MINNESOTA STATE BOARD
OF INVESTMENT
MEETING

SEPTEMBER 5, 1984
&
INVESTMENT ADVISORY COUNCIL
MEETING

SEPTEMBER 4, 1984

MINNESOTA STATE BOARD OF INVESTMENT

1858

MEMBERS:

GOVERNOR
Rudy Perpich

STATE AUDITOR
Arne H. Carlson

STATE TREASURER
Robert W. Mattson

SECRETARY OF STATE
Joan Anderson Growe

ATTORNEY GENERAL
Hubert H. Humphrey III

MINNESOTA STATE BOARD
OF INVESTMENT
MEETING

September 5, 1984

&

INVESTMENT ADVISORY COUNCIL
MEETING

September 4, 1984

AGENDA

STATE BOARD OF INVESTMENT

MEETING

Wednesday, September 5, 1984

9:00 A.M.

Room 118
State Capitol
Saint Paul

TAB

1. Approval of minutes of May 23, 1984 and June 6, 1984 meetings

2. Executive Director's Report:

   A. Quarterly Investment Review — A

      1) Basic Retirement Funds
      2) Post Retirement Fund and Other Investment Funds

   B. Manager Update Interviews — B

   C. Portfolio Statistics — C

3. Report from Investment Advisory Council Committees

   A. Administrative Committee — D

      1) Committee report
      2) Staff budget proposal
      3) Annual Report outline

   B. Asset Allocation Committee — E

      1) Committee Report
         -recommendations for handling the "Rule of 85" cash flow situation

         -initial long-term asset mix recommendations for the Post Retirement Fund

      2) Description of the mechanics of the Post Retirement Fund benefit calculations and current issues facing the fund

   C. Equity Manager Committee — F

      1) Committee Report
         -evaluation of external equity managers

      2) Evaluation Associates' report
      3) Review of the index fund's construction

   D. Fixed Income Manager Committee — G
      1) Committee Report
      2) Review of external fixed income manager funding procedures

   E. Alternative Investment Committee — H

      1) Committee Report presenting the proposed strategy for implementation of the balance of the alternative investment program

4. Escheated Property — I

MEMBERS OF THE BOARD:
GOVERNOR RUDY PERPICH
STATE AUDITOR ARNE H. CARLSON
STATE TREASURER ROBERT W. MATTSON
SECRETARY OF STATE JOAN ANDERSON GROWE
ATTORNEY GENERAL HUBERT H. HUMPHREY III

EXECUTIVE DIRECTOR
HOWARD J. BICKER

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

MINUTES
SPECIAL MEETING
STATE BOARD OF INVESTMENT
MAY 23, 1984

The State Board of Investment met on Wednesday, May 23, 1984 at 9:00 A.M. in Room 112 of the State Capitol. Attorney General Hubert H. Humphrey III, Acting Chair, State Auditor Arne H. Carlson, State Treasurer Robert W. Mattson and Secretary of State Joan Anderson Growe were present.

REPORT OF BOND MANAGER SEARCH COMMITTEE

Cliff McCann, Chairman of the Bond Managers Search Committee, reviewed the selection process for the bond managers and the committee's recommendations. Mr. Bicker, Executive Director, stated that upon implementation of the proposal, the Board would have eight bond portfolios: six active external money managers, a private placement pool liquidated over time, and a short term pool used to fund the Board's alternative investment programs. The committee recommended the maximum fee paid to each of the Board's bond managers be 20 basis points. All potential managers have concurred with this fee schedule.

In response to a question from Mr. Carlson, Mr. McCann stated that the committee's recommendation differed somewhat from the consultant's original list due primarily to the need for diversification among management styles. In response to a question from Mr. Carlson, Mr. Bicker stated that the selection was not based on the location of the firms. He stated that the committee's recommendation incorporates five distinguished styles which will dampen the overall volatility of returns.

In response to a question from Mr. Carlson, Mr. McLaren, Executive Director of the Public Employees Retirement Association, said he is concerned about the capacity of the local managers, an issue also raised by Evaluation Associates. In

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response to a question from Mr. Humphrey, Mr. McLaren stated that PERA's top choice, the Pacific Investment Management Company (PIMCO) was not included in the recommendations. He stated that he understood that the Board looked for specific styles which may not include the best performers, but rather the best performers within certain parameters. Mr. McLaren stated that PERA would probably have given the Board a different list. In response to a question from Mr. Carlson, Mr. McCann stated that PIMCO had recently received $750 Million from the City of New York and there are concerns about the firm's capacity to absorb additional assets. Mr. Bicker stated that PIMCO has had problems with the futures and options components of its investment strategy. He stated that it would be prudent to see whether PIMCO can digest the recent massive growth in assets and still produce strong performance. Mr. Bicker noted that Mr. McLaren had concurred with the committee's concerns regarding PIMCO, and the motion to eliminate the firm from consideration had passed unanimously.

In response to a question from Mr. Carlson, Ms. Mares, Chair of the Investment Advisory Council, stated that five of the fourteen Council members served on the Search Committee. She stated that the other Council members had been polled and they concurred with the recommendation in view of the diversification among styles and the smaller allocation to the regional managers based on their relative size. Mr. Carlson stated that he wants a clear Board policy that each manager be evaluated solely on the basis of investment performance, with no consideration to geographic location. Mr. Bicker concurred.

Mr. Carlson moved approval of the committee report. The motion included the retention of the following external bond managers: Investment Advisors ($25 Million), Lehman Management ($150 Million), Miller, Anderson & Sherrerd ($150 Million), Morgan Stanley ($150 Million), Norwest ($75 Million), and Western Asset ($150 Million). The motion passed unanimously.

The meeting adjourned at 9:15 a.m.

Respectfully submitted,

Howard Bicker

Howard J. Bicker
Executive Director

MEMBERS OF THE BOARD:
GOVERNOR RUDY PERPICH
STATE AUDITOR ARNE H. CARLSON
STATE TREASURER ROBERT W. MATTSON
SECRETARY OF STATE JOAN ANDERSON GROWE
ATTORNEY GENERAL HUBERT H. HUMPHREY III

EXECUTIVE DIRECTOR
HOWARD J. BICKER

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

MINUTES
STATE BOARD OF INVESTMENT

June 6, 1984

The State Board of Investment met on Wednesday, June 6, 1984 at 10:00 A.M. in Room 112 of the State Capitol. Secretary of State Joan Anderson Growe, Acting Chair, State Auditor Arne H. Carlson, State Treasurer Robert W. Mattson and Attorney General Hubert H. Humphrey III were present.

The minutes of the March 7, 1984 meeting were approved.

Executive Director's Report

Howard Bicker, Executive Director, distributed a book of policy and research papers previously adopted by the Board. Mr. Bicker presented the quarterly investment review of the Basic Retirement Funds. He stated that the assets declined by 1.8% due to the continued protracted weakness of the capital markets. He stated that the asset allocation was basically unchanged, except for the increases in real estate approved at the last Board meeting. Mr. Bicker reported that the total rate of return for the first quarter was - 2.2%, primarily due to the declines in the stock market. He stated that the aggressive equity managers under performed during the quarter. He noted that it had been a difficult market for aggressive equity managers, and that the Board's managers had slightly outperformed the TUCS median. In reviewing asset allocation, Mr. Bicker noted that the commitments to real estate and alternative investments are lower than their policy targets and that it would be a two to three year period before the target would be met. During this period, the assets will be invested in the short term fixed income portfolio. Mr. Bicker reviewed the Board's performance relative to the tax-exempt universe, noting that the Board no longer is compared to the public fund universe due to its greater investment flexibility. He noted that the Board had been granted this flexibility over the last few years, thereby making the five year comparisons with the tax exempt universe misleading.

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Mr. Bicker briefly reviewed the reports for the Post Retirement Fund and other funds. He noted that these reports would be expanded in conjunction with the work to be undertaken by the Investment Advisory Council.

Investment Advisory Council Report

Judith Mares, Chair of the Investment Advisory Council, stated that the Council had addressed its role in the investment process now that investments have changed from internal to external management. She stated the Council reached the following conclusions which will be executed over time: 1) the Council acts as a financial advisor for the State Board of Investment, reviewing all policies, addressing the process and making recommendations, and 2) the Council provides expertise to the staff, while not replacing the staff as technicians. She stated that the Council clearly delineated that the staff executes the policy while the Council develops, analyses and recommends policy. Ms. Mares stated that the Council has decided to establish the following committees:

> Asset Allocation - Addressing what asset classes are appropriate for the funds and the amounts allocated to each class.
>
> Equity Managers Monitoring - Including review of the due diligence in the selection of Equity Managers and the monitoring of their performance.
>
> Fixed Income Manager Monitoring - Including review of the due diligence in the selection of Fixed Income Managers and the monitoring of their performance.
>
> Alternative Investment Monitoring - Including review of the due diligence in the selection of Alternative Investment Managers and the monitoring of their performance.
>
> Staff Review - Assessing the ability of the staff to initiate and execute policy objectives.

Ms. Mares stated that the Council would work with the consultants hired by the Board, and could request specific work from consultants.

In response to a question from Mr. Carlson, Ms. Mares stated that there is inherent volatility to the equity markets which was recognized and accepted in designing a long term asset allocation. She stated it is critical to have adequate standards to evaluate the managers so that the Board can live through the periods of down side volatility and not make hasty decisions to fire managers or reduce the equity component. In response to a question from Mr. Carlson, Ms. Mares stated that the Council committee would address the issue of whether to raise cash.

In response to a question from Mr. Carlson regarding consultant reports, Ms. Mares said the Council would work with Evaluation Associates to evaluate the managers. Mr. Carlson stated that Evaluation Associates should report to the Board and not to the staff. Ms. Mares stated that through the committee structure, the Council could work closely with Evaluation Associates and staff to analyze the managers. She stated that because the corporate managers on the Council utilize many of the same managers as the Board, the communication with the consultant and staff is enhanced . Mr. Carlson stated that the Board should evaluate whether its funds can realistically beat the indexes.

Ms. Mares stated that in filling Council vacancies, she would seek active participants who have expertise in specific areas. She stated that there probably is a need for technical expertise in the area of alternative investments. Mr. Carlson noted that some individuals may be reluctant to join the Council due to potential conflicts of interest. Ms. Mares responded that the Council must have a technically proficient body, and if it needs additional structures to mediate potential conflicts of interest, those must be addressed at that time. In response to a question from Ms. Growe, Ms. Mares said the committees would meet prior to the next Board meeting. She stated that the committees would address asset allocation and the criteria for hiring and firing external money managers. Mr. Humphrey expressed concern over the percentage invested in equities and investment performance.

Evaluation Associates Report

Jim Ryan, Evaluation Associates, stated that the consultant is responsible directly to the State Board of Investment, and due to the technical nature of its day to day work, interfaces most of the time with the investment staff. He anticipated that Evaluation Associates will work closely with the Investment Advisory Council under its new structure. Mr. Ryan reviewed the quarterly qualitative monitoring reports of the external managers prepared by Evaluation Associates. In response to a question from Mr. Carlson, Mr. Bicker stated that the detailed quantitative analysis conducted by Evaluation Associates is provided automatically to the Board and retirement funds. Mr. Bicker said the Council will receive copies in accordance with its new functions. Mr. Carlson stated that members should receive copies directly from Evaluation Associates rather than dispersed by the staff.

Mr. Ryan reviewed the individual managers which recently experienced changes in ownership and personnel or exhibited consistent poor performance. Mr. Ryan noted that during the last year and a half, the market had outperformed 75% of all investment managers. He stated it had been a difficult period not only for aggressive equity managers, but for all equity managers.

Legislative Review

Mr. Bicker reviewed the status of the legislation affecting the State Board of Investment. In response to a question from Mr. Humphrey, Mr. Bicker stated that the Board and Council would review any proposed investment in the African Development Bank.

Legislative Auditor Report

Claudia Gudvagen, Audit Manager for the Office of the Legislative Auditor, reviewed the findings of the audit of the State Board of Investment. In response to a question from Mr. Carlson, Ms. Gudvagen stated that the audit included compliance work relating to the State Trust Funds. She stated that the audit for FY 84 will include more compliance work as it is the first year the Board is billing its costs to the retirement systems. Mr. Bicker stated that all of the Auditor's recommendations will be implemented.

Evaluation Associates Contract

Mr. Bicker presented the contract with Evaluation Associates for a one-year renewal. He reported that the Investment Advisory Council had unanimously voted to renew the contract. In response to a question from Mr. Carlson, Mr. Bicker stated that the contract has a thirty day escape clause. Mr. Carlson moved that the Board approve a contract with Evaluation Associates without an expiration date but including the thirty day escape clause. Mr. Mattson stated that the motion establishes a perpetual contract. Ms. Growe stated that the one year contract can be terminated within thirty days at the direction of the Board. In response to a question from Mr. Carlson, Ms. Mares stated that the Council recommended approval of the contract with no reservations. She stated that the Council discussed the potential for expanding its relationship with the consultant. She stated that the more focused structure of the Council would enhance Evaluation Associates' work with the organization. Mr. Carlson moved approval of the one-year contract with the inclusion of the thirty day escape clause. In response to a question from Mr. Humphrey, Mr. Bicker stated that there were no changes in the terms of the contract. Mr. Carlson's motion passed unanimously.

Manager Updates

Mr. Bicker briefly reviewed the updated reports on the external money managers.

The meeting adjourned at 11:05 A.M.

Respectively submitted,

Howard J. Bicker

Howard J. Bicker
Executive Director

AGENDA

INVESTMENT ADVISORY COUNCIL

MEETING

Tuesday, September 4, 1984

2:30 P.M.

Minneapolis Club
729 - 2nd Avenue South
Minneapolis

	TAB
1. Approval of minutes of June 5, 1984 meeting	
2. Executive Director's Report:	
A. Quarterly Investment Review	A
1) Basic Retirement Funds	
2) Post Retirement Fund and Other Investment Funds	
B. Manager Update Interviews	B
C. Portfolio Statistics	C
3. Report from Investment Advisory Council Committees	
A. Administrative Committee	D
1) Committee report	
2) Staff budget proposal	
3) Annual Report outline	
B. Asset Allocation Committee	E
1) Committee Report -recommendations for handling the "Rule of 85" cash flow situation -initial long-term asset mix recommendations for the Post Retirement Fund	
2) Description of the mechanics of the Post Retirement Fund benefit calculations and current issues facing the fund	
C. Equity Manager Committee	F
1) Committee Report -evaluation of external equity managers	
2) Evaluation Associates' report	
3) Review of the index fund's construction	
D. Fixed Income Manager Committee	G
1) Committee Report	
2) Review of external fixed income manager funding procedures	
E. Alternative Investment Committee	H
1) Committee Report presenting the proposed strategy for implementation of the balance of the alternative investment program	

MEMBERS OF THE BOARD:
GOVERNOR RUDY PERPICH
STATE AUDITOR ARNE H. CARLSON
STATE TREASURER ROBERT W. MATTSON
SECRETARY OF STATE JOAN ANDERSON GROWE
ATTORNEY GENERAL HUBERT H. HUMPHREY III

EXECUTIVE DIRECTOR
HOWARD J. BICKER

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

MINUTES
INVESTMENT ADVISORY COUNCIL

June 5, 1984

The Investment Advisory Council met on June 5, 1984 at 7:30 A.M. in the MEA Conference Room in St. Paul.

Members Present: Judith Mares, Chair; Gordon Donhowe, Paul Groschen, Ken Gudorf, Malcolm McDonald, Mike McLaren, Gary Norstrem, Mike Rosen, Joseph Rukavina, Ray Vecellio, Deborah Veverka and Jan Yeomans.

Members Absent: Richard Hume and Harvey Schmidt.

Others Attending: John Allers, Deborah Feist, Paul Hayne, Mike Ousdigian, Stan Peskar, Jim Ryan and Peter Sausen.

The minutes of the March 6, 1984 meeting were unanimously approved.

Executive Director's Report

Mr. Bicker discussed the Quarterly Investment Review for the Basic Retirement Funds. He reported that the total rate of return for the Basic Retirement Fund for the first quarter was -2.2%. He noted it was a difficult period for aggressive equity managers. He stated that the Board's equity managers had slightly outperformed the TUCS median.

In response to a question from Mr. Gudorf, Mr. Bicker stated that the cash flow to the Basic Funds has dried up with the passage of the Rule of 85. In response to a question from Ms. Veverka, Mr. Bicker stated that the current diversification among the asset managers may not be adequate. He stated he would seek "value oriented" managers, though it is difficult to find value managers who are also aggressive. Mr. Bicker stated that a

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search for firms potentially to replace some of the existing managers would commence in the fall. A reduction in the number of managers also would be considered. Mr. Ryan, Evaluation Associates, cautioned that the addition of value managers would not be a panacea. He noted that the index fund provides a stable core for the equity portfolio. Ms. Mares stated that the aggressive managers are be expected to do well in good markets and poorly in down markets. Mr. Bicker reviewed the portfolio statistics.

Evaluation Associates Report

Jim Ryan, Evaluation Associates, reviewed the quarterly monitoring reports of the external managers prepared by Evaluation Associates. He discussed the individual managers that recently experienced changes in ownership and personnel or exhibited consistent poor performance. Ms. Mares requested that Evaluation Associates annually report on the managers' ability to time the market. Mr. Ryan cautioned about placing too much emphasis on market timing. Ms. Mares stated that managers who don't have skills in this area should not be allowed to build cash.

In response to a question from Mr. McDonald, Mr. Ryan stated that the managers' performance should be evaluated over a market cycle. If a manager doesn't do well during a market upturn, it is a matter of concern. In response to a question from Mr. Vecellio, Mr. Bicker stated that some advisors recommend increasing funding to the underperforming managers and decreasing the allocations to the good performers, in keeping with the theory that the poor performers will do well during a market upturn. Mr. Bicker outlined the alternatives available to the Board in the event that it terminates one or more managers: replacing the managers, increasing the allocation to the index fund, or increasing the allocation to alternative investments. In response to a question from Mr. Vecellio, Mr. Bicker stated that with the addition of fixed income and alternative investment managers, consolidation of the number of equity managers might be appropriate. Ms. Mares stated that the consultant would assist in making those decisions.

Legislative Review

Mr. Bicker reviewed the status of legislation affecting the State Board of Investment.

Legislative Auditor's Report

Mr. Bicker briefly reviewed the findings of the recent financial audit of the State Board of Investment.

Managers Updates

Mr. Bicker briefly reviewed the updated reports on the external money managers.

Advisory Council Discussion

The Investment Advisory Council discussed its role in light of the recent changes in the investment management of the State's pension assets. Ms. Mares stated that the Council was structured to advise an internally managed fund, whereas the assets increasingly are being invested by external managers. At Ms. Mares request, Mr. McLaren stated he would send copies of the recent Ennis report on the SBI to Council members.

In response to a question from Mr. Vecellio, Mr. Bicker stated that according to the law, the Council advises both the State Board of Investment and the Executive Director. Mr. McDonald stated that the Council is also responsible to the beneficiaries and the taxpayers. He stated that the Council should be oriented to the particular needs of the funds as well as to investment performance.

Mr. Donhowe stated that the Investment Advisory Council is in practice the named fiduciary for the funds. He stated that the Council should be responsible for policy discussions, and staff should execute the policy. He noted that if the Council gets involved in the execution, it will not be able to hold staff accountable. Ms. Mares stated it was important to analyze staff's ability to execute policy. Mr. Donhowe recommended that staff evaluation be conducted by a committee of the Council, rather than by an outside firm. Mr. McDonald concurred. Mr. Donhowe also recommended that the Council develop more of a dialogue with the Board rather than following Board direction on issues, and further define its vote regarding proposals in the alternative investment area. In response to a question from Ms. Mares, Mr. Donhowe stated that any consultant hired by the Board is available to work with the Council.

The Council set forth the following areas of policy under consideration: standards for hiring and firing managers; review of investment performance; asset allocation; asset manager selection; asset classes; analysis of staff functions. Ms. Mares stated that the staff is expected to be the technicians and propose policy, whereas the Council reviews policies and procedures and asks questions, making sure staff has performed its due diligence. In response to questions about the legal liability of Council members, Mr. Bicker distributed a copy of the law governing the Investment Advisory Council. Ms. Mares stated she would ask for a letter on the subject from Mike Miles, the Assistant Attorney General.

Ms. Mares recommended the Council adopt due diligence procedures for the various asset classes. She also recommended that the Council form committees to oversee the various policy areas. Mr. Donhowe concurred on the basis that the committees do not get involved in the detail and execution of policies. He stated that the Council should constantly monitor itself to ensure it is not overstepping its bounds, and the review and analysis is being conducted by staff.

The Council initially proposed the following committees: Asset Allocation, Manager Selection, Manager Monitoring, Alternative Investments and Staff Execution. Mr. Norstrem warned against assigning too much work to one committee. Mr. Gudorf stated that manager selection is a unique staff function and recommended against Council involvement in the ongoing details of the process. He recommended that manager selection be eliminated from the proposed committees. Deborah Veverka stated that at Honeywell, the selection procedure is reviewed and managers are recommended to a committee. While the committee may change the number of managers, it does not change the names. Ms. Yeomans and Ms. Mares stated that the processes were similar at 3M and General Mills respectively. Mr. Donhowe stated that the managers' relationship should be to the staff, not the Board. The Council concurred, and eliminated Manager Selection from the list of proposed committees.

Mr. McLaren recommended that the Council consider procedural issues, such as whether the Merrill Lynch performance reports should be presented to the Council. Ms. Mares recommended that such questions be discussed by the committees. Ms. Veverka recommended that the committees evaluate due diligence and criteria for the selection of managers. Mr. Gudorf stated that the due diligence is different for alternative investments and the primary role of the committee is to ensure that staff is conducting its due diligence, rather than approving specific deals.

Mr. Bicker stated that the Asset Allocation Committee will examine the other funds under the Board's control, and the Managers Monitoring Committee will discuss issues regarding the firing and replacement of managers. Mr. Donhowe stated that the Review Staff Committee would encompass overall performance evaluation. Mr. Bicker stated that the Alternative Investment Committee would review the due diligence process. Ms. Mares stated that the committee would set the framework for the investments such as the investment stage and size of funds, and staff would find the managers to fulfill the policies. Mr. Donhowe stated that the Council should act as a sounding board not involved in the selection process. The Council decided to form a committee on Investment Strategy/Asset Allocation, three separate committees on Common Stocks, Fixed Income, and Alternative Investments (each committee will review due diligence and manager performance) and the Committee to conduct a Staff Review.

Mr. Donhowe stated that Council members should submit their preferences to the Chair. The size of the committees will be determined by the Chair. Ms. Mares stated that the Council should recruit persons with technical expertise in areas not currently represented on the Council to fill the two current vacancies. In response to a question from Mr. Rosen, Mr. Bicker stated that he expects at least one staff member will be at every committee meeting. Mr. Donhowe moved that the Council meet later than 7:30 AM. The motion passed unanimously. Mr. McLaren recommended a larger room for future meetings. Ms. Mares stated meeting locations would alternate between Minneapolis and St. Paul. Mr. McDonald recommended that all Council members be informed of all committee meetings. Ms. Mares concurred, stating that there would be a distinction between committee members and visitors.

Evaluation Associates Contract

Mr. Bicker presented the contract for Evaluation Associates, which will expire June 30, 1984. He recommended renewal for a one year period. Mr. Bicker stated that Evaluation Associates' role had evolved from screening proposed candidates to monitoring managers.

Mr. Ryan outlined his role, focusing on the new Council structure. He stated that Evaluation Associates provides a quarterly evaluation of all equity and fixed income managers. Mr. Bicker noted that the consultant also had worked extensively with staff on real estate. In response to a question from Mr. McDonald, Mr. Bicker stated the Board had conducted an extensive consultant search, and had hired Evaluation Associates after screening fifteen proposals.

Mr. McLaren stated that PERA had supported the selection of Evaluation Associates because it was independent from investment management firms, unlike the other consultants under consideration. He stated that as a result of its purchase by Torchmark, Evaluation Associates was no longer independent. Mr. Ryan stated that Torchmark does not present a conflict of interest, but provides the consultant with needed capital to enhance its services. He stated that Evaluation Associates does not receive any fees from investment management organizations. Ms. Mares stated that the committees would work closely with Evaluation Associates in monitoring the managers. Mr. McDonald moved approval to recommend that the Board extend the consultant's contract for a one year period. The motion passed unanimously.

The meeting adjourned at 10:30 A.M.

Respectfully submitted,

Howard Bicker

Howard J. Bicker
Executive Director

Tab A

MINNESOTA STATE BOARD OF INVESTMENT

QUARTERLY INVESTMENT REVIEW

BASIC RETIREMENT FUNDS

June 30, 1984

MINNESOTA STATE BOARD OF INVESTMENT

BASIC RETIREMENT FUNDS

SECOND QUARTER 1984

Summary

ASSETS

The Basic Retirement Funds declined 1.6% in market value during the second quarter. The stock market has been in a down trend for a year now. The bond market has been weak for a year and a half. With approximately 85% of the Basic Funds invested in these two major asset classes, the resulting negative investment returns have more than offset positive contribution flows over the last twelve months. Consequently, the Basic Funds' total market value has fallen 3.8% over this period. End-of-period market values of the Basic Retirement Funds' assets over the past five years are displayed below:

Calendar Year		Market Value (millions)	Percent Change from Previous Period
1979		$ 1,627	+ 16.5%
1980		1,962	+ 20.6
1981		2,148	+ 9.5
1982		2,806	+ 30.6
1983	1Q	2,944	+ 4.9
	2Q	3,145	+ 6.8
	3Q	3,098	- 1.5
	4Q	3,129	+ 1.0
1984	1Q	3,072	- 1.8
	2Q	3,024	- 1.6

ASSET MIX

The major change in asset mix which occurred during the second quarter was the increased allocation to alternative assets. In particular, the real estate component was increased. To fund these alternative investments as planned, a portion of the bond portfolio was liquidated. This process is expected to continue over the next two to three years as the SBI's long-term asset mix goals are implemented.

The weakness in the bond and stock markets also contributed to the total portfolio's reduced allocation to these asset classes. On the other hand, cash equivalents, which were relatively strong performing assets, rose as a percentage of the total portfolio. Asset mix data for the end of the second and first quarters of 1984 are presented below:

ASSET MIX

	3/31/84	6/30/84
Common Stocks	56.8%	56.1%
Bonds	29.0	27.4
Cash Equivalents*	9.9	10.9
Alternative Equity Assets	4.3	5.6
	100.0%	100.0%

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

INVESTMENT RETURNS

The total rate of return on the Basic Retirement Funds' investments was -1.8% in the second quarter. The stock and bond markets continued their slow, persistent declines. The Basic Funds, the majority of which are invested in these liquid, long-term assets, likewise continue to reflect the weakness of the capital markets. For the quarter, real estate and cash equivalents were the superior performing assets. Asset segment and total portfolio returns during the most recent quarter and twelve months are displayed below:

Total Return

	Second Quarter 1984	Year Ending 6/30/84
Common Stocks	- 2.4%	- 11.1%
Bonds	- 2.5	2.2
Cash	2.9	9.4
Alternative Equity Assets	2.9	12.5
Total Fund	- 1.8	- 5.5

EQUITY PERFORMANCE

The second quarter was a mixed period for common stocks. The market's return over the entire period was negative, the result of its depressed May performance. On the other hand, the equity market was flat in April and rebounded in June.

The second quarter was considerably less difficult for the Basic Retirement Funds' active equity managers than was the first quarter. As a group the managers outperformed the broad market averages. Most of the managers were at or above the market's return. The index fund, in its first full quarter of operation since its construction, closely tracked its target index, the Wilshire 5000.

The active managers, on a composite basis, continue their Financial, Technology and Transportation overweightings. They remain underweighted in the Energy and Utilities sectors. During the second quarter the managers' overall equity exposure decreased slightly.

The recent quarter and since inception investment results of the Basic Funds' equity managers are presented below.

	Total Portfolio Returns	
	Second Quarter 1984	Since Inception 3/1/83
Fred Alger	-3.5%	0.3%
Alliance Capital	2.2	- 2.7
Beutel Goodman	-2.8	11.1
Forstmann Leff	-1.7	2.8
Hellman Jordan	-3.9	- 3.5
IDS	0.4	1.0
Investment Advisers	-2.8	1.0
Loomis Sayles	-3.8	-12.2
Siebel Capital	0.4	- 0.3
Herbert R. Smith	-2.9	-13.8
Trustee & Investors	-6.4	-11.3
Total - External Active Managers	-2.3	- 3.0
Wilshire Associates	-2.5	NA
Wilshire 5000	-2.7	7.1
S&P 500	-2.5	9.8

BOND PERFORMANCE

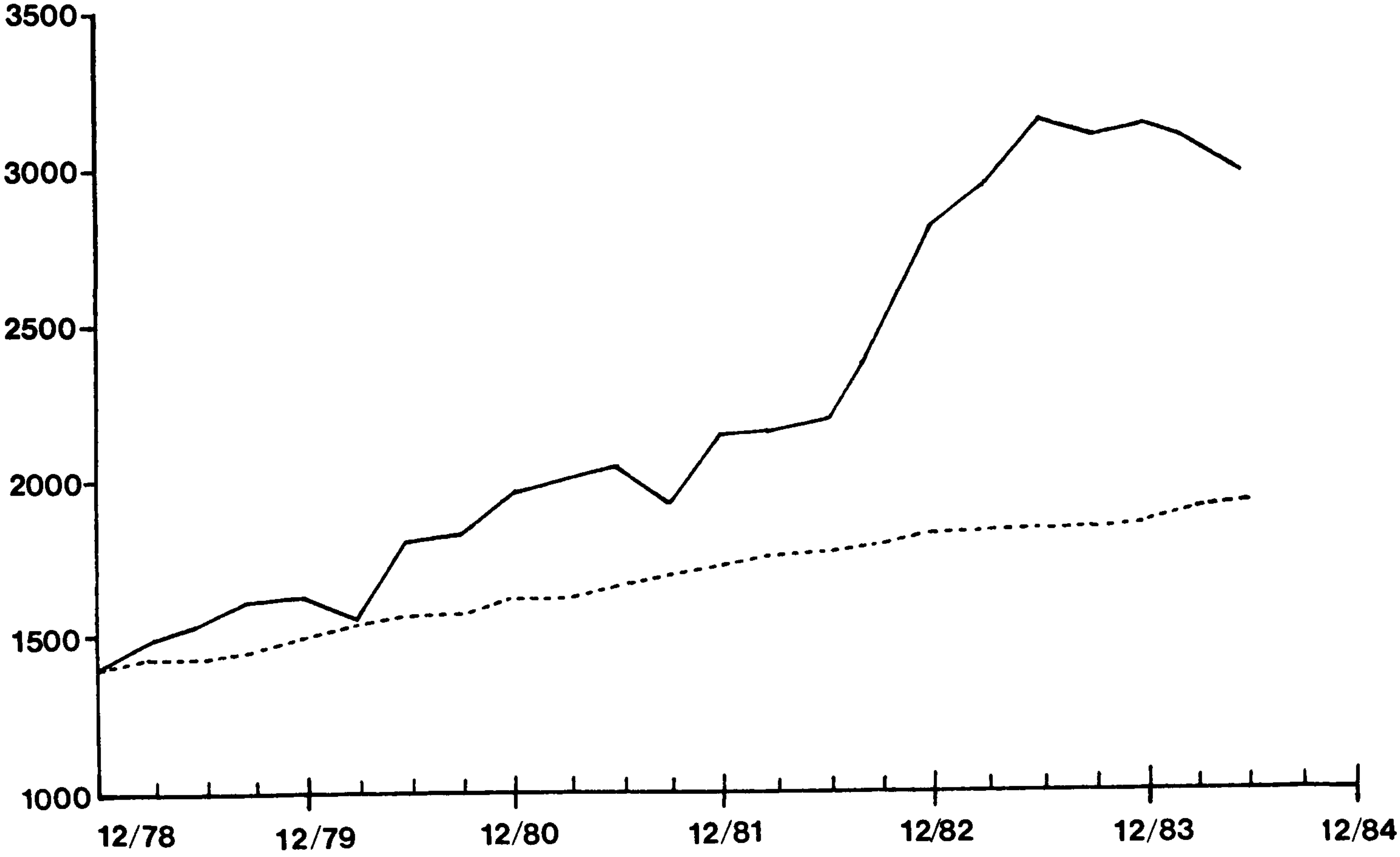
The second quarter was a dismal period for the bond market with bond prices declining over five percent. The quarterly returns in the bond market were the worst since the third quarter 1981, as interest rates rose 100 to 150 basis points. Both intermediate and long-term bonds performed poorly. The Basic Retirement Funds' bond portfolio, which has a longer maturity than the market average (14.0 years versus 9.8 years), underperformed the broad market indices. The total return on the Basic Funds' bond portfolio was -2.5% during the second quarter.

At its May meeting, the Board selected six external managers to invest the fixed income assets of the Basic Retirement Funds. Those managers are: Investment Advisers, Lehman Management, Miller Anderson Sherrerd, Morgan Stanley, Norwest Bank Minneapolis, and Western Asset Management. The managers were funded effective the beginning of the third quarter. Reporting on the external managers' performance will commence with the next quarterly report.

	Total Portfolio Returns	
	Second Quarter 1984	Year Ending Second Quarter 1984
Basic Retirement Funds Bond Return	-2.5%	2.2%
Merrill Lynch Master Bond Index	-1.9	1.7

FIGURE 1

BASIC RETIREMENT FUNDS
ASSET GROWTH



BEGINNING VALUE PLUS NET CONTRIBUTIONS ---

TOTAL PORTFOLIO MARKET VALUE ——

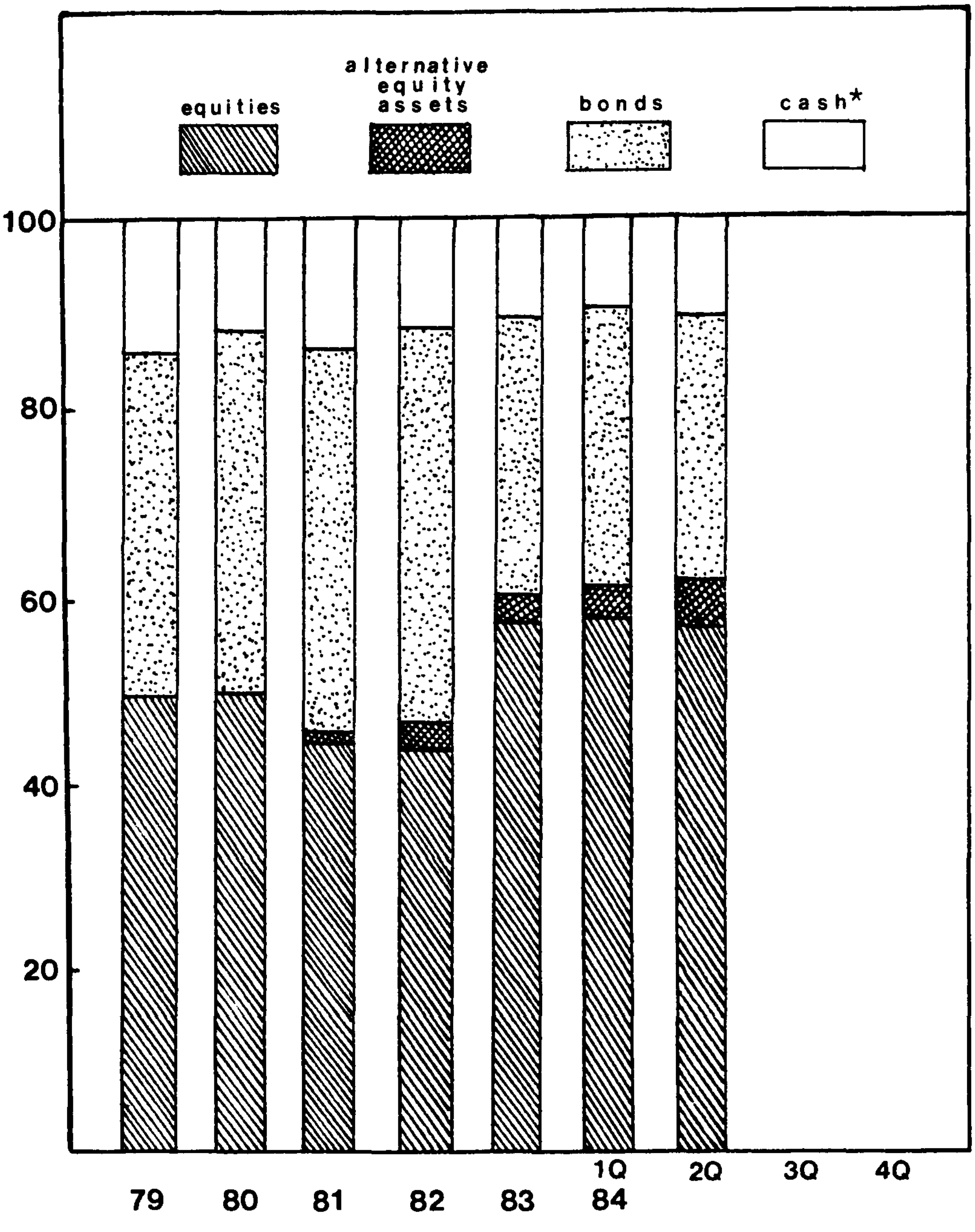
PERIOD ENDING

	12/79	12/80	12/81	12/82	12/83	6/84
BEGINNING VALUE	1397.0	1627.1	1962.0	2148.8	2806.2	3129.0
NET CONTRIBUTIONS	103.5	122.7	114.9	91.0	40.0	20.1
INVESTMENT RETURN	126.6	212.2	71.9	566.4	282.8	-125.1
ENDING VALUE	1627.1	1962.0	2148.8	2806.2	3129.0	3024.0

(MILLIONS OF DOLLARS)

FIGURE 2

BASIC RETIREMENT FUNDS
ASSET MIX



PERCENT OF MARKET VALUE

(End of Period Allocations)

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

TABLE 1

BASIC RETIREMENT FUNDS

ASSET MIX

MARKET VALUE

(End of Period Allocations)

		Common Stocks		Bonds		Cash*		Real Estate		Resource Funds		Venture Capital	
		$Million	Percent	$Million	Percent	$Million	Percent	$Million	Percent	$Million	Percent	$Million	Percent
1979		799	49.1	604	37.1	224	13.8	-	-	-	-	-	-
1980		964	49.1	767	39.1	231	11.8	-	-	-	-	-	-
1981		959	44.6	865	40.3	297	13.8	20	0.9	8	0.3	-	-
1982		1,212	43.2	1,165	41.5	317	11.3	93	3.3	17	0.7	-	-
1983		1,773	56.7	892	28.5	342	10.9	101	3.2	21	0.7	-	-
1984	1Q	1,745	56.8	891	29.0	305	9.9	106	3.5	21	0.7	4	0.1
	2Q	1,696	56.1	829	27.4	331	10.9	140	4.6	23	0.8	4	0.2
	3Q												
	4Q												

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

TABLE 2

BASIC RETIREMENT FUNDS

ASSET MIX — ACTUAL vs. POLICY

PERCENT OF MARKET VALUE
(End of Period Allocations)

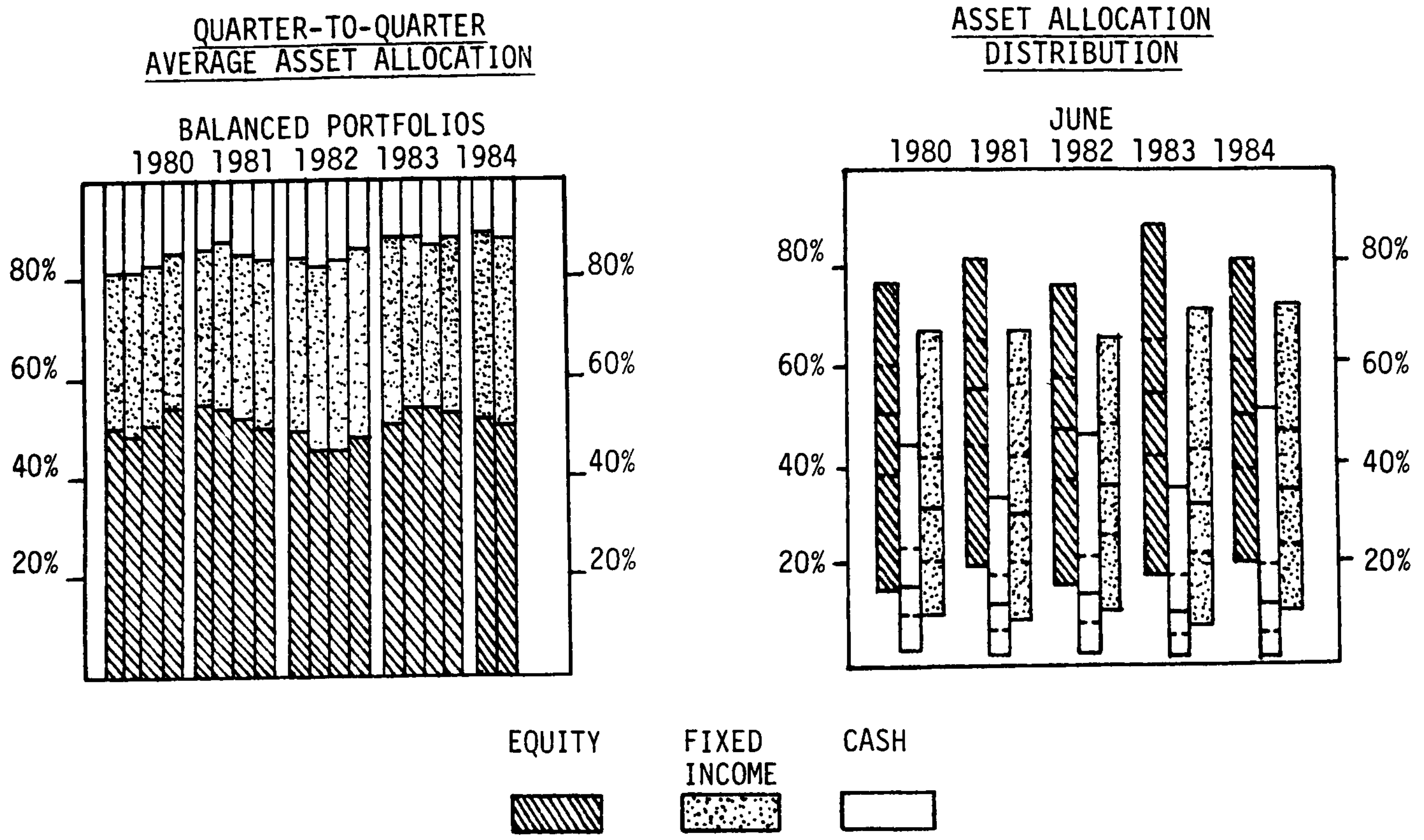
		Common Stocks*						Fixed Income**			Real Estate*			Resource Funds Venture Capital*		
		Passive Management			Active Management											
		Actual	Policy	Diff.	Actual	Policy	Diff.	Actual	Policy	Diff.	Actual	Policy	Diff.	Actual	Policy	Diff.
1983	1Q	0	40	-40	57.9	20	+37.9	38.3	25	+13.3	3.2	10	-6.8	0.6	5	-4.4
	2Q	0	40	-40	61.9	20	+41.9	34.5	25	+ 9.5	3.0	10	-7.0	0.6	5	-4.4
	3Q	0	40	-40	63.4	20	+43.4	32.8	25	+ 7.8	3.2	10	-6.8	0.6	5	-4.4
	4Q	43.5	40	+3.5	18.5	20	- 1.5	34.1	25	+ 9.1	3.2	10	-6.8	0.7	5	-4.3
1984	1Q	42.2	40	+2.2	17.8	20	- 2.2	35.7	25	+10.7	3.5	10	-6.5	0.8	5	-4.2
	2Q	41.7	40	+1.7	17.7	20	- 2.3	33.3	25	+ 8.3	5.5	10	-4.5	1.8	5	-3.2
	3Q															
	4Q															

*Includes cash held by external managers.
**Includes cash uncommitted to long-term assets.

FIGURE 3

ASSET ALLOCATION PERSPECTIVE

TAX EXEMPT BALANCED PORTFOLIOS



	JUNE 1980	1981	1982	1983	1984
PERCENT EQUITY					
5TH PERCENTILE	78	83	78	90	83
25TH PERCENTILE	60	65	57	65	61
MEDIAN	50	55	47	54	50
75TH PERCENTILE	38	44	36	42	39
95TH PERCENTILE	16	20	16	18	21
PERCENT CASH EQUIV					
5TH PERCENTILE	45	34	47	36	52
25TH PERCENTILE	23	17	21	17	19
MEDIAN	15	11	13	9	11
75TH PERCENTILE	9	6	7	5	5
95TH PERCENTILE	3	2	2	1	1
PERCENT FIXED INCOME					
5TH PERCENTILE	68	68	67	72	73
25TH PERCENTILE	41	41	48	43	47
MEDIAN	31	30	35	32	35
75TH PERCENTILE	21	20	25	22	24
95TH PERCENTILE	9	8	10	7	10

Source: Trust Universe Comparison Service

FIGURE 4

PERFORMANCE OF CAPITAL MARKETS
CUMULATIVE RETURNS

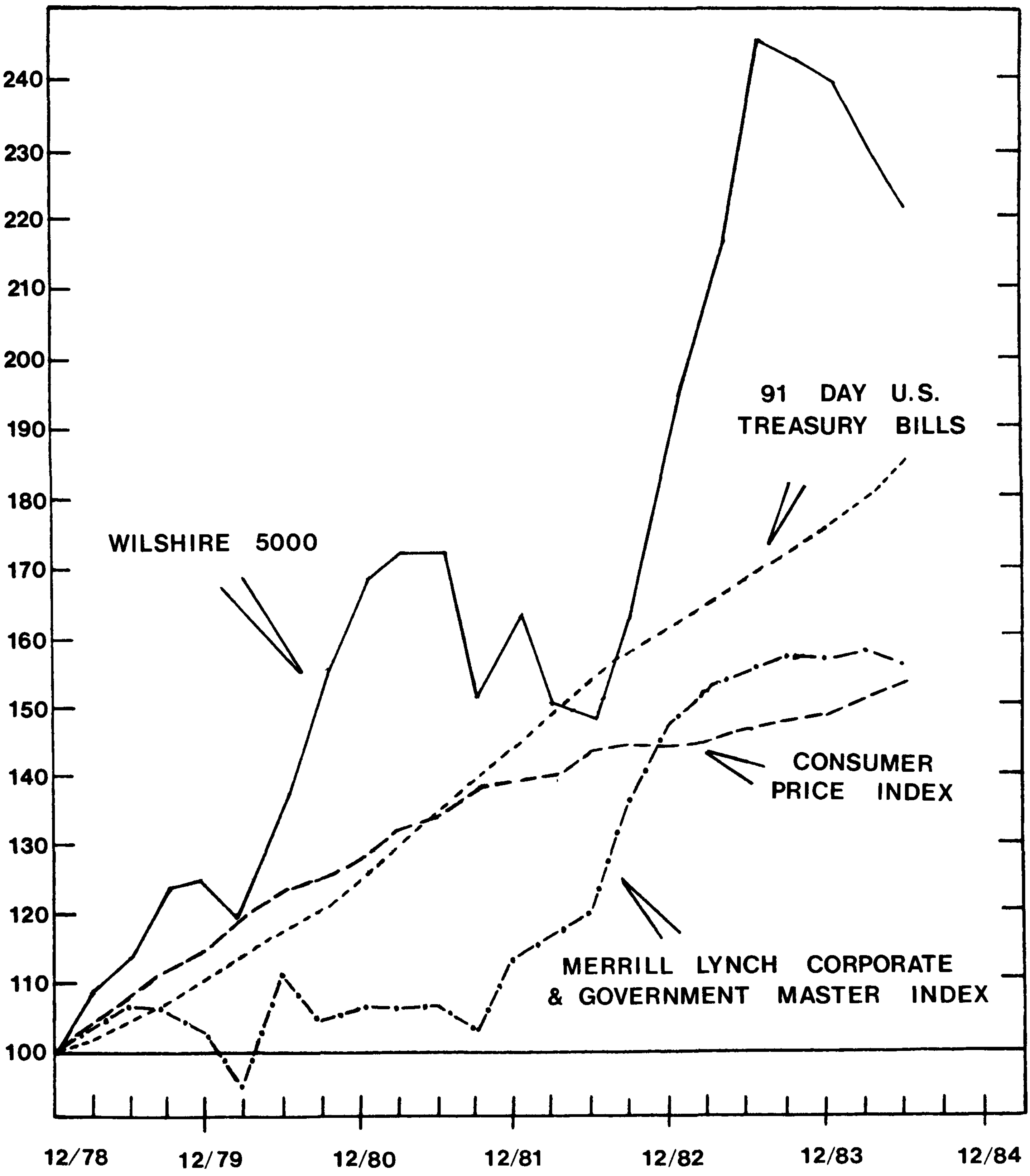


FIGURE 5

BASIC RETIREMENT FUNDS

INVESTMENT RETURNS RELATIVE TO PERFORMANCE STANDARDS

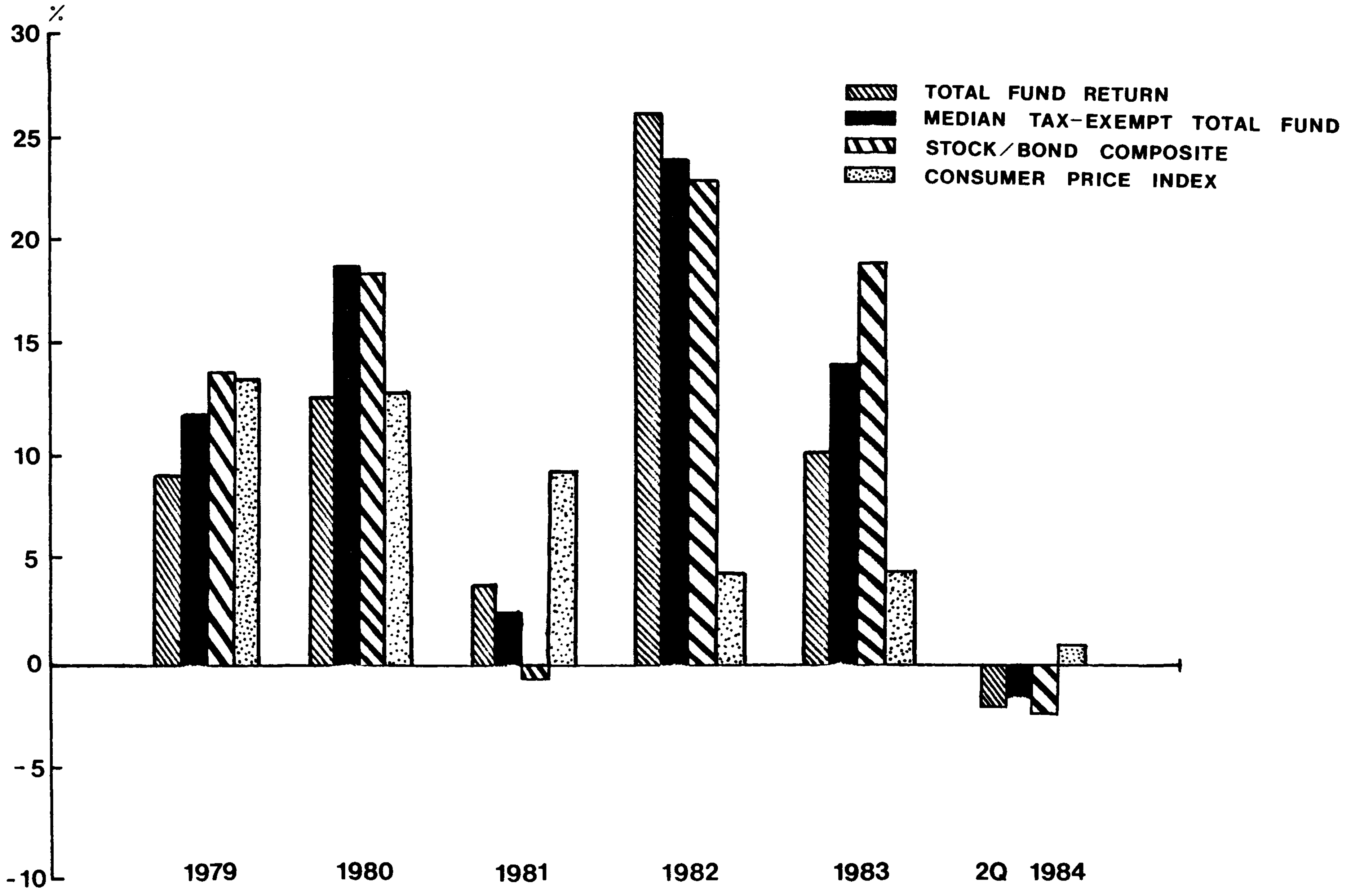


TABLE 3

BASIC RETIREMENT FUNDS

INVESTMENT RETURNS RELATIVE TO PERFORMANCE STANDARDS

Calendar Year		Total Fund Return (exc. alt. assets)	Median Tax-Exempt Fund	Stock/Bond* Composite	Inflation	Total Fund Return (inc. alt. assets)
1979		8.8%	11.6%	13.5	13.3%	8.8%
1980		12.4	18.6	18.3	12.5	12.4
1981		3.5	2.2	-0.6	8.9	3.5
1982		26.4	23.3	22.4	3.8	25.7
1983		10.3	14.1	18.8	3.8	10.1
1984	1Q	-2.5	-1.9	-2.7	1.3	-2.2
	2Q	-2.2	-1.5	-2.5	1.1	-1.8
	3Q					
	4Q					
1 Year Through 6-30-84		-6.3	-2.8	-5.6	4.3	-5.5
3 Years Annualized Through 6-30-84		10.7	11.3	10.6	4.6	10.7
5 Years Annualized Through 6-30-84		9.3	11.9	10.7	7.5	9.3

*50/50 Wilshire 5000/Merrill Lynch Bond Index Composite Through 6-30-81
70/30 Wilshire 5000/Merrill Lynch Bond Index Composite 7-01-81 through 6-30-84

TABLE 4

BASIC RETIREMENT FUNDS

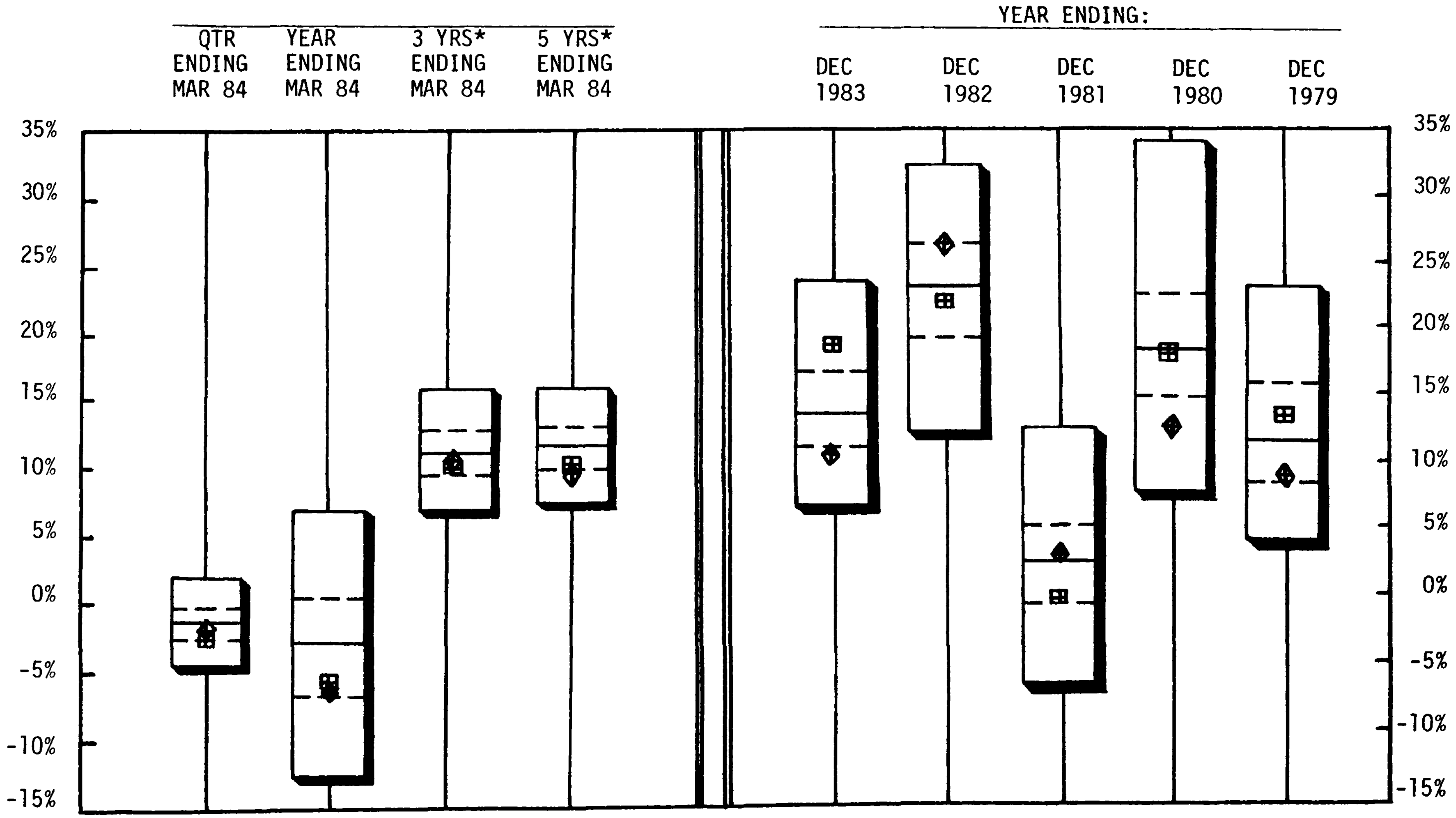
INVESTMENT RETURNS — DETAIL

Calendar Year		Total Fund Return (exc. alt. assets)	Common Stocks		Bonds		Alternative Equity Assets	Total Fund Return (inc. alt. assets)
			Basics	Wilshire 5000	Basics	ML Bond Index		
1979		8.8	17.4	25.6	- 1.7	2.3	-	8.8
1980		12.4	26.2	33.7	- 0.1	3.3	-	12.4
1981		3.5	0.0	- 3.6	2.0	7.0	-	3.5
1982		26.4	21.6	18.7	38.1	29.8	11.9	25.7
1983		10.3	12.7	23.5	9.3	7.8	7.4	10.1
1984	1Q	- 2.5	- 5.1	- 4.2	2.2	0.8	4.1	- 2.2
	2Q	- 2.2	- 2.4	- 2.7	- 2.5	- 1.9	2.9	- 1.8
	3Q							
	4Q							
1 Year Through 6-30-84		- 6.3	- 11.1	- 8.6	2.2	1.7	12.5	- 5.5
3 Years Annualized Through 6-30-84		10.7	7.1	9.0	16.3	13.7	NA	10.7
5 Years Annualized Through 6-30-84		9.3	11.4	14.1	7.2	8.0	NA	9.3

FIGURE 6

DISTRIBUTION OF TOTAL PORTFOLIO RETURNS

TAX EXEMPT BALANCED PORTFOLIOS



⊞ Wilshire 5000/Merrill Lynch Bond Index

◆ Basic Retirement Funds

Source: Trust Universe Comparison Service; Merrill Lynch Capital Markets

TABLE 5

DISTRIBUTION OF TOTAL PORTFOLIO RETURNS

TAX EXEMPT BALANCED PORTFOLIOS

					YEAR ENDING:				
	QTR ENDING JUNE 84	YEAR ENDING JUNE 84	3 YRS* ENDING JUNE 84	5 YRS* ENDING JUNE 84	DEC 1983	DEC 1982	DEC 1981	DEC 1980	DEC 1979
5TH PERCENTILE	2.0	6.6	15.9	16.0	24.1	32.8	13.1	34.6	23.3
25TH PERCENTILE	-0.4	0.8	13.2	13.3	17.1	26.8	5.5	22.8	15.9
MEDIAN	-1.5	-2.8	11.3	11.9	14.1	23.3	2.2	18.6	11.6
75TH PERCENTILE	-2.6	-6.5	9.6	10.4	11.5	19.7	-0.7	15.0	8.5
95TH PERCENTILE	-4.6	-13.1	6.8	7.5	7.4	12.7	-6.2	8.0	4.2
WILSHIRE 5000	-2.7	-8.6	9.0	14.1	23.5	18.7	-3.6	33.7	25.6
MERRILL LYNCH BOND INDEX	-1.9	1.7	13.7	8.0	7.8	29.8	7.0	3.3	2.3
** STOCK/BOND INDEX	-2.5	-5.6	10.6	10.7	18.8	22.4	-0.6	18.3	13.5
BASIC RETIREMENT FUNDS	-2.2	-6.3	10.7	9.3	10.3	26.4	3.5	12.4	8.8

*Annualized

** 50/50 Wilshire 5000/Merrill Lynch Bond Index Composite Through 6-30-81
70/30 Wilshire 5000/Merrill Lynch Bond Index Composite 7-01-81 Through 6-30-84

Source: Trust Universe Comparison Service; Merrill Lynch Capital Markets.

TABLE 6

EQUITY MANAGER PERFORMANCE

6/30/84

Total Portfolio Returns

Managers	Last Quarter	Last Four Quarters	Since Inception (3-1-83)
Fred Alger	- 3.5%	- 13.7%	0.3%
Alliance Capital	2.2	- 15.5	- 2.7
Beutel Goodman	- 2.8	1.2	11.1
Forstmann Leff	- 1.7	- 9.0	2.8
Hellman Jordan	- 3.9	- 8.0	- 3.5
IDS	0.4	- 12.3	1.0
Investment Advisers	- 2.8	- 7.9	1.0
Loomis Sayles	- 3.8	- 20.3	- 12.2
Siebel Capital	0.4	- 11.6	- 0.3
Herbert R. Smith	- 2.9	- 19.0	- 13.8
Trustee & Investors	- 6.4	- 23.1	- 11.3
Total - External Active Managers	- 2.3	- 13.1	- 3.0
Wilshire Associates	- 2.5	NA	NA
Performance Standards			
Wilshire 5000	- 2.7%	- 8.6%	7.1%
S&P 500	- 2.5	- 4.6	9.8
TUCS Median	- 0.9	- 9.3	NA
Inflation	1.1	4.3	6.0

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.

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.
# of Stocks	- number of different issues held in the manager's stock portfolio.
Equity Allocation	- percent of the manager's total portfolio invested in common and preferred stocks and convertible securities.
Yield	- indicated annual dividend of the manager's stock portfolio divided by the market value of the manager's stock portfolio.
P/E	- weighted average price per share of the managers' common stock portfolio divided by the weighted average trailing four quarter earnings per share of the manager's common stock portfolio.
Market Volatility	- 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.
Diversification	- 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.

Portfolio Risk Orientation - the riskiness of a portfolio can be expressed in terms of its market volatility and diversification. A complementary approach is to break down a portfolio's risk into sensitivity to various fundamental factors. These factors, six of which are used in this analysis, are related to various balance sheet, income statement and securities data on the stocks which make up a manager's portfolio. The sensitivity of a manager's portfolio to these factors is rated relative to the the stock market's sensitivity. Thus, the term ++ (--) indicates that a portfolio has a relatively very high (low) exposure to the factor. A + (-) indicates an above (below) average exposure. A 0 indicates no exposure.

Price Variability - risk related to the historical variability of the prices of stocks in the 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 - 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.

Earnings Success - risk related to the extent to which the earnings of companies owned by the portfolio have been recently low or negative. The poorer have been companies' earnings, the riskier is the portfolio. Items including return on equity, earnings growth, book/price ratio, dividend cuts, and tax rate make up this measure.

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 - 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.

Financial Leverage - 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.

TUCS Median - the median fund within a subsample of the TUCS universe restricted to aggressive equity managers. The TUCS universe is a universe of over 4000 portfolios custodied by over 30 major banks. For purposes of the SBI's analysis out of the universe have been selected a subsample which includes only those equity managers with risk characteristics (market volatility and diversification) similar to those of the SBI's managers. This provides a group of funds against which valid performance comparisons can be made.

TABLE 7

BASIC RETIREMENT FUNDS
COMPOSITE EQUITY MANAGER DATA

6/30/84

SECTOR WEIGHTINGS

SECTORS	WEIGHTING EXTERNAL MANAGER COMPOSITE	WEIGHTING INDEX FUND	WEIGHTING ALL BASIC MANAGERS COMPOSITE	WEIGHTING WILSHIRE 5000
Capital Goods	4.9%	5.5%	5.3%	5.3%
Consumer Durables	5.4	4.1	4.4	4.0
Consumer Nondurables	27.2	25.4	25.9	25.7
Energy	4.8	13.4	11.1	13.5
Financial	13.7	9.5	10.6	9.6
Materials & Services	11.6	11.8	11.7	11.7
Technology	22.5	15.7	17.5	15.6
Transportation	5.5	2.7	3.4	2.9
Utilities	4.3	11.9	9.9	11.7
	------	------	------	------
	100.0%	100.0%	100.0%	100.0%

QUARTER-END PORTFOLIO STATISTICS

	# OF STOCKS	EQUITY ALLOC.	YIELD	P/E	MKT VOLTY	DIVERSFN	PORTFOLIO RISK ORIENTATION					
							Price Var.	Earn. Var.	Firm Success	Size	Growth	Fin. Lever.
Composite External Managers	284	83%	3.5%	13.5	1.24	.89	+	+	++	+	+	+
Index Fund Manager	1091	99%	4.6%	NA	1.12	.96	0	0	0	0	0	0
Composite All Basic Managers	1141	95%	4.3%	NA	1.15	.94	0	0	0	+	0	0

STAFF COMMENTS:

The stock market turned in another disappointing performance during the second quarter. As measured by the Wilshire 5000, the equity market generated a -2.7% total rate of return over this period. The string of consecutive down market quarters has now been extended to four. During the last twelve months the rate of return on the Wilshire 5000 has been a dismal -8.6%.

The second quarter saw the market return to patterns witnessed in the last two quarters of 1982. Stocks with more aggressive risk characteristics (i.e., high beta, high P/E, low yield, small capitalization, high growth orientation) significantly underperformed less risky issues. In terms of industry sectors, only the Consumer Nondurables and Utilities sectors produced positive returns. The most negative returns were generated by the Transportation, Materials & Services and Finance sectors.

The second quarter was a considerably less hostile environment for aggressive equity managers. The median aggressive manager, as represented by a subsample of the TUCS universe, produced a -0.9% return, exceeding the market's performance.

In aggregate, the Basic Retirement Funds' active managers likewise outperformed the equity market in the second quarter. Their combined total return was -2.3%. However, their combined performance was below that of the median TUCS aggressive manager. IDS Advisory and Siebel Capital were the SBI's top performing second quarter managers. Good individual stock selection, rather than sector weighting decisions, combined with sizable cash reserves (especially in Siebel's case), were the primary factors behind these two firms relatively strong performance. Trustee & Investors was the Basic Funds' poorest performing manager.

The active managers' aggregate equity portfolio changed modestly over the quarter. Consumer Nondurables and Utilities positions were increased, while Capital Goods, Energy, and Materials & Services weightings were trimmed. The aggregate portfolio experienced a slight increase in risk associated with market volatility, company profitability, and financial leverage.

The Basic Retirement Funds' passive portfolio, managed by Wilshire Associates, completed its first quarter of full operation. As expected, the index fund closely tracked the market. It produced a return of -2.5% versus the return on its target index, the Wilshire 5000, of -2.7%.

EXTERNAL EQUTIY MANAGER INFORMATION
June 30, 1984

FIRM NAME: Fred Alger Management (New York)

PORTFOLIO MANAGER(S): Portfolio decisions are made by the firm's analysts.

ACCOUNT HISTORY: Start-up 3/1/83 $50.0 million

INVESTMENT PHILOSOPHY: Fred Alger utilizes a microeconomic investment approach, emphasizing individual stock selection rather than industry selection and/or market timing. The firm focuses primarily on two types of companies: Those currently undergoing a positive life cycle change, and those creative companies whose products have high unit volume growth rates. Fred Alger expects these two types of companies to be characterized by substantially above-consensus earnings gains and thus, strong stock price performance. The firm's decision-making structure is relatively unique in that portfolio selections are made by the firm's highly motivated group of analysts. Except on rare occasions, the firm maintains a fully invested posture.

QUARTER-END PORTFOLIO STATISTICS

								PORTFOLIO RISK ORIENTATION					
	QTR. PORT. T/O	# OF STOCKS	EQUITY ALLOC.	YIELD	P/E	MKT VOLTY	DIVERSFN	Price Var.	Earn. Var.	Earn. Success	Size	Growth	Fin. Lever.
Fred Alger Mgmt	16%	32	93%	2.9%	13.1	1.22	.86	+	+	0	0	-	0
SBI MGRS (Avg.)	27	41	81	3.2	13.5	1.29	.81	+	+	+	+	+	0
TUCS MEDIAN	NA	NA	86	NA	NA	1.27	.79	+	+	+	++	+	0

INDUSTRY SECTOR OVERWEIGHTINGS: Capital Goods, Consumer Durables, Technology

INDUSTRY SECTOR UNDERWEIGHTINGS: Energy, Financial, Utilities

PERFORMANCE

	LATEST QUARTER	LAST FOUR QUARTERS	SINCE INCEPTION
Fred Alger Mgmt	-3.5%	-13.7%	0.3%
SBI MGR AGGREGATE	-2.2	-12.8	-2.3
TUCS MEDIAN	-0.9	-9.3	NA
WILSHIRE 5000	-2.7	-8.6	7.1
CPI (Inflation)	1.1	4.3	6.0

STAFF COMMENTS: In the second quarter, Fred Alger underperformed both the equity market and samples of other aggressive equity managers (as represented by the SBI aggregate and TUCS subsample median). Performance was adversely affected by the firm's poor selection in the Consumer Nondurables sector, its overweighting of the Materials & Services and Capital Goods sectors, and by its underweighting of Utilities. The firm's policy of generally maintaining a fully invested equity position also hindered performance. The risk composition of the firm's equity portfolio changed only slightly during the quarter as risk associated with lack of earnings success and growth was decreased. Fred Alger increased its Consumer Durables and Nondurables holdings, initiated a position in Transportation and reduced its weightings in the Materials & Services and Technology sectors. For the latest year, the firm trails not only the market's performance but also the performance of the TUCS subsample median and the SBI aggregate.

EXTERNAL EQUITY MANAGER INFORMATION
June 30, 1984

FIRM NAME: Alliance Capital Management (Minneapolis)

PORTFOLIO MANAGER(S): Alfred Harrison
John Koltes

ACCOUNT HISTORY: Start-up: 3/1/83 $50.0 million

INVESTMENT PHILOSOPHY: The Alliance Capital office system employs a macroeconomic investment approach. Investment strategy is developed on two levels. Macroeconomic considerations are analyzed on a centralized basis at the New York headquarters. Committees, composed of members from the regional and New York offices, develop economic forecasts, set asset allocation and industry weightings, and formulate an eligible list of attractive securities. Specific stock selection is conducted at the regional office level. The Minneapolis office tends to focus on companies with favorable ratios of P/E to forecasted earnings growth.

QUARTER-END PORTFOLIO STATISTICS

								PORTFOLIO RISK ORIENTATION					
	QTR. PORT. T/O	# OF STOCKS	EQUITY ALLOC.	YIELD	P/E	MKT VOLTY	DIVERSFN	Price Var.	Earn. Var.	Earn. Success	Size	Growth	Fin. Lever.
Alliance Capital (Mpls)	8%	32	92%	1.8%	15.4	1.39	.73	+	+	++	+	++	--
SBI MGRS (Avg.)	27	41	81	3.2	13.5	1.29	.81	+	+	+	+	+	0
TUCS MEDIAN	NA	NA	86	NA	NA	1.27	.79	+	+	+	++	+	0

INDUSTRY SECTOR OVERWEIGHTINGS: Consumer Durables, Consumer Nondurables, Technology, Transportation

INDUSTRY SECTOR UNDERWEIGHTINGS: Capital Goods, Energy, Financial, Materials & Services, Utilities

PERFORMANCE

	LATEST QUARTER	LAST FOUR QUARTERS	SINCE INCEPTION
Alliance Capital (Mpls)	2.2%	-15.5%	-2.7%
SBI MGR AGGREGATE	-2.2	-12.8	-2.3
TUCS MEDIAN	-0.9	-9.3	NA
WILSHIRE 5000	-2.7	-8.6	7.1
CPI (Inflation)	1.1	4.3	6.0

STAFF COMMENTS: After a number of quarters of very poor performance, Alliance turned in a strong second quarter, despite its heavy equity exposure. The firm outperformed both the equity market and samples of other aggressive managers by wide margins. Alliance's selection in and overweighting of Consumer Nondurables as well as its underweighting of Materials & Services and selection in Transportation were the biggest positive contributors to its performance. Selection in the Technology sector, an overweighting of Transportation and zero weighting of Utilities detracted from performance. The firm's risk position remained essentially unchanged over the quarter, although risk associated with portfolio companies' lack of earnings success rose. Sector weights were likewise little changed. For the last year, Alliance continues to trail the performance of the equity market and samples of other aggressive managers.

EXTERNAL EQUITY MANAGER INFORMATION
June 30, 1984

FIRM NAME: Beutel Goodman Capital Management (Houston)

PORTFOLIO MANAGER(S): Robert McFarland
Richard Andrews

ACCOUNT HISTORY: Start-up: 3/1/83 $50.0 million

INVESTMENT PHILOSOPHY: Beutel Goodman utilizes a modified, microeconomic investment style. The firm concentrates on stock selection but is sensitive to the impact of macroeconomic factors on the attractiveness of specific industries and companies. Stocks purchased by Beutel Goodman tend to be either companies whose stock prices are too low in comparison to their tangible book value (as estimated by Beutel Goodman analysts) or companies whose stocks possess low relative P/E's given their investment characteristics and forecasted earnings growth. The firm generally remains fully invested, with cash positions usually resulting from an immediate lack of attractive investment opportunities.

QUARTER-END PORTFOLIO STATISTICS

								PORTFOLIO RISK ORIENTATION					
	QTR. PORT. T/O	# OF STOCKS	EQUITY ALLOC.	YIELD	P/E	MKT VOLTY	DIVERSFN	Price Var.	Earn. Var.	Earn. Success	Size	Growth	Fin. Lever.
Beutel Goodman	11%	18	92%	4.1%	14.9	1.18	.79	0	+	0	++	0	++
SBI MGRS (Avg.)	27	41	81	3.2	13.5	1.29	.81	+	+	+	+	+	0
TUCS MEDIAN	NA	NA	86	NA	NA	1.27	.79	+	+	+	++	+	0

INDUSTRY SECTOR OVERWEIGHTINGS: Capital Goods, Financial, Materials & Services

INDUSTRY SECTOR UNDERWEIGHTINGS: Consumer Durables, Energy, Technology, Transportation, Utilities

PERFORMANCE

	LATEST QUARTER	LAST FOUR QUARTERS	SINCE INCEPTION
Beutel Goodman	-2.8%	1.2%	11.1%
SBI MGR AGGREGATE	-2.2	-12.8	-2.3
TUCS MEDIAN	-0.9	-9.3	NA
WILSHIRE 5000	-2.7	-8.6	7.1
CPI (Inflation)	1.1	4.3	6.0

STAFF COMMENTS: Beutel Goodman's performance in the second quarter roughly matched that of the equity market but lagged the performance of the SBI manager aggregate and the TUCS subsample median. Superior stock selection in the Financial and Materials and Services sectors did not compensate for the negative effects of the firm's overweighting of the two sectors. A zero weighting of the Utilities sector and an underweighting of the Consumer Nondurables sector also detracted from performance. The risk composition of the equity portfolio remained largely unchanged. However, the portfolio's P/E was increased significantly, in apparent contrast to the firm's historical low relative P/E investment orientation. There were no major changes in industry sector concentrations. The firm increased its Consumer Nondurables and Financial positions and trimmed its Materials and Services holdings slightly. For the latest year, Beutel Goodman continues to rank as one of the top performing SBI managers, outperforming the equity market and samples of other aggressive equity managers by wide margins.

EXTERNAL EQUITY MANAGER INFORMATION
June 30, 1984

FIRM NAME: Forstmann Leff (New York)

PORTFOLIO MANAGER(S): Richard Walton

ACCOUNT HISTORY: Start-up: 3/1/83 $50.0 million

INVESTMENT PHILOSOPHY: Forstmann Leff uses a macroeconomic investment approach, focusing on industry selection and market timing. The firm attempts to identify social and economic factors impacting the marketplace on a cyclical and secular basis. From this analysis the firm focuses on those sectors that will be positively and negatively affected by these forces. Stock selection is of secondary importance to the firm. Holdings tend to be concentrated in larger capitalization institutional favorites. Forstmann Leff is an active market timer willing to make sizable asset mix shifts at any point in the market cycle.

QUARTER-END PORTFOLIO STATISTICS

								PORTFOLIO RISK ORIENTATION					
	QTR. PORT. T/O	# OF STOCKS	EQUITY ALLOC.	YIELD	P/E	MKT VOLTY	DIVERSFN	Price Var.	Earn. Var.	Earn. Success	Size	Growth	Fin. Lever.
Forstmann Leff	31%	31	54%	3.6%	11.4	1.26	.81	+	+	++	-	0	++
SBI MGRS (Avg.)	27	41	81	3.2	13.5	1.29	.81	+	+	+	+	+	0
TUCS MEDIAN	NA	NA	86	NA	NA	1.27	.79	+	+	+	++	+	0

INDUSTRY SECTOR OVERWEIGHTINGS: Consumer Nondurables, Technology, Transportation

INDUSTRY SECTOR UNDERWEIGHTINGS: Capital Goods, Energy, Financial, Utilities

PERFORMANCE

	LATEST QUARTER	LAST FOUR QUARTERS	SINCE INCEPTION
Forstmann Leff	-1.7%	-9.0%	2.8%
SBI MGR AGGREGATE	-2.2	-12.8	-2.3
TUCS MEDIAN	-0.9	-9.3	NA
WILSHIRE 5000	-2.7	-8.6	7.1
CPI (Inflation)	1.1	4.3	6.0

STAFF COMMENTS: Forstmann-Leff's relative performance continued to improve in the second quarter, as it outperformed both the market and the SBI manager aggregate, although it underperformed the TUCS subsample median. Positive selection in and an overweighting of the Consumer Nondurables sector combined with positive selection in the Capital Goods sector were the significant contributors to superior equity performance. Poor Technology selections hindered returns. However, the primary factor in the firm's performance was its aggressive market timing. The firm has raised sizable cash reserves in recent quarters, partially protecting against the down equity market. During the quarter, Forstmann-Leff reduced its Capital Goods and Materials & Services holdings and raised positions in a number of sectors, particularly Consumer Nondurables. For the latest year, the firm trails the market's performance but has exceeded the returns produced by other aggressive equity managers.

EXTERNAL EQUITY MANAGER INFORMATION
June 30, 1984

FIRM NAME: Hellman Jordan Management (Boston)

PORTFOLIO MANAGER(S):
Gerald Jordan
Edward Heubner
Martin Hale

ACCOUNT HISTORY: Start-up: 3/1/83 $50.0 million

INVESTMENT PHILOSOPHY: Hellman Jordan employs a modified, macroeconomic investment approach, focusing on companies that it believes will be positively impacted by the firm's forecasted economic scenarios. The firm attempts to identify long-term trends in the economy and develop investment concepts related to these trends. Stock selection is considered to be of secondary importance to successful asset mix and sector rotation decisions. While this approach often leads the firm to focus on high growth, high P/E companies, when the firm is negative on the market it will move to high yield, lower growth, lower P/E defensive stocks. In either case, the firm tends to hold larger capitalization issues. Hellman Jordan is an active market timer, willing to make sharp, significant asset mix moves at any point over the market cycle.

QUARTER-END PORTFOLIO STATISTICS

	QTR. PORT. T/O	# OF STOCKS	EQUITY ALLOC.	YIELD	P/E	MKT VOLTY	DIVERSFN	PORTFOLIO RISK ORIENTATION					
								Price Var.	Earn. Var.	Earn. Success	Size	Growth	Fin. Lever.
Hellman Jordan	34%	37	61%	5.1%	13.5	1.25	.87	+	++	++	-	0	++
SBI MGRS (Avg.)	27	41	81	3.2	13.5	1.29	.81	+	+	+	+	+	0
TUCS MEDIAN	NA	NA	86	NA	NA	1.27	.79	+	+	+	++	+	0

INDUSTRY SECTOR OVERWEIGHTINGS: Consumer Durables, Financial, Materials & Services, Transportation

INDUSTRY SECTOR UNDERWEIGHTINGS: Capital Goods, Consumer Nondurables, Energy

PERFORMANCE

	LATEST QUARTER	LAST FOUR QUARTERS	SINCE INCEPTION
Hellman Jordan	-3.9%	-8.0%	-3.5%
SBI MGR AGGREGATE	-2.2	-12.8	-2.3
TUCS MEDIAN	-0.9	-9.3	NA
WILSHIRE 5000	-2.7	-8.6	7.1
CPI (Inflation)	1.1	4.3	6.0

STAFF COMMENTS: Hellman Jordan underperformed both the equity market and samples of other aggressive equity managers in the second quarter. The firm has maintained a low equity exposure but has invested a significant portion of its non-equity assets in bonds which, like equities, performed poorly in the second quarter. The firm's equity results were negatively impacted by poor selection in and an overweighting of the Finance and Materials & Services sectors and by poor selection in and an underweighting of the Consumer Nondurables sector. During the quarter Hellman Jordan lowered its Consumer Nondurables, Energy and Utilities holdings and raised its Materials & Services, Technology and Transportation weightings. The aggressiveness of the portfolio was increased as risk related to market volatility, capitalization, financial leverage and profitability was increased. For the last year Hellman Jordan's performance exceeds that of the market and samples of other aggressive equity managers.

EXTERNAL EQUITY MANAGER INFORMATION
June 30, 1984

FIRM NAME: IDS Advisory (Minneapolis)

PORTFOLIO MANAGER(S): Mitzi Malevich

ACCOUNT HISTORY: Start-up: 3/1/83 $50.0 million

INVESTMENT PHILOSOPHY: IDS employs a macroeconomic investment approach, focusing on industry selection and limited market timing. The firm attempts to identify industries that will be positively and negatively impacted by forecasted broad economic trends. The firm actively rotates among these affected industries. IDS refers to its asset management approach as the Dual Investment Objectives, which are composed of an annual income and total return targets. IDS believes that this approach Oqovides a built-in purchase and sale discipline that reduces portfolio volatility and enhances total returns. The Dual Objectives force a more defensive posture as market prices rise (and yields fall) and allows for a more aggressive stance as prices fall (and yields rise). The firm tends to make moderate asset allocation moves gradually over a market cycle.

QUARTER-END PORTFOLIO STATISTICS

	QTR. PORT. T/O	# OF STOCKS	EQUITY ALLOC.	YIELD	P/E	MKT VOLTY	DIVERSFN	PORTFOLIO RISK ORIENTATION Price Var.	Earn. Var.	Earn. Success	Size	Growth	Fin. Lever.
IDS Advisory	42%	43	87%	4.8%	13.4	1.04	.85	--	-	--	0	0	++
SBI MGRS (Avg.)	27	41	81	3.2	13.5	1.29	.81	+	+	+	+	+	0
TUCS MEDIAN	NA	NA	86	NA	NA	1.27	.79	+	+	+	++	+	0

INDUSTRY SECTOR OVERWEIGHTINGS: Consumer Durables, Transportation, Utilities

INDUSTRY SECTOR UNDERWEIGHTINGS: Capital Goods, Energy, Financial, Materials & Services

PERFORMANCE

	LATEST QUARTER	LAST FOUR QUARTERS	SINCE INCEPTION
IDS Advisory	0.4%	-12.3%	1.0%
SBI MGR AGGREGATE	-2.2	-12.8	-2.3
TUCS MEDIAN	-0.9	-9.3	NA
WILSHIRE 5000	-2.7	-8.6	7.1
CPI (Inflation)	1.1	4.3	6.0

STAFF COMMENTS: The second quarter performance of IDS was superior to that of the market and samples of other aggressive equity managers. Stock selection in the Materials and Services, Technology and Financial sectors combined with sizable cash reserves were the primary contributors to the firm's positive relative performance, while poor selection in the Consumer Durables sector detracted from performance. In addition, an underweighting of the Consumer Nondurables sector and an overweighted position in the Transportation sector hindered returns. The equity risk characteristics changed significantly. The risk associated with price and earnings variability was decreased, while that associated the firm size, growth and particularly, financial leverage was increased. The firm closed out its position in the Capital Goods sector, decreased its holdings in the Consumer Durables, Materials and Services, and Transportation sectors, and significantly increased its Consumer Nondurables and Utilities positions. For the most recent year, the firm's results are approximately in line with the SBI manager aggregate [illegible] and the TUCS subsample median.

EXTERNAL EQUITY MANAGER INFORMATION
June 30, 1984

FIRM NAME: Investment Advisers (Minneapolis)

PORTFOLIO MANAGER(S): Kenneth Thorsen

ACCOUNT HISTORY: Start-up: 3/1/83 $50.0 million

INVESTMENT PHILOSOPHY: Investment Advisers utilizes a macroeconomic investment style, with a relatively equal emphasis placed on asset allocation, industry weighting, and stock selection. Through a committee structure, the firm attempts to identify the economy's position within the real economic and credit cycles. Based upon this analysis, Investment Advisers rotates its portfolios among industries and investment characteristics. Stock selection focuses on the recommendations of fundamental valuation and earnings momentum models. Holdings tend to be concentrated in large capitalization institutional favorites. The firm actively conducts market timing to take advantage of cyclical moves in the market.

QUARTER-END PORTFOLIO STATISTICS

								PORTFOLIO RISK ORIENTATION					
	QTR. PORT. T/O	# OF STOCKS	EQUITY ALLOC.	YIELD	P/E	MKT VOLTY	DIVERSFN	Price Var.	Earn. Var.	Earn. Success	Size	Growth	Fin. Lever.
Investment Advisers	8%	43	98%	4.2%	10.0	1.21	.89	0	0	++	-	0	++
SBI MGRS (Avg.)	27	41	81	3.2	13.5	1.29	.81	+	+	+	+	+	0
TUCS MEDIAN	NA	NA	86	NA	NA	1.27	.79	+	+	+	++	+	0

INDUSTRY SECTOR OVERWEIGHTINGS: Consumer Durables, Financial, Technology, Transportation

INDUSTRY SECTOR UNDERWEIGHTINGS: Energy, Utilities

PERFORMANCE

	LATEST QUARTER	LAST FOUR QUARTERS	SINCE INCEPTION
Investment Advisers	-2.8%	-7.9%	1.0%
SBI MGR AGGREGATE	-2.2	-12.8	-2.3
TUCS MEDIAN	-0.9	-9.3	NA
WILSHIRE 5000	-2.7	-8.6	7.1
CPI (Inflation)	1.1	4.3	6.0

STAFF COMMENTS: Investment Advisers underperformed both the equity market and samples of other aggressive managers during the second quarter. The firm's increase in equity exposure negatively impacted total portfolio performance. An overweighting of Financial stocks and poor selection in and an underweighting of Utilities were the most significant contributors to the equity portfolio's underperformance. Selection in Technology and selection in and an overweighting of Consumer Nondurables aided performance. During the quarter Investment Advisers decreased its Consumer Nondurables, Energy, and Financial positions and increased weightings in Materials & Services, Technology and Utilities. The risk posture of the equity portfolio was virtually unchanged. For the latest year, Investment Advisers' performance exceeds not only the market's return but also that of samples of other aggressive equity managers.

EXTERNAL EQUITY MANAGER INFORMATION
June 30, 1984

FIRM NAME: Loomis Sayles & Co. (Boston)

PORTFOLIO MANAGER(S): Kenneth Heebner

ACCOUNT HISTORY: Start-up: 3/1/83 $50.0 million

INVESTMENT PHILOSOPHY: The Loomis aggressive equity management group employs a modified microeconomic approach. Based upon the firm's economic forecast, the aggressive equity group identifies those industries and companies that are expected to experience significant cyclical or secular earnings gains. The Loomis portfolio tends to focus on stocks with relatively high P/E's and low yields and companies with highly variable, but successful patterns of historical earnings growth. The firm generally maintains a fully invested position, only rarely raising cash to significant levels.

QUARTER-END PORTFOLIO STATISTICS

									PORTFOLIO RISK ORIENTATION				
	QTR. PORT. T/O	# OF STOCKS	EQUITY ALLOC.	YIELD	P/E	MKT VOLTY	DIVERSFN	Price Var.	Earn. Var.	Earn. Success	Size	Growth	Fin. Lever.
Loomis Sayles	25%	20	94%	1.7%	14.4	1.37	.70	++	++	-	+	++	0
SBI MGRS (Avg.)	27	41	81	3.2	13.5	1.29	.81	+	+	+	+	+	0
TUCS MEDIAN	NA	NA	86	NA	NA	1.27	.79	+	+	+	++	+	0

INDUSTRY SECTOR OVERWEIGHTINGS: Capital Goods, Consumer Durables, Technology, Transportation

INDUSTRY SECTOR UNDERWEIGHTINGS: Consumer Nondurables, Energy, Financial, Utilities

PERFORMANCE

	LATEST QUARTER	LAST FOUR QUARTERS	SINCE INCEPTION
Loomis Sayles	-3.8%	-20.3%	-12.2%
SBI MGR AGGREGATE	-2.2	-12.8	-2.3
TUCS MEDIAN	-0.9	-9.3	NA
WTLSHIRE 5000	-2.7	-8.6	7.1
CPI (Inflation)	1.1	4.3	6.0

STAFF COMMENTS: Loomis continued its pattern of relative underperformance in the second quarter, as its returns were again below those of the equity market and other aggressive managers. Poor performance was a result of not only a fully invested equity position but also the firm's underweightings of the Consumer Nondurables and Utilities sectors, an overweighting of the Transportation sector, and poor stock selection in the Capital Goods sector. During the quarter Loomis decreased its Capital Goods, Consumer Durables, Materials & Services and Technology holdings. It increased its Consumer Nondurables and Transportation positions. The equity portfolio's P/E was increased and its yield lowered. Risk associated with growth oriented stocks was increased, while risk associated with financially leveraged companies was reduced. For the latest year, Loomis' performance continues to trail far behind the equity market and samples of other aggressive equity managers.

EXTERNAL EQUITY MANAGER INFORMATION
June 30, 1984

FIRM NAME: Siebel Capital Management (San Francisco)

PORTFOLIO MANAGER(S): Kenneth Siebel
Ronald Sloan
Walter Harrison

ACCOUNT HISTORY: Start-up: 3/1/83 $50.0 million

INVESTMENT PHILOSOPHY: Siebel employs a modified, microeconomic investment style, concentrating on stock selection, but also considering the effect of macroeconomic factors on the prospects for specific industries and companies. The firm tends to purchase stocks of two principle types of companies: First, seasoned growth companies devising new products or creating new markets for old products which will significantly raise earnings growth. Second, low P/E companies undergoing a potentially profitable redeployment of assets. Siebel is a moderate market timer, willing to alter asset mix at any point in the market cycle.

QUARTER-END PORTFOLIO STATISTICS

	QTR. PORT. T/O	# OF STOCKS	EQUITY ALLOC.	YIELD	P/E	MKT VOLTY	DIVERSFN	PORTFOLIO RISK ORIENTATION Price Var.	Earn. Var.	Earn. Success	Size	Growth	Fin. Lever.
Siebel Capital	47%	36	63%	3.2%	12.3	1.27	.88	+	--	++	++	+	0
SBI MGRS (Avg.)	27	41	81	3.2	13.5	1.29	.81	+	+	+	+	+	0
TUCS MEDIAN	NA	NA	86	NA	NA	1.27	.79	+	+	+	++	+	0

INDUSTRY SECTOR OVERWEIGHTINGS: Consumer Nondurables, Financial

INDUSTRY SECTOR UNDERWEIGHTINGS: Energy, Materials & Services, Transportation, Utilities

PERFORMANCE

	LATEST QUARTER	LAST FOUR QUARTERS	SINCE INCEPTION
Siebel Capital	0.4%	-11.6%	-0.3%
SBI MGR AGGREGATE	-2.2	-12.8	-2.3
TUCS MEDIAN	-0.9	-9.3	NA
WILSHIRE 5000	-2.7	-8.6	7.1
CPI (Inflation)	1.1	4.3	6.0

STAFF COMMENTS: The second quarter performance of Siebel Capital was superior to that of both the equity market and samples of other aggressive managers. Superior stock selection in the Finance, Materials & Services, Technology and Consumer Nondurables sectors more than compensated for the negative effects of the firm's overweighting in Finance and underweighting of Utilities. The firm's decrease in its equity exposure also contributed positively to performance. During the quarter Siebel added to its Consumer Durables and Nondurables positions and reduced its Materials & Services and especially its Technology holdings. Portfolio risk characteristics were largely unchanged. The equity portfolio's exposure to risk from small capitalization companies was increased and the portfolio's P/E was reduced. The portfolio's diversification level remained above SBI guidelines. For the most recent year Siebel's performance trails the equity market but exceeds that of other aggressive equity managers.

EXTERNAL EQUITY MANAGER INFORMATION
June 30, 1984

FIRM NAME: Herbert R. Smith (Witchita Falls, TX)

PORTFOLIO MANAGER(S): Herbert Smith
David Bagbee

ACCOUNT HISTORY: Start-up: 3/1/83 . $50.0 million

INVESTMENT PHILOSOPHY: Herbert R. Smith utilizes a modified, macroeconomic investment approach. The firm uses its economic and political outlook and its technical analysis of the marketplace to establish the asset mix for its portfolios. The firm is an aggressive market timer, willing to make sizable asset allocation moves at any point in the market cycle. Although asset allocation receives the firm's primary attention, the firm also emphasizes stock selection. Its stock selection is predicated upon both fundamental and technical analysis of individual securities. Herbert Smith searches for stocks with attractive relative P/E's and positive technical patterns.

QUARTER-END PORTFOLIO STATISTICS

	QTR. PORT. T/O	# OF STOCKS	EQUITY ALLOC.	YIELD	P/E	MKT VOLTY	DIVERSFN	PORTFOLIO RISK ORIENTATION					
								Price Var.	Earn. Var.	Earn. Success	Size	Growth	Fin. Lever.
Herbert R. Smith	38%	67	86%	3.3%	12.5	1.20	.92	+	+	-	+	+	--
SBI MGRS (Avg.)	27	41	81	3.2	13.5	1.29	.81	+	+	+	+	+	0
TUCS MEDIAN	NA	NA	86	NA	NA	1.27	.79	+	+	+	++	+	0

INDUSTRY SECTOR OVERWEIGHTINGS: Energy, Technology, Transportation

INDUSTRY SECTOR UNDERWEIGHTINGS: Capital Goods, Consumer Durables, Materials & Services, Utilities

PERFORMANCE

	LATEST QUARTER	LAST FOUR QUARTERS	SINCE INCEPTION
Herbert R. Smith	-2.9%	-19.0%	-13.8%
SBI MGR AGGREGATE	-2.2	-12.8	-2.3
TUCS MEDIAN	-0.9	-9.3	NA
WILSHIRE 5000	-2.7	-8.6	7.1
CPI (Inflation)	1.1	4.3	6.0

STAFF COMMENTS: Herbert R. Smith slightly underperformed both the market and samples of other aggressive equity managers in the second quarter. Stock selection within the Technology and Finance sectors aided performance, while an underweighting of the Consumer Nondurables and Utilities sectors and an overweighting of the Financial sector detracted from performance. The risk composition of the equity portfolio was essentially unchanged from the previous quarter-end. Most notably diversification remained at a high level. The firm increased its Technology and Consumer Nondurables holdings while Energy, Financial, Materials & Services and Transportation positions were reduced. For the most recent year the firm's results continue to trail far behind those of the market and other aggressive equity managers.

EXTERNAL EQUITY MANAGER INFORMATION
June 30, 1984

FIRM NAME: Trustee & Investors (Boston)

PORTFOLIO MANAGER(S):
Mason Klinck
Richard Welch
Peter Schaedel

ACCOUNT HISTORY: Start-up: 3/1/83 $50.0 million

INVESTMENT PHILOSOPHY: Trustee & Investors employs a highly disciplined, microeconomic investment approach, emphasizing stock selection rather than industry selection and/or market timing. The firm analyzes potential purchase and sale candidates through the use of computerized data bases which screen such fundamental valuation parameters as price, earnings, and balance sheet and income statement data. Trustee & Investors searches for companies with unrecognized assets or earnings, or companies undergoing cyclical or operational turnarounds. The firm maintains a fully invested position at all times.

QUARTER-END PORTFOLIO STATISTICS

	QTR. PORT. T/O	# OF STOCKS	EQUITY ALLOC.	YIELD	P/E	MKT VOLTY	DIVERSFN	PORTFOLIO RISK ORIENTATION					
								Price Var.	Earn. Var.	Earn. Success	Size	Growth	Fin. Lever.
Trustee & Investors	15%	40	95%	3.9%	12.8	1.31	.90	++	+	++	-	+	++
SBI MGRS (Avg.)	27	41	81	3.2	13.5	1.29	.81	+	+	+	+	+	0
TUCS MEDIAN	NA	NA	86	NA	NA	1.27	.79	+	+	+	++	+	0

INDUSTRY SECTOR OVERWEIGHTINGS: Financial, Technology

INDUSTRY SECTOR UNDERWEIGHTINGS: Capital Goods, Consumer Durables, Consumer Nondurables, Transportation

PERFORMANCE

	LATEST QUARTER	LAST FOUR QUARTERS	SINCE INCEPTION
Trustee & Investors	-6.4%	-23.1%	-11.3%
SBI MGR AGGREGATE	-2.2	-12.8	-2.3
TUCS MEDIAN	-0.9	-9.3	NA
WILSHIRE 5000	-2.7	-8.6	7.1
CPI (Inflation)	1.1	4.3	6.0

STAFF COMMENTS: The second quarter represented another poor quarter for Trustee & Investors as the firm significantly underperformed both the equity market and samples of other aggressive equity managers. The firm, as a policy, always maintains a fully invested equity position and this has hurt performance in the most recent and previous quarters. Further, the firm's overweighting of the Finance sector, its underweighting of Consumer Nondurables stocks and the poor returns on its Energy, Utilities and Materials & Services holdings were all major contributors to the quarter's negative relative returns. Trustee's equity risk characteristics changed little. Energy holdings were reduced while Technology and Utilities positions were raised. For the last year, Trustee's performance has been dismal, far underperforming the market and other aggressive equity managers.

MINNESOTA STATE BOARD OF INVESTMENT

QUARTERLY INVESTMENT REVIEW

- POST RETIREMENT FUND
- SUPPLEMENTAL RETIREMENT FUND
  (Income Share Account)
- SUPPLEMENTAL RETIREMENT FUND
  (Growth Share Account)
- MINNESOTA VARIABLE ANNUITY FUND
- PERMANENT SCHOOL FUND

JUNE 30, 1984

FIGURE 7

POST RETIREMENT FUND

ASSET MIX
MARKET VALUE

(End of Period Allocations)

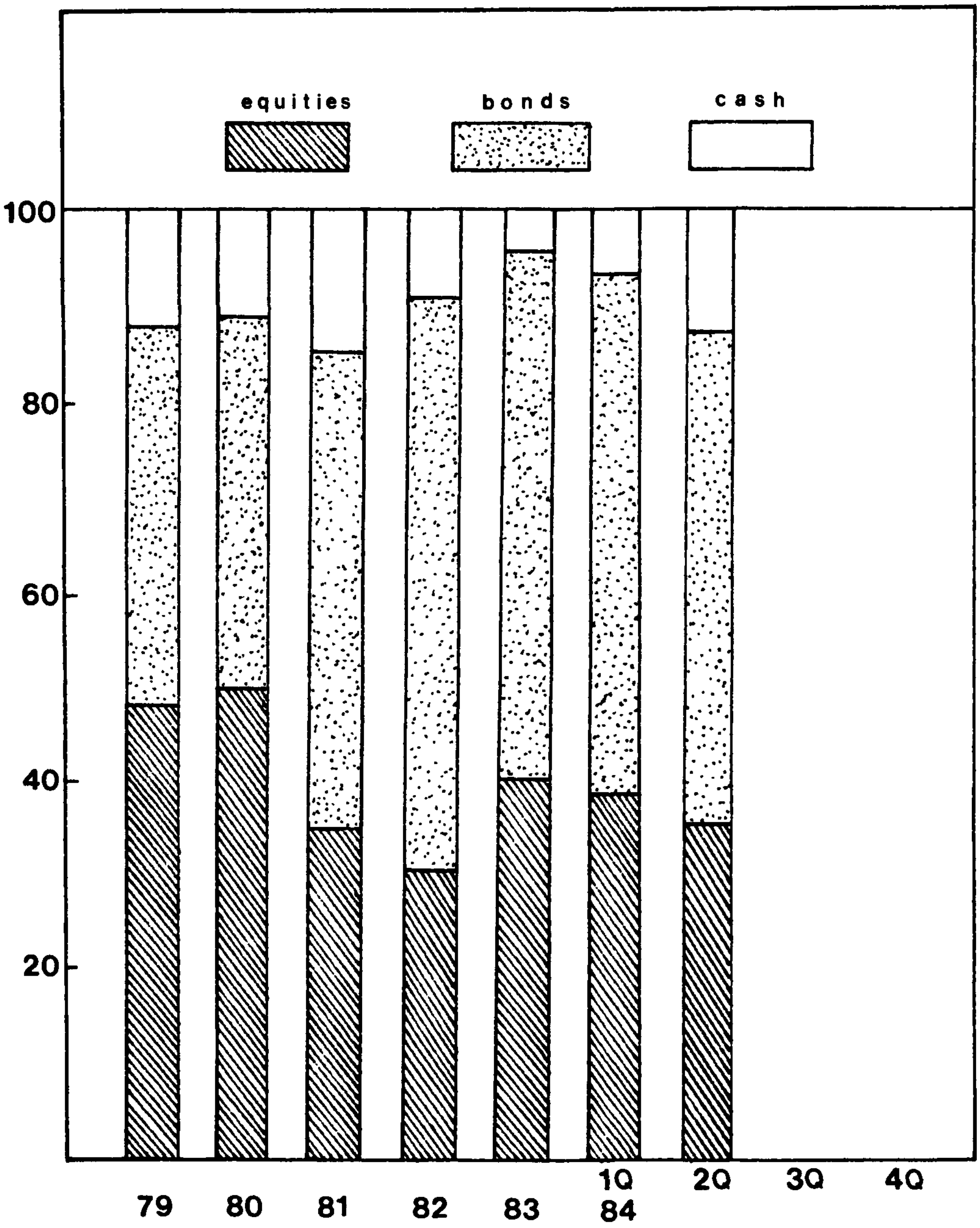


TABLE 8

POST RETIREMENT FUND

ASSET MIX
MARKET VALUE

(End of Period Allocations)

Calendar Year		Common Stocks		Bonds		Cash	
		$Million	Percent	$Million	Percent	$Million	Percent
1979		457.2	47.3	391.1	40.5	117.4	12.2
1980		568.4	48.9	453.0	39.0	140.3	12.1
1981		376.0	34.2	545.5	49.5	179.4	16.3
1982		465.0	30.5	919.9	60.4	138.1	9.1
1983		730.3	40.5	1,002.1	55.6	69.8	3.9
1984	1Q	691.7	38.2	1,009.0	55.6	112.8	6.2
	2Q	657.0	35.5	951.0	51.4	242.6	13.1
	3Q						
	4Q						

FIGURE 8

SUPPLEMENTAL RETIREMENT FUND

(Income Share Account)

ASSET MIX

MARKET VALUE

(End of Period Allocations)

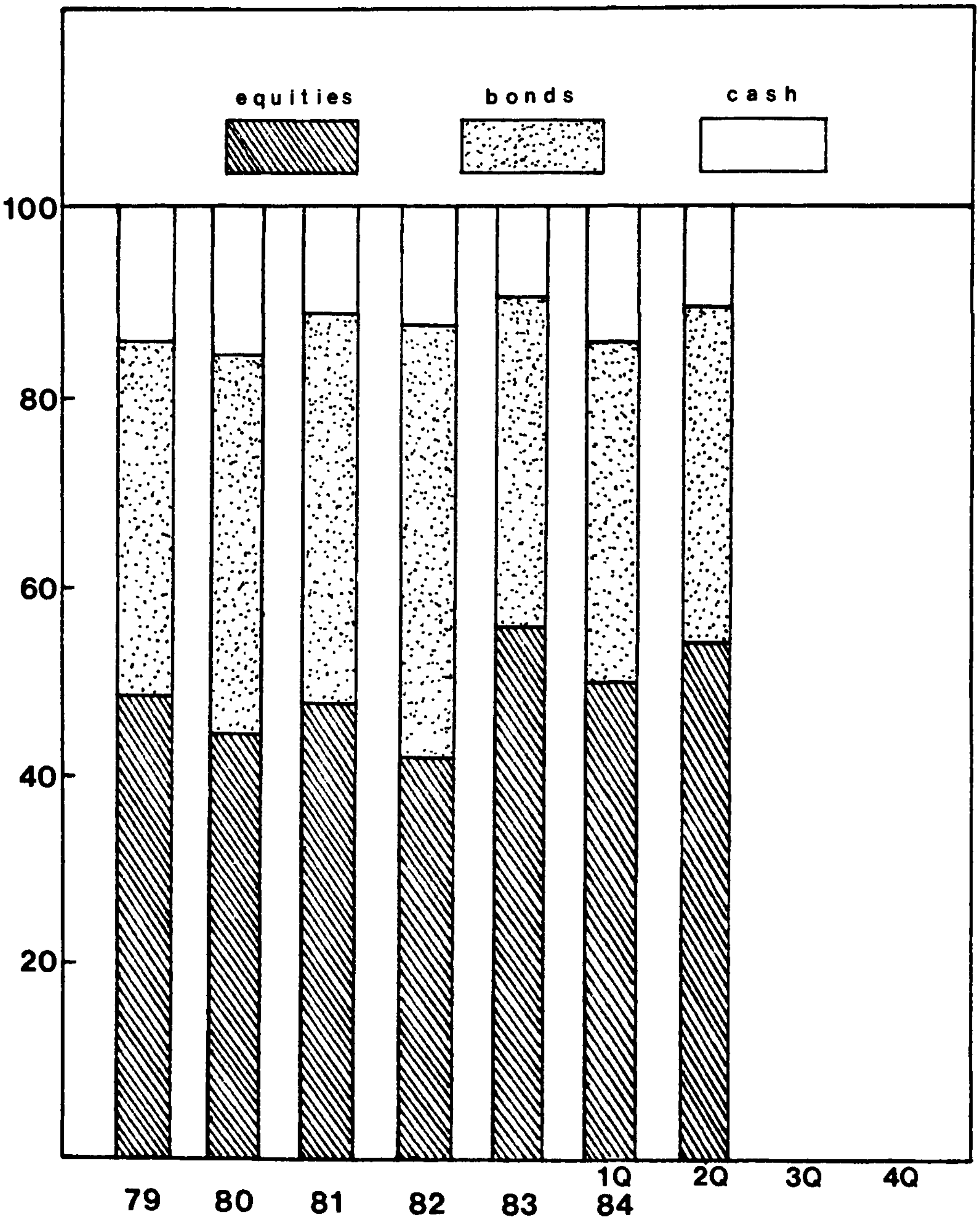


TABLE 9

SUPPLEMENTAL RETIREMENT FUND

(Income Share Account)

ASSET MIX
MARKET VALUE

(End of Period Allocations)

Calendar Year		Common Stocks $Million	Common Stocks Percent	Bonds $Million	Bonds Percent	Cash* $Million	Cash* Percent
1979		30.3	48.6	23.5	37.3	8.8	14.1
1980		33.5	44.5	30.5	40.4	11.3	15.1
1981		35.9	47.1	33.4	43.8	7.0	9.1
1982		42.7	42.5	46.2	46.0	11.5	11.5
1983		63.5	56.2	39.6	35.0	9.9	8.8
1984	1Q	57.2	51.1	39.6	35.4	15.1	13.5
	2Q	61.1	55.3	39.4	35.7	9.9	9.0
	3Q						
	4Q						

*Includes cash held by the external manager

FIGURE 9

SUPPLEMENTAL RETIREMENT FUND
(Growth Share Account)

ASSET MIX
MARKET VALUE

(End of Period Allocations)

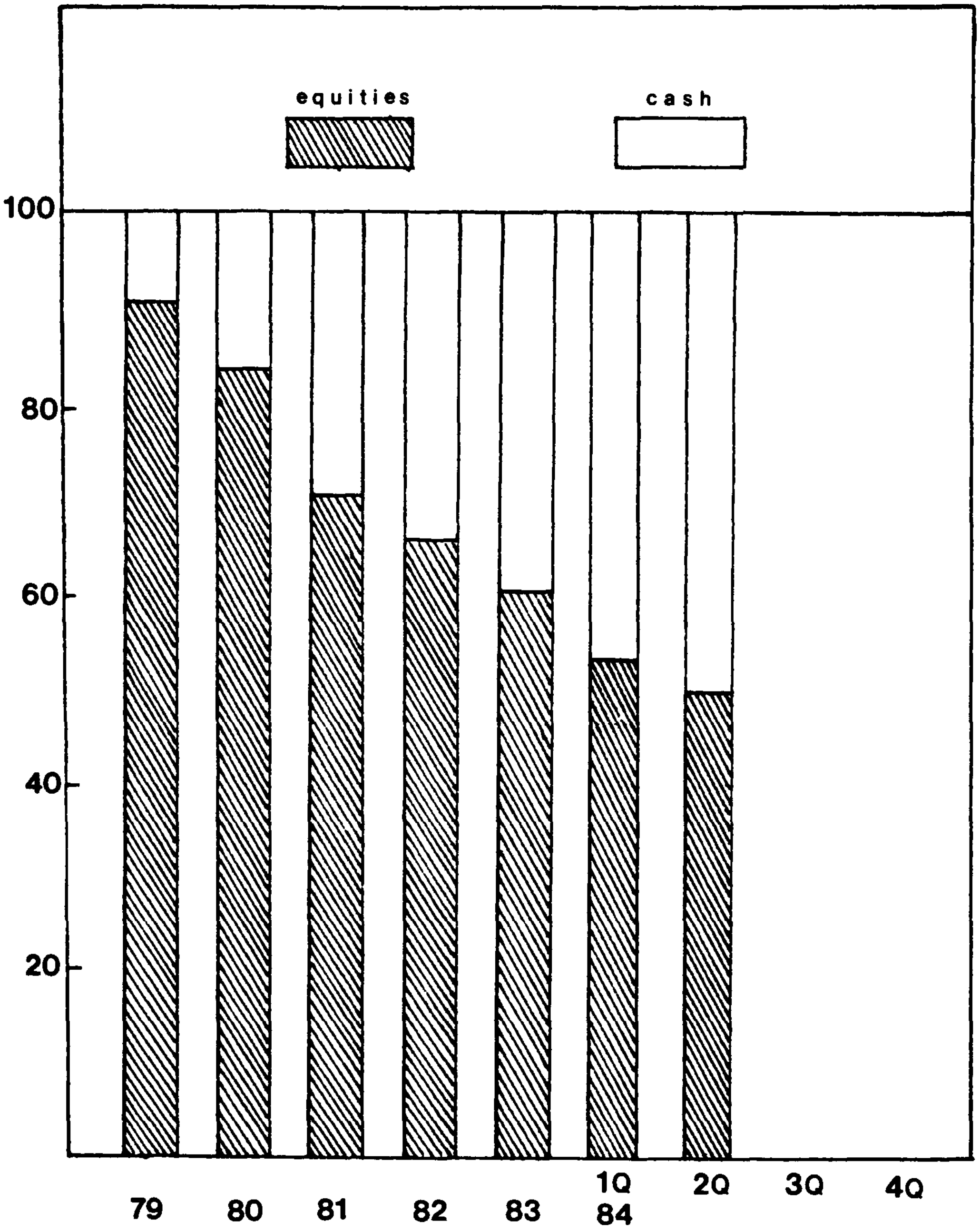


TABLE 10

SUPPLEMENTAL RETIREMENT FUND
(Growth Share Account)

ASSET MIX
MARKET VALUE

(End of Period Allocations)

Calendar Year	Common Stocks		Bonds		Cash*	
	$Million	Percent	$Million	Percent	$Million	Percent
1979	25.3	91.1	-----	-----	2.5	8.9
1980	29.8	83.0	-----	-----	6.1	17.0
1981	28.8	71.4	0.5	1.1	11.1	27.4
1982	32.5	65.6	-----	-----	17.0	34.4
1983	33.7	60.3	-----	-----	22.2	39.7
1984 1Q	29.7	54.2	-----	-----	25.1	45.8
2Q	27.2	50.2	-----	-----	27.0	49.8
3Q						
4Q						

*Includes cash held by the external manager

FIGURE 10

MINNESOTA VARIABLE ANNUITY FUND

ASSET MIX

MARKET VALUE

(End of Period Allocations)

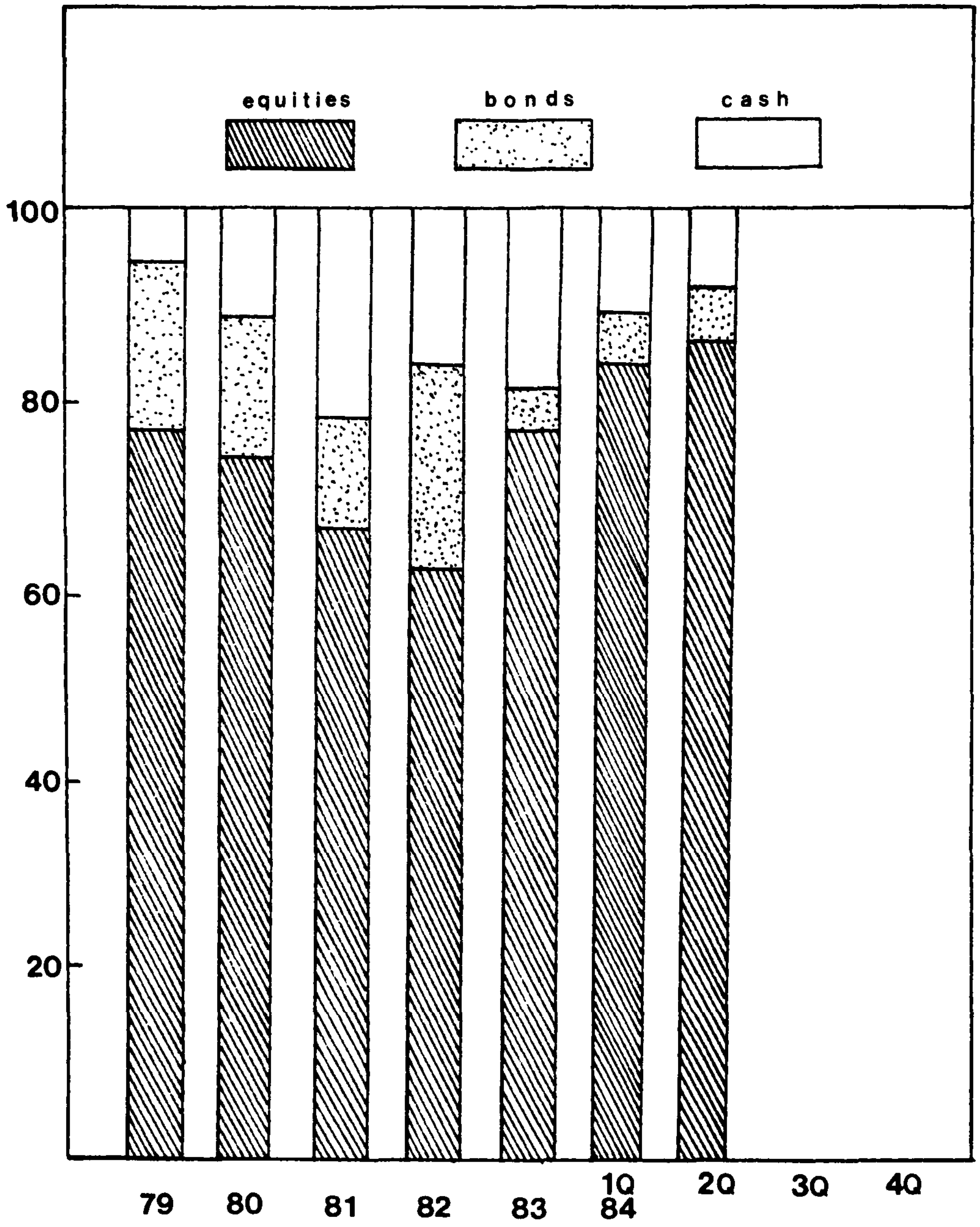


TABLE 11

MINNESOTA VARIABLE ANNUITY FUND

ASSET MIX

MARKET VALUE

(End of Period Allocations)

Calendar Year	Common Stocks $Million	Common Stocks Percent	Bonds $Million	Bonds Percent	Cash* $Million	Cash* Percent
1979	48.6	77.1	11.1	17.7	3.3	5.2
1980	55.2	74.1	9.8	13.2	9.4	12.7
1981	49.6	64.8	9.7	12.7	17.2	22.5
1982	56.7	62.0	19.8	21.6	15.0	16.4
1983	78.9	77.0	5.0	4.8	18.7	18.2
1984 1Q	82.0	84.2	5.1	5.2	10.3	10.6
2Q	82.3	86.4	5.0	5.3	7.9	8.3
3Q						
4Q						

*Includes cash held by external managers

FIGURE 11

PERMANENT SCHOOL FUND

ASSET MIX

BOOK VALUE

(End of Period Allocations)

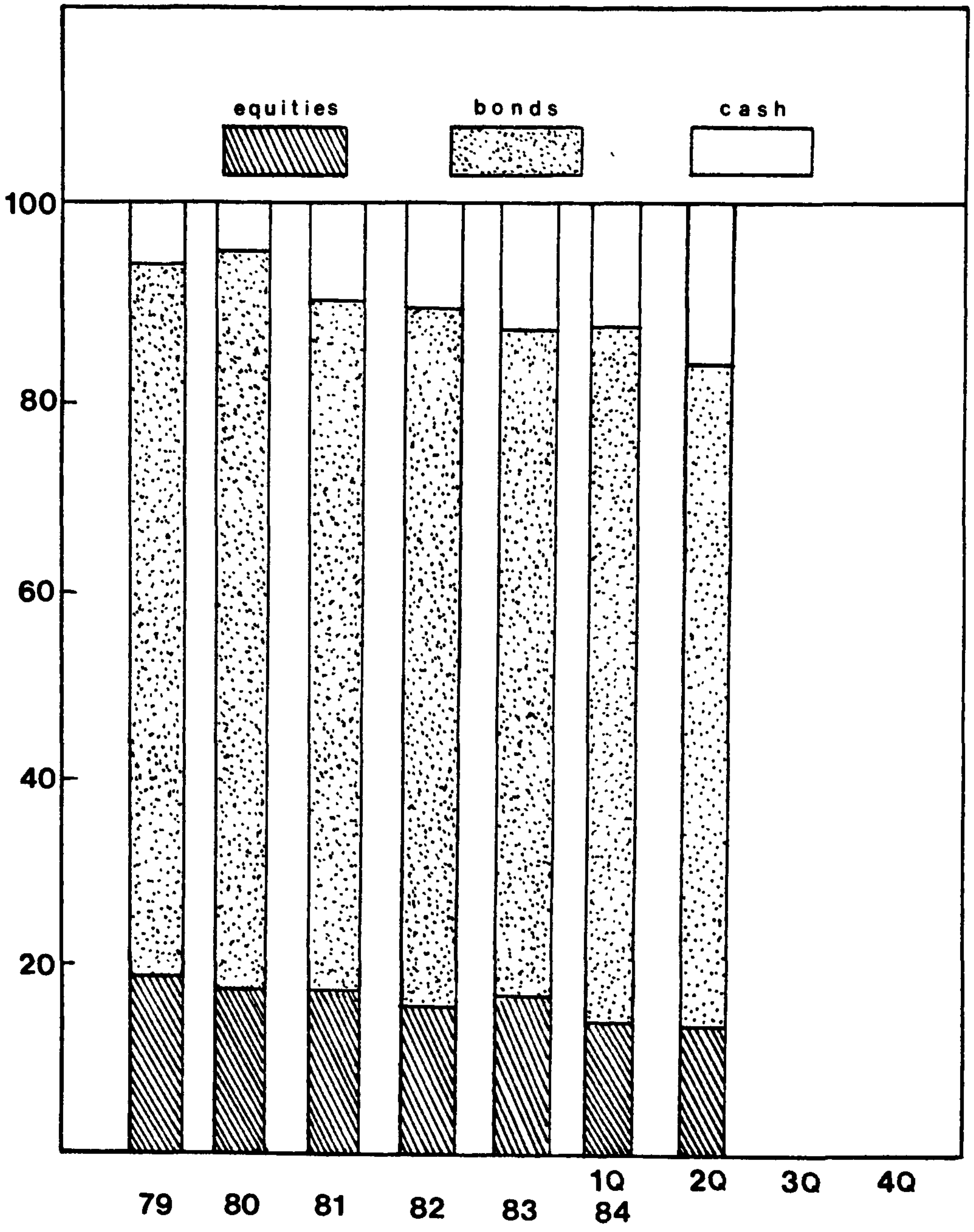


TABLE 12

PERMANENT SCHOOL FUND

ASSET MIX

BOOK VALUE

(End of Period Allocations)

Calendar Year		Common Stocks		Bonds		Cash	
		$Million	Percent	$Million	Percent	$Million	Percent
1979		50.9	18.7	207.1	76.0	14.3	5.3
1980		49.2	17.2	225.4	78.5	12.2	4.3
1981		52.5	17.4	221.2	73.4	27.8	9.2
1982		48.1	15.6	226.6	73.3	34.2	11.1
1983		53.4	16.6	229.5	71.3	38.8	12.1
1984	1Q	48.8	15.0	237.1	73.0	38.9	12.0
	2Q	48 7	14.6	232.5	69.6	52.8	15.8
	3Q						
	4Q						

TABLE 13

EQUITY MANAGER PERFORMANCE

6/30/84

	Total Portfolio Returns		
	Last Quarter	Last 4 Quarters	Since Inception
Income Share Account			
BMI Capital	2.0%	-23.8%	-13.9%
Internal Manager	-3.0	- 8.4	2.2
Growth Share Account			
Waddell & Reed	-1.3	-10.8	10.8
Internal Manager	-2.8	-13.1	- 1.6
Variable Annuity Fund			
Norwest Bank	-2.7	-16.1	1.8
Lieber & Company	-1.4	- 8.6	2.7
Internal Manager	-3.3	-13.4	- 1.3
Performance Standards			
Wilshire 5000	- 2.7	- 8.6	7.1
S&P 500	- 2.5	- 4.6	9.8
TUCS Median	- 0.9	- 9.3	NA
Inflation	1.1	4.3	6.0

EXTERNAL EQUITY MANAGER INFORMATION
June 30, 1984

FIRM NAME: BMI Capital (New York)

PORTFOLIO MANAGER(S): James Awad
Frank Houghton

ACCOUNT HISTORY: Start-up: 3/1/83 $10.0 million

INVESTMENT PHILOSOPHY: BMI employs a microeconomic investment approach, emphasizing individual stock selection rather than industry selection and/or market timing. The firm focuses on two types of companies: First, misperceived companies that are in the process of undergoing dynamic change that will cause them to produce materially higher earnings over the near-term, but whose prospects are as yet unrecognized by the market; Second, small-to-medium sized companies that exhibit the potential for rapid future earnings growth. This second type of company dominates the BMI portfolios. The firm tends to take sizable positions in a relatively few stocks. BMI generally maintains a fully invested posture, with any cash positions a result of a lack of attractive investment opportunities.

QUARTER-END PORTFOLIO STATISTICS

								PORTFOLIO RISK ORIENTATION					
	QTR. PORT. T/O	# OF STOCKS	EQUITY ALLOC.	YIELD	P/E	MKT VOLTY	DIVERSFN	Price Var.	Earn. Var.	Earn. Success	Size	Growth	Fin. Lever.
BMI Capital	6%	24	99%	2.7%	18.5	1.33	.79	++	++	-	++	+	--
SBI MGRS (Avg.)	27	41	81	3.2	13.5	1.29	.81	+	+	+	+	+	0
TUCS MEDIAN	NA	NA	86	NA	NA	1.27	.79	+	+	+	++	+	0

INDUSTRY SECTOR OVERWEIGHTINGS: Consumer Durables, Consumer Nondurables, Technology

INDUSTRY SECTOR UNDERWEIGHTINGS: Capital Goods, Energy, Financial, Transportation, Utilities

PERFORMANCE

	LATEST QUARTER	LAST FOUR QUARTERS	SINCE INCEPTION
BMI Capital	2.0%	-23.8%	-13.9%
SBI MGR AGGREGATE	-2.2	-12.8	-2.3
TUCS MEDIAN	-0.9	-9.3	NA
WILSHIRE 5000	-2.7	-8.6	7.1
CPI (Inflation)	1.1	4.3	6.0

STAFF COMMENTS: After a series of disappointing quarters, BMI significantly outperformed both the equity market and samples of other aggressive equity managers in the second quarter. The primary contributors to positive performance were the firm's stock selections in the Technology and Materials & Services sectors. Poor selection in the Consumer Nondurables and Capital Goods sectors hindered performance. Given the firm's strong relative equity performance, its fully invested position aided total portfolio returns. The firm's equity risk profile remained essentially unchanged over the quarter. Some sector emphasis shifts took place as BMI lowered its Capital Goods, Consumer Nondurables and Materials & Services exposure, while increasing its Consumer Durables and Technology positions. For the latest year BMI still trails far behind the performance of the equity market and samples of other aggressive equity managers.

EXTERNAL EQUITY MANAGER INFORMATION
June 30, 1984

FIRM NAME: Lieber & Co. (Harrison, NY)

PORTFOLIO MANAGER(S): Nola Falcone
Stephen Lieber

ACCOUNT HISTORY: Start-up: 3/1/83 $10.0 million
Contribution: 1/1/84 $15.0 million

INVESTMENT PHILOSOPHY: Lieber & 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 ROE, small-to-medium sized companies. The stocks may be undervalued due to the failure of investors to fully recognize 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.

QUARTER-END PORTFOLIO STATISTICS

								PORTFOLIO RISK ORIENTATION					
	QTR. PORT. T/O	# OF STOCKS	EQUITY ALLOC.	YIELD	P/E	MKT VOLTY	DIVERSFN	Price Var.	Earn. Var.	Earn. Success	Size	Growth	Fin. Lever.
Lieber & Co.	10%	117	95%	2.7%	12.0	1.33	.81	++	0	0	++	++	--
SBI MGRS (Avg.)	27	41	81	3.2	13.5	1.29	.81	+	+	+	+	+	0
TUCS MEDIAN	NA	NA	86	NA	NA	1.27	.79	+	+	+	++	+	0

INDUSTRY SECTOR OVERWEIGHTINGS: Consumer Nondurables, Financial, Materials & Services

INDUSTRY SECTOR UNDERWEIGHTINGS: Capital Goods, Transportation, Energy, Utilities

PERFORMANCE

	LATEST QUARTER	LAST FOUR QUARTERS	SINCE INCEPTION
Lieber & Co.	-1.4%	-8.6%	2.7%
SBI MGR AGGREGATE	-2.2	-12.8	-2.3
TUCS MEDIAN	-0.9	-9.3	NA
WILSHIRE 5000	-2.7	-8.6	7.1
CPI (Inflation)	1.1	4.3	6.0

STAFF COMMENTS: Despite its usual fully invested position, Lieber outperformed the equity market and the SBI aggregate and only slightly underperformed the TUCS subsample median in the second quarter. The firm's superior performance was largely a function of its stock selection in the Consumer Durables, Consumer Nondurables, Finance, and Materials & Services sectors. On the other hand, Lieber's Technology holdings hindered performance significantly. Portfolio turnover was virtually nil during the quarter. Thus the firm's equity risk characteristics and sector emphasis were essentially unchanged. Over the last year, Lieber's performance has matched that of the market and has exceeded that of other aggressive managers.

EXTERNAL EQUITY MANAGER INFORMATION
June 30, 1984

FIRM NAME: Norwest Bank, (Minneapolis)

PORTFOLIO MANAGER(S): Robert Mersky
Paul Von Kuster

ACCOUNT HISTORY:			
	Start-up:	3/1/83	$10.0 million
	Contribution:	5/1/84	$15.0 million

INVESTMENT PHILOSOPHY: Norwest utilizes a modified, microeconmic investment style. The bank emphasizes stock selection in its aggressively managed funds, although asset mix is set for all bank funds by a strategy committee. The aggressive funds tend to focus on industries and companies experiencing a growing share of GNP, developing new, high growth products, and which are positively influenced by cyclical economic change. This approach leads to a concentration in small capitalization, emerging growth, and technology companies. The bank is a moderate market timer, willing to shift asset mix at any point in the market cycle.

QUARTER-END PORTFOLIO STATISTICS

	QTR. PORT. T/O	# OF STOCKS	EQUITY ALLOC.	YIELD	P/E	MKT VOLTY	DIVERSFN	PORTFOLIO RISK ORIENTATION Price Var.	Earn. Var.	Earn. Success	Size	Growth	Fin. Lever.
Norwest Bank	26%	56	89%	2.0%	17.4	1.39	.83	++	++	++	++	++	-
SBI MGRS (Avg.)	27	41	81	3.2	13.5	1.29	.81	+	+	+	+	+	0
TUCS MEDIAN	NA	NA	86	NA	NA	1.27	.79	+	+	+	++	+	0

INDUSTRY SECTOR OVERWEIGHTINGS: Consumer Durables, Technology, Transportation

INDUSTRY SECTOR UNDERWEIGHTINGS: Capital Goods, Energy, Financial, Utilities

PERFORMANCE

	LATEST QUARTER	LAST FOUR QUARTERS	SINCE INCEPTION
Norwest Bank	-2.7%	-16.1%	1.8%
SBI MGR AGGREGATE	-2.2	-12.8	-2.3
TUCS MEDIAN	-0.9	-9.3	NA
WILSHIRE 5000	-2.7	-8.6	7.1
CPI (Inflation)	1.1	4.3	6.0

STAFF COMMENTS: After several disappointing quarters, Norwest's second quarter performance matched that of the market, although it lagged that of samples of other aggressive equity managers. Superior stock selection in and an underweighting of the Materials and Services sector, selection in the Consumer Nondurables sector, and an underweighting of the Financial sector were the most significant positive contributors to the equity portfolio's performance. On the other hand, the firm's equity results were negatively impacted by poor selections in the Energy sector and an underweighting of the Utilities sector. There was a significant increase in the risk associated with market volatility and lack of company earnings success. The firm increased its positions in the Consumer Nondurables and Materials and Services sectors and trimmed its Energy, Technology, and Transportation holdings. For the last year, Norwest's performance continues to lag that of the market and other aggressive equity managers by considerable margins.

EXTERNAL EQUITY MANAGER INFORMATION
June 30, 1984

FIRM NAME: Waddell & Reed Asset Management (Kansas City)

PORTFOLIO MANAGER(S): Henry Herrmann

ACCOUNT HISTORY:
Start-up: 3/1/83 $10.0 million
Contribution: 1/1/84 $15.0 million

INVESTMENT PHILOSOPHY: Waddell & Reed, in its aggressively managed funds, employs a microeconomic investment approach. While asset mix decisions are made for all Waddell & Reed funds at a committee level, the aggressive funds focus on stock selection almost entirely. Holdings are concentrated in small capitalization stocks with an orientation toward cyclical companies and immature growth companies, particularly technology companies. The Waddell & Reed organization is an active market timer willing to make significant asset mix shifts at any point in the market cycle.

QUARTER-END PORTFOLIO STATISTICS

								PORTFOLIO RISK ORIENTATION					
	QTR. PORT. T/O	# OF STOCKS	EQUITY ALLOC.	YIELD	P/E	MKT VOLTY	DIVERSFN	Price Var.	Earn. Var.	Earn. Success	Size	Growth	Fin. Lever.
Waddell & Reed	81%	13	21%	2.1%	10.9	1.56	.52	++	++	++	++	+	+
SBI MGRS (Avg.)	27	41	81	3.2	13.5	1.29	.81	+	+	+	+	+	0
TUCS MEDIAN	NA	NA	86	NA	NA	1.27	.79	+	+	+	++	+	0

INDUSTRY SECTOR OVERWEIGHTINGS: Consumer Durables, Financial, Transportation

INDUSTRY SECTOR UNDERWEIGHTINGS: Capital Goods, Energy, Materials & Services, Utilities

PERFORMANCE

	LATEST QUARTER	LAST FOUR QUARTERS	SINCE INCEPTION
Waddell & Reed	-1.3%	-10.8%	10.8%
SBI MGR AGGREGATE	-2.2	-12.8	-2.3
TUCS MEDIAN	-0.9	-9.3	NA
WILSHIRE 5000	-2.7	-8.6	7.1
CPI (Inflation)	1.1	4.3	6.0

STAFF COMMENTS: Waddell and Reed maintained its bearish posture throughout second quarter 1984, increasing cash reserves to 79% of the portfolio by quarter-end. The firm again outperformed the equity market and the SBI manager aggregate based entirely upon its successful market timing. The performance of the firm's equity portfolio was poor, however. Equity returns were hampered primarily by poor stock selection in the Technology sector and an overweighting of the Financial sector. The equity portfolio's exposure to risk related to market volatility was increased significantly, while the diversification level was lowered. The firm scaled back its holdings in the Financial sector, and increased its weighting of the Technology and Transportation sectors. For the latest year, Waddell and Reed's performance lags that of the equity market and the TUCS subsample median but exceeds that of the SBI manager aggregate.

TABLE 14

MINNESOTA STATE BOARD OF INVESTMENT PERFORMANCE REVIEW

YEAR ENDING JUNE 30, 1984

PERFORMANCE GOALS YEAR ENDING June 30, 1984			FUND PERFORMANCE FOR YEAR ENDING June 30, 1984				
			POST	INCOME*	GROWTH*	VARIABLE*	PERM. SCHOOL
STOCKS	- Wilshire 5000	-8.6%	-9.3%	-11.0%	-17.9%	-14.1%	-6.6%
	- S & P 500	-4.6					
BONDS	- Merrill Lynch	1.7	2.8	2.3	-	11.1	1.4
TOTAL FUNDS							
POST	- 40% stock/60% bond:	-2.5	-1.7				
INCOME	- 50% stock/50% bond:	-3.6		- 4.4			
GROWTH	-100% stock/0% bond:	-8.6			- 7.5		
VARIABLE	-100% stock/0% bond:	-8.6				- 9.8	
P. SCHOOL	- 20% stock/80% bond:	-0.4					1.0
INCOME							
Actuarial requirement		5.0	9.1	7.9			8.9
Post benefit increase at least 50% of inflation rate: (Effective January 1985)		2.2	7.0				

*Includes performance of both internal and external managers.

APPENDIX

This appendix contains historical portfolio data pertaining to the SBI's external equity managers from the inception of the SBI's accounts with these managers. Any revisions of portfolio data reported in previous quarterly reviews are contained in this appendix.

TABLE A1

EXTERNAL EQUITY MANAGERS

PORTFOLIO STATISTICS HISTORICAL SUMMARY

MANAGER NAME	DATE	QTR. PORT. T/O	# OF STKS	EQUITY ALLOC.	YIELD	P/E	MKT VOLTY	DIVRSFN	PORTFOLIO RISK ORIENTATION					
									Price Var.	Earn. Var.	Earn. Succ.	Size	Growth	Fin. Lever.
AVG. EXT. MANAGERS	6/30/84	27	41	81	3.21	13.5	1.29	0.81	+	+	+	+	+	0
AVG. EXT. MANAGERS	3/31/84	25	41	83	3.05	13.5	1.25	0.82	+	+	0	+	+	0
AVG. EXT. MANAGERS	12/31/83	36	34	84	2.79	16.2	1.23	0.80	+	+	0	+	0	0
AVG. EXT. MANAGERS	9/30/83	32	32	85	2.48	19.4	1.29	0.82	+	+	0	+	+	0
AVG. EXT. MANAGERS	6/30/83	27	32	85	2.44	16.7	1.29	0.81	+	0	-	0	+	+
AVG. EXT. MANAGERS	3/31/83	NA	26	67	2.78	15.0	1.26	0.83	+	+	-	0	+	0
FRED ALGER	6/30/84	16	32	93	2.92	13.1	1.22	0.86	+	+	0	0	-	0
FRED ALGER	3/31/84	19	33	91	2.82	14.8	1.19	0.86	+	+	+	0	0	0
FRED ALGER	12/31/83	23	32	95	2.64	15.9	1.18	0.88	+	++	-	0	0	0
FRED ALGER	9/30/83	27	32	91	2.63	17.5	1.24	0.88	+	++	0	0	0	0
FRED ALGER	6/30/83	8	35	94	2.10	18.7	1.33	0.88	++	++	--	+	+	++
FRED ALGER	3/31/83	NA	35	89	2.31	17.1	1.29	0.87	++	++	--	+	+	+
ALLIANCE CAPITAL	6/30/84	8	32	92	1.84	15.4	1.39	0.73	+	+	++	+	++	--
ALLIANCE CAPITAL	3/31/84	12	32	92	1.75	15.4	1.38	0.72	+	+	0	+	++	--
ALLIANCE CAPITAL	12/31/83	14	33	92	1.47	19.7	1.37	0.72	+	++	-	0	++	-
ALLIANCE CAPITAL	9/30/83	22	27	87	1.55	20.4	1.41	0.75	+	++	-	+	+	-
ALLIANCE CAPITAL	6/30/83	17	30	91	1.72	20.9	1.35	0.77	+	++	--	0	+	0
ALLIANCE CAPITAL	3/31/83	NA	30	84	1.68	20.3	1.40	0.81	++	++	--	+	++	-
BEUTEL GOODMAN	6/30/84	11	18	92	4.14	14.9	1.18	0.79	0	+	0	++	0	++
BEUTEL GOODMAN	3/31/84	12	20	98	3.84	11.0	1.16	0.79	+	+	+	++	0	++
BEUTEL GOODMAN	12/31/83	15	16	95	3.77	10.3	1.08	0.74	+	+	++	++	0	++
BEUTEL GOODMAN	9/30/83	6	16	99	3.47	10.5	1.14	0.75	+	+	++	++	0	++
BEUTEL GOODMAN	6/30/83	7	12	79	3.29	10.2	1.07	0.75	+	0	-	++	0	++
BEUTEL GOODMAN	3/31/83	NA	6	34	2.98	9.3	1.09	0.71	+	0	++	+	+	++
BMI CAPITAL	6/30/84	6	24	99	2.73	18.5	1.33	0.79	++	++	-	++	+	--
BMI CAPITAL	3/31/84	18	24	95	2.67	17.1	1.32	0.80	++	++	0	++	+	--
BMI CAPITAL	12/31/83	14	21	98	2.23	20.4	1.29	0.81	+	++	-	++	+	0
BMI CAPITAL	9/30/83	19	19	99	2.14	19.2	1.34	0.81	+	++	-	++	+	0
BMI CAPITAL	6/30/83	0	20	96	2.26	16.6	1.31	0.80	+	0	--	++	+	0
BMI CAPITAL	3/31/83	NA	13	53	2.35	13.7	1.36	0.80	++	++	--	++	++	++
FORSTMANN-LEFF	6/30/84	31	31	54	3.64	11.4	1.26	0.81	+	+	++	-	0	++
FORSTMANN-LEFF	3/31/84	34	38	71	3.52	12.4	1.17	0.82	0	+	+	-	0	++
FORSTMANN-LEFF	12/31/83	41	39	81	3.23	15.7	1.10	0.70	--	0	++	--	--	--
FORSTMANN-LEFF	9/30/83	46	28	83	2.59	20.7	1.14	0.72	--	0	++	--	0	--
FORSTMANN-LEFF	6/30/83	52	33	93	2.90	15.0	1.08	0.70	--	--	0	--	--	--
FORSTMANN-LEFF	3/31/83	NA	38	85	3.23	14.8	1.09	0.82	0	0	0	-	0	--

MANAGER NAME	DATE	QTR. PORT. T/O	# OF STKS	EQUITY ALLOC.	YIELD	P/E	MKT VOLTY	DIVRSFN	PORTFOLIO RISK ORIENTATION					
									Price Var.	Earn. Var.	Earn. Succ.	Size	Growth	Fin. Lever.
HELLMAN JORDAN	6/30/84	34	37	61	5.09	13.5	1.25	0.87	+	++	++	-	0	++
HELLMAN JORDAN	3/31/84	30	34	58	4.94	12.9	1.16	0.87	+	++	+	--	0	+
HELLMAN JORDAN	12/31/83	43	23	51	5.31	12.5	1.23	0.74	+	++	++	-	--	++
HELLMAN JORDAN	9/30/83	57	20	47	2.89	21.2	1.34	0.77	+	++	++	0	0	++
HELLMAN JORDAN	6/30/83	38	18	56	2.37	16.1	1.30	0.77	+	++	-	--	0	++
HELLMAN JORDAN	3/31/83	NA	14	53	3.18	15.9	1.30	0.72	+	++	--	--	+	+
IDS ADVISORY	6/30/84	42	43	87	4.80	13.4	1.04	0.85	--	-	--	0	0	++
IDS ADVISORY	3/31/84	41	39	82	4.31	11.2	1.09	0.80	0	+	--	-	--	0
IDS ADVISORY	12/31/83	45	36	89	3.13	18.8	1.17	0.86	+	++	-	+	+	0
IDS ADVISORY	9/30/83	79	34	86	2.40	25.0	1.24	0.86	+	++	0	+	+	-
IDS ADVISORY	6/30/83	42	49	94	2.19	19.9	1.30	0.81	+	+	--	-	+	-
IDS ADVISORY	3/31/83	NA	48	88	3.17	15.3	1.19	0.84	+	+	-	--	+	-
INVESTMENT ADVISERS	6/30/84	8	43	98	4.19	10.0	1.21	0.89	0	0	++	-	0	++
INVESTMENT ADVISERS	3/31/84	21	40	92	3.60	11.1	1.17	0.89	0	+	++	-	0	++
INVESTMENT ADVISERS	12/31/83	16	39	89	3.11	13.5	1.13	0.86	--	+	++	--	0	0
INVESTMENT ADVISERS	9/30/83	8	41	89	2.92	15.6	1.13	0.87	--	+	++	--	0	0
INVESTMENT ADVISERS	6/30/83	7	37	78	3.19	15.9	1.08	0.89	-	0	0	--	0	0
INVESTMENT ADVISERS	3/31/83	NA	34	47	3.35	13.4	1.06	0.85	0	0	-	--	-	0
LIEBER & COMPANY	6/30/84	10	117	95	2.66	12.0	1.33	0.81	++	0	0	++	++	--
LIEBER & COMPANY	3/31/84	0	115	93	2.63	12.0	1.37	0.85	+	0	--	++	+	-
LIEBER & COMPANY	12/31/83	9	60	100	2.77	12.9	1.24	0.83	+	0	-	++	+	-
LIEBER & COMPANY	9/30/83	9	56	97	2.83	11.3	1.30	0.83	+	0	-	++	+	-
LIEBER & COMPANY	6/30/83	2	49	92	2.70	14.0	1.26	0.84	+	0	--	++	+	-
LIEBER & COMPANY	3/31/83	NA	24	45	2.94	15.9	1.20	0.85	+	0	-	++	+	--
LOOMIS SAYLES	6/30/84	25	20	94	1.71	14.4	1.37	0.70	++	++	-	+	++	0
LOOMIS SAYLES	3/31/84	6	22	93	1.93	13.2	1.37	0.66	++	++	--	+	+	+
LOOMIS SAYLES	12/31/83	39	19	81	1.79	18.0	1.38	0.70	++	++	--	+	+	0
LOOMIS SAYLES	9/30/83	60	23	95	1.28	28.8	1.53	0.75	++	++	--	+	++	0
LOOMIS SAYLES	6/30/83	49	19	97	1.21	17.3	1.64	0.75	++	++	--	+	++	++
LOOMIS SAYLES	3/31/83	NA	20	98	1.62	18.2	1.44	0.85	++	++	--	0	++	-
NORWEST BANK MPLS	6/30/84	26	56	89	1.96	17.4	1.39	0.83	++	++	++	++	++	-
NORWEST BANK MPLS	3/31/84	66	47	87	1.65	19.2	1.28	0.82	++	++	--	++	++	-
NORWEST BANK MPLS	12/31/83	92	41	83	1.88	19.0	1.23	0.87	+	0	-	+	+	--
NORWEST BANK MPLS	9/30/83	56	53	85	2.12	21.4	1.27	0.87	+	0	-	+	+	-
NORWEST BANK MPLS	6/30/83	95	42	80	2.53	16.3	1.23	0.88	+	--	-	+	+	--
NORWEST BANK MPLS	3/31/83	NA	35	83	2.94	14.1	1.20	0.90	+	--	-	+	+	--
SIEBEL CAPITAL	6/30/84	47	36	63	3.22	12.3	1.27	0.88	+	--	++	++	+	0
SIEBEL CAPITAL	3/31/84	28	42	78	3.07	11.5	1.25	0.88	+	0	+	+	+	0
SIEBEL CAPITAL	12/31/83	25	37	90	3.14	12.4	1.16	0.89	0	--	0	0	-	++
SIEBEL CAPITAL	9/30/83	26	35	83	3.28	12.6	1.15	0.88	0	0	++	0	0	0
SIEBEL CAPITAL	6/30/83	27	36	91	3.24	13.5	1.17	0.86	+	0	0	0	0	++
SIEBEL CAPITAL	3/31/83	NA	26	80	3.38	13.5	1.15	0.85	+	0	-	--	0	+

									PORTFOLIO RISK ORIENTATION					
MANAGER NAME	DATE	QTR. PORT. T/O	# OF STKS	EQUITY ALLOC.	YIELD	P/E	MKT VOLTY	DIVRSFN	Price Var.	Earn. Var.	Earn. Succ.	Size	Growth	Fin. Lever.
HERBERT R. SMITH	6/30/84	38	67	86	3.29	12.5	1.20	0.92	+	+	-	+	+	--
HERBERT R. SMITH	3/31/84	29	68	84	3.12	13.9	1.22	0.91	+	+	0	+	+	0
HERBERT R. SMITH	12/31/83	46	60	80	2.14	18.9	1.33	0.85	++	++	-	++	+	++
HERBERT R. SMITH	9/30/83	40	46	65	2.68	19.4	1.44	0.87	+	++	-	++	+	++
HERBERT R. SMITH	6/30/83	13	48	65	2.36	18.2	1.46	0.83	++	++	--	++	++	++
HERBERT R. SMITH	3/31/83	NA	18	20	2.74	13.7	1.45	0.77	++	++	--	+	+	++
TRUSTEE & INVESTORS	6/30/84	15	40	95	3.86	12.8	1.31	0.90	++	+	++	-	+	++
TRUSTEE & INVESTORS	3/31/84	25	41	98	3.30	14.4	1.27	0.89	++	+	++	0	+	++
TRUSTEE & INVESTORS	12/31/83	17	44	99	2.82	18.0	1.25	0.89	+	0	0	+	+	++
TRUSTEE & INVESTORS	9/30/83	9	40	98	3.04	19.8	1.26	0.92	+	0	++	+	+	++
TRUSTEE & INVESTORS	6/30/83	11	34	98	3.09	17.5	1.24	0.93	+	0	-	+	+	+
TRUSTEE & INVESTORS	3/31/83	NA	26	71	3.80	14.4	1.24	0.93	+	0	-	+	0	++
WADDELL & REED	6/30/84	81	13	21	2.08	10.9	1.56	0.52	++	++	++	++	+	+
WADDELL & REED	3/31/84	35	21	31	2.63	12.6	1.31	0.74	+	++	+	+	0	++
WADDELL & REED	12/31/83	103	10	31	2.45	17.2	1.36	0.72	++	+	--	++	++	--
WADDELL & REED	9/30/83	9	17	73	1.41	27.4	1.41	0.73	++	0	--	++	+	--
WADDELL & REED	6/30/83	38	16	75	1.51	21.0	1.48	0.74	++	0	--	++	++	+
WADDELL & REED	3/31/83	NA	17	79	2.04	14.9	1.50	0.81	++	+	-	++	+	++

TABLE A2

EXTERNAL EQUITY MANAGERS

SECTOR WEIGHTING HISTORICAL PROFILE

			EQUITY SECTOR WEIGHTS								
MANAGER NAME	DATE	TOTAL PORTFOLIO MARKET VALUE	CAP GDS	CONS DUR	CONS NDUR	ENER	FINL	MAT & SERV	TECH	TRAN	UTIL
AVG. EXT. MANAGERS	6/30/84	---	4.0	7.6	28.6	4.2	12.5	10.9	23.4	5.4	3.4
AVG. EXT. MANAGERS	3/31/84	---	5.2	7.6	24.0	5.7	13.2	13.3	22.7	5.1	3.1
AVG. EXT. MANAGERS	12/31/83	---	6.0	6.4	23.5	3.0	12.2	15.1	24.0	6.3	3.5
AVG. EXT. MANAGERS	9/30/83	---	3.6	5.9	28.9	3.1	12.8	13.5	24.2	5.7	2.4
AVG. EXT. MANAGERS	6/30/83	---	3.7	6.1	30.2	3.6	15.1	11.7	21.2	5.8	2.5
AVG. EXT. MANAGERS	3/31/83	---	2.8	4.3	30.6	3.6	15.2	11.4	23.5	4.9	3.8
FRED ALGER	6/30/84	49,936,760	14.0	8.0	30.7	---	3.8	11.5	29.5	2.6	---
FRED ALGER	3/31/84	51,737,228	13.3	4.3	28.8	---	3.4	18.3	31.9	---	---
FRED ALGER	12/31/83	55,644,200	13.2	6.6	21.7	---	6.4	18.1	33.9	---	---
FRED ALGER	9/30/83	56,169,879	5.7	6.8	26.9	---	8.4	23.3	29.0	---	---
FRED ALGER	6/30/83	58,138,999	4.9	8.5	35.0	3.5	8.2	18.0	21.9	---	---
FRED ALGER	3/31/83	51,420,548	1.4	7.5	37.0	---	9.0	22.0	23.1	---	---
ALLIANCE CAPITAL	6/30/84	48,457,996	---	8.1	51.6	---	6.9	---	23.5	9.9	---
ALLIANCE CAPITAL	3/31/84	47,427,119	---	8.3	48.0	2.7	5.6	---	25.1	10.4	---
ALLIANCE CAPITAL	12/31/83	52,725,699	0.8	7.5	45.3	---	6.8	2.4	24.2	13.1	---
ALLIANCE CAPITAL	9/30/83	52,945,082	2.8	5.4	45.9	---	9.2	---	24.6	12.1	---
ALLIANCE CAPITAL	6/30/83	57,538,354	2.2	4.7	42.3	---	8.2	7.5	22.7	12.4	---
ALLIANCE CAPITAL	3/31/83	51,037,067	---	3.5	49.9	2.7	6.7	3.6	23.5	10.0	---
BEUTEL GOODMAN	6/30/84	55,295,358	9.3	---	21.1	---	30.4	32.4	6.7	---	---
BEUTEL GOODMAN	3/31/84	56,896,258	8.9	---	18.6	---	27.2	39.3	6.0	---	---
BEUTEL GOODMAN	12/31/83	57,233,781	9.8	---	20.2	---	11.2	46.2	5.4	7.2	---
BEUTEL GOODMAN	9/30/83	55,416,939	8.8	---	22.0	---	13.1	43.5	4.7	8.0	---
BEUTEL GOODMAN	6/30/83	54,835,808	11.0	---	18.5	---	17.4	42.4	---	10.6	---
BEUTEL GOODMAN	3/31/83	50,442,256	---	---	15.7	---	15.4	52.1	---	16.8	---
BMI CAPITAL	6/30/84	8,533,642	3.2	16.4	37.4	---	---	11.5	31.5	---	---
BMI CAPITAL	3/31/84	8,366,038	4.3	12.7	39.3	---	---	17.8	25.9	---	---
BMI CAPITAL	12/31/83	9,784,767	7.4	12.1	28.4	---	6.6	19.0	26.4	---	---
BMI CAPITAL	9/30/83	10,420,827	7.6	11.2	37.1	---	6.4	18.6	19.2	---	---
BMI CAPITAL	6/30/83	11,285,353	7.9	12.7	44.2	---	9.8	15.9	9.5	---	---
BMI CAPITAL	3/31/83	10,081,983	10.6	8.1	35.3	---	12.3	22.0	11.8	---	---
FORSTMANN-LEFF	6/30/84	51,218,131	3.7	3.6	40.2	---	7.0	10.3	24.3	7.2	3.7
FORSTMANN-LEFF	3/31/84	52,083,507	7.6	3.0	37.0	---	6.0	14.5	23.1	6.0	2.8
FORSTMANN-LEFF	12/31/83	55,421,154	5.7	13.6	35.5	5.8	3.9	8.4	18.7	5.3	3.1
FORSTMANN-LEFF	9/30/83	55,775,736	---	14.6	52.3	3.3	4.5	5.3	15.1	4.8	---
FORSTMANN-LEFF	6/30/83	56,471,479	---	12.7	61.4	---	2.7	7.2	11.7	4.3	---
FORSTMANN-LEFF	3/31/83	51,390,160	2.1	4.7	50.7	5.9	4.7	10.3	17.4	4.2	---

EQUITY SECTOR WEIGHTS

MANAGER NAME	DATE	TOTAL PORTFOLIO MARKET VALUE	CAP GDS	CONS DUR	CONS NDUR	ENER	FINL	MAT & SERV	TECH	TRAN	UTIL
HELLMAN JORDAN	6/30/84	47,929,367	1.8	12.4	13.8	1.2	16.4	21.2	12.6	11.1	9.6
HELLMAN JORDAN	3/31/84	49,895,127	---	12.4	19.5	6.4	15.7	15.7	4.3	8.8	17.2
HELLMAN JORDAN	12/31/83	50,182,761	---	14.8	30.0	6.0	16.5	10.4	2.1	3.0	17.2
HELLMAN JORDAN	9/30/83	50,713,576	---	15.0	47.4	---	19.5	3.5	3.3	4.7	6.5
HELLMAN JORDAN	6/30/83	52,402,164	---	3.8	23.3	---	35.9	---	24.8	---	12.2
HELLMAN JORDAN	3/31/83	49,541,253	---	---	15.1	---	33.4	4.6	27.2	---	19.7
INVESTMENT ADVISERS	6/30/84	50,388,386	5.5	5.9	26.3	6.2	18.8	9.1	20.6	3.7	3.9
INVESTMENT ADVISERS	3/31/84	51,864,720	5.8	5.4	30.2	8.9	21.5	7.7	15.6	3.9	1.0
INVESTMENT ADVISERS	12/31/83	54,533,402	6.3	6.3	25.0	5.8	21.9	9.7	15.7	6.1	3.2
INVESTMENT ADVISERS	9/30/83	53,819,067	5.8	6.2	30.6	6.0	13.4	9.1	18.3	7.1	3.5
INVESTMENT ADVISERS	6/30/83	54,812,985	6.5	6.6	24.7	11.7	9.7	9.8	16.9	10.3	3.9
INVESTMENT ADVISERS	3/31/83	50,748,987	6.5	9.1	26.0	10.2	7.3	15.0	17.7	5.0	3.2
IDS ADVISORY	6/30/84	50,278,968	---	5.3	27.6	8.1	6.8	7.6	19.2	4.8	20.6
IDS ADVISORY	3/31/84	50,085,955	4.8	10.1	12.4	9.6	8.7	14.3	15.2	9.5	15.4
IDS ADVISORY	12/31/83	54,006,960	4.9	7.6	18.0	---	8.8	19.0	26.1	6.0	9.6
IDS ADVISORY	9/30/83	54,334,602	---	4.1	24.3	3.4	6.0	19.7	33.8	5.4	3.4
IDS ADVISORY	6/30/83	57,561,715	4.2	12.0	30.5	4.5	4.2	6.7	33.7	4.3	---
IDS ADVISORY	3/31/83	50,689,028	5.4	9.2	30.7	5.4	9.8	6.4	26.3	---	6.6
LIEBER & COMPANY	6/30/84	23,927,529	2.6	3.3	34.8	3.5	21.1	16.7	15.3	1.8	0.8
LIEBER & COMPANY	3/31/84	24,261,218	3.6	6.4	32.3	4.9	17.3	16.8	16.3	1.8	0.7
LIEBER & COMPANY	12/31/83	11,159,936	7.7	4.5	33.7	3.5	16.7	22.3	6.1	5.6	---
LIEBER & COMPANY	9/30/83	11,016,060	6.5	3.5	31.0	4.7	18.0	25.4	5.4	5.5	---
LIEBER & COMPANY	6/30/83	11,233,248	6.4	5.0	33.3	5.0	16.5	23.9	3.3	6.6	---
LIEBER & COMPANY	3/31/83	10,063,917	8.3	---	23.1	3.9	11.6	41.0	5.6	6.4	---
LOOMIS SAYLES	6/30/84	43,613,462	7.6	12.8	16.1	---	4.9	8.8	33.8	16.0	---
LOOMIS SAYLES	3/31/84	45,336,835	11.2	15.1	3.4	---	5.1	12.8	38.2	14.3	---
LOOMIS SAYLES	12/31/83	49,181,570	11.6	16.1	3.3	---	5.2	14.0	33.5	16.4	---
LOOMIS SAYLES	9/30/83	50,182,549	3.5	14.5	13.3	---	10.6	5.2	44.9	8.0	---
LOOMIS SAYLES	6/30/83	55,042,543	3.1	9.0	12.1	---	34.6	10.8	20.4	9.9	---
LOOMIS SAYLES	3/31/83	50,105,254	---	4.8	19.8	---	25.4	9.1	30.7	10.1	---
NORWEST BANK MPLS	6/30/84	24,546,941	2.8	5.5	31.2	5.8	1.0	9.3	38.9	4.3	1.3
NORWEST BANK MPLS	3/31/84	10,385,041	3.6	4.4	23.1	8.5	1.1	7.2	45.5	5.4	1.1
NORWEST BANK MPLS	12/31/83	11,215,761	2.5	1.6	25.5	1.2	3.2	6.0	51.8	1.7	6.6
NORWEST BANK MPLS	9/30/83	11,816,270	1.2	---	31.6	3.3	2.0	8.4	46.1	1.4	5.8
NORWEST BANK MPLS	6/30/83	12,126,921	4.8	---	36.4	5.2	8.9	4.8	33.0	2.9	3.3
NORWEST BANK MPLS	3/31/83	10,417,512	7.0	1.8	47.1	4.2	13.5	---	20.1	6.3	---
SIEBEL CAPITAL	6/30/84	49,523,376	4.1	4.8	38.8	---	25.9	7.4	17.6	1.4	---
SIEBEL CAPITAL	3/31/84	49,328,007	3.6	1.3	26.4	---	25.8	11.4	29.2	2.4	---
SIEBEL CAPITAL	12/31/83	53,482,144	3.6	1.7	27.9	---	24.0	11.7	24.6	2.6	3.8
SIEBEL CAPITAL	9/30/83	54,520,467	3.5	---	32.7	2.8	25.1	7.2	19.3	5.0	4.4
SIEBEL CAPITAL	6/30/83	56,381,931	2.6	---	36.4	1.7	22.6	6.2	20.1	5.4	5.0
SIEBEL CAPITAL	3/31/83	51,621,595	4.6	---	28.8	---	18.5	5.3	30.0	6.7	6.2

EQUITY SECTOR WEIGHTS

MANAGER NAME	DATE	TOTAL PORTFOLIO MARKET VALUE	CAP GDS	CONS DUR	CONS NDUR	ENER	FINL	MAT & SERV	TECH	TRAN	UTIL
HERBERT R. SMITH	6/30/84	42,860,060	2.4	0.3	24.4	25.5	10.6	7.5	20.9	7.4	1.1
HERBERT R. SMITH	3/31/84	44,150,474	3.3	0.2	10.1	28.8	16.9	12.8	18.6	9.1	---
HERBERT R. SMITH	12/31/83	46,441,280	4.4	0.4	15.4	10.6	14.5	8.8	30.2	15.8	---
HERBERT R. SMITH	9/30/83	48,910,462	2.2	0.6	12.7	9.4	22.1	15.6	23.2	9.4	4.8
HERBERT R. SMITH	6/30/83	53,176,398	2.0	0.6	15.5	5.2	17.6	13.9	29.4	7.3	6.7
HERBERT R. SMITH	3/31/83	50,198,982	4.8	---	32.6	---	20.5	---	34.7	7.4	---
TRUSTEE & INVESTORS	6/30/84	44,119,650	2.5	---	9.9	11.9	17.6	9.4	38.8	---	10.0
TRUSTEE & INVESTORS	3/31/84	47,158,224	2.5	---	10.0	16.0	17.3	10.1	35.3	---	8.7
TRUSTEE & INVESTORS	12/31/83	50,974,369	2.4	---	12.9	9.3	16.7	9.5	41.4	---	7.7
TRUSTEE & INVESTORS	9/30/83	53,062,524	2.5	---	15.6	10.5	17.1	8.8	38.4	---	7.1
TURSTEE & INVESTORS	6/30/83	57,620,180	2.9	3.2	17.0	11.5	18.9	10.3	29.7	---	6.5
TRUSTEE & INVESTORS	3/31/83	50,154,412	3.6	---	12.2	14.4	24.1	10.2	24.1	---	11.4
WADDELL & REED	6/30/84	25,495,564	---	29.0	25.7	---	15.7	---	17.8	11.8	---
WADDELL & REED	3/31/84	25,833,644	5.2	32.1	21.4	---	25.0	---	11.7	4.5	---
WADDELL & REED	12/31/83	11,409,742	12.8	32.4	---	---	33.9	---	20.9	---	---
WADDELL & REED	9/30/83	12,042,511	5.8	13.4	22.5	---	5.1	---	38.2	15.0	---
WADDELL & REED	6/30/83	12,464,478	5.7	13.2	29.2	3.3	5.0	---	31.1	12.5	---
WADDELL & REED	3/31/83	10,013,713	5.5	13.8	15.5	2.5	29.1	---	27.2	6.4	---
WILSHIRE 5000	6/30/84	---	5.3	4.0	25.7	13.5	9.6	11.7	15.6	2.9	11.7
WILSHIRE 5000	3/31/84	---	5.4	3.9	23.6	16.1	9.8	12.1	15.3	2.9	11.1
WILSHIRE 5000	12/31/83	---	5.5	4.2	24.0	14.5	9.5	12.2	16.3	2.8	11.1
WILSHIRE 5000	9/30/83	---	5.2	4.0	24.3	14.8	9.4	11.8	16.3	2.9	11.3
WILSHIRE 5000	6/30/83	---	5.3	3.9	24.9	15.0	9.3	11.6	16.3	2.9	10.9
WILSHIRE 5000	3/31/83	---	5.1	3.5	25.2	14.6	9.8	12.3	14.9	2.9	11.8

Tab B

STATE OF MINNESOTA

EXTERNAL EQUITY MANAGER UPDATE INTERVIEW

1. Name of manager interviewed	Fred Alger Management
2. Date interview conducted	August 13, 1984
3. Date of last interview	March 8, 1984

4. Representing Minnesota State Board of Investment

Howard Bicker
Jeff Bailey

5. Representing manager

David Alger - Portfolio Manager/Analyst
Susan Eppley - Marketing Representative

ACTION PLAN

As explained further in this report, staff has been concerned with several developments within the Fred Alger organization. These developments relate to:

1. The firm's proposed leveraged buyout of Levitz Furniture.
2. The firm's lack of limits on its future asset and client growth.
3. Its first quarter 1984 use of market timing strategies contrary to its general investment philosophy.

Staff is currently satisfied with the responses provided by Fred Alger to the above mentioned concerns. However, continued monitoring of these issues should take place.

Staff recommends that:

1. Fred Alger be placed on the Watch List. However, if additional active manager funding were to take place, the firm should receive new contributions.
2. If the proposed leveraged buyout is completed, then the involvement of Fred Alger's equity personnel in the management of that company be monitored.
3. If Fred Alger should participate in similar ventures in the near future, then the current favorable evaluation of the firm be rescinded.

4. If strong asset and client base growth resumes, then the firm should be pressed for a more specific long-run growth plan.
5. If the firm should undertake additional market timing moves in the near future, then the SBI's perception and evaluation of the firm's investment approach should be revised.

I. ORGANIZATION

Fred Alger has instituted no significant organizational or ownership changes since the SBI account's inception. However, staff is concerned about Fred Alger's proposed leveraged buyout (LBO) of Levitz Furniture. Staff is concerned that this entry into a new venture, not directly related to the firm's common stock management, potentially might require an inordinate about of time and effort on the part of the firm's top personnel, thus detracting from its equity performance.

Levitz has recently been the target of takeover action. Fred Alger believes current offers for the company are too low. Thus, Fred Alger, which owns a considerable amount of the company's stock for its clients' portfolios, has made a counter offer in the form of an LBO. As a result, one of two possible outcomes will occur. Either Fred Alger (along with Levitz Management and GE Credit Corp.) will acquire Levitz or a higher offer will be forthcoming from competing bidders. In either case, Fred Alger believes that its clients will benefit through a higher price for Levitz. Fred Alger has responded to staff's concerns by emphasizing four important factors of the LBO offer:

1. Only one senior equity management person is involved in negotiating the LBO.
2. The offer is an unusual event, quite unlikely to be repeated.
3. The firm will make only one bid for Levitz. If it is topped, it will have achieved its goal and will withdraw from bidding.
4. The firm will not be involved in the day-to-day management of Levitz. Current Levitz management will run the company.
5. Fred Alger's clients (including the SBI) will not participate in the LBO. It is Fred Alger's equity which is being put into the LBO.

II. ASSETS UNDER MANAGEMENT

	March 31, 1983		March 31, 1984		June 30, 1984	
	Number	Market Value (Millions)	Number	Market Value (Millions)	Number	Market Value (Millions)
Tax Exempt Accounts	59	$1,645	76	$1,994	79	$2,007

Fred Alger is unusual among most of the SBI's equity managers in that it has set no long-term limits on its growth. The firm expects to continue to grow and, in fact, believes such growth is important to its ability to hire and retain superior talent. The firm believes that its organization is designed in a modular fashion, which can facilitate growth by adding analytical personnel to increase company coverage and develop more investment opportunities.

Since the SBI account's inception, Fred Alger has increased its size by roughly one-third. While staff does not believe that Fred Alger's recent growth or likely near-term future growth has hampered or is likely to hamper its investment style, staff will continue to monitor its client and asset growth. If rapid growth should resume, staff will insist that more specific growth plans be developed.

In the most recent quarter, the firm gained five accounts and lost two (B.A.S.F. Wyandotte and Barker Welfare Foundation). The foundation choose to decrease its equity investments and transfer funds to bonds. B.A.S.F. Wyandotte was dissatisfied with Fred Alger's growth and use of larger capitalization stocks.

III. STAFF

Fred Alger's investment process is centered around a group of intelligent, hard working analysts. The nature of their work is such that occassional turnover in this group is to be expected. Staff has observed no unusual analyst turnover. During the most recent quarter, one analyst, after a year with the firm, was asked to resign and was quickly replaced.

IV. INVESTMENT APPROACH

In general, staff believes that Fred Alger's stated investment philosophy has been applied consistently. The firm attempts to identify companies undergoing positive life cycle changes or high unit volume growth. The SBI's portfolio, however, has tended to be more diversified and less focused in specific company bets than staff believes is acceptable. This observation was communicated to Fred Alger personnel, who in turn indicated that they would not be uncomfortable with a reduction in the portfolio's diversification.

Also of concern to SBI staff was Fred Alger's brief move to a 25% cash position during the first quarter 1984. The firm has stated that it is not a market timer and will only rarely raise cash, prefering to remain fully invested. The firm's early 1984 move to cash, and subsequent quick return to a fully invested position, was based on signals from a technical market strength indicator. Staff feels that this type of activity is inconsistent with the firm's stated investment policy and this opinion was conveyed to the firm. No additional market timing moves are expected in the near future.

V. PERFORMANCE

Market Timing

	Rate of Return 1Q 1984	Since 6/30/83
Equities Only	-8.1%	N.A.
Total Fund	-6.9	

As a general policy the firm maintains a fully invested position, avoiding market timing strategies. Since the SBI account's inception the firm has raised cash only once, during the first quarter 1984. This moved added value as the equity market declined over most of this period. In general, however, examining the effects of the firm's minor cash positions on total fund performance will not provide useful insights.

Sector weighting/stock selection

	Last Quarter	Last Year	Since 3/31/83
Equity Portfolio Return Minus Market Return	-1.6	-11.1	-9.8
Percent of Deviation From Market Return:			
Attributable to Sector Weighting	54	47	72
Attributable to Stock Selection	46	53	28

Examining the firm's underperformance relative to the market over the last five quarters, most of the underperformance is attributable to sector weighting decisions. Fred Alger's underweighting of Energy and overweighting of Technology have been the most important sector weighting negatives. Issue selection in the Consumer Nondurables sector has been the most significant stock selection negative.

In the second quarter, 1984, sector weighting and stock selection decisions were roughly equal contributors to underperformance. Overweightings in Materials & Services and Capital Goods and an underweighting of Utilities hurt performance as did poor stock selection in the Consumer Nondurables sector.

Performance relative to Wilshire 5000

	Rate of Return		
	Last Quarter	Last Year	Since 3/31/83
Total Portfolio	-3.5%	-13.7%	-2.4%
Wilshire 5000	-2.7	-8.6	3.2

With the exception of the second quarter, 1983, Fred Alger's performance has consistently lagged that of the market's.

Performance relative to other aggressive managers

	Rate of Return		
	Last Quarter	Last Year	Since 3/31/84
Total Portfolio	-3.5%	-13.7%	-2.4%
TUCS Aggressive Managers	-0.9	-9.3	N.A.
SBI Manager Aggregate	-2.2	-12.8	-3.6

Over the last five quarters, Fred Alger has been one of the SBI's better performing managers. However, this superior performance was largely due to its relatively strong second quarter 1983 returns. Over the last year the firm has trailed both the SBI aggregate and the TUCS aggressive manager sample.

STATE OF MINNESOTA

EXTERNAL EQUITY MANAGER UPDATE INTERVIEW

1. Name of manager interviewed — Alliance Capital

2. Date interview conducted — August 6, 1984

3. Date of last interview — November 1, 1983

4. Representing Minnesota State Board of Investment

   Howard Bicker
   Jeff Bailey
   Daralyn Peifer

5. Representing manager

   Alfred Harrison - Portfolio Manager
   Jack Koltes - Portfolio Manager

ACTION PLAN

1. Like many of the other SBI managers, Alliance's performance over the last five quarters has been weak in the poor equity market.
2. On the other hand, its performance has not been excessively below that of other aggressive equity managers.
3. Second quarter 1984 performance was very strong.
4. Staff is unaware of any organizational structure, asset growth, personnel or investment philosophy problems at Alliance.

Staff recommends that:

Normal monitoring of Alliance continue. If additional active manager funding were to take place, Alliance should receive new contributions.

I. ORGANIZATION

No significant organizational changes have taken place at either the Minneapolis Alliance office or the New York headquarters since the SBI account's inception.

II. ASSETS UNDER MANAGEMENT

	March 31, 1983		March 31, 1984		June 30, 1984	
	Number	Market Value (Millions)	Number	Market Value (Millions)	Number	Market Value (Millions)
Tax Exempt Accounts	43	$1,095	45	$1,142	45	$1,197

Alliance had originally informed the SBI that its long-term asset and account load targets were approximately $1.5 billion and 50 accounts. The firm has almost reached those targets and is no longer marketing its services.

III. STAFF

No significant staff departures have occurred at Alliance's Minneapolis office since the SBI account's inception. An additional analyst, Andrew Richey, was hired in early 1984. Richey will eventually take over accounts currently managed by a senior partner in the firm, who will retire in the next few years. Richey was formerly with First Bank Minneapolis and earlier with Fletcher Securities. Until he takes over as a portfolio manager, Richey will serve as an analyst on special projects and handle much of the firm's technical analysis.

IV. INVESTMENT APPROACH

The Alliance Capital investment approach is to utilize the combined knowledge of the portfolio managers at its regional offices around the country to determine asset mix, sector weightings and an eligible list of attractive stocks. These decisions are based upon the firm's economic forecast and capital market assumptions. The Minneapolis office builds a portfolio within the guidelines of the Alliance system. The local office tends to focus on companies with an attractive ratio of P/E to expected earnings growth. Over the last five quarters, the Minneapolis Alliance office has managed the SBI's portfolio in an aggressive, non-diversified fashion consistent with both the Alliance system's economic and market scenarios as well as with its stated investment philosophy.

Staff did have questions concerning the Minneapolis office's market timing philosophy. Staff had previously believed that Alliance would raise cash to modest levels at times during a market cycle. Yet the firm had stayed essentially fully invested over the last five quarters. Al Harrison clarified the local office's position by stating that the firm would only raise cash under exceptional circumstances and that generally it would maintain a fully invested position. Staff will take this approach into consideration in evaluating Alliance's performance.

Staff also questioned the fact that Alliance has kept an 8-10% cash position constantly over the last five quarters, despite claiming to be fully invested. Alliance did not supply a satisfactory answer beyond stating that the cash position was consistent with a fully invested position. Staff plans to pursue this matter further.

V. PERFORMANCE

Market Timing

	Rate of Return Last Quarter	Since 6/30/83
Equity Only Total Fund	N.A.	N.A.

The firm only on very rare occassions will raise cash. Thus the market timing success measure is not applicable.

Sector weighting/stock selection

	Last Quarter	Last Year	Since 3/31/83
Equity Portfolio Return Minus Market Return	+4.7	-13.0	-11.7
Percent of Deviation From Market Return:			
Attributable to Sector Weighting	39	22	38
Attributable to Stock Selection	61	78	62

Alliance's underperformance relative to the market over the last five quarters is largely explained by incorrect stock selection decisions, particularly in the Technology and Finance sectors. The firm's zero Energy weighting also was a major element in the underperformance.

During the most recent quarter, on the other hand, successful stock selection (primarily in the Consumer Nondurables sector) outweighed sector weighting as the most important factor in the firm's positive relative performance versus the market.

Performance relative to Wilshire 5000

	Rate of Return		
	Last Quarter	Last Year	Since 3/31/83
Total Portfolio	2.2%	-15.5%	-4.7%
Wilshire 5000	-2.7	-8.6	3.2

Until the most recent quarter, Alliance had trailed the market consistently on a quarter-by-quarter basis, often by wide margins. Its fully invested position compounded its poor relative equity performance. In the most recent quarter the firm outperformed the market significantly.

Performance relative to other aggressive managers

	Rate of Return		
	Last Quarter	Last Year	Since 3/31/84
Total Portfolio	2.2%	-15.5%	-4.7%
TUCS Aggressive Managers	-0.9	-9.3	N.A.
SBI Manager Aggregate	-2.2	-12.8	-3.6

Over the last five quarters Alliance has underperformed the average aggressive manager. This situation was reversed in the most recent quarter.

STATE OF MINNESOTA

EXTERNAL EQUITY MANAGER UPDATE INTERVIEW*

1. Name of manager interviewed	BMI Capital
2. Date interview conducted	August 7, 1984
3. Date of last interview	November 3, 1983

4. Representing Minnesota State Board of Investment

Howard Bicker
Jeff Bailey
Daralyn Peifer

5. Representing manager

James Awad - Portfolio Manager
Frank Houghton - Portfolio Manager
Sandra Jerro - Marketing Representative

ACTION PLAN

1. Over the last five quarters since the SBI account's inception, BMI Capital's performance has been exceptionally poor.
2. Rapid asset growth may have been a factor in poor 1983 performance. Organizational or staff problems do not appear to have been important elements. The firm is no longer actively marketing.
3. Primarily, however, very poor stock selection was the cause of the poor performance. The firm has managed the SBI account in an aggressive, non-diversified fashion and simply selected a number of poorly performing stocks.
4. BMI had a very strong second quarter 1984.

Staff recommends that:

1. BMI be placed on the Probation List. No new cash flow should be allocated to it.
2. Its future performance should receive close quarterly scrutiny.
3. If unsatisfactory performance continues, then the withdrawal of assets may be required.

*Evaluation Associates comments attached.

I. ORGANIZATION

Despite the departure of Jerry Baron from BMI and his replacement with Frank Houghton, there have been no significant organizational changes at BMI since the SBI account's inception. The firm's investment management decision-making structure remains intact.

II. ASSETS UNDER MANAGEMENT

	March 31, 1983		March 31, 1984		June 30, 1984	
	Number	Market Value (Millions)	Number	Market Value (Millions)	Number	Market Value (Millions)
Tax Exempt Accounts	5	$160	17	$360	17	$250

BMI Capital grew very quickly in early 1983, almost tripling its asset and account loads. Staff believes that the problems associated with handling this major influx of assets hurt the firm's performance. The firm remains below its target of 20-25 institutional accounts and $400-500 million under management, limits which staff views as reasonable. The firm's account growth has stopped during the last few quarters, largely due to its poor performance. However, BMI is no longer actively marketing its services and is responding only to a few known consultants' requests.

In the most recent quarter the firm lost one account (Sherwin Williams) when the pension plan choose to shift its equity investments to an immunized bond portfolio. One account was gained during the quarter.

III. STAFF

Frank Houghton recently replaced Jerry Baron as a portfolio manager. Baron returned to the parent company as research director. He had originally moved to BMI to assist in portfolio management in response to the rapid early 1983 asset growth.

Houghton had previously worked as a portfolio manager at Neuberger and Berman. Before that he served as Director of Research at Oppenheimer & Co. He joins the firm as Chairman and Chief Investment Officer of BMI with a substantial ownership interest.

IV. INVESTMENT APPROACH

BMI focuses on individual stock selection searching for two types of companies: First, unrecognized companies in the process of undergoing dynamic change that will cause them to produce materially higher earnings over the near-term. Second, rapidly growing small-to-medium size companies that exhibit the potential for continued strong growth. Staff believes that BMI has consistently and aggressively implemented this investment approach in a non-diversified manner over the last five quarters. The risk characteristics of the firm's portfolio are quite distinct and consistent with the firm's investment style. The firm prefers to maintain a fully invested equity position and has adhered tightly to this policy.

V. PERFORMANCE

Market Timing

	Rate of Return	
	Last Quarter	Since 6/30/83
Equity Only Total Fund	N.A.	N.A.

BMI, as a general investment policy, very rarely will raise cash to significant levels. Thus the market timing success measure is not applicable.

Sector weighting/stock selection

	Rate of Return		
	Last Quarter	Last Year	Since 3/31/83
Equity Portfolio Return Minus Market Return	+4.6	-19.6	-19.1
Percent of Deviation From Market Return:			
Attributable to Sector Weighting	31	14	20
Attributable to Stock Section	69	86	80

BMI has significantly underperformed the equity market over the last five quarters. The vast majority of this underperformance can be explained by poor stock selection, particularly in the Consumer Nondurables, Materials & Services, Finance, and Consumer Durables sectors. The firm's zero weighting of Energy also detracted from relative performance. Given that the firm focuses on stock selection, these results are especially discomforting.

During the most recent quarter the firm outperformed the equity market. Stock selection was the major contributor as the firm's Technology and Materials & Services holdings performed well.

Performance relative to Wilshire 5000

	Rate of Return		
	Last Quarter	Last Year	Since 3/31/83
Total Portfolio	2.0%	-23.8%	-14.6%
Wilshire 5000	-2.7	-8.6	3.2

Until the most recent quarter, BMI had consistently underperformed the market on a quarter-to-quarter basis, generally by considerable amounts. The firm's poor equity performance was magnified by its fully invested position. In the second quarter, 1984, however, BMI significantly outperformed the weak equity market.

Performance relative to other aggressive managers

	Rate of Return		
	Last Quarter	Last Year	Since 3/31/84
Total Portfolio	2.0%	-23.8%	-14.6%
TUCS Aggressive Managers	-0.9	-9.3	N.A.
SBI Manager Aggregate	-2.2	-12.8	-3.6

Until the most recent quarter BMI had consistently underperformed the average aggressive equity manager by wide margins. However, this situation was reversed in the second quarter, 1984.

EAI

Evaluation Associates, Incorporated

25 Sylvan Road South, Westport, Connecticut 06880 (203) 226-7864
16 Centre Street, Concord, New Hampshire 03301 (603) 224 5390

May 21, 1984

Mr. Howard J. Bicker
Executive Director
State of Minnesota
State Board of Investment
MEA Building Room 105
55 Sherburne Avenue
St. Paul, MN 55155

Dear Howard:

I recently visited with BMI Capital due to our concerns about their particularly weak investment performance over the past 9 months. Over the past 3 calendar quarters BMI has ranked in the fourth quartile in the EAI Equity Manager Data Base.

Background - The basic philosophy of the firm remains, that is, their view that intensive research on out-of-the-mainstream companies should yield superior investment performance. A double in price over 24 months is the underlying performance expectation for each portfolio holding. BMI is wholly owned by 6 partners of Brean Murray, Foster Securities - all portfolio management is conducted by Jim Awad and Jerry Baron (they share the same office). Portfolio decision-making has two aspects:

1. whether to be in or out of the market, and
2. the availability and utilization of research ideas that qualify as either rapid growth or misperceived companies.

Performance - As mentioned earlier, BMI has been a solid fourth quartile performer over the past 9 months and last among your 15 external active equity managers. BMI has been fully invested, virtually from the outset of the relationship. Accordingly, the portfolio was fully exposed to the turbulence in the market in general, and the technology sector in particular. Their conviction that the market was heading secularly higher was incorrect. Compounding this error in timing was, in their words, "paying too much for good companies". This bullish attitude resulted in positions taken in market-sensitive issues like Quotron Systems and Merrill Lynch, both resulting in large losses (Merrill Lynch has been sold). Unquestionably, stock selection was terrible during the period.

Personnel - Three new analysts were brought in during 1983 at the behest of the President, Brean Murray. They were not effective and have been terminated. Both Jim Awad and Jerry Baron stressed the non-traditional nature of BMI research and advised that these former analysts turned out to be typical "Street" research types. Both are embarrassed by the situation and state simply that they made an error in judgment. Two new research people have been hired, one with a strategic planning background and the other an accounting specialist.

Organizational Observations - Awad and Baron call all portfolio shots. They operate in an aggressive, fast moving environment and little formality exists i.e. no overly formal committee structure. The ineffectiveness of the research process over the past year seems to require that a more focused, disciplined portfolio management process be used. Both men avow that such a focus has been instated and that their reputations are at stake. Until last June, they always made money in flat or down markets and their pride is severely wounded by their investment results for Minnesota.

Conclusions

- Their recent performance trend is troubling since the manager missed badly on both pitches, that is, the allocation decision and stock selection. They profess to be on the borderline "of being very bullish"; they have little to lose by feeling otherwise.

- The research staff turnover is evidence of the aggressive management style of the firm. Defections by any of the "older hands" would, in the absence of any other positive developments, indicate that the BMI rationale may not be plausible. Asset removal would an appropriate action.

- While Awad and Baron are not the most seasoned institutional investors, they appear to be hardnosed, aggressive managers who remain confident of their abilities. In a difficult market for growth stock investors, they missed badly. Yet the portfolio had a quality-look to it, and is at a modest multiple to the market, perhaps cushioning it somewhat from further dramatic price erosion.

- Bruised pride and hurt egos are common Wall Street commodities these days and, of themselves, not indicative of future superior performance. BMI has a relatively short track record so last year's results cannot be viewed as an "aberration". We recommend that they continue to be retained but kept under great scrutiny. An up market, when it occurs, should tell the tale regarding BMI. Continued lagging peer performance would be of great concern to us and could result in our recommendation to remove assets.

Sincerely yours,

Jim

James C. Ryan, C.F.A.
Senior Vice President
JCR:MLH

STATE OF MINNESOTA

EXTERNAL EQUITY MANAGER UPDATE INTERVIEW

1. Name of manager interviewed	Forstmann-Leff Associates
2. Date interview conducted	August 14, 1984
3. Date of last interview	April 10, 1984

4. Representing Minnesota State Board of Investment

Howard Bicker
Jeff Bailey
Jim Ryan - Evaluation Associates

5. Representing manager

Richard Walton - Portfolio Manager
Jill Costello - Marketing Representative

ACTION PLAN

1. Due to the turnover in personnel at Forstmann-Leff, staff had earlier recommended that the firm be placed on the Probation List and that no new cash flow be allocated to it.
2. Since that time the personnel situation appears to have stablized.
3. The firm's performance over the last year, while trailing that of the market, is above that of the average aggressive equity manager.

Staff recommends that:

1. Forstmann-Leff be moved to the Watch List for one to two more quarters to allow an extended review of the personnel situation.
2. If, as staff expects, no further turnover occurs and the portfolio managers continue to function well as a team, then the firm should resume being reviewed under normal monitoring procedures.
3. In the interim, if additional active manager funding were to take place, Forstmann-Leff should receive new contributions.

I. ORGANIZATION

As discussed in previous staff reports to the SBI, Forstmann-Leff has terminated a number of business ventures not directly related to its equity management. Staff believes that these terminations are positives for the equity management process. The attention of the firm's principals is now more closely focused on equity portfolio management and client relations.

II. ASSETS UNDER MANAGEMENT

	March 31, 1983		March 31, 1984		June 30, 1984	
	Number	Market Value (Millions)	Number	Market Value (Millions)	Number	Market Value (Millions)
Tax Exempt Accounts	126	$4,800	118	$4,500	115	$4,248

Forstmann-Leff has been closed for new business for approximately one year now. The firm's decision to stop accepting new accounts was based on its belief that the number of client relationships which it was handling had grown too large.

During the second quarter 1984 the firm continued to lose accounts as part of the fallout due to its poor 1983 performance and the 1983-1984 turnover in its portfolio manager group. The accounts lost included Rome Cable and Sperry Hutchinson. Despite this reduction in account load, Forstmann-Leff has no plans to accept new clients for the forseeable future.

III. STAFF

As discussed in previous staff reports to the SBI, in late 1984, Forstmann-Leff experienced a significant turnover in the ranks of its portfolio managers. Two managers left to start their own firm. In addition, two managers were asked to leave the firm. To replace these individuals, one portfolio manager was brought into the firm as a partner and the senior principals of the firm decided to return to a more active role in common stock management.

Staff, as well as other clients and consultants, at the time was concerned with the personnel turnover. The situation appears to have stabilized. The current team of portfolio managers appears to be working together well. In addition, a number of full-time research analysts have been hired to assist the portfolio managers in their individual company research. This action should permit the portfolio managers to spend more time on developing asset mix and sector weighting strategies, which has always been the firm's strength.

IV. INVESTMENT APPROACH

Staff has viewed Forstmann-Leff as a classic top-down manager. The firm's investment approach is to first develop an economic and market forecast. Aggressive asset mix and sector weighting decisions are then made consistent with these forecasts. Individual stock selection is secondary to the firm's market timing and sector emphasis choices. Staff believes that Forstmann-Leff has implemented this investment approach consistently and in a very distinct, non-diversified fashion. The firm has actively moved out of cash when it viewed the market environment to be deteriorating. Further, it has positioned its equity portfolio in specific sectors consistent with its economic outlook.

V. PERFORMANCE

Market Timing

	Rate of Return Last Quarter	 Since 6/30/83
Equities Only	-2.8%	-13.2%
Total Fund	-1.7	-9.0

The stock market has been consistently down on a quarter-by-quarter basis since the inception point of the market timing success measure. Thus any manager avoiding a fully invested equity position will show positive performance. However, it is clear that Forstmann-Leff's decisions to progressively raise cash over the last year have been successful. The firm has been one of the SBI's most aggressive managers in terms of lowering its equity exposure in response to a perceived poor equity market environment.

Sector weighting/stock selection

	Last Quarter	Last Year	Since 3/31/83
Equity Portfolio Return Minus Market Return	-0.3	-8.5	-9.2
Percent of Deviation From Market Return:			
Attributable to Sector Weighting	100	46	56
Attributable to Stock Selection	0	54	44

Examining the firm's underperformance relative to the market during the last five quarters, sector weighting and stock selection decisions have been roughly equal contributors. Forstmann-Leff's underweighting of Energy and its overweighting of Consumer Nondurables have hurt relative performance. Likewise, its individual stock selection in the Consumer Nondurables and Energy sectors have had a significant negative impact on relative returns. In the most recent quarter the firm's equity portfolio essentially matched the market's return, thus there is no significant deviation to explain.

Performance relative to Wilshire 5000

	Rate of Return Last Quarter	Last Year	Since 3/31/83
Total Portfolio	-1.7%	-9.0%	-3.5%
Wilshire 5000	-2.7	-8.6	3.2

Although the firm has outperformed the market or roughly matched its return in several of the five quarters since the SBI account's inception, over the entire period it has underperformed the Wilshire 5000. The firm's market timing decisions have played an important role in keeping its performance respectively close to the market's return over this period.

Performance relative to other aggressive managers

	Rate of Return Last Quarter	Last Year	Since 3/31/84
Total Portfolio	-1.7%	-9.0%	-3.5%
TUCS Aggressive Managers	-0.9	-9.3	N.A.
SBI Manager Aggregate	-2.2	-12.8	-3.6

Forstmann-Leff has been one of the SBI's better performing managers over the last five quarters. The firm has exceeded the return on the composite of SBI managers. Over the latest twelve months it has also outperformed the median TUCS aggressive equity manager.

STATE OF MINNESOTA

EXTERNAL EQUITY MANAGER UPDATE INTERVIEW

1. Name of manager interviewed	Hellman Jordan Management
2. Date interview conducted	August 15, 1984
3. Date of last interview	December 6, 1983

4. Representing Minnesota State Board of Investment

Howard Bicker
Jeff Bailey

5. Representing manager

Gerald Jordan - Portfolio Manager
Edward Heubner - Portfolio Manager
Martin Hale - Portfolio Manager
Jill Eicher - Operations Director

ACTION PLAN

1. Hellman Jordan was recently sold to a money management holding company, United Asset Management.
2. Due to specific aspects of the sale, discussed in this report, staff does not anticipate any adverse impacts on Hellman Jordan's investment approach.
3. Over the last five quarters, the firm has been one of the SBI's better performing managers.

Staff recommends that:

1. The firm should be placed on the Watch List. However, if additional active manager funding were to take place, Hellman Jordan should receive new contributions.
2. The organizational structure of the firm should be monitored over the next several quarters to identify any problems which might develop from the firm's sale.

I. ORGANIZATION

Hellman Jordan was recently purchased by a company called United Asset Management (UAM). UAM is in the business of buying money management firms, currently owning three others. The nature and terms of the acquisition are considerably different then those of the Siebel Capital purchase.

Gerald Jordan arranged for the purchase as a means of buying out the interest of his non-active partner, Warren Hellman. Jordan did not have the capital to buy out Hellman. UAM's owner, Norton Reamer, a former associate of Jordan and Hellman's, agreed to purchase Hellman's interest. However, for tax purposes he needed to own all the equity in the company, including Jordan's. Thus, Jordan agreed to enter into a revenue sharing arrangement with UAM in exchange for UAM purchasing all the equity in the firm. Revenues are split 50:50 between UAM and Jordan and his associates.

UAM exercises absolutely no operational control over Hellman Jordan Management. All management control rests solely with Jordan and his associates. UAM is a completely passive owner. Thus, there is no concern that the purchase will affect the management philosophy of the firm. Further, as Jordan and his associates share in 50% of the firm's revenues, the firm has an incentive to continue its management style so as not to antagonize its current clients. The revenue sharing arrangement is tantamount to an equity interest in the firm. Staff sees no major problems with this ownership change from the perspective of adverse impacts on investment management philosophy. If anything, it serves to strengthen the firm's current approach by eliminating a potential source of friction in the firm, that is, Warren Hellman.

II. ASSETS UNDER MANAGEMENT

	March 31, 1983		March 31, 1984		June 30, 1984	
	Number	Market Value (Millions)	Number	Market Value (Millions)	Number	Market Value (Millions)
Tax Exempt Accounts	22	$440	28	$655	32	$662

Over the last five quarters Hellman Jordan's account and asset base has grown by approximately one-third. The firm originally had not set any long-run growth plans, but in recent quarters has decided to stop actively marketing and avoid any significant future growth. The addition of accounts in the last quarter is somewhat misleading as the firm has taken on only one new client. Three current clients established multiple accounts with the firm.

III. STAFF

No significant staff departures or arrivals have occurred in recent quarters. As noted in earlier reports to the Board, an additional portfolio manager, Martin Hale, was hired by the firm in early 1983.

IV. INVESTMENT APPROACH

Utilizing a long-term secular economic forecast, Hellman Jordan attempts to identify particular companies that will benefit from anticipated economic developments. While this approach often leads the firm to focus on high growth, high P/E companies, when the firm is bearish on the equity market it will move to high yield, lower growth defensive stocks and raise cash.

Over the last five quarters staff believes the firm has generally applied its stated investment philosophy in a consistent, non-diversified manner. Hellman Jordan has had a pessimistic equity market forecast since the SBI account's inception. Its total portfolio has reflected this viewpoint as its equity allocation has been extremely low. Its stock selection has been somewhat less consistent with this economic outlook, but has tended to be more defensive than the average SBI manager.

During the first half 1984 the firm moved to a much more diversified equity position. Staff questioned the firm's principals about this matter and was told that it was primarily a temporary defensive move, resulting from a perceived lack of market leadership. Staff was informed that the portfolio's diversification was in the process of being lowered during the third quarter, coinciding with the firm's improved equity market outlook.

V. PERFORMANCE

Market Timing

	Rate of Return	
	Last Quarter	Since 6/30/83
Equities Only	-4.8%	-17.3%
Total Fund	-3.9	-8.0

Because the market has been down on a quarter-by-quarter basis since the inception of the market timing success measure, any manager avoiding a fully invested equity position will show positive performance. However, without doubt Hellman Jordan's market timing has been considerably more successful than that of the SBI's average manager. The firm was very bearish on the equity market from the inception of the SBI's account through June 1984. It, quite correctly as it turned out, held an extremely low equity allocation. The firm's performance would have been much stronger but for the fact that much of its non-equity assets were placed in bonds rather than cash equivalents. Bonds outperformed stocks over the last five quarters but not by as much as cash.

Sector weighting/stock selection

	Last Quarter	Last Year	Since 3/31/83
Portfolio Return Minus Market Return	-2.3	-12.6	-13.9
Percent of Deviation From Market Return:			
Attributable to Sector Weighting	64	27	43
Attributable to Stock Selection	36	73	57

Over the last five quarters, Hellman Jordan's equity portfolio has trailed the market by a significant amount. The majority of this underperformance is attributable to poor stock selection, particularly in the Finance and Technology sectors. An overweighting of the Finance sector and an underweighting of the Energy sector were also major contributors to the underperformance over this period.

During the most recent quarter, sector weighting was the dominant factor in the firm's underperformance (particularly in the Finance, Materials & Services sectors). Stock selection in the Consumer Nondurables sector was again a negative factor.

Performance relative to Wilshire 5000

	Rate of Return		
	Last Quarter	Last Year	Since 3/31/83
Total Portfolio	-3.9%	-8.0%	-2.6%
Wilshire 5000	-2.7	-8.6%	3.2

Hellman Jordan has underperformed the equity market over the last five quarters, primarily as a result of its relatively poor second quarter 1983 performance. Over the last year, despite its poor equity results, the firm's market timing decisions have produced total fund returns slightly exceeding the market's.

Performance relative to other aggressive managers

	Last Quarter	Last Year	Since 3/31/84
Total Portfolio	-3.9%	-8.0%	-2.6%
TUCS Aggressive Managers	-0.9	-9.3	N.A.
SBI Manager Aggregate	-2.2	-12.8	-3.6

Despite a relatively weak second quarter, 1984, Hellman Jordan has been one of the SBI's better performing managers, outperforming both the TUCS aggressive sample and the SBI aggregate. Again, the firm's market timing decisions have been the primary factor in its respectable showing.

STATE OF MINNESOTA

EXTERNAL EQUITY MANAGER UPDATE INTERVIEW

1. Name of manager interviewed	Investment Advisers
2. Date interview conducted	August 6, 1984
3. Date of last interview	November 1, 1983

4. Representing Minnesota State Board of Investment

Howard Bicker
Jeff Bailey
Daralyn Peifer

5. Representing manager

Noel Rahn - Chief Executive Officer
Kenneth Thorsen - Portfolio Manager

ACTION PLAN

1. Investment Advisers' performance over the last five quarters has been satisfactory.
2. While it has trailed the market's return, the firm has outperformed the average aggressive equity manager.
3. However, staff is concerned that the high level of diversification, maintained by Investment Advisers since the SBI account's inception, may hamper the firm's ability to meet the SBI's long-run performance objectives.

Staff recommends that:

1. Investment Advisers be placed on the Watch List. However, if additional active manager funding were to take place, the firm should receive new contributions.
2. The diversification level of the firm's equity portfolio should be closely monitored. Staff will continue to communicate its observations to Investment Advisers.
3. If relatively high diversification continues, additional action may be required.

I. ORGANIZATION

No significant organizational changes have taken place at Investment Advisers since the SBI account's inception.

II. ASSETS UNDER MANAGEMENT

	March 31, 1983		March 31, 1984		June 30, 1984	
	Number	Market Value (Millions)	Number	Market Value (Millions)	Number	Market Value (Millions)
Tax Exempt Accounts	79	$1,001	89	$1,365	89	$1,365

Since the SBI account's inception, Investment Advisers tax exempt equity assets have grown approximately 36% while the account load has grown 13%. The firm had originally targeted $1.5 billion and 10 accounts per manager (with 8 managers that implies 80 accounts total) as upper limits to growth. Thus the firm would appear to be at it maximum size. However, the firm has not indicated that it is planning to cease its marketing efforts, although it does plan to switch its efforts to expanding its fixed income management base. If account growth should resume, staff will insist upon a more formal statement of growth plans and objectives.

III. STAFF

No significant staff changes have occurred since the SBI account's inception.

IV. INVESTMENT APPROACH

Investment Advisers' top-down investment style focuses on making correct asset mix and sector weighting decisions over the course of a market cycle. These decisions are largely dependent on the firm's economic and credit cycle projections. Since the SBI account's inception, Investment Advisers has had a very distinct economic outlook and this forecast has been implemented in the SBI's portfolio.

Staff is concerned, however, about the diversification of the equity portfolio. The firm has constantly maintained a diversification level far above that of the SBI's managers and above that of the SBI guidelines. While staff agrees that the firm is consistently implementing its stated investment approach, staff is concerned that the firm is not aggressively investing in its preferred investment opportunities and, thus, long-term performance may be hindered.

V. PERFORMANCE

Market Timing

	Rate of Return	
	Last Quarter	Since 6/30/83
Equities Only	-3.0%	-9.9%
Total Fund	-2.8	-7.9

Because the market has been consistently down on a quarter-by-quarter basis since the inception point of the market timing measure, any manager avoiding a fully invested equity position will show successful market timing. However, the pattern of market timing moves by Investment Advisers has not been particularly successful. The firm held high cash levels in the second quarter, 1983, when the market was rising. It gradually committed its cash as the market continued to decline until by the end of the second quarter, 1984, the firm was fully invested.

Sector weighting/stock selection

	Last Quarter	Last Year	Since 3/31/83
Equity Portfolio Return Minus Market Return	-0.5	-5.2	-5.2
Percent of Deviation From Market Return:			
Attributable to Sector Weighting	100	51	38
Attributable to Stock Selection	0	49	62

Over the last five quarters, the firm's underperformance has been explained largely by poor stock selection decisions, particularly in the Consumer Nondurables, Finance and Materials & Services sectors. Investment Advisers' overweighting of Finance stocks and underweighting of Energy stocks also detracted from relative performance. In the most recent quarter, the equity portfolio approximately matched the market's return, hence, there is no significant deviation to explain.

Performance relative to Wilshire 5000

	Rate of Return		
	Last Quarter	Last Year	Since 3/31/83
Total Portfolio	-2.8%	-7.9%	-1.5%
Wilshire 5000	-2.7	-8.6	3.2

Investment Advisers has underperformed the market on a cumulative basis over the last five quarters. However, that underperformance is primarily due to the firm's relatively poor first four months during which time the firm held a high cash position in an up market. Over the last year the firm has slightly outperformed the Wilshire 5000.

Performance relative to other aggressive managers

	Rate of Return		
	Last Quarter	Last Year	Since 3/31/84
Total Portfolio	-2.8%	-7.9%	-1.5%
TUCS Aggressive Managers	-0.9	-9.3	N.A.
SBI Manager Aggregate	-2.2	-12.8	-3.6

Investment Advisers performance over the last five quarters has been superior to that of the SBI's other equity managers. Further, over the last year the firm has outperformed the median TUCS aggressive manager as well.

STATE OF MINNESOTA

EXTERNAL EQUITY MANAGER UPDATE INTERVIEW

1. Name of manager interviewed Lieber & Co.

2. Date interview conducted August 14, 1984

3. Date of last interview October 13, 1983

4. Representing Minnesota State Board of Investment

Howard Bicker
Jeff Bailey
Jim Ryan - Evaluation Associates

5. Representing manager

Stephen Lieber - Portfolio Manager
Nola Falcone - Portfolio Manager

ACTION PLAN

1. Staff believes that Lieber & Co. has effectively implemented the SBI's desired active external management investment approach.
2. During a very difficult period for aggressive equity management, the firm has only slightly underperformed the market, despite its policy of maintaining a fully invested equity position.
3. The firm has performed considerably better than most other aggressive managers.
4. Reviewed under the SBI evaluation guidelines, staff can identify no issues that should be of concern to the SBI.

Staff recommends that:

Normal manager monitoring of the firm continue. If additional active manager funding were to take place, Lieber & Co. should receive new cash flow.

I. ORGANIZATION

No significant organizational changes have taken place at Lieber & Co. since the SBI account's inception.

II. ASSETS UNDER MANAGEMENT

	March 31, 1983		March 31, 1984		June 30, 1984	
	Number	Market Value (Millions)	Number	Market Value (Millions)	Number	Market Value (Millions)
Tax Exempt Accounts	29	$389	36	$505	39	$544

Since the SBI account's inception, asset and client base have grown by approximately one-third. Aggressively managed accounts have grown from 14 accounts valued at $341 million on March 31, 1984 to 17 accounts valued at $444 million on June 30, 1984.

The firm originally indicated to staff that it could comfortably manage $500 million in aggressive equity money. The firm still feels that target is reasonable. It also believes that it can manage up to $1 billion in larger capitalization, higher yielding portfolios (it now manages only $93 million in this style currently). No client relationship targets have been set for either management style.

The firm is no longer actively marketing its aggressive equity management. It expects its larger capitalization, higher yielding accounts to continue to grow in size and number. Staff does not see Lieber's current account and asset base as a problem to its implementation of its aggressive equity management.

III. STAFF

No important staff departures have occurred since the SBI account's inception. Two analysts have been added over this period and three more are expected to be brought on board over the next two years. The goal of these additions is to facilitate the firm's growth by increasing its company coverage and adding to its available investment opportunities.

IV. INVESTMENT APPROACH

Staff believes that Lieber has done an excellent job of instituting its stated investment approach in a well-defined, non-diversified fashion. The firm searches for small to medium sized companies that are well-managed, high growth, high return-on-equity, but are not yet fully recognized by the market. The firm is especially attracted to small to medium sized firms that are takeover candidates. The characteristics described above are clearly evident in the risk composition of the firm's portfolio. Lieber attempts to maintain a fully invested position at all times and has consistantly followed this approach in managing the SBI's portfolio.

V. PERFORMANCE

Market Timing

	Rate of Return	
	Last Quarter	Since 6/30/83
Equities Only Total Fund	N.A.	N.A.

Lieber does not engage in market timing and, hence, this measure is not applicable.

Sector weighting/stock selection

	Last Quarter	Last Year	Since 3/31/83
Equity Portfolio Return Minus Market Return	+1.2	-7.8	-3.6
Percent of Deviation From Market Return:			
Attributable to Sector Weighting	0	63	100
Attributable to Stock Selection	100	37	0

Over the last five quarters, the firm's equity portfolio has slightly underperformed the market. This underperformance has been totally attributable to sector weighting decisions. The firm's underweighting of Energy and overweighting of Finance has hurt performance. Stock selection has been a positive factor for relative performance over this period.

During the recent quarter, Lieber's superior performance relative to the market was the result of good stock selection, particularly in the Finance, Consumer Durables and Materials & Services sectors. Sector weighting decisions detracted from relative performance.

Performance relative to Wilshire 5000

	Rate of Return		
	Last Quarter	Last Year	Since 3/31/83
Total Portfolio	-1.4%	-8.6%	2.1%
Wilshire 5000	-2.7	-8.6	3.2

Over the last five quarters Lieber has underperformed the market. However, this underperformance has not been significant despite the firm's fully invested equity position. In fact, the firm's relatively strong second quarter 1984 performance boosted its latest twelve month returns to equal those of the Wilshire 5000.

Performance relative to other aggressive managers

	Rate of Return		
	Last Quarter	Last Year	Since 3/31/84
Total Portfolio	-1.4%	-8.6%	2.1%
TUCS Aggressive Managers	-0.9	-9.3	N.A.
SBI Manager Aggregate	-2.2	-12.8	-3.6

Lieber has fairly consistently outperformed the SBI aggregate and TUCS aggressive manager sample.

STATE OF MINNESOTA

EXTERNAL EQUITY MANAGER UPDATE INTERVIEW

1. Name of manager interviewed — Loomis Sayles

2. Date interview conducted — August 15, 1984

3. Date of last interview — December 15, 1983

4. Representing Minnesota State Board of Investment

   Howard Bicker
   Jeff Bailey

5. Representing manager

   Kenneth Heebner - Portfolio Manager
   Karen McGrath - Client Liason

ACTION PLAN

1. Staff is extremely concerned with the poor investment performance produced by Loomis over the last five quarters.
2. On the other hand the firm has followed a consistent, non-diversified investment style. Its organizational structure, staff situation, and asset growth present no problems.
3. Poor performance has been simply the result of so far unsuccessful investment decisions.

Staff recommends that:

1. Loomis Sayles be placed on the Probation List. No new cash flow should be allocated to it.
2. Its future performance results should receive close quarterly scrutiny.
3. If unsatisfactory performance continues, then the withdrawal of assets may be required.

I. ORGANIZATION

No significant organizational changes have occurred at Loomis Sayles since the SBI account's inception.

II. ASSETS UNDER MANAGEMENT

	March 31, 1983		March 31, 1984		June 30, 1984	
	Number	Market Value (Millions)	Number	Market Value (Millions)	Number	Market Value (Millions)
Tax Exempt Accounts	12	$540	13	$615	13	$567

Primarily as a result of its recent dismal equity performance and the poor stock market environment, Loomis' growth, in terms of aggressively managed equity assets and accounts, has been minimal. On the other hand, the firm has not lost any clients over the last five quarters. The firm's asset and account load is still far below its target of $1.5 billion under management and 20 accounts.

III. STAFF

No important departures or additions to Loomis' aggressive equity management staff have taken place since the SBI account's inception.

IV. INVESTMENT APPROACH

Over the last five quarters, Loomis has consistently applied its stated investment policy to its aggessively managed equity portfolios. The firm searches for companies likely to undergo significant cyclical or secular earnings gains not yet fully recognized by the market. This investment philosophy has been clearly evident in the sector weightings and risk characteristics of the portfolio. The firm's investment bets have been very distinct and implemented in a non-diversified manner.

Staff did have certain questions regarding Loomis' market timing philosophy. Staff was under the impression that the firm was willing to move in an out of cash gradually over a market cycle. Yet, in fact, it had remained essentially fully invested over the last five quarters. Ken Heebner explained that the firm generally preferred to be fully invested and only under very rare circumstances would it raise cash as an extreme defensive strategy. Staff will take this investment policy into consideration in analyzing future performance results.

V. PERFORMANCE

Market Timing

	Rate of Return	
	Last Quarter	Since 6/30/83
Equities Only Total Fund	N.A.	N.A.

Loomis' aggressive equity portfolios generally remain fully invested. Thus, the market timing success measure is not applicable to the firm.

Sector weighting/stock selection

	Last Quarter	Last Year	Since 3/31/83
Equity Portfolio Return Minus Market Return	-2.3	-18.4	-20.9
Percent of Deviation From Market Return:			
Attributable to Sector Weighting	100	50	53
Attributable to Stock Selection	0	50	47

During the last five quarters, both sector weighting and stock selection decisions appear to be roughly equal contributors to Loomis' significant underperformance relative to the market. Overweightings in the Finance and Transportation sectors and an underweighting in the Energy sector have been major negatives for performance, as has stock selection in the Finance, Consumer Nondurables, Materials & Services and Transportation sectors.

During the most recent quarter sector weighting decisions were the cause of underperformance (particularly overweightings in the Consumer Nondurables and Transportation sectors). Stock selection actually aided performance, particularly in the Technology sector.

Performance relative to Wilshire 5000

	Rate of Return Last Quarter	Last Year	Since 3/31/83
Total Portfolio	-3.8%	-20.3%	-12.4%
Wilshire 5000	-2.7	-8.6	3.2

Since the SBI account's inception Loomis has consistently trailed the market's performance by significant margins. Its fully invested position has amplified the negative impact of poor sector weighting and stock selection decisions.

Performance relative to other aggressive managers

	Rate of Return Last Quarter	Last Year	Since 3/31/84
Total Portfolio	-3.8%	-20.3%	-12.4%
TUCS Aggressive Managers	-0.9	-9.3	N.A.
SBI Manager Aggregate	-2.2	-12.8	-3.6

Since the SBI account's inception, Loomis has consistently underperformed other aggressive equity managers to a considerable degree.

STATE OF MINNESOTA

EXTERNAL EQUITY MANAGER UPDATE INTERVIEW*

1. Name of manager interviewed Siebel Capital

2. Date interview conducted August 7, 1984

3. Date of last interview March 8, 1984

4. Representing Minnesota State Board of Investment

Howard Bicker
Jeff Bailey
Daralyn Peifer

5. Representing manager

Ron Sloan - Portfolio Manager

ACTION PLAN

1. Staff has met with Siebel's representatives several times over the last four months to discuss concerns regarding the sale of the firm to Equitec, a financial services company.
2. Despite adequate performance by the firm up to this point, staff believes the negative aspects of the sale provide the potential for a serious erosion in the quality of aggressive equity management offered by the firm.
3. Staff does not believe that Siebel has so far satisfactorily provided answers to the issues discussed in this report.

Staff recommends that:

1. Siebel be placed on the Probation List. No new cash flow should be allocated to it.
2. Unless adequate responses to concerns relating to the firm's sale of Equitec are forthcoming by the December 1984 Board meeting, staff recommends termination of the SBI's management agreement with Siebel Capital.

*Evaluation Associates comments attached.

I. ORGANIZATION

On May 18, 1984, Siebel Capital became a wholly-owned subsidiary of Equitec Financial Group, Inc., a diversified financial services company headquartered in Oakland, California. Staff views the terms and nature of this purchase as potentially having a very serious adverse impact on the investment management process at Siebel.

The primary objective of the sale on the part of Siebel's principals was clearly to realize the sizable equity that they had accumulated in the firm. The purchase price, at $43 million, was quite literally astounding. With the purchase, the former Siebel principals have absolutely no equity interest in the firm. They are strictly employees of Equitec, tied to long-term employment contracts. The purchase agreement stipulates that to receive approximately 40% of the purchase price the former principals must achieve certain performance targets.

For three specific reasons relating to the SBI's manager evaluation guidelines, staff is concerned that the sale will adversely effect the firm's ability to carry out the aggressive investment management role assigned to it by the SBI.

First, staff is concerned that certain aspects of the purchase will alter the basic investment philosophy of the firm. The fact that the former principals no longer have any equity interest in the firm is likely to diminish their aggressive entrepreneurial spirit. Further, Equitec has requested that Siebel form an equity mutual fund to be marketed to institutional clients. The size and investment approach of this mutual fund have yet to be determined. Staff finds this fact distressing enough on its own. However, if the mutual fund's investment philosophy is different then the firm's current approach, it may prove difficult for Siebel's managers to effectively run both investment styles. On the other hand, even if the separate account and mutual fund investment philosophies are the same, it is quite possible that Equitec may pressure Siebel to allow either its separate account or mutual fund management (or both) to grow to such a size that aggressive money management cannot be successfully implemented. Finally, the performance incentives specified by Equitec invite the managers to run a less aggressive, more diversified portfolio. Essentially, the incentives call for partial payments of the remaining purchase price over the next five years if the firm outperforms the S&P 500 by 10-20% (e.g. if the S&P 500 is up 10%, the firm should be up at least 11%). Staff believes that these provisions give the managers a strong incentive to run highly diversified portfolios with slightly above average betas. This approach is contrary to the investment goals specified by the SBI.

Second, staff believes that Siebel's entry into the mutual fund business could cause the focus of the firm's investment resources to shift away from its separate account management. Of particular concern is the fact that Equitec has instructed Siebel also to organize a bond mutual fund. Siebel has absolutely no experience managing fixed income assets. An experienced fixed income manager will have to be hired. The hiring process is likely to be time consuming. Further, how this fixed income manager will blend into the rest of the organization is unclear. Moreover, it is likely that at least some of Siebel's equity managers will ultimately spend some time managing the fixed income portfolio. Plans regarding the formation of the fixed income mutual fund, like the equity mutual fund, are distressingly lacking. Equitec has no experience in organizing such funds. It is almost inconceivable that the process will not be disruptive to the current separate equity account management process.

Third, staff is concerned that the purchase may create serious professional disagreements among Siebel's managers. Staff's discussions with Ron Sloan indicate that there has been little communication between Ken Siebel (who arranged the purchase) and others in the firm regarding the long-term objectives of Siebel Capital within the Equitec organization. Further, Ron Sloan is disgruntled regarding the issue of future growth. The other principals want to continue the firm's growth, a policy to which Sloan is opposed. Similar conflicts may well develop as the firm's relationship with Equitec evolves.

II. ASSETS UNDER MANAGEMENT

	March 31, 1983		March 31, 1984		June 30, 1984	
	Number	Market Value (Millions)	Number	Market Value (Millions)	Number	Market Value (Millions)
Tax Exempt Accounts	32	$412	38	$543	39	$567

Siebel's asset and client base has increased approximately 25% since the SBI account's inception. The firm had originally targeted $500-700 million and 25 accounts as a limit on growth. The firm has stopped actively marketing to potential clients. Staff is convinced that Equitec will expect considerably more growth from the firm in terms of both separate account and mututal fund assets. Because Siebel's action in halting active marketing indicates a certain amount of discomfort with additional growth, staff believes that Equitec's growth expectations are not consistent with Siebel's current policies.

During the second quarter 1984 the firm gained two accounts and lost one (Battelle Memorial Foundation). The lost account was due to dissatisfaction over the sale of the firm.

III. STAFF

No significant personnel departures have occurred at Siebel since the SBI account's inception. Additions of personnel have taken place to facilitate the firm's growth. A portfolio manager, a head trader and several backroom operations people were hired in mid-1983.

IV. INVESTMENT APPROACH

Siebel's investment approach purports to concentrate on two primary types of companies: First, seasoned growth companies introducing a new product or devising a new application for existing products such that earnings growth rates will be significantly increased. Second, undervalued, low P/E companies undergoing a redeployment of assets that will increase profits and P/E's dramatically. Staff's primary concern with Siebel's implementation of this investment approach is an apparent lack of focused, non-diversified management. The diversification of the equity portfolio is considerably greater than that of the SBI's average manager and exceeds the SBI's investment guidelines. This has been evident since the SBI account's inception. Further, at least until the second quarter 1984, the fundamental risk characteristics of the equity portfolio have tended not to exhibit sizable specific investment strategy bets, again indicating a lack of focused, aggressive management. (Such bets became evident during the second quarter 1984, but it is yet too early to observe any trends.) Staff has discussed this issue at length with Siebel's managers. They felt that certain discontinued investment management practices followed by the firm had been partially responsible for the above average diversification. They have promised increased attention to the matter.

V. PERFORMANCE

Market Timing

	Rate of Return Last Quarter	Since 6/30/83
Equities Only	0.4%	-14.5%
Total Fund	0.4	-11.6

The market has been consistently down on a quarter-by-quarter basis since the inception point of the market timing success measure. Thus any manager avoiding a fully invested position will show positive performance. In general, the pattern of Siebel's cash holdings indicates positive market timing success. Cash reserves were raised significantly in the first and second quarters of 1984.

Sector weighting/stock selection

	Last Quarter	Last Year	Since 3/31/83
Equity Portfolio Return Minus Market Return	+2.9	-9.8	-11.1
Percent of Deviation From Market Return:			
Attributable to Sector Weighting	0	58	66
Attributable to Stock Selection	100	42	34

Examining the equity portfolio's underperformance relative to the market over the last five quarters, the primary contributor has been the firm's sector weighting decisions. The firm's overweighting of the Financial sector and its underweighting of Energy stocks has been the predominate factors in its underperformance. Poor stock selection, particularly in the Consumer Nondurables, and to a lesser extent in the Materials & Services and Technology sectors, also detracted significantly from relative performance.

In the most recent quarter the firm's equity portfolio outperformed the market. This superior relative performance was due entirely to stock selection, particularly in the Finance sector. Sector weightings actually detracted from relative performance.

Performance relative to Wilshire 5000

	Rate of Return		
	Last Quarter	Last Year	Since 3/31/83
Total Portfolio	0.4%	-11.6%	-3.4%
Wilshire 5000	-2.7	-8.6	3.2

With the exception of the most recent quarter, Siebel's performance has lagged consistently behind that of the Wilshire 5000. The firm's market timing decisions, especially in the last two quarters, have tended to mitigate poor equity performance.

Performance relative to other aggressive managers

	Rate of Return		
	Last Quarter	Last Year	Since 3/31/84
Total Portfolio	0.4%	-11.6	-3.4
TUCS Aggressive Managers	-0.9	-9.3	N.A.
SBI Manager Aggregate	-2.2	-12.8	-3.6

With some quarter-to-quarter variation, Siebel's performance has ranked slightly above that of other aggressive managers over the last five quarters.

EAI

Evaluation Associates, Incorporated

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July 12, 1984

Mr. Howard J. Bicker
Executive Director
State of Minnesota
State Board of Investment
Rm 105, MEA Building
55 Sherburne Avenue
St. Paul, MN 55155

Dear Howard:

On June 23, 1984, Bill Crerend, Chairman of E.A.I., visited Siebel Capital Management to discuss the recent sale of the firm to Equitec Financial Services and to examine recent investment performance.

Acquisition by Equitec

Equitec acquired Siebel to obtain the asset management capability to enter the mutual fund business. The deal was structured for a 58% cash payment up-front with the remaining 42% being paid contingent on client investment performance over a 5 year earn-out period. Key staff that were not selling shareholders have been made part of the contingency payment program. Selling shareholders have 5 year employment contracts and forfeit participation in the contingency portion of the sale, if they leave the company before the expiry of their contracts. Seibel expects to hire bond personnel to develop their fixed-income capability. Equitec will provide central data processing and financial help (if needed). Aside from these, Siebel expects to function with relative autonomy.

It is much too early to render judgements on the potential consequences of the acquisition. Certainly the risk of distraction away from their primary expertise is present. The focus of the earn-out contingency payments on client performance rather than earnings should help Siebel "stick to its knitting". There is much enthusiasm in the firm and all seem fully committed to the earn-out. Ken Siebel, as we know, is the dominant investment individual in the firm. He is very much in charge today both in management and investment decision making.

Investment Performance

While seemingly bullish, the portfolio is 73% invested in common stock at this point. Relatively poor investment performance to date appears to have them fearful of any further downside erosion. They are trying to identify "unit-growth" companies in a forecasted slow growth economy. Accordingly, the technology manufacturing subsector is being unwound. The energy sector remains unattractive due to their economic forecast although pipeline companies are being carefully examined. Larger capitalization companies are more attractive at this point with big, growth stocks representing the best value.

Conclusion

- It is too early to assess consequences of the acquisition. Incentive arrangements seem geared toward the best interest of clients.
- While investment performance has been disappointing, the extent of the shortfall should not classify the firm as a candidate for probation. The portfolio is being managed within the style dictates of the firm.

Please call if any of the above needs clarification.

Sincerely yours,

James C. Ryan, C.F.A.
Senior Vice President
JCR:MLH

cc: J. Bailey

STATE OF MINNESOTA

EXTERNAL EQUITY MANAGER UPDATE INTERVIEW*

1. Name of manager interviewed	Herbert R. Smith
2. Date interview conducted	July 25, 1984
3. Date of last interview	April 11, 1984

4. Representing Minnesota State Board of Investment

Howard Bicker
Jeff Bailey
Daralyn Peifer

5. Representing manager

Herbert Smith - Portfolio Manager
David Bagbee - Portfolio Manager

ACTION PLAN

Staff is seriously concerned with three aspects of Herbert R. Smith's portfolio management:

1. The firm has produced very poor returns relative to the SBI's performance standards over the last five quarters.
2. Its portfolio risk characteristics have become considerably more diversified in recent quarters.
3. The firm has failed to completely follow through on a major shift in investment strategy.

Staff recommends that:

1. The firm be placed on the Probation List. No new cash flow should be allocated to it.
2. Its future performance should receive close quarterly scrutiny.
3. If the firm's shift in investment strategy is not completed and the trend in increased diversification is not reversed, then withdrawal of assets may be necessary.
4. If poor relative performance continues, then the withdrawal of assets may be necessary.

*Evaluation Associates comments attached.

I. ORGANIZATION

No significant organizational changes have occurred at Herbert R. Smith since the SBI's account inception.

II. ASSETS UNDER MANAGEMENT

	March 31, 1983		March 31, 1984		June 30, 1984	
	Number	Market Value (Millions)	Number	Market Value (Millions)	Number	Market Value (Millions)
Tax Exempt Accounts	24	$152	30	$205	31	$203

Herbert R. Smith's account totals have grown roughly 25% since the SBI's account inception, with most of this growth occurring in early 1983. With the lackluster equity market and the firm's poor performance, account growth recently has been minimal. On the other hand, no exodus of clients has occurred. In the most recent quarter the firm gained two accounts totaling $12 million and lost one $4 million account (Justin Industries). The lost account was due to dissatifaction with performance. Total assets under management are well below the firm's originally stated upper limit of $300 million.

III. STAFF

As was noted in an earlier report, Herbert R. Smith's senior investment analyst, Jerry Sides, left the firm at the firm's request in early 1983. His replacement is David Bagbee. Bagbee is a relative newcomer to the investment business. However, staff's perception is that Bagbee has fit well into the firm's management approach and is a positive addition to the firm. Herbert R. Smith has also added a number of support personnel, including a head trader and a research assistant, to facilitate the firm's growth.

IV. INVESTMENT APPROACH

In discussions with staff over the last several months, Herbert R. Smith has expressed the belief that the market will continue to favor larger capitalization, more cyclical stocks at the expense of smaller, more growth oriented stocks. The firm has several times stated its intention to increase its holdings in the former issues and reduce its positions in the latter. Staff has become concerned that these intended changes have not become evident in the risk composition of the firm's portfolio. Further, the number of stocks in the firm's portfolio and its diversification level have risen significantly. The portfolio's diversification levels have violated SBI guidelines for two consecutive quarters. This issue was discussed at length with the firm's principals. The explanation for this situation appears to be that while the firm has added to its larger capitalization, more cyclical holdings over the last two quarters it has yet to reduce its poorly performing small, growth-oriented issues. Staff expressed its dissatisfaction with this lack of follow through on investment strategy. The firm's pricipals promised immediate attention to the matter.

V. PERFORMANCE

Market Timing

	Rate of Return	
	Last -Q'uarter	Since 6/30/83
Equities Only	-3.1%	-25.5%
Total Fund	-2.9	-19.0

The market has been consistently down on a quarter-by-quarter basis since the inception point of the market timing success measure. Thus, any manager avoiding a fully invested position will show positive performance. Nevertheless, Herbert R. Smith's market timing generally has been unsuccessful for the last five quarters. The firm maintained a high cash level in the second quarter, 1983, as the market rose and then increased its commitment to equities later in the year as the market declined. As the firm prides itself on being a successful market timer, this pattern is disconcerting.

Sector weighting/stock selection

	Last Quarter	Last Year	Since 3/31/83
Equity Portfolio Return Minus Market Return	-0.6	-20.8	-21.2
Percent of Deviation From Market Return:			
Atributable to Sector Weighting	100	19	25
Attributable to Stock Selection	0	81	75

Breaking down the firm's underperformances relative to the market over the last five quarters, the predominate negative factor has been poor stock selection particularly in the Technology, Consumer Nondurables, Transportation and Materials & Services sectors. Sector weighting decisions have had less of an influence on portfolio results, although the firm has been late in getting out of and into a number of key industry sectors.

During the most recent quarter the firm's equity performance roughly matched that of the market, thus there was little total deviation to explain. However, poor sector weighting decisions were essentially offset by positive stock selection to produce market returns for the period.

Performance relative to Wilshire 5000

	Rate of Return		
	Last Quarter	Last Year	Since 3/31/83
Total Portfolio	-2.9%	-19.0%	-14.1%
Wilshire 5000	-2.7	-8.6	3.2

Over the last five quarters Herbert R. Smith has underperformed the equity market to a considerable extent. Even taking into account the aggressive stance of the equity portfolio, this underperformance has been significant. During the most recent two quarters the firm's performance has been roughly in line with the market.

Performance relative to other aggressive managers

	Rate of Return		
	Last Quarter	Last Year	Since 3/31/84
Total Portfolio	-2.9%	-19.0%	-14.1%
TUCS Aggressive Managers	-0.9	-9.3	NA
SBI Manager Aggregate	-2.2	-12.8	-3.6

Cumulative returns since the second quarter, 1983 show Herbert R. Smith to be trailing the performance of samples of other aggressive managers by a sizable margin. Over the last two quarters the firm is performing approximately in line with aggressive manager samples.

EAI

Evaluation Associates, Incorporated

25 Sylvan Road South, Westport, Connecticut 06880 (203) 226-7864
Main Street, P.O Box 1680, New London, New Hampshire 03257 (603) 526-2311

August 9, 1984

Mr. Howard J. Bicker
Executive Director
State of Minnesota
State Board of Investment
Rm 105, MEA Building
55 Sherburne Avenue
St. Paul, MN 55155

Dear Howard:

Due to our concerns regarding investment performance and the avowed negative impact of a key equity research analyst I visited the offices of Herbert R. Smith, Inc. in Wichita Falls, Texas on July 31.

Background - As you know, the firm provides equity portfolio management via a blending of technical and fundamental analysis. A highly entrepreneurial individual, Herb Smith focuses on technical market analysis and overall portfolio strategy. Fundamental research and stock selection is coordinated by him via a small internal research staff. Since their retention by the State Board of Investment assets under management have more than doubled now being in excess of $200 million. Obviously your portfolio is an important segment of their business.

Investment Performance - Herbert Smith, Inc. has been a third and fourth quartile equity manager since inception. With high price earning ratio stocks and heavy concentration in the technology sector, the full brunt of the stock market decline was felt in the portfolio. Furthermore, the portfolio has been over 80% invested in equities since late last year. Compounding these judgement errors was an internal organizational disruption purportedly caused by a key research analyst who has since been replaced. Herb feels that the process of replacing this individual during early 1983 contributed to their missing the market move away from technology stocks, a sector that was heavily weighted in the portfolio.

Personnel - The research analyst replacement, David R. Bagby, has solid academic credentials. Herb, himself, is the driving force of the firm and the key decisionmaker. Whether the responsibilities delegated by Herb to Bagby results in a renewed quality portfolio management product is impossible to assess at this point. Herb seems to be taking the right management steps. He has retained an additional computer technician to clean up the firm's data base and enhance the management information system. Herb avows that the personal chemistry of the firm members has improved dramatically since Dave Bagby's arrival and feels that this was a crucial missing ingredient in the past.

Organizational Observations - The firm is highly entrepreneurial. Unfettered by any committe structure, decisions can be made quickly. The quality of the information that goes into the portfolio decision (or nondecision) is the questionable variable here. Obviously this has been a problem over the past two years. Improving quarterly performance, particularly with respect to peer managers, would alleviate some of our concern.

Conclusions

- Current portfolio strategy focuses on a continued disinflationary trend. Opportunities are seen for those companies that can be providers of capital and/or have strong balance sheets. Positions in larger cyclical companies are being taken. Accordingly, price earnings ratios are dropping, yields increasing slightly and, overall, portfolio risk moderating somewhat. Portfolios have a higher quality look to them.

- Improvement in performance relative to peers is of great importance in our view. Having underperformed dramatically in the recent past, an improving trend would give evidence that such performance was an aberration rather than a continuing trend. If such improvement does not commence over the next 2-3 quarters, a reevaluation of this firm's role would be in order.

Sincerely yours,

Jim

James C. Ryan, C.F.A.
Senior Vice President
JCR:MLH

cc: Jeff Bailey

STATE OF MINNESOTA

EXTERNAL EQUITY MANAGER UPDATE INTERVIEW

1. Name of manager interviewed	Trustee & Investors
2. Date interview conducted	August 15, 1984
3. Date of last interview	April 29, 1984

4. Representing Minnesota State Board of Investment

Howard Bicker
Jeff Bailey

5. Representing manager

Mason Klinck - Portfolio Manager
Richard Welch - Portfolio Manager

ACTION PLAN

1. Over the five quarters since the SBI account's inception, Trustee & Investors' performance has been quite poor.
2. The performance problems do not appear to be the result of organizational changes, staff turnover, or asset growth.
3. Poor stock selection is clearly at the heart of the matter.
4. In addition, staff is concerned that the firm's above average level of diversification may make it difficult for performance to improve dramatically.

Staff recommends that:

1. Trustee & Investors be placed on the Probation List. No new cash flow should be allocated to it.
2. Its future performance results should receive close quarterly scrutiny.
3. If unsatifactory performance continues, than the withdrawal of assets may be required.
4. If equity portfolio diversification is not reduced over the next several quarters, then the withdrawal of assets likewise may be necessary.

I. ORGANIZATION

No significant organizational changes have taken place at Trustee & Investors since the SBI account's inception.

II. ASSETS UNDER MANAGEMENT

	March 31, 1983		March 31, 1984		June 30, 1984	
	Number	Market Value (Millions)	Number	Market Value (Millions)	Number	Market Value (Millions)
Tax Exempt Accounts	15	$310	25	$630	26	$652

Since the SBI account's inception the assets under management and number of accounts have nearly doubled. The firm originally stated that 20 accounts and $1 billion were reasonable limits on its growth. The firm still believes that $1 billion is still an acceptable limit on assets under management, but it is now more vague on account load limits. The firm retains a number of small accounts, but has raised minimum sizes for new clients to $25 million. Active marketing continues. Staff is not comfortable with the firm's lack of specific long-range account load limits. If strong growth resumes, staff will insist upon more precise targets.

During the most recent quarter the firm gained two accounts and lost one (Celanese). The lost account was due to Celanese's decision to terminate its pension plan.

III. STAFF

As noted in previous staff reports to the SBI, Peter Schaedel joined the firm in mid-1983 as a portfolio manager. In addition, David Cook, previously a portfolio manager and partner in the firm, had ended active involvement in the firm's management. Trustee & Investors' principals were reluctant to discuss Cook's departure but staff assumes it was largely due to personality conflicts. Staff does not view the departure as significant as Cook did not play a major role in developing and implementing investment strategy.

IV. INVESTMENT APPROACH

Based upon its own macroeconomic forecast and capital market assumptions, Trustee & Investor' investment approach entails identifying specific corporate financial characteristics which will generate positive stock performance under the expected economic and market scenario. Sectors and individual stocks are selected which emphasize these particular characteristics. Staff believes that Trustee & Investors has applied this stated investment approach in a consistent, if perhaps too rigid, fashion over the last five quarters. In 1983 and 1984 the firm has focused extensively on companies with very high expected near-term earnings growth. The market for these particular types of companies has been pervasively weak over this period, particularly in the Technology area where the firm has been heavily overweighted.

Staff's primary concern with Trustee & Investors' investment approach has been its continued high level of diversification. Its equity portfolio diversification has since inception, been greater than that of the SBI's average manager. Further, the firm exceeds the SBI's diversification guidelines to a considerable extent. Staff has questioned the firm on this issue repeatedly and, so far, has not received an adequate response.

V. PERFORMANCE

Market Timing

	Rate of Return Last Quarter	Since 6/30/83
Equity Only Total Fund	N.A.	N.A.

Trustee & Investors, as a matter of investment policy, always maintains a fully invested position. Thus, the market timing success measure is not applicable.

Sector weighting/stock selection

	Last Quarter	Last Year	Since 3/31/83
Equity Portfolio Return Minus Market Return	-4.3	-19.1	-17.0
Percent of Deviation Market Return:			
Attributable to Sector Weighting	43	22	33
Attributable to Stock Selection	57	78	67

Trustee & Investors significant underperformance relative to the market over the last five quarters has been primarily the result of poor stock selection, particularly in the Technology, Materials & Services, and Energy sectors. Overweightings in Technology and Finance, and an underweighting in Energy also has detracted from relative performance. Because the firm focuses on stock selection to add value, these results are particularly troublesome.

During the most recent quarter, poor selection again explained the majority of the firm's underperformance, especially in the Energy sector. An overweighting of the Finance sector and an underweighting of the Consumer Nondurables sector also negatively impacted returns.

Performance relative to Wilshire 5000

	Rate of Return		
	Last Quarter	Last Year	Since 3/31/83
Total Portfolio	-6.4%	-23.1%	-11.6%
Wilshire 5000	-2.7	-8.6	3.2

Since the SBI account's inception, Trustee & Investors has consistently underperformed the market on quarter-by-quarter basis, frequently by wide margins. The firm's policy of maintaining a fully invested position has exacerbated the impact of so far unsuccessful equity portfolio management.

Performance relative to other aggressive managers

	Rate of Return		
	Last Quarter	Last Year	Since 3/31/84
Total Portfolio	-6.4%	-23.1%	-11.6%
TUCS Aggressive Managers	-0.9	-9.3	N.A.
SBI Manager Aggregate	-2.2	-12.8	-3.6

Since the SBI account's inception, Trustee & Investors has consistently underperformed the returns of other aggressive equity managers.

STATE OF MINNESOTA

EXTERNAL EQUITY MANAGER UPDATE INTERVIEW

1. Name of manager interviewed	Waddell & Reed
2. Date interview conducted	August 24, 1984
3. Date of last interview	December 6, 1983

4. Representing Minnesota State Board of Investment

Howard Bicker
Jeff Bailey

5. Representing manager

Henry Herrmann - Portfolio Manager
Fred Mitchell - Client Liason

ACTION PLAN

1. Staff believes that Waddell & Reed has effectively implemented the SBI's desired active external management investment approach.
2. The firm's market timing has been responsible for its strong five quarter performance record. Over this period the firm has been the SBI's top performing manager.
3. Reviewing the firm under the SBI evaluation guidelines, staff can identify no issues that should be of concern to the SBI.

Staff recommends that:

Normal manager monitoring of the firm should continue. If additional active manager funding were to take place, Waddell & Reed should receive new cash flow.

I. ORGANIZATION

No significant organizational changes have occurred at Waddell & Reed since the SBI account's inception.

II. ASSETS UNDER MANAGEMENT

	March 31, 1983		March 31, 1984		June 30, 1984	
	Number	Market Value (Millions)	Number	Market Value (Millions)	Number	Market Value (Millions)
Tax Exempt Accounts	6	$471	9	$463	9	$503

When initially interviewed by SBI staff, Waddell & Reed cited a $250 million limit on its separately managed aggressive equity accounts. The firm has recently closed for new aggressive equity separate account business. It currently has seven separate accounts and $150 million under management. (The remaining accounts and assets represent two mutual funds managed by Henry Herrmann in the firm's aggressive equity style.) The firm expects to grow to $250 million in separate account business through its existing clients. Growth thereafter will be permitted only as the equity market grows.

Staff's only concern relates to how large the firm's aggressive equity mutual funds will become. Herrmann has stated that he would not wish to manage more than $600 million in the aggressive equity style. If the mutual funds should experience future rapid growth, Herrmann may have to make a choice between managing mutual funds or separate pension accounts.

III. STAFF

No significant staff turnover has occurred since the SBI account's inception. The firm did note that it has had trouble retaining many junior and some middle level personnel, due to higher compensation levels offered by East Coast money managers.

IV. INVESTMENT APPROACH

Waddell & Reed's stated investment philosophy for its aggressive equity portfolios is to combine active market timing with large investments in cyclical and emerging growth companies. Since the inception of the SBI's account, the firm has consistently followed this approach. The firm has maintained an extremely high cash position since the late fourth quarter, 1983. Further, the equity portfolio has been concentrated in a small number of largely technology and interest sensitive stocks. Staff believes that Waddell & Reed has effectively implemented the SBI's active equity manager investment guidelines.

V. PERFORMANCE

Market Timing

	Rate of Return Last Quarter	Since 6/30/83
Equity Only	-10.3%	-35.8%
Total Fund	- 1.3	-10.8

Because the market has been down consistently on a quarter-by-quarter basis since the inception of the market timing success measure, any manager avoiding a fully invested equity position will show positive performance. However, Waddell & Reed's market timing has clearly been the most aggressively and successfully implemented among all of the SBI's managers. The firm moved to a 70% cash position in late 1983 and has held that defensive stance since then. This strategy has allowed the firm to largely avoid the negative performance impact of the poor late 1983, early 1984 equity market.

Sector weighting/stock selection

	Rate of Return		
	Last Quarter	Last Year	Since 3/31/83
Equity Portfolio Return Minus Market Return	-7.8%	-31.1%	-22.3%
Percent of Deviation From Market Return:			
Attributable to Sector Weighting	22	19	23
Attributable to Stock Section	78	81	77

Over the last five quarters, Waddell & Reed's equity portfolio has significantly underperformed the market. The sizable majority of this underperformance can be attributed to poor stock selection, especially in the Technology and Finance sectors, and a lesser extent in the Consumer Durables and Capital Goods sectors. The firm's zero weighting in Energy has also hurt its relative performance. The equity portfolio has served primarily as a partial hedge against the firm's high cash position. While the firm has been very cautious on the market, the Technology and Finance stocks have been viewed to be beneficiaries of lower interest rates. The firm felt that stocks could do well only if interest rates were to decline. The higher interest rate environment which occurred and caused the success of the firm's market timing moves, ensured the poor performance of its equity portfolio.

The pattern was essentially the same in the second quarter, 1984. Poor stock selection in the Technology sector was the major factor in the firm's relative underperformance. An overweighting in Finance stocks was also a major negative factor.

Performance relative to Wilshire 5000

	Rate of Return		
	Last Quarter	Last Year	Since 3/31/83
Total Portfolio	-1.3%	-10.8%	10.7%
Wilshire 5000	-2.7	-8.6	3.2

Over the last five quarters, Waddell & Reed has outperformed the Wilshire 5000, one of only two SBI managers to do so. The firm's strong second quarter 1983 equity performance and its propitious move to cash in late 1983 were the major contributors to its successful five quarter record. Because the firm did not move to cash until late 1983, and thus suffered through the poor third quarter, 1983, its latest twelve month relative performance is significantly less impressive.

Performance relative to other aggressive managers

	Rate of Return		
	Last Quarter	Last Year	Since 3/31/84
Total Portfolio	-1.3%	-10.8%	10.7%
TUCS Aggressive Managers	-0.9	-9.3	N.A.
SBI Manager Aggregate	-2.2	-12.8	-3.6

Over the last five quarters, Waddell & Reed has far exceeded the returns produced by other aggressive equity managers.

Tab C

PORTFOLIO STATISTICS

STATE OF MINNESOTA
STATE BOARD OF INVESTMENT
COMPOSITION OF STATE INVESTMENT PORTFOLIO'S BY TYPE OF INVESTMENT
MARKET VALUE JUNE 30, 1984

	CASH AND SHORT TERM SECURITIES	BONDS		STOCKS		ALTERNAIVE ASSETS	TOTAL
		INTERNAL	EXTERNAL	INTERNAL	EXTERNAL		
BASIC RETIREMENT FUNDS:							
TEACHERS RETIREMENT FUND	$ 55,687 4.59%	$ -0-	$344,497 28.37%	$ -0-	$ 725,783 59.76%	$ 88,414 7.28%	$1,214,381 100%
PUBLIC EMPLOYEES RETIRE. FUND	27,938 2.97%	-0-	268,023 28.45%	-0-	576,536 61.19%	69,630 7.39%	942,127 100%
STATE EMPLOYEES RETIRE. FUND	46,609 7.64%	-0-	171,171 28.06%	-0-	348,568 57.13%	43,778 7.17%	610,126 100%
PUBLIC EMP. POLICE & FIRE FUND	20,194 9.55%	-0-	58,629 27.74%	-0-	117,576 55.62%	14,987 7.09%	211,386 100%
HIGHWAY PATROL RETIRE. FUND	2,940 6.84%	-0-	11,475 26.70%	-0-	25,445 59.22%	3,109 7.24%	42,969 100%
JUDGES RETIREMENT FUND	230 7.73%	-0-	735 24.71%	-0-	1,779 59.80%	231 7.76%	2,975 100%
POST RETIREMENT FUND	278,092 15.30%	886,807 48.77%	-0-	653,355 35.93%	-0-	-0-	1,818,254 100%
MINNESOTA SUPPLEMENTAL FUNDS:							
INCOME SHARE ACCOUNT	9,783 8.97%	38,294 35.12%	-0-	52,433 48.08%	8,534 7.83%	-0-	109,044 100%
GROWTH SHARE ACCOUNT	6,864 12.69%	-0-	-0-	21,740 40.18%	25,496 47.13%	-0-	54,100 100%
FIXED RETURN ACCOUNT	11,673 22.79%	39,546 77.21%	-0-	-0-	-0-	-0-	51,219 100%
BOND ACCOUNT	98 3.34%	2,841 96.66%	-0-	-0-	-0-	-0-	2,939 100%
MINNESOTA VARIABLE ANNUITY	8,920 9.38%	-0-	-0-	37,706 39.65%	48,474 50.97%	-0-	95,100 100%
TOTAL RETIREMENT FUNDS	$ 469,028 9.10%	$ 967,488 18.77%	$854,530 16.58%	$765,234 14.84%	$1,878,191 36.44%	$220,149 4.27%	$5,154,620 100%
PERMANENT SCHOOL FUND	57,993 21.24%	169,691 62.17%	-0-	45,277 16.59%	-0-	-0-	272,961 100%
TREASURERS CASH	775,811 100%	-0-	-0-	-0-	-0-	-0-	775,811 100%
TRANSPORTATION FUNDS	392,344 100%	-0-	-0-	-0-	-0-	-0-	392,344 100%
STATE BUILDING FUNDS	116,506 100%	-0-	-0-	-0-	-0-	-0-	116,506 100%
HOUSING FINANCE AGENCY	158,220 100%	-0-	-0-	-0-	-0-	-0-	158,220 100%
MINNESOTA DEBT SERVICE FUND	162,379 100%	-0-	-0-	-0-	-0-	-0-	162,379 100%
MISCELLANEOUS ACCOUNTS	296,765 100%	-0-	-0-	-0-	-0-	-0-	296,765 100%
TACONITE AREA ENVIR. PROTECTION	12,313 100%	-0-	-0-	-0-	-0-	-0-	12,313 100%
N.E. MINNESOTA PROTECTION	43,720 100%	-0-	-0-	-0-	-0-	-0-	43,720 100%
GRAND TOTAL	$2,485,079 33.65%	$1,137,179 15.40%	$854,530 11.57%	$810,511 10.97%	$1,878,191 25.43%	$220,149 2.98%	$7,385,639 100%

STATE OF MINNESOTA
STATE BOARD OF INVESTMENT
CASH FLOW AVAILABLE FOR INVESTMENT

For period of
April 1, 1984 - June 30, 1984

Teachers Retirement Fund	$(22,268,000)
Public Employees Retirement Fund	(18,924,000)
State Employees Retirement Fund	(6,247,000)
Public Employees Police and Fire	(289,000)
Highway Patrolmans Retirement Fund	(120,000)
Judges Retirement Fund	(89,000)
Post Retirement Fund	144,602,000
Supplemental Retirement Fund - Income	3,654,000
Supplemental Retirement Fund - Growth	790,000
Supplemental Retirement Fund - Fixed	2,878,000
Supplemental Retirement Fund - Bond	330,000
Minnesota Variable Annuity Fund	1,134,000
Total Retirement Funds	$105,451,000
Deferred Compensation	$ (174,000)
Trunk Highway Fund	16,079,154
County State Aid Highway Fund	3,915,118
Municipal State Aid Street Fund	8,433,746
Invested Treasurers Cash Fund	(26,771,608)
Aeronautics Fund - 22	(438,779)
Taconite Area Environmental Protection Funds	(105,000)
State Building Funds	(17,862,507)
Housing Finance Agency	(2,994,052)
Minnesota Debt Service Fund	(20,762,763)
N.E. Minnesota Protection	(1,428,000)
Miscellaneous Accounts	113,456,807
Total State Cash Accounts	$ 71,348.116
Total	$176,799,116

STATE OF MINNESOTA
STATE BOARD OF INVESTMENT

TRANSACTION AND ASSET SUMMARY
RETIREMENT FUNDS

	Net Transactions				Asset Summary (at market)			
	Bonds (000,000)	Stocks (000,000)	Total	Cash Flow	Short-term % of Fund	Bonds % of Fund	Equity % of Fund	Total (000,000) (at market)
June 1982	13	73	86	93	12.0	42.6	45.4	3576
July	(15)	(5)	(20)	59	13.9	42.8	43.3	3665
August	(14)	(86)	(100)	37	16.3	41.2	42.5	3951
September	58	(10)	48	64	16.2	42.7	41.1	4088
October	124	(17)	107	48	13.6	44.9	41.5	4413
November	137	9	146	41	11.0	47.0	42.0	4537
December	(2)	6	4	45	11.7	46.6	41.7	4605
January 1983	(20)	2	(18)	41	12.8	45.0	42.2	4667
February	(76)	(502)	(578)	26	25.2	43.6	31.2	4770
March	(270)	1098	828	47	8.7	37.2	54.1	4841
April	(6)	(7)	(13)	40	9.3	36.3	54.4	5086
May	52	59	111	34	7.9	36.8	55.3	4996
June	(15)	31	16	83	9.0	34.9	56.1	5177
July	47	154	201	47	6.1	35.2	58.7	5053
August	19	7	26	39	6.3	35.4	58.3	5072
September	22	(103)	(81)	29	8.3	35.9	55.8	5202
October	2	93	95	51	7.5	35.8	56.7	5158
November	18	(20)	(2)	40	6.3	37.4	56.3	5275
December	(1)	22	21	47	5.7	37.9	56.4	5262
January 1984	3	(31)	(28)	45	6.8	38.7	54.5	5267
February	(1)	27	26	31	7.0	38.6	54.4	5170
March	5	19	24	11	5.7	39.0	55.3	5119
April	(2)	24	22	36	6.1	36.9	57.0	5145
May	4	43	47	40	6.2	37.5	56.3	4993
June	5	(38)	33	119	8.7	36.5	54.8	5187

Tab D

August 22, 1984

TO: Members, Minnesota State Board of Investment
Members, Investment Advisory Council

FROM: IAC Administrative Committee

SUBJECT: Committee Report

The Committee reviewed the proposed staff budget which calls for a reduction of five positions and level funding in all other areas. The Committee recommended approval of the budget.

The Committee also reviewed an outline for the Board's annual report. A recommended format change to comprehensively report performance objectives and results on a fund by fund basis was approved by the Committee.

The Committee also made an initial review of the current staff organization structure. The Committee will examine this subject in more detail during the next quarter.

AGENCY: INVESTMENT, STATE BOARD OF

AGENCY PURPOSE: The State Board of Investment (SBI), composed of 5 constitutional officers, invests over $7 billion for 7 basic retirement funds, 4 common investment funds and approximately 100 state accounts. The primary goals of the board are to invest prudently all the assets under its management and to fulfill the specific short and long-term investment objectives of the funds.

OBJECTIVES:

1. To earn a total rate of the return in excess of the median attained by other tax exempt funds and the major securities indices on a 3-5 year basis.

2. To provide consistent benefit increases to retirees of at least one-half the inflation rate over a 3-5 year period from the excess investment earnings of the Post Retirement Investment Fund.

3. To implement the long-term asset allocation targets adopted by the board.

EFFECTIVENESS MEASURES:

	F.Y.1983	F.Y.1984	Five Years Ending June 30, 1984
1. Investment Board total return on all retirement funds.	40.9	- 4.2	9.5
Merrill Lynch Tax Exempt Funds median total return on investments.	42.0	- 3.1	11.2
Investment Board total return on equity securities.	54.3	-10.8	11.4
Dow Jones equity index total return.	54.5	-10.2	8.3
Standard & Poors 500 equity index.	61.2	- 4.6	14.0
Investment Board total return on debt securities.	35.8	2.5	6.7
Solomon Bond Index total return.	41.2	- 6.4	3.8
Merrill Lynch Master Bond Index total return.	28.9	1.6	8.0
Investment Board yield on short-term securities.	9.8	10.0	12.5
91 day Treasury bill yield.	9.2	9.9	12.0

	F.Y.1983	F.Y. 1984	Three Years
2. Retiree Benefit increases.	6.9%	7.5%	7.3%
One-half Inflation (CPI).	1.3%	2.2%	2.3%

ACTIVITY GENERATES NON-DEDICATED REVENUE ☒ Yes ☐ No	ACTUAL F.Y. 1983	ACTUAL F.Y. 1984	ESTIMATE F.Y. 1985	ESTIMATE F.Y. 1986	ESTIMATE F.Y. 1987

3.Asset Allocation

	Target	F.Y.1983	F.Y.1984	F.Y.1985
Basic Retirement Funds				
Common Stocks	60%	62%	60%	60%
Fixed Income	25%	34%	33%	25%
Alternative Investments	15%	4%	7%	15%
Post Retirement Fund				
Common Stocks	35%	40%	35%	35%
Fixed Income	65%	60%	65%	65%

OPERATION AND CLIENTELE: The State Board of Investment sets specific asset allocation targets and performance objectives for each fund under its management. The board retains an Executive Director, an internal investment management staff, and external investment managers to execute its policies. In performing these duties, the board works in conjunction with the Investment Advisory Council which is composed of 17 persons with investment and retirement fund expertise.

The board has instituted several changes in investment policy and management during the last biennium. Most significantly the investment management structure of the $3 billion Basic Retirement Funds was altered substantially. The funds' asset allocation has changed from 50% equity/50% debt to 75% equity/25% debt to fulfill more effectively the long-term investment needs of the funds. Further, the Basic Funds have shifted from 100% internal management to complete external asset management. External managers were also retained for several of the SBIs smaller funds, which now utilize a combination of external and internal management.

The external managers retained by the board include 15 aggressive equity managers; one passive equity manager; 6 fixed income managers; and 5 real estate, 2 oil and gas, and 2 venture capital commingled fund managers. In conjunction with the hiring of these external managers, the board retained a Master Custodian to handle custodial services for the Basic Retirement Fund. The majority of the SBIs assets, including the entire Post Retirement Fund, remains under internal management. The board and council are currently examining the asset allocation and investment management structure of the Post Retirement Fund.

During this period, the responsibilities of the internal staff have expanded to include monitoring the performance of the external managers. In addition, the internal staff executes the board's asset allocation decisions, and recommends strategic planning alternatives to the board and council. The staff also reviews prospective investment vehicles for legislative consideration.

Primary clients are current and retired members of the Teachers, State and Public Employees Retirement Systems, the State Treasurer, the Department of Finance, and the Department of Transportation. All activities of the board are governed by M.S. 11A.

CHANGE REQUEST: The board requests a change level of funding for F.Y. 1986 and F.Y. 1987. A decrease in 5 positions equaling $175.8 per year is requested due to increased efficiencies of internal operations and the retention of external investment

OPERATION AND CLIENTELE: (Contd.)

managers.

CHANGE REQUEST

☒ Agency ☐ Program ☐ Activity

ACTIVITY:
PROGRAM:
AGENCY: INVESTMENT, STATE BOARD OF

Request Title: REDUCTION IN STATE BOARD OPERATIONS

	F.Y. 1986		F.Y. 1987	
Agency Request	Amount	Positions	Amount	Positions
GENERAL FUND	$ 175.8	5.0	$ 175.8	5.0
Governor's Recommendation				

Request requires statutory change: ☐ Yes ☒ No
Statutes Affected:

STATEMENT OF REQUEST/OBJECTIVE:

The board requests a decreased complement of 5 staff positions to reflect recent changes in internal staff functions. These changes are the result of the utilization of external money managers for a portion of the board's portfolio.

DESCRIPTION/BACKGROUND:

Chapter 587, Laws of 1982 authorized the State Board of Investment to utilize external money managers for a portion of the assets under its management. During the last 2 years, the board has retained 22 external equity and fixed income managers, which manage assets previously invested directly by the internal board staff.

RATIONALE:

The utilization of external money managers has altered the role of the internal investment staff. Strategic planning, monitoring, and reporting responsibilities have increased, while the size of the assets under direct internal management has decreased As a result, the board recommends a decrease in 5 staff positions. This request will have no impact on the achievement of the board's investment and performance objectives

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August 24, 1984

TO: Members, Investment Advisory Council

FROM: IAC Asset Allocation Committee

SUBJECT: Committee Report

The primary issue addressed by the Committee dealt with the investment implications for the Basic Retirement Funds of the "Rule of 85". The following salient factors were considered:

- The "Rule of 85" will bring about the early retirement of a large number of public employees over the next two years.
- The exact number of early retirees and the timing of their retirements cannot be forecasted accurately in advance.
- Best current estimates indicate that the "Rule of 85" will cause annual net contributions to decrease from an average positive $73 million over the last three fiscal years to an average negative $134 million over the next two fiscal years.
- Investment income will approximately offset the negative net contributions. No sizable reduction in the size of the Basic Retirement Funds is expected. However, growth of total assets is expected to cease for the next two years.
- Approximately $100 million remains to be distributed to fund current commitments to alternative investments. Another $125 million will be committed over the next two years as the asset allocation plan is fully implemented.
- It had originally been proposed to fund the alternative investments with new contributions, along with proceeds from the sale of existing fixed income investments. The negative net contributions caused by the "Rule of 85" will necessitate a modification of this approach. These near-term liquidity constraints appear managable, however.
- Following the surge of early retirements due to the "Rule of 85," net contributions should become highly positive for a number of years as employees who would normally be expected to retire will already have retired.

- The "Rule of 85" should result in only a modest increase in the liabilities of the Basic Retirement Funds. No serious long-term impact on funding levels is expected.

Given the investment implications of the "Rule of 85" described above, the IAC Asset Allocation Committee recommends the following:

- The long-term asset allocation targets, adopted by the Investment Board in August 1983, should continue to be implemented as scheduled over the next two-to-three years.
- Specifically, investments in alternative assets should proceed as planned.
- Cash to finance the alternative investments should be raised from four sources (presented in order to recommended use)
    1. Dividends from the index fund should be diverted for the next two years.
    2. The private placement bond portfolio should be liquidated.
    3. The three-year-and-under maturity bond portfolio should be liquidated.
    4. A small portion of the funds managed by the external bond managers should be withdrawn.
- Cash positions of at least $50 million should be maintained on a continuous basis to protect against any significant unexpected cash outflows.

The implementation of these recommendations will allow the Basic Retirement Funds to accomodate the sizable negative net contributions expected over the next two years, while at the same time permitting the Funds to continue in an orderly fashion toward their long-term asset allocation targets.

Regarding other matters, the Committee has begun to consider the subject of an appropriate long-term asset mix for the Post Retirement Fund. The priority of this project has increased because the "Rule of 85" will result in a sizable increase in the Post Retirement Fund's assets over the next two years. At this point the Committee is in agreement that a portion of the Fund should be placed in a dedicated bond portfolio. This portfolio would be designed to produce cash flows which match the currently promised retiree benefits. The remainder of the Fund will then be invested with the goal of producing benefit increases for retirees. The precise investment strategy for this portion of the Fund will depend upon the risk-return preferences of the retirees. The Committee intends to investigate this subject over the next few months and make recommendations to the Board at its December meeting.

The Committee is also considering the desirability and feasibility of market timing strategies for the Basic Retirement Funds. The opinions of corporate pension plan administrators on the IAC have been solicited. The Committee will present its conclusions to the Board at its December meeting.

STATE BOARD OF INVESTMENT
BASIC RETIREMENT FUNDS

CASH FLOW PROJECTION
2 YEAR PERIOD ENDING JUNE 30, 1986

	Cash	Index Fund	Active Equity	Outside Bonds	Private Placements	3 Year or Under	Real Estate	Resource	Venture Capital	Total
June 30, 1984 Position	$ 140,436,906	$1,251,251,640	$527,348,230	$596,911,225	$ 99,643,013	$135,445,136	$163,286,847	$24,162,185	$29,429,234	$2,967,914,416
7-2-84 Transfer	(87,000,000)	-0-	-0-	87,000,000	-0-	-0-	-0-	-0-	-0-	-0-
Adjusted Year End Balance	$ 53,436,906	$1,251,251,640	$527,348,230	$683,911,225	$ 99,643,013	$135,445,136	$163,286,847	$24,162,185	$29,429,234	$2,967,914,416
Current Commitments	(18,088,775)	-0-	-0-	16,088,775	-0-	-0-	-0-	2,000,000	-0-	-0-
Total Current	$ 35,348,131	$1,251,251,640	$527,348,230	$700,000,000	$ 99,643,013	$135,445,136	$163,286,847	$26,162,185	$29,429,234	$2,967,914,416
6 Months Ending 12-31-84 Balance										
Estimated Income	-0-	31,281,291	13,183,705	42,000,000	5,978,580	8,126,708	-0-	400,000	-0-	100,970,284
Current Commitment	-0-	-0-	-0-	-0-	-0-	-0-	-0-	-0-	-0-	-0-
Estimated Contributions Cash Flow	(9,398,000)	-0-	-0-	-0-	-0-	-0-	-0-	-0-	-0-	(9,398,000)
Estimated 12-31-84 Balance	$ 25,950,131	$1,282,532,931	$540,531,935	$742,000,000	$105,621,593	$143,571,844	$163,286,847	$26,562,185	$29,429,234	$3,059,486,700
6 Months Ending 6-30-85										
Estimated Income	-0-	32,063,323	13,513,298	44,520,000	6,337,295	8,614,310	-0-	400,000	-0-	105,448,226
Current Commitment	(103,000,000)	-0-	-0-	-0-	-0-	-0-	70,000,000	27,000,000	6,000,000	-0-
Estimated Contributions Cash Flow	(102,606,000)	-0-	-0-	-0-	-0-	-0-	-0-	-0-	-0-	(102,606,000)
Estimated 6-30-85 Balance	$(179,655,869)	$1,314,596,254	$554,045,233	$786,520,000	$111,958,888	$152,186,154	$233,286,847	$53,962,185	$35,429,234	$3,062,328,926
12 Months Ending 6-30-86										
Estimated Income	-0-	65,729,813	27,702,261	94,382,400	13,435,066	18,262,338	-0-	400,000	-0-	219,911,878
Current Commitment	(126,921,734)	-0-	-0-	-0-	-0-	-0-	66,713,153	20,637,815	39,570,766	-0-
Estimated Contributions Cash Flow	(155,558,000)	-0-	-0-	-0-	-0-	-0-	-0-	-0-	-0-	(155,558,000)
Estimated 6-30-86 Balance	$(462,135,603)	$1,380,326,067	$581,747,494	$880,902,400	$125,393,954	$170,448,492	$300,000,000	$75,000,000	$75,000,000	$3,126,682,804

POST RETIREMENT INVESTMENT FUND

INTRODUCTION

The Post Retirement Investment Fund contains the pension assets of the retired public employees covered by the seven state-wide retirement plans. The assets of the fund are used to finance annuities paid to the retirees. These annuities may be adjusted upwards on the basis of the earnings of the Fund. As of December 31, 1983, the Post Retirement Investment Fund had a value of $1,764,720,366 at cost ($1,802,529,708 at market). As of that date approximately 45,000 eligible retirees were participants in the Fund.

SEPARATION OF ACTIVE AND RETIRED EMPLOYEES ASSETS

The SBI's retirement assets are managed under a structure which is relatively unusual among private and public pension plans. Minnesota's state-wide public retirement plans are contributory defined benefit programs. That is, during their working years, public employees and their employers contribute a percentage of the employees' gross salaries to an accumulation pool. (This pool is known as the Basic Retirement Funds and actually is composed of six of the seven separate state-wide retirement plans.[1]) The employee and employer contributions are designed to fully fund pension payments to be made to the employees upon their retirement. A number of actuarial assumptions factor into the calculations determining the necessary employee/employer contributions to the pension plans. (e.g., expected rate of return on investments, salary growth, mortality rates, etc.[2]) The contributions placed in the Basic Retirement Funds are invested in a diversified portfolio of common stocks, bonds, cash equivalents and alternative equity assets.

It is not the contributory defined benefit retirement plans themselves which make the state-wide retirement systems relatively unusual. Rather, it is the fact that, upon their retirement, public employees' accumulated pension assets are transferred from the Basic Retirement Funds to the Post Retirement Investment Fund. That is, the pension assets of active employees are completely segregated from the pension assets of retired employees.

The amounts which are transferred to the Post Retirement Investment Fund are equivalent to the sums required to pay fixed annuities to the retirees over the actuarially-expected span of their remaining lives, assuming that until all of these transferred funds are paid out the remainder is invested at a specified rate of return. (The transferred sum is called the present value of an annuity and the assumed rate of return is referred to as the discount rate.)

MECHANICS OF BENEFIT INCREASES

The ability of the Post Retirement Investment Fund to maintain current benefit levels and provide for future benefit increases is dependent upon the earnings generated by the Fund. The relevant measure of earnings for the Post Retirement Investment Fund, as specified by statute, includes interest and dividend income as well as realized equity capital gains (or losses).[3] Unrealized equity capital gains (or losses) have no direct impact on the benefits paid out by the Post Retirement Investment Fund. The purpose behind excluding unrealized equity capital gains (or losses) from defined earnings is to smooth out benefit payments by making their calculation largely insensitive to near-term fluctuations in the capital markets.

In order to pay pension benefits, the assets of the Post Retirement Investment Fund must generate earnings to support the liabilities of the Fund. These liabilities are called the required reserves. They represent the present value of the outstanding annuities promised current retirees. Thus, they are equal to the sums transferred from the Basic Retirement Funds as well as the accumulated past required and excess earnings of the Post Retirement Investment Fund, less benefits paid out. For actuarial purposes it is assumed that Post Retirement Investment Fund earnings will be at least 5% of the required reserves annually.[4] By producing this return the Fund can support the currently promised level of benefits. By earning more than this assumed rate of return, the Fund can increase the level of promised benefits under a complex formula described below.

Assume that we are considering the question of benefit increases for the next calender year and that the date is July 1. A fiscal year has just ended.[5] We are now at the beginnning of a new fiscal year and in the middle of the current calender year. The benefit increases that we will be calculating are based on the earnings and required reserves of the recently ended fiscal year, but will not be effective until the beginning of the next calender year. (This delay is necessary to allow the retirement systems to provide the required reserve data to the SBI and to permit the SBI's accounting staff to complete the benefit calculations.) Given this somewhat awkward chronological situtation, the computation of benefit increases is a six-step process.

First, from the most recent fiscal year's total earnings must be subtracted an amount sufficient to meet the actuarially assumed rate of return (5%) discussed above. This is the amount that must be earned in order to support benefit payments at their current levels.

Second, a portion of the earnings of the recently ended fiscal year were credited toward benefit increases paid out in the current calender year. Thus, this amount must be subtracted from earnings available for benefit increases in the upcoming calender year. The reason behind this adjustment is due to the fact that there is a delay of six months between the calculation and payout of benefit increases. As a result, interest at the assumed six-month rate of 2.5% (5% annual rate) was paid on the Fund's available earnings for the current calender year's benefits. In turn, benefits for the next calender year will be increased by another interest adjustment, to be paid from the current fiscal year's earnings (see step five).

Third, earnings must be reduced by an amount to cover the amortization (write-off) of the Deferred Yield Adjustment (DYA) account. Whenever a bond is sold at a loss, the loss is credited to the DYA account and written off against earnings over the remaining life of the bond. Thus, in any given year, the DYA charge against earnings is based upon the underlying amortization of past bond losses.[6]

Fourth, once these three charges have been made against earnings, 5% of the remaining amount is subtracted to amortize another reserve account, the Annuity Stabilization Reserve (ASR). With respect to the ASR, in 1978, certain one-time additional benefits increases were granted to retirees. These benefits were not fully funded (i.e., the Fund's assets were not increased sufficiently to finance expected future benefits). The deficit generated is being retired by annually deducting 5% of earnings from the reserve. The ASR is expected to be liquidated by 1986.

Fifth, following the above subtractions from earnings is an add-back of 2.5% of the remaining earnings. As discussed in step two, this credit reflects the fact that benefits are determined as of the most recent fiscal year-end (June 30) but are not effective until the first of the next calender year (January 1). The 2.5% addition to earnings reflects interest assumed to be earned on these funds for this six-month period. It, in turn, is generated by earnings produced in the current fiscal year.

The sum of these subtractions and additions is referred to as adjusted earnings. It is these earnings that are considered available to finance future benefit increases. The sixth and final step in the benefit calculation entails dividing adjusted earnings by the total required reserves.[7] The resulting ratio, expressed as a percentage, represents the permanent increase in pension benefits to be provided to eligible retirees effective for the next calender year.

In order to clarify the benefit calculation process, an example is provided below. This example is derived from the benefit increase calculation for fiscal year 1983 effective January 1, 1984:

	Total Earnings Fiscal Year 1983	$178,345,133.69
1)	Less: 5% of required reserves	69,699,948.42
2)	Less: Six-month interest adjust. FY 1983	1,890,334.00
3)	Less: Deferred Yield Adjustment	2,314,668.63
4)	Less: 5% Annuity Stabilization Reserve amortization	5,223,509.13
5)	Plus: Six-month interest adjust. FY 1984	2,481,166.84
	Adjusted Earnings	$101,727,840.35

6)
$$\frac{\text{Adjusted Earnings}}{\text{Required Reserves}} \qquad \frac{\$101,727,840.35}{\$1,356,537,190.00} = .07499$$
$$= 7.499\%$$

Despite the apparent complexity of the benefit increase calculation, it should be clear that at the heart of the computation is the deduction from earnings of the amount necessary to maintain the promised benefit levels (i.e., the 5% assumed rate of return). For all practical purposes, earnings above that amount, ignoring the relatively minor interest adjustments and reserve amortizations, flow to the plan participants in the form of benefit increases.

INVESTMENT OBJECTIVES

The Post Retirement Investment Fund is managed for the benefit of its plan particpants, namely the retired public employees. Because it is these individuals who have the most direct interest in the Fund's performance, their risk-return preferences should be the dominant factor in setting investment policy. The investment horizon of the retirees is considerably shorter than that of the active employees. The average remaining life span of the Fund's participants upon their retirement is fifteen years. Further, the benefits paid by the Fund may represent a significant portion of the retirees' total income. Under these conditions, one can reasonably state that the retirees desire the Post Retirement Investment Fund's investment performance to produce three broad pension benefit outcomes:

1. To generate earnings sufficient to pay benefits at promised levels.

2. To achieve benefit increases which consistently compensate, to some significant degree, the negative impact of inflation on the real (inflation-adjusted) value of their benefits.

3. To generate benefit increases which not only compensate for inflation, but further which add to the real value of their benefits.

From an investment management perspective, the desires of the retirees tend to result in conflicting investment policy objectives for the fund. The attainment of earnings which period-by-period ensure the achievement of the assumed actuarial rate of return and allow benefits to rise at some constant fraction of the inflation rate is not necessarily consistent with the attainment of sizable positive inflation-adjusted growth in benefits. The first two goals call for a conservative, basically risk-free investment strategy. The third goal requires the acceptance of a certain amount of investment risk.

Clearly, a trade-off between secure, consistent, but limited benefit increases and less secure, more volatile, but larger increases, is required. The SBI in the past has set as investment objectives for the Post Retirement Investment Fund the generation of earnings which meet the assumed actuarial return and which produce benefit increases at 50% of the inflation rate. However, specific policies regarding the emphasis to be placed on the attainment of positive inflation-adjusted benefit increases (and the corresponding level of investment risk to be assumed) are yet to be formulated. There can be little doubt that such issues are of considerable interest to the retirees. Benefit increases in the 1981-84 period averaged 6.3% per year, while inflation ran at only a 5.4% annual rate (assuming a 5% annual inflation rate in 1984). Retiree groups have expressed considerable satisfaction with these investment results. On the other hand, one underlying theme that anyone who has contact with the retiree groups immediately perceives is their intense adverse sensitivity toward investment risk. Thus, it is essential that the investment objectives of the retirees be effectively identified and balanced in a satisfactory manner.

As a final note, one must understand that the Post Retirement Investment Fund's objectives should focus on the Fund's investment earnings, and the corresponding ability to produce benefit increases, as defined above, rather than its total rate of return. The total rate of return includes unrealized capital gains which are unavailable to retirees for benefit increases. Despite the fact that the total rate of return is an appropriate target for most investment situations, the rather unusual nature of the Fund makes it a largely irrelevant performance standard. Comparisons of the Fund's total rate of return with various market indices, inflation rates, or universes of other funds may very well mask, from the perspective of the Fund's beneficiaries, either good or poor investment performance.

CASH FLOW PROJECTIONS

Recent Minnesota retirement legislation has dramatically affected the cash flow outlook for the Post Retirement Investment Fund. In the last legislative session, the state legislature passed the "Rule of 85." Public employees covered by the state-wide retirement plans, who have reached the age of 55, can now retire on full benefits if the sum of their age and years of service equals at least 85. This provision currently is legislated to "sunset" on December 31, 1986.

It is expected that the "Rule of 85" will bring about an extraordinarily large number of retirements during fiscal years 1985 and 1986. Concomitently, there will occur a massive cash flow from the Basic Retirement Funds to the Post Retirement Investment Fund. Estimates at this stage are quite tentative, however, over the next two fiscal years an expectation of $400 million in new cash flows to the Post Retirement Investment Fund, due both to normal retirements and retirements under the "Rule of 85," is reasonably conservative. This cash inflow will come on top of the Fund's approximately $200-250 million in annual investment earnings. Thus, by the end of fiscal year 1986, the size of the Fund is likely to grow to somewhere near $3 billion, a 67% increase from its current size. The timing of this growth over this period depends upon the pattern of retirements under the "Rule of 85."

Whether or not the "Rule of 85" is extended past 1986, the increase in the size of the Post Retirement Investment Fund will be a one-time phenonmenon (unless additional extensive new legislation is passed). The employees currently eligible to retire under the "Rule of 85" represent a "bulge in the pipeline." Once they have retired, the growth of the Fund should revert back to its normal pattern. In fact, if the "Rule of 85" is not extended, growth of the Fund five to ten years in the future may decline below the "pre-Rule of 85" rate as employees who normally would have been eligible to retire at that time will already have left public employment.

The projected growth in the Fund over the next two years will present tremendous opportunities for establishing desired investment strategies. The new cash flow will create significantly greater flexibility in designing the Fund's structure than if predominately existing assets had to be altered. Decisions made over the next six months will affect the performance of the Fund for years to come.

FOOTNOTES

1. State legislators and constitutional officers have their own active lives pension plan and become Post Retirement Fund participants upon their retirement. For purposes of discussion we will ignore the separation of the Basic Retirement Funds and the legislators and constituional officers' own active lives plan.

2. Benefits are based on a high five formula, that is, the employee's average salary over his/her five highest salary years. The annual pension paid is computed by multiplying a percentage of the employee's average high five salary (the percentage varies among funds) times the number of years of service that the employee has accumulated.

3. Capital gains on bonds are used to offset the Deferred Yield Adjustment (DYA) charges. At such time that the DYA account reaches a zero balance, capital gains on bonds would be credited toward benefit increases. The DYA account is defined later in the report.

4. To adjust for contributions and withdrawals taking place over the fiscal year, the average level of required reserves for the fiscal year is used in calculating required earnings.

5. The Post Retirement Investment Fund operates on a July 1 - June 30 fiscal year.

6. Similar to the methodology of not recognizing unrealized equity capital gains (or losses), the DYA account smoothes out benefit payments by not forcing losses on bond transactions to be immediately recognized in full.

7. Retirees are not eligible for benefit increases until eighteen months after the end of the fiscal year in which they retire. Thus the required reserve level used in calculating benefit increases is the level effective at the beginning of the most recently completed fiscal year, adjusted by the estimated mortality experience during the upcoming six months until the beginning of the new calender year.

Tab F

August 21, 1984

TO: Members, State Board of Investment
Members, Investment Advisory Council

FROM: Equity Manager Committee

SUBJECT: Committee Report

The Committee reviewed the performance of the Board's external equity managers over the last five quarters. The managers were reviewed according to the evaluation guidelines adopted by the Board. Based upon its analysis, the Committee makes the following recommendations:

- The Board establish three separate manager classifications: Probation, Watch and Normal Monitoring. These classifications would indicate the existence (or non-existence) and severity of any problems associated with the managers' organizations, asset growth, staffing, investment approach, performance or other factors.
- At this time the Probation category should contain BMI Capital, Loomis Sayles, Siebel Capital, Herbert R. Smith and Trustee & Investors. With the exception of Siebel, the performance of these particular managers has been exceptionally poor. Siebel was recently sold and the Committee is concerned about the long-run effects of the sale on the firm's performance.
- Managers placed in the Probation category should not receive new contributions. Their performance should be closely scrutinized each quarter and, if problems persist, withdrawal of assets may be necessary.
- At this time the Watch category should contain Fred Alger, Forstmann-Leff, Hellman Jordan, IDS Advisory and Investment Advisers.
- Managers placed in the Watch category should receive new contributions at such time that new active manager funding is undertaken. The problems observed are not considered serious currently but do warrant continued attention.
- At this time the Normal Monitoring category should contain Alliance Capital, Beutel Goodman, Lieber & Company, Norwest Bank and Waddell & Reed.

- Details concerning any manager problems identified by the Committee and SBI staff are provided in the external equity manager update interviews presented in the Board's quarterly report.
- The Committee reviewed the staff report on the index fund's implementation. Its observations and conclusions should be adopted.

STATE OF MINNESOTA

STATE BOARD OF INVESTMENT

INVESTMENT MANAGER STATUS REPORT: 3/31/84 - 6/30/84

($ millions)

	ASSETS UNDER MANAGEMENT				SECOND QUARTER 1984							
	3/31/83		6/30/84		Gained		Lost					
Investment Manager	# of Accts	Asset Size	# of Accts	Asset Size	# of Accts	Asset Size	# of Accts	Asset Size	Professional Staff Turnover	Organizational Changes	Investment Style Changes	Comments
Fred Alger Management	59	$1,645	79	$2,007	5	$ 82.1	2	$ 29.6	Daniel J. Rice, energy analyst left the firm.	-	-	-
Alliance Capital Management (Minneapolis)	43*	$1,095	45*	$1,197	-	-	-	-	J. Andrew Richey joined as equity portolio manager.	-	-	The best performing manager in the 2nd quarter.
Beutel, Goodman Capital Management	5	$ 104	11	$ 228	2	$ 57.8	-	-	-	-	-	Continues to be best performing manager since inception.
BMI Capital Corp.	5	$ 160	17	$ 249	1**	$ 10	1	$ 8	Francis J. Houghton joined as major stockholder and portfolio manager. Brendan Heneghan and Steven Dixon joined as research analysts, replacing Michael Carstens.	-	-	Sharp improvement in investment performance in 2nd quarter.
FIA Asset Management	126	$4,800	115	$4,248	-	-	3	$34.2	Rosemarie Tevelow joined firm as research analyst.	-	-	-
Hellman Jordan Management	22	$ 440	32	$ 662	1	$ 8	-	-	-	Recently purchased by United Asset Management, a holding company of investment management firms. Revenues are split with parent.	-	No changes in style and decision making process are yet apparent. Lack of asset growth tie-in with sale is encouraging.

* Excluding a fixed-income account previously reported.
** A smaller account became classified as institutional.

STATE OF MINNESOTA

STATE BOARD OF INVESTMENT

INVESTMENT MANAGER STATUS REPORT: 3/31/84 - 6/30/84

($ millions)

	ASSETS UNDER MANAGEMENT				SECOND QUARTER 1984							
	3/31/83		6/30/84		Gained		Lost					
Investment Manager	# of Accts	Asset Size	# of Accts	Asset Size	# of Accts	Asset Size	# of Accts	Asset Size	Professional Staff Turnover	Organizational Changes	Investment Style Changes	Comments
IDS Advisory Group	81	$3,361	87	$2,871	1	$ 10	11	$327	Gail Knappenberger, senior portfolio manager of IDS Growth Spectrum Advisors, left firm.	IDS/American Express purchased IDS/Gartmore International, previously a joint venture.	-	-
Investment Advisers, Inc.	79	$1,001	89	$1,365	-	-	-	-	Jay Rothmeier joined firm as mutual fund portfolio manager.	-	-	-
Lieber & Co.	29	$ 389	39	$ 544	3	$ 23.9	-	-	Dennis Trittin joined as research analyst.	-	-	-
Loomis-Sayles & Co. (Capital Growth Management)	12	$ 540	13	$ 567	-	-	-	-	-	-	-	Continues to perform poorly. A visit is planned over near term.
Norwest Bank Minneapolis, N.A. (Aggressive Equity)	3	$ 49	3	$ 92	-	-	-	-	-	Formed investment management subsidiary.	-	-
Siebel Capital Management	32	$ 412	39	$ 567	2	$ 34.2	1	$ 9.7	-	Became wholly owned subsidiary of Equitec Financial Group, Inc. on May 18, 1984.	-	Entry into mutual fund business may attract management attention away from aggressive equity portfolios. Too early to call at this point.
Herbert R. Smith, Inc.	24	$ 152	31	$ 203	2	$ 12.1	1	$ 4.1	-	-	-	Some relative performance improvement noted through first 6 months.

STATE OF MINNESOTA

STATE BOARD OF INVESTMENT

INVESTMENT MANAGER STATUS REPORT: 3/31/84 - 6/30/84

($ millions)

	ASSETS UNDER MANAGEMENT				SECOND QUARTER 1984							
	3/31/83		6/30/84		Gained		Lost					
Investment Manager	# of Accts	Asset Size	# of Accts	Asset Size	# of Accts	Asset Size	# of Accts	Asset Size	Professional Staff Turnover	Organizational Changes	Investment Style Changes	Comments
Trustee & Investors Co., Inc.	15	$ 310	26	$ 652	2	$ 48	1	$ 22	-	-	-	Poor performance continues. A visit is planned over near term.
Waddell & Reed Asset Management Co.	6	$ 471	9	$ 503	-	-	-	-	-	-	-	Second best performing manager since inception. Has done excellent job protecting assets by appropriately raising cash.

CONSTRUCTION OF THE WILSHIRE 5000 INDEX FUND
AN ANALYSIS

Staff Report
July 1984

EXECUTIVE SUMMARY

Wilshire Associates was selected by the Minnesota State Board of Investment (SBI) to construct and manage an index fund designed to track the performance of the Wilshire 5000, a broad equity market index. The firm began management responsibilities on December 1, 1983. Wilshire received a portfolio consisting almost entirely of common stocks. Wilshire's task was to buy and sell securities such that the original portfolio was transformed into a portfolio which closely resembled the Wilshire 5000.

The primary goal of index fund trading is to pay the lowest possible cost for the execution of trades. One of the most efficient means of accomplishing this goal is to buy and sell large blocks of securities in single packages at guaranteed prices. For a fee, a broker will guarantee the index fund that it will receive the market prices on designated stocks, existing at a particular point in time, even if it takes the broker several days after the prices are struck to complete trading in all the stocks. If a stock was bought (sold) at a price higher (lower) than the guaranteed price, the difference is rebated to the index fund. Therefore, the broker's commission, in part, represents an insurance premium against adverse price moves. If a profit is earned relative to the guaranteed price, it is split 50:50 with the broker.

Wilshire awarded the packages to brokers on the basis of competitive bids. To prevent any possibility of price manipulation, Wilshire did not reveal the contents of the packages to the winning broker until after the guaranteed prices were set. Further, Wilshire choose the time of day to set the prices. The broker was not informed of this time in advance, only the day on which the prices were to be set.

Approximately two-thirds of the securities were traded through the package process. Primarily, the remaining securities were over-the-counter (OTC) stocks not normally handled by the large brokers dealing on the New York Stock Exchange. These stocks had to be traded on a "best efforts" basis. Instead of paying a broker to guarantee the transactions prices on a group of securities, each non-package stock was traded individually at the best price that the index fund manager could find.

The package trading process was highly successful from the SBI's perspective. The commissions paid to the brokers executing the packages were more than offset by the rebates that the brokers had to pay the index fund because the actual transactions prices were worse than the guaranteed prices. Thus, the "insurance" served its purpose of protecting the index fund against adverse price moves.

The "best efforts" trading, as expected, was more expensive than the package trading, however, it was likewise successful. Because there were no guaranteed prices, the "best efforts" trades incurred market impact costs. Market impact is the effect on the price of a security that a trader creates by his/her buying or selling of that security in the marketplace. The market impact costs, combined with the commissions paid on the transactions, represents the cost of "best efforts" trades. The trading costs of the "best efforts" transactions were in line with those of previously conducted studies on the subject.

Wilshire was also able to complete a relatively small number of trades with another index fund, as well as complete some transactions through its own trading desk. Both types of trades were designed to be extremely low cost, as they were based on existing market prices (thus, resulting in no market impact) and carried a very small commission.

The package trading was designed to avoid all market impact costs. Thus, the cost of the package trading was represented by the commissions paid to the brokers, which amounted to 0.42% of the principal traded. The trades completed with the other index fund and through the Wilshire trading desk were likewise very inexpensive, costing .04% of principal. Because the "best efforts" trading incurred market impact costs, it was more expensive, costing 2.78% of principal. Wilshire traded as many of the stocks as possible through the packages, with other index funds and through its own trading desk.

The index fund is expected to closely track its target index, the Wilshire 5000. However, in any given quarter, the index fund's return may not precisely match that of the target index. This difference is referred to as tracking error. There are a number of causes of tracking error. First, the index fund only holds approximately 1100 of the 5000-odd stocks in the Wilshire

5000. It is impractical from a trading cost and administrative perspective to own all five thousand. Second, the SBI has limited, to some degree, the type of stocks the index fund can own. It is not allowed to own liquor or tobacco stocks. Also, Wilshire is required to screen the Wilshire 5000 and eliminate the stocks of companies exhibiting suspect financial characteristics. Third, the trading costs associated with periodically rebalancing the index fund and reinvesting dividends, as well as the fees charged by Wilshire for managing the fund, also result in tracking error.

The tracking error that the index fund will produce is small. Further, it is largely unbiased. That is, in some quarters it will be positive, in other quarters it will be negative. Wilshire Associates expects that an annual maximum tracking error of plus or minus .75 percentage points is a reasonable expectation.

BACKGROUND

An equity index fund is a portfolio designed to match the performance of the stock market. The stock market often is represented by a particular index of stocks (e.g., the Dow Jones Industrials, the Standard & Poor's 500, the Wilshire 5000, etc.). By buying and holding a large number of the same securities that are included in the target index, by weighting the largest securities in the same proportion as their weight in the target index, and by holding securities sufficient to cause the weight of each industry category in the index fund to equal that of the target index, the returns on an index fund will closely track those of the target index and, hence, the stock market.

The use of an index fund, referred to as passive management, provides several important advantages to a pension fund. First, an index fund is extremely inexpensive to operate. Passive management fees are less than one-twentieth those charged by active managers. Further, since an index fund represents a buy-and-hold strategy, the costs associated with passive trading are minimal. Second, a large fund, such as the Basic Retirement Funds, can make a sizable commitment to equities without the necessity of retaining a large number of managers. From a management perspective, there is virtually no practical limit to the amount of dollars that a plan sponsor can allocate to an index fund. Such is not the case with a plan sponsor's active managers, particularly in a multi-manager environment. Third, an index fund can complement a group of active managers by providing the total pension fund with adequate equity diversification. Active managers can then be relieved of diversification considerations to focus on aggressive, value-added management. In sum, while an index fund foregoes the opportunity to earn returns superior to those of the market, not only does it avoid the risk of underperforming the market, but it also provides a large pension fund with a cost effective means of efficiently managing its total risk and return.

Many index funds use the S&P 500 as a target index. However, the case can be made that the S&P 500 is not sufficiently representative of the overall stock market. The S&P 500 tends to be concentrated in many of the larger industrial companies and underweighted in the smaller service companies. As a result, based on the recommendations of the Investment Advisory Council's (IAC) Asset Mix Committee, the SBI selected the Wilshire 5000 as the target for its index fund. The Wilshire 5000 is composed of all common stocks for which daily prices are available. Thus, it is an all-inclusive representation of the stock market. By using the Wilshire 5000 as a target index, the Board can more effectively produce a return on its passively managed funds which tracks that of the entire stock market.

The SBI's Manager Search Committee interviewed five nationally-recognized index fund managers. The Committee analyzed a number of factors as it reviewed each candidate, including: index fund management experience; organizational stability; dollars under current passive management; index fund design; techniques employed in actual index fund construction (focusing especially upon trading strategies); and, management fees. The Committee recommended that the SBI retain Wilshire Associates to manage its index fund. Wilshire was viewed as having a strong background in non-discretionary index fund management, being the largest supplier of index fund computer software and support in the country. While the SBI was to be Wilshire's first discretionary client, the Search Committee believed that the firm's extensive advisory experience, combined with its strong dedication to the success of its first fund, would be a positive factor. Further, the combination of the depth, quality, and stability of Wilshire's top management was considered to be superior to that of the other managers. Finally, the Committee was impressed by Wilshire's innovativeness and the research the firm had conducted concerning the subject of passive management. It should also be noted that the fact that Wilshire Associates created and maintains information on the Wilshire 5000 index had little to do with their selection as index fund manager.

At its October 26, 1983 meeting, the SBI approved the hiring of Wilshire Associates. Consistent with the IAC's asset mix recommendations, Wilshire was allocated approximately 40% of the Basic Retirement Funds. Wilshire's management responsibilities began effective December 1, 1983.

ORIGINAL PORTFOLIO

Wilshire received a portfolio made up almost entirely of common stocks. The holdings represented the equity assets previously managed by the SBI internal staff. This portfolio contained 32,145,010 shares representing 73 separate securities and a total market value of $1.37 billion. The original portfolio was highly diversified, consistent with the staff's goal, once the SBI had chosen to utilize an index fund, of adding to the portfolio's diversification where opportunities presented themselves. The portfolio possessed a beta of 1.00 and an R-squared of 0.96. It was slightly overweighted in the Capital Goods, Consumer Durables and Energy sectors, while it was slightly underweighted in Consumer Nondurables, Financial, Materials & Services and Transportation sectors. All issues in the original portfolio were to be included in the index fund. While most of the total value of the original holdings had to be sold to buy the additional issues, $402 billion, or 28.7% of the portfolio, was to remain in the index fund.

PACKAGE TRADING STRATEGY

The primary goal of index fund trading is to pay the absolute minimum for the execution of trades in terms of administrative costs, commissions, and market impact. Index fund trading is passive in the sense that the manager is not selecting stocks on the basis of their valuations, but simply in order to construct the portfolio such that it can track a particular target index. This approach provides the index fund manager with several significant transactions cost advantages over active managers. Most important is the fact that the index fund manager, because he has no sense of relative value, can avoid significant market impact when conducting trades in large blocks of stock. Because an index fund's trades are "informationless", other transactors need not bid defensively against the passive trader. Second, the sampling methods used to construct index funds allow the substitution of one stock for another. If a particular stock is difficult and costly to purchase, frequently another stock can be purchased in its stead and still provide the same diversification contribution. Third, the index fund often can act as a provider of liquidity to other transactors. By trading with active managers eager to transact, the index fund manager may actually be the beneficiary of market impact, or at worst, neutralize it. That is, the index fund manager can make the active manager "pay up" for the ability to quickly transact. Fourth, the index fund manager pays for execution only and does not receive or pay for research. Finally, the index fund manager may utilize various market situations to reduce costs including trades with other index funds, dividend reinvestment plans, and secondary offerings.

Index fund trading strategies are designed to utilize these passive trading advantages to their fullest. In the process of its initial construction, the majority of an index fund's transactions can be conducted through packages of block trades. These packages normally are composed of a diversified group of stocks roughly balanced in terms of market value between securities that the index fund wishes to buy and securities that it wishes to sell. For a fee, brokers are willing to guarantee the index fund that it will receive the market prices on the securities in the package existing at a particular point in time, even if it takes the broker several days after the prices are struck to complete trading in all the stocks. The commission paid to the broker, in part, represents an insurance premium. Because the package is diversified and balanced between buys and sells, brokers are able to avoid most of the risk associated with market moves. Thus, the commissions charged are only slightly higher than the commissions paid by active traders.

The commissions to be paid to the broker are set by competitive bid. Wilshire specified that bids would be solicited on the day the package execution would begin. The brokers, in determining their bids, were supplied with the following information:

1) Total number of shares to be purchased and sold.
2) Total dollar purchases and total dollar sales.
3) Number of securities to be bought and sold.
4) Minimum and maximum dollar trade size in any one security.
5) Average and maximum percent of previous five days average volume of trading (an indication of the package's

liquidity).

Wilshire set the groundrules for the package trades in advance and the bidding brokers took them into consideration when presenting their bids. The more important specific terms of the transactions between the brokers and Wilshire were as follows:

1) Brokers were to bid in cents per share to execute the package.
2) On the day of execution, during the New York Stock Exchange's business hours, the guaranteed prices were to be set at a time specified by Wilshire and unknown to the broker in advance.
3) The composition of the package was constructed by Wilshire using a computer program which randomly specified the contents of the package.
4) Each package would be designed so that the sales of any individual security would not represent more than one-third of the stock's recent 20-day average daily trading volume. Purchases of a security within a package would not be more than one-fifth of its recent 20-day average daily trading volume.
5) The broker would not know the contents of the package until after the guaranteed prices were set.
6) All trading was to be completed within three business days.
7) If the broker's transactions in a stock were such that a profit was earned relative to the guaranteed price, then the profit would be split 50:50 with the index fund.

8) If the broker's transactions in a stock were such that a loss was taken relative to the guaranteed price, then the loss would be repaid in full by the broker to the index fund.

9) The packages would not overlap. One package would have to be completed before another could begin.

10) The brokers would be available for a post-mortem analysis of the trading for the package.

Block trade packages conducted by index funds have become frequent occurrences in the last five years. The terms of these packages tend to be relatively standard among all participants. Wilshire's groundrules, however, represented a departure from the normal conditions applied to the package trades. Most importantly, Wilshire would not reveal the contents of the packages until the guaranteed prices were set. Under the terms of many package trades, the broker knows the particular securities to be traded prior to the setting of the guaranteed price. This arrangement provides an opportunity for price manipulation by the broker. While there is some uncertainty whether this manipulation actually takes place, Wilshire's approach eliminated the possibility that it could occur. Two other conditions further maintained the security of the package contents. Wilshire constructed each package using a computer program which randomly selected the issues to be included in any given package. This procedure prevented speculation on the part of the broker as to the contents of the package. In addition, the guaranteed prices were set at a time of day unknown in advance to the broker. At a time of its choosing during the day that the guaranteed prices were to be set, Wilshire notified the broker that the prices were being struck. Wilshire then transmitted a list of the securities in the package and the guaranteed prices to the broker. The broker was then free to trade the package. By employing these strategies, Wilshire was able to eliminate completely market impact as a transaction cost factor for those stocks traded in the packages.

NON-PACKAGE TRADING STRATEGY

Approximately two-thirds of the transactions involved in the index fund's construction utilized this package trading process. However, a sizable number of the remaining securities in the index fund had insufficient broker following to allow them to be traded in the packages. Brokers generally are not familiar with handling blocks of thinly traded and over-the-counter (OTC) stocks. As a result, such stocks that were to be bought for the index fund had to be purchased on a "best efforts" basis. That is, instead of paying a broker to guarantee the transactions prices on a group of securities, each non-package stock would be traded individually at the best price that the index fund manager could find.

It is in the trading of these unpackageable securities that the advantages of passive relative to active trading can be most effectively utilized. With a fund as large as the SBI's index fund, the desired position in one of the non-package stocks could represent up to several weeks of average trading volume in the stock. If an active manager were to attempt to aggressively purchase these securities, their prices could be driven up dramatically. But as was discussed above, the passive trader, because he is not transacting on the basis of perceived investment value, has distinct advantages in trading these issues. Utilizing these advantages can significantly reduce the market impact costs.

Wilshire believed that the expertise required to trade in the non-package securities could best be acquired by retaining an experienced OTC trading firm rather than utilizing Wilshire's own trading desk. Thus, Pacific Brokerage Services (PBS), the largest discount brokerage firm on the West Coast, was hired to handle the majority of the "best efforts" trading. PBS operated on an agency basis (i.e., acted as an intermediary transacting with other dealers for Wilshire) for a flat three cents per share commission. Because the non-package trades generally entailed purchases rather than sales, funds for these buy programs were generated from the package programs with each package designed to have a slight excess of sales over purchases.

The stocks assigned to PBS to be purchased on a "best efforts" basis were used to bring the index fund into a proper industry weighting balance with the Wilshire 5000. Given the additional dollar amount to be invested in each industry and the minimum position size, Wilshire's index fund construction program initially generated a list of suggested purchases. The primary factor in determining the desirability of a stock was its market capitalization. Wilshire, with the advice of PBS, then modified this list both before and during the trading program. If a particular stock had insufficient liquidity, or for some other reason could not be traded without excessive market impact, then another security would be substituted in its place. Further, Wilshire's flexible purchase strategy allowed an industry balancing stock to be bought within a range of 0.5 to 2.0 times its desired position size.

In addition, certain stocks which were traded in the packages were also traded on a "best efforts" basis. These were stocks in which the original portfolio had held very large positions and thus all the shares could not be traded through the packages. Because these were large capitalization, listed securities, Wilshire utilized Wall Street brokerage houses with considerable block trading experience to sell the securities.

PACKAGE TRANSACTIONS RESULTS

Wilshire initiated its first package trade on December 1. For the next two months packages were transacted on roughly a once per week schedule. The exception was the last two weeks of December when no packages were traded. (Due to year-end tax-selling and other factors, the stock market in late December is highly unpredictable. Wilshire chose to do no package trading during this period to avoid any possible market aberrations.) In all, eight packages were transacted with four different brokerage houses. As shown in Table 1, $1.279 billion of the $1.884 billion (or 67.9%) in total index fund trading was done through the package process.

Closer inspection of Table 1 indicates several interesting elements of the package trading process. Column 6 shows the brokers' gain or loss relative to the guaranteed prices. In every package, the brokers traded at prices, on average, worse than the guaranteed prices. Under the package trading groundrules, the brokers, therefore, were required to compensate the index fund for these differences.

Column 7 calculates the brokers' net gain or loss combining the commissions paid by the index fund to the broker for handling the package with the rebate that the brokers had to pay the index fund for transacting at prices worse than the guaranteed prices. Both Merrill Lynch and Goldman Sachs lost money, on a total net basis, by participating in the package trading program. Smith Barney and especially Salomon Brothers, on the other hand, earned a net profit. It should be pointed out that the goal of the package trading process is not to cause the brokers to suffer a net loss. Only by earning a profit can they be encouraged to participate over the long run. As was noted previously, the commissions paid by the index fund represent insurance premiums to protect against adverse stock price moves while the package trading is occurring. The long-term financial health of the insurer (i.e., the broker) in these transactions can only be

TABLE 1
INDEX FUND TRADING DATA

(1) PKG NO.	(2) BROKER	(3) SHARES	(4) COMM. CENTS/ SHR	(5) TOTAL COMMISSION	(6) BROKER GAIN (LOSS)	(7) NET COST	(8) NET COST/ SHR	(9) ISSUES SOLD	(10) ISSUES BOUGHT	(11) $ MIL SOLD	(12) $ MIL BOUGHT
1	Merrill Lynch	3,958,700	9.0	$ 356,283	($ 767,149)	($ 410,866)	-10.4	26	82	$101	$ 83
2	Merrill Lynch	3,710,034	9.0	333,903	(1,392,570)	(1,058,667)	-28.5	28	101	106	83
3	Goldman Sachs	4,820,300	15.5	747,147	(1,212,312)	(465,166)	-9.7	32	130	104	80
4	Smith Barney	5,327,500	19.0	1,017,925	(932,289)	85,636	1.6	53	185	106	76
5	Salomon Bros.	5,523,800	19.5	1,077,141	(366,262)	710,879	12.9	29	182	100	97
6	Salomon Bros.	5,640,500	19.5	1,099,898	(464,351)	635,547	11.3	34	191	101	96
7	Salomon Bros.	2,888,600	19.5	563,277	(336,849)	226,428	7.8	25	84	56	39
8	Salomon Bros.	1,539,000	19.5	300,554	(194,513)	106,041	6.9	15	78	34	17
	Sub Total	33,408,434	16.5	5,496,128	(5,666,295)	(170,167)	-0.5	--	--	708	571
	PBS Best Eff.	10,874,100	3.0	326,223	0	326,223	3.0	6	361	31	259
	ML Best Eff.	1,348,700	5.0	67,435	0	67,435	5.0	9	0	50	0
	Sal. Best Eff.	1,095,800	5.0	54,790	0	54,790	5.0	8	1	40	2
	Sub Total	13,318,600	3.4	448,448	0	448,448	3.4	--	--	121	261
	Wilshire Desk	1,940,800	3.0	58,224	0	58,224	3.0	9	34	8	18
	Index Fund Cross	4,732,900	1.0	47,329	0	47,329	1.0	30	86	103	94
	MINN Transfer	112,600	0.0	0	0	0	0.0	0	5	0	3
	Sub Total	6,786,300	1.6	105,553	0	105,553	1.6	--	--	111	115
	Grand Total	53,513,334	11.3	$6,050,129	($5,666,295)	$ 383,834	0.7	60	978	$940	$944

maintained if the premiums exceed the loss payments. In fact, after suffering two sizable losses, Merrill Lynch declined to bid on the rest of the packages. Salomon Brothers has long been noted as perhaps the premier index fund package trader. That the firm was able to produce consistent net profits over four packages is not likely a coincidence.

Why Merrill Lynch and Goldman Sachs lost significant amounts of money is difficult to explain. At least regarding Merrill Lynch's experience, one possible explanation proposed by Wilshire is that the firm's traders tended to do the easiest trades first (e.g., buy liquid stocks in a down market). This strategy left the more difficult trades to the end of the program (e.g., selling less liquid stocks in a down market). As the market continued to move against the broker, the difficulty of the trades compounded themselves, increasing the cost to the broker. However, because of Goldman Sach's extensive block trading expertise, Wilshire is less willing to apply this explanation to their results.

The package trading worked well from the SBI's perspective. As discussed, the commissions paid to the brokers represented, in part, insurance premiums. The "insurance" completely protected the index fund against adverse price moves while the package trading was conducted. Because each broker, on average, experienced adverse price moves, the true cost of the package trading to the index fund can be viewed as the commissions paid to the brokers. Thus, the package trading costs amounted to $5,496,128, or 16.5 cents per share.

NON-PACKAGE TRANSACTION RESULTS

During the period that the packages were being traded, PBS was also buying, on a "best efforts" basis, the majority of the index fund stocks which could not be obtained through the packages. Table 1 shows that $290 million or 15.4% of the index fund trading was handled by PBS. At its three cents per share fee, PBS's commission charges amounted to $326,233. Because there were no guaranteed prices in these transactions, there were no "gains" to offset the commission costs.

Wilshire also engaged two brokerage houses, Merrill Lynch and Salomon Brothers, to buy and sell on a "best efforts" basis, particular stocks which were also traded in the packages. The shares traded represented the residual above the amount which could be handled in the packages. Wilshire also did a portion of this type of trading on its own. Wilshire's trading desk receives buy and sell orders in the course of its normal operations. The desk was instructed to offer to split the difference between the then-current bid-ask prices for securities in which the index fund desired to transact. Trades conducted by all three parties totalled $118 million or 6.3% of the total index fund trading. Commissions amounted to $180,449.

The final category of trading summarized in Table 1 represents trades which were completed with another index fund, as well as with the SBI's internal manager. Wilshire was able to complete a trade with another index fund manager who was in the process of starting up a new account. The trade was arranged to take place at the closing prices on an agreed upon future date. A minor one cent per share fee was required to clear the trades. This inexpensive "cross" with the other index fund accounted for $197 million or 10.5% of the total index fund trading. In addition, Wilshire was able to buy $3 million of stock from the SBI's internal manager who was raising cash for another fund at the time.

Table 1 considers only the directly measurable costs incurred by the SBI in its index fund trading. However, with respect to the "best efforts" portion of the non-package trades, another element must be factored into the cost calculations, that is, market impact.

Market impact can be defined as the effect on the price of a security that a trader in that security creates by his presence in the market. That is, it is often the case that a trader desiring to transact in a given quantity of a particular security cannot trade exactly at the current market price. Due perhaps to liquidity considerations or concerns about information possessed by the trader, the individual on the other side of the trade may demand a price concession from the trader (i.e., offering to buy the trader's shares at a lower price than the current bid price or sell at a higher price than the current asked price). It is this price concession that reflects the market impact of the trader's presence in the market for that particular security. It, like commission expenses, is a direct cost of trading. It must, therefore, be considered in calculating the cost of the SBI's index fund trading.

As is noted above, a large percentage of the SBI's trades were designed to avoid, among other things, all market impact. Execution prices were set at a point during the trading day based upon the then-current market prices for the securities involved. No price concessions away from the market price were required.

Elaborating on this point, from the SBI's perspective, market impact was not a factor in the cost of trading through the package programs. The brokers guaranteed the market prices at which the index fund would transact. In most cases the brokers experienced market impact costs as they bought and sold the SBI's index fund positions. But the guaranteed prices insulated the SBI from this trading cost. In addition, trades done through the Wilshire trading desk, the index fund cross, and the internal transfer were all structured to avoid market impact. Only the "best efforts" trading was exposed to market impact costs. As was discussed, these trades represented the positions in securities that could not be handled, for various reasons, through the other trading techniques.

Unfortunately, the measurement of market impact trading costs is not a simple process. Trade results cannot be examined in a vacuum. Many factors, in addition to the trader's presence in the market, can cause a stock's price to fluctuate from the time that a trade order is submitted to the time that the trade is actually executed (e.g., news concerning the particular stock or the market, in general). Removing the effect of these extraneous factors is the most difficult element of measuring a trade's market impact.

Wilshire has developed a methodology for measuring the market impact of "best efforts" trading. In brief, before each trade was given to the broker the stock's then-existing market price was recorded. At the completion of trading the actual execution price likewise was recorded. This execution price then was adjusted for changes in the prices of other stocks in the same industry sector. The rationale underlying this adjustment is that, on average, the primary difference between the movement in the price of the particular stock being traded and the movement in prices of other stocks in the same industry is the trader's presence in the market. In other words, movement of prices of other stocks in the industry, on average, is meant to represent all the extraneous factors, referred to above, affecting the particular stock's price. The difference between the adjusted execution price and the original order price is taken to be a statistically viable measure of the market impact of trading done in the particular stock. Of course, for any given trade there may be other factors which affected the price of the stock being traded besides the market impact of the transaction, which did not affect other stocks in the same industry sector. However, this statistical "noise" is expected to "wash out" over a large sample size.

Table 2 presents Wilshire's analysis of the "best efforts" trading done by the three assigned brokers. Data is shown for both buys and sells. Pacific Brokerage Service (PBS) conducted essentially all of the "best efforts" buying, while "best

TABLE 2
ESTIMATED MARKET IMPACT COSTS

BUYS

(1)	(2)			(3)
	MARKET IMPACT RELATIVE TO MARKET CAPITALIZATION			
BROKER	GREATER THAN $1 BILLION	$1 BIL.-$100 MIL.	LESS THAN $100 MILLION	MARKET IMPACT TOTAL
Pacific Brokerage Service	1.6%	3.3%	7.5%	3.2%

SELLS

	MARKET IMPACT RELATIVE TO MARKET CAPITALIZATION			
BROKER	GREATER THAN $1 BILLION	$1 BIL.-$100 MIL.	LESS THAN $100 MILLION	MARKET IMPACT TOTAL
Pacific Brokerage Service	3.8%	NA	NA	3.4%
Merrill Lynch	1.8	-2.2	NA	0.7
Salomon Brothers	1.4	NA	NA	1.4

efforts" selling was split roughly equally between PBS, Merrill Lynch, and Salomon Brothers. Column 3 shows the average total market impact of the "best efforts" trading. PBS's buys experienced an average market impact cost of 3.2% of the principal involved, or roughly 85 cents per share. On the sell side, PBS generated a 3.4% market impact cost, or 87 cents per share. Merrill Lynch's market impact on sells was 0.7%, or 27 cents per share, while Salomon Brothers produced a 1.4%, or 51 cents per share market impact. On the sell side, Wilshire believes that Merrill Lynch was more successful because it traded more slowly, taking an average of four days to trade in contrast to approximately one day for PBS and Salomon. On the buy side, Wilshire believes that PBS's trading was very successful. Trading took place in some extremely small capitalization, or otherwise difficult to trade, stocks. Column 2 shows that as the market capitalization of the securities purchased became smaller, market impact costs increased dramatically. The market impact cost data on the buy side compares favorably with trading cost data published in other studies.

Finally, Table 3 summarizes the total cost of the index fund trading to the SBI, including commission expenses, market impact costs, and aggregate custodian fees. One must bear in mind that the market impact costs are only estimates and are thus subject to sampling and measurement error. In the final analysis, the index fund trading resulted in total transactions expenses to the

TABLE 3
TOTAL TRANSACTIONS COSTS

			COMMISSIONS			MARKET IMPACT			TOTAL		
	SHARES TRADED (MILLIONS)	DOLLARS TRADED (MILLIONS)	DOLLARS (THOU)	CTS/SHR	PERCENT	DOLLARS (THOU)	CTS/SHR	PERCENT	DOLLARS (THOU)	CTS/SHR	PERCENT
Packages	33.4	1,279	5,496	16.5	0.43	0	0	0	5,496	16.5	0.43
Wilshare Desk Index Fund Cross MINN Transfer	6.8	226	106	1.6	0.04	0	0	0	106	1.6	0.04
Best Efforts	13.3	382	448	3.4	0.12	10,150	76.2	2.66	10,598	79.6	2.78
Total (excluding custodian fees)	53.5	1,887	6,050	11.3	0.32	10,150	19.0	0.54	16,200	30.3	0.86
Custodian Fees	--	--	--	--	--	--	--	--	81	0.2	0.00
Total (including custodian fees)	53.5	1,887	384	0.7	0.02	10,150	19.0	0.54	16,281	30.4	0.86

SBI of approximately sixteen million dollars, or 0.86% of the value of the fund's transactions. While this figure, in absolute dollar terms is large, relative to the index fund's total value of almost $1.4 billion, and the total trading which took place of $1.9 billion, it is not terribly significant. Presuming that the fund is managed effectively, the benefits of core passive management should quickly outweigh the initial start-up costs.

QUALITY RESTRICTIONS

An index fund selects stocks not on the basis of their relative value, but only on the basis of their contribution to the fund's ability to track the target index. However, it is relatively common for index funds to avoid purchasing shares of companies that are experiencing serious financial difficulties and which have an above average risk of entering bankruptcy. Several different sources of financial quality ratings are available, all of which utilize income and balance sheet data to evaluate the financial situation of a large number of publicly held companies. Two of the most prominent sources are Value Line and Zeta Services.

Wilshire was required by the SBI to screen its purchase candidates for potential bankruptcies. Wilshire used Value Line as its primary source, eliminating from consideration all stocks which fell into Value Line's lowest ranking. For those companies that were not rated by Value Line, the Zeta Service ratings were utilized. Again, those stocks which possessed the lowest rating were bypassed. (Wilshire plans to rerun the screen and make necessary portfolio adjustments quarterly.) In all, 1,322 companies representing approximately 5% of the Wilshire 5000's total market value were eliminated from potential purchase. The impact on the ability of the index fund to track the index is expected to be minimal. The excluded companies represent generally very small corporations which would be included in the index fund for industry balancing purposes only. Thus, they can easily be replaced with companies from the same industries but with sounder financial conditions.

Also eliminated from the index fund were stocks of companies whose primary business involves liquor or tobacco, as well as American Home Products. These restrictions are consistent with current Board policy. These companies represent approximately 3% of the Wilshire 5000. However, because whole industries are eliminated by this policy, and the fact that many of these companies would be included in the index on the basis of their size, not their industry classification, the effect on the ability of the index fund to track the Wilshire 5000 is likely to be greater than is the case with the quality restricted stocks. Wilshire replaced the liquor and tobacco stocks with additional beverage and food stocks, respectively. Since these industries are not perfect substitutes and since the replacement companies are in several cases smaller than the restricted companies, the impact on the index fund's tracking error is likely to be marginally greater.

CUSTODIAN RELATIONSHIP

Constructing a billion dollar index fund designed to track the Wilshire 5000 involves a massive amount of trading in a large number of securities over a relatively short span of time. The custodian requirements to effectively implement these transactions are extremely vital, yet are often overlooked. The Board's decision to retain State Street Bank as its master custodian prior to the hiring of an index fund manager proved to be a correct decision.

A master custodian's normal role includes interfacing with securities depositories and portfolio managers to clear trades, taking delivery of and safekeeping securities not held by depositories, accounting for trades, maintaining cash balance figures, and generating monthly transaction and asset listing reports, to mention only a few. Wilshire's index fund trading called upon State Street's maximum capabilities in all of these areas. For example, during the peak trading months, in December and January, State Street had to handle an average of approximately 3000 individual trade tickets per month for the index fund alone. This number compares impressively to a more normal month such as March 1984 when all SBI portfolios custodied at State Street generated 448 trade tickets.

It is no exaggeration to state that very few custodian banks in the U.S. could have handled Wilshire's index fund trading as accurately and as timely as did State Street. The bank assigned one individual full-time to the index fund during the period of heaviest trading, and this person was backed up by several others. State Street's task was made even more difficult by the fact that the SBI had assets custodied at the bank for only a month prior to the initiation of the index fund trading. Thus, the bank was still smoothing out its normal working relationship with the SBI's account when it had to take on the index fund. Despite these adverse factors, State Street handled the index fund transactions efficiently. No trades were delayed and accounting statements contained no inaccuracies. Some delay was experienced in providing the SBI and Wilshire with month-end reports, but the inconvenience was minor.

RISK-RETURN OBJECTIVES

Like other external managers retained by the SBI, certain risk-return objectives have been established for Wilshire Associates as an index fund manager. (See the IAC's Asset Mix Committee's December, 1983 Supplemental Report for further discussion.) Because an index fund is designed to match the performance of a particular target index, the risk-return objectives for an index fund manager are straightforward. The risk characteristics of the index fund should equal those of the target index. The SBI's external manager risk guidelines have focused on two portfolio risk characteristics: Relative market volatility (beta) and diversification (R-squared). Thus, the index fund should maintain both a beta and R-squared of 1.00, measured relative to the Wilshire 5000, indicating that the index fund possesses the same level of risk as the index itself.

In terms of return objectives, the goal again is that the index fund should closely follow the performance of the Wilshire 5000. The difference between an index fund's return and that of the target index is referred to as tracking error. Ideally, an index fund should produce zero tracking error. However, practical considerations dictate against setting such a strict goal. Most important is the fact that the index fund cannot, from a cost effectiveness perspective, justify holding all 5000 stocks in the index (it actually holds only approximately 1100 of the 5000-odd stocks in the Wilshire 5000). Therefore, the index fund cannot be expected to match precisely the return on the index over any given time period. It is important to remember, though, that the tracking error resulting from underownership of the entire index largely is statistically unbiased. In some quarters, the index fund will underperform the index slightly. In other quarters, it will outperform the index. Over the long-run, the tracking error should average out to close to zero.

There are other, relatively minor, sources of tracking error which have a small, but consistently negative bias. First is the management fee paid to Wilshire for running the index fund. (The annual fee is .015% on the first billion dollars and .010% on the amounts above one billion dollars.) Second, the index fund will generate certain costs when it has to rebalance periodically (approximately 1-2% of the fund is expected to turnover each year due to rebalancing) and when it must reinvest dividend income and contributions. (Cash will be allowed to accumulate up to 0.5% of the portfolio before it is invested.) Finally, as mentioned above, not all of the 5000 stocks in the Wilshire 5000 will be owned. Many of the stocks not held will be among the smallest firms in the index. Thus the index will miss some of the positive small company effect on returns.

Wilshire has conducted simulations of its index fund's tracking error versus the Wilshire 5000. Based on this study, which utilized four years of monthly data, Wilshire believes that a reasonable expectation of tracking error for the index fund is plus or minus .75 percentage points per year. That is, if the Wilshire 5000 were to produce a 10% return in a given year, then two-thirds of the time the index fund is expected to produce a return within a band from 9.25% to 10.75%.

Tab G

August 22, 1984

TO: Members, Minnesota State Board of Investment
Members, Investment Advisory Council

FROM: IAC Fixed Income Committee

SUBJECT: Committee Report

The IAC Fixed Income Committee reviewed the selection process, the investment guidelines, and the funding procedures utilized by the Board and staff for the six bond managers retained July 2, 1984. In addition, the Committee reviewed the manager monitoring guidelines that have been established for the equity managers to determine their applicability to the fixed income managers. The Committee concluded that the majority of the decision guidelines should be used for fixed income managers, but requested that staff make certain modifications in the performance-related guidelines and report back to the Committee at its next meeting.

To date the Committee has had no investment performance data to review. (Managers were retained on July 2). In the future, the Committee will report on the managers' performances on a quarterly basis.

MEMBERS OF THE BOARD:
GOVERNOR RUDY PERPICH
STATE AUDITOR ARNE H. CARLSON
STATE TREASURER ROBERT W. MATTSON
SECRETARY OF STATE JOAN ANDERSON GROWE
ATTORNEY GENERAL HUBERT H. HUMPHREY III

EXECUTIVE DIRECTOR
HOWARD J. BICKER

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

August 10, 1984

TO: IAC Fixed Income Committee

Howard Bicker

FROM: Howard Bicker, Executive Director

SUBJECT: Funding of Outside Bond Managers.

The initial funding of the six outside bond managers has been completed. Due to the timing and assets involved the funding was implemented in stages as follows:

Each manager was given the option of selecting bonds in our portfolio. Those bonds not selected were assigned to managers by SBI staff. The transfer of these bonds took place on July 2, 1984 along with cash and accrued income sufficient to bring the managers account balance to the approximate amount of their funding. Because the June 30, 1984 market value was not known at the time of the initial transfer, final funding had to be delayed.

On August 1, 1984 additional cash was transferred to/from each managers account to bring their balance to the full amount of their funding. Short term interest for the month of July for the applicable amount of cash was also credited to each managers account.

Attached are copies of the portfolios that each manager received on July 2, 1984 and a copy of the reconciliation of each managers funding.

AN EQUAL OPPORTUNITY EMPLOYER

MEMBERS OF THE BOARD:
GOVERNOR RUDY PERPICH
STATE AUDITOR ARNE H. CARLSON
STATE TREASURER ROBERT W. MATTSON
SECRETARY OF STATE JOAN ANDERSON GROWE
ATTORNEY GENERAL HUBERT H. HUMPHREY III

EXECUTIVE DIRECTOR
HOWARD J. BICKER

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

July 30, 1984

Mr. Larry R. Hill
Investment Advisers, Inc.
1100 Dain Tower
Minneapolis, MN 55402

Dear Larry:

Pursuant to our agreement for funding your portfolio the transfer to be made to your account on August 1, 1984 is $131,269.02. This transfer will be made with the accrued short term interest applicable to this amount back to July 1, 1984.

This final transfer was calculated as follows:

June 30 Market Value Securities Transferred	$24,071,248.50
Cash Transferred on July 2	132,261.00
Accrued Income at June 30	665,221.48
Total Transferred to date	$24,868,730.98
August 1st Transfer	131,269.02
Total Funding	$25,000,000.00

If you have any questions about this transfer, please contact me at (612) 297-2674.

Sincerely,

LMSchmitt

L.M. Schmitt

LMS/co

AN EQUAL OPPORTUNITY EMPLOYER

EXHIBIT A

INVESTMENT ADVISORS
ALLOCATED BOND PORTFOLIO

NAME	COUPON	MATURITY DATE	PAR VALUE	MARKET VALUE 5/31/84
Indiana & Michigan Elec.	3.875% due	02/01/88	$ 50,000	$ 35,971
Northern States Power	8.375	01/01/04	1,200,000	732,432
Northwestern Bell Tel.	4.875	06/01/98	5,420,000	2,455,856
Northwestern Bell Tel.	9.500	08/15/16	10,500,000	6,967,694
U.S. Treasury Note	10.125	05/15/93	17,000,000	13,865,539
TOTALS			$34,170,000	$24,057,492

The assets listed above will be transferred to the investment management control of Investment Advisors on July 2, 1984.

Cash, in the amount representing the difference between $25 million and the market value of the above assets as of the close of trading June 29, 1984, will make up the remainder of the asset transfer.

MEMBERS OF THE BOARD:
GOVERNOR RUDY PERPICH
STATE AUDITOR ARNE H. CARLSON
STATE TREASURER ROBERT W. MATTSON
SECRETARY OF STATE JOAN ANDERSON GROWE
ATTORNEY GENERAL HUBERT H. HUMPHREY III

EXECUTIVE DIRECTOR
HOWARD J. BICKER

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

July 30, 1984

Mr. Paul A. Hutter
Lehman Management Co., Inc.
55 Water Street
New York, NY 10041

Dear Paul:

Pursuant to our agreement for funding your portfolio the transfer to be made to your account on August 1, 1984 is $847,347.12. This transfer will be made with the accrued short term interest applicable to this amount back to July 1, 1984.

This final transfer was calculated as follows:

June 30 Market Value Securities Transferred	$133,090,877.57
Cash Transferred on July 2	11,746,845.00
Accrued Income at June 30	4,314,930.31
Total Transferred to date	$149,152,652.88
August 1st Transfer	847,347.12
Total Funding	$150,000,000.00

If you have any questions about this transfer, please contact me at (612) 297-2674.

Sincerely,

LMSchmitt

L.M. Schmitt

AN EQUAL OPPORTUNITY EMPLOYER

EXHIBIT A

LEHMAN MANAGEMENT
ALLOCATED BOND PORTFOLIO

NAME	COUPON	MATURITY DATE	PAR VALUE	MARKET VALUE 5/31/84
AT&T	7.125% due	12/01/03	$ 3,500,000	$ 1,876,315
AT&T	6.000	08/01/00	17,241,000	8,399,813
Atlantic Richfield	12.500	09/15/12	7,500,000	6,485,249
Beatrice Foods Co.	8.500	08/15/08	6,000,000	3,734,639
Federal Home Loan Banks	11.700	07/26/93	22,000,000	19,263,639
Firestone Tire & Rubber	9.250	12/01/04	11,400,000	7,506,556
Gulf Oil Corp.	6,625	06/15/93	2,840,000	1,882,096
Manitoba Province Of.	6.875	11/01/93	2,000,000	1,255,520
Norwest Financial	12.750	07/01/90	12,785,000	12,129,769
Nova Scotia Power	7.250	08/01/93	2,900,000	1,893,004
Southern Bell	12.875	10/05/20	6,300,000	5,485,158
U.S. Treasury Bond	11.625	11/15/02	13,000,000	11,131,250
U.S. Treasury Bond	10.375	11/15/12	20,000,000	15,237,399
U.S. Treasury Bond	12.750	11/15/10	15,000,000	13,940,549
U.S. Treasury Bond	11.500	11/15/95	26,600,000	23,091,991
TOTALS			$162,776,000	$133,312,947

The assets listed above will be transferred to the investment management control of Lehman Management on July 2, 1984.

Cash, in the amount representing the difference between $150 million and the market value of the above assets as of the close of trading June 29, 1984, will make up the remainder of the asset transfer.

MEMBERS OF THE BOARD:
GOVERNOR RUDY PERPICH
STATE AUDITOR ARNE H. CARLSON
STATE TREASURER ROBERT W. MATTSON
SECRETARY OF STATE JOAN ANDERSON GROWE
ATTORNEY GENERAL HUBERT H. HUMPHREY III

EXECUTIVE DIRECTOR
HOWARD J. BICKER

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

July 30, 1984

Mr. Richard B. Worley
Miller, Anderson & Sherrerd
Two Bala-Cynwyd Plaza
Bala-Cynwyd, PA 19004

Dear Rich:

Pursuant to our agreement for funding your portfolio the transfer to be made from your account on August 1, 1984 is $(329,665.08). This transfer will be made with the accrued short term interest applicable to this amount back to July 1, 1984.

This final transfer was calculated as follows:

June 30 Market Value Securities Transferred	$121,361,241.17
Cash Transferred on July 2	25,810,647.62
Accrued Income at June 30	3,157,776.29
Total Transferred to date	$150,329,665.08
August 1st Transfer	(329,665.08)
Total Funding	$150,000,000.00

If you have any questions about this transfer, please contact me at (612) 297-2674.

Sincerely,

L.M. Schmitt

LMS/co

EXHIBIT A

MILLER ANDERSON & SHERRERD
ALLOCATED BOND PORTFOLIO

NAME	COUPON	MATURITY DATE	PAR VALUE	MARKET VALUE 5/31/84
Bell Telephone Co. of PA	6.750% due	05/01/08	14,000,000	6,880,160
Bell Telephone Co. of PA	4.750	05/01/01	3,000,000	1,233,480
Dow Chemical Co.	7.875	07/15/07	8,000,000	4,576,079
Federal Farm Credit B	10.600	10/21/91	10,000,000	8,425,000
FMC Corp.	9.500	01/15/00	11,200,000	7,812,672
Hawaiian Telephone	13.375	10/01/10	9,000,000	7,994,070
Houston Lighting & Power	12.000	06/01/10	4,000,000	3,135,519
Houston Natural Gas	11.000	11/15/92	10,000,000	8,388,699
Marathon Oil Co.	8.500	02/01/00	6,200,000	3,791,982
Martin - Marietta Corp.	7.000	03/15/11	6,000,000	2,954,700
Nova Scotia Power	8.125	07/15/98	4,650,000	2,908,063
Nova Scotia Power	7.750	03/15/97	3,000,000	1,789,530
Nova Scotia Power	9.625	06/01/08	3,000,000	1,998,690
Pacific Northwest Bell	8.625	10/01/10	6,000,000	3,655,560
Pfizer, Inc.	9.250	08/15/00	2,000,000	1,398,100
U.S. Treasury Note	10.500	11/15/92	32,000,000	26,859,839
GNMA Pool # 13255	8.000	11/15/06	635,575	418,944
GNMA Pool # 13262	8.000	11/15/06	537,359	354,221
GNMA Pool # 13297	8.000	11/15/06	646,396	426,097
GNMA Pool # 13327	8.000	11/15/06	819,017	539,855
GNMA Pool # 13334	8.000	10/15/06	626,634	412,981
GNMA Pool # 13935	8.000	01/15/07	806,654	531,545
GNMA Pool # 14174	8.000	12/15/06	818,492	539,278
GNMA Pool # 14118	8.000	10/15/06	810,248	533,802
GNMA Pool # 14919	8.000	02/15/07	686,189	452,211
GNMA Pool # 15616	8.000	01/15/07	719,747	474,331
GNMA Pool # 16051	8.000	01/15/08	881,912	581,381
GNMA Pool # 17086	8.000	11/15/07	374,397	246,779
GNMA Pool # 17566	8.000	03/15/08	960,491	633,228
GNMA Pool # 18099	8.000	08/15/07	736,640	485,605
GNMA Pool # 18224	8.000	09/15/07	812,330	535,495
GNMA Pool # 18279	8.000	01/15/08	876,909	578,087
GNMA Pool # 19083	8.000	12/15/07	1,748,436	1,145,927
GNMA Pool # 19157	8.000	10/15/07	721,299	475,470
GNMA Pool # 19311	8.000	10/15/07	760,631	501,449
GNMA Pool # 19458	8.000	08/15/07	718,689	473,781
GNMA Pool # 19574	8.000	12/15/07	861,234	567,631
GNMA Pool # 20008	8.000	11/15/07	1,772,093	1,143,711
GNMA Pool # 20109	8.000	12/15/07	783,222	516,329
GNMA Pool # 20289	8.000	11/15/07	1,747,945	1,144,677
GNMA Pool # 20290	8.000	12/15/07	856,391	561,471
GNMA Pool # 20305	8.000	11/15/07	815,664	537,660
GNMA Pool # 20455	8.000	12/15/07	855,509	563,985

GNMA Pool # 20489	8.000	10/15/07	819,352	540,159
GNMA Pool # 20761	8.000	10/15/07	865,489	563,925
GNMA Pool # 20819	8.000	10/15/07	691,571	455,922
GNMA Pool # 20916	8.000	11/15/07	842,260	555,418
GNMA Pool # 21113	8.000	10/15/07	858,501	565,971
GNMA Pool # 21131	8.000	12/15/07	849,479	559,988
GNMA Pool # 21329	8.000	12/15/07	824,231	543,374
GNMA Pool # 21487	8.000	11/15/07	835,761	550,972
GNMA Pool # 22022	8.000	01/15/08	841,438	554,714
GNMA Pool # 22832	8.000	09/15/07	1,615,352	1,064,897
GNMA Pool # 23012	8.000	03/15/08	20,897	13,523
GNMA Pool # 26157	9.000	10/15/08	4,239,806	2,963,801
GNMA Pool # 31488	9.000	07/15/09	969,307	679,158
GNMA Pool # 34131	9.500	08/15/09	2,922,864	2,121,161
TOTALS			$172,636,411	$120,911,057

The assets listed above will be transferred to the investment management control of Miller Anderson & Sherrerd on July 2, 1984.

Cash, in the amount representing the difference between $150 million and the market value of the above assets as of the close of trading June 29, 1984, will make up the remainder of the asset transfer.

MEMBERS OF THE BOARD:
GOVERNOR RUDY PERPICH
STATE AUDITOR ARNE H. CARLSON
STATE TREASURER ROBERT W. MATTSON
SECRETARY OF STATE JOAN ANDERSON GROWE
ATTORNEY GENERAL HUBERT H. HUMPHREY III

EXECUTIVE DIRECTOR
HOWARD J. BICKER

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

July 30, 1984

Mr. Geoffrey C. Getman
Morgan Stanley Asset Management
1633 Broadway
New York, NY 10019

Dear Geoffrey:

Pursuant to our agreement for funding your portfolio the transfer to be made to your account on August 1, 1984 is $397,433.40. This transfer will be made with the accrued short term interest applicable to this amount back to July 1, 1984.

This final transfer was calculated as follows:

June 30 Market Value Securities Transferred	$128,548,407.18
Cash Transferred on July 2	17,486,833.76
Accrued Income at June 30	3,567,325.66
Total Transferred to date	$149,602,566.60
August 1st Transfer	397,433.40
Total Funding	$150,000,000.00

If you have any questions about this transfer, please contact me at (612) 297-2674.

Sincerely,

LMSchmitt

L.M. Schmitt

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EXHIBIT A

MORGAN STANLEY ASSET MANAGEMENT
ALLOCATED BOND PORTFOLIO

NAME	COUPON	MATURITY DATE	PAR VALUE	MARKET VALUE 5/31/84
American Express	10.100% due	07/01/90	7,000,000	5,906,109
Federal Farm Credit Banks	11.900	10/20/97	13,000,000	11,391,250
FNMA	10.900	11/12/90	17,000,000	14,726,250
FNMA	10.300	05/10/90	15,000,000	12,721,799
Public Service Co., Ind.	12.125	09/01/90	12,000,000	9,999,359
Saskatchovan, Province of	9.250	04/15/08	14,700,000	9,532,655
Seafirst Corp.	10.500	06/01/90	5,500,000	4,542,780
South Central Bell	12.875	10/01/20	5,000,000	4,353,300
Southwestern Bell Telephone	4.625	08/01/95	4,750,000	2,328,307
Sprauge Electric	4.375	09/01/88	550,000	378,466
Studebaker-Worthington	9.350	11/15/03	14,500,000	9,822,445
Texas Power & Light	8.600	01/01/06	6,000,000	3,711,359
Texas Power & Light	9.375	02/01/09	6,500,000	4,299,230
USLIFE Corp.	12.000	12/15/89	7,000,000	6,557,600
USLIFE Corp.	12.500	10/15/90	11,000,000	10,189,630
U.S. Treasury Note	10.750	11/15/89	6,000,000	5,340,000
GNMA Pool # 02731	8.000	12/15/04	582,405	380,655
GNMA Pool # 04039	8.250	07/17/04	686,435	457,433
GNMA Pool # 04064	8.250	08/15/04	455,790	303,775
GNMA Pool # 04218	8.000	05/15/04	137,454	90,566
GNMA Pool # 04236	8.000	06/15/04	40,584	26,721
GNMA Pool # 04281	8.250	09/15/04	825,953	550,509
GNMA Pool # 05767	8.000	07/15/05	66,151	43,596
GNMA Pool # 06336	8.000	06/15/05	481,811	317,517
GNMA Pool # 07214	8.000	09/15/05	446,042	293,972
GNMA Pool # 08550	8.250	03/15/06	22,687	15,123
GNMA Pool # 09125	8.250	06/15/06	219,288	145,197
GNMA Pool # 09162	8.250	04/15/06	514,111	342,704
GNMA Pool # 09350	8.250	03/15/06	76,302	50,864
GNMA Pool # 09790	8.250	04/15/06	507,994	338,618
GNMA Pool # 10249	8.000	11/15/06	462,479	304,846
GNMA Pool # 10411	8.000	06/15/06	596,299	370,652
GNMA Pool # 10706	8.000	06/15/06	596,971	385,627
GNMA Pool # 10743	8.250	05/15/06	154,107	102,723
GNMA Pool # 10943	8.000	07/15/06	729,826	480,935
GNMA Pool # 11281	8.000	08/15/06	632,482	416,897
GNMA Pool # 11364	8.000	08/15/06	483,393	318,625
GNMA Pool # 11486	8.250	09/15/06	240,435	160,260
GNMA Pool # 11810	8.000	10/15/06	769,666	507,346
GNMA Pool # 11828	8.000	09/15/06	1,080,192	712,007
GNMA Pool # 12025	8.000	10/15/06	790,522	521,090
GNMA Pool # 12077	8.000	11/15/06	768,987	506,868
GNMA Pool # 12243	8.000	10/15/06	496,719	327,375

GNMA Pool # 12283	8.000	10/15/06	587,757	387,395
GNMA Pool # 12289	8.000	10/15/06	2,419,551	1,594,737
GNMA Pool # 12548	8.000	11/15/06	490,687	323,420
GNMA Pool # 12599	8.000	09/15/06	615,014	403,370
GNMA Pool # 12757	8.000	09/15/06	652,178	429,834
GNMA Pool # 12777	8.000	11/15/06	791,129	521,441
TOTALS			$170,248,399	$127,933,237

The assets listed above will be transferred to the investment management control of Morgan Stanley Asset Management on July 2, 1984.

Cash, in the amout representing the difference between $150 million and the market value of the above assets as of the close of trading June 29, 1984, will make up the remainder of the asset transfer.

MEMBERS OF THE BOARD:
GOVERNOR RUDY PERPICH
STATE AUDITOR ARNE H. CARLSON
STATE TREASURER ROBERT W. MATTSON
SECRETARY OF STATE JOAN ANDERSON GROWE
ATTORNEY GENERAL HUBERT H. HUMPHREY III

EXECUTIVE DIRECTOR
HOWARD J. BICKER

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

July 30, 1984

Mr. William D. Giese
Norwest Bank Minneapolis
Eight Street and Marquette Ave.
Minneapolis, MN 55479

Dear Bill:

Pursuant to our agreement for funding your portfolio the transfer to be made from your account on August 1, 1984 is $(487,430.52). This transfer will be made with the accrued short term interest applicable to this amount back to July 1, 1984.

This final transfer was calculated as follows:

June 30 Market Value Securities Transferred	$54,060,209.87
Cash Transferred on July 2	20,001.580.11
Accrued Income at June 30	1,425,640.54
Total Transferred to date	$75,487,430.52
August 1st Transfer	(487,430.52)
Total Funding	$75,000,000.00

If you have any questions about this transfer, please contact me at (612) 297-2674.

Sincerely,

L M Schmitt

L.M. Schmitt

LMS/co

AN EQUAL OPPORTUNITY EMPLOYER

EXHIBIT A

NORWEST BANK MINNEAPOLIS
ALLOCATED BOND PORTFOLIO

NAME	COUPON	MATURITY DATE	PAR VALUE	MARKET VALUE 5/31/84
Fed. Home Loan Mtg. Corp.	12.50% due	01/01/10	$ 6,893,038	$ 6,051,926
FNMA	10.500	06/10/88	5,500,000	4,956,875
First Interstate Bancorp.	10.500	04/15/88	3,600,000	3,237,840
Household Finance	7.250	01/01/90	1,800,000	1,376,082
Illinois Bell Tel.	4.375	07/01/03	4,000,000	1,469,960
Lincoln National Corp.	13.875	09/15/92	1,200,000	1,158,936
Minnesota Power & Light	8.700	09/01/06	800,000	481,704
Owens Illinois	10.375	06/01/90	9,000,000	7,736,759
Union Camp	12.750	10/01/12	10,000,000	8,792,000
U.S. Treasury Bond	11.750	02/15/01	10,000,000	8,631,200
GNMA Pool # 27963	9.000	11/15/08	4,412,749	3,091,666
# 35047	9.500	10/15/09	3,787,509	2,748,454
# 35549	9.500	08/15/09	2,865,910	2,079,704
# 36021	9.500	09/15/09	2,870,974	2,083,521
TOTALS			$66,700,180	$53,896,627

The assets listed above will be transferred to the investment management control of Norwest Bank Minneapolis on July 2, 1984.

Cash, in the amount representing the difference between $75 million and the market value of the above assets as of the close of trading June 29, 1984, will make up the remainder of the asset transfer.

MEMBERS OF THE BOARD:
GOVERNOR RUDY PERPICH
STATE AUDITOR ARNE H. CARLSON
STATE TREASURER ROBERT W. MATTSON
SECRETARY OF STATE JOAN ANDERSON GROWE
ATTORNEY GENERAL HUBERT H. HUMPHREY III

EXECUTIVE DIRECTOR
HOWARD J. BICKER

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

July 30, 1984

Mr. Win J. Neuger
Western Asset Management
707 Wilshire Boulevard
Los Angeles, CA 90017

Dear Win:

Pursuant to our agreement for funding your portfolio the transfer to be made from your account on August 1, 1984 is $(180,314.01). This transfer will be made with the accrued short term interest applicable to this amount back to July 1, 1984.

This final transfer was calculated as follows:

June 30 Market Value Securities Transferred	$130,002,202.13
Cash Transferred on July 2	17,339,076.11
Accrued Income at June 30	2,839,035.77
Total Transferred to date	$150,180,314.01
August 1st Transfer	(180,314.01)
Total Funding	$150,000,000.00

If you have any questions about this transfer, please contact me at (612) 297-2674.

Sincerely,

L M Schmitt

L.M. Schmitt

LMS/co

AN EQUAL OPPORTUNITY EMPLOYER

EXHIBIT A

WESTERM ASSET MANAGEMENT
ALLOCATED BOND PORTFOLIO

NAME	COUPON	MATURITY DATE	PAR VALUE	MARKET VALUE 5/31/84
Cities Service Gas	13.000%	09/15/05	$ 9,750,000	$ 8,191,364
Consolidated Nat. Gas	12.875	10/01/00	5,500,000	4,961,935
Dayton Hudson Company	11.875	10/15/12	16,000,000	13,203,198
Duke Power Company	10.125	05/01/09	7,000,000	4,851,909
Federal Farm Credit Banks	10.600	10/22/90	19,000,000	16,292,500
Federal Home Loan Mtg.	12.500	10/01/09	6,828,194	5,992,984
Federal Home Loan Mtg.	10.750	07/01/10	3,459,259	2,744,329
Florida Power & Light	11.300	05/01/10	3,000,000	2,292,660
Florida Power & Light	12.125	11/01/09	7,000,000	5,711,160
Halliburton Company	10.200	06/01/05	7,000,000	5,156,619
Lachamar (Hull 54)	14.000	09/25/88	3,160,000	3,192,168
Maritoba Hydro	7.650	10/15/97	9,375,000	5,646,187
Ontario, Province Of	9.125	06/15/05	1,000,000	655,610
Ontario, Province Of	6.875	12/01/97	1,350,000	768,177
Ontario, Province Of	7.850	05/15/01	3,800,000	2,242,950
Ontario, Province Of	7.300	12/15/02	7,500,000	4,082,925
Ontario, Province Of	9.375	06/01/08	3,500,000	2,322,040
Ontario, Province Of	9.375	11/30/08	13,100,000	8,680,189
Ontario, Province Of	5.625	04/15/97	1,100,000	555,258
Pacific Tel. & Telegraph	15.000	11/10/20	8,500,000	8,457,500
Union Tank Car	9.500	12/15/95	6,000,000	4,545,240
GNMA Pool # 03518	8.000	01/15/04	1,122,777	739,616
GNMA Pool # 03802	8.250	07/15/04	1,113,666	742,190
GNMA Pool # 13099	8.000	10/15/06	1,231,301	811,530
GNMA Pool # 13380	8.000	12/15/06	1,344,475	884,242
GNMA Pool # 14053	8.000	12/15/06	1,257,645	829,007
GNMA Pool # 15012	8.000	12/15/06	1,547,578	1,019,994
GNMA Pool # 15783	8.000	01/15/07	1,224,142	799,445
GNMA Pool # 17619	8.000	08/15/07	1,609,211	1,060,840
GNMA Pool # 18542	8.000	09/15/07	82,165	54,158
GNMA Pool # 18553	8.000	09/15/07	1,740,483	1,147,384
GNMA Pool # 20197	8.000	09/15/07	1,605,936	1,058,697
GNMA Pool # 20691	8.000	12/15/07	1,587,286	1,046,438
GNMA Pool # 20963	8.000	11/15/07	826,726	542,684
GNMA Pool # 21013	8.000	11/15/07	1,715,826	1,110,916
GNMA Pool # 21694	8.000	02/15/08	1,571,217	1,035,834
GNMA Pool # 21772	8.000	12/15/07	1,689,181	1,102,105
GNMA Pool # 21790	8.000	12/15/07	1,655,166	1,091,137
GNMA Pool # 35013	11.000	01/15/10	4,602,773	3,726,198
TOTALS			$170,450,007	$129,349,317

The assets listed above will be transferred to the investment management control of Western Asset Management on July 2, 1984.

Cash, in the amount representing the difference between $150 million and the market value of the above assets as of the close of trading June 29, 1984, will make up the remainder of the asset transfer.

Tab H

August 22, 1984

TO: Members, State Board of Investment
Members, Investment Advisory Council

FROM: Alternative Investment Committee

SUBJECT: Alternative Investment Strategy Recommendations

As a strategy to increase overall portfolio diversification and provide a hedge against inflation the Investment Advisory Council's Asset Allocation Committee has recommended that 15% or $450 million of the $3 billion Basic Retirement Fund be allocated to alternative investments. Alternative investments include real estate, venture capital and resource investments where Minnesota State Board of Investment (MSBI) participation is limited to commingled funds or other pooled vehicles. In addition, it is the Committee recommendation that, at this time, the MSBI not participate in direct investments, separate accounts and individual transactions.

Currently, $302 million or approximately 10% of the Basic Retirement Fund has been committed to alternative investments. To complete the goal of investing $450 million or 15% of the Basic Retirement Fund in alternative investments, another $150 million should be committed to alternative investments in the next few years. In addition, new mortgage related investments are currently being considered for the Post Retirement Fund.

There are several reasons for the MSBI to update, and revise certain aspects of the current alternative investment strategy and process. First, the MSBI has added six new managers within the last year. The increase in managers necessitates the use of more formal monitoring procedures to keep track of manager activity and performance. Second, the MSBI will soon be expanding the alternative investment portfolio. Since expansion of the alternative investment portfolio will include consideration of specialized managers that may be more aggressive and pose greater investment risk than diversified managers, the MSBI's strategy for investment should be reviewed. Lastly, the MSBI's direct experience with alternative investments allows application of new knowledge to the evaluation of existing and potential managers.

The Alternative Investment Committee's specific recommendations regarding the alternative investment strategy and process include:

INSTITUTE FORMAL MONITORING PROCEDURES

1. DEVELOP METHOD OF PERFORMANCE MEASUREMENT.

   Interim performance measurement of alternative investments is difficult due to the inaccuracies and nonstandardization of the appraisal process. In addition, measuring the early performance of certain immature long term assets can be extremely misleading (i.e., venture capital "loser" investments surface early while "winners" mature later). Compounding the problem is the lack of appropriate indices.

   In order to report performance and avoid many of the problems inherent in the appraisal process, the Board should report cash returns for venture capital, oil and gas and closed end real estate funds. For open end real estate funds, unit values should be reported since units can be regularly bought and sold (i.e., have a degree of liquidity) at a unit value set by the fund manager. In addition, real estate manager unit value returns will be compared to the Evaluation Associates Composite Real Estate Index. Appropriate indices for venture capital and oil and gas do not exist at this time.

2. PREPARE WRITTEN QUARTERLY REVIEWS OF EACH EXISTING ALTERNATIVE INVESTMENT MANAGER.

   Single page summaries of the quarterly activities of each manager will be similar to those currently prepared for equity managers. The form of the summary may vary slightly for real estate, oil and gas, and venture capital.

3. PREPARE QUARTERLY UPDATE ON ACTIVITY IN EACH ALTERNATIVE INVESTMENT AREA.

   This update will include a one page aggregate spreadsheet showing current commitments and funding of alternative investment managers. A second page would include staff comments on existing and potential managers where appropriate.

4. PREPARE ONE PAGE WRITTEN SUMMARIES OF ALL FUND MANAGER INTERVIEWS CONDUCTED AT THE SBI.

   Currently, written manager profiles are provided for each potential alternative investment manager selected as a finalist for investment consideration and interviewed at their place of business. In addition, written summary reports of inhouse manager interviews will also be prepared in order to provide formal and consistent documentation of all interview results.

STRATEGY FOR INVESTMENTS

REAL ESTATE

The real estate investment strategy involves three steps to be implemented over a three to five year period. The first step calls for investment of 30-40% of the real estate portfolio in diversified open end commingled funds. The second step calls for investment of 30-40% of the real estate portfolio in diversified closed end commingled funds. The third step calls for investment of 20-30% of the real estate portfolio in less diversified more focused (specialty) commingled funds.

The criteria used to evaluate real estate investments focus on a potential real estate manager's organization, staff, proposed types of investments, acquisition process, property management capabilities, sell criteria, use of leverage, size of fund and other fund participants.

Utilizing the above strategy and criteria, the MSBI is currently committed to five diversified commingled real estate funds. The open end fund commitments (Prudential, Aetna, Equitable) and the closed end fund commitments (RREEF and Heitman) represent respectively 40% and 30% of the total targeted real estate commitment. These commitments substantially complete steps one and two of the real estate investment strategy.

FUND	COMMITMENT	FUNDED
Equitable	$ 40 Million	$ 40 Million
Aetna	40	40
Prudential	40	40
RREEF	75	0
Heitman	20	6
Totals	$215 Million	$126 Million

(Target $300 Million or 10% of Basic Retirement Funds)

The real estate investment program is now approaching the third step of the real estate investment strategy where investment consideration will be given to specialty managers/funds. This step calls for investment of 20%-30% ($60-$90 million) of the real estate portfolio with specialty managers/funds which will focus on specific geographic regions, property types, stages of development, financing arrangements, etc. Staff, in conjunction with the Alternative Investment Committee and Evaluation Associates, will screen potential candidates, select finalists, interview potential managers and recommend managers to the MSBI for funding. The specialty manager search is expected to be completed by June 1985.

VENTURE CAPITAL

The venture capital investment strategy is to establish and maintain a broadly diversified venture capital portfolio comprised of participations in balanced limited partnerships whose objectives specify diversification by industry type, stage of corporate development, and location. Given the current favorable environment for venture capital investing the Alternative Investment Committee is recommending an acceleration of the MSBI's venture capital program from a 1-2 year goal for completion to a 6-12 month objective.

The criteria used to evaluate venture capital investments focus on a potential manager's organization, staff, partnership legal agreement, investment strategy, portfolio company selection process, portfolio company investment management and fund reporting policies.

Utilizing the above criteria and strategy, the MSBI is committed to two venture capital partnerships which represent a commitment of $35 million or 47% of a total targeted commitment of $75 million or 2.5% of the Basic Retirement Funds.

FUND	COMMITMENT	FUNDED
Norwest	$10 Million	$ 7 Million
KKR	25	6
Totals	$35 Million	$13 Million

(Target $75 Million or 2.5% of Basic Retirement Funds)

To complete the goal of allocating 2.5% of the Basic Retirement Funds to venture capital, approximately $40 million should be invested in 3-5 additional venture capital partnerships within the next 6-12 months. Staff, in conjunction with the Alternative Investment Committee and Venture Economics, Inc., will evaluate, screen, interview and recommend qualified partnerships.

RESOURCE

The strategy for resource investments requires that investments be made over a 3-5 year period in oil and gas partnerships that focus investment in conservative, lower risk type investments-proved producing properties and royalties which are diversified geographically and/or geologically. In addition, investments should be structured to "trade-off" or minimize tax benefits in order to enhance the MSBI's overall rate of return.

The criteria used to evaluate oil and gas investments focus on a potential manager's organization, staff, proposed investment types, investment acquisition process, investment management process, disposition process, fee and revenue sharing arrangements and assumptions governing return expectations.

Utilizing the above criteria and strategy, the MSBI is invested in three oil and gas partnerships which represent commitments of $52 million or 70% of a total targeted commitment of $75 million or 2.5% of the Basic Retirement Funds.

FUND	COMMITMENT	FUNDED
Amgo I	$15 Million	$15.0 Million
Amgo II	7	5.2
Apache	30	0.3
Totals	$52 Million	$20.5 Million

(Target $75 Million or 2.5% of Basic Retirement Funds)

Due to the likelihood that the Apache commitment will not be fully utilized by Apache at any one point in time, the amount needed to complete the resource allocation is larger than indicated by the difference between the $75 million total targeted resource commitment and the $52 million total resource commitment to date. Therefore, to complete the MSBI's targeted allocation to resource funds, approximately $30 million should be committed to 1-3 new oil and gas investments within the next 1-2 years. Staff, in conjunction with the Alternative Investment Committee, will evaluate, screen, interview and recommend qualified oil and gas partnerships.

ALTERNATIVE INVESTMENT MANAGER INFORMATION
June 30, 1984

FIRM NAME: Aetna Life and Casualty Company
FUND NAME: Real Estate Separate Account (RESA)
CONTACT: Tom Anathan
ACCOUNT INCEPTION: 10/81
SBI COMMITMENT: $40 Million
SBI CURRENT INVESTMENT: $40 Million

INVESTMENT DESCRIPTION: RESA is an open-end commingled real estate fund formed in January, 1978. The Fund invests primarily in existing equity real estate diversified by location and property type. On-site property management is primarily contracted to outside firms or conducted by a joint venture partner. The Fund has no termination date, although investors have the option to withdraw all or a portion of their investment.

RESA CURRENT PORTFOLIO COMPOSITION

PROPERTY MARKET VALUE	# OF PROPERTIES	LOCATION %		PROPERTY TYPE %	
$1.1 Billion	116	East	11%	Office	41%
		Midwest	12	Retail	24
		South	27	Industrial	30
		West	50	Hotel	5
				Residential	0
				Other	0

INVESTMENT ACTIVITY-LAST QUARTER

ACQUISITIONS $	ACQUISITIONS #	DISPOSITIONS $	DISPOSITIONS #
$57.7 M	4	$0 M	0

UNIT VALUE RETURNS

	LAST QUARTER	LAST FOUR QUARTERS	FIVE YEAR AVERAGE
RESA	4.2	14.9	14.6
EAI Composite Median	2.5	14.7	14.7
CPI (Inflation)	1.1	4.3	7.5

STAFF COMMENTS: For the four quarters ending June 30, 1984, Aetna's 14.1% total rate of return was comprised of 8.9% income and 6.0% appreciation. This return substantially outperformed the inflation rate and outperformed the EAI Real Estate Composite Fund Median. During the quarter, Aetna acquired 2 office research and development facilities, an industrial warehouse, and a $38 million office building purchased on a joint venture basis. There were no property dispositions during the quarter. Aetna recently established a separate disposition unit within their real estate department. This unit is expected to improve the overall decision process by increasing the accountability for the disposition decisions. The geographic and property type composition of the Fund did not change substantially during the quarter.

ALTERNATIVE INVESTMENT MANAGER INFORMATION
June 30, 1984

FIRM NAME: Equitable Real Estate Group, Inc.
FUND NAME: Separate Account #8
CONTACT: Harry Pierandri
ACCOUNT INCEPTION: 10/81
SBI COMMITMENT: $40 Million
SBI CURRENT INVESTMENT: $40 Million

INVESTMENT DESCRIPTION: Equitable Separate Account #8 is an open-end commingled real estate fund formed in August 1973. The Fund invests primarily in existing equity real estate diversified by location and property type. On-site property management is primarily contracted to outside firms or conducted by joint venture partners. The Fund has no termination date although investors have the option of withdrawing all or a portion of their investment.

SEPARATE ACCOUNT #8 CURRENT PORTFOLIO COMPOSITION

PROPERTY MARKET VALUE	# OF PROPERTIES	LOCATION %		PROPERTY TYPE %	
$2.0 Billion	235	East	26%	Office	43%
		Midwest	17	Retail	33
		South	35	Industrial	12
		West	22	Hotel	11
				Residential	0
				Other	1

INVESTMENT ACTIVITY-LAST QUARTER

ACQUISITIONS $	ACQUISITIONS #	DISPOSITIONS $	DISPOSITIONS #
$2.4 M	1	$8.9 M	4

UNIT VALUE RETURNS

	LAST QUARTER	LAST FOUR QUARTERS	FIVE YEAR AVERAGE
Separate Account #8	2.8	19.0	13.9
EAI Composite Median	2.5	14.7	14.7
CPI (Inflation)	1.1	4.3	7.5

STAFF COMMENTS: For the year ending June 30, 1984, Equitable's 19% total rate of return was comprised of 7.4% income return and 11.6% appreciation return. Equitable's 19% return outperformed the inflation rate and the EAI Real Estate Composite Fund Median. This performance was primarily the result of the improved performance of Equitable's heavily-weighted retail and hotel components. During the last quarter, Equitable acquired an industrial warehouse, and sold four small properties as part of an ongoing strategy to concentrate investment in larger properties. The geographic and property type composition did not change substantially during the quarter, although over time Equitable plans to build the industrial component to 20-25% from the current 11% and reduce the office component commensurately.

ALTERNATIVE INVESTMENT MANAGER INFORMATION
June 30, 1984

FIRM NAME: Prudential Investment Management Corporation
FUND NAME: PRISA I
CONTACT: Don Davis
ACCOUNT INCEPTION: 9/81
SBI COMMITMENT: $40 Million
SBI CURRENT INVESTMENT: $40 Million

INVESTMENT DESCRIPTION: PRISA I is an open-end commingled real estate fund formed in July 1970. PRISA invests primarily in existing properties diversified by location and property type. On-site property management is primarily contracted to outside firms or is conducted by joint venture partners. The Fund has no termination date, although investors have the option quarterly to withdraw a portion or all of their investment.

PRISA CURRENT PORTFOLIO COMPOSITION

PROPERTY MARKET VALUE	# OF PROPERTIES	LOCATION %		PROPERTY TYPE %	
$4.5 Billion	477	East	27%	Office	50%
		Midwest	15	Retail	18
		South	23	Industrial	18
		West	35	Hotel	8
				Residential	4
				Other	2

INVESTMENT ACTIVITY-LAST QUARTER

ACQUISITIONS		DISPOSITIONS	
$	#	$	#
$186.2 M	6	$25.1 M	14

UNIT VALUE RETURNS

	LAST QUARTER	LAST FOUR QUARTERS	FIVE YEAR AVERAGE
PRISA	3.0	14.2	15.0
EAI Composite Median	2.5	14.7	14.7
CPI (Inflation)	1.1	4.3	7.5

STAFF COMMENTS: For the year ending June 30, 1984, PRISA's 14.2% total rate of return was comprised of 8.2% income and 6.0% appreciation. This return substantially outperformed the inflation rate and slightly underperformed the EAI Real Estate Composite Fund Median. PRISA's acquisitions (6 properties at an average cost of $31 million) and dispositions (14 properties at an average sales price of $1.78 million) during the quarter reflect its strategy to invest in larger properties while selling smaller, underperforming holdings. The geographic and property type distribution of the portfolio was not altered substantially during the quarter. The Fund has a relatively large (14.3%) cash component, a strategic decision to enable the Fund to acquire properties larger than $200 million in size. If current outstanding bids are successful and existing forward commitments fulfilled, PRISA's cash component will be reduced to 1-2%.

ALTERNATIVE INVESTMENT MANAGER INFORMATION
June 30, 1984

FIRM NAME:	Heitman Advisory Corporation
FUND NAME:	HAC Group Trust I
CONTACT:	David Glickman
ACCOUNT INCEPTION:	6/14/84
SBI COMMITMENT:	$20 Million
SBI CURRENT INVESTMENT:	$0.0

INVESTMENT DESCRIPTION: HAC Group Trust is a $113 million real estate Group Trust formed in May 1984. Term of the Fund is fifteen years with optional extensions. The Fund is investing primarily in equity real estate diversified by location and property type. Centre Properties, Ltd., an affiliate of Heitman manages all 100% owned properties.

HAC GROUP TRUST I INVESTMENTS				CASH RETURNS TO SBI		
CURRENT TOTAL		LATEST QUARTER		LATEST QUARTER	LAST FOUR QUARTERS	CUMULATIVE SINCE INCEPTION
#	$	#	$			
0	0	0	0	0	0	0

SUMMARY DESCRIPTION OF CURRENT PORTFOLIO
(% OF TOTAL FUND COST)

LOCATION	%	STAGE OF DEVELOPMENT	%	INDUSTRY GROUPS	%
East	0.0%	Fully Developed	0.0%	Office	0.0%
Midwest	0.0	Partially Developed	0.0	Retail	0.0
South	0.0			Industrial	0.0
West	0.0			Hotel/Motel	0.0
				Apartments	0.0
				Other	0.0

STAFF COMMENTS: Heitman closed Group Trust I on May 31, 1984 with $113 million in Fund capital. As of June 30, 1984, none of the Fund capital has been invested. Next quarter, Heitman is committed to buy, for the Group Trust, a $14.4 million joint venture interest in a package of eleven buildings (office and industrial) located in Orlando, Florida. Longer term, Heitman will aggressively deploy Fund capital in response to an expected improvement in the real estate market. Heitman feels that the enactment of the new tax act in addition to recent increases in interest rates will negatively impact syndicators and floating rate borrowers thereby lessening competitive pressure on real estate prices.

ALTERNATIVE INVESTMENT MANAGER INFORMATION
June 30, 1984

FIRM NAME:	Rosenberg Real Estate Equity Funds (RREEF)
FUND NAME:	RREEF USA III
CONTACT:	Paul Sack
ACCOUNT INCEPTION:	4/25/84
SBI COMMITMENT:	$75 Million
SBI CURRENT INVESTMENT:	$0.0

INVESTMENT DESCRIPTION: RREEF USA III is expected to be, on the final closing date of December 31, 1984, a $1 billion commingled real estate Group Trust. Term of the Fund is twelve years with optional extensions. The Fund is investing primarily in unleveraged, wholly-owned, equity real estate diversified by location and property type. On-site property management will be conducted by RREEF employees.

RREEF USA III INVESTMENTS				CASH RETURNS TO SBI		
CURRENT TOTAL		LATEST QUARTER				
#	$	#	$	LATEST QUARTER	LAST FOUR QUARTERS	CUMULATIVE SINCE INCEPTION
1	$29.75 Million	1	$29.75 Million	0	0	0

SUMMARY DESCRIPTION OF CURRENT PORTFOLIO
(% OF TOTAL FUND COST)

LOCATION	%
East	0.0%
Midwest	0.0
South	0.0
West	100.0

STAGE OF DEVELOPMENT	%
Fully Developed	100.0%
Partially Developed	0.0

INDUSTRY GROUPS	%
Office	0.0%
Retail	100.0
Industrial	0.0
Hotel/Motel	0.0
Apartments	0.0
Other	0.0

STAFF COMMENTS: On June 30, 1984 RREEF USA III had capital commitments of $563 million. At the final closing date for Fund subscriptions (December 31, 1984), RREEF expects to have raised $1 billion in capital commitments. In the latest quarter, RREEF purchased the Fund's first property, a $29.75 shopping center located in San Francisco, California. For the next quarter, RREEF has no firm purchase commitments although several properties are being seriously considered for investment. Longer term, RREEF believes their investment activity will increase as more attractive properties come up for sale by owners fearing higher post-election capital gains taxes.

ALTERNATIVE INVESTMENT MANAGER INFORMATION
June 30, 1984

FIRM NAME:	First Reserve Corporation
FUND NAME:	Amgo I
CONTACT:	Jon Hill
ACCOUNT INCEPTION:	July 1981
SBI COMMITMENT:	$15 Million
SBI CURRENT INVESTMENT:	$15 Million

INVESTMENT DESCRIPTION: Amgo I is a $144 million oil and gas Limited Partnership formed in July 1981. Term of the Fund is 20 years. Investment strategy of Amgo I is to provide a diversified portfolio of investments in terms of geographic locations, geological structures, investment types and operating companies.

AMGO I INVESTMENTS				CASH RETURNS TO SBI		
CURRENT TOTAL		LATEST QUARTER		LATEST QUARTER	LAST FOUR QUARTERS	CUMULATIVE SINCE INCEPTION
#	$	#	$			
21	$112.6 Million	2	$9.0 Million	$154,300	$586,400	$1,763,070

SUMMARY DESCRIPTION OF CURRENT PORTFOLIO
(% OF TOTAL FUND COST)

LOCATION	%
Texas	29.0%
Oklahoma	22.0
Louisiana	17.0
Rocky Mtns.	12.0
Mississippi	9.0
California	8.0
Other	3.0

SECURITY INTEREST	%
Proved Developed Reserves	47.0%
Probable Reserves	0.0
Possible Reserves	5.0
General Recourse	48.0

INDUSTRY GROUPS	%
Acreage	3.5%
Drilling	13.0
Equity	6.5
Production	36.0
Royalty	18.0
Surface Facilities	0.0
Conv. Note and Preferred	23.0
Other	0.0

STAFF COMMENTS: Amgo I, originally capitalized at $144 million, has, as of June 30, 1984, funded 21 oil and gas investments for $112 milliion. During the last quarter, Amgo's Board of Directors approved expenditures of $9 million or approximately 7% of total Partnership capital into 2 new investments: Pogo Producing and Brock Petroleum. The Brock investment is particularly noteworthy in that it represents a major portion of Amgo's recent effort to streamline the portfolio. In this transaction, five small Amgo investments were packaged to fund a portion of Amgo's commitment to Brock. Amgo believes that streamlining the portfolio in this manner will provide leverage and enhance the value of some of the smaller investments. In the next quarter, Amgo expects all remaining Partnership capital to be fully commited to oil and gas investments.

ALTERNATIVE INVESTMENT MANAGER INFORMATION
June 30, 1984

FIRM NAME:	First Reserve Corporation
FUND NAME:	Amgo II
CONTACT:	Jon Hill
ACCOUNT INCEPTION:	February 1983
SBI COMMITMENT:	$7 Million
SBI CURRENT INVESTMENT:	$5.25 Million

INVESTMENT DESCRIPTION: Amgo II is a $36 million oil and gas limited partnership formed in December 1982. Term of the Fund is 19 years. Investment strategy of Amgo II is to provide a diversified portfolio of investments in terms of geographic locations, geological structures, investment types and operating companies.

AMGO II FUND INVESTMENTS				CASH RETURNS TO SBI		
CURRENT TOTAL		LATEST QUARTER		LATEST QUARTER	LAST FOUR QUARTERS	CUMULATIVE SINCE INCEPTION
#	$	#	$			
5	$15.0 Million	2	$6.0 Million	$48,500	$122,600	$137,500

SUMMARY DESCRIPTION OF CURRENT PORTFOLIO
(% OF TOTAL FUND COST)

LOCATION	%	SECURITY INTEREST	%	INDUSTRY GROUPS	%
Texas	70.0%	Proved Developed Reserves	35.0%	Acreage	0.0%
Oklahoma	17.0	Probable Reserves	0.0	Drilling	0.0
Louisiana	6.0	Possible Reserves	0.0	Equity	0.0
Rocky Mtns.	0.0	General Recourse	65.0	Production	39.0
Mississippi	0.0			Royalty	0.0
California	0.0			Surface Facilities	0.0
Other	7.0			Conv. Note and Preferred	61.0
				Other	0.0

STAFF COMMENTS: As of June 30, 1984, Amgo II had invested $15 million of the Fund's original capitalization of $36 million. In the latest quarter, Amgo II invested $6.0 million, on a prorata basis with Amgo I, into Brock Petroleum and Pogo Producing. Amgo II's investment in Brock, however, consisted soley of cash. Similar to Amgo I, Amgo II should be fully invested by the end of summer.

ALTERNATIVE INVESTMENT MANAGER INFORMATION
June 30, 1984

FIRM NAME:	Apache Corporation
FUND NAME:	10% Equipment Financing Notes
CONTACT:	Charlie Hann
ACCOUNT INCEPTION:	May 1984
SBI COMMITMENT:	$30 Million
SBI CURRENT INVESTMENT:	$262,878

INVESTMENT DESCRIPTION: The Apache Corp. 10% Equipment Financing Notes are a $200 million private placement to finance Apache's portion of production facility expenditures under the terms of a series of offshore joint ventures in the Gulf of Mexico 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.

10% EQUIPMENT FINANCING NOTE INVESTMENTS				CASH RETURNS TO SBI		
CURRENT TOTAL		LATEST QUARTER				
#	$	#	$	LATEST QUARTER	LAST FOUR QUARTERS	CUMULATIVE SINCE INCEPTION
1	$1.7 Million	1	$1.7 Million	0	0	0

SUMMARY DESCRIPTION OF CURRENT PORTFOLIO
(% OF TOTAL FUND COST)

LOCATION	%	SECURITY INTEREST	%	INDUSTRY GROUPS	%
Texas	100.0%	Proved Developed Reserves	100.0%	Acreage	0.0%
Louisiana	0.0	Probable Reserves	0.0	Drilling	0.0
Other	0.0	Other	0.0	Production	100.0

STAFF COMMENTS: The final closing for the Apache Equipment Financing took place on May 25, 1984. At the closing, Apache received, from noteholders, a $1.7 million drawdown of a total $200 million commitment to finance prior equipment expenditures on an oil and gas prospect located offshore Texas. As is indicative of the early stage of a development program, the planned July drawdown was cancelled as equipment expenditures subsequent to the final closing of the loan have been minimal. Longer term, estimates of equipment expenditures remain intact.

ALTERNATIVE INVESTMENT MANAGER INFORMATION
June 30, 1984

FIRM NAME: Norwest Venture Capital Management, Inc.
FUND NAME: Norwest Venture Partners I (NVPI)
CONTACT: Dan Haggerty
ACCOUNT INCEPTION: 1/12/84
SBI COMMITMENT: $10 Million
SBI CURRENT INVESTMENT: $4 Million

INVESTMENT DESCRIPTION: NVPI is a $60 million venture capital limited partnership formed in January 1984. Term of the Fund is 10 years with optional extensions. Investment focus of NVPI will be on high technology private companies in the early stages of development. The Fund will not invest in leveraged buyouts.

NVPI I INVESTMENTS			
CURRENT TOTAL		LATEST QUARTER	
#	$	#	$
21	$9.7 Million	4	$1.725 Million

CASH RETURNS TO SBI		
LATEST QUARTER	LAST FOUR QUARTERS	CUMULATIVE SINCE INCEPTION
0	0	0

SUMMARY DESCRIPTION OF CURRENT PORTFOLIO
(% OF TOTAL FUND COST)

LOCATION	%	STAGE OF DEVELOPMENT	%	INDUSTRY GROUPS	%
East	11.0%	Early Stage Financing	72.0%	Computer Related	62.0
Midwest	45.0	Expansion Financing	27.0	Machinery/Equipment	0.0
South	9.0	Bridge Financing	1.0	Industrial/Manufacturing	9.0
West	35.0	Leverage Buyouts	0.0	Consumer Products/Services	0.0
				Communications	15.0
				Energy Related	3.0
				Medical Related	11.0

STAFF COMMENTS: In the last quarter, Norwest invested $1.725 million or approximately 3.0% of Partnership capital into four new venture capital investments: C and G Associates; Intelligent Storage, Inc.; Intran Corp.; and, Pandex Laboratories, Inc. For the first time since Fund inception, an investment underwent a change in valuation from cost. Due to a less than expected increase in orders and shipments, Norwest's investment Phaze Information Machines was written down to 52% of original cost. The Fund's investment in Phaze represented, before the writedown, only .9% of total Partnership committed capital. Discussions are currently taking place regarding the possible sale, to a large hospital organization, of the Partnership's investment in Parkview Health Centers. A modest capital gain can be expected. In the next quarter, new investment activity will likely increase as deal flow, particularly in later stage venture investments, is improving as a result of the anemic initial public offering market.

ALTERNATIVE INVESTMENT MANAGER INFORMATION
June 30, 1984

FIRM NAME: Kohlberg, Kravis, Roberts and Co. (KKR)
FUND NAME: 1984 Investment Partnership (KKR III)
CONTACT: George Roberts
ACCOUNT INCEPTION: March 21, 1984
SBI COMMITMENT: $25 Million
SBI CURRENT INVESTMENT: $0.0

INVESTMENT DESCRIPTION: KKR III is a $1 billion leveraged buyout limited partnership formed in March 1984. The term of the Fund is twelve years with optional extensions. Investment focus of KKR III will be on stable and mature, cash generating, low technology companies with diversified operations.

KKR III INVESTMENTS			
CURRENT TOTAL		LATEST QUARTER	
#	$	#	$
0	0	0	0

CASH RETURNS TO SBI		
LATEST QUARTER	LAST FOUR QUARTERS	CUMULATIVE SINCE INCEPTION
0	0	0

SUMMARY DESCRIPTION OF CURRENT PORTFOLIO
(% OF TOTAL FUND COST)

LOCATION	%
East	0.0%
Midwest	0.0
South	0.0
West	0.0

STAGE OF DEVELOPMENT	%
Leverage Buyouts	0.0%
Other	0.0

INDUSTRY GROUPS	%
Computer Related	0.0%
Machinery/Equipment	0.0
Industrial/Manufacturing	0.0
Consumer Products/Services	0.0
Communications	0.0
Energy Related	0.0
Medical Related	0.0

STAFF COMMENTS: During the latest quarter, KKR bid for three companies: Cole National; Esmark; and, Malone and Hyde. The Esmark bid was withdrawn when Esmark received and accepted a higher offer from another company. The other two bids, if successful, could represent approximately 20% of Partnership capital. KKR is currently reviewing several investment opportunities for possible acquisition in the next quarter.

Tab I

MINNESOTA
STATE
ARTS
BOARD

May 10, 1984

Lynn Anderson
Governor's Office
Room 130 State Capitol
St. Paul, MN 55155

Dear Ms. Anderson:

This letter is in response to a request by the Governor several months ago that the State Arts Board examine a record collection currently being held by the State Treasurer's Office. Before his term expired, then State Arts Board member, Philip Brunelle and I went to the Treasurer's Office and examined the record collection. Based on this review our board would advise taking the following steps to facilitate the disposition of the records:

1) Minnesota Public Radio music library staff should be given the first opportunity to review the collection and select any records for their archives which they deem significant recordings.

2) The advice of Minnesota Public Radio and the Minnesota Historical Society should then be sought about the disposition of the remainder of the records. If the remainder of the collection is not archived, the Arts Board would recommend that the records be given to state university music libraries, state hospitals or nursing homes and or to any interested public library.

I hope that this advice is helpful. Please feel free to contact me, if you have any questions about this matter.

Sincerely,

G. James Olsen
Executive Director

GJO/gs

cc: John Michel, Minnesota Public Radio
James Dunlop, State Treasurer's Office
Katherine Murphy, MSAB Chair

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St. Paul, Minnesota
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