1987 ANNUAL REPORT

MINNESOTA STATE BOARD OF INVESTMENT

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Mark Edwards	Senior Portfolio Manager
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Doug Gorence	Manager, External Equity Program
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Daralyn Peifer	Manager, External Fixed Income Program
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Lavern Jagg	Clerk Typist I

EXECUTIVE DIRECTOR
HOWARD J. BICKER

STATE OF MINNESOTA
STATE BOARD OF INVESTMENT
Room 105, MEA Building
55 Sherburne Avenue
Saint Paul 55155
(612) 296-3328

The Minnesota State Board of Investment is pleased to submit its 1987 Annual Report.

Fiscal year 1987 results represent the third consecutive year of exceptionally strong performance in the capital markets. Over this period, declining interest rates, low inflation, and steady economic growth have produced extraordinary returns on financial assets. To a great extent, the performance of the individual funds presented in this report reflect the favorable opportunities available in the capital markets.

Several items should be highlighted as major accomplishments for the year:

- **The Basic Retirement Funds, the largest group of funds managed by the Board, produced a total rate of return of 14.5%.** Over the last three years the Basic Funds have generated a cumulative return of 92%, excluding alternative assets. These advances were largely the result of the Board's asset allocation policy, which allowed the Basic Funds to take full advantage of the superior returns available in the capital markets. (Refer to page 7.)

- **The Post Retirement Fund generated earnings that will provide a permanent benefit increase of slightly more than 8% for eligible retirees.** This is more than double the fiscal year 1987 inflation rate. The Post Fund continued to benefit from the high inflation-adjusted yields available in the bond market during recent years. (Refer to page 29.)

- **The Board obtained new investment authority under legislation adopted during the 1987 legislative session.** By raising the maximum allowable exposure to common stock and alternative investments, the Legislature gave the Board additional flexibility in designing investment strategies for the funds under its control. (Refer to page 77.)

- **The Board undertook a comprehensive review of the investment program established for the Basic Retirement Funds.** The resulting investment policy statement will guide the management of the Basic Funds in the coming years. The recommendations emerging from the study will not greatly affect the investment objectives or asset allocation previously established for the Basic Funds. However, important features will be introduced in the investment management structure utilized by the Funds. These new features will include a completeness fund in the common stock segment of the Basic Funds and a passively managed component in the bond segment of the Funds. (Refer to page 79.)

- **Benchmark portfolios and performance based fees were implemented during fiscal year 1987.** Each of the Board's external common stock managers is now evaluated and compensated based on their actual performance against a benchmark portfolio that reflects the manager's particular investment style. (Refer to page 81.)

- **Pooled investment vehicles were introduced in the management of the State's cash accounts.** These pools will provide greater operating efficiencies and should generate higher returns for the many small, individual accounts managed by the Board. (Refer to page 84.)

On June 30, 1987, the Board's portfolio totaled $12 billion. This amount is actually a composite of several separate pension funds, trust funds and cash accounts, each with differing investment objectives. In establishing a comprehensive management program, the Board develops an investment strategy for each fund which reflects its unique needs. **The primary purpose of this annual report is to clearly communicate the investment goals, policies, and performance of the various funds managed by the Board.**

Through the investment programs presented in this report, the Minnesota State Board of Investment will continue to enhance the management and investment performance of the funds under its control.

Sincerely,

Howard Bicker

Howard J. Bicker
Executive Director

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Part One

PART TWO of the Minnesota State Board of Investment's 1987 Annual Report contains financial statements and accounting data.

INTRODUCTION

All investments undertaken by the Minnesota State Board of Investment (SBI) are governed by the common law prudent person rule and other standards codified in Chapter 11A of the Minnesota Statutes.

Prudent Person Rule

The prudent person rule requires all members of the Board, Investment Advisory Council, and SBI staff to "*...act in good faith and exercise that degree of judgment and care, under circumstances then prevailing, which persons of prudence, discretion and intelligence exercise in the management of their own affairs, not for speculation, but for investment, considering the probable safety of their capital as well as the probable income to be derived therefrom.*"

Authorized Investments

In addition to the prudent person rule, the Minnesota Statutes contain a specific list of asset classes available for investment, including common stocks, bonds, short term securities, real estate, venture capital, and resource funds. The statutes prescribe the maximum percentage of fund assets that may be invested in each asset class and contain specific restrictions to ensure the quality of the investments.

Investment Policies

Within the requirements defined by state law, the State Board of Investment, in conjunction with SBI staff and the Investment Advisory Council, establishes investment policies for all funds under its management. These investment policies are tailored to the particular needs of each fund and specify investment objectives, risk tolerance, policy asset mix, and investment management structure.

In recent years, the Board, its staff, and the Investment Advisory Council have conducted detailed analyses of the investment policies of the Basic Retirement Funds, the Post Retirement Investment Fund, the Supplemental Investment Fund, and the Permanent School fund. The results of these studies represent the "roadmap" by which the SBI manages these funds. The Board intends periodically to revise the investment policy established for each fund. Most recently, the Basic Retirement Funds' investment policy was thoroughly reviewed and updated.

The annual report is divided into two separate publications:

- This volume contains the text of the annual report. It describes the investment policies and performance for each of the funds managed by the SBI. It also contains statistical data on the Board's managers.

- The second volume contains financial statements and accounting data.

FUNDS UNDER MANAGEMENT

BASIC RETIREMENT FUNDS

POST RETIREMENT FUND

SUPPLEMENTAL INVESTMENT FUND

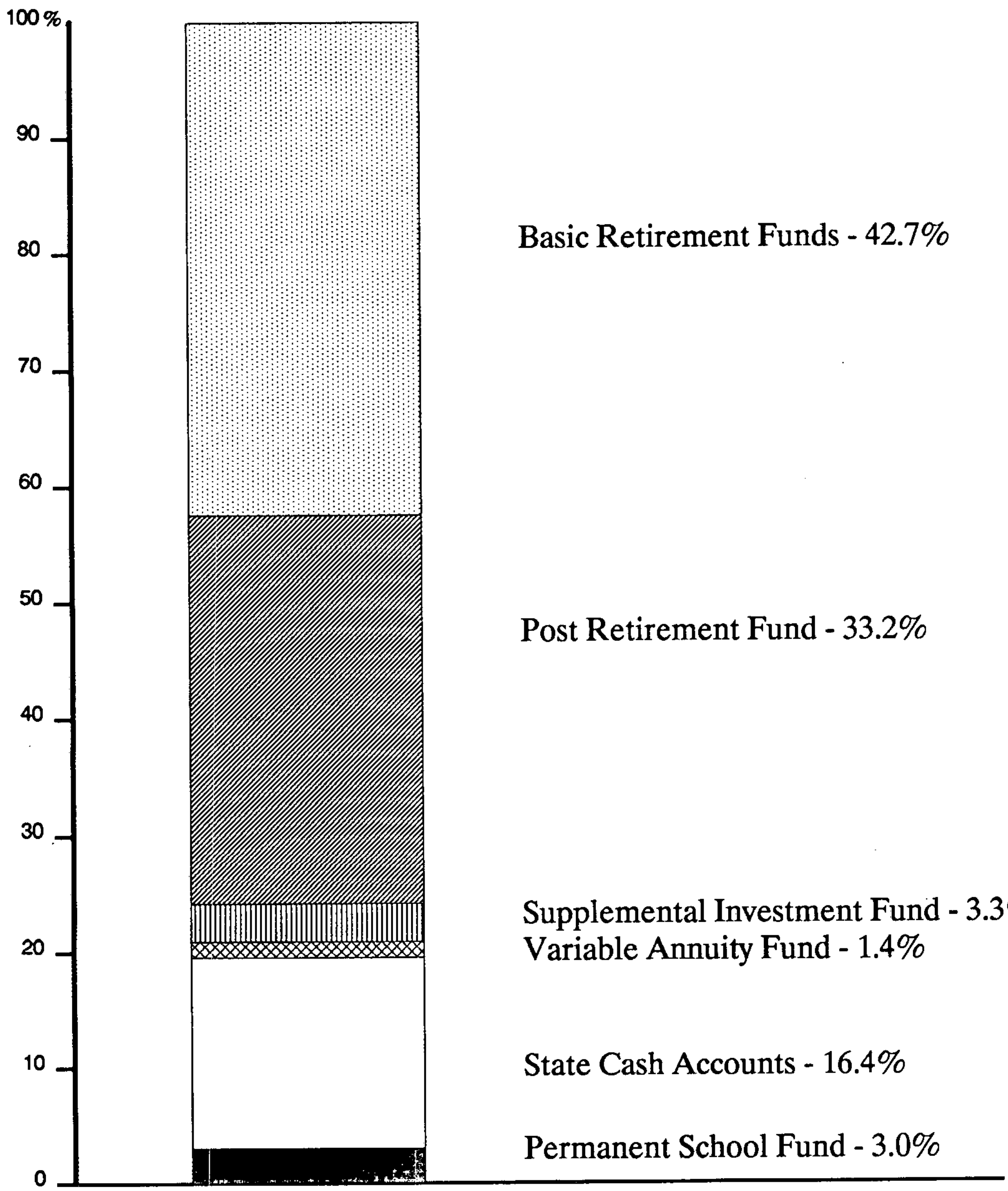
VARIABLE ANNUITY FUND

STATE CASH ACCOUNTS

PERMANENT SCHOOL FUND

FUND COMPOSITION

Fiscal Year 1987



FUNDS UNDER MANAGEMENT

	Market Value June 30, 1987
Basic Retirement Funds	$ 5.1 billion

The Basic Retirement Funds contain the pension assets of the currently working participants in six major statewide retirement plans:

• Teachers Retirement Fund	$ 2,104 million
• Public Employees Retirement Fund	1,403 million
• State Employees Retirement Fund	1,111 million
• Public Employees Police and Fire Fund	433 million
• Highway Patrol Retirement Fund	82 million
• Judges Retirement Fund	4 million

Post Retirement Investment Fund — $ 4.0 billion

The Post Retirement Investment Fund is composed of the reserves for retirement benefits to be paid to currently retired employees. Permanent retirement benefit increases are permitted based on excess earnings from dividends, interest, and net realized capital gains.

Supplemental Investment Fund — $ 0.4 billion

The Supplemental Investment Fund includes the assets of the state deferred compensation plan, supplemental benefit arrangements, various retirement programs for local police and firefighters, and the unclassified employees of the state. Participants have a choice among seven separate accounts with different investment emphases designed to meet a wide range of investor needs and objectives.

• Income Share Account	$ 214 million
• Growth Share Account	90 million
• Common Stock Index Account	2 million
• Bond Market Account	1 million
• Money Market Account	77 million
• Guaranteed Return Account	4 million
• Bond Account	12 million

Variable Annuity Fund — $ 0.2 billion

The Variable Annuity Fund is an investment option concentrating on common stocks which formerly was offered to members of the Teachers Retirement Association. It is not available to new members.

State Cash Accounts — $ 2.0 billion

These accounts are composed of high quality, short-term debt investments. They include the Invested Treasurers Cash Fund, transportation funds, and various miscellaneous cash accounts.

Permanent School Fund — $ 0.4 billion

The Permanent School fund is a trust established for the benefit of Minnesota public schools.

Total: $12.1 billion

BASIC RETIREMENT FUNDS

INVESTMENT OBJECTIVES

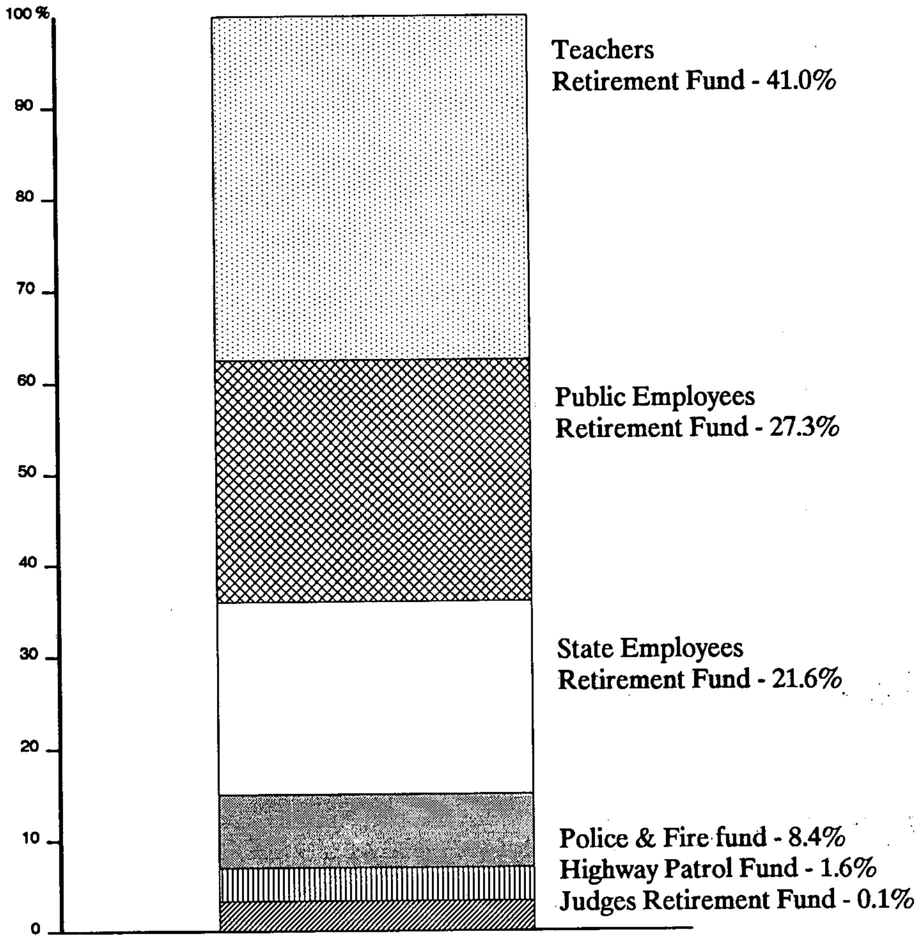
ASSET ALLOCATION

INVESTMENT MANAGEMENT

INVESTMENT PERFORMANCE

COMPOSITION BY FUND

Fiscal Year 1987



BASIC RETIREMENT FUNDS

The $5.1 billion Basic Retirement Funds are composed of the retirement assets for currently working participants in six major statewide retirement funds.

The figure on page 8 identifies the individual statewide retirement funds which comprise the Basic Funds. The Basic Funds serve as accumulation pools in which the pension contributions of public employees and their employers are placed during the employees' years of active service. Approximately 200,000 public employees participate in the Basic Funds.

INVESTMENT OBJECTIVES

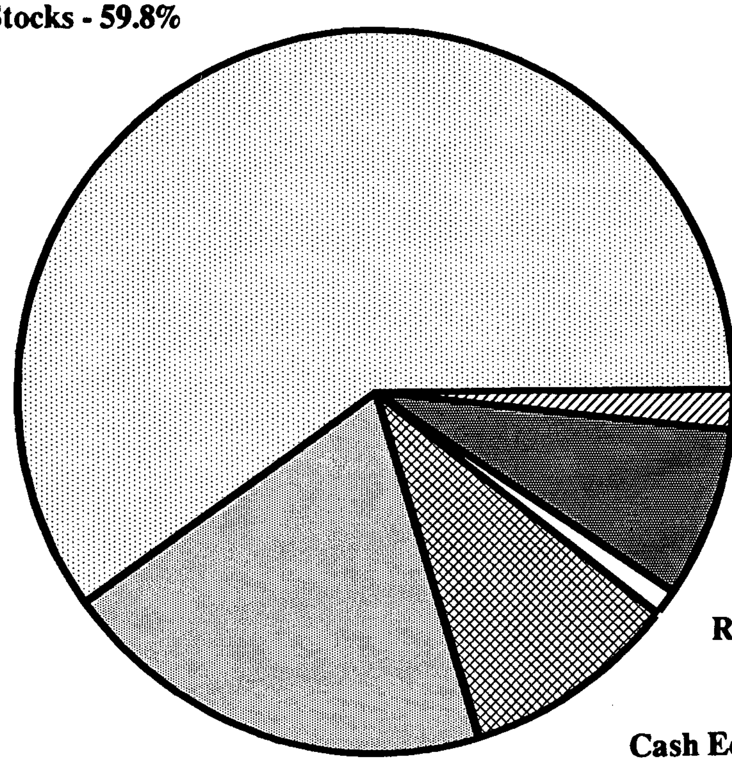
The State Board of Investment (SBI) pursues several investment objectives in the management of the Basic Funds' assets. In order of importance, those objectives are:

- To secure the benefits promised public employees covered by the statewide retirement funds
- To reduce employer/employee contributions and/or increase promised benefits
- To avoid excessive volatility in portfolio returns over the short-run

The Board's primary responsibility is to ensure that sufficient funds are available to finance promised benefits. However, other investment objectives are also important. Based upon the Basic Funds' adequate funding levels and participant demographics, its investment time horizon is quite long. This extended time horizon permits the Board to take advantage of the long-run return opportunities offered

1987 FISCAL YEAR-END ASSET MIX

Percent of Market Value



	$MILLION	ACTUAL	POLICY
COMMON STOCKS	$3,070	59.8%	60.0%
BONDS	1,016	19.8	22.0
CASH EQUIVALENTS*	506	9.8	3.0
ALTERNATIVE ASSETS:			
Real Estate	396	7.7	10.0
Venture Capital	86	1.7	2.5
Resource Funds	63	1.2	2.5
TOTAL	$5,137	100.0%	100.0%

*includes cash uncommitted to long-term assets plus cash held by all external managers by the capital markets. Historical evidence strongly supports the position that long-run investment results are highly correlated with short-run volatility of returns. Thus, the Board seeks to reduce the cost of pension funding through an aggressive, high expected return investment policy which incorporates a sizable equity component. The Board is cognizant, however, that excessive short-run return volatility is undesirable. As a result, the Basic Funds' investment policy also is designed to limit extreme portfolio return results.

ASSET ALLOCATION

The allocation of assets among common stocks, bonds, cash equivalents, and alternative investments can have a dramatic impact on investment results. In fact, asset allocation decisions overwhelm the impact of individual security selection within a total portfolio. Consequently, the Board has focused considerable attention on the selection of an appropriate long-term asset mix for the Basic Funds.

Policy Asset Mix

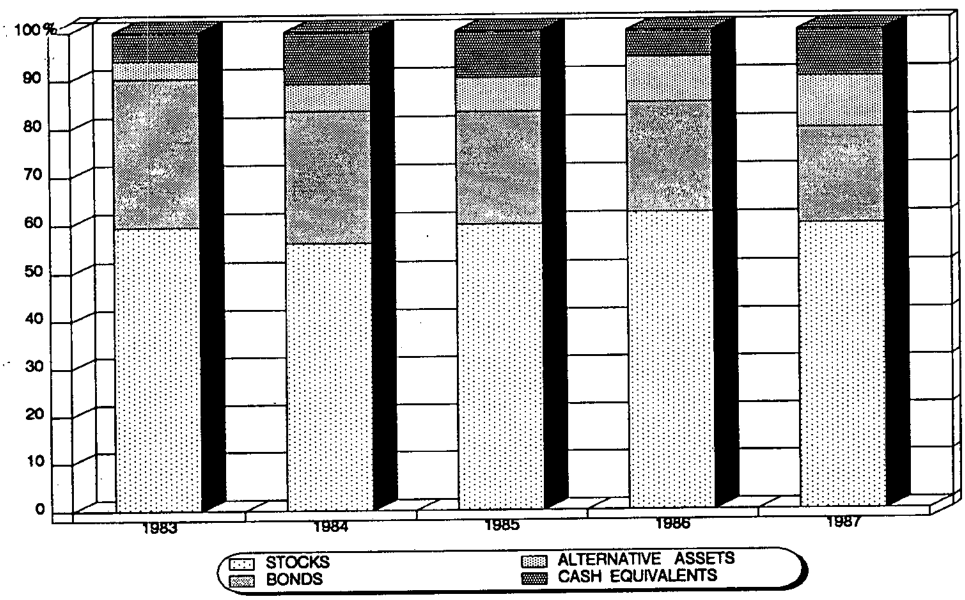
Based on the Basic Funds' investment objectives and the expected long-run performance of the capital markets, the Board has adopted the following policy (long term) asset allocation for the Basic Funds:

• Common Stocks	60.0%
• Bonds	22.0%
• Cash Equivalents	3.0%
• Real Estate	10.0%
• Venture Capital	2.5%
• Resource Funds	2.5%

The figure on page 10 presents the actual asset allocation of the Basic Funds at the end of the 1987 fiscal year. Historical data on the Basic Funds' actual asset mix over the last five years are also displayed in the figure on page 12.

HISTORICAL ASSET MIX

Percent of Market Value
Fiscal Year-End Allocations



	1983	1984	1985	1986	1987
COMMON STOCKS					
$Million	1,872.0	1,696.0	2,209.0	2,838.0	3,070.0
Percent	59.5	56.1	59.9	62.2	59.8
BONDS					
$Million	970.0	829.0	865.0	1,041.0	1,016.0
Percent	30.8	27.4	23.4	22.8	19.8
CASH EQUIVALENTS*					
$Million	188.0	331.0	355.0	253.0	506.0
Percent	6.0	10.9	9.6	5.6	9.8
REAL ESTATE					
$Million	96.0	140.0	203.0	330.0	396.0
Percent	3.1	4.6	5.5	7.2	7.7
VENTURE CAPITAL					
$Million	0.0	4.0	34.0	65.0	86.0
Percent	0.0	0.2	0.9	1.4	1.7
RESOURCE FUNDS					
$Million	19.0	23.0	34.0	65.0	86.0
Percent	0.6	0.8	0.7	0.8	1.2
TOTAL FUND					
$Million	3,145.0	3,023.0	3,691.0	4,564.0	5,137.0
Percent	100.0	100.0	100.0	100.0	100.0

*includes cash uncommitted to long-term assets plus cash held by all external managers

BASIC RETIREMENT FUNDS

Total Return Vehicles

The SBI invests the majority of the Basic Funds' assets in common stocks. This large allocation is consistent with the investment time horizon of the Basic Funds and the advantageous long-term risk-return characteristics of common stocks. The rationale underlying the venture capital allocation is similar. However, the relatively small size of the venture capital market limits the allocation to this asset class.

The Board recognizes that this sizable policy allocation to common stock and venture capital likely will produce more volatile portfolio returns than a more conservative, higher fixed income allocation policy. It is understood that this policy may result in quarters or even years of disappointing results. Nevertheless, the long-run return benefits of this policy are expected to more than compensate for the additional volatility.

Inflation Hedge

The Board includes other asset classes in the Basic Funds' asset mix both to protect against debilitating economic environments and to diversify the portfolio sufficiently to avoid excessive return volatility. Real estate and resource fund investments provide an inflation hedge that other financial assets cannot offer. In a period of rapidly rising prices, these "hard" assets can be expected to appreciate in value at a rate at least equal to the inflation rate. Further, even under normal financial conditions, the returns on these assets are not highly correlated with common stocks. Thus, their inclusion in the portfolio serves to dampen return volatility.

Deflation Hedge

The fixed income component of the Basic Funds' total portfolio (bonds and cash equivalents) acts as a hedge against a deflationary economic environment. In the event of a major deflation, high-quality fixed income assets, particularly long-term bonds, will not only protect principal but generate significant capital gains as well. And, like real estate and resource funds, under normal financial conditions fixed income securities help to diversify the Basic Funds' total portfolio, thereby controlling return volatility.

INVESTMENT MANAGEMENT

Common Stock Segment

The SBI utilizes a two-part approach to the management of the Basic Funds' $3.2 billion common stock portfolio:

- a large passive portfolio (i.e., an index fund)
- a smaller group of non-diversified actively managed portfolios

An **index fund** is a well-diversified portfolio of common stocks designed to match the rate of return performance of a predetermined stock market index. The index fund utilized by the SBI tracks the Wilshire 5000, a broad-based equity market indicator composed of the common stocks of all U.S.-domiciled corporations for which daily prices are available. In effect, the Wilshire 5000 represents virtually the entire domestic common stock market.

The Board's decision to utilize an index fund is based on the inherent difficulty of actively managing a multi-billion dollar common stock portfolio. The Board has chosen to accept market returns on a substantial portion of its common stock portfolio through the utilization of an index fund. The Board seeks above-market returns through the active management of the remaining common stock assets.

The **actively managed segment** of the Basic Funds' common stock portfolio is designed to complement the core index fund. With the index fund providing adequate diversification for the Basic Funds' total portfolio, the active managers are expected to add incremental value over the long-run through aggressive investment management decisions.

A comprehensive monitoring system has been established to ensure that the many elements of the common stock portfolio conform to the Basic Funds' investment policy. **Performance benchmarks** have been established for each of the Board's managers. These benchmarks enable the SBI to more effectively evaluate the managers' decision-making, both individually and in aggregate, with respect to risk incurred and returns achieved.

A description of each common stock manager's investment approach is included in the Manager Summary section. Their portfolio characteristics are included in the Statistical Data Appendix.

Bond Segment

The Basic Funds' $1.1 billion bond portfolio is managed by six external bond managers. This group of bond managers was selected for its blend of investment styles. Each of the managers invests in high-quality, fixed income securities. The managers vary, however, in the emphasis they place on interest rate anticipation and in the manner in which they approach issue selection and sector weighting decisions.

In keeping with the objective of utilizing the bond portfolio as a deflation hedge, the managers are restricted regarding the minimum average life of their portfolios. This requirement is designed to prevent the Basic Funds' total bond portfolio from assuming an excessively short-lived position and thus, severely diluting its deflation hedge capacity. Further, the bond managers are permitted to hold only high-quality (BAA or better) fixed income assets. In addition, to avoid extreme variability in total bond portfolio returns, the Board also constrains the maximum average life of the managers' portfolios.

All of the SBI's bond managers pursue active investment approaches. However, the Board has approved the use of passive management in the Basic Funds' bond portfolio. The SBI expects to construct a bond index fund during fiscal year 1988.

A description of each bond manager's investment approach is included in the Manager Summary section. Their portfolio characteristics are presented in the Statistical Data Appendix.

Cash Equivalents

The long-term asset mix of the Basic Funds targets a 3% allocation to cash equivalents. Given the long-run objectives of the Basic Funds and their limited liquidity needs, the Board believes that a minimal commitment to short-term investments is most appropriate. The cash equivalents allocation is based on the expectation that at any given time it is quite likely that some cash reserves will be present in the Basic Funds' total portfolio. Cash equivalent holdings are derived from two sources:

- New contributions provided by the retirement funds which have yet to be allocated to a specific long-term asset segment

- External investment managers, who are permitted to hold cash as part of their own individual short-run asset mix strategies

Cash reserves are invested in a short-term investment fund (STIF) managed by State Street Bank and Trust, the Basic Funds' master custodian. The STIF is a separate account invested under the same state statutes which guide all of the SBI's short-term investments.

Real Estate Investments

The Board allocates 10% of the Basic Funds for investment in real estate. State law authorizes the SBI to invest in real estate through commingled funds, limited partnerships, and trusts. Each of the Board's real estate investments involve at least four other participants. In addition, the Board's investment may not exceed 20% of a given commingled fund, partnership, or trust. State statutes do not permit investment in real estate through direct investments, separate accounts, or individual transactions.

The Board has adopted a three-part program to implement the real estate policy allocation:

- 30-40% of the real estate portfolio is invested in open-end diversified commingled funds

- 30-40% is invested in closed-end diversified commingled funds
- 20-30% is placed in less diversified, more focused commingled funds

The objective of the first two parts of the SBI's real estate program is to create a large core portfolio that is broadly diversified by property type, location, and financing structure. The core portfolio is designed to reflect the composition of the aggregate U.S. real estate market and, as such, is expected to earn at least market returns. The broad diversification of the core portfolio enables the SBI to implement the third part of the real estate program, the selection of less diversified, special orientation managers. With their more focused approach to real estate management, these funds offer the ability to enhance the return earned by the core portfolio.

Prospective real estate managers are reviewed and selected based on the managers' experience, investment strategy, and performance history.

The SBI continued to make progress toward its policy allocation to real estate during fiscal year 1987. New commitments were made to three closed-end commingled funds in both the diversified and specialty segments of the portfolio. The Board will continue to review and add new real estate investments to the portfolio, as needed, to fulfill the target 10% allocation. Future commitments likely will be in the form of follow-on funds with existing managers.

A description of each real estate manager's investment approach is included in the Manager Summary section.

Venture Capital Investments

The Board allocates 2.5% of the Basic Funds to investment in venture capital. Under state law, the SBI is authorized to invest in venture capital through limited partnerships and corporations. As with real estate investments, each venture capital investment must involve at least four other investors. Further, the Board's maximum investment size is 20% of a particular limited partnership or corporation.

Like the real estate portfolio, the SBI maintains a broadly diversified venture capital portfolio. It consists primarily of participations in venture capital partnerships and is diversified across three dimensions: location, industry type, and stage of corporate development of individual portfolio companies.

Prospective venture capital managers are reviewed and selected based primarily on the managers' experience, investment strategy, diversification potential, and performance history.

The Board's policy allocation to venture capital essentially was attained in fiscal year 1986. The Board intends to make additional commitments in future years as the growth of the Basic Retirement Funds warrants the expansion of the venture capital portfolio, and as the existing commitments begin to generate cash distributions.

A description of each venture capital manager's investment approach is included in the Manager Summary section.

Resource Fund Investments

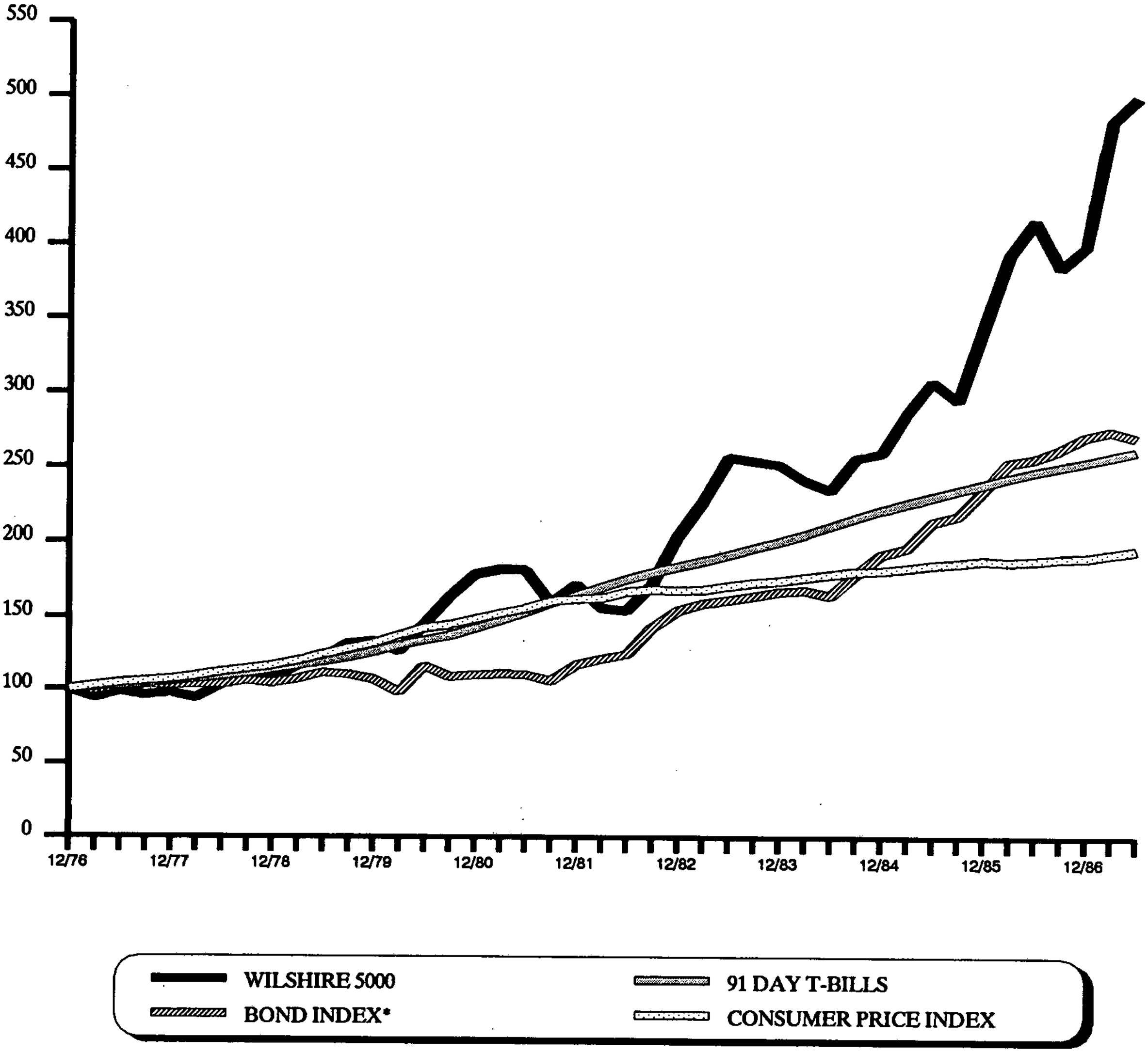
The Board allocates 2.5% of the Basic Funds' assets for investment in oil and gas partnerships. The SBI invests in partnerships structured specifically for tax-exempt investors. Again, there must be four other participants in each of the SBI's resource investments and the Board may invest no more than 20% of a partnership's total capital. The resource partnerships in which the Board invests concentrate their investments in producing properties and royalty interests that are diversified geographically and/or geologically.

Resource investments are selected through procedures similar to those used to evaluate real estate and venture capital investments.

PERFORMANCE OF CAPITAL MARKETS

Cumulative Returns

1977 - 1987



*Merrill Lynch Master Index through 12/79; Salomon Broad Investment Grade Bond Index 1/80 - 6/87

During the 1987 fiscal year, the Board continued to search for new resource investments. Only one of several possible investments was selected. The considerable uncertainty in the energy market and the financial shake-out which has been occurring there for several years has created the potential for profitable investment opportunities. However, the Board found it difficult to identify investments whose terms and assumptions properly reflected the decline in energy prices. The Board plans to continue to review quality resource investments for possible inclusion in the Basic Funds' portfolio.

A description of each resource fund manager's investment approach is included in the Manager Summary section.

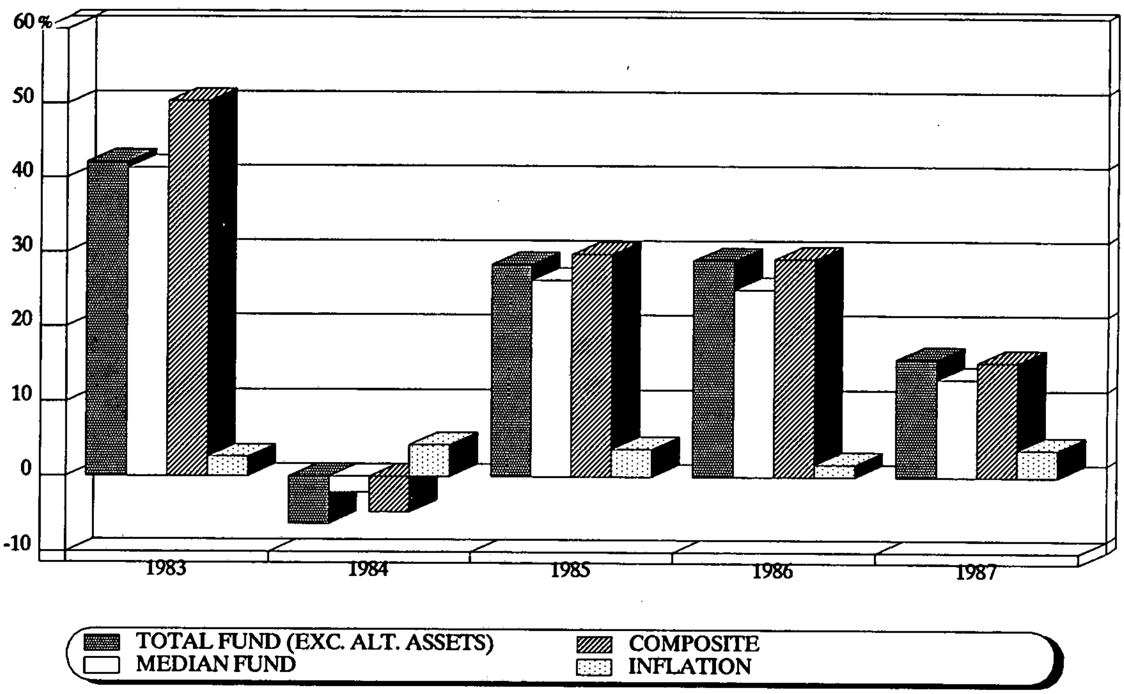
INVESTMENT PERFORMANCE

The Board has adopted performance objectives which are consistent with the objectives of the Basic Funds and realistic in the sense that they are both attainable and measurable. The evaluation of performance outcomes relative to established policy is an integral part of the SBI's investment program.

Given the long-term investment time horizon of the Basic Funds, the performance evaluation time period is necessarily long-term as well. Recognizing that excessive attention to performance in the short-run can be counterproductive, the SBI evaluates investment performance over a time horizon of approximately three to five years (roughly corresponding to a typical market cycle). While performance is measured and reviewed quarterly to identify trends and control extreme underperformance, decisions regarding the effectiveness of the Board's investment program are made over a considerably longer period.

TOTAL FUND PERFORMANCE

Fiscal Years 1983 - 1987



	1983	1984	1985	1986	1987	(Annualized) 3 YR.	5 YR.
TOTAL FUND							
(incl.)*	40.5%	-5.5%	26.8%	26.2%	14.5%	22.4%	19.5%
(excl.)	42.1	-6.3	28.4	29.0	15.8	24.3	20.6
Median Fund**	41.3	-2.1	26.3	25.1	13.1	22.8	20.6
Composite***	50.3	-4.7	29.8	29.2	15.4	24.6	22.6
Inflation	2.6	4.2	3.7	1.7	3.7	3.1	3.2

* includes alternative assets: real estate, venture capital and resource funds

** Wilshire Assoc. Trust Universe Comparison Service (TUCS) median tax-exempt balanced portfolio

*** 50/45/5 Wilshire 5000/Salomon Broad Investment Grade Bond Index/91 Day T-Bills composite through 12-31-82, 65/30/5 composite thereafter

Risk-Return Objectives

The Basic Funds' multi-manager structure requires that investment performance be evaluated on two distinct levels:

- **Total Fund.** The use of total fund risk-return targets ensures that long-run strategic decisions which affect the total performance of the Basic Funds are implemented in a manner consistent with their investment policy.
- **Individual Managers.** Risk-return objectives for the individual managers are designed to ensure that they adhere to their assigned investment roles and to permit an evaluation of the value they add to the SBI's investment program.

Total Fund Risk-Return Objectives

To a significant degree, the risk level of the total fund is set implicitly when the policy asset mix and investment management structure are determined. Given the adequate funding levels and long-term investment time horizons of the Basic Funds, the Board believes an above-average risk posture is appropriate.

The Board's objective is to take advantage of the established relationship between risk and return. Higher risk investment strategies have been shown to offer higher long-run returns than lower risk strategies. The SBI's risk target is implemented through the long-term commitment of a sizable portion of the Basic Funds' assets to common stocks.

The Basic Funds' long-term rate of return performance is evaluated relative to two specific benchmarks:

- **Composite Index.** The returns produced by the total portfolio are expected to exceed those derived from a composite of market indices, weighted in the same proportion as the Basic Funds' policy asset allocation. Because comprehensive data is available for only the stock, bond and cash equivalents markets, the composite index is weighted 65% stocks, 30% bonds, 5% cash equivalents.
- **Median Tax-Exempt Fund.** The Basic Funds' portfolio is expected to outperform the median return produced by a representative sample of other public and private tax-exempt balanced funds.

Individual Manager Risk-Return Objectives

Two primary long-run risk objectives have been established for the Basic Funds' **common stock** managers. The first objective is based on each manager's individual investment approach. Each manager (active or passive) is expected to hold a portfolio that is consistent, in terms of risk characteristics, with the manager's stated investment approach. The second objective relates to the managers' levels of diversification. The active common stock managers are expected to hold highly non-diversified portfolios, while the index fund manger is expected to hold a well-diversified portfolio. In the short-run, the active common stock managers may depart from these two risk targets as part of their specific investment strategies.

The SBI evaluates the common stock managers' returns against the performance of customized indices constructed to represent the managers' specific investment approaches. These custom indices are commonly referred to as "benchmark portfolios." The **benchmark portfolios** take into account the equity market forces that at times favorably or unfavorably impact certain investment styles. Thus, the benchmarks are more appropriate bogeys against which to judge the managers' performances than are broad market indices.

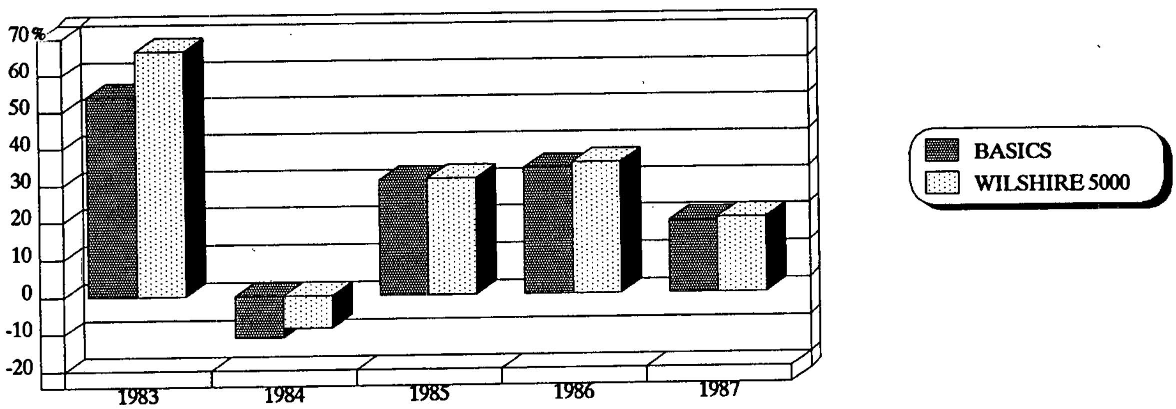
The SBI constrains the risk of the **bond** managers' portfolios to ensure that they fulfill their deflation hedge and total fund diversification roles. The bond managers are restricted in terms of the average life (i.e., the durations) of their portfolios and the quality of their fixed income investments.

The bond managers' investment styles are more broad-based than those of the common stock managers. Thus, the benchmark portfolio currently used to evaluate the bond mangers is the Salomon Broad Investment Grade Bond Index, which represents the performance of essentially the entire investment-grade bond market.

At this time, specific performance objectives have not been established for the **alternative investment** managers. The long-term nature of their investments and the lack of comprehensive data on the returns provided by the real estate, resource, and venture capital markets precludes

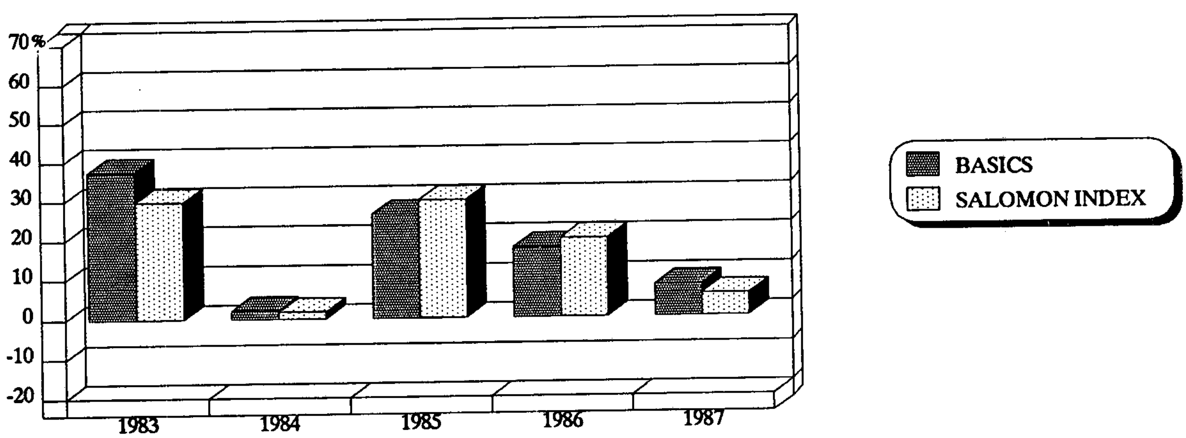
BASIC RETIREMENT FUNDS

COMMON STOCK SEGMENT PERFORMANCE
Fiscal Years 1983 - 1987



	1983	1984	1985	1986	1987	(Annualized) 3 YR.	5 YR.
STOCK SEGMENT	54.1%	-11.1%	30.9%	33.8%	19.4%	27.9%	23.4%
Wilshire 5000	66.5	-8.7	31.2	35.3	20.1	28.6	26.5

BOND SEGMENT PERFORMANCE
Fiscal Years 1983 - 1987



	1983	1984	1985	1986	1987	(Annualized) 3 YR.	5 YR.
BOND SEGMENT	37.4%	2.2%	26.4%	17.6%	7.9%	17.1%	17.6%
Salomon Index*	29.7	1.8	29.9	19.9	5.6	18.0	16.8

* Salomon Broad Investment Grade Bond Index

effective performance evaluation. In the future, as markets for these assets become more institutionalized, the SBI will fully integrate these assets into its performance analysis.

Total Fund Performance

The Basic Funds' **risk objectives** are implicitly met by attaining the targeted policy asset mix. Progress toward fulfillment of the Board's policy asset mix target continued during fiscal year 1987. The common stock and bond targets have been achieved. Primary activity has centered around the Basic Funds' alternative investment programs. New commitments were made to real estate and resource investments during the year. With alternative investments near their policy asset allocation, only moderate additional activity is expected over the next several years.

With respect to **return objectives,** fiscal year 1987 was an excellent period of performance for the Basic Funds, primarily due to the strong returns of the stock market. The stock market, as represented by the Wilshire 5000, moved to record highs, generating a 20.1% total return for the year. The bond market, hindered by rising interest rates in the latter half of the fiscal year, produced mediocre returns. For the year, the bond market, as represented by the Salomon Broad Investment Grade Bond Index, generated a 5.6% total rate of return.

The Basic Funds' total portfolio generated a 14.5% total rate of return for fiscal year 1987. (Excluding alternative investments, the portfolio produced a 15.8% return). Fiscal year 1987 results represent the third consecutive year of exceptionally strong performance. Over this period, declining interest rates, low inflation, and steady if unspectacular economic growth have produced extraordinary returns on financial assets. Excluding alternative investments, the Basic Funds' cumulative three-year return is 91.8%.

Relative to established total fund performance objectives, the Basic Funds performed well. The Basic Funds' portfolio return substantially surpassed the return on the median tax-exempt fund. Further, the Basic Funds slightly exceeded the return on its policy asset mix performance target.

MANAGER PERFORMANCE

Fiscal Year 1987

	TOTAL PORTFOLIO RETURN
COMMON STOCK MANAGERS	
Fred Alger	7.1%
Alliance Capital	23.6
Beutel Goodman	17.1
BMI Capital	20.7
Forstmann Leff	12.3
Hellman Jordan	23.1
IDS Advisory	19.3
Investment Advisers	18.1
Lieber & Company	7.3
Peregrine Capital	18.3
Waddell & Reed	19.3
Internal Manager	26.3
Wilshire Associates (Index Fund)	20.3
Basic Funds' Common Stock Segment	19.4%
Stock Segment Performance Standards	
Wilshire 5000	20.1%
TUCS Median Managed Equity Portfolio	19.4
Inflation	3.7
BOND MANAGERS	
Investment Advisers	5.2%
Lehman Management	5.2
Miller, Anderson & Sherrerd	14.0*
Morgan Stanley	7.4
Peregrine Capital	7.3
Western Asset	6.2
Basic Funds' Bond Segment	7.9%
Bond Segment Performance Standards	
Salomon Broad Investment Grade Bond Index	5.6%
TUCS Median Managed Bond Portfolio	5.8
Inflation	3.7

* performance reflects positive impact of pricing adjustment in 4Q 1986.

Performance relative to total fund targets is presented on page 21.

Individual Manager Performance

The external **common stock managers** successfully fulfilled their long-term risk objectives during fiscal year 1987. In general, the managers constructed portfolios consistent with their stated investment approaches and maintained appropriate levels of diversification.

From a return perspective, the active common stock managers' results were mixed. In aggregate, the managers added modest value to their individual benchmarks. Most managers performed in a relatively narrow band around their benchmarks. Two managers (Alliance Capital and BMI Capital) experienced very strong results and two managers (Fred Alger Management and Beutel Goodman Capital) produced very weak performance relative to their benchmarks. As expected, the index fund essentially matched the performance of the Wilshire 5000 for the year.

During fiscal year 1987, the **bond managers** fulfilled their assigned long-term risk targets. Portfolio quality and maturities were maintained in the specified ranges.

The bond managers' rate of return results were generally favorable during the fiscal year. In aggregate, they outperformed their benchmark by a substantial margin. Aggregate returns were somewhat overstated due to a pricing adjustment in the Miller Anderson account. Nevertheless, the defensive stance held by most of the managers paid off during the latter half of the year when interest rates rose.

Performance data for the individual common stock and bond managers are presented on page 26.

POST RETIREMENT FUND

INVESTMENT OBJECTIVES

ASSET ALLOCATION

INVESTMENT MANAGEMENT

INVESTMENT PERFORMANCE

POST RETIREMENT FUND

The Post Retirement Investment Fund contains the pension assets of retired public employees covered by seven statewide retirement plans (i.e. the Basic Retirement Funds and the Legislative & Survivors Retirement Fund).

The assets of the Post Fund finance monthly annuities paid to retirees. These annuities may be adjusted upwards based on the earnings of the Post Fund. On June 30, 1987, the Post Fund had a market value of $4.0 billion and over 50,000 retiree participants.

INVESTMENT OBJECTIVES

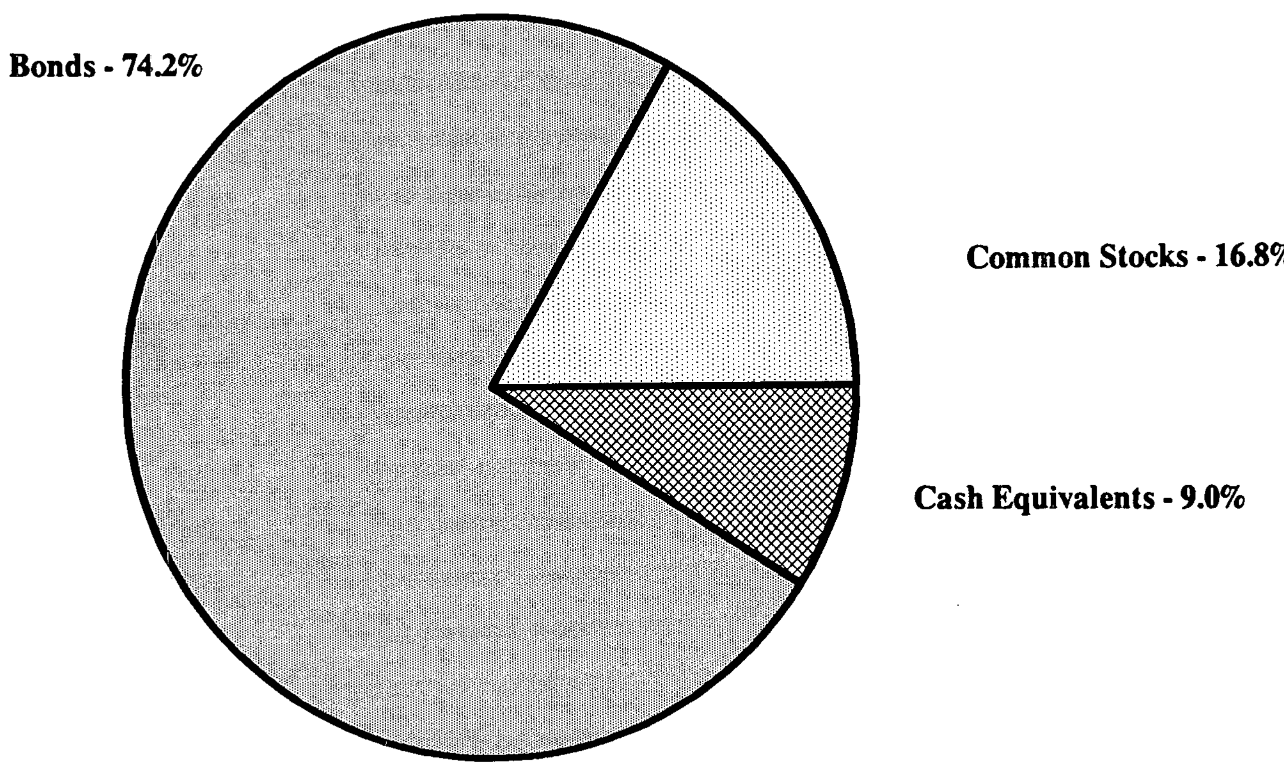
Public employees participating in the statewide retirement plans are promised benefits based on their total years of service and their "high five" average salaries. Upon the employees' retirement, sums of money sufficient to finance fixed monthly annuities are transferred from accumulation pools in the Basic Funds to the Post Fund. In order to support promised benefits, the Post Fund must "earn" at least 5% on its invested assets each year. If the Post Fund exceeds this earnings rate, excess earnings are used to finance permanent benefit increases for eligible retirees.

The State Board of Investment (SBI) pursues two investment goals for the Post Fund:

- To produce annual earnings sufficient to maintain promised benefits at current levels
- To generate additional earnings which allow benefits to be increased at a rate which compensates, to some degree, for inflation

1987 FISCAL YEAR-END ASSET MIX

Percent of Market Value



	$MILLION	PERCENT
COMMON STOCKS	$673	16.8%
BONDS	2,965	74.2
CASH EQUIVALENTS	359	9.0
TOTAL	3,997	100.0%

The Board views the first of these two objectives as being of primary importance. Furthermore, to achieve these two objectives, the SBI recognizes that the Post Fund requires a completely different investment approach than that applied to the Basic Retirement Funds.

The ability of the Post Fund to maintain current benefit levels and provide future benefit increases depends upon its earnings. State statutes define earnings for the Post Fund as interest and dividend income as well as realized equity and fixed income capital gains (or losses). Unrealized capital gains (or losses) have no direct impact on the benefits paid out to retirees. Unrealized capital gains (or losses) are excluded from defined earnings in order to make benefit payments largely insensitive to near-term fluctuations in the capital markets.

As a result, the Post Fund is not oriented toward long-term total rate of return maximization. Rather, the SBI attempts to generate a high, consistent stream of earnings for the Post Fund that will maintain current benefits, as well as produce benefit increases over time.

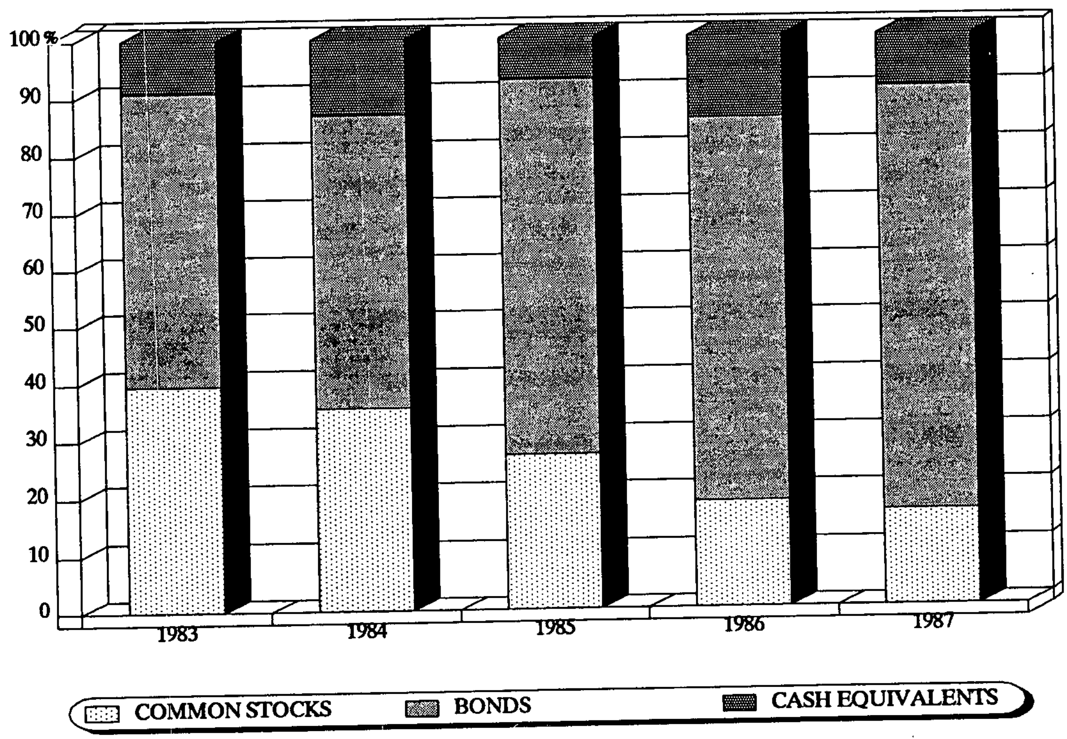
ASSET ALLOCATION

The Board has designed the asset mix of the Post Fund to generate the sizable stable earnings stream referred to in the previous section. The Post Fund's year-end asset mix, as well as its historical asset allocation data, are presented on pages 32 and 34.

Dedicated Bond Portfolio

The SBI invests the majority of the Post Fund's assets in a dedicated bond portfolio. A dedicated bond portfolio is a collection of various maturity, high-quality bonds which generate cash flows from income and principal payments that match a specific stream of liabilities. The highly predictable benefits owed to the Post Fund's retired participants and the high real interest rates that have existed in recent years have created an ideal situation to employ a dedicated bond portfolio.

HISTORICAL ASSET MIX
Percent of Market Value
Fiscal Year-End Allocations



	1983	1984	1985	1986	1987
COMMON STOCKS					
$Million	693.0	657.0	733.0	681.0	673.0
Percent	39.5	35.5	27.1	18.6	16.8
BONDS					
$Million	903.0	951.0	1,780.0	2,457.0	2,965.0
Percent	51.5	51.4	65.7	67.2	74.2
CASH EQUIVALENTS					
$Million	157.0	243.0	196.0	520.0	359.0
Percent	9.0	13.1	7.2	14.2	9.0
TOTAL FUND					
$Million	1,753.0	1,851.0	2,709.0	3,658.0	3,997.0
Percent	100.0	100.0	100.0	100.0	100.0

The dedicated bond portfolio facilitates the attainment of the Post Fund's two objectives. Most importantly, it ensures that funds are available at the required times to meet promised benefit payments. Also, the dedicated bond portfolio consistently earns enough additional interest income to permit a minimum annual benefit increase of 3%, provided the portfolio yields at least 8% on a annual basis. If the Post Fund's other investments do well, as has been the case in recent years, the Post Fund can offer eligible retirees even more than this floor benefit increase.

Common Stocks

While bonds represent the largest asset class in the Post Fund's total portfolio, common stocks also play an important role. Common stocks provide the Post Fund with a source of long-run earnings growth not available from fixed income investments. In recent years, realized gains on common stocks have contributed importantly to the large benefit increases.

Cash Equivalents

Cash equivalents make up the remainder of the Post Fund's portfolio. Because the Post Fund's liquidity needs are very predictable, the SBI generally maintains a very small cash equivalents allocation. However, large cash flows into the Post Fund, which frequently occur at fiscal year-end, give a distorted view of the Post Fund's normal allocation to the segment.

Changes in Asset Mix

During fiscal year 1987, the asset mix of the Post Fund continued to shift toward bonds and away from common stocks. The substantial interest rate decline of recent years necessitated an increase in the size of the dedicated bond portfolio and a concomitant reduction in the size of the common stock portfolio. With lower interest rates, new cash flows into the Post Fund are invested at lower yields than in the recent past. If interest rates remain at relatively low levels, the size of the common stock portfolio will continue to shrink slowly as the dedicated bond portfolio grows larger.

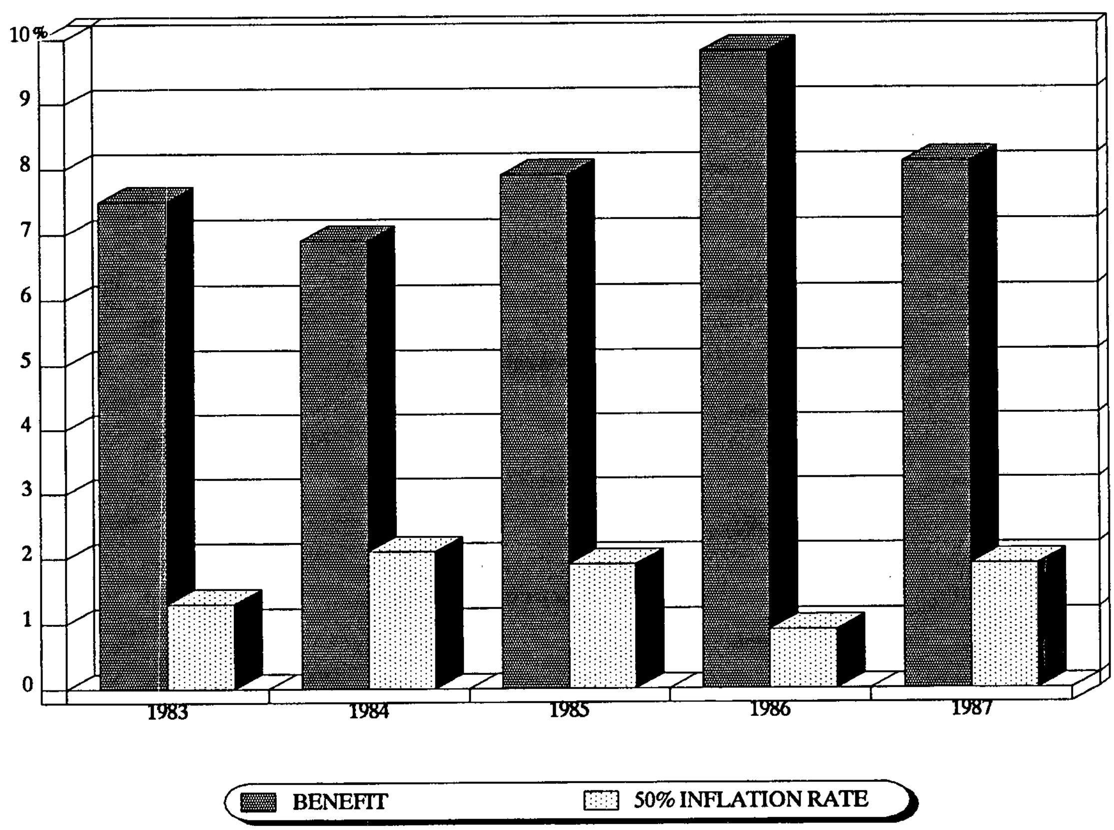
INVESTMENT MANAGEMENT

The Post Fund is managed solely by SBI staff. The Board employs this management structure for two reasons:

POST RETIREMENT FUND

BENEFIT INCREASES VERSUS INFLATION

Fiscal Years 1983 - 1987



	1983	1984	1985	1986	1987	(Annualized) 3 YR.	5 YR.
BENEFIT INCREASE	7.5%	6.9%	7.9%	9.8%	8.1%	8.6%	8.0%
50% Inflation Rate	1.3	2.1	1.9	0.9	1.9	1.6	1.6

- **Dedicated Bond Portfolio.**The low turnover, limited discretion nature of the dedicated bond portfolio makes bond management by SBI staff cost effective.

- **Investment Constraints.** With respect to common stock management, the Post Fund's equity managers must be concerned with generating current income and avoiding realized losses. Most external investment managers are not used to functioning under the Post Fund's unique investment requirements. SBI staff, on the other hand, has operated under these constraints since the Post Fund's inception.

As described earlier, the dedicated bond portfolio represents the bulk of the Post Fund's assets. Staff constructs the lowest cost portfolio, within established constraints, that produces sufficient cash flows to fund promised benefit payments and maintains adequate quality levels.

Bond Management

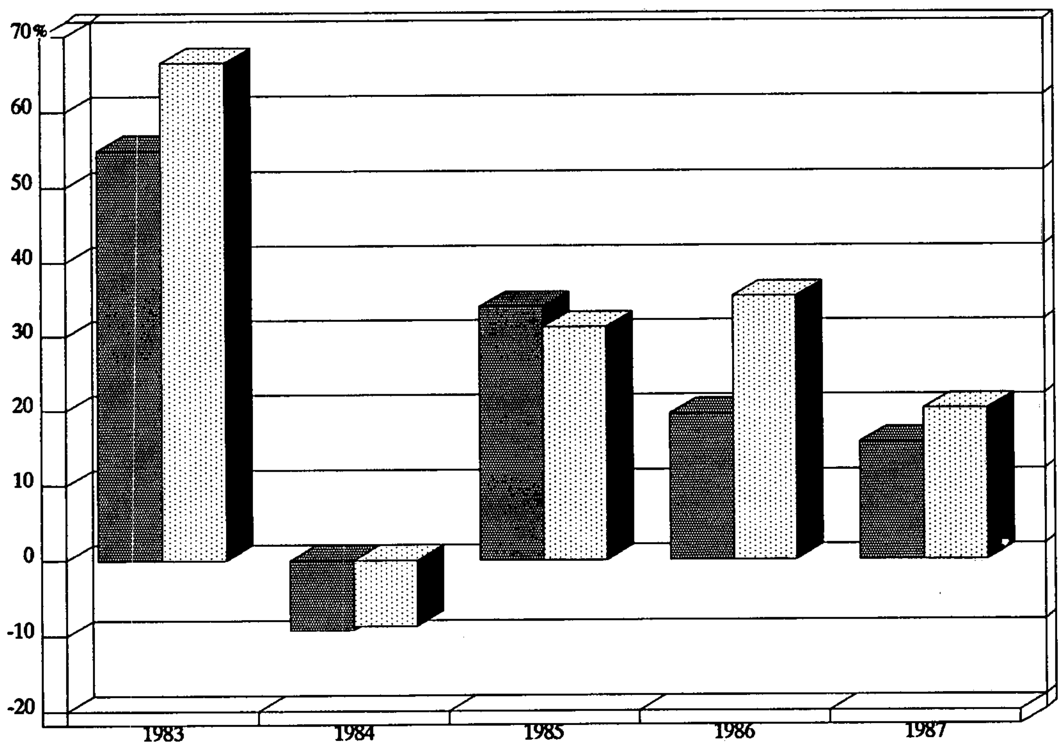
The management of the dedicated bond portfolio requires that the State's actuary supply SBI staff with forecasts of benefit payments expected to be paid over a twenty-five year horizon. Based upon these forecasts, a computer program generates a list of bonds that will meet these forecasted benefits. Staff then attempts to purchase the recommended issues. If these bonds are not available, substitute bonds are purchased. Staff rebalances the dedicated bond portfolio annually following the receipt of the benefit projections from the State's actuary.

Common Stock Management

The focus of SBI staff's common stock management is long-term, value-based stock selection. Staff generally implements less aggressive investment strategies than those utilized by the Basic Retirement Funds' external equity managers. As the only common stock manager for the Post Fund, staff recognizes the diversification requirements of the Post Fund's stock portfolio. Further, SBI staff is aware of the Post Fund's need to avoid investment strategies which generate high portfolio turnover and which, at times, could result in sizable realized losses.

COMMON STOCK SEGMENT PERFORMANCE

Fiscal Years 1983 - 1987



	1983	1984	1985	1986	1987	(Annualized) 3 YR.	5 YR.
STOCK SEGMENT	54.9%	-9.3%	33.9%	19.5%	15.7%	22.8%	21.0%
Wilshire 5000	66.5	-8.7	31.2	35.3	20.1	28.6	26.5

SBI staff attempts to identify stocks that have attractive expected returns, yet do not possess significantly high levels of market volatility. Staff uses recommendations generated by quantitative valuation models as the primary source of investment candidates. Staff always maintains a fully invested position in the equity portfolio.

INVESTMENT PERFORMANCE

Because of its focus on generating current income, the risk composition of the Post Fund's investment portfolio is conservatively structured. The majority of the Post Fund's assets are invested in high-quality bonds. Further, the Post Fund's equity portfolio maintains a relatively high level of diversification and a moderate level of relative market volatility.

Total Fund Risk-Return Objectives

In terms of long-term rate of return objectives, the Fund's investment results are compared to three standards:

- **Actuarial Assumptions.** In order to finance promised benefit payments, the Post Fund must generate a level of interest and dividend income which, combined with realized net capital gains, meets the Post Fund's actuarial assumptions of 5% per year.
- **Benefit Increase Level.** The Post Fund is expected to produce additional earnings sufficient to allow benefits to increase at a rate equal to at least one-half of the inflation rate.
- **Common Stock Rate of Return.** The total rate of return on the Post Fund's actively managed common stock portfolio is expected to exceed the performance of the Wilshire 5000.

Total Fund Performance

The Post Fund's total portfolio met all of the prescribed risk targets during the 1987 fiscal year. The Post Fund was approximately 75% invested in fixed income assets, with an average quality rating of AAA. The Post Fund's common stock portfolio maintained a slightly above average level of relative market volatility and was consistently well-diversified.

Overall, investment returns relative to performance objectives were satisfactory for the 1987 fiscal year. The Post Fund generated income and realized net capital gains in excess of the amount needed to fund promised benefits. The surplus earnings will permit a benefit increase of 8.1%, considerably above the fiscal year 1987 inflation rate of 3.7%.

Common stock performance, on a relative basis, was disappointing. The contrarian value style pursued by the Post Fund's internal equity manager did not perform well. For the fiscal year, the common stock component failed to outperform its benchmark, the Wilshire 5000.

As shown on page 36, the Post Fund has generated benefit increases of 8.0% on an annualized basis for the last five years. During this period, investment returns were high compared to inflation, which increased at an annualized rate of 3.2%. The formula used to compute benefit increases was revised in 1980. During the eight years since the revised formula was instituted, benefit increases have been 7.2% on an annualized basis. This compares to an annualized inflation rate of 5.8% for the same period.

Post Fund performance data for the most recent fiscal year, as well as the last five years, are presented on pages 36 and 38.

SUPPLEMENTAL INVESTMENT FUND

INCOME SHARE ACCOUNT

GROWTH SHARE ACCOUNT

COMMON STOCK INDEX ACCOUNT

BOND MARKET ACCOUNT

MONEY MARKET ACCOUNT

GUARANTEED RETURN ACCOUNT

BOND ACCOUNT

SUPPLEMENTAL INVESTMENT FUND

The Minnesota Supplemental Investment Fund is a multi-purpose investment program that offers a range of investment options to state and local public employees. The different participating groups use the Supplemental Fund for a variety of purposes:

- It functions as the investment manager for all assets of the Unclassified Employees Retirement Plan.
- It acts as the investment manager for all assets of the supplemental retirement programs for state university and community college teachers and for Hennepin County Employees.
- It is one investment vehicle offered to public employees as part of the state's Deferred Compensation Plan.
- It serves as an external money manager for a portion of some local police and firefighter retirement plans.

The Supplemental Investment Fund serves more than 14,000 individuals. On June 30, 1987, the market value of the entire fund was $401 million.

Fund Structure

A wide diversity of investment goals exists among the Supplemental Fund's participants. In order to meet those needs, the Supplemental Fund has been structured much like a "family of mutual funds." Participants may allocate their investments among one or more accounts that are appropriate for their needs, within statutory requirements and rules established by the participating organizations. Participation in the Supplemental Fund is accomplished through the purchase or sale of shares in each account.

Range of Investment Options

In previous years, most participants in the Supplemental Fund had three different investment options:

- **Income Share Account**, a balanced portfolio of stocks and bonds

- **Growth Share Account**, a portfolio consisting entirely of common stocks

- one of two debt-related accounts, the **Fixed Return Account** for individuals, or the **Bond Account** for retirement plans

At the request of the State Board of Investment (SBI), legislation was passed during the 1986 legislative session to expand the range of options available to participants. As a result, three new accounts were available to most participants beginning in fiscal year 1987:

- **Common Stock Index Account,** a passively managed common stock portfolio

- **Bond Market Account,** an actively managed fixed income portfolio

- **Guaranteed Return Account,** an investment option utilizing guaranteed investment contracts (GIC's)

In addition, the Fixed Return Account was converted to the **Money Market Account,** reflecting modifications in investment objectives.

Share Values

Each account in the Supplemental Fund establishes a share value and participants may buy or sell shares monthly, based on the most recent unit value.

In the Income Share Account, the Growth Share Account, the Common Stock Index Account, and the Bond Market Account, shares are priced monthly based on the market value of the entire account. Individuals measure the performance of these accounts by changes in the account's share value, which in turn is a function of the income and capital appreciation (or depreciation) generated by the securities in the account.

In the Money Market Account, the Bond Account, and the Guaranteed Return Account, share values remain constant and the accrued interest income is credited to the accounts through the purchase of additional shares at predetermined intervals.

The investment returns shown in this report are calculated using a time-weighted rate of return formula. These returns may differ slightly from calculations based on share values, due to the movement of cash flows in and out of the accounts.

Fund Management

In many cases, the Supplemental Fund shares investment managers with the Basic Retirement Funds through participation in the Combined Investment Funds. The Combined Investment Funds are pools of assets invested in equities, fixed income securities and other asset classes utilized by the SBI. Participation in the Combined Investment Funds provides the Supplemental Fund with the same flexibility and efficiency of investment management afforded the Basic Funds.

The investment objectives, asset allocation, investment management and investment performance of each existing account in the Supplemental Fund are explained in the following sections.

INCOME SHARE ACCOUNT

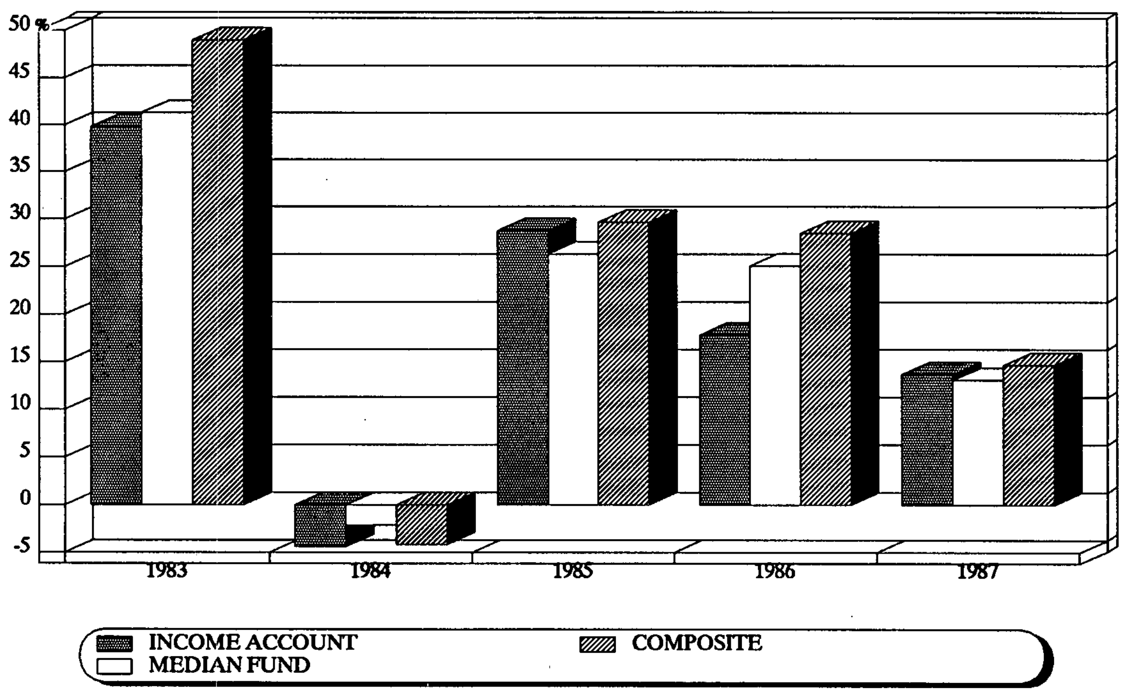
Investment Objectives

The $214 million Income Share Account resembles the Basic Retirement Funds in terms of investment objectives. The Income Share Account seeks to maximize long-term inflation-adjusted rates of return. The Income Share Account pursues this objective within the constraints of protecting against disastrous financial environments and limiting short-run portfolio return volatility.

To achieve this objective, the SBI invests the Income Share Account in a balanced portfolio of common stocks and fixed income securities. The Income Share Account's

INCOME SHARE ACCOUNT

Total Account Performance
Fiscal Years 1983 - 1987



	1983	1984	1985	1986	1987	(Annualized) 3 YR.	5 YR.
TOTAL ACCOUNT	39.8%	-4.4%	28.8%	17.8%	13.7%	20.0%	18.2%
Median Fund*	41.3	-2.1	26.3	25.1	13.1	22.8	20.6
Composite**	49.0	-4.2	29.7	28.5	14.7	24.1	22.2
STOCK SEGMENT	53.7	-11.0	30.4	19.9	18.4	22.8	20.5
Wilshire 5000	66.5	-8.7	31.2	35.3	20.1	28.6	26.5
BOND SEGMENT	36.2	2.3	32.1	16.2	7.6	18.2	18.1
Bond Index***	29.7	1.8	29.9	19.9	5.6	18.0	16.8

* TUCS Median tax-exempt balanced portfolio
** 50/45/5 Wilshire 5000/Salomon Broad Investment Grade Bond Index/91 day T-Bills Composite through 12-31-82, 60/35/5 Composite thereafter
*** Salomon Broad Investment Grade Bond Index

policy asset allocation calls for the following long-term asset mix:

- 60% common stocks
- 35% bonds
- 5% cash equivalents

Common stocks provide the potential for significant long-term capital appreciation, while bonds provide both a hedge against deflation and the diversification needed to limit excessive portfolio return volatility.

Investment Management

The Income Share Account's investment management structure combines internal and external management. Approximately three-quarters of the common stock segment is passively managed by an external money manager. SBI staff actively manages the balance of the common stock segment and all of the fixed income component.

Wilshire Associates, the Board's index fund manager, manages the passive component of the common stock segment. The Income Share Account participates in the index fund segment of the Combined Investment Funds. As discussed in the Basic Funds section, an index fund is designed to match the performance of a broad market index. Staff manages the internal portion of the common stock portfolio with a value-oriented approach, under which quantitative valuation models are used to determine stock selection.

Investment Performance

Similar to the other SBI funds which utilize a multi-manager investment structure, the Board evaluates the performance of the Income Share Account on two levels:

- **Total Account.** The Income Share Account is expected to exceed the returns of a composite of market indices weighted in the same proportion as its policy asset allocation. In addition, the Income Share Account's performance is expected to exceed the performance of the median fund from a universe of other balanced funds.

- **Individual Manager.** The passive stock manager is expected to track closely the performance of the Wilshire 5000. Performance objectives for the internal stock manager are described in the Post Retirement Investment Fund discussion. The internal bond manager of the Income Share Account is expected to exceed the performance of the Salomon Broad Investment Grade Bond Index.

On a total account basis, the Income Share Account exceeded the performance of the median balanced fund manager but failed to outperform its market index composite. The index fund manager met its performance objectives. The internal bond manager surpassed its performance target, but the internal common stock manager underperformed its performance target. Total account results are presented on page 46.

GROWTH SHARE ACCOUNT

Investment Objectives

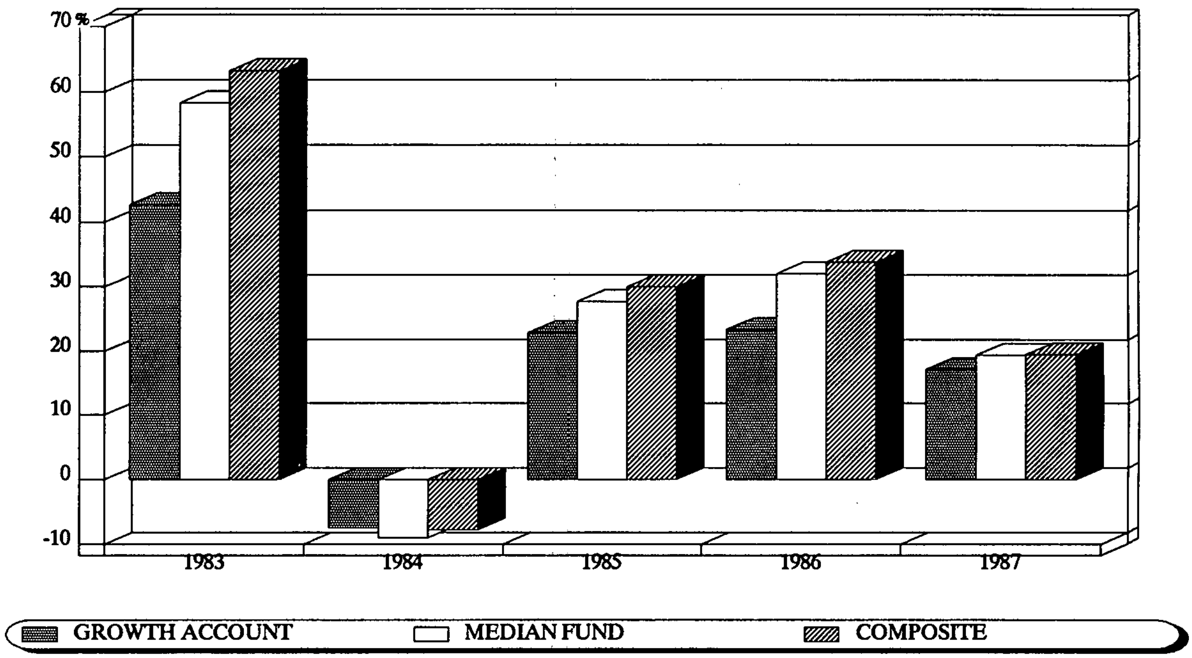
The Board has established above-average capital appreciation as the primary investment objective of the $90 million Growth Share Account. To achieve this objective, the Account maintains a large equity exposure. The Growth Share Account's policy asset allocation calls for a large equity exposure:

- 95% common stocks
- 5% cash equivalents

The small cash equivalents component represents the normal cash reserves held by the Growth Share Account as a result of new contributions not yet allocated to common stocks. The Growth Share Account's asset mix may vary from its assigned policy allocation at times, depending on the Account managers' near-term outlook for the capital markets.

GROWTH SHARE ACCOUNT

Total Account Performance
Fiscal Years 1983 - 1987



	1983	1984	1985	1986	1987	(Annualized) 3 YR.	5 YR.
TOTAL FUND	42.7%	-7.5%	22.9%	23.4%	17.2%	21.0%	18.5%
Median Fund*	58.5	-8.2	28.3	32.8	19.4	27.2	25.6
Composite**	63.2	-7.8	30.0	33.8	19.4	27.6	25.6
STOCK SEGMENT	56.7	-17.9	28.1	24.0	17.4	23.1	19.1
Wilshire 5000	66.5	-8.7	31.2	35.3	20.1	28.6	26.5

* TUCS Median Managed Equity Portfolio
** 95/5 Wilshire 5000/91 Day T-Bills Composite

Because of its substantial common stock policy allocation, the Growth Share Account's returns are more variable than those of the balanced Income Share Account. The Board expects higher long-run returns from the Growth Share Account's investments to compensate for the additional variability of returns.

Investment Management

The SBI has assigned approximately two-thirds of the Growth Share Account's common stock portfolio to external managers and one-third to SBI staff. The staff manages the internal component with a long-term, value-oriented approach. The externally managed assets are managed by the Board's active equity managers through the Growth Share Account's participation in the common stock segment of the Board's Combined Investment Funds.

The allocation of externally-managed assets to active common stock managers, as opposed to an index fund, reflects the more aggressive investment policy of the Growth Share Account.

Investment Performance

Like the Income Share Account, the Board evaluates the performance of the Growth Share Account on two levels:

- **Total Account.** The Growth Share Account is expected to exceed the returns of a composite of market indices weighted in the same proportion as its policy asset allocation. The Account's performance is also expected to surpass the performance of the median portfolio from a universe of managed equity portfolios.

- **Individual Manager.** Performance objectives for the external managers are described in the Basic Retirement Funds discussion. Performance objectives for the internal manager are included in the Post Retirement Fund discussion.

The Growth Share Account failed to meet its total account and individual manager performance targets in fiscal year 1987. Total account results are shown on page 49.

COMMON STOCK INDEX ACCOUNT

The Common Stock Index Account is a new investment option for participants in the Supplemental Fund. The Common Stock Index Account began accepting contributions in July, 1986. At the end of fiscal year 1987, it had a market value of $1.9 million.

Investment Objectives

The investment objective of the Common Stock Index Account is to generate returns that match the performance of the common stock market, as represented by the Wilshire 5000. To accomplish this objective, the SBI allocates all of the Common Stock Index Account's assets to passively managed equities.

This 100% common stock allocation means that the Common Stock Index Account's returns, like those of the Growth Share Account, are more variable than the returns produced by the balanced Income Share Account. The Board expects that this greater variability in returns will be compensated over the long-run by higher returns.

Investment Management

The Common Stock Index Account is invested entirely by Wilshire Associates, the SBI's passive equity manager. The Common Stock Index Account participates in the index fund segment of the Combined Investment Funds and thus shares Wilshire Associates as a passive manager with the Basic Retirement Funds and the Income Share Account.

Investment Performance

The performance objectives of the Common Stock Index Account are straightforward. The Account is expected to track closely the performance of the Wilshire 5000. The SBI recognizes that the Account's returns may deviate slightly from those of the Wilshire 5000 due to the effects of management fees, new contributions, dividend flows, etc.

During fiscal year 1987, the Common Stock Index Account met its performance objectives, producing a 20.7% return versus a 20.1% return for the Wilshire 5000.

BOND MARKET ACCOUNT

The Bond Market Account is also a new option for Supplemental Fund participants. It, too, began accepting contributions in July, 1986. At the end of fiscal year 1987, the market value of the Bond Market Account was $800,000.

Investment Objectives

The Bond Market Account offers participants a means of adding a fixed income component to their set of investments. The Bond Market Account is invested entirely in investment-grade government and corporate bonds with intermediate to long maturities.

The Bond Market Account earns investment returns through interest income and capital appreciation. Because bond prices move inversely with interest rates, the Bond Market Account entails some risk for investors. However, it represents a lower risk alternative than the all-common stock investment options.

Investment Management

The SBI invests the Bond Market Account through the bond segment of the Combined Investment Funds. The Bond Market Account thus shares fixed income managers with the Basic Retirement Funds. A discussion of the SBI's fixed income managers is presented in the Basic Funds section.

Investment Performance

The Bond Market Account is expected to exceed the performance of the bond market, as represented by the Salomon Broad Investment Grade Bond Index. For the fiscal year 1987, the Bond Market Account exceeded this target, with an 8.1% return compared to the Salomon index return of 5.6%.

A more detailed discussion of the performance of the SBI's bond managers is provided in the Basic Funds section.

MONEY MARKET ACCOUNT

The Money Market Account (formerly the Fixed Return Account) invests solely in short-term, liquid fixed income investments. The Money Market Account's investment objectives are to preserve capital and offer competitive money market returns. At the end of fiscal year 1987, the Money Market Account had a market value of $77 million.

The SBI invests the Money Market Account through the short-term investment segment of the Combined Investment Funds. Thus, the Money Market Account is invested entirely by the SBI's short-term investment fund manager, State Street Bank and Trust Company.

The Money Market Account is expected to produce returns competitive with available short-term fixed income investments. The Money Market Account exceeded that target in fiscal year 1987 with a 6.4% return versus a return on 91-day Treasury Bills of 5.7%.

GUARANTEED RETURN ACCOUNT

The Guaranteed Return Account opened for subscription in November, 1986. At the end of fiscal year 1987, the account totaled $4.5 million.

The Guaranteed Return Account is designed to offer participants a fixed rate of return for a specified period of time with negligible risk. The SBI invests the Guaranteed Return Account in three-year guaranteed investment contracts (GIC's) offered by major U.S. insurance companies.

Annually, the SBI accepts bids from insurance companies that meet financial quality criteria defined by State statute. Generally, the insurance company bidding the highest three-year GIC interest rate will be awarded the contract for the three-year period. Participants in the Guaranteed Return Account then receive that interest rate on contributions made over the next twelve months.

Final bidding on the 1986 GIC contract occurred during October, 1986. Principal Mutual Life Insurance Company submitted the winning bid of 7.72%. Thus, all contributions made to the Guaranteed Return Account over the subsequent twelve months are managed by Principal Mutual for the three-year life of the GIC.

Within the constraints of permitting only top-rated U.S. insurance companies to bid on the GIC contracts, the SBI desires to maximize the three-year interest rate offered to Guaranteed Return Account participants. The Board believes the competitive bidding presents the most effective method of achieving this goal. The Board was very satisfied with the 1986 winning GIC bid of 7.72%, which was 122 basis points over prevailing interest rates on three-year Treasury Notes.

BOND ACCOUNT

The Bond Account was established by the 1981 Legislature to provide a separate fixed return investment vehicle for police and firefighter retirement organizations. The Bond Account is a low risk investment option which earns a high level of current income from quality debt securities. At the end of fiscal year 1987, the Bond Account had a market value of $12 million.

Participation in the Bond Account is offered to qualified retirement organizations only. Individuals do not participate in this investment option. The Bond Account is designed to offer participating organizations a fixed rate of return for a specified period of time. The length of time this established return is in effect depends on the average maturity of the Bond Account's investments, usually in the range of six to eight years.

SUPPLEMENTAL INVESTMENT FUND

Contributions to the Bond Account made by the participating retirement organizations are grouped by year, referred to as a "class year." Depending on the fixed income investment opportunities available at the initiation of a class year, a rate of return is established for the contributions made by the participants in the class year. This rate is in effect for the life of the class. If a retirement organization chooses to withdraw from the Bond Account prior to the expiration of a class year, its shares are redeemed at market value.

The Bond Account is managed solely by SBI investment staff. Since all portfolio assets are held to maturity, staff provides very cost-effective management for the account. All assets are invested in investment grade debt securities (i.e. those rated BAA or above) with maturities of six to eight years.

The rates of return established for the last five class years are shown below:

Class Year	Fixed Period	Established Annual Yield
1983	6 yrs. (1983-88)	11.2%
1984	7 yrs. (1984-90)	13.0
1985	7 yrs. (1985-91)	11.8
1986	7 yrs. (1986-92)	10.5
1987	7 yrs. (1987-93)	9.0

VARIABLE ANNUITY FUND

INVESTMENT OBJECTIVES

ASSET ALLOCATION

INVESTMENT MANAGEMENT

INVESTMENT PERFORMANCE

VARIABLE ANNUITY FUND

The Minnesota Variable Annuity Fund is an investment option formerly offered to members of the Teachers' Retirement Association. The Variable Annuity Fund was designed as an alternative to the regular teachers' retirement plan. The opportunity to enroll is no longer offered to new Association members. However, members enrolled prior to the cutoff date may retain their participation in the Variable Annuity Fund and continue to make contributions. The June 30, 1987 market value of the Variable Annuity Fund was $171 million.

INVESTMENT OBJECTIVES AND ASSET ALLOCATION

The investment objective of the Variable Annuity Fund is the same as that of the Growth Share Account in the Supplemental Investment Fund. The purpose of the Variable Annuity Fund is to provide participants with above average long-run capital appreciation on their investments.

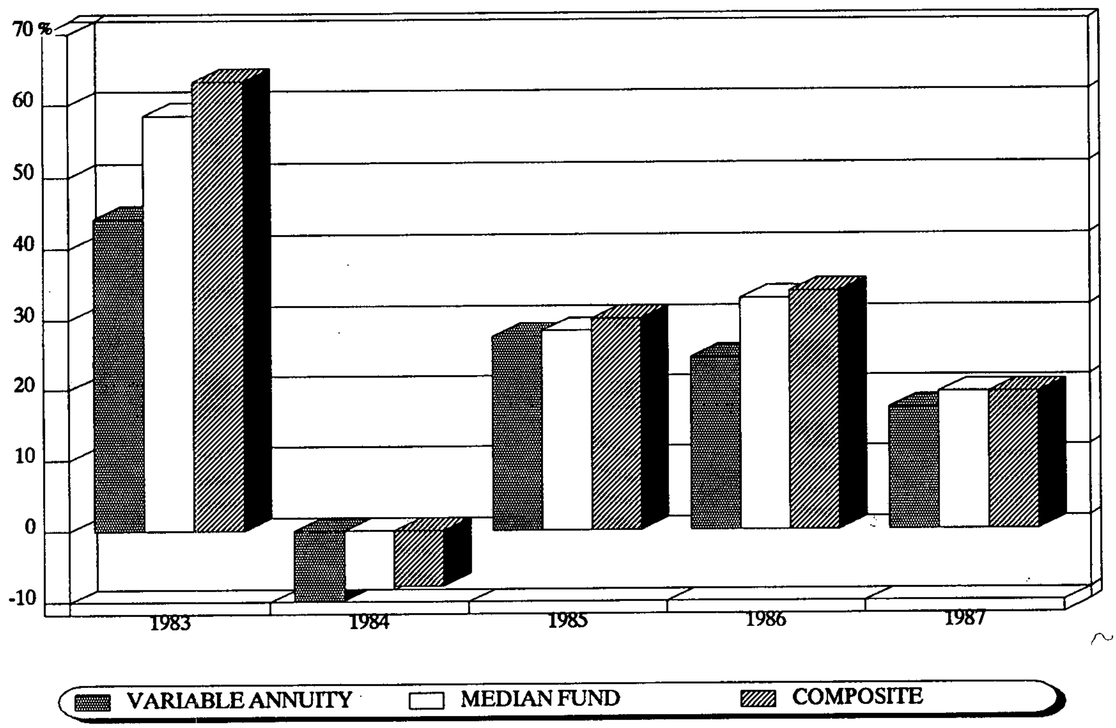
This investment objective necessitates a sizable long-term commitment to common stocks. The Variable Annuity Fund is authorized to hold up to 100% of its market value in common stocks. The long term policy asset allocation of the fund is:

- 95% common stocks
- 5% cash equivalents

VARIABLE ANNUITY FUND

TOTAL FUND PERFORMANCE

Fiscal Years 1983 - 1987



	1983	1984	1985	1986	1987	(Annualized) 3 YR.	(Annualized) 5 YR.
TOTAL FUND	44.2%	-9.8%	27.5%	24.5%	17.2%	23.0%	19.3%
Median Fund*	58.5	-8.2	28.3	32.8	19.4	27.2	25.6
Composite**	63.2	-7.8	30.0	33.8	19.4	27.6	25.6
STOCK SEGMENT	55.8%	-14.1%	30.3%	24.9%	17.4%	24.1%	20.7%
Wilshire 5000	66.5	-8.7	31.2	35.3	20.1	28.6	26.5

* TUCS Median Managed Equity Portfolio
** 95/5 Wilshire 5000/91 Day T-Bills Composite

INVESTMENT MANAGEMENT

The State Board of Investment (SBI) has assigned approximately two-thirds of the Variable Annuity Fund's assets to the SBI's active external common stock managers. The Variable Annuity Fund shares these managers with the Basic and Supplemental Funds through the Combined Investment Funds. The remaining assets are managed by investment staff.

INVESTMENT PERFORMANCE

The Variable Annuity Fund's total fund performance is expected to surpass the returns of a market indices composite weighted in the same proportion as its policy asset allocation. In addition, the Variable Annuity Fund's performance is expected to exceed the performance of the median portfolio from a universe of managed equity portfolios.

Performance objectives for the Variable Annuity Fund's external stock managers are described in the Basic Retirement Funds discussion. Performance objectives for the Fund's internal manager are described in the Post Retirement Investment Fund discussion.

During the 1987 fiscal year, the Minnesota Variable Annuity Fund's performance failed to exceed the results of its total fund and individual manager performance objectives. Total fund results are presented on page 60.

PERMANENT SCHOOL FUND

INVESTMENT OBJECTIVES

ASSET ALLOCATION

INVESTMENT MANAGEMENT

INVESTMENT PERFORMANCE

PERMANENT SCHOOL FUND

The Permanent School Fund is a trust fund created by the Minnesota State Constitution and designated as a long-term source of revenue for public schools. Proceeds from land sales, mining royalties, timber sales, and lakeshore and other leases are invested in the Permanent School Fund.

Income generated by the Permanent School Fund's assets currently is used to offset state school aid payments. During the 1987 fiscal year, investment income reported to the Minnesota Department of Finance totaled $31.2 million.

INVESTMENT OBJECTIVES

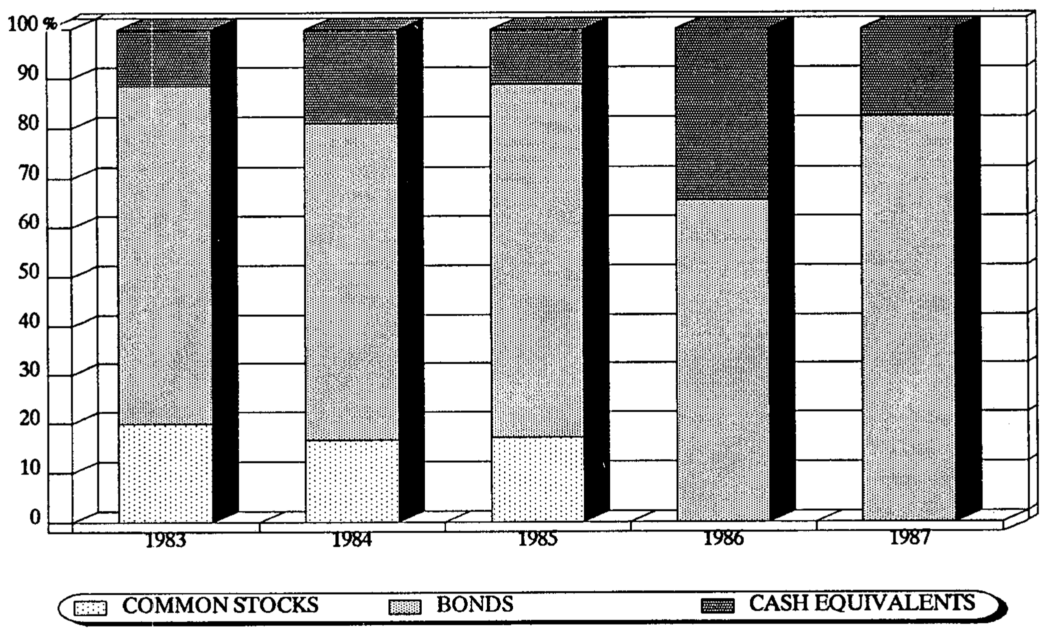
The State Board of Investment (SBI) invests the Permanent School Fund to produce a high, consistent level of income that will assist in offsetting state expenditures on school aids.

Investment Constraints

The Permanent School Fund's investment objectives are influenced by the restrictive accounting provisions under which its investments must be managed. These provisions require that the Permanent School Fund's principal remain inviolate. Further, any net realized equity and fixed income capital gains must be added to principal. Moreover, if the Permanent School Fund realizes net capital losses, these losses must be offset against interest and dividend income before such income can be distributed. Finally, all interest and dividend income must be distributed in the year in which it is earned.

These accounting provisions limit the investment time horizon over which the Permanent School Fund is managed.

HISTORICAL ASSET MIX
Percent of Market Value
Fiscal Year-End Allocations



	1983	1984	1985	1986	1987
COMMON STOCKS					
$Million	59.0	46.0	58.0	0.0	0.0
Percent	19.9	16.6	17.2	0.0	0.0
BONDS					
$Million	203.0	178.0	241.0	239.0	297.0
Percent	68.6	64.3	71.5	65.4	82.2
CASH EQUIVALENTS					
$Million	34.0	53.0	38.0	126.0	64.0
Percent	11.5	19.1	11.3	34.6	17.8
TOTAL FUND					
$Million	296.0	277.0	337.0	365.0	361.0
Percent	100.0	100.0	100.0	100.0	100.0

Long-run growth in its assets is difficult to achieve without seriously reducing current spendable income and exposing the spendable income stream to unacceptable volatility. The SBI, therefore, invests the Permanent School Fund's assets to produce the maximum amount of current income, within the constraint of maintaining adequate portfolio quality.

ASSET ALLOCATION

The SBI maximizes current income by investing all of the Permanent School Fund's assets in fixed income securities.

The SBI has a strong incentive not to invest in equity assets for several reasons:

- Common stock yields are considerably lower than bond yields. Thus, common stocks generate less current income than bonds.
- Stock prices are highly volatile and at times may produce realized capital losses that will reduce spendable income.
- Net capital gains become part of the Permanent School Fund's principal. Therefore, the effect of the volatility of common stock prices on the Permanent School Fund's spendable income cannot be smoothed out by spending past realized capital gains.

Considering these constraints, the Board completely eliminated the Permanent School Fund's small common stock component in fiscal year 1986, investing the proceeds in fixed income securities. The Permanent School Fund's 1987 year-end asset mix, as well as its historical asset allocation data, are shown on page 66.

INVESTMENT MANAGEMENT

SBI staff manages all of the Permanent School Fund's assets. Given the existing accounting restrictions of the Permanent School Fund, external managers would find it extremely difficult to invest the Permanent School Fund's portfolio. Typically, money managers seek to earn superior total rates of return (which include income and capital appreciation) through active management.

The Permanent School Fund's emphasis on producing high levels of current spendable income through passive investments is not compatible with the investment style of most money managers. In addition, with the move to an all-fixed income portfolio, SBI staff management of the Permanent School Fund is the most cost-effective approach. The staff manages the Permanent School Fund's bond portfolio primarily through a buy-and-hold laddered maturity approach.

INVESTMENT PERFORMANCE

The Permanent School Fund's investment objective is to maximize spendable income, within the constraint of maintaining adequate portfolio quality.

From a **total portfolio risk perspective,** the Permanent School Fund is very conservatively structured, as its target asset mix calls for a full commitment to fixed income securities. Within the bond portfolio, SBI staff controls risk by establishing a laddered portfolio structure, thereby avoiding significant interest rate bets. Further, the staff purchases only investment-grade bonds and seeks to maintain an overall portfolio quality rating of at least AA.

From a **rate of return perspective,** the Board is not concerned with the Permanent School Fund's total rate of return. Market value changes have no effect on the Permanent School Fund's ability to produce spendable income. Spendable income is affected only to the extent that any securities are sold at losses. Thus, the Permanent School Fund's return objective is to maintain a high current yield on new investments.

The Permanent School Fund achieved its risk-return performance objectives during the year. On June 30, 1987, the Permanent School Fund's bond portfolio had a duration of 6.6 years with an average quality rating of AAA. Further, for the fiscal year the Permanent School Fund generated income in excess of the Minnesota Department of Finance's spendable income target.

CASH MANAGEMENT

STATE CASH ACCOUNTS

SECURITIES LENDING PROGRAM

CD PROGRAM

STATE CASH ACCOUNTS

The State Board of Investment (SBI) manages the $1.9 billion short-term assets of State agency accounts and trust funds with the objectives of preserving capital and providing competitive money market returns. To this end, the SBI invests cash accounts in short-term, liquid, high-quality debt securities. These investments include U. S. Treasury and Agency issues, repurchase agreements, bankers acceptances, and commercial paper.

Most State cash accounts are managed by SBI staff through two pooled investment vehicles, which operate much like money market mutual funds. (These short-term pooled funds were created late in the 1987 fiscal year and are described in more detail in the Major Developments section of this report.)

- **Trust Fund Pool.** This pool contains cash balances of retirement-related accounts managed internally as well as the cash in the Permanent School Fund. The Trust Fund Pool has a daily balance of approximately $350 million.

- **Treasurer's Cash Pool.** This pool contains cash balances from special or dedicated accounts necessary for the operation of State agencies as well as the balance of Invested Treasurer's Cash. The Treasurer's Cash Pool has a daily balance of approximately $1.1 billion.

Because of special legal restrictions, a small number of cash accounts cannot be commingled. These accounts are therefore invested separately.

SECURITIES LENDING PROGRAM

As part of its cash management program, the SBI administers a securities lending program in which U. S. Treasury and Government Agency securities held by the SBI are loaned to banks and government security dealers for a daily fee. These loans are fully collateralized. The Securities Lending Program has generated approximately $1.5 million per year in additional income for the funds managed by the Board.

CERTIFICATE OF DEPOSIT PROGRAM

The SBI also manages a certificate of deposit (CD) program in which it purchases CD's from Minnesota banks and savings and loan institutions. The SBI receives a market rate of return on these investments, using the average secondary CD market rate quoted by the New York Federal Reserve Bank. Only the cash reserves of pension funds (i.e., Basic Retirement Funds or Post Retirement Fund) are used in the program. As a result, all investments are fully insured by the Federal Deposit Insurance Corporation (FDIC) or Federal Savings and Loan Insurance Corporation (FSLIC).

The Minnesota Certificate of Deposit program provides a reliable source of capital to all Minnesota financial institutions, regardless of size, many of which do not have access to the national CD market. The Board designed the CD process so that no single institution is favored in the allocation of assets. Since it began in 1980, the SBI has purchased over $1 billion of CD's from 365 financial institutions throughout the state.

MAJOR DEVELOPMENTS

LEGISLATIVE INITIATIVES

BASIC FUNDS POLICY REVIEW

BENCHMARK PORTFOLIOS

PERFORMANCE-BASED FEES

POOLED CASH ACCOUNTS

RESOLUTION ON SOUTH AFRICA

PROXY VOTING

LEGISLATIVE INITIATIVES

The statutory investment authority of the State Board of Investment (SBI) was expanded by the 1987 Legislature. The Board's legislative initiatives included several individual proposals.

New Equity Limits

The Legislature approved higher limits on the use of common stocks and alternative assets in a fund. Alternative assets include real estate, venture capital and oil and gas funds:

- Alternative assets may now comprise up to 35% of a fund. (The previous limit was 20%.)
- Alternative assets and common stocks combined may now occupy up to 85% of a fund. (The previous limit was 75%.)

These higher limits will offer the Board greater investment flexibility in future policy decisions on asset allocation.

Additional Authorized Assets

Within the new limits described above, the Board also requested two types of securities be added as allowable alternative assets:

- High-yield and unrated debt securities
- International investments

The Legislature adopted the Board's request regarding debt securities but did not approve the addition of international investments.

The new debt authority will allow the Board to increase its use of unrated private placement debt and to take advantage of growing investment opportunities in the taxable municipal market.

The Board's request for international authority gained substantial support despite its failure to gain final approval. As a result, the Board intends to renew this request during the 1988 session.

Administrative Changes

The Board proposed several changes to simplify other investment activities:

- **Short-term Securities Provisions.** Obsolete and extraneous language was removed from the statutes regarding bankers acceptances, certificates of deposit and commercial paper. In addition, new criteria governing the quality of those investments were added to the statutes. These changes should enhance the Board's ability to obtain competitive returns on its short-term investments. The amendments also remove cumbersome administrative procedures associated with the operation of the Minnesota Certificate of Deposit Program. (See page 74 for a description of this program.)

- **Cash Account Maturity Limits.** Formerly, State cash accounts were limited to investments in debt obligations with maturities of three years or less. Recent changes in federal tax law made this provision disadvantageous in certain instances. The limit was removed to avoid incurring penalties on arbitrage earnings. Due to the liquidity needs, nearly all cash accounts will continue to be invested in short-term securities with maturities considerably less than three years.

BASIC FUNDS POLICY REVIEW

The investment program for the Basic Retirement Funds has been in place for over three years. In that time, both the capital markets and the Basic Funds have undergone significant changes. In response to those changes, the Board staff, in collaboration with the Investment Advisory Council, formally updated the Basic Funds investment policies during fiscal year 1987. The Board adopted the recommendations over the course of the year.

The review process drew on information developed by a number of sources including the Board's staff; the Board's consultant, Richards & Tierney; members of the Investment Advisory Council; and the investment community at-large.

Investment Policy Statement

An important product of this review process was the creation of a formal investment policy statement for the Basic Retirement Funds. The statement is a set of guidelines for the management of the Basic Funds which address several issues:

- Investment objectives
- Risk tolerance
- Long-term policy asset mix
- Asset class targets
- Investment management structure
- Performance evaluation

In a series of position papers, staff thoroughly discussed each of these topics and provided specific recommendations to be implemented. The investment policy statement itself is a summary of the recommendations adopted by the Board for the Basic Funds.

The guidelines set forth in the policy statement have been incorporated in the description of the Basic Retirement Funds found on pages 7 to 28.

Summary of Recommendations

The recommendations that emerged from the study will not greatly change the investment objectives and the asset allocation previously established for the Basic Funds. The most significant modifications will occur in the investment management structure utilized by the Basic Funds.

During fiscal year 1988, the Board staff, working in conjunction with the Investment Advisory Council, will implement several new management features. The most notable changes are:

- **Creation of a passively managed component in the bond segment of the Basic Funds.** Currently, all bond holdings are actively managed.

- **Use of flexible allocations to active and passive management in the Basic Funds' stock and bond segments.** Active management will range from a minimum of 10% to a maximum of 50%. Passive management will occupy the residual, from a minimum of 50% to a maximum of 90%.

- **Construction of a completeness fund to offset any style biases in the actively managed segment of the Basic Funds.** Selection of active managers will be based solely on their potential to provide superior performance.

The Board recognizes that there are no clear-cut answers to many of the issues raised during the analysis. However, by giving all issues thorough consideration, the Board can be confident that it is pursuing a well-designed and consistently applied investment policy appropriate for the Basic Funds.

BENCHMARK PORTFOLIOS AND PERFORMANCE-BASED FEES

During fiscal year 1986, the State Board of Investment (SBI) developed benchmark portfolios for each of its external common stock managers. These benchmarks became an integral component of a performance-based fee system which was also introduced during that year for most of the Board's stock managers. During fiscal year 1987, the benchmark building process was refined and performance-based fees were implemented with most of the Board's external active stock managers. In addition, the Board revised the formula used to calculate the fee.

Benchmark Portfolios

A benchmark portfolio is a customized index that represents the investment style of an individual money manager. A benchmark reflects the prominent risk characteristics that a manager's portfolio would exhibit if the manager were making no active investment judgments.

Benchmark portfolios are appropriate targets against which to measure the performance of individual managers. At times, managers may perform well simply because their styles are "in favor." As representations of managers' styles, benchmark portfolios compensate for this factor. This allows plan sponsors to evaluate more effectively the value individual managers add to the investment process.

SBI staff developed the initial benchmark portfolios for the Board's active common stock managers in fiscal year 1986. During fiscal year 1987, responsibility for maintaining appropriate benchmarks was shifted from staff to the individual managers. These benchmarks are monitored by Board staff and the Board's consultant, Richards & Tierney. The managers' performances relative to their benchmarks are calculated by Richards & Tierney on a quarterly basis.

Benchmark portfolios will continue to be a key component of the Board's on-going investment management program. They have proven to be useful tools in manager evaluation and are integral to the application of performance-based fees.

Performance Based Fees

After the Securities and Exchange Commission removed its prohibition on performance-based fees, the SBI was among the first institutional investors to implement this method of compensation for its external active common stock managers. By the end of fiscal year 1987, nine of the Board's eleven external stock managers were being paid using a fee schedule that compensated managers for their performance relative to their benchmark portfolios. During fiscal year 1988, all of the stock managers will be compensated through performance fees.

The Board uses a symmetrical fulcrum fee system. This fee system establishes a base compensation for a manager and a performance benchmark against which additional compensation (positive and negative) is paid. If a manager's performance matches that of the target, no additional fee is paid. If performance exceeds the target, an additional predetermined amount is paid. If performance fails to match the target, the base fee is reduced by the same predetermined formula. As a result, performance above the target produces additional payments to managers that are equivalent to those withheld from managers for performance below target.

The base fee was originally set at a single fixed rate. Given the growing account sizes of the SBI's active stock managers, staff believed that the single rate base fee component in the performance fee formula was too high and should be reduced. As a result, staff recommended that the Board adjust the fee schedule.

There are several important aspects of the revised fee structure adopted by the Board in late fiscal year 1987:

- As assets under management increase, the base fee rate paid to the manager will decrease in line with the manager's sliding fee scale.

- The excess performance calculation will reflect base fee payments. The manager's actual portfolio return will be calculated net of the base fee. The manager is expected to outperform the benchmark portfolio, net of the base fee, by 150 basis points.

- Regardless of the base fee, the manager will still reach the minimum and maximum total fee rates at the same levels of deficit and excess performance measured net of the base fee (i.e., 600 basis points below and 900 basis points above the benchmark's return, respectively).

- The minimum fee rate will be zero and the maximum total fee rate will be twice the base fee.

The Board believes that this revised fee structure retains the simplicity and non-volatile nature of the symmetrical fulcrum fee structure. At the same time, it permits the SBI to benefit from the reduced fees charged by managers as account sizes increase. The revised performance fee schedule was implemented at the start of fiscal year 1988.

POOLED CASH ACCOUNTS

As described earlier in this report, the State Board of Investment manages approximately $2 billion in cash accounts. These assets represent the balances in more than 200 separate accounts that flow through the Minnesota State Treasury and range in size from $5,000 to over $400 million.

Feasibility

During the year, Board staff examined the feasibility of establishing a commingled investment pool for these accounts. Staff believed a large pool would be beneficial to all participants since it would reduce both the recordkeeping required and the number of individual transactions necessary to maintain the operation of all accounts. In addition, staff felt higher rates of return could be generated due to the increased investment flexibility of a large-scale pool.

After examining the statutory requirements for each of the accounts, the Attorney General's office determined that legal restrictions prohibited a small number of accounts from participating in a pool. However, the remaining majority could be commingled, provided the interest income attributable to each account could be calculated and appropriately credited.

Design

Staff determined that two separate pools should be created to reflect the different nature and purpose of the various accounts:

- **Trust Fund Pool.** This pool would contain the cash balances of retirement-related accounts managed internally by SBI staff, as well as the cash in the Permanent School Fund. The Trust Fund Pool would have a daily balance of approximately $350 million.

- **Treasurer's Cash Pool.** This pool would contain cash balances from special or dedicated accounts necessary for the operation of state agencies, as well as the balance of the state's Invested Treasurer's Cash. The Treasurer's Cash Pool would have a daily balance of approximately $1.1 billion.

Objectives

Staff determined that both pools could be invested with the same objectives:

- **Liquidity.** The pools should meet the cash needs of all participants without the forced sale of securities at a loss.
- **Safety of Principal.** Pool participants should expect their deposits to be returned in full, with additional interest income.
- **Competitive Rate of Return.** The pools should generate investment income at a level that is competitive with other money market type funds.

Implementation

Working from these objectives, staff developed internal investment guidelines that address a variety of issues including the quality and marketability of assets selected for investment and the maturity requirements of each pool.

After review by the Investment Advisory Council, the Board adopted the staff recommendation to implement the cash pool vehicles. The two pools described earlier were constructed in late fiscal year 1987.

RESOLUTION ON SOUTH AFRICA

On October 2, 1985, the Board adopted a resolution concerning its holdings in companies doing business in the countries of South Africa and Namibia. The resolution calls for the Board to implement a four-phase divestment program which will be completed in 1989. The resolution also requires that divestment action will not take place before the Board obtains legal and financial advice concerning any impact on its fiduciary responsibilities.

When the resolution was adopted, the Board created a Task Force on South Africa to advise the Board on its implementation process. Membership of the Task Force includes one person designated by each of the five Board members, one representative from the private sector, one representative from the retirement fund systems, and one public employee representative.

Summary

The resolution establishes the following timetable for the Board's divestment program:

- **Phase 1:** By January 2, 1986, the SBI will limit its holdings and future investments to companies that are signatories of the Sullivan Principles, as most recently amended, and/or making substantial efforts to eliminate Aparthied.

- **Phase 2:** By August 3, 1986, the SBI will limit its holdings and future investments to companies that meet the requirements of Phase 1 and that subject their behavior in South Africa or Namibia to monitoring by Arthur D. Little, Inc., or similar, suitable monitor.

- **Phase 3:** By August 3, 1987, the SBI will limit its holdings and future investments to companies that have complied with Phases 1 and 2 and that obtain the highest Sullivan Principles rating by Arthur D. Little, Inc., or the equivalent thereof.

- **Phase 4:** By August 3, 1989, the SBI will be divested of and make no new investments in companies doing business in South Africa.

In addition, the resolution requires the Board to consider divesting its holdings in companies which operate in a manner which directly supports Apartheid. Companies that support Apartheid are those which provide goods or services to governmental agencies responsible for the enforcement of Apartheid; provide technology or facilities which make South Africa or Namibia less dependent on international trade; or provide financial services to the government or governmental agencies of South Africa or Namibia.

Implementation of Phases 1 & 2

After the Board's resolution was adopted, the Sullivan Organization stipulated that companies must provide outside monitoring of their activities in order to maintain their status as a signatory of the Sullivan Principles. As a result, all signatories meet the requirements of both Phases 1 and 2 of the resolution.

When it began implementation of the resolution, the Board and the Task Force focused their attention on companies in the actively managed common stock portfolios. Based on correspondence with companies known to do business in South Africa and information available through the Investor Responsibility Research Center (IRRC), it was initially determined that twenty companies in the actively managed common stock portfolios had not signed the Sullivan Principles.

By January, 1986 (the end of Phase 1), fourteen of these companies became signatories or instituted a policy comparable to the Sullivan Principles and three other non-signatories sold their operations in South Africa. As a result, three companies in the actively managed common stock portfolios did not meet the requirements of the resolution by the end of Phase 1.

After reviewing reports from its financial and legal advisors, the Board decided not to immediately liquidate the affected holdings. Rather, it chose to implement the requirements of the resolution by instituting a policy of **"divestment through attrition."** Under this policy, Board's active stock managers were directed to discontinue purchases of stock in the restricted companies unless the manager determined the failure to buy a particular stock would be a violation of its fiduciary responsibility. As existing holdings were sold during the normal course of business, the stock holdings in restricted companies would decline.

By August, 1986 (the end of Phase 2), the actively managed common stock portfolios did not contain the stock of any company which had not signed the Sullivan Principles. As a result, all holdings in those portfolios met the requirements of the resolution at the end of Phase 2. This change was due both to sales of stock by managers during the normal course of business as well as the decision of other companies to become signatories of the Sullivan Principles.

Implementation of Phase 3

Phase 3 of the resolution requires the SBI to restrict its holdings to signatories that have achieved the highest category ranking on their implementation of the Sullivan Principles (i.e., "Category I, Making Good Progress").

In May, 1987, the Task Force recommended that the divestment through attrition policy be expanded to include any company in the actively managed stock portfolios that did not meet the Phase 3 requirements. This action restricts the active common stock managers from purchasing stock in any of the following companies: non-signatories of the Sullivan Principles; companies whose most recent rating on their implementation of the Sullivan Principles was "Category II, Making Progress" or "Category III, Needs to Become More Active."

In May, the Board's active stock managers had positions in 26 restricted companies totaling 2.8 million shares. In August, 1987, the managers had positions in 16 restricted companies totaling 831,000 shares. This was a 70% reduction in the number of restricted shares and indicates substantial progress had been made in implementing the Board's policy of divestment through attrition in Phase 3.

This reduction was due both to sales of stock by managers during the normal course of business as well as the decisions of companies to terminate their operations in South Africa.

Future developments concerning Phases 3 and 4 of the resolution will be described in subsequent Annual Reports.

Shareholder Activity

As part of its implementation of the resolution, the Board sponsored or co-sponsored shareholder resolutions during the 1986 and 1987 proxy seasons. These resolutions called for companies to sign the Sullivan Principles.

Of the nine shareholder resolutions filed in 1986, six were withdrawn when the companies became signatories or terminated their operations in South Africa prior to their annual meetings. Three resolutions came to a vote. The current status of those companies with respect to South Africa is shown below:

- Diamond Shamrock terminated their operations in South Africa.
- Hughes Tool merged to form Baker Hughes, which is a signatory.
- U.S. Steel (USX) is now a signatory.

In 1987, three companies were identified as candidates for the Board's shareholder resolution. One resolution was withdrawn when the company terminated its operations in South Africa and another was dropped when the company became a signatory prior to their annual meeting. The Board's proposal came to a vote at Lubrizol, where the resolution drew 11.0% affirmative votes.

Shareholder activity during the 1988 proxy season will be reported in future Annual Reports.

PROXY VOTING

As a stockholder, the State Board of Investment (SBI) is entitled to participate in corporate annual meetings through direct attendance or casting its votes by proxy. Through proxy voting, the Board directs company representatives to vote its shares in a particular way on resolutions under consideration at annual meetings. Resolutions prepared at annual meetings range from routine issues, such as those involving the election of corporate directors and ratification of auditors, to non-routine items involving such matters as merger proposals and corporate social responsibility issues. In effect, as a shareholder the SBI can participate in shaping corporate policies and practices.

All non-routine proxy matters are reviewed by a committee of the Board and voted in accordance with the SBI's statement of investment responsibility, which states, in part:

"*...The Investment Board recognizes that when performing their duty of investing the trust funds (pension and other funds) for which they are custodian, their primary responsibility is the prudent and responsible investment of the assets of the funds for the economic benefit of the beneficiaries of the funds...*

...Consistent with prudent and responsible investment policy, the Investment Board shall not knowingly invest or maintain holdings in those corporations which are in flagrant violation of the law or in stubborn disregard of the social welfare of the society, or do not recognize environmental responsibilities in their corporate actions, and are not taking reasonable steps to overcome the situations..."

INVESTMENT MANAGER SUMMARIES

COMMON STOCK MANAGERS

BOND MANAGERS

ALTERNATIVE INVESTMENT MANAGERS

COMMON STOCK MANAGERS

Fred Alger Management

Fred Alger searches for companies expected to experience above-consensus earnings gains. These earnings gains may be either cyclical or secular. The firm focuses on two types of companies: first, companies whose products are expected to produce high consistent unit volume growth rates and second, companies undergoing a positive life cycle change not yet fully recognized by the market. The proportion of the total portfolio invested in these two types of companies varies over time. On average, however, the high unit growth companies tend to dominate the total portfolio. Fred Alger is not an active market timer, usually maintaining a fully invested position.

Alliance Capital Management

Alliance searches for companies likely to experience high rates of earnings growth, on either a cyclical or secular basis. Alliance has invested in a wide range of growth opportunities from small, emerging growth to large, cyclically sensitive companies. There is no clear distinction on the part of the firm as to an emphasis on one particular type of growth company over another. However, the firm's decision-making process appears to be much more oriented toward macroeconomic considerations than is the case with most other growth managers. Accordingly, cyclical earnings prospects, rather than secular, appear to play a larger role in terms of stock selection. Alliance is not an active market timer, rarely raising cash above minimal levels.

BMI Capital

BMI's investment approach focuses on companies expected to exhibit strong sustained earnings gains. BMI attempts to identify two types of "growth" companies: first, misperceived companies that are in the process of undergoing dynamic changes that will cause them to produce materially higher earnings over the near-term; and second, small-to-medium sized companies that exhibit the potential for rapid future earnings growth. The weighting of the two types of growth companies within the firm's portfolio will vary over time depending upon economic and financial conditions. Generally, however, the misperceived companies will make up the majority of the portfolio. On the other hand, the smaller high growth companies tend to dominate the portfolio's risk characteristics. The firm concentrates almost exclusively on stock selection, only rarely raising cash to significant levels.

Beutel Goodman Capital Management

Beutel Goodman searches for companies whose stock prices are low in comparison to estimated tangible book value or companies whose P/E's are low in relation to earnings quality and expected earnings growth. This "value" investment approach is contrarian and defensive by nature, exhibiting less volatility than investment styles focusing on growing earnings. Beutel Goodman is not an active market timer and is almost always fully invested.

INVESTMENT MANAGER SUMMARIES

Forstmann Leff Associates

Forstmann Leff is a classic example of a "rotational" manager. The firm focuses almost exclusively on asset mix and sector weighting decisions. Based upon its macroeconomic outlook, the firm will move aggressively into and out of asset classes and equity sectors over the course of a market cycle. The firm tends to purchase liquid, large capitalization stocks. Forstmann Leff will make sizable market timing moves at any point during a market cycle.

Hellman Jordan Management

Hellman Jordan is a "rotational" manager. Its cyclical and secular economic forecasts drive its asset mix and industry sector selections. The firm's primary focus is asset allocation, although it will invest in a wide range of industries over a market cycle. The firm tends to purchase liquid, large capitalization stocks. Hellman Jordan will make sudden and significant asset mix shifts over a market cycle.

IDS Advisory

IDS employs a "rotational" style of management, shifting among industry sectors based upon its outlook for the economy and the financial markets. The firm emphasizes primarily sector weighting decisions. Moderate market timing is also used. Over a market cycle IDS will invest in a wide range of industries. It tends to buy liquid, large capitalization stocks. While IDS will make occasional significant asset mix shifts over a market cycle, the firm is a less aggressive market timer than most rotational managers.

Investment Advisers

Investment Advisers is a "rotational" manager. Its macroeconomic forecasts drive its investment decision-making. The firm emphasizes market timing and sector weighting decisions. Investment Advisers will invest in a wide range of industries over a market cycle. It tends to hold liquid, medium to large capitalization stocks. The firm is an active market timer, willing to make gradual but significant asset mix shifts over a market cycle.

Lieber & Co.

Lieber and Co. seeks to identify investment concepts that are either currently profitable or likely to become so in the near future, yet whose prospects are not reflected in the stock prices of the companies associated with the concepts. The investment concepts upon which the firm focuses are related to both macroeconomic trends and specific product developments within particular industries or companies. Stocks purchased by Lieber tend to be those of well-managed, high growth and high return on equity, small-to-medium sized companies. The stocks may be undervalued due to the failure of investors to recognize fully either the value of new products or a successful turnaround situation. Particularly attractive to Lieber are small-to-medium sized takeover candidates. The firm generally is fully invested, with any cash positions the result of a lack of attractive investment concepts.

Peregrine Capital Management

Peregrine is a contrarian investor searching for poorly performing stocks that have been "oversold" by the market. The firm expects that the prices of these stocks will rebound as the market's "emotional excesses" come to be recognized. The firm is very price sensitive. As a result it is an active trader, buying stocks as their performance relative to the market declines and selling stocks as relative performance rises. Peregrine tends to hold small positions in a large number of stocks, avoiding significant bets on individual issues. The firm is a moderate market timer, alternating its cash position incrementally around a moderately low cash position.

Waddell & Reed

Waddell & Reed focuses its attention primarily on small capitalization aggressive growth stocks. However, the firm has demonstrated a willingness to make significant bets against this investment approach for extended periods of time. The firm is an active market timer and will raise cash to extreme levels at various points in the market cycle.

Wilshire Associates

The index fund managed by Wilshire Associates is a well-diversified portfolio of common stocks designed to match the rate of return performance of a predetermined stock market index. The index fund utilized by the SBI tracks the Wilshire 5000, a broad-based equity market indicator composed of the common stocks of all U.S. domiciled corporations for which daily prices are available. In effect, the Wilshire 5000 represents virtually the entire domestic common stock market.

Portfolio statistics for each of these managers can be found in the Statistical Data Appendix.

BOND MANAGERS

Investment Advisers

Investment Advisers is a traditional top down bond manager. The firm's approach is oriented toward correct identification of the economy's position in the credit cycle. This analysis leads the firm to its interest rate forecast and maturity decisions, from which the firm derives most of its value-added. Investment Advisers is an active asset allocator, willing to make rapid, significant moves between cash and long maturity investments over the course of an interest rate cycle. Quality, sector and issue selection are secondary decisions. Quality and sector choices are made through yield spread analyses consistent with the interest rate forecasts. Individual security selection receives very limited emphasis, focusing largely on specific bond characteristics such as call provisions.

Lehman Management

Lehman's primary emphasis is on forecasting cyclical interest rate trends and positioning its portfolios in terms of maturity, quality and sectors, in response to its interest rate forecast. However, the firm avoids significant, rapidly changing interest rate bets. Instead, it prefers to shift portfolio interest rate sensitivity gradually over a market cycle, avoiding extreme positions in either long or short maturities. Individual bond selection is based on a quantitative valuation approach and the firm's internally-conducted credit analysis. High quality (A or better) undervalued issues are selected consistent with the desired maturity, quality and sector composition of the portfolios.

Miller, Anderson & Sherrerd

Miller Anderson focuses its investments in misunderstood or under-researched classes of securities. Over the years this approach has led the firm to emphasize mortgage-backed securities in its portfolios. Based on its economic and interest rate outlook, the firm establishes a desired maturity level for its portfolios. This decision is instituted primarily through the selection of specific types of mortgage securities that have prepayment expectations consistent with the portfolio's desired maturity. The firm will also move in and out of cash, but generally only gradually over an interest rate cycle and never taking extremely high cash positions. Total portfolio maturity is always kept within an intermediate three-to-seven year duration band. Unlike other firms that also invest in mortgage securities, Miller Anderson intensively researches and, even in some cases manages, the mortgage pools in which it invests.

Morgan Stanley Asset Management

Morgan Stanley takes a very conservative approach to fixed income investing, emphasizing the preservation of capital through the generation of consistent real returns. This philosophy has led the firm to maintain a vast majority of its portfolio in short to intermediate maturity, high quality (A or better) securities. Large positions in maturities longer than ten years are held only as temporary trading opportunities. These positions are increased or reduced gradually as the firm's expectations of the cyclical level of interest rates changes. Issue selection is of secondary importance to maturity decisions. Rather, given its maturity decisions, the firm prefers to make sizable investments in specific areas of the market where it believes persistent misvaluations are present.

Peregrine Capital Management

Peregrine Capital stresses consistency of fixed income portfolio relative returns. To accomplish this goal, the firm maintains a portfolio of high quality, liquid securities and a balance of maturity levels avoiding extreme exposures on either the long or short end. Further, Peregrine will make only gradual moves between maturities over an interest rate cycle. The firm also concentrates on exploring misperceived fixed income securities, which has led the firm to make extensive use of mortgage-backed securities and floating rate notes.

Western Asset Management

Western recognizes the importance of interest rates changes on fixed income portfolio returns. However, the firm believes that successful interest rate forecasting, particularly short-run forecasting is extremely difficult to accomplish consistently. Thus, the firm attempts to keep portfolio maturity in a narrow band near that of the market, making only relatively small, gradual shifts over an interest rate cycle. It prefers to add value primarily through appropriate sector decisions. Based on its economic analysis, Western will significantly overweight particular sectors, shifting these weights as economic expectations warrant. Issue selection, like its maturity decisions, are of secondary importance to the firm.

Portfolio statistics for each of these managers can be found in the Statistical Data Appendix.

ALTERNATIVE INVESTMENT MANAGERS

Real Estate

Aetna Life & Casualty

Fund: RESA
Real Estate Separate Account (RESA) is an open-end commingled real estate fund managed by the Aetna Life and Casualty Company of Hartford, Conn. The fund was formed in January, 1978. The fund has no termination date; investors have the option to withdraw all or a portion of their investment. RESA invests primarily in existing equity real estate. Investments are diversified by location and type of property. On-site management of properties is contracted to outside firms or conducted by a joint venture partner.

Equitable Real Estate Group

Fund: Prime Property Fund
Prime Property Fund was formed in August 1973 by the New York-based Equitable Real Estate Group, Inc. The account is an open-end commingled real estate fund. The fund has no termination date; investors retain the option to withdraw all or a portion of their investment. The fund makes equity investments in existing real estate. The fund's portfolio is diversified by location and property type. Management of the fund's properties is contracted to outside firms or is conducted by joint venture partners.

Prudential Investment Management

Fund: PRISA I
PRISA I is an open-end commingled real estate fund. One of the largest and oldest of the open-end funds, PRISA I was formed in July 1970 by the Prudential Investment Management Corporation of New Jersey. PRISA's real estate portfolio consists primarily of equity investments in existing properties. Investments are diversified by both the type and location of properties. Prudential contracts with outside firms for the on-site management of its properties or retains joint venture partners as property managers. The fund has no termination date. Investors have the option quarterly to withdraw a portion or all of their investment.

Rosenberg Real Estate Equity Funds (RREEF)

Fund: RREEF USA III

RREEF USA III is a closed-end commingled fund managed by the Rosenberg Real Estate Equity Funds. It has a twelve-year term. Typically, the trust purchases 100% of the equity of its properties with cash. The trust generally does not utilize leverage or participating mortgages. Properties are diversified by location and type. RREEF's in-house staff manages the trust's real estate properties. The firm's primary office is located in San Francisco.

Heitman Advisory Corp. (HAC)

Funds: HAC Group Trust I
HAC Group Trust II
HAC Group Trust III

HAC Group Trusts are closed-end commingled funds managed by the Heitman Advisory Group. The majority of the trust investments are equity real estate. The real estate portfolios are diversified by the type and location of the properties. Centre Properties, Ltd., an affiliate of Heitman, manages the trust's wholly-owned properties. Properties that are partially owned by the trusts may be managed by joint venture partners. Heitman Advisory is based in Chicago.

Trust Company of the West (TCW)

Funds: TCW Realty Fund III
TCW Realty Fund IV

TCW Realty Funds are closed-end commingled funds. The funds are managed as joint ventures between Trust Company of the West and Westmark Real Estate Investment Services of Los Angeles. These managers utilize specialty investment vehicles such as convertible and participating mortgages to enhance real estate returns. Investments are diversified by location and type. Portfolio properties are typically managed by local property management firms.

State Street Bank & Trust

Funds: AEW - State Street Real Estate Fund III
AEW - State Street Real Estate Fund IV

State Street Real Estate Funds are closed-end commingled funds managed by the State Street Bank and Trust Company of Boston. State Street Bank has retained Aldrich, Eastman and Waltch (AEW) as the funds' advisor. The funds' special orientation is the use of creative investment vehicles such as convertible and participating mortgages to maximize real estate returns. The real estate portfolios are diversified by location and property type. On-site property management typically is contracted to outside firms or conducted by joint venture partners.

Venture Capital

Norwest Venture Capital Management

Fund: Northwest Venture Partners I

Northwest Venture Partners I was formed in January 1984 and has a term of ten years. Norwest Venture Capital Management, a wholly owned subsidiary of Norwest Corp., is the general partner and manager of the partnership. Norwest Venture Capital also manages the Northwest

Growth Fund, an SBIC, and Northwest Equity Capital, a leveraged buyout fund. Northwest Venture Partners' investment focus is on high technology companies in the early stages of corporate development. However, the partnership's portfolio also includes investments in expansion stage firms and is diversified by the location and industry type of its portfolio companies.

Kohlberg, Kravis, Roberts & Co. (KKR)

Funds: KKR 1984 LBO Fund
KKR 1986 LBO Fund

KKR's Leveraged Buyout Funds are structured as limited partnerships. The funds invest in large management leveraged buyouts. The partnerships' portfolio companies are mature, low technology companies with very diversified operations. Kohlberg, Kravis, Roberts and Co. operates offices in New York and San Francisco.

Stamps, Woodsum & Co.

Fund: Summit Ventures

Summit Ventures is a limited partnership with a ten-year term. It was formed in December 1984 by Stamps, Woodsum & Co., the managing general partners of the fund and Shearson/American Express. Stamps and Woodsum focus on profitable, expansion stage firms that have not yet received any venture backing. The majority of the partnership's investments are in high tech firms. Investments are diversified by location and industry type.

Smith Barney Venture Corp.

Fund: First Century III

First Century III was formed in December 1984. It is structured as a limited partnership with a term of ten years. The general partner and manager of the partnership is Smith Barney Venture Corp., a subsidiary of Smith Barney Harris Upham and Co. Smith Barney Venture has offices in New York and San Francisco. This is the third fund formed by the firm since 1972. The partnership invests primarily in early stage, high technology companies. Investments are diversified by location and industry group.

DSV Management Ltd.

Fund: DSV Partners IV

DSV Partners IV limited partnership was formed in April, 1985. It has a twelve-year term. DSV Partners IV is the fourth venture fund to be managed by DSV Management Ltd. since the firm's inception in 1968. The firm has offices in Princeton, New Jersey, and California. DSV Partners' investment emphasis is on portfolio companies in the start-up and early stages of corporate development. The geographic focus of the partnership is on East and West Coast firms. Investments are diversified by industry type.

Inman & Bowman Management

Fund: Inman & Bowman

The Inman & Bowman limited partnership was formed in June, 1985. Its investment focus is early-stage, high-technology firms. The fund will emphasize investments in California, where the general partner, Inman & Bowman Management, is based. However, the fund will consider investments in the Pacific Northwest as well. The partnership has a ten-year term.

Matrix Partners

Fund: Matrix Partners II
Matrix Partners II limited partnership was formed in August, 1985 and has a term of ten years. The fund's investment emphasis is on high-technology firms in the early and expansion stages of corporate development. However, for diversification the Fund's portfolio will include a sizable component of non-technology firms. The portfolio may include several small leveraged buyout investments as well. The fund is managed by five experienced general partners. The partners have offices in Boston, San Jose, and San Francisco.

Allied Capital

Fund: Allied Venture Partnership
Allied Venture Partnership was formed in September 1985 and has a ten-year term. Based in Washington D.C., the fund focuses on later-stage, low technology companies located in the Southeastern and Eastern U. S. Most investments will be made in syndication with Allied Capital, a large, publically owned venture capital corporation formed in 1958.

IAI Venture Capital Group

Fund: Superior Venture Partners
Superior Ventures is a Minnesota-based venture capital limited partnership. It was formed in June 1986 and has an eleven-year term. Superior Ventures is managed by IAI Venture Capital Group, a subsidiary of Investment Advisers, Inc. Up to 15% of the fund will be invested in other Minnesota-based venture capital limited partnerships. The remainder of the fund will be invested in operating companies located within the state.

T. Rowe Price

T. Rowe Price, a Baltimore-based money management firm, was selected to manage stock distributions from the Board's venture capital limited partnerships. T. Rowe Price has extensive research capabilities in the small capitalization company area. In addition, the firm has a large trading staff with particular expertise in the trading of small capital, illiquid stocks.

Resource Funds

First Reserve Corp.

Funds: AMGO I
AMGO II
AMGO funds are structured as limited partnerships. The general partner and manager of the funds is First Reserve Corp. The general partner's long-term investment strategy is to create diversified portfolios of oil and gas investments. The portfolios are diversified across four dimensions: location, geological structure, investment type, and operating company.

Apache Corporation

Funds: Apache Equipment Financing Notes
Apache Properties Acquisition Notes
Apache Acquisition Net Profits Interest

Apache Equipment Financing Notes are a $150 million private placement to finance Apache's portion of production facility expenditures. The expenditures were made under the terms of a series of offshore joint ventures in the Gulf of Mexico. The joint ventures were organized by Shell Oil Company. In addition to fixed interest payments of 10% per annum, noteholders will receive additional interest of 2% of Apache's share of gross revenues from the joint ventures. Principal and interest on the notes are estimated to be repaid by 1992. The 2% additional interest will be paid to noteholders throughout the life of producing properties. Apache Corp. is based in Denver.

Apache 1985 Properties Acquisition Notes are a $118 million private placement to finance the acquisition and tangible development costs related to certain producing oil and gas properties, of which some are fully developed and some are partially developed. In addition to fixed interest payments of 10% per annum, noteholders will receive additional interest of 2% of Apache's share of gross revenues from the properties. Principal and interest on the notes are estimated to be repaid by 1996. The 2% additional interest will be paid to noteholders throughout the life of producing properties.

Apache Acquisition Net Profits Interest is a $190 million private placement to acquire a non-operating interest in the net profit generated by oil and gas properties acquired in 1986 from Occidental Petroleum Company. Investors will receive a 85% net profits interest in the financed share of producing properties until the cumulative total of such payments equals the investment cost plus 8% per year return on investment (the "Payout"). However, if the cumulative net profit discounted at 10% should fail to exceed a defined cumulative cash flow comparably discounted, investors will receive a 90% net profits interest until Payout. After Payout, investors will receive a 75% net profits interest for the life of the producing properties. Payout is expected in 1991.

A summary of the Board's commitments to these real estate, venture capital, and resource funds can be found in the Statistical Data Appendix.

STATISTICAL DATA APPENDIX

MANAGER PORTFOLIO STATISTICS

HISTORICAL PERFORMANCE SUMMARIES

TIME-WEIGHTED RATE OF RETURN

COMMISSIONS DATA

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Statistical Data Appendix

EQUITY MANAGER PORTFOLIO STATISTICS GLOSSARY

In the following pages, summary descriptions of the individual equity managers' investment philosophy, risk characteristics, and performance data are displayed. Some of the statistics presented are technical in nature. This glossary is designed to aid in understanding the terms that are introduced.

The first five portfolio characteristics listed in the glossary are presented in the Quarterly Investment Review and Appendix on an absolute basis. The remaining portfolio statistics are reported relative to the stock market. The purpose of presenting these statistics in a relative fashion is to "normalize" them, or remove the impact of market-wide changes on the characteristics of a manager's portfolio. In calculating the relative values, the stock market is represented by the 1000 largest capitalization companies in the Wilshire 5000. The managers' portfolio characteristics are reported in standard deviation units relative to the average or mean of these 1000 companies. Thus, a positive (negative) value for a portfolio characteristic indicates a value higher (lower) than the market average.

# of Stocks	- number of different issues held in the manager's stock portfolio.
Qtr. Port. Turnover	- the manager's total equity asset sales during the quarter divided by the average value of the manager's equity assets over the quarter.
Equity Allocation	- percent of the manager's total portfolio invested in common and preferred stocks and convertible securities.
Diversification (R2)	- extent to which a manager's equity holdings statistically resemble the stock market. Low (high) diversification portfolios will experience returns which are not well (are well) correlated with those of the market. By definition, the market has a diversification measure of 1.0. The less a portfolio is diversified, the lower will be its diversification measure (referred to as R-squared). The SBI's managers are required, over the long-term, to hold portfolios with diversification levels less than .85.

Market Volatility (Equity Beta) - degree to which the returns on the manager's stock portfolio are sensitive to movements in the stock market's return. By definition the market has a market volatility measure (referred to as beta) of 1.0. Portfolios with values greater (less) than 1.0 have above (below) average sensitivity to market moves. The SBI's managers are required, over the long-term to hold portfolios with market volatility levels above 1.10. This measure does not include the impact of cash holdings on total portfolio volatility.

Price Variability (MVAR) - risk related to the historical variability of the prices of stocks in the manager's portfolio. The more variable are the portfolio's securities' prices, the more risky is the portfolio. Items such as current stock price, twelve month price range, trading volume, and beta make up this measure.

Earnings Variability (EVAR) - risk related to the variability of the earnings of those companies owned in the manager's portfolio. The more variable are the companies' earnings, the more risky is the portfolio. Items such as variance of accounting earnings, variance of cash flow, occurrence of extraordinary accounting items, and the correlation of companies' earnings with U.S. corporate earnings make up this measure.

12-Month Relative Return (REL RET) - the return on the stocks currently in the manager's portfolio over the last twelve months less the return on the S&P 500.

Price-to-Book Ratio (P/B) - the market value of the manager's portfolio divided by the latest available annual book value.

5 Year Earnings Growth (5 YR. EARN.) - the annualized growth of the average earnings per share of the manager's portfolio over the latest five fiscal years.

Size and Immaturity (SIZE) - Risk related to the size and maturity of the companies held in the portfolio. The smaller and younger the companies, the more risky is the portfolio. Items such as total assets, market capitalization, gross plant/book value ratio, and company age make up this measure.

Growth (GROW) - risk related to the growth orientation of companies owned by the manager. The more growth-oriented are the companies, the riskier is the portfolio. Items such as dividend yield, E/P ratio, and growth in total assets make up this measure.

Earnings-to-Price Ratio (E/P) - the weighted average trailing four quarter earnings per share of the manager's common stock portfolio divided by the weighted average price per share of the manager's common stock portfolio.

Dividend Yield (YIELD) - indicated annual dividend of the manager's stock portfolio divided by the portfolio market value.

Financial Leverage (FINL) - risk related to the extent to which companies held in the portfolio have used debt to finance their operations. The more leveraged are the companies, the riskier is the portfolio. Items such as debt/asset ratio, current asset/current liability ratio, and uncovered fixed charges make up this ratio.

Industry Sector Overweightings - those sectors of the economy in which the manager has invested a significantly larger percentage of the portfolio than is represented by the stock market.

Industry Sector Underweightings - those sectors of the economy in which the manager has invested a significantly smaller percentage of the portfolio than is represented by the stock market.

TABLE A-1

EXTERNAL EQUITY MANAGERS

PORTFOLIO STATISTICS RELATIVE TO BENCHMARK PORTFOLIOS

QUARTER-END PORTFOLIO STATISTICS *

MANAGER		# OF STOCKS	EQUITY ALLOC.	MKT. VOLTY	DIVER.	YIELD	E/P	REL. RET.	P/B	5 YR EARN	MVAR	EVAR	SIZE	GROW	FINL
GROWTH MANAGERS															
Fred Alger	(A)	56	95	1.17	0.94	-0.48	-0.25	0.30	0.92	0.39	0.64	0.11	0.02	0.64	0.04
	(B)	1,045	95	1.21	N.A.	-0.28	-0.18	-0.33	0.13	0.00	0.40	0.11	0.07	0.50	0.03
Alliance	(A)	40	99	1.20	0.96	-0.50	-0.09	0.13	0.70	0.25	0.54	0.03	-0.18	0.67	-0.08
	(B)	334	95	1.22	N.A.	-0.45	-0.15	-0.19	0.34	0.31	0.49	0.02	0.44	0.72	-0.04
SMALL GROWTH MANAGERS															
BMI Capital	(A)	31	99	1.28	0.91	-0.64	0.09	-0.19	-0.02	-0.34	0.62	0.61	1.56	0.60	0.14
	(B)	1,042	95	1.43	N.A.	-0.61	-0.33	-0.03	0.13	0.00	0.92	0.13	0.77	0.98	-0.08
Lieber & Co.	(A)	113	97	1.25	0.86	-0.23	0.19	-0.51	-0.04	0.27	0.17	-0.01	1.50	0.74	-0.27
	(B)	1,129	95	1.29	N.A.	-0.44	-0.04	-0.56	0.01	0.09	0.40	0.05	1.94	0.85	-0.23
Waddell & Reed	(A)	66	86	1.25	0.92	-0.35	-0.30	0.03	0.28	-0.17	0.54	0.16	0.70	0.65	-0.09
	(B)	1,203	80	1.27	N.A.	-0.45	-0.37	-0.16	0.09	-0.11	0.59	0.22	1.13	0.62	0.13
ROTATIONAL MANAGERS															
Forstmann Leff	(A)	35	68	1.11	0.94	-0.29	-0.30	0.50	0.53	-0.01	0.47	0.10	-0.20	0.23	0.05
	(B)	1,383	70	1.17	N.A.	-0.13	-0.08	-0.22	0.12	0.07	0.31	0.04	0.63	0.45	0.06
Hellman Jordan	(A)	29	78	1.22	0.93	-0.45	0.08	-0.02	0.56	0.27	0.59	0.13	-0.39	0.78	-0.28
	(B)	454	83	1.05	N.A.	0.01	-0.05	-0.15	0.16	0.03	0.07	-0.01	-0.12	0.04	0.05
IDS	(A)	53	98	1.13	0.96	-0.30	-0.23	0.26	0.45	0.07	0.41	0.09	-0.09	0.38	-0.07
	(B)	786	90	1.05	N.A.	0.15	0.04	-0.21	0.05	0.05	0.01	-0.06	0.10	0.07	0.07
IAI	(A)	43	80	1.06	0.95	-0.27	-0.13	0.29	0.85	0.01	0.19	0.05	-0.14	0.21	0.03
	(B)	331	85	1.02	N.A.	0.11	0.01	-0.09	0.15	0.05	0.07	-0.05	-0.24	0.02	0.07
VALUE MANAGERS															
Beutel Goodman	(A)	29	86	1.14	0.89	-0.08	-0.42	-0.30	-0.59	-0.30	0.13	0.05	0.22	0.18	0.24
	(B)	422	95	1.19	N.A.	-0.02	0.01	-0.41	-0.46	-0.16	0.34	0.24	0.88	0.20	0.15
Peregrine Cap.	(A)	175	79	1.10	0.84	0.69	0.15	-0.91	-0.61	-0.25	-0.15	-0.04	0.67	-0.05	0.12
	(B)	1,056	90	1.11	N.A.	0.09	-0.04	-0.38	-0.24	-0.19	0.05	-0.03	0.49	0.12	0.12
Composite Active Ext. Managers		538	88	1.15	0.98	-0.18	-0.08	-0.10	0.18	0.00	0.32	0.07	0.16	0.39	0.04
Index Fund Manager		1,482	100	1.06	0.98	0.08	-0.01	-0.19	0.05	-0.04	0.06	-0.05	0.09	0.07	-0.01
Composite All Basic Eq. Managers		1,628	95	1.10	0.98	0.00	-0.04	-0.14	0.09	-0.02	0.20	0.04	0.02	0.17	0.01

(A) - Actual Portfolio
(B) - Benchmark Portfolio

TABLE A-2

EXTERNAL EQUITY MANAGERS

SECTOR WEIGHTINGS RELATIVE TO BENCHMARK PORTFOLIOS

SECTOR WEIGHTINGS

MANAGER		CAPITAL GOODS	CONSUMER DURABLES	CONSUMER NONDURABLES	ENERGY	FINANCIAL	MAT. & SERVICES	TECHNOLOGY	TRANS-PORTATION	UTILITIES
GROWTH MANAGERS										
Fred Alger	(A)	1.0%	1.7%	45.5%	3.6%	2.4%	10.2%	28.7%	5.3%	1.6%
	(B)	4.3	3.9	34.0	6.4	12.5	16.5	15.8	4.3	2.5
Alliance	(A)	5.9	5.1	35.4	2.4	16.5	11.6	17.5	5.7	---
	(B)	3.1	1.9	35.6	1.5	16.6	16.3	21.2	3.8	---
SMALL GROWTH MANAGERS										
BMI Capital	(A)	12.4	5.8	42.3	7.5	13.5	8.5	10.1	---	---
	(B)	5.2	3.4	28.5	2.0	26.5	15.5	13.6	4.5	0.6
Lieber & Company	(A)	3.3	6.1	31.6	1.7	37.4	7.3	8.9	3.1	0.7
	(B)	6.9	6.1	27.8	2.8	17.2	16.2	18.3	2.9	1.6
Waddell & Reed	(A)	4.1	10.2	19.1	9.0	2.9	20.8	30.7	2.3	0.8
	(B)	7.1	4.6	31.1	6.8	0.7	25.9	17.7	6.0	0.1
ROTATIONAL MANAGERS										
Forstmann Leff	(A)	---	---	25.2	0.9	2.3	42.1	25.0	4.4	---
	(B)	3.8	3.2	28.5	4.7	15.2	16.2	14.1	4.9	9.3
Hellman Jordan	(A)	---	11.2	18.0	---	22.1	9.8	34.0	4.9	---
	(B)	4.3	2.6	32.8	5.8	12.3	17.3	12.4	5.6	6.9
IDS	(A)	2.3	5.0	28.1	11.5	---	23.0	19.6	7.9	2.7
	(B)	3.5	2.6	27.4	5.6	14.1	14.4	13.2	4.4	14.7
Investment Advisers	(A)	6.4	3.1	31.9	3.6	1.1	30.7	14.4	3.4	5.4
	(B)	3.6	2.9	29.3	10.2	9.7	15.5	11.7	4.6	12.5
VALUE MANAGERS										
Beutel Goodman	(A)	6.5	3.0	18.6	16.5	27.8	13.0	22.2	---	2.5
	(B)	5.8	4.1	17.5	8.5	23.2	19.5	12.9	8.4	---
Peregrine Capital	(A)	3.9	7.8	24.7	3.7	15.0	7.4	16.1	3.1	18.2
	(B)	6.2	3.8	22.0	5.6	15.6	14.2	14.0	6.2	12.4
Composite External Managers		3.9	4.9	27.2	6.3	12.5	14.8	20.4	4.4	5.6
Index Fund Manager		4.8	3.9	27.9	9.6	12.5	13.3	13.3	3.2	11.5
Composite All Basic Managers		4.5	4.2	27.7	8.5	12.5	13.8	15.6	3.6	9.6
Wilshire 5000		4.8	4.0	27.3	9.8	12.3	13.4	13.6	3.1	11.7

(A) - Actual Portfolio
(B) - Benchmark Portfolio

TABLE A-3

EXTERNAL EQUITY MANAGERS

PERFORMANCE RELATIVE TO BENCHMARK PORTFOLIOS

Managers	Second Quarter 1987		Year Ending 6/30/87		Two Years Ending 6/30/87 (Annualized)		Three Years Ending 6/30/87 (Annualized)	
	Actual Portfolio	Benchmark Portfolio	Actual Portfolio	Benchmark Portfolio	Actual Portfolio	Benchmark Portfolio	Actual Portfolio	Benchmark Portfolio
Fred Alger	0.0%	2.8%	7.1%	20.0%	25.6%	27.5%	25.9%	27.6%
Alliance Capital	4.6	3.2	23.6	17.1	33.4	24.8	33.6	24.7
Beutel Goodman	5.3	3.5	17.1	24.5	16.7	28.1	22.9	29.3
BMI Capital	1.2	0.3	20.7	13.9	28.4	24.3	23.6	24.5
Forstmann Leff	1.6	2.1	12.3	15.1	27.2	20.4	28.0	21.5
Hellman Jordan	1.3	3.4	23.1	20.2	26.3	27.5	28.7	28.7
IDS	3.7	3.4	19.3	20.2	30.1	27.5	26.4	28.7
Investment Advisers	4.0	3.4	18.1	20.2	23.6	27.5	31.9	28.7
Lieber & Company	-1.3	0.1	7.3	9.7	23.5	23.0	25.9	23.8
Peregrine Capital	1.4	2.5	18.3	19.9	19.2	23.5	N.A.	23.9
Waddell & Reed	2.4	3.4	19.3	20.2	23.8	27.5	21.1	28.7
Internal Manager	3.4	4.9	26.3	24.8	22.3	N.A.	N.A.	N.A.
Wilshire Associates (Index Fund)	3.6	3.4	20.3	20.2	27.2	27.5	28.6	28.7
Total Basic Retirement Funds' Common Stock Segment	3.2	3.1	19.4	19.4	26.4	N.A.	27.8	N.A.
Capital Markets Data								
Wilshire 5000	3.3	---	20.1	---	27.4	---	28.6	---
90-Day Treasury Bills	1.4	---	5.7	---	6.5	---	7.4	---
Inflation	1.3	---	3.7	---	2.7	---	3.1	

TABLE A-4

EXTERNAL EQUITY MANAGERS

PORTFOLIO STATISTICS HISTORICAL SUMMARY

MANAGER NAME	DATE	QTR. PORT. T/O	EQUITY ALLOC.	R2	EQUITY BETA	MVAR	EVAR	REL RET	P/B	5 YR EARN	SIZE	GROW	E/P	YIELD	FINL
AVG. EXT. MANAGERS	6/30/87	29	88	0.92	1.17	0.38	0.12	-0.04	0.28	0.02	0.33	0.46	-0.11	-0.26	-0.02
	3/31/87	35	88	0.92	1.20	0.44	0.13	-0.07	0.23	-0.09	0.27	0.41	-0.06	-0.28	0.01
	12/31/86	28	89	0.91	1.20	0.43	0.15	0.06	0.20	-0.05	0.31	0.41	-0.05	-0.29	-0.01
	9/30/86	26	87	0.90	1.25	0.55	0.21	0.04	0.10	0.04	0.47	0.50	-0.06	-0.33	-0.05
	6/30/86	25	91	0.90	1.28	0.70	0.26	0.09	0.12	0.01	0.45	0.49	-0.06	-0.36	-0.07
	3/31/86	29	92	0.88	1.25	0.66	0.30	-0.04	0.07	0.02	0.41	0.41	-0.53	-0.27	0.08
	12/31/85	29	90	0.89	1.23	0.55	0.29	0.03	0.04	-0.02	0.43	0.33	-0.34	-0.23	0.14
	9/30/85	27	82	0.83	1.23	0.53	0.27	-0.29	0.04	0.07	0.41	0.31	-0.15	-0.25	0.07
	6/30/85	24	90	0.83	1.23	0.55	0.14	-0.23	0.07	0.20	0.46	0.27	-0.07	-0.18	-0.02
	3/31/85	33	90	0.82	1.23	0.53	0.02	-0.26	0.06	0.21	0.54	0.13	-0.01	-0.17	0.03
	12/31/84	24	86	0.81	1.25	0.56	0.08	-0.13	0.17	0.03	0.73	0.23	-0.03	-0.32	0.05
	9/30/84	33	84	0.82	1.26	0.56	0.09	-0.10	0.17	0.05	0.72	0.22	-0.08	-0.28	0.04
	6/30/84	27	81	0.81	1.29	0.36	0.04	-0.25	0.13	0.01	0.79	0.19	-0.02	-0.29	0.14
	3/31/84	25	83	0.82	1.25	0.38	0.03	-0.10	0.13	0.01	0.60	0.20	-0.15	-0.26	0.08
	12/31/83	36	84	0.80	1.23	0.44	0.07	-0.03	0.07	-0.19	0.80	0.26	-0.31	-0.27	0.06
FRED ALGER	6/30/87	50	95	0.94	1.17	0.64	0.11	0.30	0.92	0.39	0.02	0.64	-0.25	-0.48	0.04
	3/31/87	82	79	0.95	1.16	0.48	0.21	0.01	0.37	0.13	0.16	0.32	-0.02	-0.35	-0.04
	12/31/86	49	93	0.95	1.17	0.45	0.13	0.26	0.73	0.01	0.19	0.39	-0.02	-0.34	-0.04
	9/30/86	38	88	0.91	1.28	0.84	0.32	0.44	0.56	0.03	0.40	0.49	-0.19	-0.58	-0.10
	6/30/86	21	94	0.92	1.31	0.88	0.35	0.74	0.40	0.09	0.02	0.39	-0.04	-0.56	-0.01
	3/31/86	40	98	0.91	1.29	0.94	0.48	0.31	0.23	0.12	-0.17	0.45	-0.40	-0.54	0.19
	12/31/85	28	95	0.90	1.25	0.69	0.45	0.11	0.13	0.25	0.14	0.19	0.02	-0.45	0.25
	9/30/85	28	95	0.83	1.23	0.64	0.33	-0.07	0.16	0.31	0.32	0.33	-0.17	-0.42	0.08
	6/30/85	41	92	0.79	1.23	0.77	0.39	-0.07	0.32	0.48	0.26	0.53	-0.05	-0.55	0.05
	3/31/85	36	96	0.85	1.27	0.84	0.24	0.03	0.39	0.69	0.05	0.38	-0.23	-0.64	0.08
	12/31/84	16	95	0.86	1.19	0.48	0.05	0.03	0.35	0.10	0.26	0.10	0.03	-0.47	-0.09
	9/30/84	20	94	0.86	1.22	0.44	0.14	0.10	0.34	0.00	0.42	-0.01	-0.04	-0.44	-0.08
	6/30/84	16	93	0.86	1.22	0.11	-0.01	0.06	0.06	-0.21	0.45	-0.13	-0.21	-0.31	0.07
	3/31/84	19	91	0.86	1.19	0.14	0.04	-0.13	0.08	-0.34	0.46	-0.12	-0.40	-0.32	-0.00
	12/31/83	23	95	0.88	1.18	0.38	0.08	0.26	-0.04	-0.37	0.31	-0.05	-0.50	-0.32	0.05

MANAGER NAME	DATE	QTR. PORT. T/O	EQUITY ALLOC.	R2	EQUITY BETA	MVAR	EVAR	REL RET	P/B	5 YR EARN	SIZE	GROW	E/P	YIELD	FINL
ALLIANCE CAPITAL	6/30/87	18	99	0.96	1.20	0.54	0.03	0.13	0.70	0.25	-0.18	0.67	-0.09	-0.50	-0.08
	3/31/87	29	92	0.95	1.20	0.55	0.06	0.09	0.93	0.20	-0.28	0.65	-0.08	-0.51	-0.10
	12/31/86	19	96	0.92	1.23	0.43	-0.04	0.28	0.66	0.34	-0.15	0.82	-0.06	-0.58	-0.08
	9/30/86	13	99	0.91	1.21	0.44	-0.14	0.20	0.64	0.35	-0.12	0.64	0.00	-0.50	-0.26
	6/30/86	11	97	0.89	1.21	0.88	0.35	0.30	0.75	0.48	-0.19	0.68	-0.02	-0.50	-0.26
	3/31/86	17	94	0.85	1.24	0.53	0.11	0.48	0.88	0.36	-0.10	0.57	-0.46	-0.49	0.09
	12/31/85	7	96	0.83	1.23	0.52	0.13	0.23	1.06	0.43	-0.14	0.56	-0.44	-0.54	0.00
	9/30/85	15	89	0.73	1.24	0.53	0.15	0.09	0.99	0.54	-0.02	0.64	-0.50	-0.61	-0.08
	6/30/85	7	95	0.76	1.21	0.52	0.03	0.04	0.96	0.66	0.08	0.68	-0.30	-0.56	-0.06
	3/31/85	10	96	0.76	1.19	0.48	-0.12	0.10	0.74	0.73	0.15	0.63	-0.27	-0.55	-0.20
	12/31/84	8	92	0.73	1.30	0.56	0.09	0.03	0.82	0.51	0.26	0.85	-0.29	-0.73	-0.15
	9/30/84	13	88	0.72	1.34	0.53	0.15	-0.02	0.72	0.52	0.33	0.83	-0.28	-0.65	-0.09
	6/30/84	8	92	0.73	1.39	0.46	0.13	-0.27	0.78	0.45	0.48	0.78	-0.40	-0.73	-0.04
	3/31/84	12	92	0.72	1.38	0.68	0.13	0.13	0.71	0.46	0.50	0.65	-0.47	-0.72	-0.04
	12/31/83	14	92	0.72	1.37	0.65	0.31	0.18	0.78	0.14	0.45	0.72	-0.50	-0.72	0.06
BEUTEL GOODMAN	6/30/87	12	86	0.89	1.14	0.13	0.05	-0.30	-0.59	-0.30	0.22	0.18	-0.42	-0.08	0.24
	3/31/87	25	84	0.88	1.18	0.25	0.31	-0.57	-0.66	-0.23	0.25	0.34	-0.17	-0.02	0.27
	12/31/86	18	96	0.86	1.21	0.41	0.22	-0.79	-0.69	-0.24	0.22	0.40	-0.35	-0.04	0.39
	9/30/86	13	95	0.87	1.20	0.33	0.48	-0.68	-0.68	-0.35	0.38	0.09	-0.31	0.09	0.35
	6/30/86	10	87	0.89	1.20	0.22	0.54	-0.79	-0.67	-0.28	0.23	0.07	-0.41	0.10	0.28
	3/31/86	22	87	0.85	1.15	0.37	0.64	-0.66	-0.64	-0.33	0.19	0.23	-0.94	0.06	0.12
	12/31/85	18	89	0.83	1.22	0.30	0.58	-0.58	-0.61	-0.74	0.63	0.13	-0.88	0.25	0.35
	9/30/85	5	99	0.81	1.26	0.47	0.47	-0.40	-0.32	-0.52	0.90	0.12	-0.73	0.09	0.26
	6/30/85	6	94	0.83	1.24	0.55	0.22	-0.27	-0.26	-0.64	0.96	0.27	-0.55	-0.02	0.37
	3/31/85	14	93	0.83	1.18	0.38	-0.25	-0.38	-0.25	-0.71	1.19	0.14	-0.43	0.06	0.24
	12/31/84	8	94	0.81	1.19	0.27	-0.15	-0.41	-0.42	-0.87	1.14	0.04	0.21	0.06	0.63
	9/30/84	10	93	0.81	1.21	0.31	-0.17	-0.10	-0.41	-0.81	1.28	0.10	0.23	0.08	0.59
	6/30/84	11	92	0.79	1.18	0.05	-0.29	0.19	-0.44	-0.89	1.32	0.07	0.02	-0.05	0.58
	3/31/84	12	98	0.79	1.16	0.16	-0.19	0.27	-0.41	-0.85	1.34	0.01	-0.42	-0.04	0.37
	12/31/83	15	95	0.74	1.08	0.21	-0.08	0.22	-0.42	-0.61	1.18	0.03	-0.72	0.05	0.24
BMI CAPITAL	6/30/87	14	99	0.91	1.28	0.62	0.61	-0.19	-0.02	-0.34	1.56	0.60	0.09	-0.64	0.14
	3/31/87	20	96	0.89	1.29	0.65	0.48	-0.02	0.00	-0.62	1.27	0.89	0.10	-0.63	0.25
	12/3186	21	96	0.91	1.21	0.67	0.47	0.13	-0.01	-0.43	1.15	0.76	-0.09	-0.74	-0.04
	9/30/86	7	97	0.89	1.31	0.78	0.49	0.14	-0.03	-0.28	1.50	1.07	-0.35	-0.85	-0.11
	6/30/86	20	96	0.90	1.37	1.10	0.31	0.23	0.23	-0.14	1.60	0.95	-0.08	-0.84	-0.17
	3/31/86	17	97	0.86	1.33	0.98	0.43	-0.13	0.37	0.03	1.48	0.96	-1.06	-0.59	0.08
	12/31/85	5	95	0.85	1.27	0.74	0.35	-0.30	0.22	0.13	1.14	0.59	-0.80	-0.40	-0.01
	9/30/85	28	28	0.72	1.40	0.89	0.32	-0.78	0.48	0.67	1.47	0.74	-0.42	-0.71	-0.25
	6/30/85	10	98	0.75	1.22	0.80	0.17	-0.52	0.80	1.06	1.42	0.63	-0.14	-0.56	-0.38
	3/31/85	2	99	0.55	1.26	0.84	0.10	-0.66	1.13	1.04	1.49	0.23	-0.20	-0.61	-0.33
	12/31/84	13	87	0.74	1.33	0.78	0.34	-0.20	1.05	0.56	1.41	0.11	-0.24	-0.57	-0.18
	9/30/84	29	82	0.75	1.33	0.78	0.17	-0.44	0.83	0.63	1.17	-0.05	0.01	-0.44	-0.23
	6/30/84	6	99	0.79	1.33	0.63	0.17	-0.37	0.67	0.32	1.51	0.22	-0.24	-0.48	-0.16
	3/31/84	18	95	0.80	1.32	0.77	0.20	-0.53	0.72	0.31	1.86	0.36	-0.40	-0.47	-0.14
	12/31/83	14	98	0.81	1.29	1.02	0.26	0.26	0.58	0.08	1.60	0.48	-0.52	-0.49	0.01

MANAGER NAME	DATE	QTR. PORT. T/O	EQUITY ALLOC.	R2	EQUITY BETA	MVAR	EVAR	REL RET	P/B	5 YR EARN	SIZE	GROW	E/P	YIELD	FINL
FORSTMANN-LEFF	6/30/87	63	68	0.94	1.11	0.47	0.10	0.50	0.53	-0.01	-0.20	0.23	-0.30	-0.29	0.05
	3/31/87	77	77	0.95	1.21	0.51	-0.09	0.29	0.55	-0.09	-0.16	0.30	-0.15	-0.45	0.00
	12/31/86	54	71	0.88	1.29	0.64	0.29	0.90	1.01	0.24	0.19	0.44	-0.09	-0.58	-0.16
	9/30/86	60	51	0.85	1.53	1.33	0.59	0.44	0.43	0.44	1.08	1.07	-0.02	-0.82	-0.12
	6/30/86	71	87	0.88	1.49	1.26	0.51	0.29	0.37	0.35	0.87	0.93	-0.04	-0.72	-0.25
	3/31/86	83	89	0.88	1.37	0.91	0.35	0.16	0.10	-0.35	0.64	0.59	-0.77	-0.39	0.27
	12/31/85	78	88	0.91	1.35	0.94	0.36	0.48	0.06	-0.38	0.03	0.45	-0.44	-0.46	0.35
	9/30/85	108	70	0.88	1.27	0.64	0.24	0.13	0.10	-0.42	0.00	0.25	-0.48	-0.43	0.25
	6/30/85	27	77	0.89	1.22	0.83	0.17	0.16	0.15	0.08	-0.20	0.35	-0.07	-0.33	0.09
	3/31/85	55	69	0.89	1.19	0.67	0.07	-0.15	-0.04	0.13	-0.03	0.16	0.14	-0.18	0.02
	12/31/84	12	87	0.84	1.22	0.39	-0.06	-0.14	-0.07	-0.44	0.39	-0.06	-0.01	-0.10	0.08
	9/30/84	40	83	0.86	1.26	0.49	0.03	-0.20	-0.25	-0.43	0.25	-0.17	-0.23	-0.09	0.14
	6/30/84	31	54	0.81	1.26	0.14	0.01	-0.27	-0.21	-0.22	0.16	0.07	-0.08	-0.16	0.15
	3/31/84	34	71	0.82	1.17	0.13	-0.04	-0.11	-0.14	-0.21	0.17	0.05	-0.18	-0.10	0.15
	12/31/83	41	81	0.70	1.10	0.02	-0.11	-0.25	-0.03	-0.25	-0.12	-0.03	-0.15	-0.07	0.05
HELLMAN JORDAN	6/30/87	44	78	0.93	1.22	0.59	0.13	-0.02	0.56	0.27	-0.39	0.78	0.08	-0.45	-0.28
	3/31/87	18	96	0.93	1.33	0.83	0.10	0.08	0.64	-0.16	-0.17	0.84	-0.17	-0.65	-0.05
	12/31/86	16	96	0.91	1.29	0.72	0.11	0.05	0.36	-0.22	-0.24	0.65	0.02	-0.64	-0.05
	9/30/86	20	96	0.90	1.34	0.87	0.07	0.22	0.30	-0.21	-0.18	0.89	-0.02	-0.70	-0.06
	6/30/86	15	98	0.89	1.34	0.80	0.15	0.12	0.16	-0.29	-0.07	0.95	-0.02	-0.57	0.00
	3/31/86	35	97	0.88	1.26	0.79	0.34	0.26	0.06	0.19	-0.16	0.83	-0.71	-0.48	0.09
	12/31/85	36	95	0.93	1.14	0.32	0.23	-0.13	-0.17	0.04	-0.13	0.39	-0.22	-0.22	0.25
	9/30/85	36	96	0.89	1.07	0.26	0.09	-0.49	-0.29	-0.06	-0.54	0.03	0.02	0.00	0.27
	6/30/85	38	89	0.89	1.10	0.29	-0.04	-0.27	-0.21	-0.12	-0.47	-0.07	0.18	0.15	0.07
	3/31/85	52	81	0.88	1.13	0.28	-0.12	-0.20	-0.28	-0.07	-0.24	0.00	-0.07	0.06	0.30
	12/31/84	36	82	0.86	1.21	0.59	0.25	-0.36	-0.35	-0.36	0.15	0.12	0.14	-0.09	0.30
	9/30/84	10	80	0.84	1.22	0.64	0.38	-0.17	-0.26	-0.45	0.22	0.16	-0.08	0.05	0.33
	6/30/84	34	61	0.87	1.25	0.28	0.21	-0.34	-0.29	-0.33	0.10	0.10	-0.10	0.16	0.52
	3/31/84	30	58	0.87	1.16	0.25	0.15	0.03	-0.41	-0.22	0.01	0.19	-0.05	0.25	0.30
	12/31/83	43	51	0.74	1.23	0.16	0.09	-0.19	-0.23	-0.26	0.25	0.18	0.07	0.45	0.26
IDS ADVISORY	6/30/87	22	98	0.96	1.13	0.41	0.09	0.26	0.45	0.07	-0.09	0.38	-0.23	-0.30	-0.07
	3/31/87	38	97	0.96	1.14	0.44	0.05	0.42	0.65	0.07	-0.20	0.27	-0.15	-0.22	-0.15
	12/31/86	14	99	0.94	1.16	0.35	0.08	0.48	0.51	0.25	0.01	0.27	0.09	-0.21	-0.07
	9/30/86	28	95	0.92	1.19	0.45	0.22	0.58	0.35	0.32	0.18	0.23	0.10	-0.18	-0.03
	6/30/86	28	90	0.93	1.19	0.54	0.17	0.54	0.46	0.25	0.09	0.22	0.06	-0.23	-0.08
	3/31/86	16	92	0.91	1.20	0.53	0.21	0.44	0.50	0.34	0.11	0.29	-0.11	-0.22	0.11
	12/31/85	19	93	0.88	1.18	0.55	0.30	0.19	0.55	0.35	0.24	0.28	-0.12	-0.21	0.16
	9/30/85	21	98	0.86	1.15	0.37	0.28	-0.02	0.30	0.34	0.07	0.22	-0.17	-0.15	0.06
	6/30/85	13	98	0.87	1.11	0.37	0.21	0.17	0.16	0.41	-0.02	0.16	0.00	0.04	0.03
	3/31/85	39	87	0.85	1.08	0.24	-0.06	0.10	0.07	0.43	-0.09	-0.06	0.18	0.18	0.10
	12/31/84	21	89	0.83	1.05	0.04	-0.10	0.16	0.12	0.23	-0.07	-0.07	0.11	0.25	0.07
	9/30/84	40	92	0.89	1.08	0.17	-0.12	0.17	0.28	0.31	0.08	-0.04	0.19	0.23	0.03
	6/30/84	42	87	0.85	1.04	-0.08	-0.15	0.28	0.54	0.31	0.28	-0.11	0.18	0.21	0.17
	3/31/84	41	82	0.80	1.09	0.11	-0.01	0.23	0.15	0.19	0.17	-0.13	0.28	0.14	0.04
	12/31/83	45	89	0.86	1.17	0.24	0.23	0.27	0.15	-0.15	0.43	0.22	-0.34	-0.13	0.14

MANAGER NAME	DATE	QTR. PORT. T/O	EQUITY ALLOC.	R2	EQUITY BETA	MVAR	EVAR	REL RET	P/B	5 YR EARN	SIZE	GROW	E/P	YIELD	FINL
INVESTMENT ADVISERS	6/30/87	9	82	0.95	1.06	0.19	0.05	0.29	0.85	0.01	-0.14	0.21	-0.13	-0.27	0.03
	3/31/87	8	82	0.95	1.08	0.27	0.06	0.18	0.72	0.08	-0.16	0.16	-0.06	-0.27	0.04
	12/31/86	15	77	0.93	1.07	0.24	0.12	0.29	0.45	0.02	-0.12	0.18	0.00	-0.23	-0.02
	9/30/86	12	77	0.94	1.12	0.31	0.06	0.27	0.34	0.07	0.00	0.35	-0.17	-0.39	-0.09
	6/30/86	22	84	0.94	1.17	0.55	-0.04	0.40	0.28	0.06	-0.03	0.28	-0.16	-0.44	-0.10
	3/31/86	13	84	0.95	1.12	0.48	0.10	0.07	0.02	-0.03	-0.11	0.40	-0.57	-0.29	0.02
	12/31/85	32	83	0.93	1.14	0.39	0.18	-0.22	0.04	-0.01	-0.12	0.29	-0.27	-0.24	0.02
	9/30/85	4	95	0.92	1.15	0.45	0.18	-0.40	-0.12	0.07	-0.02	0.28	0.02	-0.25	0.03
	6/30/85	10	90	0.90	1.17	0.60	0.10	-0.33	-0.26	0.14	-0.17	0.12	0.18	-0.19	-0.08
	3/31/85	28	89	0.91	1.17	0.51	0.05	-0.33	-0.26	0.16	0.08	-0.02	0.43	-0.11	-0.06
	12/31/84	9	97	0.88	1.19	0.39	-0.12	-0.20	-0.34	-0.15	0.09	-0.08	0.43	-0.01	0.04
	9/30/84	21	88	0.86	1.21	0.40	-0.13	-0.21	-0.23	-0.00	0.12	0.02	0.45	-0.02	0.06
	6/30/84	8	98	0.89	1.21	0.11	-0.23	-0.28	-0.22	0.09	0.08	0.02	0.48	0.00	0.21
	3/31/84	21	92	0.89	1.17	0.05	-0.22	-0.36	-0.17	0.14	0.14	0.07	0.25	-0.14	0.22
	12/31/83	16	89	0.86	1.13	0.06	-0.15	-0.30	-0.16	-0.05	0.01	0.15	-0.09	-0.17	0.17
LIEBER & COMPANY	6/30/87	11	97	0.86	1.25	0.17	-0.01	-0.51	-0.04	0.27	1.50	0.74	0.19	-0.23	-0.27
	3/31/87	15	94	0.85	1.27	0.27	0.06	-0.25	-0.01	0.22	1.58	0.59	0.15	-0.34	-0.25
	12/31/86	14	96	0.88	1.28	0.35	0.11	0.01	-0.08	0.13	1.47	0.49	0.19	-0.32	-0.17
	9/30/86	11	99	0.89	1.31	0.44	0.10	0.06	-0.02	0.24	1.44	0.52	0.15	-0.32	-0.27
	6/30/86	7	99	0.90	1.32	0.59	0.12	0.12	0.05	0.15	1.50	0.55	0.14	-0.36	-0.33
	3/31/86	14	99	0.86	1.31	0.63	0.02	-0.06	0.03	0.16	1.49	0.48	0.00	-0.38	-0.27
	12/31/85	12	97	0.85	1.30	0.53	0.07	-0.01	0.04	0.27	1.56	0.48	0.02	-0.39	-0.21
	9/30/85	6	98	0.80	1.30	0.54	0.12	-0.04	0.03	0.35	1.64	0.50	-0.10	-0.40	-0.31
	6/30/85	14	96	0.80	1.27	0.55	0.04	-0.17	0.03	0.40	1.83	0.36	-0.05	-0.35	-0.43
	3/31/85	19	99	0.81	1.24	0.65	0.03	0.04	0.09	0.35	1.79	0.17	-0.02	-0.35	-0.21
	12/31/84	14	85	0.79	1.34	0.78	0.12	-0.25	0.03	0.39	1.94	0.48	-0.05	-0.47	-0.17
	9/30/84	17	87	0.80	1.31	0.74	0.07	-0.28	0.05	0.49	1.99	0.51	0.01	-0.48	-0.18
	6/30/84	10	95	0.81	1.33	0.76	0.05	-0.37	0.13	0.52	1.99	0.42	-0.02	-0.48	-0.10
	3/31/84	0	93	0.85	1.37	0.65	0.00	-0.16	0.18	0.57	1.99	0.45	0.03	-0.46	-0.12
	12/31/83	9	00	0.83	1.24	0.63	-0.01	0.30	-0.06	0.28	1.93	0.29	0.12	-0.38	-0.07
PEREGRINE CAPITAL	6/30/87	26	79	0.84	1.10	-0.15	-0.04	-0.91	-0.61	-0.25	0.67	-0.05	0.15	0.69	0.12
	3/31/87	41	79	0.84	1.12	-0.11	0.00	-0.90	-0.59	-0.19	0.54	-0.04	0.06	0.57	0.10
	12/31/86	50	81	0.86	1.18	0.12	0.04	-1.05	-0.57	-0.20	0.51	0.16	-0.15	0.42	0.12
	9/30/86	50	83	0.86	1.12	-0.07	0.06	-1.06	-0.66	-0.26	0.50	0.12	0.00	0.47	0.17
	6/30/86	37	83	0.79	1.18	0.09	0.27	-1.28	-0.75	-0.52	0.62	0.17	-0.06	0.56	0.22
	3/31/86	47	84	0.76	1.19	0.19	0.16	-1.53	-0.73	-0.41	0.73	0.20	-0.31	0.51	0.19
	12/31/85	53	82	0.81	1.21	0.26	0.18	-1.31	-0.77	-0.55	0.88	0.10	-0.54	0.33	0.27
	9/30/85	9	80	0.82	1.22	0.53	0.37	-1.26	-0.63	-0.36	0.36	0.15	-0.33	0.22	0.24
	6/30/85	58	75	0.78	1.48	0.25	0.00	-1.46	-0.60	-0.45	1.06	0.07	-0.34	0.27	-0.13
	3/31/85	49	89	0.79	1.41	0.32	0.07	-1.28	-0.53	-0.48	1.01	-0.07	-0.09	0.27	0.02
	12/31/84	37	87	0.81	1.37	1.11	0.39	-0.05	0.72	0.27	1.88	0.76	-0.79	-0.96	-0.11
	9/30/84	61	97	0.81	1.36	1.10	0.43	0.10	0.89	0.22	1.70	0.83	-0.82	-0.95	-0.17
	6/30/84	26	89	0.83	1.39	0.77	0.37	-0.59	0.49	0.23	1.45	0.71	-0.55	-0.77	-0.09
	3/31/84	66	87	0.82	1.28	0.76	0.26	-0.30	0.82	0.31	1.29	0.77	-0.59	-0.67	-0.07
	12/31/83	92	83	0.87	1.23	0.66	0.16	0.12	0.41	0.12	1.32	0.74	-0.59	-0.69	-0.09

MANAGER NAME	DATE	QTR. PORT. T/O	EQUITY ALLOC.	R2	EQUITY BETA	MVAR	EVAR	REL RET	P/B	5 YR EARN	SIZE	GROW	E/P	YIELD	FINL
WADDELL & REED	6/30/87	45	86	0.92	1.25	0.54	0.16	0.03	0.28	-0.17	0.70	0.65	-0.30	-0.35	-0.09
	3/31/87	29	90	0.93	1.22	0.65	0.18	-0.07	-0.05	-0.41	0.67	0.16	-0.17	-0.18	0.03
	12/31/86	42	73	0.95	1.13	0.38	0.16	0.06	-0.14	-0.47	0.23	-0.02	-0.11	0.09	-0.01
	9/30/86	38	78	0.94	1.14	0.38	0.07	0.03	-0.13	-0.17	0.00	0.02	0.13	0.10	-0.06
	6/30/86	35	79	0.93	1.28	0.74	0.08	0.28	0.02	-0.04	0.30	0.23	-0.02	-0.35	-0.02
	3/31/86	20	88	0.93	1.29	0.87	0.42	0.22	-0.07	-0.19	0.36	0.11	-0.51	-0.16	0.11
	12/31/85	36	75	0.91	1.27	0.76	0.36	0.10	-0.12	0.02	0.48	0.22	-0.02	-0.20	0.15
	9/30/85	41	50	0.85	1.24	0.53	0.37	-0.02	-0.24	-0.13	0.36	0.15	0.17	-0.09	0.24
	6/30/85	34	74	0.79	1.19	0.55	0.21	0.14	-0.31	0.17	0.26	-0.17	0.41	0.11	0.27
	3/31/85	51	78	0.82	1.26	0.62	0.23	-0.12	-0.39	0.09	0.49	-0.09	0.43	0.01	0.34
	12/31/84	39	52	0.75	1.29	0.78	0.10	0.00	-0.05	0.05	0.54	0.27	0.13	-0.30	0.12
	9/30/84	76	35	0.76	1.27	0.53	0.07	-0.01	-0.04	0.08	0.35	0.22	0.21	-0.20	0.02
	6/30/84	81	21	0.52	1.56	0.71	0.22	-0.74	-0.05	-0.16	0.89	-0.03	0.72	-0.60	0.24
	3/31/84	35	31	0.74	1.31	0.43	0.03	-0.13	-0.12	-0.22	0.61	-0.08	0.28	-0.35	0.23
	12/31/83	103	31	0.72	1.36	0.86	0.03	-0.49	-0.23	-1.07	1.42	0.09	-0.24	-0.46	-0.14

TABLE A-5

EXTERNAL EQUITY MANAGERS

SECTOR WEIGHTING HISTORICAL PROFILE

MANAGER NAME	DATE	TOTAL PORTFOLIO MARKET VALUE	EQUITY SECTOR WEIGHTS								
			CAP GDS	CONS DUR	CONS NDUR	ENER	FINL	MAT & SERV	TECH	TRAN	UTIL
AVG. EXT. MANAGERS	6/30/87	---	4.2	5.4	29.1	4.6	12.8	16.8	20.6	3.6	2.9
	3/31/87	---	3.5	5.7	28.5	4.8	17.3	15.6	18.1	3.9	2.6
	12/31/86	---	3.1	5.2	29.4	3.7	19.0	15.1	16.0	5.0	3.5
	9/30/86	---	3.6	5.6	29.4	3.6	19.2	14.5	15.6	5.5	3.0
	6/30/86	---	3.7	5.5	30.7	2.4	21.0	13.3	14.6	5.3	3.3
	3/31/86	---	2.8	5.5	25.6	5.1	20.7	13.4	14.6	6.4	5.8
	12/31/85	---	3.0	6.2	24.1	7.4	19.1	13.0	14.5	7.4	5.3
	9/30/85	---	2.8	6.6	27.5	4.2	18.4	12.7	16.8	7.6	3.4
	6/30/85	---	2.2	6.6	29.3	3.1	20.0	10.9	17.3	7.6	3.0
	3/31/85	---	2.4	6.8	26.4	3.6	17.5	11.4	22.2	6.8	3.0
	12/31/84	---	2.4	8.0	26.4	2.3	15.5	11.2	23.9	6.6	4.0
	9/30/84	---	2.9	7.9	27.9	3.8	14.1	9.6	26.3	4.8	2.7
	6/30/84	---	4.0	7.6	28.6	4.2	12.5	10.9	23.4	5.4	3.4
	3/31/84	---	5.2	7.6	24.0	5.7	13.2	13.3	22.7	5.1	3.1
	12/31/83	---	6.0	6.4	23.5	3.0	12.2	15.1	24.0	6.3	3.5
FRED ALGER	6/30/87	120,786,460	1.0	1.7	45.5	3.6	2.4	10.2	28.7	5.3	1.6
	3/31/87	120,744,512	1.3	2.5	43.1	2.1	12.1	11.6	25.1	2.2	---
	12/31/86	101,957,413	2.0	3.0	44.1	6.5	10.8	12.2	20.4	0.9	---
	9/30/86	96,875,274	1.9	3.7	49.6	---	12.8	4.6	18.8	8.7	---
	6/30/86	112,733,180	1.9	7.5	52.9	---	11.6	6.2	15.8	4.0	---
	3/31/86	103,958,164	1.7	8.2	46.5	---	17.4	5.9	18.7	1.6	---
	12/31/85	86,744,768	1.7	11.7	38.7	---	18.2	3.1	17.0	6.6	2.9
	9/30/85	73,092,544	---	10.3	44.4	2.4	14.1	3.1	14.5	8.4	2.8
	6/30/85	63,144,042	---	17.6	36.0	1.4	9.3	3.5	15.7	16.6	---
	3/31/85	57,886,615	5.2	14.3	28.8	3.7	7.8	1.8	24.8	13.6	---
	12/31/84	54,018,782	5.2	16.1	36.1	---	4.1	7.9	25.2	5.4	---
	9/30/84	53,908,974	9.3	15.4	33.7	---	0.8	11.4	23.5	6.0	---
	6/30/84	49,936,760	14.0	8.0	30.7	---	3.8	11.5	29.5	2.6	---
	3/31/84	51,737,228	13.3	4.3	28.8	---	3.4	18.3	31.9	---	---
	12/31/83	55,644,200	13.2	6.6	21.7	---	6.4	18.1	33.9	---	---

EQUITY SECTOR WEIGHTS

MANAGER NAME	DATE	TOTAL PORTFOLIO MARKET VALUE	CAP GDS	CONS DUR	CONS NDUR	ENER	FINL	MAT & SERV	TECH	TRAN	UTIL
ALLIANCE CAPITAL	6/30/87	136,207,599	5.9	5.1	35.4	2.4	16.5	11.6	17.5	5.7	---
	3/31/87	130,165,259	5.8	5.5	33.9	3.5	20.8	9.5	16.5	4.5	---
	12/31/86	102,208,699	3.3	4.6	32.5	---	23.2	10.4	15.0	11.0	---
	9/30/86	97,177,251	3.0	3.9	42.5	---	24.2	4.7	13.0	8.7	---
	6/30/86	110,202,737	2.3	3.6	49.1	---	28.1	---	9.8	7.1	---
	3/31/86	104,093,860	2.4	4.5	46.6	---	30.2	2.5	8.2	5.6	---
	12/31/85	87,252,311	---	4.6	45.6	---	29.2	---	14.3	6.3	---
	9/30/85	74,094,296	---	7.5	52.0	---	21.8	---	11.1	7.6	---
	6/30/85	65,072,829	---	8.7	49.9	2.2	14.3	---	12.7	8.9	3.3
	3/31/85	58,738,405	---	9.9	47.9	2.4	12.6	---	15.8	8.0	3.4
	12/31/84	52,332,767	---	8.7	48.8	---	10.2	---	20.6	8.1	3.7
	9/30/84	51,653,441	---	8.8	49.7	---	9.6	---	19.3	9.2	3.5
	6/30/84	48,457,996	---	8.1	51.6	---	6.9	---	23.5	9.9	---
	3/31/84	47,427,119	---	8.3	48.0	2.7	5.6	---	25.1	10.4	---
	12/31/83	52,725,699	0.8	7.5	45.3	---	6.8	2.4	24.2	13.1	---
BEUTEL GOODMAN	6/30/87	132,802,200	6.5	3.0	18.6	6.5	27.8	13.0	22.2	---	2.5
	3/31/87	126,160,277	2.4	3.1	15.4	3.4	25.5	17.8	25.9	3.5	3.1
	12/31/86	107,294,817	2.1	3.4	9.7	4.8	23.0	20.6	29.3	4.3	2.7
	9/30/86	86,368,324	2.7	4.4	11.1	4.2	24.6	23.4	19.4	5.9	4.1
	6/30/86	90,128,302	3.4	5.3	9.3	4.0	20.3	23.3	19.0	11.0	4.4
	3/31/86	90,652,277	4.2	4.2	9.2	3.8	18.6	22.9	20.9	11.5	4.6
	12/31/85	79,304,850	3.9	3.8	9.0	2.8	28.2	22.1	18.2	12.0	---
	9/30/85	70,821,795	2.7	3.7	15.7	---	26.0	24.0	16.6	11.3	---
	6/30/85	75,450,430	2.8	---	12.8	---	30.4	23.1	19.1	11.7	---
	3/31/85	70,177,266	2.1	---	19.2	---	28.4	33.1	13.6	3.6	---
	12/31/84	63,402,269	8.8	---	13.8	---	32.2	33.8	11.4	---	---
	9/30/84	60,461,938	6.5	---	14.0	---	37.1	35.6	6.8	---	---
	6/30/84	55,295,358	9.3	---	21.1	---	30.4	32.4	6.7	---	---
	3/31/84	56,896,258	8.9	---	18.6	---	27.2	39.3	6.0	---	---
	12/31/83	57,233,781	9.8	---	20.2	---	11.2	46.2	5.4	7.2	---
BMI CAPITAL	6/30/87	82,736,116	12.4	5.8	42.3	7.5	13.5	8.5	10.1	---	---
	3/31/87	81,802,425	11.7	8.1	37.0	5.3	14.3	13.3	10.3	---	---
	12/31/86	65,559,574	8.7	10.5	35.9	---	20.1	8.9	15.9	---	---
	9/30/86	62,163,502	10.2	8.1	38.7	---	13.1	12.4	17.5	---	---
	6/30/86	68,576,473	8.5	6.4	43.4	---	19.8	2.9	19.1	---	---
	3/31/86	64,120,062	6.8	7.7	38.4	4.6	20.9	3.6	18.0	---	---
	12/31/85	54,452,525	9.9	4.0	32.2	14.6	19.3	4.3	12.3	3.4	---
	9/30/85	49,026,413	10.4	3.4	37.8	---	6.0	4.0	28.9	9.6	---
	6/30/85	9,759,880	5.4	9.7	34.9	---	5.7	4.0	30.3	9.9	---
	3/31/85	9,851,108	7.1	9.0	37.6	---	---	6.8	35.9	3.7	---
	12/31/84	9,015,974	6.5	5.8	40.0	---	---	7.4	35.9	4.4	---
	9/30/84	8,820,740	4.6	13.4	42.6	---	---	4.1	31.3	3.9	---
	6/30/84	8,533,642	3.2	16.4	37.4	---	---	11.5	31.5	---	---
	3/31/84	8,366,038	4.3	12.7	39.3	---	---	17.8	25.9	---	---
	12/31/83	9,784,767	7.4	12.1	28.4	---	6.6	19.0	26.4	---	---

EQUITY SECTOR WEIGHTS

MANAGER NAME	DATE	TOTAL PORTFOLIO MARKET VALUE	CAP GDS	CONS DUR	CONS NDUR	ENER	FINL	MAT & SERV	TECH	TRAN	UTIL
FORSTMANN-LEFF	6/30/87	107,438,093	---	---	25.2	0.9	2.3	42.1	25.0	4.4	---
	3/31/87	105,717,837	---	---	31.0	---	22.5	30.8	10.6	5.1	---
	12/31/86	88,281,072	---	1.4	44.6	---	16.7	20.5	9.6	5.9	1.3
	9/30/86	85,396,871	---	10.4	28.8	---	19.0	17.2	18.9	5.7	---
	6/30/86	95,703,997	2.6	6.6	25.2	---	22.4	13.2	23.7	5.2	1.1
	3/31/86	87,886,861	1.3	4.0	18.1	---	34.7	17.4	10.1	8.1	6.3
	12/31/85	73,996,082	1.4	7.9	25.7	2.1	25.2	22.1	8.9	6.7	---
	9/30/85	63,626,068	---	9.7	41.6	6.6	20.9	6.4	12.1	2.8	---
	6/30/85	66,383,632	1.1	7.4	40.1	---	25.1	10.3	11.0	5.1	---
	3/31/85	61,436,421	2.5	9.8	25.7	---	25.5	14.7	17.4	4.4	---
	12/31/84	55,396,358	1.4	10.5	30.9	---	23.3	15.1	13.3	5.5	---
	9/30/84	53,550,733	4.5	4.6	32.5	---	21.5	14.5	18.9	3.6	---
	6/30/84	51,218,131	3.7	3.6	40.2	---	7.0	10.3	24.3	7.2	3.7
	3/31/84	52,083,507	7.6	3.0	37.0	---	6.0	14.5	23.1	6.0	2.8
	12/31/83	55,421,154	5.7	13.6	35.5	5.8	3.9	8.4	18.7	5.3	3.1
HELLMAN JORDAN	6/30/87	102,296,573	---	11.2	18.0	---	22.1	9.8	34.0	4.9	---
	3/31/87	101,035,689	---	6.0	24.9	---	25.6	5.8	31.3	6.3	---
	12/31/86	78,099,466	---	3.8	29.8	---	31.7	7.3	23.2	4.1	---
	9/30/86	74,466,800	---	6.4	25.6	---	33.5	8.1	23.3	3.2	---
	6/30/86	83,097,338	---	9.3	24.8	---	32.7	10.7	20.1	2.4	---
	3/31/86	82,829,526	---	12.1	22.3	2.2	29.8	13.6	18.4	1.7	---
	12/31/85	71,819,754	---	8.8	20.1	9.4	23.5	18.7	15.2	2.9	1.4
	9/30/85	60,551,842	---	5.6	17.1	6.9	26.9	17.2	13.8	4.7	7.7
	6/30/85	64,181,384	3.9	3.5	23.0	7.0	26.0	15.5	7.5	3.5	10.0
	3/31/85	59,732,797	1.3	---	21.9	5.9	25.3	13.6	16.1	6.7	9.2
	12/31/184	54,923,168	1.3	6.1	19.5	1.1	19.8	17.1	20.3	9.2	5.7
	9/30/84	52,497,049	1.5	10.7	11.3	0.8	14.0	15.3	29.3	12.0	5.0
	6/30/84	47,929,367	1.8	12.4	13.8	1.2	16.4	21.2	12.6	11.1	9.6
	3/31/84	49,895,127	---	12.4	19.5	6.4	15.7	15.7	4.3	8.8	17.2
	12/31/83	50,182,761	---	14.8	30.0	6.0	16.5	10.4	2.1	3.0	17.2
INVESTMENT ADVISERS	6/30/87	101,936,871	6.4	3.1	31.9	3.6	1.1	30.7	14.4	3.4	5.4
	3/31/87	98,002,073	5.4	3.2	28.5	3.0	6.1	29.1	11.9	7.4	5.3
	12/31/86	81,868,013	4.5	2.2	31.0	2.9	6.9	25.8	10.1	9.7	6.7
	9/30/86	78,677,066	5.2	---	33.0	2.9	7.6	28.6	14.7	8.0	---
	6/30/86	86,330,923	8.2	---	33.0	1.0	9.6	26.5	13.2	8.6	---
	3/31/86	82,520,514	5.6	3.3	20.6	2.3	9.6	23.8	18.8	13.4	2.6
	12/31/85	73,389,199	4.0	6.6	15.7	3.0	12.6	18.5	24.4	12.2	2.9
	9/30/85	61,953,366	3.2	6.5	8.3	2.9	15.9	20.2	28.3	12.8	1.8
	6/30/85	66,785,302	3.4	8.8	6.5	3.2	18.8	17.1	29.0	13.2	---
	3/31/85	62,742,678	3.4	6.0	6.1	2.8	16.3	19.9	32.9	12.6	---
	12/31/84	58,967,426	3.3	6.4	13.6	5.9	20.5	19.2	19.9	10.8	0.6
	9/30/84	55,807,710	3.7	7.2	21.5	6.9	21.0	13.1	20.2	5.6	0.8
	6/30/84	50,388,386	5.5	5.9	26.3	6.2	18.8	9.1	20.6	3.7	3.9
	3/31/84	51,864,720	5.8	5.4	30.2	8.9	21.5	7.7	15.6	3.9	1.0
	12/31/83	54,533,402	6.3	6.3	25.0	5.8	21.9	9.7	15.7	6.1	3.2

EQUITY SECTOR WEIGHTS

MANAGER NAME	DATE	TOTAL PORTFOLIO MARKET VALUE	CAP GDS	CONS DUR	CONS NDUR	ENER	FINL	MAT & SERV	TECH	TRAN	UTIL
IDS ADVISORY	6/30/87	115,535,096	2.3	5.0	28.1	11.5	---	23.0	19.6	7.9	2.7
	3/31/87	111,432,245	2.6	3.1	25.7	12.5	5.5	23.8	18.5	4.7	3.6
	12/31/86	91,035,628	2.7	1.1	25.2	7.4	10.9	24.6	7.8	7.3	13.0
	9/30/86	87,085,769	2.3	1.2	29.7	8.2	10.4	23.4	5.8	5.0	14.0
	6/30/86	96,881,914	---	---	42.4	3.1	16.4	15.8	6.5	5.0	10.8
	3/31/86	90,164,763	---	1.7	32.6	1.1	17.7	15.6	8.9	12.1	10.2
	12/31/85	76,939,408	---	1.9	31.7	2.6	14.9	10.4	13.9	13.2	11.4
	9/30/85	64,292,295	3.0	2.2	27.1	5.1	13.6	12.7	13.9	12.7	9.7
	6/30/85	68,295,847	3.0	4.8	27.7	8.4	13.4	7.2	11.7	8.5	15.1
	3/31/85	62,021,800	---	5.2	27.5	9.8	11.0	7.3	14.0	7.7	17.6
	12/31/84	57,153,006	1.8	4.6	29.5	3.7	7.6	3.7	16.9	7.2	25.0
	9/30/84	55,468,185	3.4	6.6	25.4	7.6	7.9	5.6	19.6	4.6	19.4
	6/30/84	50,278,968	---	5.3	27.6	8.1	6.8	7.6	19.2	4.8	20.6
	3/31/84	50,085,955	4.8	10.1	12.4	9.6	8.7	14.3	15.2	9.5	15.4
	12/31/83	54,006,960	4.9	7.6	18.0	---	8.8	19.0	26.1	6.0	9.6
LIEBER & COMPANY	6/30/87	47,687,801	3.3	6.1	31.6	1.7	37.4	7.3	8.9	3.1	0.7
	3/31/87	48,385,863	3.4	8.8	29.7	1.8	39.7	5.8	8.3	1.8	0.7
	12/31/86	40,294,436	3.0	8.0	26.5	2.4	41.1	8.6	7.7	1.7	0.7
	9/30/86	40,257,595	2.3	7.4	25.5	2.4	42.7	9.2	6.4	2.8	1.2
	6/30/86	44,505,476	1.7	7.3	22.4	3.1	41.8	10.3	7.5	3.7	2.1
	3/31/86	40,102,680	2.1	7.4	21.4	3.5	38.4	12.3	9.0	4.0	2.0
	12/31/85	35,197,559	1.8	8.7	20.1	3.5	34.3	11.9	12.2	5.4	2.0
	9/30/85	30,715,520	1.6	7.0	21.9	4.5	32.6	14.3	11.8	5.1	1.2
	6/30/85	31,313,770	2.1	7.8	21.4	4.6	30.3	16.0	11.0	5.5	1.2
	3/31/85	29,544,589	2.9	8.0	25.3	6.1	28.9	15.1	8.9	3.5	1.3
	12/31/84	26,473,866	3.2	5.3	27.0	3.2	24.2	18.4	15.3	3.4	---
	9/30/84	25,807,665	2.9	3.8	33.0	4.1	22.4	16.8	14.8	2.2	---
	6/30/84	23,927,529	2.6	3.3	34.8	3.5	21.1	16.7	15.3	1.8	0.8
	3/31/84	24,261,218	3.6	6.4	32.3	4.9	17.3	16.8	16.3	1.8	0.7
	12/31/83	11,159,936	7.7	4.5	33.7	3.5	16.7	22.3	6.1	5.6	---
PEREGRINE CAPITAL	6/30/87	105,285,388	3.9	7.8	24.7	3.7	15.0	7.4	16.1	3.1	18.2
	3/31/87	103,857,724	5.2	8.2	24.7	4.9	13.0	8.3	16.7	4.0	15.0
	12/31/86	88,571,840	6.7	8.1	22.0	4.5	11.8	11.1	17.3	4.7	13.8
	9/30/86	84,825,995	8.6	8.0	16.8	9.6	10.7	13.7	14.8	5.5	12.2
	6/30/86	89,051,403	8.0	6.7	9.6	15.2	8.1	15.7	13.6	5.0	18.1
	3/31/86	87,406,272	7.4	5.5	15.6	16.2	5.3	15.7	14.8	3.8	15.8
	12/31/85	82,085,372	9.1	6.3	15.1	17.8	5.3	19.1	11.2	3.3	12.7
	9/30/85	72,758,648	8.3	8.5	18.3	12.6	4.5	15.7	18.0	3.0	11.2
	6/30/85	29,610,673	0.2	---	51.4	4.2	12.4	2.9	24.0	2.7	2.3
	3/31/85	27,145,424	---	2.3	44.2	6.3	9.2	6.2	28.0	1.9	1.9
	12/31/84	25,188,312	---	2.3	37.5	2.7	3.9	9.8	37.7	4.1	1.9
	9/30/84	25,685,954	---	3.7	38.0	0.6	2.3	11.9	39.7	1.3	2.4
	6/30/84	24,546,941	2.8	5.5	31.2	5.8	1.0	9.3	38.9	4.3	1.3
	3/31/84	10,385,041	3.6	4.4	23.1	8.5	1.1	7.2	45.5	5.4	1.1
	12/31/83	11,215,761	2.5	1.6	25.5	1.2	3.2	6.0	51.8	1.7	6.6

EQUITY SECTOR WEIGHTS

MANAGER NAME	DATE	TOTAL PORTFOLIO MARKET VALUE	CAP GDS	CONS DUR	CONS NDUR	ENER	FINL	MAT & SERV	TECH	TRAN	UTIL
WADDELL & REED	6/30/87	116,141,569	4.1	10.2	19.1	9.0	2.9	20.8	30.7	2.3	0.8
	3/31/87	113,451,543	1.1	13.6	19.7	16.1	5.2	15.3	24.0	3.8	1.1
	12/31/86	95,836,775	1.6	11.2	21.7	12.3	12.3	16.1	19.2	5.6	---
	9/30/86	91,162,262	2.9	8.5	21.7	12.4	12.9	14.6	18.9	6.6	1.5
	6/30/86	97,376,898	4.4	7.8	26.0	0.4	20.7	21.7	12.4	6.6	---
	3/31/86	95,498,169	4.3	7.3	13.0	2.9	23.3	24.9	16.9	7.3	---
	12/31/85	82,027,227	4.6	7.7	17.0	5.4	15.2	25.9	15.0	9.1	---
	9/30/85	74,328,144	2.0	7.7	18.8	5.1	19.7	22.5	15.6	5.2	3.3
	6/30/85	29,531,769	---	11.8	14.5	2.5	21.1	18.4	13.3	6.1	12.4
	3/31/85	27,604,382	---	12.8	11.9	2.7	21.5	15.8	16.3	7.9	11.2
	12/31/84	26,234,116	---	14.0	18.7	---	18.8	2.7	25.5	1.0	19.3
	9/30/84	25,856,251	1.4	13.9	28.0	3.3	14.3	0.5	30.9	1.6	6.1
	6/30/84	25,495,564	---	29.0	25.7	---	15.7	---	17.8	11.8	---
	3/31/84	25,833,644	5.2	32.1	21.4	---	25.0	---	11.7	4.5	---
	12/31/83	11,409,742	12.8	32.4	---	---	33.9	---	20.9	---	---
WILSHIRE 5000	6/30/87	---	4.8	4.0	27.3	9.8	12.3	13.4	13.6	3.1	11.7
	3/31/87	---	4.6	3.9	27.5	9.4	13.0	13.6	12.9	3.0	12.1
	12/31/86	---	4.6	3.8	27.2	9.0	13.5	12.6	12.2	3.0	14.1
	9/30/86	---	4.4	3.8	26.9	9.0	14.0	12.1	12.4	3.1	14.3
	6/30/86	---	4.5	4.0	28.8	7.8	14.0	12.4	12.6	3.0	12.9
	3/31/86	---	4.8	4.7	27.0	8.0	14.1	11.8	13.4	3.3	12.9
	12/31/85	---	4.8	4.2	25.7	10.5	12.9	11.4	14.2	3.3	13.0
	9/30/85	---	4.7	4.1	26.2	10.6	12.3	11.4	14.0	3.4	13.3
	6/30/85	---	4.8	4.0	26.3	11.2	12.2	10.8	13.6	3.6	13.5
	3/31/85	---	4.9	3.9	25.3	13.0	11.4	10.9	14.4	3.3	12.9
	12/31/84	---	5.4	9.9	23.0	13.5	9.9	10.6	13.2	3.7	10.8
	9/30/84	---	5.2	4.3	24.9	13.2	10.3	11.5	15.5	2.9	12.2
	6/30/84	---	5.3	4.0	25.7	13.5	9.6	11.7	15.6	2.9	11.7
	3/31/84	---	5.4	3.9	23.6	16.1	9.8	12.1	15.3	2.9	11.1
	12/31/83	---	5.5	4.2	24.0	14.5	9.5	12.2	16.3	2.8	11.1

TABLE A-6

EXTERNAL EQUITY MANAGERS

HISTORICAL PERFORMANCE SUMMARY

	1Q 87	2Q 87	3Q 87	4Q 87	1Q 88	2Q 88	3Q 88	4Q 88	1Q 89	2Q 89	3Q 89	4Q 89
FRED ALGER												
Equity	22.3%	-0.6										
Total Fund	18.4	0.0										
ALLIANCE CAPITAL												
Equity	28.8	4.9										
Total Fund	27.4	4.6										
BEUTEL GOODMAN												
Equity	18.6	6.4										
Total Fund	17.6	5.3										
BMI CAPITAL												
Equity	25.8	1.2										
Total Fund	24.8	1.2										
FORSTMANN-LEFF												
Equity	25.7	2.1										
Total Fund	19.8	1.6										
HELLMAN JORDAN												
Equity	30.2	1.8										
Total Fund	29.4	1.3										
IDS ADVISORY												
Equity	23.1	3.9										
Total Fund	22.4	3.7										
INVESTMENT ADVISERS												
Equity	24.9	4.9										
Total Fund	19.7	4.0										
LIEBER & COMPANY												
Equity	21.2	-1.4										
Total Fund	20.1	-1.3										
PEREGRINE CAPITAL												
Equity	21.8	1.5										
Total Fund	17.3	1.4										
WADDELL & REED												
Equity	23.0	2.6										
Total Fund	18.4	2.4										
SBI AGGREGATE												
Equity	23.6	2.9										
Total Fund	21.0	2.6										
MARKET INDICES												
Wilshire 5000	21.2	3.3										
S&P 500	21.3	5.1										
91 Day T-Bills	1.4	1.4										

(Previous historical performance data can be found on the following page).

TABLE A-6

EXTERNAL EQUITY MANAGERS

HISTORICAL PERFORMANCE SUMMARY

	2Q 83	3Q 83	4Q 83	1Q 84	2Q 84	3Q 84	4Q 84	1Q 85	2Q 85	3Q 85	4Q 85	1Q 86	2Q 86	3Q 86	4Q 86
FRED ALGER															
Equity	13.9%	-3.5%	-1.0%	-8.1%	-4.1%	8.3%	0.2%	7.3%	10.1%	-4.7%	20.0%	21.2%	9.0%	-14.7%	5.7%
Total Fund	13.1	-3.4	-0.9	-7.0	-3.5	8.0	0.2	7.2	9.1	-4.6	18.7	19.8	8.5	-14.1	5.3
ALLIANCE CAPITAL															
Equity	14.3	-8.7	-0.6	-11.2	2.2	7.1	1.3	13.1	11.5	-3.6	19.2	20.0	6.1	-11.9	5.3
Total Fund	12.7	-8.0	-0.4	-10.1	2.2	6.6	1.3	12.2	10.8	-3.3	17.8	19.3	5.9	-11.8	5.2
BEUTEL GOODMAN															
Equity	13.9	3.4	3.5	-0.7	-2.8	10.1	5.1	12.1	8.1	-9.0	12.5	15.7	-0.9	-4.8	-1.2
Total Fund	8.7	1.1	3.3	-0.6	-2.8	9.3	4.9	10.7	7.5	-8.6	12.0	14.3	-0.6	-4.2	-1.3
BMI CAPITAL															
Equity	14.4	-7.8	-6.0	-14.4	2.1	3.6	2.3	10.5	-0.7	-9.9	19.4	18.6	7.2	-9.7	5.8
Total Fund	11.9	-7.7	-6.1	-14.5	2.0	3.4	2.2	9.3	-0.9	-2.4	11.1	17.8	7.0	-9.4	5.5
FORSTMANN-LEFF															
Equity	11.2	-1.7	-1.0	-8.3	-2.8	7.5	3.7	12.6	9.4	-5.4	21.5	20.8	10.1	-16.0	5.7
Total Fund	9.9	-1.2	-0.6	-6.0	-1.7	4.6	3.4	10.9	8.1	-4.2	16.3	18.8	8.9	-10.8	3.4
HELLMAN JORDAN															
Equity	10.0	-9.5	-0.9	-3.1	-4.8	8.6	4.3	10.0	9.5	-5.9	19.4	16.1	0.4	-10.7	5.2
Total Fund	5.8	-3.2	-1.0	-0.6	-3.9	9.5	4.6	8.7	7.5	-5.6	18.6	15.3	0.3	-10.4	4.9
IDS ADVISORY															
Equity	14.3	-6.6	-0.9	-8.4	0.0	11.4	3.2	9.2	10.7	-5.9	20.5	18.2	8.1	-10.6	4.8
Total Fund	13.6	-5.6	-0.6	-7.3	0.4	10.3	3.0	8.5	10.1	-5.9	19.7	17.2	7.5	-10.1	4.5
INVESTMENT ADVISERS															
Equity	11.6	-2.9	1.5	-5.8	-3.0	11.3	5.8	6.6	7.1	-7.8	20.5	14.7	5.3	-11.1	4.9
Total Fund	8.0	-1.8	1.3	-4.9	-2.8	10.7	5.7	6.4	6.4	-7.2	18.5	12.4	4.6	-8.9	4.1
LIEBER & COMPANY															
Equity	16.6	-2.4	1.7	-10.2	-1.3	8.9	2.9	13.8	6.3	-1.7	15.2	13.8	11.8	-9.5	0.3
Total Fund	11.6	-1.9	1.3	-7.3	-1.4	7.9	2.6	11.6	6.0	-1.9	14.6	13.9	11.0	-9.5	0.1
PEREGRINE CAPITAL															
Equity	19.6	-3.6	-6.0	-8.8	-3.2	5.3	-2.1	9.5	10.7	0.4	15.5	7.7	2.1	-5.7	5.2
Total Fund	16.4	-2.6	-5.1	-7.4	-2.7	4.7	-1.9	7.8	9.1	-1.9	12.8	6.5	1.9	-4.7	4.4
WADDELL & REED															
Equity	30.2	-4.7	-9.3	-14.0	-10.3	-1.6	0.7	8.1	8.7	-5.4	18.4	19.7	2.4	-8.3	6.2
Total Fund	24.0	-3.0	-5.3	-2.2	-1.3	1.4	1.5	5.2	7.0	-2.0	10.4	16.4	2.0	-6.4	5.1
SBI AGGREGATE															
Equity	12.1	-5.6	-1.5	-7.5	-2.7	8.0	2.4	9.5	8.8	-5.7	17.7	16.6	5.0	-1.4	4.4
Total Fund	10.5	-4.5	-1.2	-5.9	-2.2	7.2	2.4	8.4	8.0	-4.5	15.2	15.2	4.5	-8.6	3.9
MARKET INDICES															
Wilshire 5000	13.0	-0.9	-1.0	-4.2	-2.8	9.2	1.3	10.3	7.5	-4.3	16.8	14.4	5.8	-7.7	4.0
S&P 500	11.1	-0.1	0.4	-2.4	-2.5	9.7	1.8	9.2	7.4	-4.1	17.3	14.1	6.0	-7.0	5.4
91 Day T-Bills	2.2	2.4	2.3	2.4	2.6	2.7	2.3	2.1	1.9	1.9	1.8	1.8	1.6	1.4	1.3

BOND MANAGER PORTFOLIO STATISTICS GLOSSARY

Like the preceding equity manager portfolio statistics glossary, this bond manager portfolio statistics glossary is designed to define terminology used in evaluating a bond manager's investment philosophy, risk characteristics and performance data.

Qtr. Port. Turnover	- the manager's total bond sales during the quarter divided by the average value of the manager's bond portfolio over the quarter.
# of Issues	- the number of different bond issues held in the manager's portfolio.
Bond Allocation	- the percent of the manager's total portfolio invested in bonds.
Coupon	- the annual interest payment received on the manager's total portfolio stated as a percent of the portfolio's face value.
Current Yield	- the annual interest payment produced by the manager's total portfolio stated as a percent of the portfolio's market value.
Yield to Maturity	- the compounded annualized return that the manager's total portfolio would produce if it were held to maturity and all cash flows were reinvested at an interest rate equal to the yield to maturity.
Duration	- a measure of the average life of the total portfolio. Duration is a weighted average maturity whereby the time in the future that each cash flow is received is weighted by the proportion that the present value of the cash flow contributes to the total present value (or price) of the total portfolio.
Term to Maturity	- also a measure of the average life of the total portfolio. Term to maturity is the number of years remaining until the average bond in the portfolio makes its final cash payment.

Quality Weightings - refers to the average rating given the total portfolio's securities by Moody's Corp. A security's rating indicates the financial strength of its issuer and other factors related to the likelihood of full and timely payment of interest and principal.

Sector Weightings - refers to the sectors of the bond market in which the manager has positioned his/her bond portfolio.

TUCS Median - the median manager within a subsample of the TUCS universe that is restricted to fixed income managers investing in portfolios with quality and duration characteristics similar to those that are required of the SBI's bond managers.

TABLE A-7

EXTERNAL FIXED INCOME MANAGERS

PORTFOLIO STATISTICS HISTORICAL SUMMARY

MANAGER NAME	DATE	QUARTER PORTFOLIO T/O	# OF BONDS	BOND ALLOCATION	COUPON	CURRENT YIELD	YIELD TO MAT.	AVERAGE QUALITY	DURATION	TERM TO MAT.
AVG. EXT. MGRS	6/30/87	44	44	93	8.4	8.4	8.9	AAA	4.4	7.5
	3/31/87	30	39	91	8.6	8.3	8.0	AAA	4.9	8.3
	12/31/86	30	40	94	9.2	8.6	8.2	AAA	5.4	9.5
	9/30/86	19	41	99	9.5	9.2	9.3	AAA	5.0	10.6
	6/30/86	47	40	96	9.8	9.3	9.0	AAA	4.6	10.0
	3/31/86	41	39	96	10.3	9.6	8.8	AAA	4.5	12.3
	12/31/85	41	33	95	10.5	10.0	9.6	AAA	4.4	8.7
	9/30/85	22	34	96	10.7	10.6	10.6	AAA	4.3	8.7
	6/30/85	48	29	95	10.4	10.2	10.4	AAA	4.5	8.5
	3/31/85	37	25	91	10.3	10.8	11.5	AAA	4.2	8.2
	12/31/84	38	22	93	10.3	10.8	11.4	AAA	4.5	8.8
	9/30/84	54	29	88	10.1	11.1	12.3	AAA	4.3	8.8
INVESTMENT ADV.	6/30/87	15	19	92	7.7	7.6	8.3	AAA	3.5	4.5
	3/31/87	7	24	97	8.6	8.1	8.0	AAA	3.4	4.3
	12/31/86	11	25	93	8.9	8.4	8.1	AAA	3.5	4.4
	9/30/86	5	22	98	9.4	8.6	8.5	AAA	3.5	4.4
	6/30/86	9	21	96	9.6	8.8	8.3	AAA	3.3	4.1
	3/31/86	17	22	95	9.9	8.9	8.2	AAA	3.3	4.2
	12/31/85	10	16	95	9.4	8.8	8.7	AAA	3.4	4.3
	9/30/85	30	18	99	9.7	9.3	9.9	AAA	3.8	5.1
	6/30/85	50	17	99	8.4	8.1	10.1	AAA	4.7	6.2
	3/31/85	19	13	99	8.7	9.3	11.7	AAA	4.9	8.9
	12/31/84	25	10	99	8.4	9.3	11.5	AAA	5.6	12.1
	9/30/94	10	7	100	9.0	10.8	12.6	AAA	6.4	15.2
LEHMAN MGMT.	6/30/87	36	46	92	7.9	8.1	8.2	AAA	3.7	5.0
	3/31/87	51	46	91	8.5	8.1	7.3	AAA	3.9	5.6
	12/31/86	40	45	94	9.6	8.9	7.5	AAA	4.3	6.7
	9/30/86	31	44	98	10.2	9.4	8.2	AAA	4.4	8.6
	6/30/86	16	48	97	10.8	9.8	8.3	AAA	4.0	8.1
	3/31/86	28	54	97	11.0	9.7	8.3	AAA	4.0	8.5
	12/31/85	40	32	89	11.1	10.2	9.2	AAA	3.7	6.5
	9/30/85	24	35	95	11.4	10.9	10.2	AAA	3.9	6.6
	6/30/85	49	27	92	11.4	10.8	9.9	AAA	3.8	6.3
	3/31/85	43	24	85	11.6	11.4	11.0	AAA	3.6	5.6
	12/31/84	44	19	85	11.6	11.4	10.8	AAA	3.3	5.3
	9/30/84	62	15	82	11.2	11.5	12.2	AAA	3.7	6.5

MANAGER NAME	QUARTER DATE	PORTFOLIO T/O	# OF BONDS	BOND ALLOCATION	COUPON	CURRENT YIELD	YIELD TO MAT.	AVERAGE QUALITY	DURATION	TERM TO MAT.
MILLER ANDERSON	6/30/87	52	76	95	9.0	8.8	8.9	AA	5.4	8.6
	3/31/87	70	43	82	8.4	7.9	7.8	AA	4.8	7.6
	12/31/86	30	57	96	9.5	8.8	8.2	AA	6.6	12.1
	9/30/86	15	68	99	9.3	9.3	9.8	AA	5.6	12.5
	6/30/86	57	60	97	9.4	9.3	9.5	AA	5.2	11.6
	3/31/86	73	37	92	10.5	9.7	8.8	AA	4.4	11.4
	12/31/85	71	42	99	10.4	9.9	9.6	AA	5.3	9.6
	9/30/85	23	52	98	9.6	10.2	10.6	AA	5.0	9.7
	6/30/85	75	48	95	9.3	10.0	10.4	AA	4.6	9.3
	3/31/85	35	41	92	9.0	10.0	11.1	AA	3.7	7.4
	12/31/84	50	43	99	9.1	10.1	11.3	AA	3.9	7.3
	9/30/84	83	59	71	9.8	11.1	11.9	AAA	3.3	6.7
MORGAN STANLEY	6/30/87	107	9	93	7.8	8.0	8.2	AAA	3.4	5.1
	3/31/87	17	18	98	8.3	8.3	8.3	AAA	6.2	11.1
	12/31/86	42	19	100	7.7	8.5	8.3	AAA	6.5	11.0
	9/30/86	9	14	100	8.4	8.7	8.9	AAA	5.3	10.7
	6/30/86	89	13	100	8.6	8.9	9.1	AAA	5.4	10.8
	3/31/86	62	20	100	9.4	9.0	8.7	AAA	5.4	19.9
	12/31/85	58	17	100	10.4	10.1	9.9	AAA	5.0	10.6
	9/30/85	18	20	100	11.2	11.1	11.0	AAA	4.4	9.8
	6/30/85	38	17	100	11.4	10.8	10.5	AAA	5.0	9.7
	3/31/85	62	16	85	11.1	11.3	11.5	AAA	3.8	7.3
	12/31/84	30	12	100	11.5	11.5	11.5	AAA	5.3	9.4
	9/30/84	105	20	99	8.6	8.9	12.5	AAA	3.7	5.3
PEREGRINE	6/30/87	8	64	93	9.2	9.1	10.8	AA	4.4	8.7
	3/31/87	6	62	92	9.4	9.0	8.1	AA	5.2	9.5
	12/31/86	24	52	84	10.5	8.1	8.5	AA	4.7	8.9
	9/30/86	14	56	97	10.3	9.8	11.3	AA	4.5	11.0
	6/30/86	12	51	97	10.8	10.2	9.8	AA	4.3	9.7
	3/31/86	10	54	98	11.2	10.3	9.4	AA	4.1	11.0
	12/31/85	18	51	98	11.5	10.8	10.4	AA	3.7	9.3
	9/30/85	20	43	96	11.6	11.2	11.0	AA	3.3	7.8
	6/30/85	15	35	98	11.2	10.8	10.5	AA	3.4	7.6
	3/31/85	13	28	100	11.1	11.3	11.5	AA	3.7	7.6
	12/31/84	39	25	96	10.5	10.9	11.3	AA	3.5	7.5
	9/30/84	17	21	93	10.6	11.7	12.5	AA	3.6	7.6
WESTERN ASSET	6/30/87	46	52	94	8.8	9.0	9.2	AA	6.2	13.2
	3/31/87	31	40	87	8.6	8.3	8.3	AA	5.7	11.6
	12/31/86	33	40	95	8.8	8.7	8.6	AA	6.7	13.9
	9/30/86	38	40	100	9.6	9.1	9.0	AA	6.4	16.4
	6/30/86	97	48	90	9.3	9.0	9.0	AA	5.6	15.7
	3/31/86	58	48	95	9.8	9.8	9.3	AA	5.5	18.9
	12/31/85	47	40	87	10.3	10.1	10.0	AA	5.2	11.9
	9/30/85	19	34	89	10.7	11.0	11.1	AA	5.6	13.0
	6/30/85	58	29	84	10.5	10.7	10.8	AA	5.4	12.1
	3/31/85	52	28	87	10.4	11.5	12.1	AA	5.3	12.2
	12/31/84	39	24	80	10.6	11.4	11.8	AA	5.2	11.3
	9/30/84	49	19	80	11.3	12.3	12.8	AA	4.8	11.3

TABLE A-8

EXTERNAL FIXED INCOME MANAGERS
SECTOR WEIGHTING HISTORICAL PROFILE

MANAGER NAME	DATE	TOTAL PORTFOLIO MARKET VALUE	QUALITY WEIGHTINGS					SECTOR WEIGHTINGS									
			AAA	AA	A	BAA	OTHER	GOVT	AGCY	ZERO	IND	UTIL	FIN	TRAN	MTGS	MISC	CASH
AVG. EXT. MGRS.	6/30/87	---	76	5	11	5	3	36	3	2	8	2	14	1	24	3	7
	3/31/87	---	77	5	11	4	3	32	2	2	10	2	7	1	32	3	9
	12/31/86	---	74	5	13	3	5	29	3	2	12	1	9	1	35	2	6
	9/30/86	---	76	6	12	3	3	29	3	2	11	2	9	1	39	3	1
	6/30/86	---	78	6	10	3	3	28	6	3	9	2	10	1	37	3	4
	3/31/86	---	79	6	9	3	3	35	2	2	9	2	9	0	34	3	4
	12/31/85	---	80	5	8	2	5	35	3	2	6	2	9	0	35	3	5
	9/30/85	---	81	5	8	1	5	33	3	2	7	2	9	0	39	1	4
	6/30/85	---	81	6	6	3	4	34	1	4	5	4	9	0	36	1	5
	3/31/85	---	78	10	6	2	4	27	5	4	5	6	12	0	31	1	9
	12/31/84	---	77	12	7	2	2	33	8	4	2	8	12	0	24	1	7
	9/30/84	---	79	12	7	2	0	30	10	7	3	8	9	1	19	1	12
INVESTMENT ADV.	6/30/87	42,121,121	96	0	4	0	0	56	9	13	0	0	6	0	8	0	8
	3/31/87	42,655,770	86	4	10	0	0	51	5	12	11	0	9	0	9	0	3
	12/31/86	42,094,854	80	7	13	0	0	40	5	11	13	0	15	0	9	0	7
	9/30/86	40,731,041	78	8	14	0	0	45	5	12	23	0	13	0	0	0	2
	6/30/86	39,301,944	81	8	11	0	0	34	18	12	23	0	10	0	0	0	4
	3/31/86	38,938,391	84	8	8	0	0	52	0	12	25	0	6	0	0	0	5
	12/31/85	36,766,845	96	4	0	0	0	68	0	12	8	0	7	0	0	0	5
	9/30/85	34,573,707	96	4	0	0	0	70	0	13	9	0	7	0	0	0	1
	6/30/85	33,794,148	96	4	0	0	0	62	0	23	10	0	4	0	0	0	1
	3/31/85	30,942,776	85	15	0	0	0	53	0	18	11	13	4	0	0	0	1
	12/31/84	30,397,636	74	26	.0	0	0	52	0	18	0	25	4	0	0	0	1
	9/30/84	27,932,974	72	28	0	0	0	59	0	10	0	31	0	0	0	0	0
LEHMAN MGMT.	6/30/87	235,159,610	88	6	5	0	1	63	0	0	9	1	7	0	12	0	8
	3/31/87	238,911,690	85	9	4	0	2	63	0	0	12	2	5	0	9	0	9
	12/31/86	236,321,758	81	6	11	0	2	58	0	0	14	3	7	0	12	0	6
	9/30/86	229,994,337	80	6	12	0	2	53	0	0	14	8	7	0	16	0	2
	6/30/86	223,483,722	89	4	6	1	0	60	0	0	11	2	7	0	18	0	3
	3/31/86	220,998,995	89	4	6	1	0	65	2	0	9	0	6	0	15	0	3
	12/31/85	207,462,430	89	5	6	0	0	51	10	0	7	2	7	0	12	0	11
	9/30/85	194,774,253	87	6	7	0	0	54	12	0	9	2	7	0	11	0	5
	6/30/85	190,808,742	91	5	4	0	0	64	8	0	5	2	4	0	9	0	8
	3/31/85	177,383,853	95	3	2	0	0	65	13	0	2	0	2	0	3	0	15
	12/31/84	173,831,628	98	0	2	0	0	64	13	0	3	0	0	0	5	0	15
	9/30/84	162,737,117	96	1	2	0	0	60	13	5	4	0	0	0	0	0	18

MANAGER NAME	DATE	TOTAL PORTFOLIO MARKET VALUE	QUALITY WEIGHTINGS					SECTOR WEIGHTINGS									
			AAA	AA	A	BAA	OTHER	GOVT	AGCY	ZERO	IND	UTIL	FIN	TRAN	MTGS	MISC	CASH
MILLER ANDERSON	6/30/87	248,119,545	67	5	7	6	15	37	0	1	9	0	17	1	30	0	5
	3/31/87	252,209,582	75	2	3	5	15	42	0	0	5	0	3	1	30	1	18
	12/31/86	245,302,600	68	2	6	3	21	38	0	0	7	0	6	0	44	1	4
	9/30/86	222,348,832	72	3	5	6	14	24	0	0	6	0	6	0	61	2	1
	6/30/86	217,656,629	71	5	4	5	15	25	0	0	2	0	8	0	60	2	3
	3/31/86	217,291,031	74	0	5	5	16	45	0	0	2	0	8	0	37	0	8
	12/31/85	208,552,908	71	0	6	4	19	45	0	0	2	0	8	0	44	0	1
	9/30/85	191,849,284	68	1	9	4	18	24	0	0	5	0	9	0	60	0	2
	6/30/85	183,857,869	69	3	8	4	16	19	0	2	5	0	12	0	57	0	5
	3/31/85	173,961,916	54	13	11	2	20	2	0	4	7	0	27	0	52	0	8
	12/31/84	169,696,156	55	17	14	5	9	0	0	7	5	0	36	0	51	0	1
	9/30/84	159,574,376	81	12	5	2	0	0	0	0	2	0	17	0	52	0	29
MORGAN STANLEY	6/30/87	198,820,186	100	0	0	0	0	54	0	0	0	0	10	0	29	0	7
	3/31/87	246,865,703	100	0	0	0	0	25	0	0	0	0	0	0	75	0	2
	12/31/86	239,857,185	100	0	0	0	0	27	0	0	0	0	0	0	73	0	0
	9/30/86	229,631,966	100	0	0	0	0	35	0	0	0	0	0	0	65	0	0
	6/30/86	222,763,940	100	0	0	0	0	33	9	0	0	0	0	0	58	0	0
	3/31/86	225,686,690	100	0	0	0	0	41	0	0	0	0	0	0	59	0	0
	12/31/85	208,381,895	100	0	0	0	0	42	0	0	0	0	0	0	58	0	0
	9/30/85	193,513,567	100	0	0	0	0	41	0	0	0	0	0	0	59	0	0
	6/30/85	188,907,479	100	0	0	0	0	49	0	0	0	0	0	0	51	0	0
	3/31/85	173,106,782	100	0	0	0	0	38	9	0	0	0	0	0	38	0	15
	12/31/84	170,547,941	100	0	0	0	0	74	18	0	0	0	0	0	8	0	0
	9/30/84	159,109,110	100	0	0	0	0	45	27	27	0	0	0	0	0	0	1
PEREGRINE	6/30/87	112,206,244	41	18	34	5	2	0	0	0	14	0	31	1	29	18	7
	3/31/87	114,089,715	47	12	32	7	2	0	0	0	15	1	24	1	34	17	8
	12/31/86	111,810,642	47	14	29	4	6	0	0	0	22	0	20	0	31	11	16
	9/30/86	108,237,995	49	14	32	2	3	0	0	0	12	0	26	0	47	13	2
	6/30/86	104,606,143	48	19	31	0	2	0	0	0	9	0	30	0	41	17	3
	3/31/86	104,370,666	48	18	32	0	2	0	0	0	9	0	31	0	40	17	2
	12/31/85	100,139,659	55	13	29	0	3	0	0	0	5	0	29	0	48	16	2
	9/30/85	95,186,493	61	12	25	0	2	0	0	0	4	2	31	0	52	7	4
	6/30/85	92,417,709	56	15	20	7	2	0	0	0	4	5	33	0	49	7	2
	3/31/85	86,259,088	55	23	19	3	0	3	0	0	0	5	38	0	47	7	0
	12/31/84	84,387,890	65	13	18	4	0	6	7	0	0	5	30	0	48	0	4
	9/30/84	79,887,650	58	14	24	4	0	12	7	0	10	0	31	0	33	0	7
WESTERN ASSET	6/30/87	253,510,478	64	3	15	18	0	5	7	0	19	10	11	3	39	0	6
	3/31/87	262,481,416	69	2	16	11	2	8	6	1	16	10	4	3	36	3	13
	12/31/86	255,942,435	69	2	17	10	2	8	11	0	20	5	5	3	42	1	5
	9/30/86	244,004,935	75	2	11	11	1	16	13	2	9	7	4	4	43	2	0
	6/30/86	238,657,259	80	2	8	9	1	13	9	3	7	7	2	4	45	0	10
	3/31/86	235,514,306	76	4	5	14	1	7	9	3	12	9	2	1	52	0	5
	12/31/85	220,363,561	73	5	8	7	7	5	8	1	15	9	2	1	48	0	11
	9/30/85	201,666,058	74	6	5	4	11	11	3	0	14	10	0	1	49	0	12
	6/30/85	197,929,627	73	9	4	8	6	10	0	0	8	15	0	1	51	0	15
	3/31/85	181,426,695	76	9	4	7	4	4	11	0	8	16	0	1	47	0	13
	12/31/84	177,328,832	69	15	7	5	4	3	11	0	6	19	2	2	33	4	20
	9/30/84	165,957,816	68	15	9	5	3	4	16	0	3	18	4	5	26	4	20

TABLE A-9

EXTERNAL FIXED INCOME MANAGERS

HISTORICAL PERFORMANCE SUMMARY

	2Q 87	1Q 87	4Q 86	3Q 86	2Q 86	1Q 86	4Q 85	3Q 85	2Q 85	1Q 85	4Q 84	3Q 84
INVESTMENT ADVISERS												
Fixed Income	-0.9	1.0%	2.8%	2.5%	0.9%	6.2%	6.5%	2.5%	9.4%	1.9%	8.8%	11.8%
Total Fund	-0.9	1.0	2.7	2.4	0.9	5.9	6.3	2.3	9.2	1.8	8.8	11.8
LEHMAN MANAGEMENT												
Fixed Income	-1.7	1.0	2.8	3.0	1.2	6.7	6.9	2.1	8.7	2.0	7.7	9.6
Total Fund	-1.6	1.1	2.8	2.9	1.1	6.5	6.5	2.1	7.6	2.1	6.8	8.7
MILLER ANDERSON												
Fixed Income	-2.0	3.2	10.6	2.2	0.2	4.4	8.8	4.4	6.0	2.5	7.5	7.7
Total Fund	-1.6	2.8	10.3	2.2	0.2	4.2	8.7	4.4	5.7	2.5	6.3	6.7
MORGAN STANLEY												
Fixed Income	-5.6	3.1	4.3	3.1	-2.1	8.2	7.7	2.5	9.3	1.5	7.3	6.1
Total Fund	-3.1	2.9	4.5	3.1	-1.3	8.3	7.7	2.4	9.1	1.5	7.2	6.3
PEREGRINE CAPITAL												
Fixed Income	-1.9	2.2	3.4	3.6	0.2	4.3	5.4	3.1	7.3	2.3	6.0	7.7
Total Fund	-1.7	2.0	3.3	3.5	0.2	4.2	5.2	3.0	7.1	2.2	5.6	6.9
WESTERN ASSET												
Fixed Income	-3.9	2.6	5.0	2.3	0.9	7.4	10.7	1.9	10.7	2.4	8.0	11.8
Total Fund	-3.4	2.6	4.9	2.2	1.3	6.9	9.3	1.9	9.1	2.3	6.8	10.8
SBI FIXED INCOME AGGREGATE												
Fixed Income	-2.8	2.4	5.3	2.8	1.7	6.4	8.1	2.8	8.5	2.1	7.5	8.8
Total Fund	-2.3	2.3	5.2	2.7	0.4	6.2	7.7	2.7	7.8	2.1	6.8	8.1
MARKET INDEX												
Salomon Broad Bond Index	-1.6	1.3	3.3	2.5	1.1	7.9	7.8	2.0	8.9	2.2	7.5	8.6

ALTERNATIVE EQUITY INVESTMENTS
JUNE 30, 1987

REAL ESTATE:	INCEPTION DATE	FUND SIZE (MILLIONS)	SBI COMMITMENT	SBI-FUNDED	SBI- TO BE FUNDED	FUND DESCRIPTION
EQUITABLE	10/81	$2,849.7	$40,000,000.00	$40,000,000.00	$0.00	OPEN - DIV.
AETNA	4/82	$1,592.0	$40,000,000.00	$40,000,000.00	$0.00	OPEN - DIV.
PRUDENTIAL	9/81	$4,584.0	$40,000,000.00	$40,000,000.00	$0.00	OPEN - DIV.
RREEF- USA III	4/84	$773.0	$75,000,000.00	$67,000,000.00	$8,000,000.00	CLOSED - DIV.
HEITMAN I	6/84	$113.0	$20,000,000.00	$20,000,000.00	$0.00	CLOSED - DIV.
HEITMAN II	10/85	$238.0	$30,000,000.00	$30,000,000.00	$0.00	CLOSED - DIV.
HEITMAN III	11/86	$200.0	$20,000,000.00	$10,000,000.00	$10,000,000.00	CLOSED - DIV.
TCW I	7/85	$216.0	$40,000,000.00	$40,000,000.00	$0.00	CLOSED - SPEC.
TCW II	9/86	$250.0	$30,000,000.00	$15,000,000.00	$15,000,000.00	CLOSED - SPEC.
STATE STREET I	7/85	$103.0	$20,000,000.00	$20,000,000.00	$0.00	CLOSED - SPEC.
STATE STREET II	7/86	$86.0	$15,000,000.00	$15,000,000.00	$0.00	CLOSED - SPEC.
TOTAL R.E. PORTFOLIO	--	--	$370,000,000.00	$337,000,000.00	$33,000,000.00	--
VENTURE CAPITAL:						
NORWEST	1/84	$60.0	$10,000,000.00	$10,000,000.00	$0.00	EARLY STAGE
KKR I	3/84	$1,000.0	$25,000,000.00	$25,000,000.00	$0.00	LBO
KKR II	12/85	$2,000.0	$50,000,000.00	$14,591,340.00	$35,408,660.00	LBO
SUMMIT	12/84	$93.0	$10,000,000.00	$7,500,000.00	$2,500,000.00	LATER STAGE
FIRST CENTURY	12/84	$100.0	$10,000,000.00	$2,500,000.00	$7,500,000.00	EARLY STAGE
DSV	4/85	$60.0	$10,000,000.00	$10,000,000.00	$0.00	EARLY STAGE
MATRIX	7/85	$70.0	$10,000,000.00	$7,500,000.00	$2,500,000.00	EARLY STAGE
INMAN/BOWMAN	6/85	$44.0	$7,500,000.00	$3,750,000.00	$3,750,000.00	EARLY STAGE
ALLIED	7/85	$40.0	$5,000,000.00	$3,333,334.00	$1,666,666.00	LATER STAGE
SUPERIOR VENTURE	6/86	$35.0	$6,600,000.00	$1,661,250.00	$4,938,750.00	EARLY STAGE - MN.
TOTAL V.C. PORTFOLIO	--	--	$144,100,000.00	$85,835,924.00	$58,264,076.00	--
RESOURCES:						
AMGO I	7/81	$144.0	$15,000,000.00	$15,000,000.00	$0.00	DEBT WITH EQUITY
AMGO II	2/83	$36.0	$7,000,000.00	$7,000,000.00	$0.00	DEBT WITH EQUITY
APACHE I	5/84	$150.0	$22,500,000.00	$766,916.75	$21,733,083.25	DEBT WITH EQUITY
APACHE II	10/85	$180.0	$23,000,000.00	$22,400,000.00	$600,000.00	DEBT WITH EQUITY
APACHE III	12/86	$190.0	$30,000,000.00	$30,000,000.00	$0.00	NET PROFITS INT.
TOTAL RES. PORTFOLIO	--	--	$97,500,000.00	$75,166,916.75	$22,333,083.25	--
TOTAL ALT. INV. PORT	--	--	$611,600,000.00	$498,002,840.75	$113,597,159.25	--

TIME-WEIGHTED RATE OF RETURN

In measuring the performance of a manager or fund whose investment objective is to maximize the total value of an investment portfolio, the proper measuring tool is the time-weighted total rate of return. This performance measure includes the effect of income earned as well as realized and unrealized portfolio market value changes. In addition, the time-weighted total rate of return nets out the influence of contributions made to and distributions taken from the manager or fund. These are variables over which the manager or fund generally has no control.

The calculation of a portfolio's true time-weighted return requires that the portfolio be valued every time that there is a capital flow in or out. Because most portfolios are not valued that frequently, it is usually necessary to estimate the time-weighted total rates of return by approximating the required valuations.

In 1968, the Bank Administration Institute (BAI) commissioned a study, conducted by the University of Chicago, which considered desirable methods of estimating time-weighted returns. The BAI report is considered to be the definitive work in the field of performance measurement because of the academic reputations and thorough scientific efforts of its authors.

When monthly data are available, the BAI study recommends employing a technique called the linked internal rate of return (LIRR). State Street Bank, the SBI's performance measurement consultant, calculates the LIRR by solving the following equation for R:

$$VB*(1+R) + \sum_{i=1}^{n} C*(1+R)**ti = VE$$

Where:

VB = Value of the fund at the beginning of the month

VE = Value of the fund at the end of the month

Ci = Net cash flow on the ith day of the month

n = Number of cash flows in the month

R = Internal rate of return

ti = Time from cash flow i to the end of the period, expressed as a percentage of the total number of days in the month

The internal rate of return, R, is a proxy for the true time-weighted return over the month. It approximates the interim valuations by assuming a uniform growth of the invested assets throughout the period.

The IRR's calculated for each month can be linked together to estimate the time-weighted return for a longer period. For example, given three consecutive monthly IRR's - R1, R2, and R3, the quarterly time-weighted return (TWRQ) is:

$$TWRQ = (1+R1)*(1+R2)*(1+R3) - 1$$

MINNESOTA STATE BOARD OF INVESTMENT
COMMISSIONS & TRADING VOLUME
BY BROKER
FISCAL YEAR 1987

BROKER	EQUITY DOLLAR VOLUME	EQUITY COMMISSIONS	BOND DOLLAR VOLUME	BOND COMMISSIONS	SHORT TERM DOLLAR VOLUME
Abel/Noser Corp.	2,485,806.95	5,610.00	0.00	0.00	0.00
Abrams & Co.	537,579.25	1,380.50	0.00	0.00	0.00
Adams Harkness & Hill	2,146,018.68	2,356.00	0.00	0.00	0.00
Allen & Company	1,270,500.00	0.00	0.00	0.00	0.00
Allison-Williams	0.00	0.00	2,607,865.00	0.00	0.00
American Express Credit	112,077.00	252.00	0.00	0.00	52,027,000.00
American Securities	112,077.00	252.00	0.00	0.00	0.00
Assoc. Corp. of N. Amer.	0.00	0.00	0.00	0.00	96,722,000.00
Autranet	114,294,843.14	262,997.97	23,716,016.67	0.00	0.00
Bank of America	0.00	0.00	6,000,000.00	0.00	104,922,075.54
Bankers Discount Corp.	0.00	0.00	3,399,375.00	0.00	0.00
Bankers Trust	0.00	0.00	269,162,977.51	0.00	79,780,504.50
Barclays American Corp.	0.00	0.00	0.00	0.00	702,000.00
Barrington Trading Co.	0.00	0.00	33,720,468.75	0.00	0.00
Bear Stearns & Co.	88,758,886.77	177,817.50	141,095,535.49	12,500.00	6,908,446,000.00
Beneficial Corp.	0.00	0.00	0.00	0.00	28,000,000.00
Boston Inst. Services	59,028,702.63	103,454.50	3,147,187.50	0.00	0.00
Brandt (Robert) & Co.	56,475,352.28	56,298.00	0.00	0.00	0.00
Brean Murray	81,858,233.55	165,376.15	0.00	0.00	0.00
Brick Securities	2,571,375.56	7,744.50	0.00	0.00	0.00
Bridge Trading Co.	81,436,157.79	171,040.98	0.00	0.00	0.00
Briggs & Schaedle	0.00	0.00	0.00	0.00	5,904,146.67
Broker Unavailable	804,211,906.15	222,026.81	311,927,899.49	0.00	18,580,000.00
Brown Alex & Sons	5,079,053.20	1,533.00	0.00	0.00	0.00
Brown Bros. Harriman	473,340.00	1,740.00	0.00	0.00	0.00
Burns Fry & Timmins	395,452.00	602.00	0.00	0.00	0.00
Cable/Howse & Ragen	774,000.00	0.00	0.00	0.00	0.00
Cantor Fitzgerald	45,951,545.00	69,905.95	0.00	0.00	0.00
Capital Inst. Services	5,712,740.67	21,536.50	2,177,789.06	0.00	0.00
Carroll McEntee & Mcg.	0.00	0.00	17,285,171.88	0.00	0.00
Chase Manhattan Bank	0.00	0.00	0.00	0.00	330,578,466.84
Chemical Bank N. Y.	0.00	0.00	28,516,453.13	0.00	25,000,350.48
Chevron Oil Fin. Co.	0.00	0.00	0.00	0.00	70,891,000.00
Chicago Corp.	589,580.29	1,650.00	0.00	0.00	0.00
CIT Financial Corp.	0.00	0.00	0.00	0.00	242,959,138.11
Citibank	0.00	0.00	36,406,500.00	0.00	236,935,045.63
Continental Bank (CHI)	34,296.00	0.00	0.00	0.00	0.00
Cowen & Co.	34,152,269.39	64,958.00	0.00	0.00	0.00
Cyrus J. Lawrence	20,246,261.59	41,876.00	0.00	0.00	0.00
Dain Kalman & Quail	3,898,635.99	10,619.50	0.00	0.00	0.00
Daiwa Sec. America	3,410,726.40	3,871.00	6,433,515.63	0.00	0.00
Dean Witter Reynolds	82,601,234.57	204,300.00	58,297,858.14	0.00	0.00
Delafield Har. Tabell	7,674,443.33	14,770.00	0.00	0.00	0.00
Dillon Read	7,604,631.72	17,033.00	0.00	0.00	0.00
Discount Corp. (NY)	0.00	0.00	41,299,218.75	0.00	0.00
Dominion Sec. H & P	870,210.60	784.00	0.00	0.00	0.00
Donaldson Lufkin	62,594,594.56	90,116.00	40,911,261.28	0.00	0.00
Drexel Burnham Lambert	156,038,969.05	305,299.00	83,183,912.75	30,000.00	0.00
E. F. Hutton & Co.	28,371,055.03	60,517.50	128,850,333.90	0.00	0.00
Eberstadt (F) & Co.	12,531,679.38	23,189.00	0.00	0.00	0.00
Edwards - Bond Service	0.00	0.00	8,322,972.50	0.00	0.00
Edwards A. G. & Sons	0.00	0.00	9,426,370.00	12,500.00	0.00
Ernst & Co.	6,545,403.55	5,607.00	0.00	0.00	0.00
First Boston Corp.	149,835,632.54	246,593.59	593,596,640.17	93,000.00	6,468,641,348.08
First Interstate Bk Cal	0.00	0.00	5,000,000.00	0.00	0.00
First Manhattan Co.	17,264,552.44	35,576.00	0.00	0.00	0.00
First National Bank Boston	0.00	0.00	522,062.50	0.00	0.00
First National Bank Chi.	0.00	0.00	5,000,000.00	0.00	97,542,745.27
First National Bank Mpls	0.00	0.00	25,113,221.89	0.00	807,799,099.30
First National Bank SP	0.00	0.00	0.00	0.00	224,623,484.44
First Southwest Co.	1,157,746.86	3,965.00	0.00	0.00	0.00
Ford Motor Credit Co.	0.00	0.00	0.00	0.00	328,883,000.00
Fred Alger & Company	424,226,847.76	1,268,086.52	0.00	0.00	0.00
Furman Selz Mager	3,256,077.58	2,760.00	0.00	0.00	0.00
Gartner Securities Corp.	300,780.00	180.00	0.00	0.00	0.00
General Elec. Fin. Serv.	0.00	0.00	0.00	0.00	229,499,000.00
General Electric Credit	0.00	0.00	0.00	0.00	372,005,000.00
General Motors Acceptance	0.00	0.00	0.00	0.00	677,053,000.00
Goldman Sachs & Co.	250,870,940.18	357,978.34	687,681,347.44	27,500.00	9,090,732,452.67
Gordon Haskett & Co.	99,549.00	0.00	0.00	0.00	0.00
Greenwich Capital Markets	0.00	0.00	20,803,152.81	0.00	0.00
Gruntal & Company	1,010,781.00	2,286.00	0.00	0.00	0.00
Harris Trust & Savings	0.00	0.00	7,000,000.00	0.00	6,257,002.36
Heller Financial Inc.	0.00	0.00	0.00	0.00	685,881,000.00
Herzog Heine Gedvid	5,646,886.75	0.00	0.00	0.00	0.00
Household Finance	0.00	0.00	0.00	0.00	34,274,000.00
Howard Weil Labouisse Friedrichs	141,470.00	1,645.00	0.00	0.00	0.00
Instinet	92,897,510.82	83,423.30	0.00	0.00	0.00
Interstate Securities	8,661,845.49	10,649.10	0.00	0.00	0.00
Janney Montgomery Scott	245,622.00	1,072.00	0.00	0.00	0.00
Jefferies & Co.	278,313,896.45	420,585.25	0.00	0.00	0.00
Johnson	10,013,409.83	19,669.00	0.00	0.00	0.00
Johnson Lane Space & Smith	15,188,554.00	30,904.00	0.00	0.00	0.00
Jones Associates	87,730,606.59	141,613.82	0.00	0.00	0.00
Keefe Bruyette & Wood	15,441,132.89	32,557.00	0.00	0.00	0.00
Kidder Peabody	57,672,693.92	68,530.00	271,871,477.22	294,455.00	13,738,981,305.98

MINNESOTA STATE BOARD OF INVESTMENT
COMMISSIONS & TRADING VOLUME
BY BROKER
FISCAL YEAR 1987

BROKER	EQUITY DOLLAR VOLUME	EQUITY COMMISSIONS	BOND DOLLAR VOLUME	BOND COMMISSIONS	SHORT TERM DOLLAR VOLUME
Kleinwort Benson Govt. Sec.	0.00	0.00	41,837,054.69	0.00	2,283,478.41
L. F. Rothschild	14,369,223.22	21,248.00	36,070,796.20	69,822.50	0.00
Lanston Co.	0.00	0.00	44,899,550.78	0.00	0.00
Lazard Freres & Co.	288,995.00	420.00	0.00	0.00	0.00
Legg Mason	5,060,827.20	8,728.00	0.00	0.00	0.00
Lehman Govt. Securities	0.00	0.00	107,753,917.51	20,000.00	12,192,324,971.67
Lewco Securities Inc.	32,326,160.59	55,102.50	0.00	0.00	0.00
Lieber & Company	34,310,497.06	80,117,75	0.00	0.00	0.00
Lynch Jones & Ryan	10,549,030.97	22,376.50	0.00	0.00	0.00
Mabon Nugent & Co.	3,696,967.58	5,644.00	0.00	0.00	0.00
Manufacturers Hanover Trust	0.00	0.00	846,000.00	0.00	151,153,412.47
Marquette National Bank	0.00	0.00	20,945,000.00	0.00	70,747,657.77
McDonald & Company	11,417,729.30	35,388.00	0.00	0.00	0.00
McKinney Square Allsopp	1,367,650.00	3,400.00	0.00	0.00	0.00
McLeod Young Weir	1,806,633.55	835.00	13,772,290.00	0.00	0.00
Mellon Bank	0.00	0.00	0.00	0.00	40,126,843.34
Merrill Lynch - IDC	234,840,409.55	310,102.72	487,899,082.43	0.00	0.00
Merrill Lynch PF&S	0.00	0.00	0.00	0.00	45,968,000.00
Merrill Lynch PF&S (R)	116,911,227.62	218,459.65	158,495,319.10	63,750.00	5,654,701,953.60
Mesirow & Co.	5,222,071.65	14,901.20	0.00	0.00	0.00
Montgomery Securities	33,190,964.85	56,170.65	2,168,512.50	0.00	0.00
Moore Schley & Cameron	8,680,381.06	10,790.00	0.00	0.00	0.00
Morgan Guaranty	66,955,494.17	86,348.50	490,781,560.15	0.00	0.00
Morgan Stanley & Co.	49,017,893.17	140,653.50	69,836,287.08	92,458.80	0.00
Moseley Hallgarter Estabrook	1,084,125.81	1,400.00	0.00	0.00	0.00
Nesbitt Thomson Sec.	1,736,773.76	3,689.00	0.00	0.00	0.00
Neuberger & Berman	7,696,490.77	12,938.00	0.00	0.00	0.00
New York & Foreign Sec.	5,319,774.43	15,062.50	0.00	0.00	0.00
Newhard Cooke & Co.	474,097.50	1,710.00	0.00	0.00	0.00
Nomura Securities Int'l.	14,643,958.67	12,347.00	0.00	0.00	0.00
Norwest Bank Mpls	0.00	0.00	6,941,929.71	0.00	253,873,455.14
Oppenheimer & Co.	46,886,621.01	87,259.55	0.00	0.00	0.00
Paine Webber J & C	158,959,141.14	210,764.50	43,282,249.69	15,000.00	0.00
Penney (J.C.) Finance	0.00	0.00	0.00	0.00	30,878,000.00
Piper Jaffray & Hopwood	6,493,564.40	5,926.00	0.00	0.00	0.00
Pittsburg Natl. Bank	0.00	0.00	0.00	0.00	6,811,336.39
Prescott Ball & Turben	3,879,395.67	7,281.00	0.00	0.00	0.00
Printon & Kane	0.00	0.00	2,723,625.00	0.00	0.00
Prudential	15,000,254.73	23,959.00	4,474,760.00	0.00	0.00
Prudential Bache Sec.	6,009,077.41	16,122.00	187,493,953.13	0.00	15,308,106,883.33
R. C. Stamm	1,148,616.00	2,016.00	0.00	0.00	0.00
Re-Investment Plan	0.00	0.00	587.12	0.00	0.00
Robert Fleming	117,500.00	0.00	0.00	0.00	0.00
Robertson Colman & Stephens	1,339,125.87	700.00	0.00	0.00	0.00
Robinson-Humphrey Co.	7,476,359.67	4,766.00	0.00	0.00	0.00
Roulston & Company	269,916.98	474.00	0.00	0.00	0.00
Salomon Bros.	99,040,381.60	182,072.59	583,598,213.35	244,000.00	10,238,569,843.33
Sanford C. Bernstein	13,831,918.89	45,091.50	0.00	0.00	0.00
Schwab (Charles) & Co.	372,450.00	1,200.00	2,873,075.00	0.00	0.00
Sears Roebuck Acceptance	0.00	0.00	0.00	0.00	204,740,000.00
Securities Settlement Corp.	493,522.97	1,120.00	0.00	0.00	0.00
SEI Funds Evaluation	16,635,034.92	39,169.00	0.00	0.00	0.00
Shearson Argus Research	71,180,863.44	90,485.00	64,103,165.60	0.00	0.00
Shearson Lehman (Bondst)	0.00	0.00	24,874,120.00	45,000.00	0.00
Shearson Lehman Amer Exp	0.00	0.00	29,736,159.06	0.00	0.00
Shearson/American Express	29,044,770.61	58,238.50	0.00	0.00	0.00
Smith Barney & Co.	56,186,446.21	122,020.50	17,902,095.50	0.00	0.00
State Board of Investment	1,273,407.77	0.00	414,312,360.66	0.00	1,606,592,378.05
State Street Bank & Trust	948,531,006.82	0.00	123,365,115.23	0.00	39,995.00
Stifel Nicolaus & Company	205,046.00	1,546.00	0.00	0.00	0.00
Sutro & Company, Inc.	4,767,814.90	8,257.00	657,800.00	0.00	0.00
Thomson & McKinnon	8,704,286.72	19,982.00	0.00	0.00	0.00
Tucker Anthony & R. L. Day	8,276,588.41	12,966.00	0.00	0.00	0.00
Union Bank of L.A.	0.00	0.00	1,000,000.00	0.00	6,898,761.11
W. E. Pollock & Co.	0.00	0.00	97,909,229.08	0.00	8,449,306.99
Wagner Stott & Co.	72,877,878.43	112,917.50	0.00	0.00	0.00
Wall Street Clearing	1,145,373.51	1,689.00	0.00	0.00	0.00
Walsh Greenwood	1,365,850.49	2,956.25	0.00	0.00	0.00
Warburg-Paribus Inc.	121,430.00	180.00	0.00	0.00	0.00
Weeden & Company	90,146,992.17	137,013.00	0.00	0.00	0.00
Weiss	3,214,980.00	7,100.00	0.00	0.00	0.00
Wellington & Co.	104,113,748.20	283,913.75	0.00	0.00	0.00
Wertheim Schroder & Co.	6,860,545.40	20,255.00	0.00	0.00	0.00
Westinghouse Credit	0.00	0.00	0.00	0.00	197,113,000.00
William Blair & Co.	2,592,888.22	3,968.00	3,167,875.00	0.00	0.00
Wilshire Associates	130,088,954.75	282,480.80	0.00	0.00	0.00
Wood Gundy & Company	1,350,594.55	1,463.00	0.00	0.00	0.00
All Brokers Combined	5,781,795,900.51	7,757,773.19	5,956,198,268.03	1,019,986.30	86,982,999,442.47