.6	6.3	17.8	20.5	23.5	26.8
DUPONT E.I.	575	8.9	15	63	38.2	39.2	11.8	4.5	5347	2.6	10.1	6.7	16.6	9.3	26.7
EXXON	10232	31.2	22	97	15.3	21.9	29.6	22.7	22784	7.0	7.0	15.8	15.1	22.8	22.2
FORD MOTOR CO	690	4.9	10	39	13.3	10.2	3.0	2.3	8843	5.3	9.2	13.3	17.3	18.6	26.5
GEN ELECTRIC CO	1108	11.3	9	60	9.4	8.9	6.5	6.6	5841	9.7	11.1	21.0	17.8	30.7	28.9
JEN MOTORS	2655	12.3	14	106	57.3	44.0	11.3	9.1	15113	2.1	5.3	6.2	8.1	8.4	13.4
JULF OIL CORP	2826	22.7	21	107	9.6	17.1	32.5	24.8	8322	2.3	2.6	25.0	15.5	27.3	18.2
KELLOGG COMPANY	208	30.6	15	134	79.7	38.8	33.7	38.1	501	3.1	2.9	3.0	16.6	6.1	19.5
KRAFTCO CORP	300	18.0	12	72	24.4	12.7	5.5	9.4	1215	5.5	4.8	14.0	17.7	19.5	22.5
MERCK & CO	399	25.3	15	76	80.6	58.3	40.2	18.7	1263	4.6	6.2	3.9	17.4	8.5	23.6
MOBIL OIL CORP	3399	22.5	23	67	17.1	22.1	26.1	15.7	9197	7.2	5.4	16.0	19.9	23.2	25.4
PROCTER & GAMBLE CO	660	18.1	15	76	44.4	31.9	27.8	17.0	2747	1.1	2.6	12.8	20.3	13.8	22.9
SEARS ROEBUCK	NA	NA	NA	NA	8.0	5.4	3.1	NA	NA	28.0	NA	12.1	NA	40.1	NA
SHELL OIL CO	955	13.8	18	93	6.8	8.5	16.2	13.6	5148	0.8	0.7	25.7	23.4	26.6	24.0
STAND OIL CALIF	1485	11.5	32	90	13.9	20.3	28.2	18.5	7948	3.7	1.5	15.9	16.9	19.6	18.4
STAND OIL INDIANA	2098	21.3	22	92	8.4	10.9	16.3	16.0	7405	1.4	1.5	21.5	23.1	22.9	24.6
TEXACO, INC	1997	11.5	31	66	14.4	15.2	21.4	10.8	11416	7.9	3.4	14.5	19.6	22.4	22.9
AVERAGE	1861	17.7	18	82	26.0	21.9	18.7	14.9	7117	5.5	5.0	14.7	17.9	20.2	22.9
NO OF COMPANIES	16	16.0	16	16	18.0	18.0	18.0	16.0	16	18.0	16.0	18.0	16.0	18.0	16.0
MINIMUM	193	4.9	9	39	6.8	5.4	3.0	2.3	501	0.8	0.7	3.0	8.1	6.1	13.4
MAXIMUM	10232	31.2	32	134	80.6	58.3	40.2	38.1	22784	28.0	11.1	25.7	23.4	40.1	28.9

WHITE, WELU & CO. INCORPORATED
BOND RATING SURVEY

MOODY'S-STANDARD & POOR'S
AA - AAA

COMPANY NAME	1975 EBIT	1975 EBIT% ASSET	5 YR SALES GROW	1975 CASH FLOW %DEBT	PRE-TAX INTEREST COVERAGE				1975 TOTAL CAPITAL	****DEBT AS % OF TOTAL CAPITALIZATION****					
					1972	1973	1974	1975		SHORT DEBT		LONG DEBT		TOTAL DEBT	
					1972	1973	1974	1975		1972	1975	1972	1975	1972	1975
FEDERATED DEPT STORE	330	17.9	12	112	18.8	13.2	10.2	19.5	1280	2.1	7.2	12.2	9.5	14.3	16.7
GENERAL FOODS	NA	NA	NA	NA	10.3	10.2	6.5	NA	NA	12.0	NA	18.2	NA	30.2	NA
STERLING DRUG	157	21.3	10	103	91.9	83.6	26.2	18.6	595	3.0	10.7	3.0	4.3	6.0	15.0
AVERAGE	243	19.6	11	110	40.3	35.7	14.3	19.1	938	5.7	8.9	11.1	6.9	16.8	15.9
NO OF COMPANIES	2	2.0	2	2	3.0	3.0	3.0	2.0	2	3.0	2.0	3.0	2.0	3.0	2.0
MINIMUM	157	17.9	10	103	10.3	10.2	6.5	18.6	595	2.1	7.2	3.0	4.3	6.0	15.0
MAXIMUM	330	21.3	12	112	91.9	83.6	26.2	19.5	1280	12.0	10.7	18.2	9.5	30.2	16.7

WHITE, WELD & CO. INCORPORATED
BOND RATING SURVEY

MOODY'S-STANDARD & POOR'S
AA - AA

COMPANY NAME	1975 EBIT	1975 EBIT/ASSET	5 YR SALES GROW	1975 CASH FLOW DEBT	PRE-TAX INTEREST COVERAGE				1975 TOTAL CAPITAL	****DEBT AS % OF TOTAL CAPITALIZATION****					
					1972	1 '3	1974	1975		1972	1975	LONG DEBT 1972	LONG DEBT 1975	TOTAL DEBT 1972	TOTAL DEBT 1975
ABBOTT LABORATORIES	132	14.3	16	31	8.6	6.0	4.2	4.4	715	7.9	12.2	21.9	30.0	29.8	42.3
AMERICAN CYANAMID CO	271	15.7	11	71	12.7	13.8	15.0	12.1	1362	1.4	2.6	20.4	20.7	21.9	23.3
ANCHOR HOCKING CORP	41	12.7	11	68	34.5	26.2	16.4	17.4	248	0.3	7.5	10.4	14.1	10.7	21.6
ANHEUSER BUSCH	183	15.6	16	46	25.5	24.9	11.3	8.3	936	0.0	0.0	17.7	36.6	17.7	36.6
ARMSTRONG CORK	77	10.6	12	48	13.0	14.1	6.4	4.6	620	2.7	1.1	14.9	22.2	17.5	23.3
ATLANTIC RICHFIELD	1019	13.8	22	48	6.0	8.2	11.9	3.3	5715	5.4	7.0	20.3	28.0	25.7	35.1
BETHLEHEM STEEL CORP	346	7.5	11	59	6.3	10.2	15.0	5.5	3493	0.5	0.7	23.0	24.5	23.5	25.2
BRISTOL MYERS CO	270	22.8	13	109	10.8	13.0	15.4	17.2	848	6.0	6.5	20.2	11.2	26.1	17.6
BURROUGHS	334	13.7	14	53	5.7	9.0	8.6	7.9	1924	7.0	21.8	31.6	10.2	38.6	32.0
CATERPILLAR TRACTOR	731	21.6	18	60	15.8	14.4	6.8	8.7	2674	2.8	2.3	20.8	31.8	23.6	34.2
CHAMPION SPARK PLUG	98	24.4	10	155	36.1	40.2	39.8	32.0	337	2.2	3.2	11.6	7.9	13.8	11.1
CBS INCORPORATED	257	21.6	10	132	19.2	22.0	26.0	32.0	748	1.2	0.6	19.0	13.2	20.2	13.8
CONSOLIDATED FOODS	124	12.0	9	52	14.5	11.7	6.7	5.5	774	1.7	1.5	22.8	23.9	24.6	25.4
CONTINENTAL OIL	1096	20.9	22	70	8.3	9.2	12.4	11.5	3389	2.1	5.4	28.0	26.7	30.1	32.1
CORNING GLASS WORKS	61	6.6	10	42	6.9	4.6	4.4	2.8	751	4.8	4.8	11.5	23.0	16.3	27.8
CPC INTERNATIONAL	256	18.2	15	55	5.8	6.6	5.9	5.8	947	11.5	11.5	22.4	18.2	33.9	29.7
DEERE & CO.	350	14.3	21	49	8.4	11.6	8.9	5.2	1738	7.1	7.0	20.6	24.3	27.7	31.4
ELTRA CORP	73	13.6	11	78	NA	NA	9.5	3.0	379	14.9	5.6	5.6	14.4	20.5	20.0
FIRESTONE TIRE & RUP	305	9.6	10	31	7.3	7.3	5.3	4.0	2493	7.3	8.0	25.9	28.8	33.3	36.9
GENERAL SIGNAL	52	14.3	23	62	33.9	17.9	7.3	8.6	264	6.6	2.3	0.5	19.3	7.1	21.5
HALLIBURTON CO.	431	20.6	32	116	13.9	9.5	19.6	15.8	1444	2.4	1.5	30.9	22.0	33.3	23.5
INCO LTD	381	12.6	10	40	4.5	9.2	13.3	6.5	2306	4.6	8.3	26.9	26.5	31.5	34.8
INTL PAPER	455	13.6	11	36	5.2	6.9	11.2	5.5	2772	1.8	4.8	33.5	41.0	35.2	45.8
JOHNS MANSVILLE	89	8.2	14	29	22.9	10.7	6.5	4.7	837	8.6	8.4	7.2	22.3	15.7	30.7
KERR MC GEE	237	17.1	28	95	9.1	13.6	19.2	16.8	1056	0.9	2.6	19.1	20.3	20.0	22.9
KIMBERLY-CLARK CORP	197	15.1	11	64	7.2	9.5	9.4	3.7	1026	3.5	3.7	24.3	21.8	27.8	25.5
MONSANTO	593	17.2	13	59	6.4	11.6	14.4	10.5	2901	0.7	2.7	30.6	29.1	31.2	31.9
NABISCO	163	16.1	18	36	10.4	6.1	4.0	5.7	702	6.0	8.9	27.2	32.1	33.1	41.0
NATL STEEL CORP	93	3.9	12	35	6.1	7.8	15.6	3.1	1772	0.7	1.0	28.5	30.2	29.2	31.1
PFIZER INC.	264	13.1	14	35	11.6	8.3	7.5	5.3	1572	10.2	9.7	19.2	30.0	29.4	39.7
PHILLIPS PETROLEUM	802	17.6	18	76	4.6	6.2	15.9	16.1	3377	2.2	1.4	27.6	26.4	31.8	27.9
RICHARDSON MERRELL	96	15.4	12	39	15.3	19.0	17.5	7.5	497	6.1	8.2	9.3	21.5	15.4	29.7
SCOTT PAPER CO	125	9.7	10	38	4.7	7.0	7.1	4.7	1025	2.9	0.4	23.0	34.4	25.9	34.7
S.D. SEARLE	119	13.3	29	26	10.5	8.1	5.7	4.6	782	14.7	4.7	19.1	44.4	33.8	49.0
SCHIBB CORP	168	14.4	10	41	7.5	7.4	6.1	6.3	945	8.7	3.7	23.4	28.9	32.1	32.6
SUN OIL CO	553	15.1	18	91	7.0	9.3	14.2	11.6	3189	1.4	4.4	24.1	20.6	25.5	25.0
TIME INC	86	11.4	8	57	9.8	12.9	9.3	8.4	522	1.0	1.2	26.2	22.6	27.3	23.9
TIMES MIRROR	91	14.1	11	174	31.4	41.1	43.9	37.8	471	1.2	1.8	13.7	8.2	14.9	10.0
UNION CARBIDE	825	14.4	13	51	7.5	9.8	14.0	3.2	4411	4.1	4.9	29.1	29.0	33.2	33.8
UNION OIL - CALIF	530	14.0	23	82	5.5	7.3	12.4	9.0	2746	1.6	2.6	25.3	26.7	26.9	29.3
U.S. GYPSUM	58	7.7	12	49	37.8	16.3	5.4	5.7	601	7.7	3.5	3.7	18.4	11.4	21.9
WEYENHAEUSER	389	12.0	14	47	5.4	10.4	7.3	4.7	2795	0.6	2.5	40.7	33.3	41.3	35.9
XEROX CORP	321	18.4	19	55	14.7	11.7	7.8	6.0	3548	7.1	7.1	22.9	31.8	29.9	38.9
AVERAGE	320	14.4	15	63	12.8	12.6	12.2	9.8	1657	4.5	4.9	21.1	24.4	25.5	27.3
NO OF COMPANIES	43	43.0	43	43	42.9	42.0	43.0	43.0	43	43.0	43.0	43.0	43.0	43.0	43.0
MINIMUM	41	3.9	8	26	4.5	4.6	4.0	2.4	249	0.0	0.0	0.5	7.9	7.1	10.0
MAXIMUM	1036	24.4	32	174	37.8	41.1	43.9	37.4	5715	14.9	21.8	40.7	44.4	41.3	49.0

WHITE, WELD & CO. INCORPORATED
BOND RATING SURVEY

MOODY'S-STANDARD & POOR'S
AA - A

COMPANY NAME	1975 EBIT	1975 EBIT/ASSET	5 YR SALES GROW	1975 CASH FLOW DEBT	PRE-TAX INTEREST COVERAGE				1975 TOTAL CAPITAL	****DEBT AS % OF TOTAL CAPITALIZATION****					
					1972	1973	1974	1975		SHORT DEBT		LONG DEBT		TOTAL DEBT	
					1972	1973	1974	1975		1972	1975	1972	1975	1972	1975
AMERICAN BRANDS	380	15.8	12	25	7.5	6.7	4.9	4.9	1951	10.5	15.7	26.4	27.7	35.9	43.4
BORDEN INCORPORATED	197	11.9	13	44	8.8	8.6	7.2	7.5	1208	1.5	0.5	24.9	27.8	26.4	28.2
DOW CHEMICAL	1244	21.3	21	54	2.3	5.4	4.4	8.1	4403	11.1	7.8	39.5	35.5	50.5	43.3
HEINZ H.J. CO	NA	NA	NA	NA	6.9	5.4	4.8	NA	NA	18.6	NA	19.4	NA	38.1	NA
HERSHEY FOODS	52	27.6	10	161	12.2	5.9	15.2	65.3	226	3.2	0.1	23.6	13.2	26.8	13.3
PPG INDUSTRIES	189	10.1	12	36	6.4	7.1	5.5	4.4	1455	1.6	2.4	28.2	33.3	29.7	35.7
TEXAS INSTRUMENTS	127	13.5	11	180	15.9	22.9	16.2	11.7	679	2.7	6.8	15.7	7.0	18.5	13.8
U S STEEL CORP	907	11.1	11	61	3.5	6.2	12.2	10.9	6417	0.2	0.5	29.4	23.9	29.6	24.4
AVERAGE	446	15.9	13	80	7.9	8.5	8.8	16.1	2335	6.2	4.8	25.9	24.1	32.1	28.9
NO OF COMPANIES	7	7.0	7	7	8.0	8.0	8.0	7.0	7	8.0	7.0	8.0	7.0	8.0	7.0
MINIMUM	82	10.1	10	25	2.3	5.4	4.4	4.4	226	0.2	0.1	15.7	7.0	18.5	13.3
MAXIMUM	1244	27.6	21	180	15.9	22.9	16.2	65.3	6417	18.6	15.7	39.5	35.5	50.6	43.4

WHITE, WELD & CO. INCORPORATED
BOND RATING SURVEY

MOODY'S-STANDARD & POOR'S
A - AA

COMPANY NAME	1975 EBIT	1975 EBIT% ASSET	5 YR SALES GROW	1975 CASH FLOW DEBT	PRE-TAX INTEREST COVERAGE				1975 TOTAL CAPITAL	****DEBT AS % OF TOTAL CAPITALIZATION****		LONG DEBT		TOTAL DEBT	
					1972	1973	1974	1975		1972	1975	1972	1975	1972	1975
BLACK & DECKER	90	14.0	21	32	19.3	20.2	7.6	4.2	540	5.1	18.0	3.2	18.5	14.3	35.5
BORG WARNER CO	102	8.5	8	47	7.5	7.1	2.9	2.8	883	4.2	2.0	17.3	18.5	21.9	20.5
CARBORUNDUM CORP	59	12.6	13	51	9.3	14.0	12.9	10.3	331	4.5	2.7	15.2	22.4	19.7	25.1
CONTINENTAL GROUP	209	10.7	9	60	5.8	6.5	6.5	6.0	1291	3.8	2.4	31.6	30.4	35.4	32.8
INLAND STEEL CO	158	8.4	12	35	6.5	8.1	11.9	5.1	1479	1.6	0.1	28.5	34.3	30.0	34.4
INGERSOLL RAND	247	14.8	17	29	12.8	9.4	6.1	5.3	1405	8.3	20.5	16.5	22.7	24.7	43.1
MARATHON OIL CO	488	24.3	23	92	11.7	13.0	25.5	23.2	1292	9.4	2.4	26.0	19.3	35.4	21.7
MAY DEPT STORES	165	11.9	11	27	5.3	5.6	4.5	5.4	959	1.0	5.4	37.5	37.8	38.5	44.2
MOTOROLA INC.	99	9.9	10	55	9.9	9.8	5.9	4.8	785	9.3	5.9	13.9	15.2	23.3	22.1
PENNEY J.C. CO. INC	458	14.2	13	83	6.0	4.7	2.6	4.3	2072	0.0	0.0	16.0	17.8	16.0	17.8
RALSTON PURINA CO	224	16.2	15	34	6.6	6.9	6.1	6.1	1132	10.3	5.1	26.7	34.7	37.0	39.8
REYNOLDS HJ INDS	872	26.5	15	86	17.2	11.2	14.5	16.0	2484	9.6	6.0	18.8	17.5	28.5	23.5
STAND OIL OHIO	309	7.3	13	13	4.2	4.4	4.0	2.5	3505	0.3	2.7	27.3	55.6	27.6	58.3
TEXASGULF	185	16.0	15	73	5.4	10.6	19.7	13.3	891	4.4	3.9	29.5	25.6	33.9	23.5
UNION CAMP CORP	169	20.5	13	65	7.7	9.9	13.8	13.8	685	1.7	1.3	35.1	28.7	36.7	29.9
WESTINGHOUSE ELEC	349	7.2	6	42	7.1	4.8	2.8	4.6	2813	7.4	4.7	22.2	21.7	29.6	26.4
AVERAGE	261	13.9	13	52	7.0	9.1	9.2	8.0	1410	5.1	5.3	23.2	26.3	28.3	31.6
NO OF COMPANIES	16	16.0	16	16	16.0	16.0	16.0	16.0	16	16.0	16.0	16.0	16.0	16.0	16.0
MINIMUM	59	7.2	6	13	4.2	4.4	2.6	2.5	331	0.0	0.0	8.2	15.2	14.3	17.8
MAXIMUM	872	26.5	23	92	19.3	20.2	25.5	23.2	3505	10.3	20.5	37.5	55.6	38.5	58.3

WHITE, WELD & CO. INCORPORATED
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COMPANY NAME	1975 EBIT	1975 EBIT/ ASSET	5 YR SALES GROW	1975 CASH FLOW /DEBT	PRE-TAX INTEREST COVERAGE				1975 TOTAL CAPITAL	****DEBT AS % OF TOTAL CAPITALIZATION****					
					1972	1973	1974	1975		SHORT DEBT 1972 1975	LONG DEBT 1972 1975	TOTAL DEBT 1972 1975			
AIRCO	93	13.0	12	41	3.8	3.3	5.8	8.5	528	4.9	3.5	38.3	35.5	43.3	39.0
AKZONA	23	3.5	13	24	5.8	7.5	7.6	1.7	499	2.3	2.9	29.7	33.9	32.0	36.8
ALLIED CHEMICAL CORP	230	10.3	13	46	4.2	6.2	9.2	5.7	1678	0.3	1.0	34.3	36.8	34.6	37.7
ALUMINUM CO OF AMER	142	4.2	9	16	3.4	3.7	6.1	1.7	2848	1.2	0.7	39.8	44.0	41.0	44.7
AMAX CORP.	213	8.6	3	29	5.2	4.7	6.2	4.0	1939	1.2	4.1	41.2	27.3	42.5	31.4
AMERICAN BROADCAST	48	6.9	7	15	12.8	14.6	15.0	3.9	540	0.5	1.3	28.6	36.0	29.1	37.3
AMERICAN CAN	175	9.4	9	40	5.9	7.1	8.6	5.1	1251	2.1	6.8	33.9	28.7	36.0	35.6
ASARCO INC.	38	2.5	7	17	12.3	16.4	14.6	1.7	1218	8.0	1.2	6.4	28.1	14.4	29.3
ANACONDA	-3	-0.1	2	2	3.3	5.0	5.9	-0.1	1757	1.5	4.4	28.2	26.7	29.7	31.1
ARMCO STEEL CORP	212	8.1	14	38	4.4	6.8	11.3	5.4	1954	2.8	2.4	32.6	29.9	35.4	32.2
ASHLAND OIL	277	14.1	21	53	6.7	6.9	6.8	3.2	1281	1.0	1.5	43.5	40.0	44.4	41.5
ASSOCIATED DRY GOODS	97	12.8	12	61	8.8	6.9	4.4	7.6	557	2.5	0.8	25.5	20.4	28.0	21.2
BENDIX CORPORATION	171	10.9	12	33	5.8	5.2	4.1	4.0	1133	11.0	8.0	20.5	25.2	31.5	33.2
BIG THREE INDUSTRIES	50	17.1	26	85	8.5	11.2	10.4	9.7	245	3.1	2.5	20.2	19.2	23.3	21.7
BROWN GROUP	34	9.4	12	26	15.0	9.8	5.0	4.3	797	9.7	1.0	14.4	31.5	24.1	32.5
BUCYRUS ERIE	59	12.9	19	48	33.9	22.5	9.3	8.0	305	0.4	0.0	7.5	29.6	7.9	29.6
BURLINGTON INDUS	109	6.9	1	34	4.3	6.3	6.4	3.2	1338	4.9	2.7	32.4	30.3	37.2	33.0
CARRIER CORP.	46	6.1	9	19	9.7	7.2	1.4	2.0	577	3.9	7.6	28.8	32.7	32.7	40.3
CARTER HAWLEY HALE	NA	NA	NA	NA	11.3	10.7	2.8	NA	NA	2.4	NA	28.8	NA	31.1	NA
CENTRAL SOYA	51	12.5	21	24	4.8	4.8	5.1	2.9	337	9.5	14.2	30.0	24.2	39.5	38.4
CITIES SERVICE	296	9.1	13	49	3.8	5.1	6.1	5.0	2462	1.4	2.3	27.7	31.2	29.2	33.4
CLARK EQUIPMENT	125	13.6	16	25	6.0	5.9	3.0	2.6	678	10.1	11.3	23.2	28.5	33.3	39.8
COLONIAL STORES	25	14.6	8	99	12.0	13.3	9.4	12.2	120	0.0	0.0	19.9	21.4	19.9	21.4
COMBUSTION ENGINEER	92	8.7	12	91	9.5	10.6	8.1	10.6	467	0.5	0.5	26.3	21.0	26.8	21.6
CROWN CORK & SEAL	84	15.6	15	NA	14.3	14.8	11.5	11.4	365	6.0	8.3	10.9	8.1	16.9	16.5
CHOWN ZELLERBACH	161	10.6	13	35	4.8	8.5	8.3	4.6	1253	1.5	2.6	33.1	33.8	34.7	36.4
CUTLER-HAMMER INC	39	14.6	11	42	7.1	7.5	6.0	6.1	202	4.8	6.7	27.6	26.8	32.4	33.5
CYPRUS MINES CORP	53	8.8	21	56	11.1	21.7	29.6	4.9	511	4.1	0.6	7.3	22.4	11.4	23.0
DANA CORPORATION	133	16.1	11	48	12.1	13.1	10.5	8.0	650	2.6	1.7	24.9	30.4	27.6	32.1
DART INDUSTRIES	171	14.4	13	49	9.5	9.6	11.0	11.8	931	1.6	1.8	30.0	24.7	31.6	26.5
DAYTON HUDSON	NA	NA	NA	NA	4.0	3.6	3.1	NA	NA	1.4	NA	43.8	NA	45.2	NA
DENNISON MFG	23	14.4	10	64	9.0	9.2	7.7	6.3	130	3.2	1.1	20.8	23.3	24.0	24.4
DIAMOND SHAMROCK	214	18.1	15	54	4.7	6.2	8.8	8.4	909	1.2	1.2	32.1	39.3	33.3	40.6
DIGITAL EQUIPMENT	78	13.9	32	79	47.0	52.8	33.0	16.4	483	9.1	0.8	0.0	17.6	9.1	18.4
DRESSEH INDUSTRIES	257	18.1	21	52	5.4	5.3	5.3	7.7	991	3.9	5.3	29.4	29.1	33.3	34.3
EATON CORP	134	10.7	9	29	11.0	8.7	6.1	3.7	992	5.1	4.8	23.7	33.8	28.9	38.6
EMERY INDUSTRIES	NA	NA	NA	NA	7.7	9.7	9.7	NA	NA	0.4	NA	22.5	NA	22.9	NA
ESMARK INC	177	12.0	9	35	6.1	6.7	7.1	6.4	1031	3.7	9.1	24.9	29.0	28.5	38.1
FLINTKOTE CO	25	5.6	4	27	5.8	5.1	3.9	2.7	357	9.6	1.4	23.7	34.0	24.3	35.4
FMC CORPORATION	199	10.3	11	41	7.6	6.7	3.9	5.0	1305	5.7	1.5	22.8	35.0	28.5	36.5
GAF CORPORATION	63	8.9	10	31	5.9	5.3	4.3	3.8	568	11.3	8.7	24.3	24.5	35.6	33.2
JARDNER DENVER	69	18.3	17	78	69.0	24.7	7.5	10.3	311	1.9	1.1	1.0	18.9	2.9	20.0
JEN MILLS INC	NA	NA	NA	NA	8.3	6.3	5.1	NA	NA	5.0	NA	31.5	NA	36.5	NA
GENERAL PORTLAND	4	1.9	5	21	6.6	14.1	3.1	0.8	173	2.7	2.1	26.9	29.4	29.6	31.6
GOODYEAR TIRE & RUBB	447	10.7	11	29	5.8	4.1	3.0	3.4	3102	11.5	11.8	28.8	28.4	40.4	40.2

WHITE, WELD & CO. INCORPORATED
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COMPANY NAME	1975 EBIT	1975 EBIT% ASSET	5 YR SALES GROW	1975 CASH FLOW DEBT	PRE-TAX INTEREST COVERAGE				1975 TOTAL CAPITAL	****DEBT AS % OF TOTAL CAPITALIZATION****					
					1972	1973	1974	1975		SHORT DEBT 1972	1975	LONG DEBT 1972	1975	TOTAL DEBT 1972	1975
GREAT NORTH NEKOOSKA	85	12.2	13	46	5.3	7.9	12.9	7.5	574	3.1	5.0	28.9	28.9	32.0	34.0
GREYHOUND CORP	159	11.1	6	33	6.8	6.5	4.6	4.9	1073	3.6	3.6	32.1	34.8	35.7	38.4
HANNA MINING CO	70	18.3	10	186	10.4	12.4	9.9	18.4	323	0.0	0.5	10.0	9.0	10.0	9.5
HARSCO CORP.	76	21.1	14	73	15.6	15.2	10.0	12.3	289	2.5	0.4	15.0	27.6	17.5	28.0
HEUBLEIN	141	18.9	27	37	11.2	15.8	12.6	8.2	544	1.0	2.9	34.0	37.5	35.0	40.4
HONEYWELL INC	205	8.0	8	51	3.8	3.6	2.2	2.4	1873	12.1	11.1	25.1	26.1	37.2	37.3
HORMEL (GEO A)	27	12.0	7	71	28.4	8.3	7.7	8.8	159	0.0	3.7	0.0	16.3	0.0	20.1
HOSPITAL CORP AMER	59	11.7	38	16	3.0	2.7	2.6	2.7	442	7.2	2.1	55.7	65.5	62.9	67.6
IDEAL BASIC IND	50	14.1	12	63	33.1	31.1	26.9	11.7	304	1.3	1.2	6.1	22.1	7.4	23.4
HUDSON BAY MINING	48	9.4	26	50	5.9	21.9	19.5	7.2	429	0.3	4.2	15.6	20.1	15.9	24.4
INTL MINERALS & CHEM	297	27.3	21	65	2.9	3.9	7.1	13.2	772	11.9	2.4	35.1	33.3	47.0	40.7
INFL TEL & TEL	1074	10.3	12	23	4.7	4.0	3.2	3.1	7600	14.2	13.9	29.1	28.6	43.3	42.4
JOHNSON CONTROLS CO	22	10.9	10	33	18.6	12.7	3.3	7.1	127	1.1	3.6	17.3	27.4	18.4	30.9
JOY MANUFACTURING	31	10.0	15	79	9.6	7.8	6.9	3.8	318	3.3	2.8	20.2	17.2	23.5	20.1
KENNECOTT COPPER	17	0.7	-7	14	5.1	10.2	11.6	0.5	1905	3.1	2.5	17.3	21.3	20.5	23.8
KEWANEE INDS INC	59	16.5	18	48	13.0	12.4	21.8	8.3	280	1.0	2.7	15.9	31.8	16.9	34.5
LIGGETT GROUP INC	84	13.0	5	28	6.3	5.3	5.9	6.4	565	12.8	13.5	23.6	19.8	36.3	33.3
MARYLAND CUP	24	11.9	13	35	6.8	7.6	5.4	5.2	173	0.8	0.5	35.0	37.5	35.7	38.0
LUCKY STORES	99	16.8	16	59	9.9	10.2	9.9	15.6	357	1.7	1.1	35.6	35.2	37.3	36.4
MAYER OSCAR & CO	55	17.8	11	99	9.5	7.5	14.9	12.8	235	0.3	0.4	24.7	17.5	25.0	17.9
MCDERMOTT J. RAY	NA	NA	NA	NA	5.9	5.4	6.6	NA	NA	9.2	NA	31.5	NA	40.7	NA
MCDONALDS CORP.	210	19.6	37	28	12.5	10.5	6.2	5.5	881	5.9	2.6	34.5	50.4	40.4	53.0
MELVILLE CORP	80	22.1	16	185	20.1	15.4	8.9	42.6	254	0.3	0.2	19.0	11.9	19.3	12.1
MERCANTILE STORES CO	65	19.7	12	99	10.5	9.5	10.0	19.9	246	0.8	0.6	19.5	18.3	20.3	18.9
MIDLAND-ROSS CORP	45	12.9	10	49	5.7	5.6	7.8	8.6	248	3.7	2.1	26.8	24.6	30.5	26.7
MARCOR	307	8.7	11	35	3.8	4.3	4.6	6.1	2282	1.5	1.7	42.3	36.3	43.9	37.9
MORTON NORWICH	45	9.8	11	29	5.7	6.0	5.9	3.7	386	4.0	2.8	30.1	32.2	34.1	35.0
MOUNTAIN FUEL SUPPLY	28	7.3	18	21	3.2	2.7	2.4	3.3	282	10.6	6.1	42.0	44.1	52.7	50.1
MURPHY J. C.	22	9.4	7	53	6.0	5.5	4.7	6.3	158	0.1	0.0	22.5	22.0	22.6	22.0
NCR CORPORATION	184	8.4	9	27	-1.2	3.8	4.0	2.9	1634	9.6	8.3	42.5	40.6	52.0	49.5
NL INDUSTRIES	89	8.3	7	25	6.9	4.7	6.2	3.1	857	3.4	2.8	38.2	36.5	41.5	39.3
NORTH AMER PHILLIPS	67	7.6	21	40	15.4	17.7	4.9	4.0	661	0.5	1.1	16.1	22.6	16.7	23.7
NORTON CO	47	10.6	9	32	6.5	7.6	5.9	4.3	368	7.3	7.7	15.6	22.9	22.9	30.6
NORTON SIMON INC.	164	12.1	10	38	7.7	8.6	9.5	7.9	1054	1.7	2.8	37.2	28.4	38.9	31.2
OWENS-CORN FIBERGLAS	91	12.3	13	49	9.3	10.4	5.9	6.4	576	1.4	2.5	27.9	29.2	29.2	31.5
OWENS-ILLINOIS INC	182	9.3	10	30	5.1	4.9	4.7	4.2	1489	5.5	2.3	35.1	38.4	40.6	40.7
PENNWALT CORP	70	12.9	12	37	4.9	5.0	4.5	5.0	427	7.9	2.5	25.3	35.2	33.2	37.7
PEPSICO INC.	221	16.2	16	51	10.1	6.9	4.6	5.4	971	7.2	6.3	29.6	29.1	39.9	35.4
PET INC	NA	NA	NA	NA	6.2	5.3	4.8	NA	NA	4.0	NA	27.3	NA	31.3	NA
PHELPS DODGE	71	4.3	0	15	9.9	12.1	7.1	1.9	1493	0.0	5.1	19.5	35.0	19.5	40.2
PHILIP MORRIS, INC	468	14.9	21	19	7.1	5.3	4.2	4.4	2671	14.6	19.7	34.9	34.4	49.5	54.0
PILLSBURY CO	NA	NA	NA	NA	4.4	3.5	3.5	NA	NA	7.6	NA	40.1	NA	47.8	NA
PITNEY BOWES	55	13.7	11	51	4.2	5.3	5.4	7.0	268	2.1	2.7	35.6	34.6	38.7	37.3
QUAKER OATS CO.	95	12.5	18	39	9.5	7.7	4.3	3.4	588	8.9	5.0	30.7	26.9	39.6	31.9
QUAKER STATE OIL	48	22.5	19	116	16.0	13.3	13.8	16.1	161	0.5	0.8	27.0	21.4	27.5	22.7

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RAYTHEON CO	133	12.9	12	132	9.1	8.9	8.4	11.9	579	7.5	4.2	18.1	15.6	25.6	19.8
NCA CORPORATION	286	7.7	8	30	5.7	5.9	3.1	2.4	2434	9.6	12.2	43.6	39.3	53.2	51.5
RELIANCE ELECTRIC CO	74	18.1	15	45	7.6	9.0	8.1	8.3	289	3.0	1.5	28.3	31.9	31.3	33.4
REPUBLIC STEEL CORP	115	5.5	11	46	3.5	6.9	15.7	4.9	1654	1.9	0.8	25.7	21.9	27.6	22.7
REXNORD INC.	57	16.3	13	37	5.7	4.6	4.4	6.5	264	6.9	8.8	29.0	23.2	35.8	31.9
ROHM & HASS	60	5.5	19	25	7.1	5.8	5.1	1.6	904	8.2	4.9	19.2	35.6	27.4	41.5
SAFeway STORES	291	18.5	15	172	18.6	14.3	8.8	18.7	939	0.6	3.7	17.1	11.3	17.7	15.0
SCHLITZ BREWING	75	11.3	15	31	16.6	19.0	12.9	5.2	541	0.0	0.3	20.4	39.3	20.4	39.6
SCOTT & PETZER	36	19.3	20	65	69.0	62.6	11.0	12.5	145	3.1	0.3	4.6	24.0	7.6	24.3
SHERWIN WILLIAMS CO	62	11.2	11	28	7.2	7.8	7.9	5.2	456	0.8	4.7	25.1	29.1	23.9	33.8
SPERRY RAND CORP	NA	NA	NA	NA	7.1	5.3	3.7	NA	NA	14.8	NA	21.8	NA	36.6	NA
STALEY A.E.	105	30.3	20	124	3.5	3.8	6.0	21.5	226	5.9	9.2	27.3	13.6	33.2	22.9
STAND BRANDS INC	146	15.5	14	36	6.2	6.3	5.1	5.8	690	5.5	4.9	33.0	31.2	38.6	36.1
STANLEY WORKS	43	1.5	12	39	13.9	8.3	3.8	4.5	296	6.2	3.7	19.6	27.5	25.8	31.3
STAUFFER CHEMICAL CO	179	18.6	15	55	6.5	8.0	12.0	10.7	811	3.5	1.0	30.7	32.1	34.2	33.2
SUNBEAM CORPORATION	NA	NA	NA	NA	7.1	5.8	3.1	NA	NA	9.9	NA	21.7	NA	31.6	NA
SYBRON CORP	56	12.6	11	30	7.8	6.4	5.1	4.9	334	7.8	3.0	23.0	33.0	30.8	36.0
THW INC	233	13.8	10	40	7.3	6.2	4.8	4.8	1237	5.0	3.3	29.6	34.2	34.5	37.5
TEKTRONIX INC	NA	NA	NA	NA	43.6	32.5	10.8	NA	NA	6.6	NA	0.6	NA	7.2	NA
TENNECO INC	837	12.7	17	28	2.7	2.7	3.7	3.5	5244	7.3	9.8	46.7	43.5	54.0	53.3
TEXAS OIL & GAS	63	14.3	56	35	4.0	4.0	4.2	4.5	366	0.9	0.3	38.9	50.8	39.8	51.1
TEXTRON, INC	194	13.5	9	48	12.4	12.2	10.9	7.7	1058	0.5	5.7	27.0	23.7	27.5	29.4
TRANSAMERICA INC	239	4.9	10	10	3.0	2.2	1.3	2.0	1775	27.4	22.3	32.0	38.0	59.4	60.3
UJI CORP	19	7.7	13	21	3.2	2.8	2.6	2.4	-100	NA	NA	NA	NA	NA	NA
UNITED TECHNOLOGIES	267	9.9	11	28	7.7	9.8	9.8	7.0	1823	0.6	4.6	29.4	34.9	30.0	39.5
WESTVACO CORP	78	10.9	14	41	2.6	6.4	9.6	6.3	595	6.3	1.7	38.4	34.6	44.6	36.3
WHIRLPOOL CORP	123	16.1	4	74	16.1	19.0	4.2	11.8	576	4.8	2.9	20.9	21.8	25.6	24.7
WITCO CHEMICAL CORP	36	11.9	17	40	9.1	7.8	7.9	5.8	226	3.4	1.9	32.6	32.9	36.0	34.7
WOOLWORTH W.F.	241	11.1	13	26	4.9	4.1	2.6	3.8	1646	10.2	9.4	21.3	29.5	31.6	38.9
AVERAGE	132	12.3	13	48	10.0	9.6	7.6	7.0	926	4.6	4.1	26.3	29.3	30.9	33.4
NO OF COMPANIES	109	109.0	109	109	119.0	119.0	119.0	109.0	108	118.0	108.0	118.0	108.0	118.0	108.0
MINIMUM	-3	-0.1	-7	2	-1.2	2.2	1.3	-0.1	120	0.0	0.0	0.0	8.1	0.0	9.5
MAXIMUM	1074	30.3	56	186	69.0	62.6	33.0	42.6	7600	27.4	22.3	55.7	65.5	62.9	67.6

WHITE, WELD & CO. INCORPORATED
BOND RATING SURVEY

MOODY'S-STANDARD & POOR'S
A - BBB

COMPANY NAME	1975 EBIT	1975 EBIT% ASSET	5 YR SALES GROW	1975 CASH FLOW %DEBT	PRE-TAX INTEREST COVERAGE				1975 TOTAL CAPITAL	****DEBT AS % OF TOTAL CAPITALIZATION****		LONG DEBT		TOTAL DEBT	
					1972	1973	1974	1975		1972	1975	1972	1975	1972	1975
ALLEGHENY LUDLUM IND	61	9.5	9	32	4.3	5.2	6.4	4.4	490	10.4	6.3	32.2	28.5	42.6	34.8
AMERICAN STORES	NA	NA	NA	NA	1.8	7.1	6.9	NA	NA	1.1	NA	23.3	NA	24.3	NA
CHEMETRON	66	17.9	10	62	3.2	3.7	6.1	9.1	293	4.0	1.6	29.0	26.8	33.0	28.4
CUMMINS ENGINE	40	6.4	11	19	2.8	4.6	3.3	2.0	459	11.0	2.9	31.9	46.0	42.9	48.9
GOODRICH, B.F. CO	90	5.6	10	21	3.7	3.9	2.9	1.8	1239	7.7	4.1	32.6	35.4	40.3	39.5
GOULD INC	81	12.6	18	25	5.4	5.1	4.6	3.9	516	11.1	10.9	28.5	31.1	39.6	42.0
HARRIS INTERTYPE	36	9.8	5	51	5.1	6.0	4.8	5.5	252	5.7	3.4	26.6	23.7	32.2	27.1
INTERLAKE INC	79	16.5	14	60	5.1	6.1	13.0	9.0	362	0.6	3.0	23.0	23.7	23.6	26.7
INTL HARVESTER	324	9.2	14	13	3.3	2.9	2.6	2.2	2887	21.6	17.5	21.9	32.5	43.5	50.0
KROGER CO.	75	6.9	7	51	4.9	5.1	7.0	4.8	600	0.3	0.4	20.3	23.6	20.7	29.0
MEAD CORPORATION	101	9.3	4	32	3.5	5.2	7.7	4.5	851	0.8	1.6	34.6	36.0	35.4	37.5
NATL DIST & CHEM	144	14.1	7	NA	5.2	6.4	14.0	12.6	822	2.0	2.3	33.9	22.6	35.9	24.8
OUTBOARD MARINE CORP	51	12.9	10	40	14.5	15.1	5.1	4.5	323	0.7	5.0	19.3	24.1	20.0	29.2
STOKLEY VAN CORP.	NA	NA	NA	NA	6.4	4.7	3.3	NA	NA	0.0	NA	17.2	NA	17.2	NA
UMC INDUSTRIES	14	11.7	13	33	19.2	11.7	5.9	5.0	109	7.1	1.2	9.9	23.9	17.0	30.0
WEYENBEEK SHOE MFG	5	13.8	5	96	16.9	17.7	8.1	14.0	26	0.0	0.2	13.9	12.5	18.9	12.7
AVERAGE	83	11.2	10	41	6.6	5.9	6.4	5.9	658	5.3	4.3	25.2	23.6	30.5	32.9
NO OF COMPANIES	14	14.0	14	13	16.0	16.0	16.0	14.0	14	16.0	14.0	16.0	14.0	16.0	14.0
MINIMUM	5	5.6	4	13	1.8	2.9	3.6	1.8	26	0.0	0.2	9.9	12.5	17.0	12.7
MAXIMUM	324	17.9	18	96	19.2	17.7	14.0	14.0	2887	21.6	17.5	34.6	46.0	43.5	50.0

WHITE, WELD & CO. INCORPORATED
BOND RATING SURVEY

MOODY'S-STANDARD & POOR'S
BAA - A

COMPANY NAME	1975 EBIT	1975 EBIT % ASSET	5 YR SALES GROW	1975 CASH FLOW %DEBT	PRE-TAX INTEREST COVERAGE				1975 TOTAL CAPITAL	****DEBT AS % OF TOTAL CAPITALIZATION****					
					1972	1973	1974	1975		SHORT DEBT		LONG DEBT		TOTAL DEBT	
					1972	1973	1974	1975		1972	1975	1972	1975	1972	1975
ALLIED STORES	NA	NA	NA	NA	2.7	2.3	2.9	NA	NA	8.1	NA	49.6	NA	57.7	NA
CELANESE CORP	116	5.1	13	43	3.7	5.3	6.6	3.1	1459	7.4	4.9	37.5	32.2	44.9	37.1
FEDERAL MOJUL	16	5.9	7	23	19.8	6.5	3.4	1.9	218	2.6	3.8	20.9	33.9	23.6	37.7
LONE STAR IND	42	7.6	18	27	4.9	4.7	3.5	2.8	441	2.1	3.3	35.9	36.8	38.0	40.1
NATL CAN CORP	48	11.6	16	39	4.5	4.0	4.6	4.2	299	4.1	14.7	37.8	28.1	41.9	42.9
ROCKWELL INTL.	259	9.0	15	30	7.7	9.2	4.0	3.1	1911	0.5	3.3	25.1	37.2	25.5	40.4
SCOVILLE MFG CO	32	8.3	-0	34	7.7	6.0	3.2	4.9	224	3.0	5.7	27.4	28.7	30.4	34.4
U.S. SHOE	34	13.7	9	31	8.5	5.5	3.8	4.1	190	21.3	5.5	20.6	31.6	41.9	37.0
UCP INCORPORATED	-14	-3.3	4	-8	4.0	4.8	5.2	-1.3	316	11.5	18.5	24.7	23.7	35.3	42.2
AVERAGE	67	7.4	10	26	7.0	5.4	4.1	2.8	632	6.8	7.4	31.0	31.5	37.8	39.0
NO OF COMPANIES	8	8.0	8	8	9.0	9.0	9.0	9.0	8	9.0	8.0	9.0	8.0	9.0	9.0
MINIMUM	-14	-3.3	-0	-8	2.7	2.3	2.9	-1.3	190	0.5	3.3	20.6	23.7	23.6	34.4
MAXIMUM	259	13.7	18	43	19.8	9.2	6.6	4.9	1911	21.3	18.5	49.6	37.2	57.7	42.9

WHITE, WELD & CO. INCORPORATED
BOND RATING SURVEY

MOODY'S-STANDARD & POOR'S
AAA - BBB

COMPANY NAME	1975 EBIT	1975 EBIT% ASSET	5 YR SALES GROW	1975 CASH FLOW %DEBT	PRE-TAX INTEREST COVERAGE				1975 TOTAL CAPITAL	****DEBT AS % OF TOTAL CAPITALIZATION****					
					1972	1973	1974	1975		SHORT DEBT		LONG DEBT		TOTAL DEBT	
					1972	1973	1974	1975	1972	1975	1972	1975	1972	1975	
ALLIS-CHALMERS CORP	86	8.7	11	26	1.6	1.6	1.9	2.3	644	11.5	3.8	27.1	27.4	38.6	31.2
AMERADA HESS	379	15.9	24	45	3.9	12.4	3.7	6.9	1714	2.2	1.9	43.2	37.2	45.4	39.2
AMCORD INC	17	8.0	4	18	2.3	2.4	1.9	2.2	172	11.5	3.9	41.5	44.6	52.9	48.5
ARMSTRONG RUBBER CO	15	5.9	9	17	3.4	2.9	1.8	1.7	202	10.2	3.9	39.1	45.7	49.2	49.6
ARVIN INDUSTRIES INC	23	10.2	15	10	5.3	3.7	1.4	1.7	202	0.5	35.9	36.0	27.1	35.5	53.0
BAKER INTERNATIONAL	71	23.7	35	91	7.8	7.6	8.2	10.9	227	3.2	5.6	30.1	20.4	33.3	26.0
BEMIS CO.	26	8.4	9	30	5.4	4.2	4.7	3.3	243	7.7	2.1	27.4	29.6	35.2	31.6
BOEING COMPANY	127	7.1	0	109	1.4	2.5	7.7	8.7	1165	15.4	1.9	31.1	11.4	46.5	13.3
BROWNING FERRIS	37	11.1	50	34	8.2	6.3	3.5	4.9	276	5.3	3.2	27.3	44.3	32.6	47.5
CHAMPION INTL	142	7.2	12	19	5.2	4.8	3.7	2.5	1614	4.3	5.3	41.3	43.2	45.6	48.6
CHRYSLER CORP	24	0.4	11	-5	8.2	15.0	0.2	0.1	3926	8.9	11.1	21.7	27.2	30.6	38.2
CONS FREIGHTWAYS INC	39	11.5	10	71	11.4	13.0	10.4	7.1	223	9.0	6.6	30.1	23.0	39.1	29.6
CRANE CO.	130	18.0	10	41	1.9	2.7	6.1	8.2	542	5.3	4.6	53.7	44.1	59.0	48.7
FEDERAL PAPER BOARD	36	12.4	20	36	5.1	6.9	8.4	5.5	244	0.4	1.8	31.9	35.6	32.2	37.3
FERRO CORPORATION	30	14.3	16	65	9.6	11.9	12.5	6.9	160	4.9	6.1	21.8	15.1	26.7	21.2
FLEXI-VAN CORP.	15	6.2	19	25	4.4	3.5	3.0	1.5	224	6.8	3.3	41.7	56.8	48.5	60.1
FREUHAUF CORP	77	8.6	19	27	3.7	3.6	1.8	2.1	657	11.4	12.6	32.2	34.3	43.6	46.8
GLOBE-UNION INC	19	11.0	15	30	4.3	3.9	3.7	3.4	132	12.0	15.0	28.2	24.1	40.3	39.1
HART SCHAFFNER & MAH	23	7.9	5	33	7.8	7.2	4.3	3.5	233	0.4	0.4	25.7	26.2	26.2	26.7
HOOVER BALL & BRG	27	17.9	9	74	10.3	12.9	7.4	9.7	107	0.4	0.2	32.4	26.0	32.8	26.2
INTL MULTIFOODS	NA	NA	NA	NA	4.4	3.8	3.3	NA	NA	18.6	NA	23.8	NA	42.4	NA
KIDDE WALTER	105	12.3	7	25	7.3	5.9	4.1	4.5	659	3.2	6.3	30.3	32.6	33.5	38.9
LITTON INDUSTRIES	138	6.3	7	14	1.0	2.7	1.1	2.0	1650	17.1	13.6	34.4	38.2	51.5	51.7
LOWENSTEIN M.	1	0.3	4	4	2.6	2.6	2.5	0.1	295	16.5	12.4	31.2	39.7	47.7	52.1
MARTIN-MARIETTA CORP	99	8.7	2	50	4.9	4.9	7.2	5.1	895	3.5	1.5	36.1	30.4	39.7	31.9
MILES LABORATORIES	32	9.2	7	18	4.8	4.7	3.1	2.5	275	9.3	11.5	38.5	38.8	46.8	50.3
MONOGRAM INDUSTRIES	17	11.5	4	30	3.2	4.3	4.9	4.1	122	0.8	4.3	46.1	33.1	46.9	37.5
PENNZOI'	216	10.7	8	28	2.5	2.9	4.0	4.0	1591	7.4	4.3	53.0	51.3	60.4	55.5
PULLMAN INC	69	7.8	24	50	4.6	6.4	5.0	4.5	433	9.5	4.1	25.1	20.0	34.7	24.2
REICHHOLD CHEMICALS	33	14.0	18	65	4.5	5.5	11.3	8.0	178	1.7	1.8	35.2	25.3	36.9	27.1
RYDER SYSTEM	58	8.7	21	32	3.0	2.4	1.3	1.5	493	8.9	8.6	52.4	62.8	61.3	71.4
SCM CORP	62	8.8	9	26	2.3	3.5	4.6	3.1	532	3.8	5.2	40.3	40.3	44.1	45.6
SIGNAL COMPANIES INC	121	6.5	9	16	4.1	2.8	4.3	2.6	1446	6.2	9.7	32.0	28.2	38.1	37.8
SMITH A.O. CORP	10	3.1	2	23	4.4	5.2	0.5	1.2	220	4.5	0.6	27.7	29.6	32.2	30.3
UNIT MERCHANTS & MFK	27	2.5	5	-0	1.8	2.0	2.3	0.5	748	28.5	31.1	31.3	32.1	59.8	63.2
U.S. INDUSTRIES	48	5.1	2	18	6.6	4.7	1.7	1.6	707	9.1	15.4	25.5	13.0	34.6	28.5
JIM WALTER CORP	177	13.5	13	19	4.3	4.0	3.1	3.2	1051	37.2	.3	19.5	23.3	55.7	58.6
WALTER KIDDE & CO	105	12.3	7	25	7.3	5.9	4.1	4.5	659	3.2	6.3	30.3	32.6	33.5	38.9
WICKES	23	4.5	17	9	6.4	5.2	2.9	1.5	384	16.1	17.1	21.9	37.8	38.0	55.0
AVERAGE	71	9.5	12	33	4.9	5.4	4.4	3.9	665	8.6	8.4	33.3	33.0	41.9	41.3
NO OF COMPANIES	38	38.0	38	38	39.0	39.0	39.0	38.0	38	39.0	38.0	39.0	38.0	39.0	38.0
MINIMUM	1	0.3	0	-5	1.0	1.6	0.2	0.1	107	0.4	0.2	19.5	11.4	26.2	13.3
MAXIMUM	379	23.7	50	109	11.4	15.0	12.5	10.9	3926	37.2	35.9	53.7	62.8	61.3	71.4

**Understanding
Municipal
Credit**
Second Edition

White, Weld & Co.
Incorporated

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Understanding Municipal Credit Second Edition

by

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White, Weld & Co. Incorporated
June, 1976

Credit Analysis of State and Municipal Bonds

The notion of raising money for public purposes through loans rather than taxes is ancient and widespread. Only the very richest governments have been able to finance everything they wanted—whether to build navies, buy grain, or construct canals—out of current income. So universal is the practice of supplementing tax income with loans that the creation of a national debt has been called the first step of any nation toward civilization. Corporate debt financing, by contrast, is a relatively recent development.

Loans, public as well as private, are secured by bonds. A bond is an obligation; the word originally meant “that which binds”—in the sense of fetters or shackles. In the United States, public bonds are referred to generally as “municipal bonds.” Here, “municipal” is being used in its broadest sense, to mean any governmental subdivision of the nation, whether a state, city, town, or other local self-governing unit. The term “municipal bonds” also includes bonds issued by agencies or authorities of the states and their subdivisions—a state power authority, for example, or a city housing agency.

A municipal bond, then, by its very existence is at once the evidence of a public debt and the pledge to repay the loan, at a particular rate of interest and at a particular time. The pledge to repay is backed by all, or by a specified part, of the borrower's resources, future as well as present. Usually, the borrowing body pays interest annually or semi-annually to the bond holder, while the principal of the loan—the face amount of the bond—is paid at the end of a stated number of years.

Besides being an older form of finance than corporate bonds, municipal bonds have proven over the years to be safe. More serious defaults have occurred in the United States from lending public credit to private enterprise than from lending private funds to public bodies. The safety record of municipal bonds in this

country is exceeded only by that of the obligations of the Federal government itself.

Of course, the absolutely riskless investment has yet to be invented. Municipalities do default. As early as 377 B.C., 10 Greek municipalities of the Attic Maritime Association defaulted on loans from the temple at Delos. And in the United States in the 19th Century, the Smithsonian Institution almost never came into being because Congress invested James Smithson's bequest in Ohio municipal bonds that defaulted; by a one vote margin, Congress restored the money through an appropriation, enabling the Institution to open in 1847, 12 years after the bequest.

In assessing the safety of municipal bonds, the fundamental criteria are the issuer's *ability* to pay along with the willingness to pay. The first factor is measurable; dollar values can be assigned to property, tax returns can be projected. The second factor is more subjective; the analyst must make a guess about the municipality's determination to honor its debts, come what may. The combination of the two factors—ability and willingness—is more important than the particular sources of revenue that will be used to repay the loan.

Classification of Municipal Bonds

The many kinds of state and municipal bonds, fall into three major categories:

- 1) General Tax Bonds (General Obligations) secured by the "full faith and credit" of a state, or in the case of a municipality, usually by *ad valorem* (according to value) property taxes. (Some legal experts define "general obligation" so narrowly that only *ad valorem* tax bonds qualify; others interpret the phrase to mean any available sources of revenue not otherwise restricted.)

- 2) Revenue Bonds secured by, and payable solely from a specific source of revenue—for example, bridge tolls, sales taxes, or license fees.
- 3) “Double-Barreled” Bonds secured by a combination of taxes and other forms of revenue.

General Tax Bonds of Municipalities

Historically, local governments have depended mainly on property taxes for income. Additional revenues may be produced by sales and use taxes; licenses, and by excise, franchise, and income taxes. Federal grants, state aid, and other forms of financial assistance may also be received. However, the principal assets of a community ordinarily consist of its real property, and it is the property tax that provides the most basic, continuous source of revenue. The tax on property usually is based on its “assessed valuation” rather than its true, or market value. The assessed valuation is supposed to bear a fixed relation to true value, but there are often so many exceptions—the result of obsolete or unprofessional assessments—that the relationship may be hardly visible. Whatever the case, the community balances its budget by establishing a tax rate (in mils. or dollars per thousand) which, when multiplied by the total assessed valuation, will combine with income from other sources to produce the total revenue necessary for operations, debt service, and other expenses.

Tax rates of different communities are not directly comparable since assessed values vary from as little as 10% of estimated market value to close to 100%. Moreover, the estimates supplied by issuers are not always accurate. A better comparison is the annual tax bill as a percentage of market value, i.e., suburban home taxes averaged 4% of market value of the property in a recent survey. Commercial, industrial, private utility, and personal properties usually have different assessment ratios.

Current tax revenues are used primarily for day to day operations, including essential services such as public safety, education, and governmental administration. Capital items, such as a new school or a sewage disposal plant, which will benefit a community over an extended period of years generally are constructed from the proceeds of long-term borrowing. The theory is that if the benefits are long-term, the cost impact on the taxpayers should be spread over the useful life of the facility.

The strongest security for general obligation bonds is a pledge by the issuer to repay principal and interest by levying *ad valorem* taxes "without limit as to rate or amount" on all taxable property. Several states have constitutional or statutory limitations on the rate or amount of taxes that can be levied to pay interest on their debts. In theory, such "limited tax" bonds have less security than "unlimited tax bonds," but in practice, there is no difference for the bond holder as long as the costs of debt service remain within the legal limits of taxing ability.

In addition to considering the community's resources—i.e., its ability to pay the debts it is incurring—the prudent investor must consider the way those resources are managed.

The quality of financial management often is reflected in the year-to-year trends of revenues, expenditures, year-end balances, tax collections, and borrowing. In general, actual performance compared against budgeted figures over the most recent years is indicative of management capability. The M.F.O.A. (Municipal Finance Officers Association) has an excellent accounting and budgeting format which should be standard.

The year-end condition of the major operating funds is especially important. If current liabilities exceed cash and investments, the community must resort to short-term borrowing, either through the sale of notes or direct bank loans, to keep it going until the next round of taxes is collected. When tax years and fiscal years are not synchronized, short-term revenue anticipation borrowing is usually used to bridge the gap. If trouble is brewing, the first signs

often are spotted through analysis of the "floating debt" created by successive short-term borrowings. Too often, investors in short-term obligations have discovered to their chagrin the distinct difference between Bond Anticipation Notes (BAN'S) and Tax or Revenue Anticipation Notes (TAN'S or RAN'S). The bond anticipation note holder may not get paid if the issuer does not have access to the capital market to sell a bond issue or "roll over" the notes at maturity. The TAN or RAN holder, meanwhile, is protected as long as taxes are paid and revenue is produced.

Defaults—the failure to make payment when due—are rare on general tax bonds, and when they do occur, extenuating circumstances usually exist. Currently, the legal status of the general obligation bond holder in the event of default is murky. Most legal experts believe the courts will put the needs of public safety ahead of the municipality's obligations to bond holders. This means first call on any available revenues probably will be given to the support of police, fire protection, and sanitation rather than to the payment of bonds. Just which services are truly essential, however, may take some years for the courts to resolve as a result of the lawsuits following New York City's "moratorium" on a note payment in December 1975. Are the schools essential to public safety? What about the public hospitals? The dog catcher? The matrimonial bureau? In effect, the courts must write a definition of "public safety," deciding which services come under the umbrella.

In making a credit assessment, the proven willingness of a community to cooperate and clear past defaults is an important factor, as is the record of having kept up payments even during adverse periods. In the latter connection, the most frequently cited case is the city of Richmond, Virginia, which has an excellent credit standing because for more than a century bond dealers have recited the story of how the city managed to smuggle gold through Union lines during the Civil War to pay off bond holders.

Borrowing Capacity

How much can be borrowed is contingent upon the ability to repay. In determining an acceptable debt burden, therefore, an analyst considers such ratios as debt per capita and the percentage of debt to actual value. These ratios then may be compared to those of similar communities. Other measures of debt burden are the ratios of debt to personal income and in farming communities, debt per acre.

There are no hard and fast rules for determining an acceptable debt burden. A highly industrialized area with a small population might have extremely high debt per capita but be an acceptable credit because its debt is usually low as a percentage of market value. High per capita debt might be tolerated in a wealthy growing suburb, while the same dollar obligation would be considered unfavorable in a marginal agricultural area with a low per capita income.

In general, a diversity of revenue from a broad base is preferable to dependence on a few sources, although occasionally communities have a good credit standing with only one predominant tax payer, such as a major utility. Tax collection procedures should be designed to insure prompt payment through adequate penalties for delinquency and properly excise tax sales. Additional security may result from collection of taxes by a larger governmental unit such as a county which may remit taxes in full to the municipality and assume responsibility for delinquencies. For the average community—and for the potential bond buyer—it begins to get dangerous when the percentage of net overall debt to estimated actual value nears 10%. Of course, any “overlapping debt” of other political bodies must be included in each of the above calculations. Finally, debt structure or schedule of maturing principal should be compared with projected revenue. A good rule of thumb is that 25% of debt should be retired in 5 years and 50% in 10 years.

In addition to ratios and balance sheet statistics the appraisal of an issuer's present economy and future prospects will be influenced by the following factors:

- 1) Location, geographical features, climate, terrain, and adequacy of water, waste disposal and energy.
- 2) Family income statistics, housing values, percent of home ownership, data on occupations and educational attainment.
- 3) Transportation facilities, labor relations, unemployment statistics, and the financial strength of banking institutions also are often included in the economic analysis.

The current and past status of the tax base is perhaps the most important consideration in estimating ability to pay. A list of principal employers and taxpayers shows the degree of diversity and dependence on any one industry or employer. Changes in assessed or true valuations of property over several years, as well as population growth and overall tax load, may show that financial burdens are growing faster than a snap shot statement of financial condition at a particular instant.

State Bonds

The states depend very little—in many cases, not at all—on the real property taxes that constitute the main source of income of their political subdivisions. Instead states obtain revenue from other taxes, fees, and Federal aid, including taxes on gasoline, personal income, tobacco, corporations, beverages, sales, and franchises; fees for motor vehicle registrations and licenses, and Federal aid for education, highways, welfare, and revenue sharing.

State obligations also differ considerably from the bonds of municipalities in the manner of contract enforcement. If a municipality

defaults or declares debt invalid, redress may be obtained through the courts. The holder of a state bond, however, has to rely almost entirely on good faith because most states cannot be sued to compel fulfillment of obligations without their consent.

State bonds usually carry a "full faith and credit pledge." No specific revenues are pledged and bonds are payable from general funds, but each source of available income must be examined separately. States also may issue revenue bonds supported by specific sources of income without a full faith and credit pledge or they may issue combination "double-barrelled" securities.

State credits are analyzed in much the same way as municipal credits. Important factors include the economy, financial trends, administrative abilities, and debt history. A ratio commonly used in state credit analysis is income per capita and the ratio of debt service to general revenue.

States vary significantly in the scope and quality of the services they provide and, hence, in their ability to incur debt. For example, Hawaii provides roads and schools, while such services are the responsibility of local government in other states. The analyst's assessment of a state's debt burden should include "agency" or "contingent" debt if general funds may be used to service or pay it.

In recent years, there has been a significant increase in the number of theoretically self-supporting projects financed through authorities or agencies that have a "moral" but not legal backing of a state if revenues are insufficient for debt service. The main objection to this type of financing is that it is a device for creating debt without the approval of the voters—the normal check on legislative authorization of bonding. The most common procedure is to establish a reserve fund; the language usually is permissive, saying the fund "may be replenished" by legislative appropriation, but sometimes the act creating an Agency may specify that "monies will or shall be appropriated." Obviously, in creating an agency authorized to issue debt the legislature has implicitly approved the debt itself,

but generally without taking on the legal obligation to support the debt through appropriations. Although the good faith of the state is ultimately at stake, each "moral obligation" financing must be viewed in the light of its economic feasibility as well as the degree of public support and the social necessity of the project. The social aspects of an issue become of importance when additional support is needed in financial difficult periods. If there is a choice of allocation, strongly-needed public services probably will receive priority over bonds issued for a recreational facility benefiting only a small segment of the population.

Revenue Bonds

Revenue bonds, secured solely by specific sources of income, as opposed to "general obligation" tax secured bonds, may be issued by states, municipalities, dependent agencies (subject to control by a governmental unit), or independent agencies (generally established by legislative action). Revenue bonds have been used for a long time. In the 12th Century, Venice obtained loans secured against revenues from taxes on salt and minting of money.

Revenue bonds often have advantageous features not contained in general obligation securities. Charges to users of the funded services—whether in the form of highway tolls, electric bills, or apartment rentals—are collected monthly or regularly in relatively small, relatively easy-to-pay installments, and the services rendered usually are vital to the maintenance of the user's desired standard of living. Services can usually be discontinued promptly for non-payment and rates quickly increased if overall revenues are inadequate. If the public operator fails to perform under the covenants agreed to in the bond resolution, the bond holder, in addition to the usual right of obtaining a show cause order (mandamus), usually has the right of petitioning courts for the appointment of a receiver to operate the facility.

For these reasons astute investors do not arbitrarily consider revenue bonds to be second in quality to general obligation tax bonds. There have been many instances of homeowners, corporations, and other users paying water and utility bills ahead of property taxes in severe economic periods.

The primary reasons for issuing revenue bonds are:

- 1) The theory that the user of a service should bear its cost.
- 2) Revenue bond authorizations usually do not require the approval of the electorate.
- 3) Constitutional provisions may prohibit general obligation bonds.
- 4) The issuer may be unwilling to dilute general borrowing capacity with loans for specific projects that are either self-supporting or have a limited public purpose.

Most revenue bonds are for essential services such as; water, electricity, and sewers. However, states generally issue them also for major services that benefit the general populace or for projects beyond the financing scope of municipalities, including toll roads, housing, health services, and higher education.

The Revenue Bond Resolution

The bond indenture, resolution, or ordinance, is the basic instrument outlining the security for revenue bonds: it sets forth the manner or procedure in which the trustee or other executor of monies shall apply revenue to the cost of operation and maintenance, debt service, and other obligatory payments.

Bond or trust indentures and resolutions vary in detail, but certain general procedures have been developed for handling income and expenses. In all cases, careful provision must be made to insure:

- (1) rigid control in spending funds for constructing the facility;
- (2) strict accounting of revenues, and (3) compliance with covenants and agreements in the bond resolution.

Revenues have priorities in application for specific purposes. The order and priority of transfers of money through various accounts sometimes is referred to as the "flow of funds." The flow usually starts with income placed in a *Revenue Fund*; monies then are allocated regularly or monthly to other accounts in the following order:

- 1) **Operation and Maintenance Fund.** Payments are made for this account to meet day-to-day expenses, such as salaries, to keep the operation functioning continuously.
- 2) **Bond Service Fund.** Regular deposits are made to this fund or separate principal and interest accounts where they accumulate to insure prompt and full payment of: (a) bond interest coming due, (b) principal on bonds maturing, or (c) the amounts required to be set aside in a "sinking fund" for term bonds.
- 3) **Bond Reserve Fund.** A reserve equivalent to one year's maximum principal and interest charge is a preferred requirement. Although revenues may be accumulated over a period of time from earnings, funding the entire amount from the initial sale of bonds provides better protection for the bond holders.
- 4) **Surplus.** After required payments for operating expenses and debt service have been completed, surplus should have specific allocations such as maintenance of the facility, payments to the municipality in lieu of taxes, redemption of bonds in advance of maturity, and capital improvements. Sometimes, the surplus is used for "any lawful purpose" without detailed restrictions. Obviously bondholders have more protection if surplus is retained within the operation instead of going to support other government services.

The covenants or guarantees to the bondholders in the bond resolutions, while varying according to the nature of the operation, should include requirements for: independent audits, adequate insurance, periodic supervision and certification of repair and maintenance, a rate adjustment requirement to meet minimum charges or coverage, restrictions on additional borrowing, financial reports to investors, protection against competing facilities, procedures in the event of default and steps required to change the indenture.

Perhaps the most important covenant for the bond buyer is the pledge to maintain rates sufficient to: (1) meet operation and maintenance charges; (2) pay annual debt service requirements; (3) provide a reasonable surplus for the improvement and extension of facilities and (4) give a margin of safety.

When projects or facilities are initially financed, consideration should be given to future financial needs, and the indenture or covenant should define carefully the amount of additional borrowing that is permissible. For the investor this is important to prevent dilution of his margin of safety. The indenture or resolution usually contains a covenant permitting additional bonds, either of equal rank or junior in lien to the outstanding bonds. "Closed end" indentures allow no parity bonds other than those necessary to complete the facility, while any additional bonds for expansion must be junior in lien. In "open end" indentures, additional bonds of equal rank are permitted; in this case, however, to prevent erosion of the safety of the original bonds, the covenant should establish safeguards or tests that require earnings to be at certain ratios to debt service before more bonds can be issued.

Sometimes, the additional bond covenant on established and fundamental service projects will require merely that net revenues for a set period (usually a minimum of one year) prior to the issuance of additional bonds be at least 120% of the maximum annual debt service requirements on all bonds, including those to be issued as well as those already outstanding. If historical earnings are combined with engineering estimates of future revenue, a greater margin of safety is usually required by investors simply because

estimates are not always right. Financing of extensions or additional facilities should be permitted only under the most carefully thought-out provisions.

Feasibility Analysis

The economic and social justification of the facilities to be financed are fundamental factors in the analysis of revenue bond resolutions. The supporting facts and figures must show clearly that revenues will be sufficient to fulfill contractual obligations with bond holders. The bond issuer should provide a feasibility presentation detailing:

- 1) Construction costs and completion schedule.
- 2) Revenues and expenses (historical and projected).
- 3) Economic prospects of the proposed facility's service area.
- 4) Charges and rates.
- 5) Debt service payments projected on a realistic assumed borrowing cost, along with all other anticipated expenses.
- 6) A comparison of expected revenues against total charges.

Analysis of construction costs must consider the probable accuracy of estimates and the qualifications of engineers. The costs of standard facilities are obviously much easier to gauge than new and untried designs. Ideally, all contracts for the facility should be based on fixed prices, or bids, and contain suitable penalties for delay or non-performance, as well as a contingency factor (normally ranging from 5% to 15% for unforeseen construction problems or changes in specifications) which is certified to be adequate by the consulting engineer. Any costs that are not fixed must be viewed critically in light of inflation and potential technical problems. For some

projects, legal clearances, such as zoning permits or approval by regulatory bodies, should be checked.

The maturity schedule of a revenue bond should provide for repayment within the economic or technologically useful life of the facility. Revenues should be shown over a sufficient period of time to indicate negative as well as positive trends. If no historical precedents exist, the reputation and competence of independent engineers and consultants making projections are critical. Rates should be compared to those of similar projects and the possible effects of competitive alternatives considered.

The size and diversification of the facility's service area—its potential "market," in other words are of prime importance. A project with but a small group of customers may be particularly vulnerable to economic fluctuations or the movement of a major industrial firm from the community, for example.

The type of service also must be considered in the context of demand, competition, and whether or not it is imposed upon the user. For instance, the law may require that all homes tie into a new sewer line, while another type of facility—a sports arena, say, or even a toll road—must attract customers on a voluntary basis.

Is the proposed service essential? If not, will it be used, and to what extent? Those are the key questions that the analyst—and the prospective bond buyer—must continually ask.

Debt Service Coverage

As interested as they are in rates of return, most bond holders are even more interested in the degree of safety or "coverage" of their securities. "Coverage" often is expressed in terms of the number of times by which earnings exceed total debt payment requirements during a stated period of time. Coverage may be shown as a percentage of average annual debt service or—more conservatively—as a percentage of the maximum debt service in any future year.

There is no set rule for determining how much coverage is necessary. A lease revenue bond with one times coverage of the lease payments may be adequately secured by an ironclad contract with substantial and strong lessees. An example of this sort would be the contract sale of power to major utilities. The pledge of payments in this case is an operating expense which has a legal priority of payment ahead of the utility's own debt. A new enterprise without any earnings record may require as much as two times coverage of debt service by anticipated revenues. Most seasoned issues of utility bonds have a minimum 1.25 times coverage. Market conditions and the nature of the revenue source influence the amount of coverage required.

In determining coverage, the analyst should not be led astray by the classification of obligations as "gross revenue" bonds. The label suggests that a much larger sum is available to protect the bonds than if they were on a "net income" basis. In theory, this may be so, but as a practical matter, the bond holder's long-lasting protection ordinarily depends upon equally long-lasting operation of the funded facility; it does the bond holder no good if not enough money is left to run the enterprise after debt payments are made out of the gross revenues. Therefore, the analyst should calculate coverage of gross revenue bonds in light of necessary operational expenses even though debt service legally has a first charge.

Special Considerations

Certain kinds of revenue bonds have special analytical considerations.

- 1) **Electric Power.** Revenue bonds for generation facilities require evaluation of the source and availability of fuel. Because fuel prices are increasingly difficult to project, rate schedules should have fuel adjustment clauses which can be revised quickly to meet a sudden rise in costs.