MINNESOTA STATE BOARD OF INVESTMENT MEETING
June 11, 1991
&
INVESTMENT ADVISORY COUNCIL MEETING
June 10, 1991

AGENDA
STATE BOARD OF INVESTMENT
MEETING
Tuesday, June 11, 1991
8:30 A.M. - Room 118
State Capitol
Saint Paul

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2. Legislative Report	
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B. Approval of FY92 Administrative Budget	
C. Approval of Fiduciary Education Plan	
D. Approval of Board Member Travel Allocation	
E. Approval of Master Custodian Fee Guarantee Extension	
F. Approval of Accounting System Contract Extension	
G. Approval of Executive Director's FY91 Evaluation Process	
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2. Review of Preliminary Outline for the Environmental Trust Fund	
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1. Review of Manager Performance	
2. Annual Review of Investment Manager Guidelines	
3. Special Review of Alliance	
4. Approval of Contract Renewals (Alliance, Forstmann, IDS, IAI, Lieber, Waddell)	
C. Fixed Income Manager Committee	G
1. Special Review of Miller Anderson	
2. Annual Review of Investment Manager Guidelines	
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1. Report on Fund Manager Annual Reviews	
2. Approval of Commitment to Real Estate Manager (AEW)	
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E. Assigned Risk Plan Manager Selection	I

MINNESOTA
STATE
BOARD OF
INVESTMENT

Board Members:

Governor
Arne H. Carlson

State Auditor
Mark B Dayton

State Treasurer
Michael A McGrath

Secretary of State
Joan Anderson Growe

Attorney General
Hubert H Humphrey III

Executive Director:

Howard J Bicker

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MINUTES

STATE BOARD OF INVESTMENT

March 22, 1991

The State Board of Investment (SBI) met at 9:40 A.M. on Friday, March 22, 1991 in Room 112, State Capitol, Saint Paul, Minnesota. Governor Arne H. Carlson, Chair; Secretary of State Joan Anderson Growe; State Treasurer Michael A. McGrath, State Auditor Mark B. Dayton; and Attorney General Hubert H. Humphrey III were present.

Ms. Growe moved that agenda item number 8 be considered after approval of the minutes. The motion was approved. The minutes of the December 18, 1990 meeting were approved.

WELLSPRING REPORT AND MAPE PROPOSAL

Ms. Growe referred to a recently issued report from the Wellspring Task Force on Corporate Takeovers. She explained that the subcommittee on pensions on which she served, reviewed the role of public pension funds regarding corporate takeovers and corporate governance. She stated that the subcommittee made several recommendations about the SBI voting its proxies. She stated that the subcommittee supports the SBI's current policy of voting its own proxies and its policy to establish proxy voting guidelines. She stated that the subcommittee also recommends that the SBI become more active in the area of corporate governance. She then offered a resolution requesting the Proxy Committee to consider the Wellspring recommendations and to bring back to the Board a plan to implement the recommendations (See Attachment A). Mr. Dayton moved approval of the resolution. Mr. McGrath seconded. The motion was approved.

Ms. Growe then stated that on behalf of the Minnesota Association of Professional Employees she offers a resolution requesting the Proxy Committee to study a proposal to add an environmental investment option to participants of the state deferred compensation plan (See Attachment B). Mr. Humphrey moved approval of the resolution. Mr. Dayton seconded. The motion was approved. On a related matter, Mr. Humphrey stated that he is sending a letter to Mr. Bicker requesting that staff consider the issue of environmental investing.

ESCHEATED PROPERTY

Mr. McGrath moved approval of a resolution to liquidate certain escheated property (See Attachment C). Ms. Growe seconded. The motion was approved.

IAC APPOINTMENTS

Mr. Bicker stated that the terms of five current members of the Investment Advisory Council have expired. He stated that staff, with concurrence of the Board Deputies, recommend that all five be reappointed. Ms. Growe moved approval of the reappointment of John Bohan, David Jeffery, Malcolm McDonald, Gary Norstrem and Jan Yeomans. Mr. McGrath seconded. The motion was approved. Mr. Bicker stated that there will be recommendations to the Board for two new members to fill two other vacancies on the IAC at the June 1991 Board meeting.

EXECUTIVE DIRECTOR'S INVESTMENT REPORT

Mr. Bicker referred the Board to the quarterly investment report and the report on objectives in the meeting materials. He stated that staff has modified the report on objectives to make it easier to read and has expanded the material on the actuarial status of the pension plans. He stated that based on the July 1, 1990 actuarial valuations, the three major plans are on target for full funding by the statutory target date 2020. Mr. Bicker stated that the Basic Retirement Funds exceeded by 7.5 percentage points the rate of inflation over the past 10 years, slightly underperformed the composite market index for the latest five year period and slightly underperformed the median balanced fund for the latest five year period. He stated that as of June 30, 1990 the Basic Funds were ranked in the top third of funds in the Trust Universe Comparison Service (TUCS). He said that with the onset of the Persian Gulf war and the drop in the stock market, the Basic Funds' performance as of December 31, 1990 was slightly below the composite index and median fund returns. He then stated that the Post Retirement Fund exceeded its objectives and provided a 5.1 percent benefit increase for retirees effective January 1, 1991.

Mr. Bicker reported that the market value of the Basic Funds increased 8.4 percent in the fourth quarter with the increase due to strong investment performance. Mr. Bicker further reported that for the quarter the Basic Funds slightly underperformed the composite index but outperformed the median balanced fund. He stated that the stock portfolio underperformed the market due to the small capitalization bias of the portfolio. He stated that the bond portfolio outperformed the market during the quarter.

Mr. Bicker then reported that the Post Retirement Fund continued to experience negative cash flow as the number of retirements were less than in previous years. He stated that Post Fund earnings provided a 5.1 percent benefit increase for calendar 1991. He added that the stock segment of the Post Fund matched the benchmark for the quarter.

In conclusion, Mr. Bicker reported that as of December 31, 1990 assets under management totalled $15.7 billion.

EXECUTIVE DIRECTOR'S ADMINISTRATIVE REPORT

Mr. Bicker referred Board members to the travel and budget reports in the meeting materials. He then reported that there were few bills of particular interest to the Board thus far during the 1991 legislative session. He added that a bill concerning deferred compensation would be monitored closely for its potential impact on the Board's responsibilities.

Mr. Humphrey then requested consideration of a resolution that states that the State Board of Investment expresses satisfaction with the current deferred compensation program and that urges the Legislature to allow the Board continued flexibility in designing the program (See Attachment D). Mr. Humphrey then moved approval of the resolution. Mr. McGrath seconded. The motion was approved.

Mr. Bicker then continued with his Administrative Report. He reported that the SBI successfully bid a new guaranteed investment contract for the Public Facilities Authority. He then stated that Great-West Life, one of the two outside vendors for the Deferred Compensation Plan, was requesting the addition of two investment options, a money market fund and a bond account. He stated that the addition of the two accounts would make the range of options available from each vendor more comparable. Mr. McGrath moved approval of the recommendation as stated in the meeting materials. Ms. Growe seconded. The motion was approved.

In response to a question from Mr. Carlson regarding performance of the stock and bond managers, Mr. Bicker stated that the Board decided to tilt the index fund to correct for the small stock bias in the equity program. He stated that staff and the Fixed Income Manager Committee have a recommendation to modify the fixed income approach. In response to another question from Mr. Carlson, Mr. Bicker stated that about six months ago the Board voted to continue the use of active management. Ms. Growe stated that the Board agreed to continue the use of active managers and to tilt the index fund for the small stock bias. She stated that from discussions at the IAC meeting she concludes that the IAC is very supportive of retaining active managers. Mr. Dayton stated that he believed the recent investment results dictate an immediate review of the overall strategy. He questioned whether the Basic Funds were positioned well for the market in the future. After some discussion the Board agreed to review the Basic Funds' strategy at the September 1991 Board meeting.

INVESTMENT ADVISORY COUNCIL COMMITTEE REPORTS

Ms. Yeomans stated that in the interest of time constraints she would present items that required Board approval.

ASSET ALLOCATION COMMITTEE

Ms. Yeomans stated that staff wrote a position paper concerning tactical asset allocation and concluded that it was not an appropriate form of market timing for the Basic Retirement Funds. She stated that a principal reason for the conclusion was that in order to make the investment technique effective, the SBI would need to allocate 20 percent or more of the Basic Funds to one or two managers, which would be a very large allocation for one or two specialty managers. She then stated that the Committee recommends the Board accept the staff position paper and not enter into a tactical asset allocation program at this time. Mr. McGrath moved approval of the Committee recommendation. Ms. Growe seconded. The motion was approved.

EQUITY MANAGER COMMITTEE

Ms. Yeomans referred the Board members to the Committee report in the meeting materials. She stated that contracts for five managers are up for renewal. She stated that based on return information through January and February 1991 the IAC recommends renewal of contracts with Franklin, GeoCapital, and Rosenberg, and termination of Concord and Sasco. In response to a question from Mr. McGrath, Mr. Bicker stated that the SBI has had Concord and Sasco under contract for two years as of the end of March 1991. In response to another question from Mr. McGrath, Mr. Bicker stated many investors evaluate money managers over a three to five year time period. He stated that staff has been closely monitoring the performance of Sasco and Concord. He stated that he just received January and February 1991 return data that indicated the performance record of the two managers had deteriorated further. Therefore, he said, the staff and IAC request Sasco and Concord be terminated.

In response to a question from Mr. McGrath, Ms. Yeomans stated that the decision to terminate or continue a manager should focus on the probability that the manager will reverse the underperformance. She stated that it was staff's and the IAC's judgment that the two managers are likely to continue to incur further losses relative to their respective benchmarks. Mr. Dayton stated that only one of the eleven external managers had outperformed the index over the past five years. Mr. Bicker responded that the benchmarks have underperformed the market because in general the managers invest in small capitalization stocks which have underperformed the market over the time period. In response to a question from Mr. Dayton, Mr. Bicker stated that the Board evaluates its managers according to its Manager Continuation Policy. He said the policy requires that a firm's performance, organization, and investment style will be thoroughly reviewed if a manager underperforms its benchmark over the most recent five year period. He stated that manager performance is very time sensitive. He added that he believed it would be counter-productive to evaluate the managers each quarter. Mr. Dayton responded that he believed the Board's policies allow a tolerance for sub-par results. He stated that he believed the focus on the benchmark loses sight of the real objective which is to generate returns relative to the market. He then stated that the Board ought to revisit its strategy. Mr. Carlson concurred and then suggested the discussion be deferred for consideration at the September 1991 meeting.

Mr. Dayton then moved approval of the Committee recommendation to renew the contracts of Franklin, GeoCapital, and Rosenberg and to terminate the contracts with Concord and Sasco. Ms. Growe seconded. The motion passed. In response to a question from Ms. Growe, Mr. Bicker stated that the assets of the two terminated managers would be placed in the index fund until new managers are chosen. In response to a question from Mr. Dayton, Mr. Bicker stated that staff recommends the assets not be given to Alliance Capital because Alliance currently has the largest portfolio of the active managers.

FIXED INCOME MANAGER COMMITTEE

Ms. Yeomans reported that the Committee recommended Western Asset be placed on probation. She explained that the manager in charge of the SBI's portfolio left the firm, an event that under the Manager Continuation Policy requires a firm be placed on probation and its continued performance closely monitored. Mr. Dayton moved approval of the Committee recommendation. Ms. Growe seconded. The motion was approved.

Ms. Yeomans then reported that the Committee recommends the renewal of the contract with BEA Associates. She explained that BEA was first retained in 1987 to invest a cash enhancement portfolio. She stated that the Committee recommends renewal of the contract and the addition of a provision to allow the firm to use currency hedges as one of its cash enhancement strategies. Ms. Growe moved approval of the Committee recommendation. Mr. Dayton seconded. The motion was approved.

ALTERNATIVE INVESTMENT COMMITTEE

Ms. Yeomans reported that the Committee recommends a follow-on investment with the firm of Kohlberg, Kravis and Roberts. She stated that the Board has invested in several of the firm's previous funds. She stated that the firm intends to raise over $1 billion to be used for management buyouts similar to ones they have done in the past, although the new deals will most likely have a lower level of debt in the financial structure. Mr. McGrath moved approval of the Committee recommendation. Mr. Dayton seconded. The motion was approved.

REPORT FROM THE TASK FORCE ON SOUTH AFRICA

Mr. Bicker stated that the report in the meeting materials is an update to the Board on the progress made in implementing the Board's resolution on South Africa. He stated that the report contains a recommendation that the Board reinstate the Task Force. He explained that the Attorney General's office recommended to the Task Force that the Task Force should be officially reinstated due to the length of time that had passed since it was first created.

In response to a question from Mr. Carlson, Mr. Bicker stated that the Task Force needs to be reinstated because its members believe continued monitoring is necessary. Mr. Bicker then stated that the report also contains a recommendation to fill the two vacancies on the Task Force. He stated that the public employee labor representative and the private sector representative positions are currently vacant. He stated that the recommendation is for the Executive Director to provide two names for consideration at the June 1991 Board meeting. Mr. McGrath moved approval of the Task Force recommendations and resolution (See Attachment E). Ms. Growe seconded. The motion was approved.

ASSIGNED RISK PLAN MANAGER SELECTION COMMITTEE

Peter Sausen, Assistant Commissioner of Finance, provided the report from the Assigned Risk Plan Manager Selection Committee. He stated that staff requested information from 31 firms deemed qualified to provide the desired services. He stated 29 firms responded and the Committee chose 7 to interview. He stated that one of the seven was Voyageur Asset Management, the current manager. He stated the Committee interviewed each finalist, and based on the interviews and other information, the Committee recommends that the Board hire IDS to manage the fund. He stated that the Committee evaluated the firms' abilities to manage the funds and their understanding of the liabilities of the fund to which the investments are to be matched. He explained that on these two criteria the Committee felt IDS and Fidelity were equally qualified. He stated the Committee determined that the local firm, IDS, would be better prepared to meet with state people who handle the administrative side of the plan. He also stated that the Committee expressed some concern that Fidelity may rely too heavily on the talents of one person to manage both this fund and the one of the SBI semi-passive bond portfolios. He then stated that based on these two factors the Committee selected IDS.

Mr. Dayton stated that he met with two of the firms interviewed and with two members of the Selection Committee. He stated that he discovered a lack of clear understanding of the nature of the liability stream and what party is responsible for defining the liability stream. He stated that he recommends the Board postpone the decision until after staff enumerates review criteria and interviews are conducted with four firms: IDS, Fidelity, Voyageur, and Goldman Sachs. He suggested that the Committee and any Board member who had the time available could participate in the review of the four firms. Mr. Carlson stated that he believed IDS had been unfairly dismissed from the account earlier by the Department of Commerce, but that he did not want Voyageur to be unfairly dismissed now. He suggested that the Board decide the issue at its June 1991 meeting. Mr. Bicker then reminded the Board that the Voyageur contract with the Commerce Department expires in May 1991 upon which time responsibility for investing the assets is transferred to the SBI. After some discussion, Mr. Bicker suggested that the Board authorize him as negotiate a contract extension with Voyageur through June 30, 1991. Mr. Dayton moved approval of the suggestion. Ms. Growe seconded. The motion was approved.

The meeting was adjourned at 10:30 A.M.

Respectfully submitted,

Howard Bicker

Howard J. Bicker

Attachments

ATTACHMENT A

RESOLUTION OF THE MINNESOTA STATE BOARD OF INVESTMENT

WHEREAS Minnesota Wellspring has published a draft of its Report of the Committee on Corporate Takeovers; and

WHEREAS the draft report addresses the role of public pension funds in influencing corporate governance; and

WHEREAS the draft report directs several of its recommendations to the activities of the State Board of Investment;

NOW, THEREFORE, BE IT RESOLVED THAT:

1. The Board directs the Proxy Committee to draft a plan to begin implementation of the recommendations made by the report.
2. This resolution shall take affect immediately.

Dated this 22nd day of March, 1991.

By [signature]

Title GOVERNOR

Date March 22, 1991

ATTACHMENT B

RESOLUTION OF THE MINNESOTA STATE BOARD OF INVESTMENT

WHEREAS the State of Minnesota has a deferred compensation program established pursuant to Minnesota Statutes; and

WHEREAS the Minnesota Association of Professional Employees ("MAPE") has proposed that an additional investment option be added to the state employee tax deferred compensation program to allow state employees the choice of investing their moneys in a fund that consists of corporations that do not engage in activities that are destructive to the environment;

NOW, THEREFORE, BE IT RESOLVED THAT:

1. The Board directs the Proxy Committee to review the MAPE proposal and to report back to the Board with its recommendations.
2. This resolution shall take affect immediately.

Dated this 22nd day of March, 1991.

By ______________________

Title GOVERNOR

Date March 22, 1991

ATTACHMENT C

RESOLUTION OF THE

STATE BOARD OF INVESTMENT

WHEREAS, Minnesota Statutes Section 525.161 provides all monies, stocks, bonds, notes, mortgages and other securities, and all other property so escheated is given to the State Treasurer; and

WHEREAS, Minnesota Statutes Section 11A.10, subd. 2 provides the Commissioner of Finance shall report to the State Board of Investment all personal property other than money received by the State as escheated property; and

WHEREAS, ten shares of Northwestern Utilities preferred stock has been received by the State as escheated property from the estate of Edward Nielsen; and

WHEREAS, Minnesota Statutes Section 11A.10 subd. 2 provides that the SBI may elect to sell such property; and

WHEREAS, investigation by the staff of the SBI and the State Treasurer has determined that it is in the best interest of the State to sell the property listed above.

NOW THEREFORE BE IT RESOLVED that:

The State Treasurer be directed to use his best efforts to sell the property listed above and credit all money received from the sale to the general fund of the State.

Date: March 22, 1991

Arne H. Carlson

GOVERNOR ARNE H. CARLSON
Chair, Minnesota State
Board of Investment

ATTACHMENT D

RESOLUTION OF THE

MINNESOTA STATE BOARD OF INVESTMENT

WHEREAS, the State Board of Investment has a fiduciary responsibility for the management of the state deferred compensation program;

WHEREAS, the purpose of the Deferred Compensation Plan of the State of Minnesota is to provide an optional, supplemental retirement plan for public employees in the State of Minnesota;

WHEREAS, the State of Minnesota in 1978 enacted Minnesota Statute 352.96, the intent of which was to ensure that each employee, regardless of sex, race, position, or geographical location, be provided an equal opportunity to understand and to participate in this State of Minnesota Plan;

WHEREAS, the State Board of Investment of the State of Minnesota has had competitive proposals to originate the plan under Minnesota Statute 352.96 and has monitored and evaluated the plan since 1981;

WHEREAS, the State of Minnesota Plan has become the fourth largest state deferred compensation plan in the United States, with over $500,000,000 in assets and that participation in this plan is the highest in the country;

WHEREAS, the Deferred Compensation Review Committee studied the current marketing relationships and reported on August 11, 1989 that no changes were recommended in the arrangement;

WHEREAS, legislation has been introduced to set standards for insurance company participation, expand the number of participating insurers, and allow unlimited transferability of funds;

WHEREAS, the State Board of Investment is concerned about the effect these proposed changes would have on plan design flexibility, yield paid to participants, protection of employees from excessive marketing, administrative expenses, and participant ability to select the appropriate fund because of a myriad of choices; and

WHEREAS, the State Board of Investment of the State of Minnesota expresses great satisfaction with the Deferred Compensation Plan and its operation during this period of time. The Plan has fulfilled the original goals of this employee benefit program. The State Board of Investment urges that the Plan remain unaltered as to its current method and mode of operation.

BE IT THEREFORE RESOLVED, that the State Board of Investment urges the Legislature to allow it continued flexibility in designing the deferred compensation program to meet the program goals outlined above.

Dated this 22nd day of March, 1991.

By [signature]

Title GOVERNOR

ATTACHMENT E

RESOLUTION OF THE MINNESOTA STATE BOARD OF INVESTMENT

WHEREAS, the Minnesota State Board of Investment ("MSBI") has previously authorized the formation of an Advisory Task Force on Divestment; and

WHEREAS, pursuant to Minn. Stat. § 15.059, subd 6, advisory task forces expire two years after the first members are appointed and the appointing authority is permitted to create another task force to continue the work of a task force which has expired, and

WHEREAS, the MSBI desires to establish another task force to continue the work of the Advisory Task Force on Divestment.

NOW, THEREFORE, BE IT RESOLVED THAT:

1. The MSBI hereby authorizes the formation of the South Africa Task Force composed of a representative selected by each member of the MSBI and at least one representative from the Minnesota corporate community, one representative from a Minnesota public employee labor group and one representative from a public employee retirement group

2 The task force is charged with monitoring implementation of the resolution of the MSBI on South Africa, as amended and restated, and to advise the MSBI of its recommended response to any change in the status of apartheid policies of the Republic of South Africa

3 To assist in the implementation of this resolution, the MSBI directs its Executive Director to make recommendations to the board of candidates to fill the Minnesota corporate community representative, Minnesota public employee labor group representative, and Minnesota public employee retirement group representative positions on the Advisory Task Force.

4. This resolution shall take affect immediately.

Dated this 22nd day of March, 1991.

By [signature]

Title GOVERNOR

AGENDA
INVESTMENT ADVISORY COUNCIL
MEETING
Monday, June 10, 1991
2:00 P.M. - Room 118
State Capitol
Saint Paul

		TAB
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	B. Portfolio Statistics (March 31, 1991)	B
	C. Administrative Report	C
	1. Budget and Travel Reports	
	2. Legislative Report	
	3. Legislative Auditor's Program Evaluation Report	
3.	Report from the SBI Administrative Committee	D
	A. Approval of Executive Director's FY92 Workplan	
	B. Approval of FY92 Administrative Budget	
	C. Approval of Fiduciary Education Plan	
	D. Approval of Board Member Travel Allocation	
	E. Approval of Master Custodian Fee Guarantee Extension	
	F. Approval of Accounting System Contract Extension	
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	A. Asset Allocation Committee (J. Yeomans)	E
	1. Review of Proposal to Restructure the Basic Funds' Bond Segment	
	2. Review of Preliminary Outline for the Environmental Trust Fund	
	B. Equity Manager Committee (E. Erdahl)	F
	1. Review of Manager Performance	
	2. Annual Review of Investment Manager Guidelines	
	3. Special Review of Alliance	
	4. Approval of Contract Renewals (Alliance, Forstmann, IDS, IAI, Lieber, Waddell)	
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	3. Review of Manager Performance	
	4. Approval of Contract Renewals (IAI, Lehman, Miller, Western, Fidelity, Lincoln)	
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	1. Report on Fund Manager Annual Reviews	
	2. Approval of Commitment to Real Estate Manager (AEW)	
	3. Approval of Commitment to Resource Manager (Simmons OFS)	
	4. Approval of Commitment to Venture Capital Manager (Jacobs IMR)	

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INVESTMENT

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MINUTES

INVESTMENT ADVISORY COUNCIL

March 20, 1991

The Investment Advisory Council met on Wednesday, March 20, 1991 at 2:00 P.M. in the MEA Building, Saint Paul, Minnesota.

MEMBERS PRESENT:

John Bohan; Paul Groschen; Ken Gudorf; John Gunyou; Laurie Fiori Hacking; Vern Jackels; Malcolm McDonald; Joseph Rukavina; Debbie Veverka; and Jan Yeomans.

MEMBERS ABSENT:

James Eckmann; Elton Erdahl; David Jeffery; Gary Norstrem; and Ray Vecellio.

SBI STAFF:

Howard Bicker; Beth Lehman; Jim Heidelberg; Doug Gorence; Harriet Balian; and Charlene Olson.

OTHERS ATTENDING:

Gary Austin; Joan Anderson Growe; Michael A. McGrath; John Manahan; O. M. Ousdigian; Tom Richards, Richards & Tierney; Lisa Rotenberg; Peter Sausen; Ed Stuart, REAM; Robert Whitaker; and John Yunker.

The minutes of the December 20, 1990 meeting were approved.

EXECUTIVE DIRECTOR'S INVESTMENT REPORT

Mr. Bicker referred members to the performance results for the fourth quarter 1990 in the meeting materials. He stated that the Report on Return Objectives had been expanded to improve readability and to add information concerning the actuarial condition of the pension funds. He stated that as of June 30, 1990, the pension funds were 75 percent funded according to the measure required in statute and most frequently reported by the pension systems. He stated that the funds are essentially on schedule to be fully funded by the target date 2020. He then noted that the state system is different from the corporate sector in that public employee plans must report actuarial and funding data that is different from the reporting required of corporate plans.

Mr. Bicker reported that the Basic Funds increased in value 8.4 percent during the fourth quarter due to strong performance in all asset classes. He stated that during the quarter staff instituted a $160 million rebalancing program that shifted assets from bonds to stocks in response to the market correction in the second half of 1990. He stated that the Basic Funds slightly underperformed the composite index during the quarter and outperformed the median balanced fund by 0.9 percentage points during the quarter. He reported that the stock segment of the portfolio underperformed the market due to the portfolio's small stock bias. He then stated that the bond segment outperformed the market index.

Mr. Bicker next reported that the Post Retirement Fund continued to experience negative cash flow. He stated that the asset mix of the Fund remained essentially unchanged for the quarter. He stated that the Fund produced strong investment earnings that provided a 5.1 percent benefit increase for retirees effective January 1, 1991. He stated that the stock portfolio matched its benchmark for the quarter.

Mr. Bicker then reported that as of December 31, 1990 funds under management by the Board totalled approximately $15.7 billion.

EXECUTIVE DIRECTOR'S ADMINISTRATIVE REPORT

Mr. Bicker referred members to the budget and travel reports in the meeting materials. He next reported that as of March 4, 1991 there were few bills of specific interest to the SBI introduced during the current legislative session. He stated that a bill expanding the number of outside vendors for the deferred compensation plan had been introduced but no hearings had been scheduled. He then reported that the Public Facilities Authority requested the SBI to bid a guaranteed investment contract (GIC) for its debt service bond proceeds. He stated that due to arbitrage restrictions on tax exempt bonds, the GIC was bid as a yield restricted instrument. He explained that while GIC's are normally bid to receive the highest yield, this GIC was bid with a stated yield and its goal was to receive the highest level of collateralization. He reported that the SBI received bids for 141 percent collateralization with 10 year government securities. Mr. Bicker then reported that Great-West Life seeks approval to add a money market fund and a bond fund to its investment options offered to participants of the state Deferred Compensation Plan. He stated that the addition of the two options would make comparable the range of options offered by Minnesota Mutual, Great-West, and the SBI through its Supplemental Investment Fund. In response to a question from Mr. Bohan, Mr. Groschen stated that it was his understanding that the author of the deferred compensation bill in the legislature introduced the bill in the belief that there should be more than two outside providers of investment options.

INVESTMENT ADVISORY COUNCIL COMMITTEE REPORTS
ASSET ALLOCATION COMMITTEE

Ms. Yeomans reported that the Committee considered several items during the quarter. She stated that the Committee discussed revisions in the quarterly report on objectives that have been successfully incorporated. She stated that the Committee and staff reviewed the preliminary investment policy for the Workers Compensation Assigned Risk Plan and determined that the SBI should search for a single manager to match assets to projected liabilities. She stated that a formal policy will await the hiring of the manager and further study by the actuary. She then reported that the Committee discussed the position paper drafted by staff on tactical asset allocation. She stated that tactical asset allocation is one form of market timing that involves shifting assets at the margin at opportune times to take advantage of market movements. She stated that staff and the Committee conclude that tactical asset allocation as currently practiced is not appropriate for the Basic Funds for several reasons. She stated that an estimated 20 percent of the Basic Funds would have to be dedicated to the strategy and that amount would mean placing very large allocations with one or two or three managers. She stated that the probability of adding value to the Funds with the technique appears remote and further, that the current markets are not conducive to implementing the technique. She concluded by stating that the Committee recommends that tactical asset allocation not be considered at this time for the Basic Funds. Mr. McDonald moved approval of the recommendation to accept the position paper. Mr. Gudorf seconded. The motion was approved.

EQUITY MANAGER COMMITTEE

Ms. Veverka reported that for the quarter ending December 31, 1990 the equity managers in aggregate underperformed the aggregate benchmark by about 70 basis points, but exceeded the benchmark for the five year period. She stated the Committee reviewed manager performance, noting that Sasco's performance was close to the termination line. She stated the Committee would be closely monitoring Sasco's performance and investment style. She stated that the Committee performed an in-depth review of IDS. She stated the Committee discussed the organization and quality of staff, concluded that the firm had successfully implemented its investment style, but recognized the firm has not added value to the individual benchmark. She stated that contracts with Concord, Sasco, Franklin, Rosenberg and GeoCapital are due for renewal.

Mr. Bicker stated that staff has been monitoring Sasco and Concord very closely and that staff just put together performance data for January and February 1991. He stated that Concord and Sasco were now below the termination level. He stated that according to the Board's Manager Continuation Policy and based on the addition of the fresh data, staff recommends that the Concord and Sasco contracts not be renewed. He stated that the firms have been under contract for only two years and staff understands that it is a short period of time, but that under the Manager Continuation Policy the firms face termination. Mr. McDonald moved that contracts be renewed with Franklin, GeoCapital, and Rosenberg, but not with Sasco and Concord. Mr. Gudorf seconded. The motion was approved. Mr. Bicker then added that the firms' assets would be placed in the index fund until new managers are selected.

In response to a question from Mr. McGrath, Mr. Bicker stated that for administrative reasons staff would prefer two year rather than one year contracts. He stated that staff raised the issue a few years ago and the Board stated a preference for one year contracts. He observed that the contracts always contain a 30-day termination clause. Mr. McGrath then suggested the IAC look at the issue and make a recommendation at the June 1991 Board meeting.

Ms. Yeomans observed that 3M has IDS as a manager and is also reviewing the firm's performance. She suggested that staff review the impact the portfolio manager has had on the firm's returns.

FIXED INCOME MANAGER COMMITTEE

Ms. Hacking reported that the Committee discussed an in-depth review of Investment Advisers, Inc. She stated that the Committee concurred with the staff's conclusion to retain IAI until such time as the bond portfolio is restructured and staff and the Committee determine whether IAI's investment style will be appropriate. She noted that since inception IAI has outperformed its benchmark and matched market returns.

Ms. Hacking next reported that the Committee reviewed the performance of the managers, which exceeded their aggregate benchmarks for the quarter. She stated that the Committee recommends Western Asset be placed on probation due to a change in the portfolio manager. Mr. Groschen moved approval of the Committee recommendation. Mr. Gudorf seconded. The motion was approved.

Ms. Hacking then reported that the contract with BEA for managing a cash enhancement portfolio for the Post Fund is up for renewal. She stated that the firm, retained since April 1987, has outperformed its benchmark by 1.82 percentage points annualized. She stated that the Committee recommends the contract be extended for a year and that the firm be authorized to use currency hedges as one of their cash enhancement strategies. Mr. Bicker explained that the firm could provide additional returns with the currency hedging strategy that it uses for other clients' portfolios. Mr. Gudorf moved approval of the Committee recommendation. Mr. McDonald seconded. The motion was approved.

Finally, Ms. Hacking reported that the Committee reviewed a proposal to restructure the bond segment of the Basic Funds. She stated that the Committee suggests having the Asset Allocation Committee now review it. Mr. Bicker stated staff believes it appropriate for the Asset Allocation Committee to review the proposal next quarter before it is presented to the Board.

In response to a question from Mr. McDonald, Mr. Bicker stated that the proposal calls for creating a constant duration target. He stated that the bond portfolio serves as a deflation hedge and as a means to dampen volatility of returns, which are conflicting goals. He stated that using a constant duration would be an attempt to address both goals without foregoing market returns.

<u>ALTERNATIVE INVESTMENT COMMITTEE</u>

Mr. Gudorf reported that the Committee held annual review sessions with several oil and gas and venture capital managers. He stated that in general the Committee and staff received good news and were satisfied overall with the results. He reported that annual review sessions with all six real estate managers will be held next quarter.

Mr. Gudorf then stated the Committee had one action item, a follow-on investment with the firm KKR. He stated KKR is one of the SBI's most successful venture capital managers. He explained that KKR is raising a $1 billion to $2 billion supplemental fund to their 1987 fund in which the SBI has invested. He stated that the 1984 KKR fund has provided an annual rate of return of 27.7 percent through 1990 and that the 1986 KKR fund has provided an annual rate of return of 23.2 percent through 1990, compared to an annual rate of return for the Wilshire 5000 of 12.8 percent during the 1984 to 1990 period. He stated the Committee continues to discuss with KKR various investments the firm has made and is impressed with the firm's ability to manage the companies it buys and incent company management to act in a manner consistent with the objectives of shareholders. He stated that the Committee believes this to be KKR's greatest strength and the reason they recommend investing with KKR. He stated that the new fund would be different from the 1987 fund in that new investments would not be as highly leveraged which will result in somewhat lower equity returns. He stated that the Committee recommends a $150 million commitment. He then noted that the investment would push the venture capital portfolio over the target allocation for venture capital but the alternative investment portfolio would remain within the overall alternative investment allocation of 15 percent.

In response to a question from Ms. Veverka about the size of the commitment, Mr. Bicker stated that KKR and Forstmann Little are the only firms operating large buyout funds. In response to another question from Ms. Veverka, Mr. Bicker stated that KKR chooses managers from outside KKR to operate the companies they purchase, and that internal resources are being freed up as several of their earlier investments are going public. Mr. Bicker then stated that the new fund will not be drawn down until the 1987 fund is completely invested. Mr. Bohan moved approval of the Committee recommendation. Mr. McDonald seconded. The motion was approved.

Mr. Gudorf then stated that staff and the Committee have made another request to DSV, a venture capital manager, to return cash that the firm has drawn down but not invested. He stated that the Committee believes that if the manager is unable to find suitable investments, the firm should return the cash to the SBI rather than invest it in short term securities. In response to a question from Mr. Groschen, Mr. Bicker stated that under the terms of the contract DSV may drawdown the SBI's commitment when it chooses and invest the assets short term while it seeks suitable investments. He added that the contracts the SBI now signs with managers provide for drawdowns only for specific investment opportunities.

ASSIGNED RISK PLAN MANAGER SELECTION COMMITTEE

Peter Sausen reported that the Selection Committee recommends that IDS be retained to manage the Assigned Risk Plan assets. He stated that the Committee interviewed the current manager, Voyageur, and six other managers. He stated that the Committee determined that two firms, IDS and Fidelity, were equally well qualified. He stated that the Committee then considered two additional criteria. He explained that the Committee determined that IDS, as a local firm, would be better able to meet with state officials concerning the liability stream for the plan. He stated that the Committee concluded that Fidelity relies heavily upon one individual who also directs another portfolio for the SBI, and that the Committee determined that the SBI would risk having a less talented manager overseeing the portfolio in the event the present manager leaves the firm. Mr. McDonald moved approval of the Committee recommendation. Mr. Bohan seconded. The motion was approved.

In response to a question from Mr. Bohan, Mr. Bicker stated that the issue of international investing will be discussed with the Board now that the new Board has been constituted. Ms. Yeomans stated that she believed the Asset Allocation Committee should consider an implementation plan for international investing.

The meeting was adjourned at 3:15 P.M.

Respectfully submitted,

Howard J. Bicker

Howard J. Bicker
Executive Director

Tab A

RETURN OBJECTIVES

Basic Retirement Funds — $7.7 Billion Market Value

Total Return	Period Ending 3/31/91 Actual	Compared to Objective
Total Fund over 10 years	12.9%	8.6 percentage points above
■ Exceed inflation by 3-5 percentage points		
Total Fund over 5 years	10.1%	0.5 percentage points below
■ Exceed composite market index		
Stocks, Bonds, Cash over 5 years	10.6%	Equal to median fund
■ Exceed median fund		

Post Retirement Fund — $5.8 Billion Market Value

Realized Earnings	Actual	Benefit Increase Provided
Earnings over 1 year (Fiscal Year 1990)	10.1%	5.1% effective Jan. 1, 1991
Earnings over 5 years (Fiscal Years 1986-1990)	11.7%	6.7% annualized

ACTUARIAL VALUATIONS

MSRS, TRA, PERA General Plans

June 30, 1990

	Active (Basics)	Retired (Post)	Total (Basics & Post)
Liability Measures			
1) Current and Future Benefit Obligation	$13.3 billion	$4.6 billion	$17.9 billion
2) Accrued Liabilities	9.3	4.6	13.9
Asset Measures			
3) Current and Future Actuarial Value	$12.9 billion	$4.6 billion	$17.5 billion
4) Current Actuarial Value	5.9	4.6	10.5
Funding Ratios			
Future Obligations vs. Future Assets (3 ÷ 1)	97%	100%	98%
Accrued Liabilities vs. Current Actuarial Value (4 ÷ 2)*	64	100	75*

* Ratio most frequently used by the Legislature and Retirement Systems.

The funding ratio required by Governmental Standard Accounting Board Statement No. 5 compares Cost Value of assets to the Current Benefit Obligation. This calculation provides funded ratios of 74% for the Basics, 100% for the Post and 84% for the Total, respectively.

Notes:

1) Present value of projected benefits that will be due to all current participants.
2) Liabilities attributed to past service calculated using entry age normal cost method.
3) Present value of future statutory contributions plus current actuarial value.
4) Same as required reserves for Post. Cost plus one-third of the difference between cost and market value for Basics.

Actuarial Assumptions:

Salary Growth: 6.5%
Interest/Discount Rate: 8.5% Basics, 5.0% Post
Full Funding Target Date: 2020

The executive summary highlights the asset mix, performance standards and investment results for the Basic Retirement Funds and the Post Retirement Fund.

Additional detail on these funds as well as information on other funds managed by the Board can be found in the body of the Quarterly Investment Report.

EXECUTIVE SUMMARY

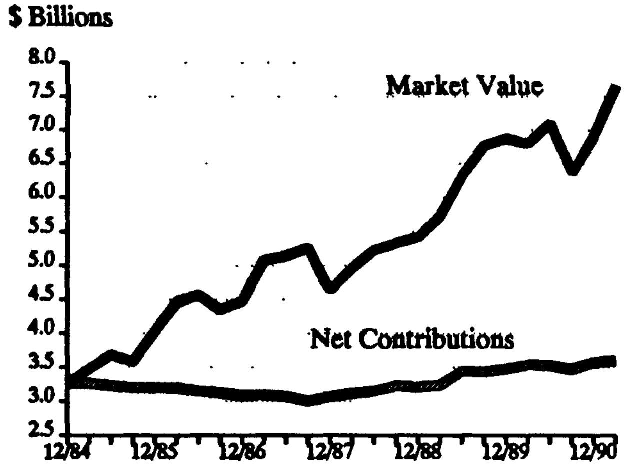
Basic Retirement Funds

Asset Growth

The market value of the Basic Funds increased 10.6% during the first quarter of 1991. The increase was primarily due to strong positive performance in equities.

Asset Growth
During FirstQuarter 1991
(Millions)

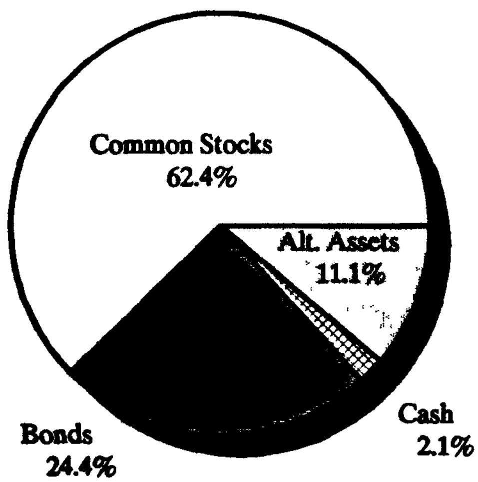
BeginBeginning Value	$6,919
Net Contributions	29
Investment Return	708
Ending Value	$7,656



Asset Mix

The asset mix of the Basic Funds is chosen to maximize long term rate of return. This requires a large commitment to common stocks. Other asset classes are used to limit short-run return volatility and to diversify portfolio holdings.

The stock allocation increased due to strong stock market appreciation. Correspondingly, the bond and alternative assets decreased because their performance was lower relative to stocks.



Actual Asset Mix
3/31/91

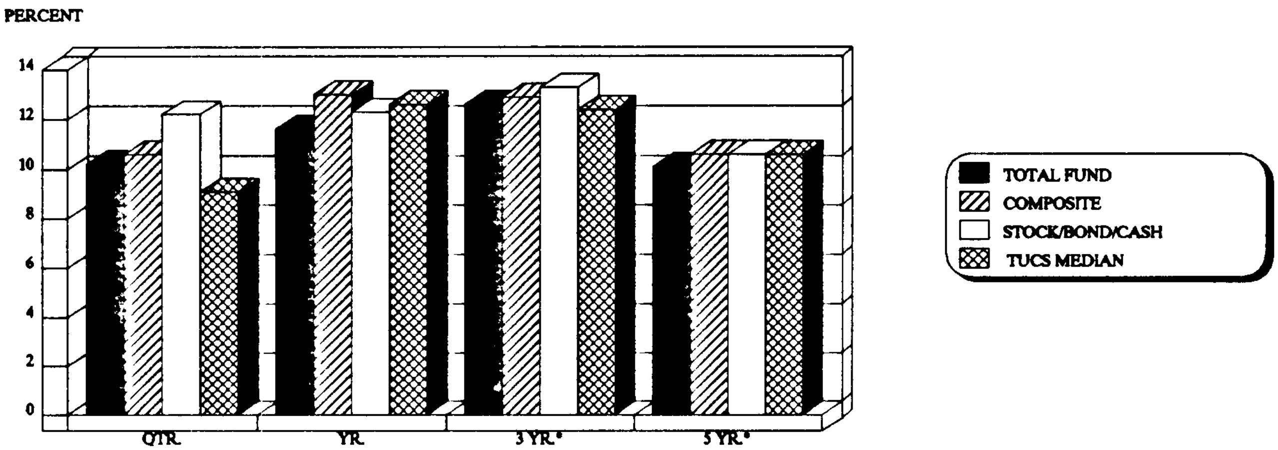
	Policy Asset Mix	Actual Mix 3/31/91	Actual Market Value (Millions)
Stocks	60.0%	62.4%	$4,777
Bonds	24.0	24.4	1,867
Alternative Assets	15.0	11.1	853
Unallocated Cash	1.0	2.1	158
	100.0%	100.0%	$7,656

Basic Funds (Con't.)

Total Fund Performance

For the quarter, the total fund without alternative assets exceeded the median fund while the total fund trailed the composite index. For the year, the total fund with and without alternative assets trailed their respective benchmarks.

Given its large commitment to common stocks, the Basic Funds can be expected to outperform other balanced pension portfolios during periods of positive stock performance and underperform during periods of negative stock performance.



Period Ending 3/31/91

	Qtr.	Yr.	*(Annualized) 3 Yr.	5 Yr.
Total Fund	**10.2%**	**11.6%**	**12.6%**	**10.1%**
Composite Index **	10.6	13.0	12.9	10.6
Stocks, Bonds and Cash Only	**12.2**	**12.3**	**13.3**	**10.6**
TUCS Median Balanced Fund***	9.1	12.6	12.4	10.6

** Composite Index is weighted in a manner that reflects the policy asset mix of the Basic Funds.
*** Trust Universe Comparison Service (TUCS) includes returns of over 800 public and private tax-exempt investors

Stock Segment Performance

The Basic Funds' common stock segment matched the performance of its target for the latest quarter but trailed it for the latest year.

	Qtr.	Yr.	(Annualized) 3 Yr.	5 Yr.
Stock Segment	16.5%	11.5%	14.5%	10.9%
Wilshire 5000	16.5	13.2	15.5	11.6

Bond Segment Performance

The bond segment of the Basic Funds exceeded the performance of its target for the latest quarter and year.

	Qtr.	Yr.	(Annualized) 3 Yr.	5 Yr.
Bond Segment	3.0%	13.0%	9.9%	9.0%
Salomon Broad Index	2.6	12.8	10.0	8.7

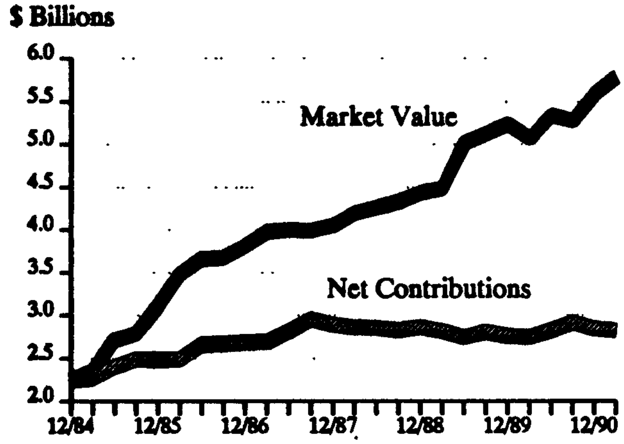
EXECUTIVE SUMMARY

Post Retirement Fund

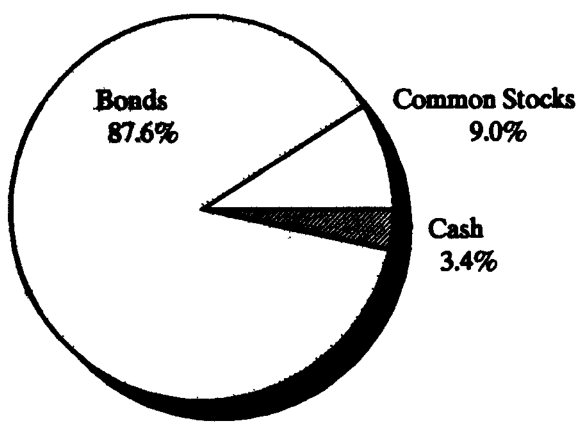
Asset Growth

The market value of the Post Fund increased by 3.6% during the first quarter of 1991. Assets increased due to positive performance in both the stock and bond markets.

	Asset Growth During First Quarter 1991 (Millions)
Beginning Value	$5,590
Net Contributions	-20
Investment Return	220
Ending Value	$5,790



Asset Mix



Actual Asset Mix
3/31/91

The asset mix of the Post Retirement fund is chosen to create a sizable, steady stream of income sufficient to pay currently promised benefits. This income stream is created by a large commitment to bonds, primarily through a dedicated bond portfolio. Assets not committed to bonds are invested in cash equivalents or common stocks.

The asset mix for the Post Retirement Fund remained essentially unchanged for the quarter.

	Actual Market Value (Millions)	Asset Mix 3/31/91
Common Stocks	$523	9.0%
Bonds	5,072	87.6
Unallocated Cash	195	3.4
	$5,790	100.0%

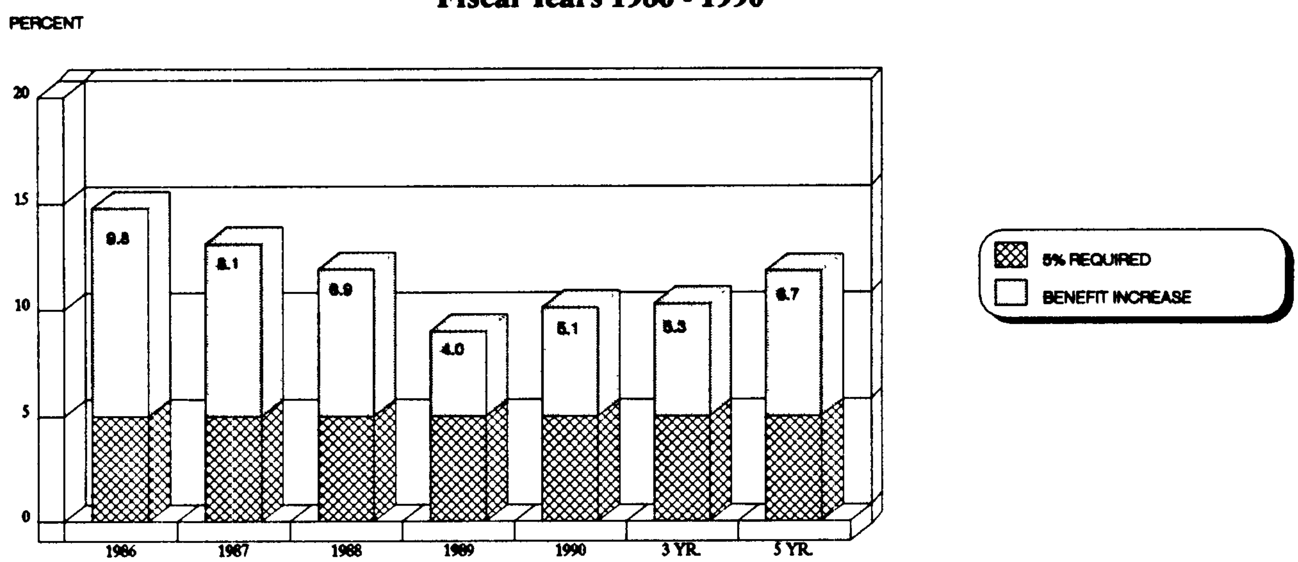
Post Fund (Con't.)

Total Fund Performance

Assets committed to the dedicated bond portfolio ensure that all existing promised benefits will be paid to current retirees. Excess investment earnings on Post Fund assets are used to finance permanent lifetime benefit increases for retirees.

Benefit increases are based upon earnings during a fiscal year and are effective at the start of the following calendar year. Benefit increases generated for the last five years are shown below.

Realized Earnings
Fiscal Years 1986 - 1990



	1986	1987	1988	1989	1990	(Annualized) 3 Yrs.	5 Yrs.
Realized Earnings*	14.8%	13.1%	11.9%	9.0%	10.1%	10.3%	11.7%
Benefit Increase**	**9.8**	**8.1**	**6.9**	**4.0**	**5.1**	**5.3**	**6.7**
Inflation	1.7	3.7	3.9	5.2	4.7	4.6	3.8

* Interest, dividends and net realized capital gains.
** Payable starting January 1 of the following calendar year.

Stock Segment Performance

The stock segment of the Post Fund exceeded its benchmark for the latest quarter but trailed it for the latest year.

	Period Ending 3/31/91 Qtr.	Yr.	(Annualized) 3 Yr.	5 Yr.
Stock Segment	20.3%	7.2%	13.3%	7.9%
Post Fund Benchmark	18.7	8.9	13.1	N.A.

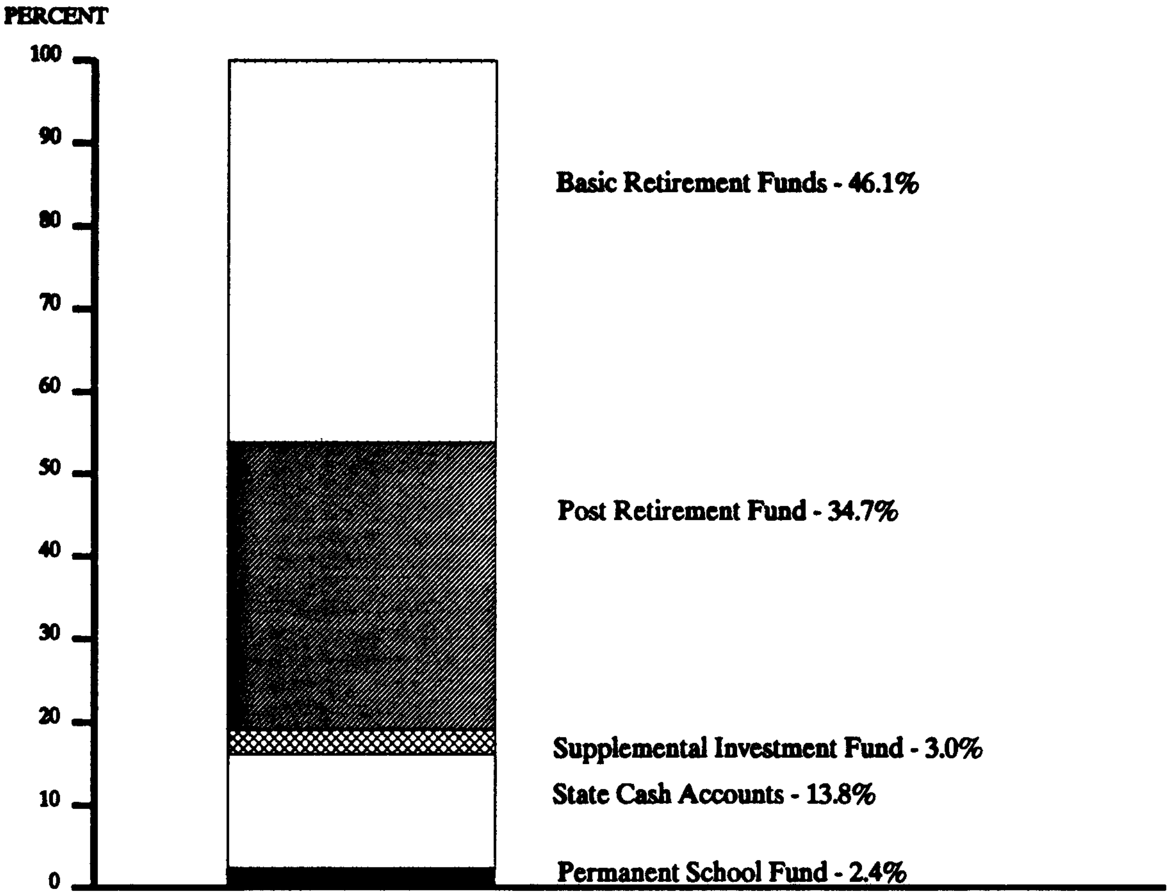
Bond Segment Performance

At the close of the quarter, the dedicated bond portfolio had a current yield of 7.64% and average duration of 7.49 years. The market value of the dedicated bond portfolio was $5.0 billion at the end of the quarter.

The dedicated bond portfolio is designed such that cash inflows from portfolio income and principal payments match required cash outflows to retirees. Thus, total return is not a relevant performance measure for the portfolio. Nevertheless, the bond segment provided a 2.6% return for the quarter and a 13.2% return for the year. This is consistent with the design of the dedicated bond portfolio.

EXECUTIVE SUMMARY

Funds Under Management



	3/31/91 Market Value (Billions)
Basic Retirement Funds	$7.7
Post Retirement Fund	5.8
Supplemental Investment Fund	0.5
State Cash Accounts	2.3
Permanent School Fund	0.4
Total	$16.7

MINNESOTA STATE BOARD

OF INVESTMENT

QUARTERLY INVESTMENT REPORT

First Quarter 1991

(January 1, 1991 - March 31, 1991)

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FINANCIAL MARKETS REVIEW

STOCK MARKET

Stock prices increased significantly for the quarter. The market reacted favorably to the quick resolution of the Persian Gulf War and the Federal Reserve's more accommodating monetary policy. The market sustained a broad based advance over all three months with February contributing approximately one-half of the total return for the quarter.

The Wilshire 5000 increased 16.5% for the quarter. Performance among the different Wilshire Style Indexes for the quarter varied widely and are shown below:

• Large Value	11.4%
• Small Value	17.6
• Large Growth	20.9
• Small Growth	31.5

Lastly, the Wilshire 5000 increased 13.2% during the latest year.

BOND MARKET

The bond market recorded a positive rate of return for the quarter. Bond prices increased early in the quarter due to an accommodating monetary policy by the Federal Reserve and the market anticipation of a quick resolution to the Persian Gulf War. Later in the quarter the market remained relatively flat due to the market perception that the economy was coming out of its recession thereby causing the Federal Reserve to stop its accommodating monetary policy.

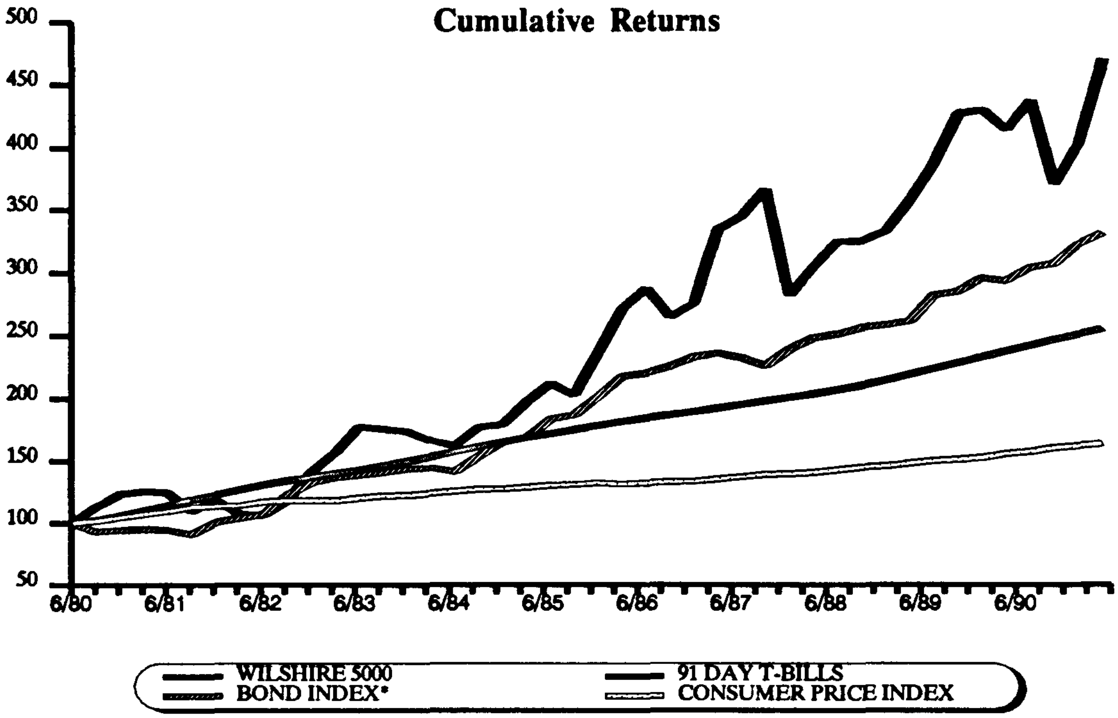
Overall, the Salomon Brothers Broad Investment Grade (BIG) Index increased 2.6% for the quarter. The Salomon BIG sector returns for the quarter were:

• Treasury/Agency	2.1%
• Corporates	4.1
• Mortgages	2.9

Lastly, the Salomon BIG increased 12.8% for the latest year.

PERFORMANCE OF CAPITAL MARKETS

Cumulative Returns



* Salomon Broad Investment Grade Bond (BIG) Index

FINANCIAL MARKETS REVIEW

REAL ESTATE

The real estate market still faces oversupply and slow demand. Regional malls, industrials and apartments are faring the best. Office (especially suburban), smaller retail, hotel and land are not doing well. Reflecting the weak real estate markets, many real estate portfolios have experienced significant writedowns over the last year.

VENTURE CAPITAL

According to the *Venture Capital Journal*, a preliminary look at venture capital disbursements for 1990 indicates that net new capital commitments made to independent private venture capital funds declined 23% to $1.8 billion in 1990 from $2.4 billion in 1989. The 1990 total was the third consecutive year-to-year decline in new venture capital commitments. It marks the lowest level of new capital raised since 1982, when the industry raised $1.4 billion.

RESOURCE FUNDS

Over the past year spot prices of West Texas Intermediate oil jumped to as high as $41.15 per barrel in October 1990 compared to a low of $15.06 in June 1990. Currently, spot prices of oil are at $21 per barrel.

Spot prices of natural gas reached in October 1990 a high of approximately $2.00 per MCF (thousand cubic feet) compared to a recent price of $1.44 per MCF.

BASIC RETIREMENT FUNDS

Investment Objectives

The Basic Retirement Funds are composed of the retirement assets for currently working participants in the statewide retirement funds.

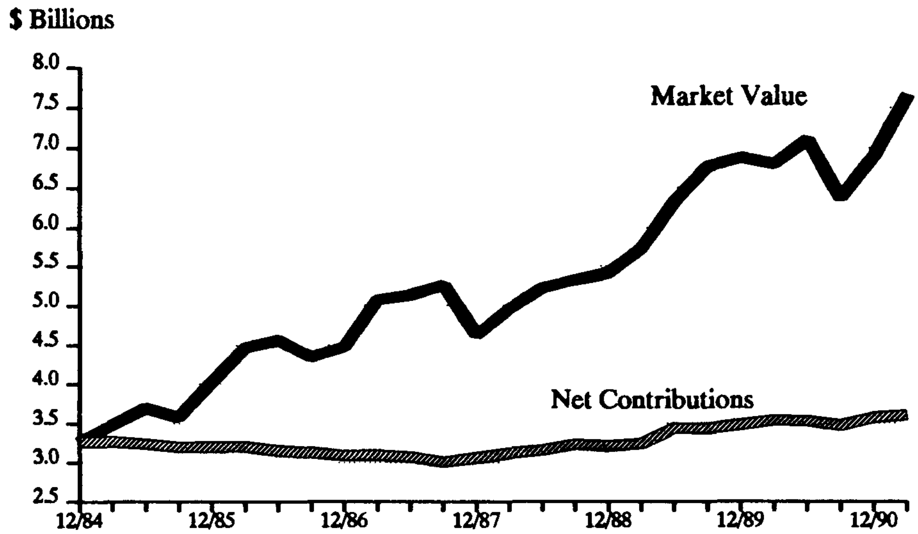
Based upon the Basic Funds' adequate funding levels and participant demographics, its investment time horizon is quite long. This extended time horizon permits the Board to take an aggressive, high expected return investment policy which incorporates a sizable equity component.

The Board has established three return objectives for the Basic Funds:

- The total fund should provide real rates of return that are 3-5 percentage points greater than the rate of inflation over moving 10 year periods.
- Stocks, bonds and cash should outperform the median fund from a universe of public and private funds with a balanced asset mix over moving 5 year periods.
- The total fund should outperform a composite index weighted in a manner that reflects the long term asset allocation of the Basic Funds over moving 5 year periods.

Asset Growth

The market value of the Basic Retirement Funds' assets increased 10.6% during the first quarter of 1991. The increase was primarily due to strong positive performance in equities.



In Millions

	12/86	12/87	12/88	12/89	12/90	3/91
Beginning Value	$4,030	$4,474	$4,628	$5,420	$6,382	$6,919
Net Contributions	-113	-26	146	269	97	29
Investment Return	557	180	646	1,186	440	708
Ending Value	$4,474	$4,628	$5,420	$6,875	$6,919	$7,656

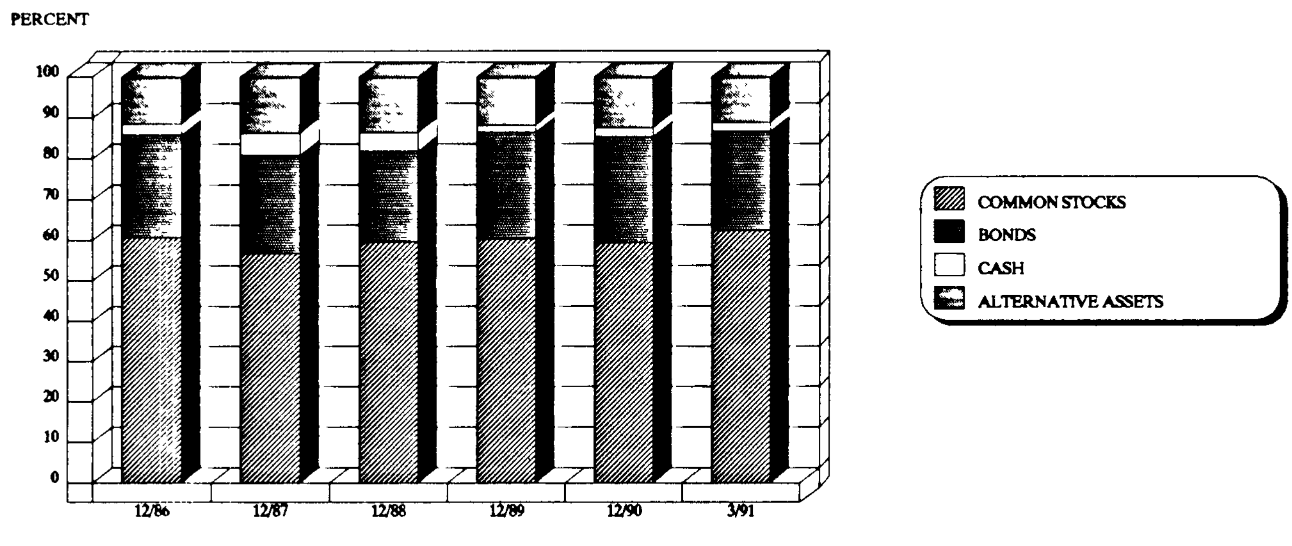
BASIC RETIREMENT FUNDS

Asset Mix

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

Common Stocks	60.0%
Bonds	24.0
Real Estate	10.0
Venture Capital	2.5
Resource Funds	2.5
Unallocated Cash	1.0

The stock allocation increased due to strong stock market appreciation. Correspondingly, the bond and alternative assets decreased because their performance was lower relative to stocks.



	Last Five Years					Latest Qtrs.
	12/86	12/87	12/88	12/89	12/90	3/91
Stocks	60.6%	56.7%	59.5%	60.2%	59.1%	62.4%
Bonds	25.3	24.2	22.4	26.4	26.2	24.4
Real Estate	8.3	9.5	9.0	7.5	7.0	5.9
Venture Capital	1.8	2.8	3.1	2.8	4.2	3.8
Resource Funds	1.4	1.4	1.5	1.4	1.5	1.4
Unallocated Cash	2.6	5.4	4.5	1.7	2.0	2.1
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

BASIC RETIREMENT FUNDS

Total Fund Performance vs. Standards

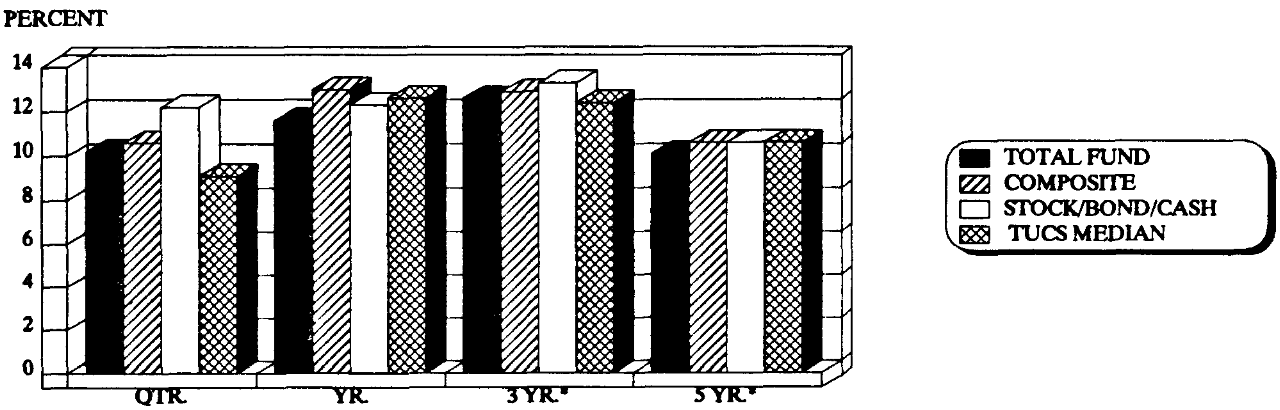
The Basic Funds' long-term rate of return performance is evaluated relative to two specific benchmarks:

- **Composite Index.** The returns provided by the total portfolio are expected to exceed those derived from a composite of market indices, weighted in the same proportion as the Basic Funds' policy asset allocation. As of 7/1/89, the composite index is weighted: 60% Wilshire 5000 Stock Index, 24% Salomon Broad Bond Index, 10% Real Estate Funds, 2.5% Venture Capital Funds, 2.5% Resource Funds, and 1% 91 Day T-Bills.

- **Median Tax-Exempt Fund.** Stock, bond and cash assets are expected to outperform the median return produced by a representative sample of other public and private tax-exempt balanced funds. The sample universe used by the Board is the Wilshire Associates Trust Universe Comparison Service (TUCS).

The long term asset allocation of the Basic Funds is based on the superior performance of common stocks over the history of the capital markets. The asset mix is designed to add value to the Basic Funds' over their long-term investment time horizon. In the short-run, the Basic Funds can be expected to outperform the median balanced portfolio during periods of positive relative stock performance and underperform during periods of negative stock performance.

The Basic Funds total portfolio trailed its composite index for the latest quarter and year. Because of the Basic Funds sizable stock allocation and performance of the stock market, the Basic Funds' exceeded the median balanced fund for the latest quarter but trailed it for the latest year. Excluding alternative assets, the Basic Funds ranked in the top quartile (19th percentile) of the TUCS universe for the quarter. In addition, it ranked in the middle third (53rd percentile) for the latest year and the upper half (49th percentile) for the last five years.



	Period Ending 3/31/91			
			*(Annualized)	
	Qtr.	Yr.	3 Yr.	5 Yr.
Total Fund	**10.2%**	**11.6%**	**12.6%**	**10.1%**
Composite Index	10.6	13.0	12.9	10.6
Stocks, Bonds and Cash Only	**12.2**	**12.3**	**13.3**	**10.6**
TUCS Median Balanced Fund	9.1	12.6	12.4	10.6

BASIC RETIREMENT FUNDS

Segment Performance vs. Standards

Stock Segment

The Basic Funds' common stock segment equaled its performance target for the latest quarter but trailed it for the latest year.

	Qtr.	Yr.	Annualized 3 Yrs.	Annualized 5 Yrs.
Stock Segment	16.5%	11.5%	14.5%	10.9%
Wilshire 5000	16.5	13.2	15.5	11.6

Bond Segment

The bond segment of the Basic Funds exceeded the performance of its target for the latest quarter and year.

	Qtr.	Yr.	Annualized 3 Yrs.	Annualized 5 Yrs.
Bond Segment	3.0%	13.0%	9.9%	9.0%
Salomon Bond Index	2.6	12.8	10.0	8.7

Real Estate Segment

The real estate segment of the Basic Funds trailed its target for the latest quarter but exceeded it for the latest year.

The Wilshire Real Estate Index contains returns of 30 commingled funds. The index does not include returns from funds that are less than 3 years old or are not fully invested.

	Qtr.	Yr.	Annualized 3 Yrs.	Annualized 5 Yrs.
Real Estate Segment	-2.5%	-3.0%	3.7%	5.1%
Real Estate Index	-0.7	-3.3	2.5	4.9
Inflation	0.9	4.9	5.0	4.4

Venture Capital and Resource Funds

Comprehensive data on returns provided by the resource and venture capital markets are not available at this time. Actual returns from these assets are shown in the table.

The SBI began its venture capital and resource programs in the mid-1980's. Many of the investments, therefore, are relatively immature and returns may not be indicative of future results.

	Qtr.	Yr.	Annualized 3 Yrs.	Annualized 5 Yrs.
Venture Capital Segment	-0.6%	18.1%	15.2%	10.7%
Resource Fund Segment	2.1	22.5	5.0	6.1

POST RETIREMENT FUND

Investment Objectives

The Post Retirement Investment Fund contains the pension assets of retired public employees covered by statewide retirement plans.

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

Unrealized capital gains (or losses) are excluded from the statutory definition of earnings. For this reason the Post Fund is not designed to maximize long-term total rates of return.

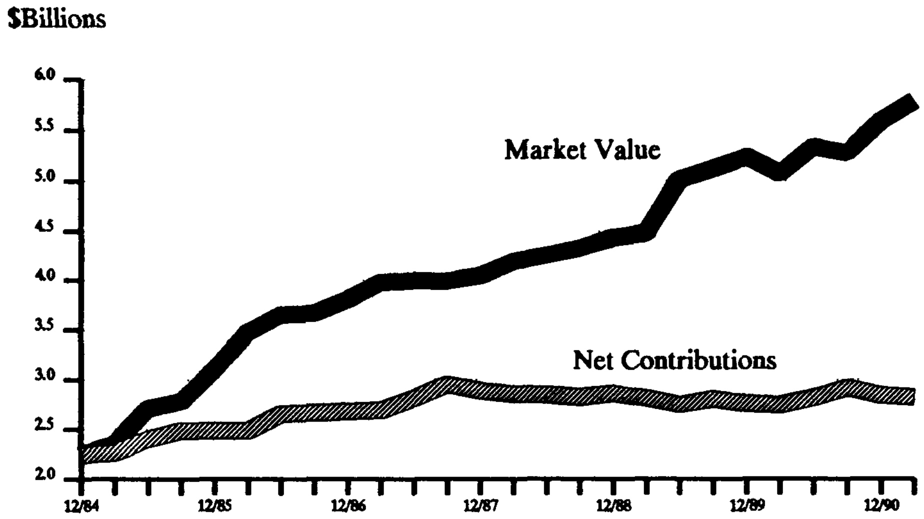
The Board has established two earnings objectives for the Post Fund:

- generate 5% realized earnings to maintain current benefits.
- generate at least 3% additional realized earnings to provide benefit increases.

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

Asset Growth

The market value of the Post Retirement Fund increased by 3.6% during the first quarter of 1991. Asset growth increased due to positive performance in both the stock and bond markets.



In Millions

	12/86	12/87	12/88	12/89	12/90	3/91
Beginning Value	$3,107	$3,808	$4,047	$4,434	$5,278	$5,590
Net Contributions	199	207	-27	25	-72	-20
Investment Return	502	32	414	779	384	220
Ending Value	$3,808	$4,047	$4,434	$5,238	$5,590	$5,790

POST RETIREMENT FUND

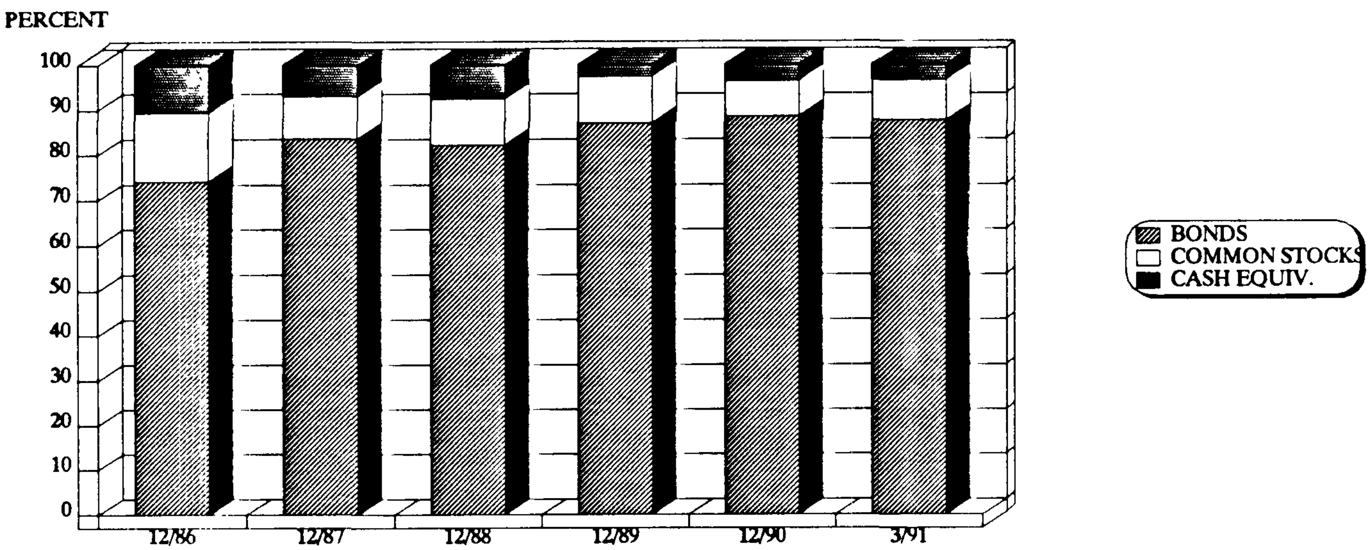
Asset Mix

The Board has designed the asset mix of the Post Fund to generate the sizable stable earnings stream necessary to finance monthly payments to retirees.

The SBI invests the majority of the Post Fund's assets in a dedicated bond portfolio. A dedicated bond portfolio is a collection of various maturity, high-quality bonds which generate cash flows from income and principal payments that match a specific stream of liabilities.

Assets not committed to the dedicated bond portfolio generally are invested in common stocks and cash equivalents.

The asset mix for the Post Retirement Fund remained essentially unchanged for the quarter.



	Last Five Years					Latest Qtrs.
	12/86	12/87	12/88	12/89	12/90	3/91
Bonds	74.2%	83.7%	82.3%	87.1%	88.5%	87.6%
Stocks	15.1	9.3	10.1	10.2	7.9	9.0
Unallocated Cash	10.7	7.0	7.6	2.7	3.6	3.4
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

POST RETIREMENT FUND

Total Fund Performance

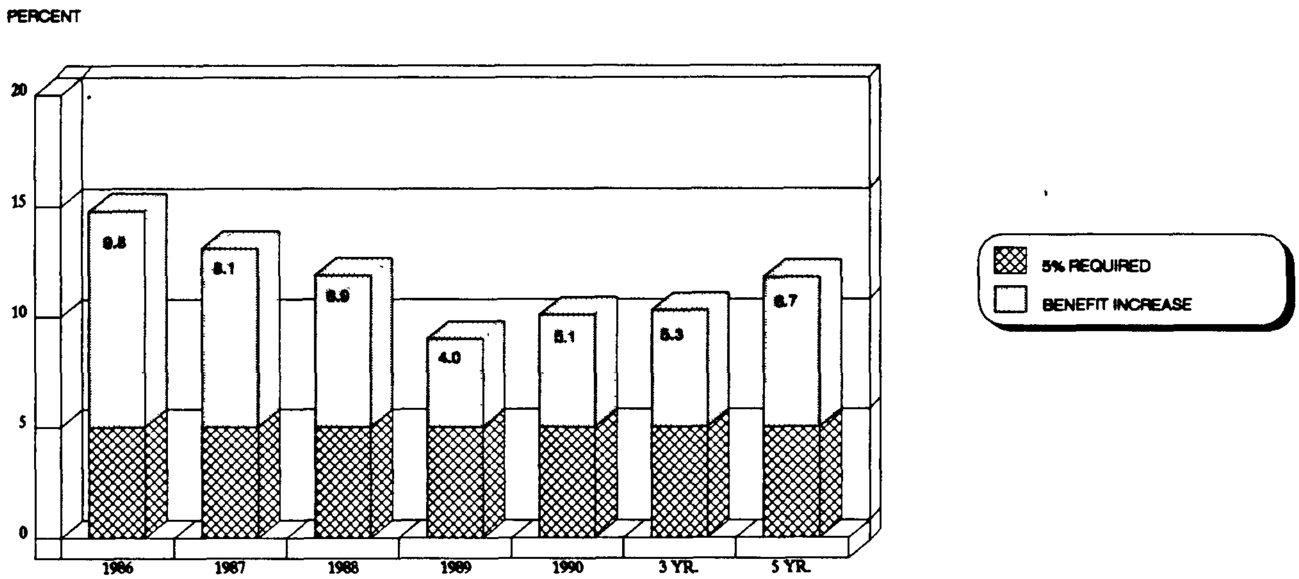
The ability of the Post Fund to maintain current benefit levels and provide future benefit increases depends upon its earnings. State statutes define earnings for the Post Fund as interest and dividend income as well as realized equity and fixed income capital gains (or losses). Unrealized capital gains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

Assets committed to the dedicated bond portfolio ensure that all existing promised benefits will be paid to current retirees. Excess investment earnings on the Post Fund assets are used to finance permanent lifetime benefit increases for retirees.

Benefit increases are based upon earnings during a fiscal year and are effective at the start of the following calendar year. Benefit increases generated over the last five years are shown below.

Realized Earnings

Fiscal Years 1986 - 1990



	1986	1987	1988	1989	1990	(Annualized) 3 Yrs.	5 Yrs.
Realized Earnings*	14.8%	13.1%	11.9%	9.0%	10.1%	10.3%	11.7%
Benefit Increase**	9.8	8.1	6.9	4.0	5.1	5.3	6.7
Inflation	1.7	3.7	3.9	5.2	4.7	4.6	3.8

* Interest, dividends and net realized capital gains.
** Payable starting January 1 of the following calendar year.

POST RETIREMENT FUND

Segment Performance

Stock Segment Performance

The stock segment of the Post Fund exceeded its benchmark for the latest quarter but trailed in for the latest year.

	Period Ending 3/31/91			
			(Annualized)	
	Qtr.	Yr.	3 Yrs.	5 Yrs.
Stock Segment	20.3%	7.2%	13.3%	7.9%
Post Fund Benchmark	18.7	8.9	13.1	N.A.

Bond Segment Performance

The composition of the Post Retirement Investment Fund's dedicated bond portfolio remained essentially unchanged during the fourth quarter.

The Post Fund's bond portfolio provided a 2.6% total rate of return for the quarter and a 13.2% return for the year. This performance is consistent with the bond portfolio's design. The Post Fund's dedicated bond portfolio is structured so that portfolio income and maturities match the Fund's liability stream. As a result, the duration of the dedicated bond portfolio exceeds that of the bond market. Consequently, on a total return basis, the portfolio can be expected to underperform the bond market in down periods and outperform the market in up periods.

Dedicated Bond Portfolio Statistics
3/31/91

Value at Market	$ 4,969,211,632
Value at Cost	4,531,295,887
Average Coupon	8.66%
Current Yield	7.64
Yield to Maturity	8.43
Current Yield at Cost	8.38
Time to Maturity	15.47 Years
Average Duration	7.49 Years
Average Quality Rating	AAA
Number of Issues	434

SUPPLEMENTAL INVESTMENT FUND

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

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

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

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

On March 31, 1991 the market value of the entire fund was $516 million.

Investment Options

Income Share Account - an actively managed, balanced portfolio utilizing both common stocks and bonds.

Growth Share Account - an actively managed, all common stock portfolio.

Common Stock Index Account - a passively managed, all common stock portfolio designed to track the performance of the entire stock market.

Bond Market Account - an actively managed, all bond portfolio.

Money Market Account - a portfolio utilizing short term, liquid debt securities.

Guaranteed Return Account - an option utilizing guaranteed investment contracts (GIC's), which offer a fixed rate of return for a specified period of time.

SUPPLEMENTAL INVESTMENT FUND

Income Share Account

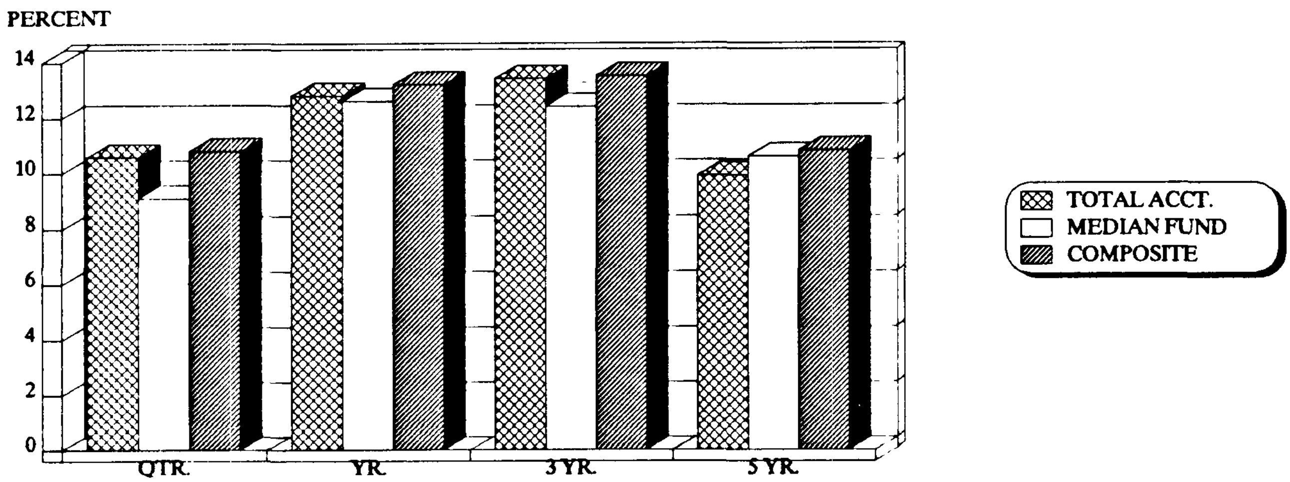
Investment Objective
The primary investment objective of the Income Share Account is similar to that of the Basic Retirement Funds. The Account seeks to maximize long-term real rates of return, while limiting short-run portfolio return volatility.

Asset Mix
The Income Share Account is invested in a balanced portfolio of common stocks and bonds. Common stocks provide the potential for significant capital appreciation, while bonds act as a deflation hedge and provide portfolio diversification.

	Target	Actual
Stocks	60.0%	62.1%
Bonds	35.0	30.8
Unallocated Cash	5.0	7.1
	100.0%	100.0%

Investment Management
The Account combines internal and external management. Internal investment staff manage the entire fixed income segment. Currently, the entire stock segment is managed by Wilshire Associates as part of a passively managed index fund designed to track the Wilshire 5000. Prior to April 1988, a significant portion of the stock segment was actively managed.

Market Value
On March 31, 1991 the market value of the Income Share Account was $267 million.



Period Ending 3/31/91

	Qtr.	Yr.	Annualized 3 Yr.	Annualized 5 Yr.
Total Account	10.6%	12.9%	13.4%	9.9%
Median Fund*	9.1	12.6	12.4	10.6
Composite**	10.8	13.2	13.5	10.8
Equity Segment	16.3	12.6	15.2	9.7
Wilshire 5000	16.5	13.2	15.5	11.6
Bond Segment	2.5	12.8	10.1	9.3
Salomon Bond Index	2.6	12.8	10.0	8.7

* TUCS Median Balanced Portfolio

** 60/35/5 Wilshire 5000/Salomon Broad Bond Index/T-Bills Composite

SUPPLEMENTAL INVESTMENT FUND

Growth Share Account

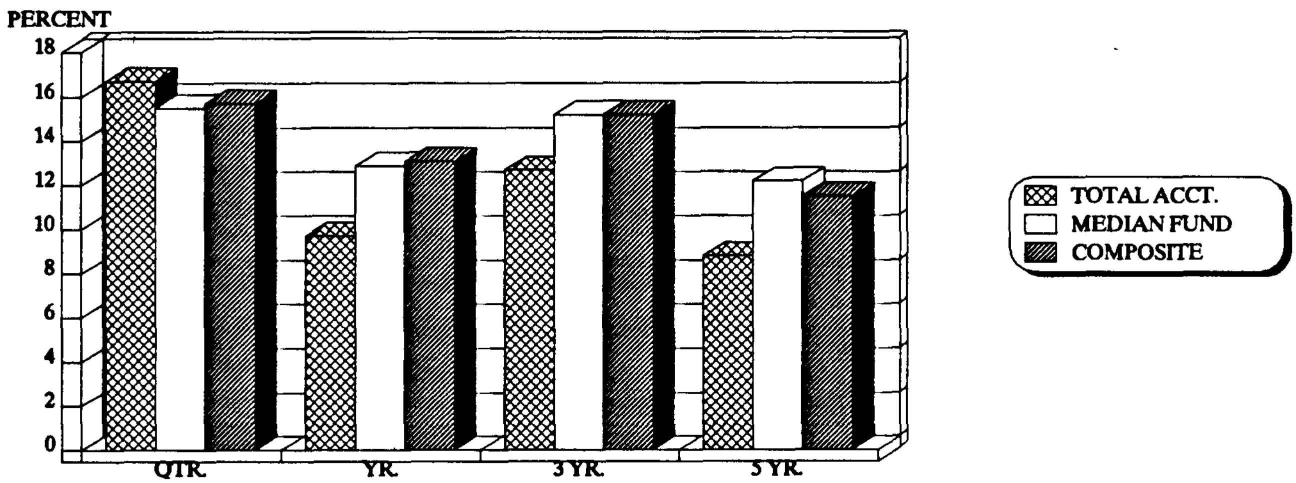
Investment Objective
The Growth Share Account's investment objective is to generate above-average returns from capital appreciation on common stocks.

Asset Mix
The Growth Share Account is invested almost entirely in common stocks. Generally, the small cash equivalents component represents the normal cash reserves held by the Account as a result of net contributions not yet allocated to stocks.

	Target	Actual
Stocks	95.0%	94.2%
Unallocated Cash	5.0	5.8
	100.0%	100.0%

Investment Management
Currently, the entire Account is managed by the same group of active external stock managers utilized by the Basic Retirement Funds. Prior to April 1988, other active managers controlled a substantial portion of the account.

Market Value
On March 31, 1991 the market value of the Growth Share Account was $77 million.



Period Ending 3/31/91

	Qtr.	Yr.	Annualized 3 Yr.	Annualized 5 Yr.
Total Account	16.7%	9.7%	12.7%	8.8%
Median Fund*	15.5	12.9	15.2	12.2
Composite**	15.7	13.1	15.2	11.5
Equity Segment	17.7	10.7	13.1	9.0
Wilshire 5000	16.5	13.2	15.5	11.6

* TUCS Median Managed Equity Portfolio

** 95/5 Wilshire 5000/T-Bills Composite

SUPPLEMENTAL INVESTMENT FUND

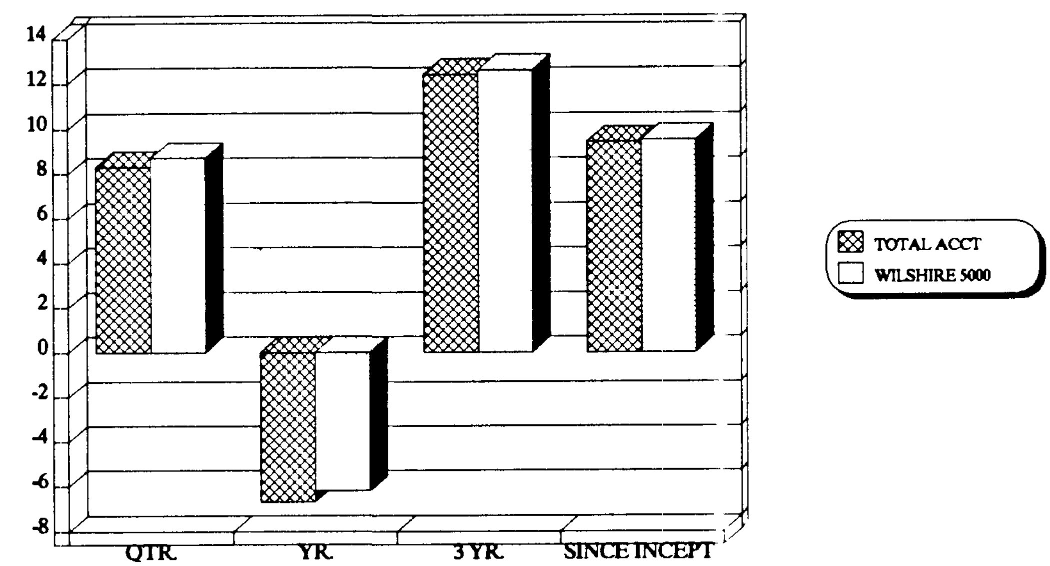
Common Stock Index Account

Investment Objective and Asset Mix
The investment objective of the Common Stock Index Account is to generate returns that match those of the common stock market. The Account is designed to track the performance of the Wilshire 5000, a broad-based equity market indicator.

The Account is invested 100% in common stocks.

Investment Management
The entire Account is managed by Wilshire Associates as part of a passively managed index fund.

Market Value
On March 31, 1991 the market value of the Common Stock Index Account was $14 million.



Period Ending 3/31/91

	Qtr.	Yr.	3 Yrs. Annualized	Since Inception Annualized*
Total Account	16.4%	12.4%	15.2%	12.5%
Wilshire 5000	16.5	13.2	15.5	12.6

* The Common Stock Index Account was added to the Supplemental Fund in July 1986.

SUPPLEMENTAL INVESTMENT FUND

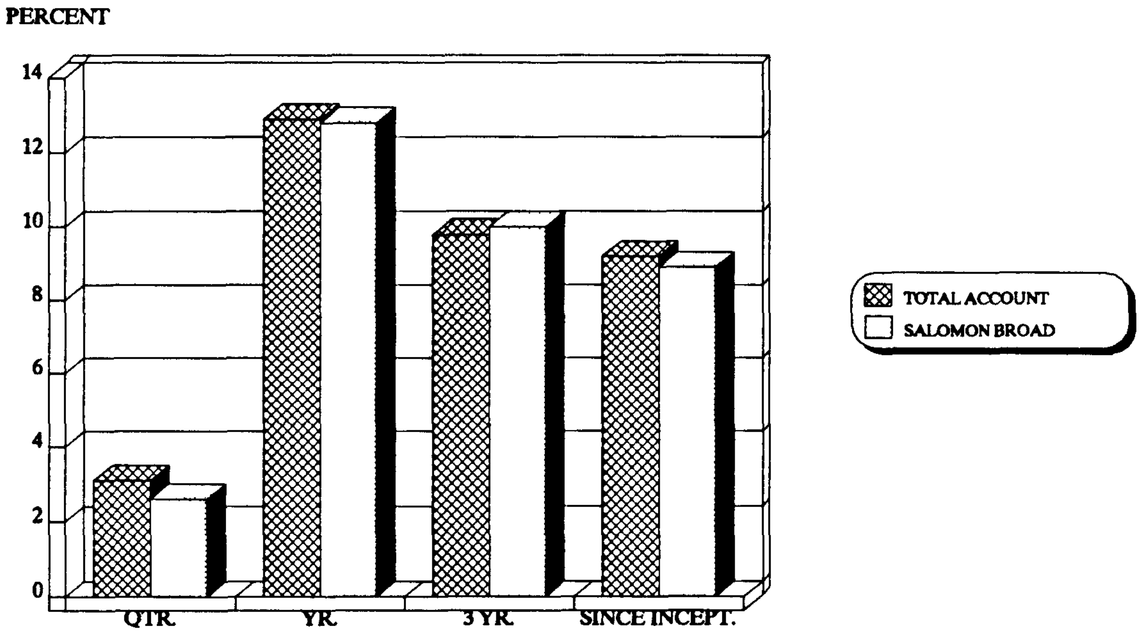
Bond Market Account

Investment Objective
The investment objective of the Bond Market Account is to earn a high rate of return by investing in fixed income securities.

Asset Mix
The Bond Market Account invests primarily in high-quality, government and corporate bonds that have intermediate to long-term maturities, usually 3 to 20 years.

Investment Management
The entire Account is managed by the same group of active external bond managers utilized by the Basic Retirement Funds.

Market Value
On March 31, 1991 the market value of the Bond Market Account was $8 million.



Period Ending 3/31/91

	Qtr.	Yr.	3 Yrs. Annualized	Since Inception Annualized*
Total Account	3.1%	12.9%	9.8%	9.2%
Salomon Broad	2.6	12.8	10.0	8.9

* The Bond Market Account was added to the Supplemental Fund in July 1986.

SUPPLEMENTAL INVESTMENT FUND

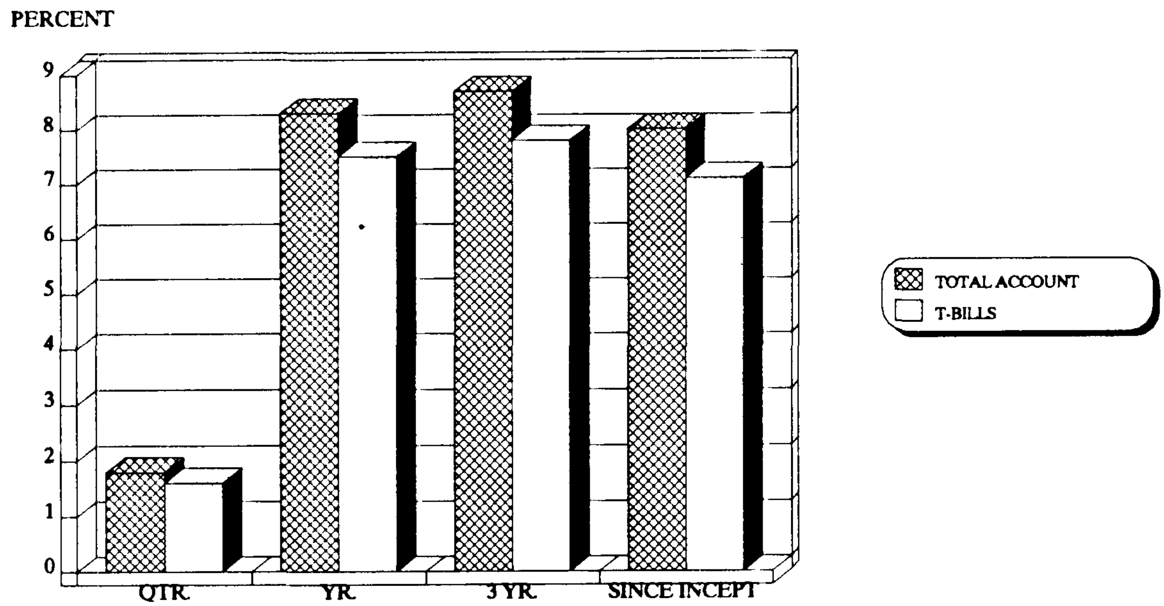
Money Market Account

Investment Objective
The investment objective of the Money Market Account is to purchase short-term, liquid fixed income investments that pay interest at rates competitive with those available in the money markets.

Assset Mix
The Money Market Account is invested entirely in high quality short-term investments such as U.S. Treasury Bills, bank certificates of deposit, repurchase agreements, and high grade commercial paper. The average maturity of these investments is 30 to 60 days.

Investment Management
The Money Market Account is managed solely by State Street Bank and Trust Company. State Street manages a major portion of the Board's cash reserves.

Market Value
On March 31, 1991 the market value of the Money Market Account was $86 million.



Period Ending 3/31/91

	Qtr.	Yr.	3 Yrs. Annualized	Since Inception Annualized*
Total Account	1.8%	8.3%	8.7%	8.0%
91 Day T-Bills	1.6	7.5	7.8	7.1

* The Money Market Account was added to the Supplemental Fund in July 1986.

SUPPLEMENTAL INVESTMENT FUND

Guaranteed Return Account

Investment Objectives
The investment objectives of the Guaranteed Return Account are to protect investors from any loss of their original investment and to provide a fixed rate of return over a three year period.

Asset Mix
The Guaranteed Return Account is invested in guaranteed investment contracts (GIC's) offered by major U.S. insurance companies and banks.

Investment Management
Annually, the Board accepts bids from banks and insurance companies that meet the financial quality criteria defined by State statute. Generally, the insurance company or bank offering the highest three year GIC interest rate is awarded the contract. That interest rate is then offered to participants who make contributions to the Guaranteed Return Account over the following twelve months.

Market Value
On March 31, 1991 the market value of the Guaranteed Return Account was $64 million.

Contract Period	Annual Effective Interest Rate	Manager
Nov. 1, 1988 - Oct. 31, 1991	9.010%	Mutual of America
Nov. 1, 1989 - Oct. 31, 1992	8.400%	John Hancock
Nov. 1, 1990 - Oct. 31, 1993	8.765%	Mutual of America/ Provident National (blended rate)

PERMANENT SCHOOL FUND

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

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

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

Asset Mix
The asset mix of the Permanent School Fund was essentially unchanged during the first quarter. The Permanent School fund continues to hold only fixed income securities. Under current legal limitations, common stocks are not appropriate vehicles for the Fund.

	Target	Actual
Bonds	95.0%	98.6%
Unallocated Cash	5.0	1.4
Total	100.0%	100.0%

Investment Management
The entire fund is managed by the SBI investment staff.

Asset Growth
The market value of the Permanent School Fund's assets increased 0.1% during the first quarter. Investment income was offset by withdrawals during the quarter.

Asset Growth During First Quarter 1991 (Millions)

Beginning Value	$384.2
Net Contributions	-9.4
Investment Return	9.8
Ending Value	$384.6

Bond Segment Performance
The composition of the Permanent School Fund's bond portfolio was essentially unchanged during the quarter. The bond portfolio is structured with a laddered distribution of maturities to minimize the Fund's exposure to re-investment rate risk. At the quarter's-end, the portfolio had a current yield of 8.81%, an average life of 7.13 years, and a AAA quality rating. The portfolio remains concentrated in Treasury and Agency issues with the remainder primarily distributed among mortgages, industrials and utilities.

Bond Portfolio Statistics 3/31/91

Value at Market	$371,064,797
Value at Cost	355,185,525
Average Coupon	9.15%
Current Yield	8.81
Yield to Maturity	8.57
Current Yield at Cost	9.21
Time to Maturity	15.37 Years
Average Duration	7.13 Years
Average Quality Rating	AAA
Number of Issues	134

STATE CASH ACCOUNTS

Description
State Cash Accounts represent the cash balances in more than 200 separate ccounts that flow through the Minnesota State Treasury. These accounts range in size from $5,000 to over $400 million.

Most accounts are invested by SBI staff through two short-term pooled funds:

- **Trust Fund Pool** contains the cash balances of retirement-related accounts managed internally and cash balances in the Permanent School Fund.

- **Treasurer's Cash Pool** contains the cash balances of special or dedicated accounts necessary for the operation of certain State agencies and the balance of the Invested Treasurer's Cash.

In addition, each State of Minnesota bond sale requires two additional pools; one for bond proceeds and one for the debt reserve transfer.

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

Investment Objectives

- **Safety of Principal.** To preserve capital.

- **Competitive Rate of Return.** To provide a high level of current income.

- **Liquidity.** To meet cash needs without the forced sale of securities at a loss.

Asset Mix
The SBI maximizes current income while preserving capital by investing all cash accounts in high quality, liquid short term investments. These include U.S. Treasury and Agency issues, repurchase agreements, bankers acceptances, commercial paper, and certificates of deposit.

Investment Management
All state cash accounts are managed by the SBI investment staff. As noted above, most of the assets of the cash accounts are invested through two large commingled investment pools.

Performance
Both the Trust Fund Pool and the Treasurer's Cash Pool outperformed their target for the latest quarter and year.

Period Ending 3/31/91

	Market Value (Millions)	Qtr.	Yr.	3 Yrs. Annualized
Treasurer's Cash Pool	$2,068	2.0%	8.8%	8.8%
Trust Fund Cash Pool	214	1.8	8.4	8.6
91-Day T-Bills		1.6	7.5	7.8

Tab B

PORTFOLIO STATISTICS

STATE OF MINNESOTA
STATE BOARD OF INVESTMENT
COMPOSITION OF STATE INVESTMENT PORTFOLIOS BY TYPE OF INVESTMENT
MARKET VALUE MARCH 31, 1991
(in 000's)

	CASH AND SHORT TERM SECURITIES	BONDS INTERNAL	BONDS EXTERNAL	STOCKS INTERNAL	STOCKS EXTERNAL	ALTERNATIVE ASSETS	TOTAL
BASIC RETIREMENT FUNDS:							
TEACHERS RETIREMENT FUND	$ 53,561	$ -0-	$ 855,225	$ -0-	$2,207,618	$394,560	$ 3,510,964
	1.52%		24.36%		62.88%	11.24%	100%
PUBLIC EMPLOYEES RETIRE. FUND	39,727	-0-	416,759	-0-	1,076,706	192,455	1,725,647
	2.30%		24.15%		62.40%	11.15%	100%
STATE EMPLOYEES RETIRE. FUND	36,913	-0-	357,724	-0-	924,189	165,194	1,484,020
	2.49%		24.10%		62.28%	11.13%	100%
PUBLIC EMP. POLICE & FIRE FUND	20,106	-0-	158,435	-0-	409,320	73,164	661,025
	3.04%		23.97%		61.92%	11.07%	100%
HIGHWAY PATROL RETIRE. FUND	2,736	-0-	26,417	-0-	68,250	12,200	109,603
	2.50%		24.10%		62.27%	11.13%	100%
JUDGES RETIREMENT FUND	160	-0-	1,678	-0-	4,336	775	6,949
	2.30%		24.15%		62.40%	11.15%	100%
PUBLIC EMP. P.F. CONSOLIDATED	2,935	-0-	32,918	-0-	40,537	6,610	83,000
	3.54%		39.66%		48.84%	7.96%	100%
CORRECTIONAL EMPLOYEES RETIREMENT	1,803	-0-	17,950	-0-	46,374	8,289	74,416
	2.42%		24.12%		62.32%	11.14%	100%
POST RETIREMENT FUND	194,644	5,071,766	-0-	523,242	-0-	-0-	5,789,652
	3.36%	87.60%		9.04%			100%
MINNESOTA SUPPLEMENTAL FUNDS:							
INCOME SHARE ACCOUNT	18,980	82,289	-0-	-0-	165,784	-0-	267,053
	7.11%	30.81%			62.08%		100%
GROWTH SHARE ACCOUNT	4,476	-0-	-0-	-0-	72,469	-0-	76,945
	5.82%				94.18%		100%
MONEY MARKET ACCOUNT	85,921	-0-	-0-	-0-	-0-	-0-	85,921
	100%						100%
COMMON STOCK INDEX ACCOUNT	-0-	-0-	-0-	-0-	14,063	-0-	14,063
					100%		100%
BOND MARKET ACCOUNT	-0-	-0-	8,163	-0-	-0-	-0-	8,163
			100%				100%
GUARANTEED RETURN ACCOUNT	-0-	-0-	63,977	-0-	-0-	-0-	63,977
			100%				100%

	CASH AND SHORT TERM SECURITIES	BONDS INTERNAL	BONDS EXTERNAL	STOCKS INTERNAL	STOCKS EXTERNAL	ALTERNATIVE ASSETS	TOTAL
TOTAL RETIREMENT FUNDS	$ 461,962	$5,154,055	$1,939,246	$523,242	$ 5,029,646	$853,247	$13,961,398
	3.31%	36.92%	13.89%	3.75%	36.02%	6.11%	100%
PERMANENT SCHOOL FUND	5,420	379,195	-0-	-0-	-0-	-0-	384,615
	1.41%	98.59%					100%
TREASURERS CASH	2,068,420	-0-	-0-	-0-	-0-	-0-	2,068,420
	100%						100%
HOUSING FINANCE AGENCY	184,155	-0-	-0-	-0-	-0-	-0-	184,155
	100%						100%
MINNESOTA DEBT SERVICE FUND	20,833	-0-	-0-	-0-	-0-	-0-	20,833
	100%						100%
MISCELLANEOUS ACCOUNTS	132,721	-0-	-0-	-0-	-0-	-0-	132,721
	100%						100%
GRAND TOTAL	$2,873,511	$5,533,250	$1,939,246	$523,242	$5,029,646	$853,247	$16,752,142
	17.15%	33.03%	11.58	3.12%	30.03%	5.09%	100%

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

For period of
January 1, 1991 - March 31, 1991

Teachers Retirement Fund	$ -0-
Public Employees Retirement Fund	-0-
State Employees Retirement Fund	14,833,000.00
Public Employees Police & Fire	7,000,000.00
Highway Patrol Retirement Fund	413,000.00
Judges Retirement Fund	-0-
Public Emp. P & F Consolidated	6,022.508.04
Correctional Employees Retirement Fund	679,000.00
Post Retirement Fund	(19,739,545.33)
Supplemental Retirement Fund - Income	183,688.93
Supplemental Retirement Fund - Growth	481,180.27
Supplemental Retirement Fund - Money Market	(64,999.69)
Supplemental Retirement Fund - Index	919,975.40
Supplemental Retirement Fund - Bond Mkt.	352,656.94
Supplemental Retirement Fund - Guaranteed	(166,478.34)
Total Retirement Funds Net Cash Flow	$ 10,913,986.22
Permanent School Fund	(9,437,279.91)
Total Net Cash Flow	$ 1,476,706.31

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)
January 1989	88	(10)	78	3	5.6	47 7	46.7	10760
February	60	18	78	38	5.3	47.9	46.8	10633
March	150	5	155	12	3.9	48.8	47.3	10783
April	(16)	188	172	16	2.3	48.1	49.6	11113
May	(2)	4	2	43	2.6	47.6	49.8	11461
June	119	10	129	119	2.5	49.2	48.3	11768
July	121	(100)	21	44	2.6	49.0	48.4	12287
August	275	(205)	70	51	2.4	49.8	47.8	12311
September	47	11	58	32	2.2	50.2	47.6	12344
October	113	(154)	(41)	8	2.6	52.5	44.9	12342
November	45	0	45	78	2.8	52.1	45.1	12494
December	14	6	20	24	2.8	51.8	45.4	12581
January 1990	(37)	6	(31)	85	3.9	52.0	44.1	12126
February	(12)	115	103	48	3.4	51.1	45.5	12232
March	(3)	7	4	8	3.4	50.5	46.1	12334
April	105	3	108	8	2.7	51.4	45.9	12070
May	(6)	27	21	52	2.8	50.0	47.2	12721
June	23	(22)	1	122	3.7	50.3	46.0	12916
July	130	3	133	65	3.1	51.6	45.3	12962
August	98	(38)	60	53	3.2	53.3	43.5	12293
September	61	(42)	19	13	3.2	55.1	41.7	12098
October	35	8	43	11	3.0	56.0	41.0	12103
November	(58)	61	3	106	3.7	54.2	42.1	12652
December	(59)	115	56	33	3.4	53.3	43.3	12967
January 1991	6	(2)	4	47	3.6	52.3	44.1	13356
February	(6)	11	5	60	3.9	50.6	45.5	13790
March	82	1	83	6	3.3	50.8	45.9	13961

Tab C

COMMITTEE REPORT

DATE: June 3, 1991

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

FROM: Howard J. Bicker

1) Budget and Travel Reports

A budget report for the period ending April 1991 is included as Attachment A.

A travel report for the period from February 16, 1991 - May 15, 1991 is included as Attachment B.

2) Legislative Report

A summary of bills considered during the 1991 Legislation Session is contained in Attachment C.

3) Legislative Auditor's Program Evaluation Report

The Program Evaluation Division of the Legislative Auditor released a report in April 1991 entitled, "State Investment Performance." The report made several recommendations:

- o that the legislature should consider changes to the post retirement benefit increase mechanism.
- o that the equity exposure in the Permanent School Fund should be increased.
- o that the SBI should develop a more appropriate performance benchmark for its cash portfolios.
- o that the SBI add certain information to its quarterly or annual reports.

The Legislative Audit Commission is likely to hold hearings on some or all of these issues before the 1992 legislative session. Each of the above issues is addressed in my FY92 workplan.

STATE BOARD OF INVESTMENT
FISCAL YEAR 1991 ADMINISTRATIVE BUDGET REPORT
GENERAL FUND APPROPRIATION
FISCAL YEAR TO-DATE THROUGH APRIL 30,1991

ITEM	FISCAL YEAR 1991 BUDGET	FISCAL YEAR 1991 EXPENDITURES
PERSONAL SERVICES		
CLASSIFIED EMPLOYEES	$ 243,500	$ 195,505
UNCLASSIFIED EMPLOYEES	1,138,910	875,143
PART-TIME EMPLOYEES	0	0
WORKERS COMPENSATION INSURANCE	0	606
MISCELLANEOUS PAYROLL	0	-87
SUBTOTAL	**$ 1,382,410**	**$ 1,071,167**
EXPENSES & CONTRACTUAL SERVICES		
RENTS & LEASES	97,000	75,225
REPAIRS/ALTERATIONS/MAINTENANCE	9,000	6,505
PRINTING & BINDING	18,000	14,775
PROFESSIONAL/TECHNICAL SERVICES	5,000	5,154
DATA PROCESSING & SYSTEM SERVICES	162,000	121,500
PURCHASED SERVICES	20,000	20,206
SUBTOTAL	**$ 311,000**	**$ 243,365**
MISCELLANEOUS OPERATING EXPENSES		
COMMUNICATIONS	20,000	17,701
TRAVEL, IN-STATE	3,000	663
TRAVEL, OUT-STATE	40,000	23,711
FEES & OTHER FIXED CHARGES	7,000	3,833
SUBTOTAL	**$ 70,000**	**$ 45,908**
SUPPLIES/MATERIALS/PARTS	**15,000**	**30,615**
CAPITAL EQUIPMENT	**19,100**	**13,959**
TOTAL GENERAL FUND	**$ 1,797,510**	**$ 1,405,014**

ATTACHMENT B

STATE BOARD OF INVESTMENT

Travel Summary by Date
February 16, 1991 - May 15, 1991

Purpose	Name(s)	Destination and Date	Total Cost
Board Member Travel National Association of State Treasurers Midwest Regional Conference	M. McGrath	St. Louis 4/17-21	$ 308.00
Manager Monitoring Western Asset Wilshire Associates	H. Bicker D. Gorence	Los Angeles 4/22-23	$1,144.00
Board Member Travel Education Conference of Health, Welfare and Pension Plans	M. McGrath	New Orleans 4/13-15	$ 443.35
New Manager Search Resource Manager L.E. Simmons OFS	J. Griebenow	Houston 4/28-29	$ 941.32

ATTACHMENT C

BILLS OF INTEREST TO THE MINNESOTA STATE BOARD OF INVESTMENT
1991 LEGISLATIVE SESSION
Includes Action Through 5/30/91

DESCRIPTION OF BILL	HF/SF #	AUTHOR	CURRENT STATUS
Permitting SBI to invest in all federally insured savings accounts, including credit unions SBI is allowed to purchase CD's from credit unions	HF 614 SF 548	Dawkins Cohen	House Passed 4/8 Senate Passed as HF 614 4/27 Governor signed into law; Laws 1991, Chapter 47
Actuarial Services for pension funds and Pension Commission SBI would be required to pay for Post Fund benefit projection data	HF 299 SF 377	 Waldorf	House passed Senate passed as HF 299 5/20 Actuarial services amended onto HF 299 in Senate and House concurred
Minneapolis Employees Retirement Fund investment, administrative practices Amends 11A.24 to allow investments in commingled funds generally	HF 571 SF 656	Jefferson Pogemiller	House Passed 4/30 Senate passed as HF 571 5/18 rereferred to Finance Governor signed into law; Laws 1991, Chapter 206
Transferring certain state employees from unclassified to classified civil service Certain SBI professional staff would be shifted to classified status; based on interim study by DOER due 12/15/91	HF 1147 SF 1168	Reding Waldorf	House Passed 5/9 Senate passed 5/18 Governor signed into law; Laws 1991, Chapter 238
Ambulance Service Personnel Plan "incentive plan" administered by PERA, assets to be invested by SBI	HF 100 SF 112	Cooper Frederickson, D.J.	Amended to tax bill; HF 1698, Article 19
Adding Vendors to State Deferred Compensation Plan SBI would be required to contract with 5 insurance companies for options	HF 323 SF 418	Johnson, R. Waldorf	Referred to Govt'l Operations Referred to Govt'l Operations Pension Commission laid over for interim study (4/4)
Prepaid tuition program for post secondary education SBI would invest a dedicated fund	HF 640 SF 540	Pugh Metzen	Passed Education; in Appropriations Referred to Education Committee

Tab D

STATE OF MINNESOTA
OFFICE OF THE STATE TREASURER
ST. PAUL 55155

MICHAEL A. McGRATH
Treasurer

303 State Administration Building
50 Sherburne Avenue
St. Paul, Minnesota 55155
(612) 296-7091

DATE: June 3, 1991

TO: Members, State Board of Investment

FROM: Michael A. McGrath, Chair
SBI Administrative Committee

SUBJECT: Committee Report

The SBI Administrative Committee met on May 22, 1991 and took action on the following items:

1) Executive Director's FY92 Workplan

Mr. Bicker presented his proposed workplan for FY92. Like the previous workplans, the FY92 plan follows the same category order found in the Executive Director's position description. The plan is a compilation of on-going responsibilities as well as the new initiatives the Executive Director will undertake during the next year.

A copy of the proposed plan is shown in Attachment A.

RECOMMENDATION:

The Committee recommends that the SBI approve the attached FY92 Executive Director's workplan. Further, the Committee recommends that the workplan serve as the basis for the Executive Director's performance evaluation for FY92.

2) FY92 Administrative Budget

The SBI's administrative budget is funded by a legislative appropriation from the general fund. Approximately 90% of expenditures are billed back to the various funds under management and the receipts are deposited in the general fund as non-dedicated revenue.

The Legislature approved the Governor's recommendation on SBI's FY92-93 budget less a reduction of approximately 1% per year. The summary of the FY92 budget included as Attachment B reflects the appropriated amount.

RECOMMENDATION:

The Committee recommends that the SBI approve the attached FY92 Administrative Budget Plan.

3) Fiduciary Education Plan

In 1989, the Legislature enacted the Fiduciary Responsibility Act. The act requires each public pension plan to establish a continuing education plan for its fiduciaries. The current plan for the SBI is contained in Attachment C. No changes to the existing plan are recommended at this time.

RECOMMENDATION:

The Committee recommendations that the SBI approve the attached Continuing Fiduciary Education Plan.

4) Board Member Travel Allocation Policy

In FY91 each Board member was allocated up to $2,000 from the SBI's administrative budget for travel by him or herself and their staff for purposes related to SBI matters. Actual travel expenditures have been reported to the Board as part of the regular quarterly travel reports.

RECOMMENDATION:

The Committee recommends that the SBI renew this policy for FY92. The Committee recommends that this policy be reviewed by the Board annually.

5) Master Custodian Fee Guarantee Extension

State Street Bank was selected to provide custodial services through two request for proposal (RFP) processes: first in 1983 and again in 1988.

The SBI negotiated a zero net fee guarantee with State Street for the three year period ending September 1991. This was a significant reduction from the fee negotiated under the first contract. State Street has offered to extend the same guarantee for an additional two year period.

The Executive Director believes it is in the best interest of the SBI to accept State Street's offer for two reasons:

- The fee guarantee is favorable to the SBI and remains very competitive in the industry.

- State Street continues to maintain its commitment to provide high quality custodial services and staff is satisfied with the current level of service.

RECOMMENDATION:

The Committee recommends that the SBI authorize the executive director, with assistance from SBI's legal counsel to negotiate and execute a contract amendment with State Street Bank which extends the current fee guarantee for the period ending September 30, 1993.

6) Accounting System Contract Extension

The SBI's contract for a computerized accounting and portfolio management system will expire on June 30, 1992. The vendor was selected through an RFP in the fall of 1987 for the period beginning July 1, 1988.

The system provides several important functions in the current SBI management structure:

- It is used to process and account for securities traded for the internally managed portfolios.

- It provides an internal audit function for the externally managed portfolios.

- It is used to compile the information necessary to generate and verify performance data.

As you know, the retirement systems are considering proposals which may alter the Post Retirement Fund's benefit increase mechanism. In addition, the Legislative Auditor has recommended that the Legislature consider statutory revisions. If changes are adopted, it is likely that the SBI's accounting needs would be affected significantly. The disposition of these proposals will not be known for several months. As a result, it is not possible to predict the SBI's needs beyond the next fiscal year.

In light of these circumstances, the Executive Director believes it is prudent to extend the current contract until June 1993 and to conduct a full RFP process in late calendar 1992. The current vendor, Financial Control Systems, is willing to extend the contract under the current fee arrangement ($162,000 per year).

RECOMMENDATION:

The Committee recommends that the SBI authorize the executive director, with assistance from SBI legal counsel, to negotiate and execute a one-year contract extension with Financial Control Systems for the SBI's accounting and portfolio management system.

7) Executive Director's FY91 Evaluation Process

The Committee discussed the process that will be used by the Board to evaluate the executive director for FY91. The Committee members agreed that the performance review should be completed prior to the September 1991 meeting of the SBI and should replicate the process used in the past.

RECOMMENDATION:

The Committee recommends that the SBI adopt the following process to assure the executive director's FY91 performance evaluation is completed in a timely manner:

- The evaluation will be based on the results of the executive director's workplan for FY91.

- The SBI deputies/designees will develop an appropriate evaluation form for use by each Board member.

- As the Governor's designee, the Commissioner of Finance will coordinate distribution and collection of the evaluation forms. In addition, he will meet with Mr. Bicker to review all evaluations prior to the September 1991 meeting of the SBI.

ATTACHMENT A

STATE BOARD OF INVESTMENT

Executive Director's Workplan

FY92

(Categories A, B, C, D, E correspond to the position description)

A. DEVELOPMENT OF INVESTMENT POLICIES	Projected Time Frame
1. Review the long term asset allocation strategy for the Basic and Post Retirement Funds.	Jul. - Sep.
2. Respond to recommendations in the Legislative Auditor's report, "State Investment Performance."	Jul. - Jun.
3. Consider restructuring the bond segment of the Basic Retirement Funds.	Jul. - Dec.
4. Finalize and implement the investment management plan for the Environmental Trust Fund.	Jul. - Jun.
5. Review operating guidelines for the internally managed cash pools.	Jul. - Dec.
6. Develop implementation plans for new investment strategies that may enhance long term performance. Options under consideration include international securities and short-selling strategies.	Jul. - Jun.

FY 92 Workplan (con't)

	Projected Time Frame
B. IMPLEMENTATION OF INVESTMENT POLICIES APPROVED BY THE SBI.	
1. Meet or exceed the performance objectives established for the Basic Retirement Funds:	On-going, reported quarterly
o Obtain returns that are 3-5 percentage points over inflation over the last 10 years (FY83-FY92).	
o Outperform the median fund from the TUCS universe of public and private balanced funds over the last 5 years (FY88-FY92).	
o Outperform a composite of market indices over the last 5 years (FY88-FY92).	
2. Meet or exceed the performance objectives established for the Post Retirement Fund:	On-going, reported quarterly
o Generate 5% realized earnings in FY 92 to maintain current benefits.	
o Generate at least 3% additional realized earnings in FY91 to provide a benefit increase to current retirees on January 1, 1993.	
3. Implement new/replacement manager search process for active stock and bond managers.	On-going
4. Consider additional investments with new/existing alternative investment managers.	On-going
5. Review software vendors for the dedicated bond portfolio for the Post Fund.	Oct. - Dec.
6. Select a consultant through an RFP process.	Jan. - Jun.

ATTACHMENT A (con't)

FY92 Workplan (con't)

C. REVIEW AND CONTROL OF INVESTMENT POLICIES	Projected Time Frame
1. Monitor and evaluate active stock and bond manager performance in accordance with the SBI's Manager Continuation Policy.	On-going
2. Review investment guidelines for active stock and bond managers on an annual basis.	Mar. - Jun.
3. Monitor implementation of Northern Ireland mandate.	On-going
4. Monitor implementation of the Board's resolution on South Africa.	On-going
5. Monitor implementation of proxy voting procedures.	On-going
6. Review opportunities for in-state investing with the Proxy Committee.	On-going
7. Provide staff support for new initiatives assigned to the Proxy Committee (Valdez Principles, Wellspring Report on Corporate Takeovers).	Jul. - Jun.
8. Participate in legislative review of the Deferred Compensation Plan.	Jul. - Dec.

FY92 Workplan (con't)

D. ADMINISTRATION AND MANAGEMENT OF STAFF OPERATIONS	Projected Time Frame
1. Cooperate in all respects with the annual audit of SBI operations by the Legislative Auditor.	Jul. - Dec.
2. Prepare and seek approval of the SBI's legislative proposal for 1992 Legislative Session, if needed.	Sep. - May
3. Conduct RFP for Master Custodian contract if current fee guarantee is not extended.	Jul. - Sep.
4. Conduct RFP for the internal portfolio accounting system if current contract is not extended.	Jul. - Dec.
5. Formalize a disaster recovery plan for SBI staff operations.	Jul. - Jun.
6. Prepare FY 1993 Management and Budget Plan.	Mar. - Jun.

FY92 Workplan (con't)

E. <u>COMMUNICATION AND REPORTING</u>	Projected Time Frame
1. Prepare reports on investment results.	Quarterly
2. Prepare status reports on the Executive Director's FY92 Workplan for review by the SBI, IAC and Consultant.	As requested
3. Meet with the SBI and IAC on a quarterly basis and at other times as required.	Quarterly, or as requested
4. Meet with the Board's designees on a monthly basis, as requested.	Monthly, or as requested
5. Brief new IAC members on SBI policies and operations.	Jul. - Sep.
6. Prepare FY 1991 Annual Report.	Sep. - Feb.
7. Coordinate round table discussions with SBI's external managers.	Periodic, 2-4 per year
8. Conduct investment conference for SBI clientele.	Jan. - Mar.
9. Conduct information sessions for Supplemental Investment Fund user groups.	As requested

Administrative Budget
Fiscal Years 1992-93
Overview

The SBI's FY 92-93 budget request reflects a "same level" budget. No "change level" items were requested. The Governor's recommendation included funding for anticipated salary increases under negotiated labor agreements.

The Legislature has appropriated an amount equal to the Governor's recomendation less a cut of $18,000 in each year of the biennium.

	FY91 BUDGET	FY92 GOV. REC.	FY93 GOV. REC.
Personnel	$ 1,382,410	$ 1,502,000	$ 1,596,000
Contracts	311,000	306,000	306,000
Operating Expenses	70,000	70,000	70,000
Supplies	15,000	15,000	15,000
Equipment	19,100	19,000	19,000
TOTAL	$ 1,797,510	$ 1,912,000	$ 2,006,000
Legislative Appropriation		$ 1,894,000	$ 1,988,000

Personnel Costs

Total complement requested remains at 25 positions for FY 92 and FY 93.

Other Expense Categories

All other expense categories for FY92 and FY93 reflect the same or lower amounts than those budgeted for FY91. Inflationary cost increases will be absorbed within existing allocations.

It should be noted that unforeseen increases in space rental, data processing costs and other necessary contractual services could require adjustments in the amounts allocated to various expenditures categories.

STATE BOARD OF INVESTMENT
FISCAL YEARS 1992 - 1993 BIENNIAL BUDGET REQUEST
GENERAL FUND SUMMARY

DESCRIPTION	FY1988 ACTUAL	FY1989 ACTUAL	FY1990 ACTUAL	FY1991 BUDGETED	FY1992 LEG. APP.	FY1993 LEG. APP.
PERSONAL SERVICES						
CLASSIFIED EMPLOYEES	$ 215,383	$ 228,372	$ 230,351	$ 243,500	$ 260,000	$ 280,000
UNCLASSIFIED EMPLOYEES	1,011,616	1,040,007	1,087,741	1,138,910	1,224,000	1,298,000
PART-TIME EMPLOYEES	1,834	0	605	0	0	0
SEVERENCE PAY	36,627	0	16,729	0	0	0
MISCELLANEOUS PAYROLL	7,316	0	0	0	0	0
	0	-326	333	0	0	0
TOTAL PERSONAL SERVICES	$1,272,776	$1,268,053	$1,335,759	$1,382,410	$1,484,000	$1,578,000
EXPENSES & CONTRACTUAL SERVICES						
RENTS & LEASES	79,920	88,699	91,308	97,000	92,000	92,000
REPAIRS/ALTERATIONS/MAINTENANCE	7,202	8,486	8,122	9,000	9,000	9,000
PRINTING & BINDING	7,631	14,267	14,346	18,000	18,000	18,000
PROFESSIONAL/TECHNICAL SERVICES	8,834	13,213	7,210	5,000	5,000	5,000
DATA PROCESSING & SYSTEM SERVICES	162,000	162,300	162,000	162,000	162,000	162,000
PURCHASED SERVICES	26,709	27,389	29,023	20,000	20,000	20,000
TOTAL EXPENSES/CONTRACTUAL SERVICES	$ 292,296	$ 314,354	$ 312,009	$ 311,000	$ 306,000	$ 306,000
MISCELLANEOUS OPERATING EXPENSES						
COMMUNICATIONS	20,690	23,075	22,812	20,000	20,000	20,000
TRAVEL, IN-STATE	395	394	2,204	3,000	3,000	3,000
TRAVEL, OUT-STATE	26,142	32,802	38,592	40,000	40,000	40,000
FEES & OTHER FIXED CHARGES	5,152	4,448	4,237	7,000	7,000	7,000
TOTAL MISCELLANEOUS OPERATING EXPENSES	$ 52,379	$ 60,719	$ 67,845	$ 70,000	$ 70,000	$ 70,000
SUPPLIES/MATERIALS/PARTS	15,483	25,886	20,296	15,000	15,000	15,000
CAPITAL EQUIPMENT	10,494	23,522	6,098	19,100	19,000	19,000
TOTAL GENERAL FUND	$1,643,428	$1,692,534	$1,742,007	$1,797,510	$1,894,000	$1,988,000
PERCENT INCREASE OVER PRIOR YEAR		3.0%	2.9%	3.2%	5.4%	5.0%

ATTACHMENT C

CONTINUING FIDUCIARY EDUCATION PLAN

REQUIRED BY MS 356A.13

The State Board of Investment (SBI) undertakes the following activities related to fiduciary education. Taken as a group, these activities shall constitute the plan for continuing fiduciary education required by Minnesota Statutes 356A.13 (copy attached). In addition, pursuant to statutory requirements of qualification, the SBI executive director and many members of the Board's Investment Advisory Council (IAC) can be reasonably considered to be experts with respect to their duties as fiduciaries.

1. Briefing for New Board/IAC Members

   Shortly after election to the Board or appointment to the IAC, each new member is briefed on SBI operations and policies. As part of the briefing, SBI's legal counsel will review the member's fiduciary obligations and responsibilities as specified in Minnesota Statutes Chapters 11A and 356A.

2. Development and Review of Investment Policies

   The SBI adopts comprehensive investment policies for each fund under its control. The policies cover investment objectives, asset allocation, management structure and performance evaluation. Policy papers or reports on these topics are developed and written by SBI staff in conjunction with the IAC and consultant. Relevant research and analyses from the academic and professional investment fields are used to formulate these policy guidelines.

   After they are formally adopted by the Board, these written policies guide the management of all assets under the SBI's control. The SBI intends to review its stated investment policies periodically. This review may occur within the framework of the SBI's regular quarterly meetings or may take place at special meetings or seminars specifically designated for this purpose.

3. Input from Board's Consultant

   The SBI retains an outside investment consultant to advise the Board members on a wide variety of investment management issues. As part of its contract with the SBI, the consultant offers to meet with the Board members or their designees to discuss investment-related issues. These individual consultations occur throughout the year. In addition, the consultant is available at each meeting of the Board and IAC. These meetings are supplemented by quarterly reports on investment performance prepared by the consultant.

4. Manager "Round Tables"

The SBI intends to convene small groups of its external money managers to discuss issues related to investment management and the financial markets. These "round table" discussions will be held periodically throughout the year and will be open to Board members and their designees, IAC members and other interested parties. It is anticipated that 2-4 round tables will be held each year.

5. SBI Investment Conference

The SBI intends to host an annual one-day symposium on investment issues for Board and IAC members as well as the trustees of the retirement systems whose assets are managed by the SBI. Topics may include the outlook for the economy and the financial markets, investment strategy or special issues of current interest in the capital markets. Speakers will be drawn from the SBI's contacts in the financial community.

6. Travel Allocation

The SBI allocates $2,000 annually to each Board member (or their designee) for costs associated with attendance at investment-related seminars and conferences. This allocation is used at the discretion of each Board member.

Date: May, 1990

Minnesota Statutes

356A.13. CONTINUING FIDUCIARY EDUCATION.

Subdivision 1. **Obligation of fiduciaries.** A fiduciary of a covered pension plan shall make reasonable effort to obtain knowledge and skills sufficient to enable the fiduciary to perform fiduciary activities adequately. At a minimum, a fiduciary of a covered pension plan shall comply with the program established in accordance with subdivision 2.

Subd. 2. **Continuing fiduciary education program.** The governing boards of covered pension plans shall each develop and periodically revise a program for the continuing education of any of their board members and any of their chief administrative officers who are not reasonably considered to be experts with respect to their activities as fiduciaries. The program must be designed to provide those persons with knowledge and skills sufficient to enable them to perform their fiduciary activities adequately.

Tab E

COMMITTEE REPORT

DATE: June 3, 1991

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

FROM: Asset Allocation Committee

The Asset Allocation Committee met on May 6 and May 28, 1991 to review the following items:

- o Proposal to restructure the bond segment of the Basic Funds
- o Preliminary outline of the investment policy statement for the Environmental Trust Fund

Neither item requires action by the Board at this time.

INFORMATION ITEMS:

1) Proposal to Restructure the Bond Segment of the Basic Funds

The Committee reviewed a staff proposal to restructure the bond segment of the Basic Funds. The complete proposal is attached to this report. In summary, staff made the following recommendations:

- o that the SBI should employ a constant duration strategy in order to achieve a prudent compromise between the diversification, deflation hedge and expected return characteristics of bonds. (Currently, the SBI accepts the floating duration of the broad bond market.)
- o that the SBI adopt the Salomon Targeted Index Matrix, with a constant duration of 5 years as its asset class target. (Currently, the SBI uses the Salomon Broad Investment Grade Index as its asset class target for bonds.)
- o that active managers limit their duration range and concentrate on sector allocation and security selection to add value. (Currently, active managers have a fairly wide allowable duration range.)

The Committee believes the proposal has merit and should receive consideration in the future. However, the Committee does not recommend the proposal to the Board at this time.

2) <u>Preliminary Outline for the Environmental Trust Fund</u>

Staff reviewed its preliminary outline for the Environmental Trust Fund (ETF) with the Committee. A copy of the draft is attached.

The Committee concurs with the major features investment plan as presented. Staff intends to bring a more complete discussion to the Committee during the next quarter.

PROPOSAL FOR RESTRUCTURING THE BOND SEGMENT OF THE BASIC RETIREMENT FUNDS

Attachments

A - Salomon BIG Duration Analysis

B - Correlation and Standard Deviation

C - Risk/Return Comparison

D - Risk/Return of Constant Duration Strategies

E - Illustration of Yield Curve Strategy Potential

PROPOSAL FOR RESTRUCTURING THE BOND SEGMENT OF THE BASIC RETIREMENT FUNDS

INTRODUCTION

The Basic Retirement Funds' investment policy statement specifies two roles for bonds within the total portfolio:

- bonds act as a hedge against deflationary environments

- bonds provide diversification benefits and dampen the volatility of total portfolio returns

The policy papers written in the 1980's were silent on which of these two roles should take precedence. As a result, the SBI has designed its bond program around the broad bond market and accepted the risk/return characteristics of the market place. Since the two roles are somewhat contradictory, the decision regarding the trade-off should be made explicit.

Two questions should be addressed in order to design an investment program for the bond segment of the Basic Funds:

- which is the most appropriate asset class target?

- what is the most effective investment management structure (passive, semi-passive, active, or combination)?

ASSET CLASS TARGET

Currently, the Salomon Broad Investment Grade (BIG) Index is the asset class target for the bond segment of the Basic Funds. The BIG index is a capitalization-weighted index and is comprised of most of the publicly traded taxable investment grade bonds available. The BIG's broad exposure to market sectors and maturities is its primary appeal as an asset class target.

The main disadvantage of the BIG index is that its duration, a measure of average maturity, "floats" with changes in the maturity of new issuance and with the general level of interest rates. Duration is the primary measure of interest rate sensitivity and, consequently, is the single most important risk characteristic of a bond asset class target. By accepting the changing duration of the BIG index, the SBI allows the most critical risk characteristic of its asset class target to be determined by bond issuers and other investors. Over time, the risk composition of the BIG may deviate from the SBI's stated goals for the bond segment of the Basic Funds. Since 1984, the duration of the Salomon BIG has ranged from 3.8 to 4.7 years (See Attachment A.)

This "slippage" problem could be minimized through a constant duration strategy. In contrast to floating duration, a constant duration target would direct the bond segment toward a consistent risk posture over time.

<u>Choice of Duration Strategy</u>

What duration target is appropriate for the Basic Funds? Staff believes the choice must reflect a balance between the dual role of bonds as deflation hedge and diversifier/volatility dampener:

- The deflation hedge role suggests a long duration target (7 to 10 years). The longer a portfolio's duration, the better it will perform when interest rates decline. In a deflationary environment with falling interest rates, a longer duration portfolio should perform well.

- The diversifier role suggests a short duration target (1 to 3 years). A long duration portfolio works against the role of bonds as a diversifier and volatility dampener. The returns of longer duration portfolios are more volatile and are more highly correlated with common stock returns than shorter duration portfolios. (See Attachment B.)

Staff believes that a constant duration target of 5 years is a prudent compromise between the deflation hedge, diversification and expected return characteristics of bonds:

- A 5 year duration is somewhat longer than the historical market duration and theoretically offers greater deflation protection than the current program structure.

- A 5 year duration will dampen volatility of total portfolio returns significantly and provide the desired diversification benefit. A 5 year target would position the bond segment in the intermediate duration range. Intermediate and long bond returns have similar low correlations to stocks but intermediate bonds are much less volatile (See Attachment B). While short bonds would provide even lower correlation and volatility, the incremental benefit is relatively small. In summary, a 5 year duration target avoids the higher volatility of long bonds without giving up too much of the return stabilizing effect of short bonds.

- As noted above, a 5 year duration would position the bond segment in the intermediate duration range. Historically, intermediate duration benchmarks have outperformed long bond portfolios, short bond portfolios and long-short portfolios ("barbells") and have provided a better trade-off between risk and return. (See Attachment C.)

- A constant duration target will focus the bond segment of the Basic Funds on a consistent risk posture over time. It will avoid the "slippage" problem inherent in a floating duration target and will allow the bond segment to fulfill its stated goals more effectively. Illustrative risk and return data for constant duration strategies over different interest rate environments are shown in Attachment D.

<u>Choice of Target Index</u>

The decision to use constant duration should be reflected in the choice of an asset class target. Staff recommends that the SBI use the Salomon Targeted Index Matrix (TIM) with a constant duration of 5 years as the Basic Funds' bond asset class target. The TIM index is published by Salomon Brothers and is publicly available. In addition, the TIM index provides the flexibility to choose the corporate/mortgage sector allocation that best meets the Basic Funds' objectives. Comparisons of the BIG and TIM indexes are shown below:

Comparison of Target Benchmarks

	SALOMON TIM 1/1/91	SALOMON BIG 1/1/91
Duration	5.00 years	4.61 years
Duration Strategy	Constant	Floating
Coupon	9.08%	8.93%
Current YTM	8.64%	8.53%
Average Maturity	10.16 years	9.49 years
Sector Composition		
- Corporates	19%	18%
- Mortgages	31%	28%
- Treasury/Agency	50%	54%
Quality	Agency	Agency

In terms of quality and sector exposures the two indexes are very similar. At 4.6 years, the duration of the BIG index is slightly shorter than the TIM index. The TIM duration of 5.0 years currently provides additional deflation hedge benefits with similar diversification and volatility dampening potential.

The most important difference between the two indexes is their duration strategies. The TIM index maintains a constant option adjusted duration of 5.0 years. The BIG index duration floats with the general level of interest rates and the maturity structure of newly issued securities. The volatility of a constant duration strategy relative to a floating duration strategy increases with duration.

A performance comparison of the two indexes is provided in the table below. The period from July 1, 1984 to December 31, 1990 represents the full history of the SBI's current bond manager program. During this period the 5 year constant duration TIM Index outperformed the BIG Index (14.21% versus 13.52% annualized). This higher level of performance was achieved with a slightly higher level of volatility (6.81% versus 5.60%).

Cumulative Annualized Return
July 1, 1984 to December 31, 1990

	SALOMON TIM	SALOMON BIG
Annualized Return	14.21%	13.52%
Standard Deviation	6.81	5.60

INVESTMENT MANAGEMENT STRUCTURE

The Basic Funds moved to external money management in 1983. Originally the entire bond segment was actively managed. In mid-1988, one-half of the bond segment was placed with two semi-passive or enhanced index managers. This change was consistent with the SBI's policy that at least half of the stock and bond segments of the Basic Funds will be managed passively.

Semi-Passive Manager Structure

Current policy calls for at least one-half of the Basic Funds' bond segment to be managed with a semi-passive or enhanced index approach. Staff does not recommend changing this basic structure:

- Each semi-passive manager will use the Salomon TIM as its benchmark.

- Each semi-passive manager will have an allowable duration range of $\pm$ 0.1 years around the Salomon TIM. (This is the same duration range currently allowed around the Salomon BIG.)

- Each semi-passive manager will have narrow allowable allocation ranges around the sector, quality and maturity characteristics of the Salomon TIM.

Staff recommends that the SBI retain up to three (3) semi-passive bond managers for the Basic Funds. Each semi-passive manager will be expected to add 10 to 25 basis points over time, net of fees.

Active Manager Structure

Staff recommends that the actively managed portion of the bond segment be managed under a limited duration approach:

- Each active manager will use the Salomon TIM as its benchmark.

- Each active manager will have an allowable duration range of 4.5 - 5.5 years. (By contrast, the current allowable duration range for active managers is 3.0-7.0 years.)

- The active managers will not be constrained regarding sector allocation or security selection. Active managers will attempt to add value through sector, yield curve, and individual security selection decisions.

The limited duration range will assure that the bond segment meets both its deflation and diversification goals as effectively as possible while retaining the potential to add value from active management. Active managers will be expected to add 25 to 50 basis points annually over time, net of fees.

Limiting the duration decision of the active managers provides several benefits:

- o Inclusion of Complete Maturity Spectrum

  While the allowable duration range will be constrained, managers can use a variety of maturity structures to reach their target duration. A complete maturity spectrum will enable managers to take advantage of change in the slope of the yield curve by selecting a bullet, barbell or laddered maturity structure. An illustration of yield curve strategy potential is in Attachment E.

- o Elimination of Misfit Risk

  Each manager would be given the asset class target as their benchmark and each manager's portfolio would track the duration of the benchmark. This approach would eliminate the risk of the bond segment having a short duration when it should be providing a deflation hedge, or of having a long duration when it should be a diversifier and a volatility dampener.

- o Elimination of Inconsistent Performance

  The SBI's active bond managers have not consistently provided substantial value-added through interest rate anticipation or duration bets. The potential value-added net of fees by active bond managers pursuing active duration strategies is, therefore, quite limited and may not be worth the potential risk of underperformance.

Staff recommends that the SBI retain up to four (4) limited duration neutral active bond managers for the Basic Funds. The use of multiple managers provides some diversification among active approaches. Given the current size of the Basic Funds' bond segment, firms would manage portfolios of approximately $250 million each. This is well within the capabilities of most firms that offer duration neutral bond management.

SUMMARY OF RECOMMENDATIONS

Staff recommends:

- That the SBI adopt the Salomon Targeted Index Matrix (Salomon TIM) with a 5.0 year constant duration as the asset class target for the bond segment of the Basic Funds.

- That each semi-passive and active manager use the Salomon TIM as its benchmark.

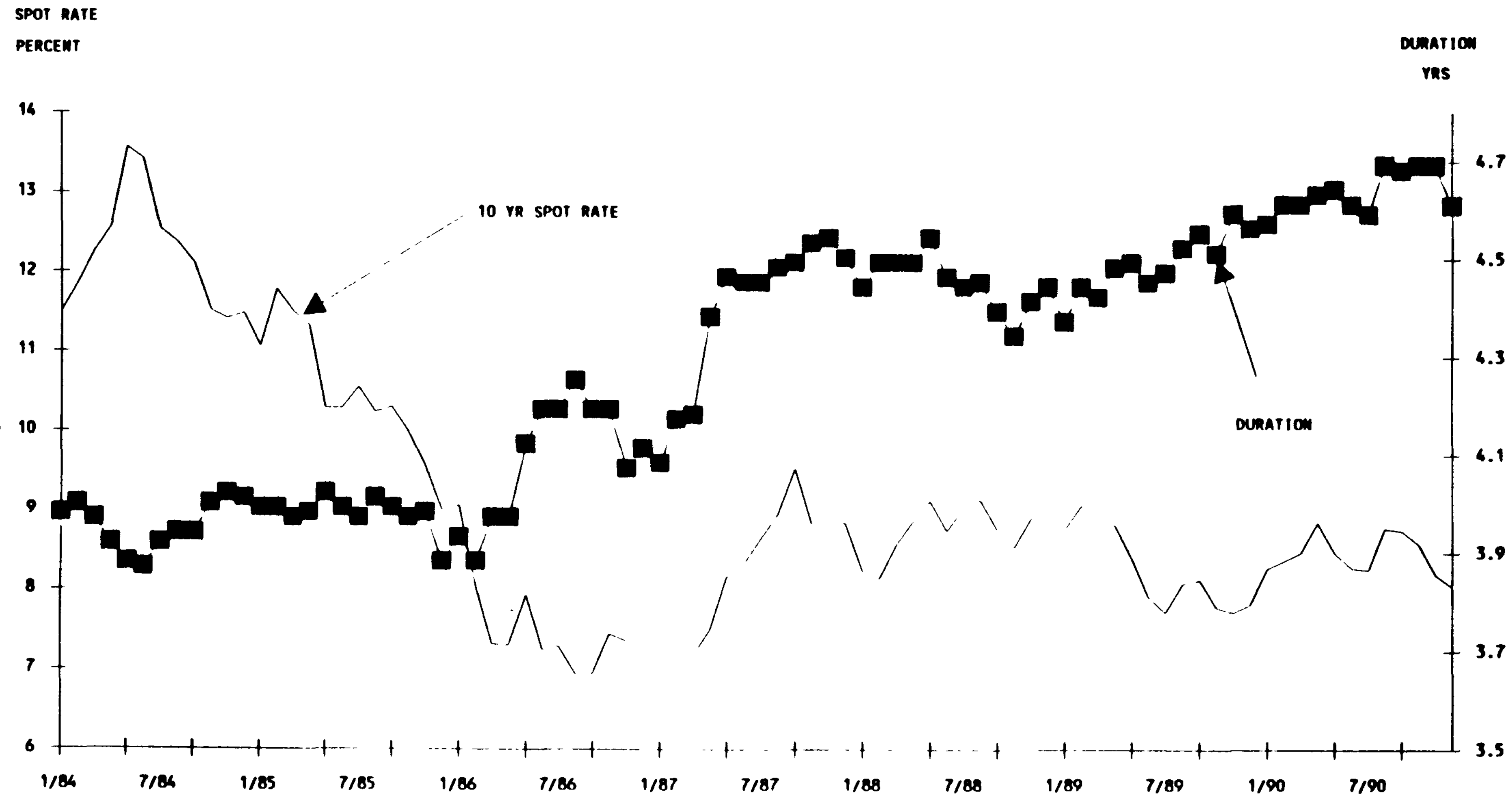
- That the semi-passive managers be constrained regarding deviation from the duration (± 0.1 years) and sector, quality and maturity characteristics of the Salomon TIM.

- That the active bond managers use a duration neutral approach with a duration range constrained to 4.5-5.5 years. Active managers' sector allocation will not be constrained.

- That up to 3 semi-passive managers and up to 4 duration limited duration active bond managers be retained for the Basic Funds' bond segment.

ATTACHMENT A

Salomon BIG Duration Analysis



ATTACHMENT B

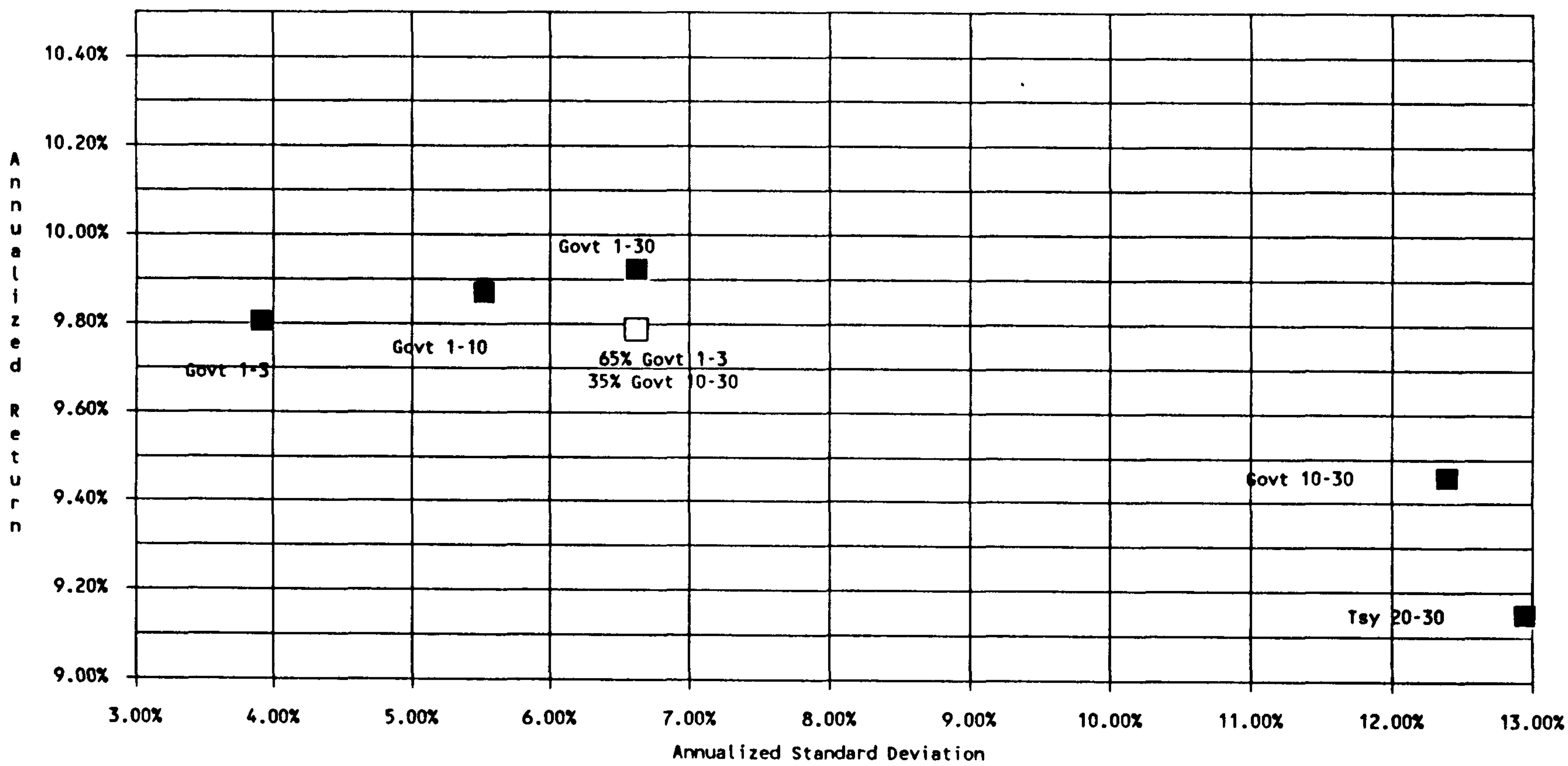
CORRELATION AND STANDARD DEVIATION

1926-1990 (Ibbotson Data Services)	Standard Deviation	Correlation
S&P 500	20.30	1.00
Long Gov't Bonds	7.66	0.17
Intermediate Gov't Bonds	4.36	0.12
One month T-bills	0.94	-0.03

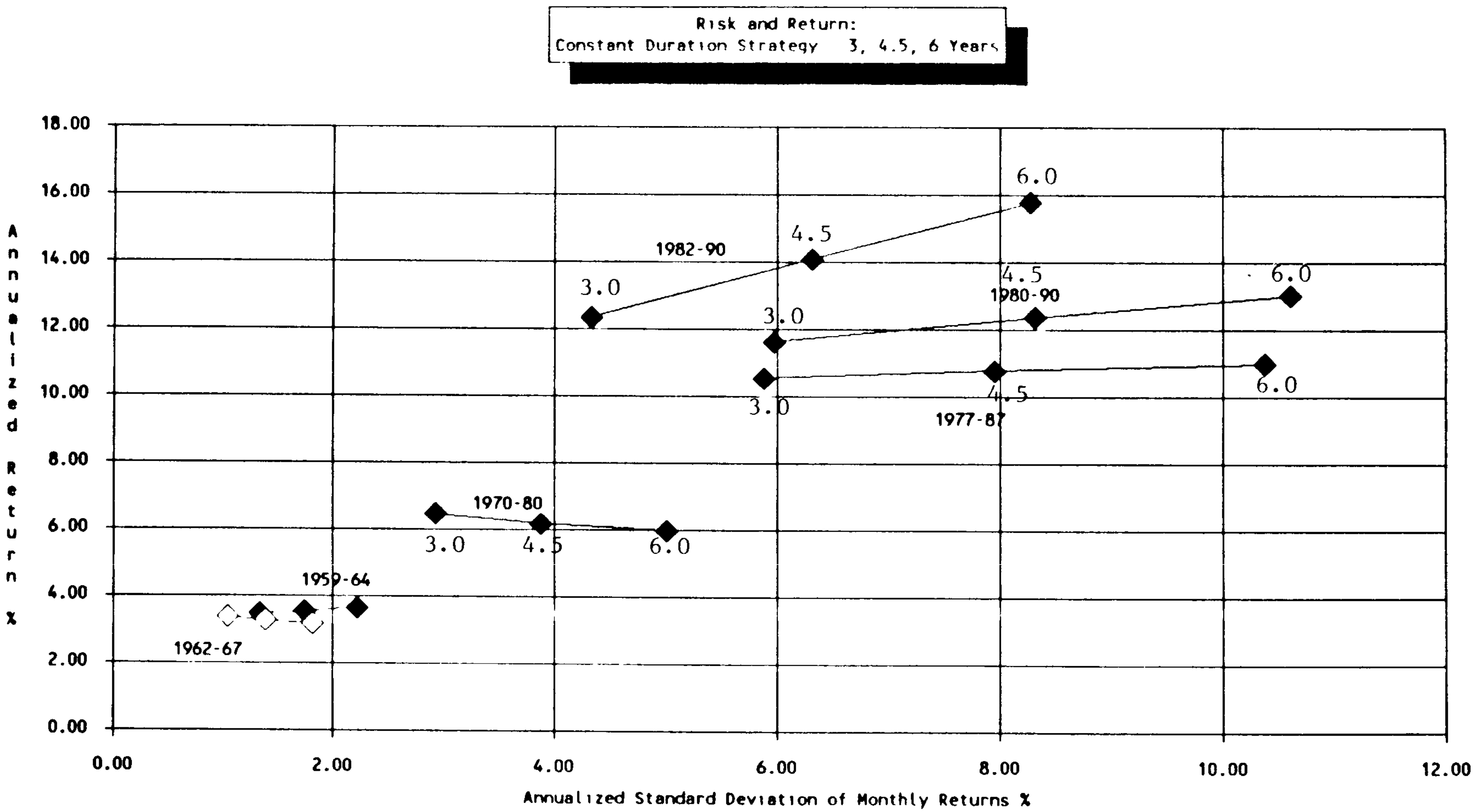
1973-1990 (Lehman Bros. Data Services)		
S&P 500	16.66	1.00
Gov't/Corp 10-30 years	11.05	0.39
Gov't/Corp 1-30 years	7.07	0.36
Gov't/Corp 1-10 years	5.27	0.29

ATTACHMENT C

Risk/Return Comparison
Monthly Returns 1977-1990



ATTACHMENT D



ATTACHMENT E

ILLUSTRATION OF YIELD CURVE STRATEGY POTENTIAL

Year	Duration	Return From Bullet(1) Approach	Return From Barbell(2) Approach	Return Differential Available
1981	5.81 Yrs.	7.35%	* 7.44%	0.09%
82	5.53	*34.80	33.44	1.36
83	6.32	* 4.37	2.89	1.48
84	6.01	14.06	*15.45	1.39
85	6.05	*29.12	26.13	2.99
86	7.16	*20.01	17.71	2.30
87	7.16	-2.86	*-0.93	1.93
88	6.71	6.02	* 7.33	1.31
89	6.68	*17.14	16.43	0.71
90	6.80	* 6.68	5.97	0.71

* best performing approach

(1) 10 year current coupon treasury

(2) Combination of 3 month and 30 year treasuries to reach same duration as 10 year treasury

PRELIMINARY OUTLINE
ENVIRONMENTAL TRUST FUND

I. BACKGROUND

- o Fund is used to help the environment.
- o Legislation states that managing the environment is a long term proposition.
- o All net capital gains are credited to the principal of the fund.
- o Any net realized capital losses must be offset by interest and dividends income before any income is available for expenditure.
- o Money spent is based on previous biennium dividend and interest income.

II. ASSET ALLOCATION ALTERNATIVES

- o The Environmental Trust Fund (ETF) is much like a college or university endowment fund.
  - As of 1988, the ten largest endowments had an average of 59.6% stocks, 4.8% foreign stocks, 18.4% bonds, 0.9% foreign bonds, 5.6% real estate, 2.6% venture capital, 7.1% cash, and 1% other.
  - Stanford's endowment fund provides a specific example. Their target is 40% large cap stocks, 5% small cap/emerging companies, 10% international equities, 16% real estate, 10% venture capital, 15% fixed income, and 4% on program related investments.
- o Not all investments are appropriate for the ETF.
  - Currently, the fund is small ($25+ million).
  - Unlike endowment funds, the principal is inviolate. Only interest and dividends income is available for expenditure. For instance, venture capital is probably inappropriate because it pays no dividends.
- o Currently, only domestic stocks and bonds are appropriate. In the future, the SBI should consider diversifying the portfolio with real estate and international equities.

III. RECOMMENDED ALLOCATION

- The Fund should be managed to balance current income needs while maintaining growth to offset inflation.

- Recommend 75% equity, 20% fixed income, 5% cash with fund periodically rebalanced.

- Positives

  - Meets long term objective.

  - Allows real payments to remain constant.

- Negatives

  - Returns and therefore income stream more volatile.

  - Greater likelihood of realizing losses.

- The negative aspects can be minimized through proper management of the fund.

IV. MANAGEMENT STRUCTURE

A. Realized losses must be minimized. Realized losses occur due to:

- portfolio turnover that occurs in all managed portfolios.

- portfolio rebalancing.

B. Stock Management

- The Wilshire 5000 should be used as the asset class target.

- The stock portion of the portfolio should be indexed.

  - Analysis shows that the lower turnover of an index fund significantly reduces the potential to realize losses.

  - Index managers have lower fees and less misfit risk than active managers.

- Rebalancing activity increases interest income when stocks outperform bonds and assets are shifted to the higher yielding bonds.

C. Bond Management

- o The Salomon BIG Medium-Term index should be used as the asset class target.

  - This is an intermediate duration target which is less volatile than an index containing long bonds. This reduces the potential for realized losses.

  - Intermediates provide comparable to better returns than long bonds.

- o The portfolio should be indexed. Index accounts have lower turnover, again reducing the potential for realizing losses.

D. Portfolio Rebalancing

- o The stock and cash portion of the portfolio should be within 5% of the allocation. (e.g. stock allocation should range from 71.25% to 78.75% of the portfolio.)

- o If possible, only cash should be used to rebalance in down bond and stock markets to limit realized losses.

- o Analysis shows that rebalancing would have little affect on interest and dividend payments.

V. FUTURE CONSIDERATIONS

The effect of capital losses could be further minimized if the losses could be amortized. Staff recommends the installment time to recover losses should be 10 years and that current gains can be used to offset losses over that same 10 year time period. This recommendation would require statutory changes.

Tab F

COMMITTEE REPORT

DATE: June 3, 1991

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

FROM: Equity Manager Committee

The IAC Equity Manager Committee met on February 22, 1991, to review the following items:

- o Review of Manager Performance
- o Annual Review of Investment Manager Guidelines
- o In-Depth Review of Alliance Capital
- o Contract Renewals

INFORMATION ITEMS:

1) Review of Manager Performance

For the quarter ending March 31, 1991, the Basic Fund's domestic equity program outperformed its aggregate benchmark and equaled the Wilshire 5000 (Equity Program 16.5% vs. Aggregate Benchmark 16.4% vs. Wilshire 5000 16.5%). For the latest five year period, the current equity managers in the Basic Funds have outperformed its aggregate benchmark but underperformed the Wilshire 5000.

The evaluation reports for each manager are attached at the end of this tab section.

Concerns about two managers, IDS and IAI, generated the following discussion:

- o Staff plans to conduct an equity manager search during the last half of calendar 1991. Staff proposes that IAI be included in the search to determine whether the firm should remain an equity manager for the SBI. This decision is prompted by IAI's continued underperformance relative to its benchmark.

- o Staff has requested that IDS present an analysis which explains the return variations among the equity portfolio managers within the firm. Staff will review the results with the Committee at its next quarterly meeting.

2) Annual Review of Investment Manager Guidelines

The Committee reviewed the active common stock manager guidelines. These guidelines govern the investment actions of the common stock managers and are part of the investment manager agreement between the Board and manager.

The original guidelines were established in 1983 when the external active common stock manager program was initiated. The most recent revision to the guidelines occurred in March 1989. Staff recommends no revisions at this time. The Committee concurs with the staff recommendation. A copy of the current guidelines are attached.

3) In-Depth Review of Alliance Capital

Last quarter the Committee requested that staff conduct a formal review of Alliance Capital as part of the regular 3-year review cycle. A copy of staff's full report on Alliance is attached. A summary of staff findings follows:

- o Alliance Capital maintains a strong, stable organization that has consistently implemented its investment style over a variety of market environments.
- o Alliance's investment process has generated a significant cumulative positive value added return relative to its benchmark.
- o Staff has only minor concerns about Alliance's benchmark. The recent implementation of a new benchmark by Alliance eliminated most of staff's concerns. However, staff feels that Alliance Capital still needs to improve its benchmark turnover and coverage ratios.

Staff concludes that Alliance should continue to be retained as an equity manager for the SBI. Upon review, the Committee concurs with the staff's conclusion concerning Alliance.

ACTION ITEM:

1) Contract Renewals

Current contracts for six of the active stock managers expire on June 30, 1991. At present, each manager meets the qualitative and quantitative criteria set forth in the SBI's Manager Continuation Policy.

RECOMMENDATION:

The Committee recommends that the SBI authorize the executive director, with assistance from SBI's legal counsel to negotiate and execute one year contract extensions with the following firms subject to the standard 30-day termination provision:

- o Alliance Capital Management
- o Forstmann-Leff Associates
- o IDS Advisory
- o Investment Advisers, Inc.
- o Lieber & Company
- o Waddell & Reed

MINNESOTA STATE BOARD OF INVESTMENT

INVESTMENT GUIDELINES
EXTERNAL ACTIVE DOMESTIC COMMON STOCK MANAGERS

The investment actions of State Board of Investment (SBI) external active domestic common stock managers will be governed and evaluated by the following guidelines:

1. **RETURN/RISK OBJECTIVES**

The external common stock managers are expected to deliver cumulative returns in excess of a predetermined benchmark portfolio (see **Benchmarks** below). Over time, each manager will be expected to produce portfolios which differ from the manager's benchmark portfolio in the following manner:

(a) The actual portfolio will realize active risk (annualized residual standard deviation), relative to the benchmark, in excess of one (1) percent.

(b) The actual portfolio will generate positive cumulative excess returns significant enough to compensate the SBI for the active risk assumed. Generally, the ratio of annualized excess return to active risk in (a) above should be .50 or greater.

2. **BENCHMARKS**

Each manager must provide and maintain a customized benchmark (normal) portfolio, agreed upon by both manager and SBI, for the purpose of performance evaluation and risk measurement. The benchmark portfolio provided by the manager must satisfy the following characteristics:

(a) **Unambiguous.** The names and weights of securities comprising the benchmark are clearly delineated.

(b) **Investable.** The option is available to forego active management and simply hold the benchmark portfolio.

(c) **Measurable.** It is possible to readily calculate the benchmark's return on a monthly basis.

(d) **Appropriate.** The benchmark is consistent with the manager's investment style or biases.

(e) **Reflective of current investment opinions.** The manager has current investment opinions (be they positive, negative, or neutral) on the securities which make up the benchmark.

(f) **Specified in advance.** The benchmark must be available prior to the start of an evaluation period.

3. ELIGIBLE INVESTMENTS

The investment managers will be restricted to holding common stocks, stock index futures, bonds, and cash equivalents. The investments of each manager must satisfy the following criteria and constraints:

(a) The stocks held must be issued by corporations organized under the laws of the U.S. or its states, the Dominion of Canada or its provinces and/or be listed on the New York Stock Exchange, American Stock Exchange, or NASDQ OTC.

(b) Total SBI holdings in any one corporation shall not exceed five (5) percent of the total outstanding shares of that corporation. Individual investment manager holdings will be monitored by the SBI staff to assure compliance.

(c) Cash equivalent reserves shall be invested in the SBI's STIF fund, managed by its custodian bank.

Investment Managers are not constrained regarding:

(1) transaction turnover
(2) use of covered call options as hedging devices
(3) liquidity requirements
(4) number of individual equity issues which must be held at any given time
(5) the percentage of assets held in cash reserves which must be held at any given time
(6) the use of stock index futures to adjust the effective equity exposure of the portfolio from 0 to 100%. A separate commodities trading agreement must be made between the SBI, manager, and CFTC clearing broker.

4. SBI RESTRICTIONS

The SBI may establish additional constraints in the future to insure that the managers, both individually and collectively, are in compliance with Minnesota statutes and SBI policy.

(a) Currently, the SBI prohibits investment in American Home Products (AHP) and in corporations which conduct their business primarily in the alcohol and tobacco industries.

(b) In March 1989, the SBI adopted a resolution which requires the SBI to restrict its holdings in companies that do business in South Africa.

The SBI maintains a list of prohibited and restricted stocks. This list is updated and provided to managers on a monthly basis.

5. PERFORMANCE EVALUATION

Manager performance will be evaluated according to the guidelines established in the SBI's Manager Continuation Policy. These guidelines assist the SBI in its decisions concerning retention and termination of investment managers.

6. COMMUNICATION

The SBI requires its investment managers to communicate with SBI staff on a regular basis.

(a) On a semi-annual basis, managers are expected to meet with staff to review the results of the manager's investment decision-making process. In reviewing past and current investment strategies and performance, the manager is expected to present the analysis relative to the benchmark portfolio.

(b) On a monthly basis, managers are expected to provide SBI staff with a status report pertaining to the status of accounts, assets under management, and relevant personnel and ownership changes.

7. PROXY VOTING

The SBI is responsible for proxy voting.

8. FUTURE MODIFICATIONS

The SBI reserves the right to modify these investment guidelines at any time. Managers will be notified in advance of changes to the investment guidelines.

Revised: March 1989

DETAILED REVIEW OF

ALLIANCE CAPITAL

I. ORGANIZATIONAL DETAIL

A. Ownership
B. Portfolio Management Responsibilities
C. Assets Under Management
D. Personnel Turnover

II. INVESTMENT APPROACH

A. Investment Philosophy
B. Prominent Characteristics

III. BENCHMARK

A. Construction Process
B. Benchmark Risk Factor and Sector Profile
C. Benchmark Coverage and Turnover

IV. PERFORMANCE ANALYSIS

A. Benchmark Explanatory Power
B. Portfolio Performance Attribution

V. SUMMARY OF BOARD/IAC ACTIONS TO DATE

VI. CONCLUSION

EXHIBITS

1- Risk Analysis Summary
2- Sector Weights
3- Historical Return Data
4- Quarterly Sector Weights
5- Benchmark Comparisons - Risk Comparisons
6- Benchmark Comparisons - Sector Exposures
7- Style Coordinates
8- VAM Analysis
9- Sector Analysis Comparison

EXTERNAL MANAGER REVIEW

ALLIANCE CAPITAL

I. ORGANIZATIONAL DETAIL

A. Ownership

Initially Alliance Capital was a wholly owned subsidiary of Donaldson, Lufkin, and Jenrette, a publicly-held securities firm. In early 1985 Alliance Capital became an independent subsidiary of Equitable Life when Equitable purchased Donaldson, Lufkin, and Jenrette. Alliance is a publicly traded company with 26.4% owned by the public, 18.4% by Alliance employees, and the remainder by Equitable Life.

B. Portfolio Management Responsibilities

Since the inception of the SBI account Jack Koltes has been the portfolio manager.

C. Assets Under Management (Mpls. office only)

Equity Assets Under Management

Equity Assets Under Management

	Equity only Accounts	Equity only Market Value (In Millions)
Dec. 1983	21	$ 951
Dec. 1984	30	1,054
Dec. 1985	30	1,710
Dec. 1986	39	2,707
Dec. 1987	42	2,923
Dec. 1988	48	3,623
Dec. 1989	47	4,592
Dec. 1990	47	4,945

Using a "referral only" marketing strategy, Alliance Capital's Minneapolis office has experienced strong account and asset growth since the inception of the SBI account. However, through staff additions Alliance has held the account and asset growth to a manageable level.

D. Personnel Turnover (Mpls. office only)

Alliance Capital's turnover among its professional staff has been low. Overall they have had net additions to their staff due to their strong growth.

II. INVESTMENT APPROACH

A. Investment Philosophy

Alliance Capital's investment process picks individual stocks using primarily an earnings driven approach. Alliance looks for companies that will be able to sustain above average growth over several years relative to their historical average and the expected market growth rates. Alliance Capital looks at both earnings per share (EPS) and cashflow to determine a company's future growth rate. To reduce risk, they try to recognize earnings improvement early rather than investing in potential turn-around stocks. Alliance Capital does not usually make theme investments but instead invests in specific companies that meet their growth criteria.

<u>Stock Selection</u>

Along with EPS and cashflow growth, Alliance Capital also looks for other factors that will allow the company to maintain their above average growth. They look for price leadership, market share growth, superior management, and financial statement strength. They also look for earnings surprises where Alliance's earning estimates are significantly higher than Wall Street estimates.

Alliance Capital accumulate's a large amount of information and then discusses and quickly disseminates it throughout their system. Alliance Capital's analysts and portfolio managers generate their own analysis to determine which companies meet their investment criteria. In addition, Alliance sees numerous corporate senior managements and sell-side analysts each year to ferret out any additional useful information or analysis.

Alliance Capital does not use a committee structure to make the final investment decisions that all portfolio managers must follow. Through their company-wide morning conference call, internal bulletins, and quarterly investment conferences Alliance has developed a highly efficient way of disseminating information and ideas throughout their system. This allows Alliance's portfolio managers to make their own investment decisions within certain broad guidelines.

<u>Portfolio Construction</u>

Alliance Capital does not use a consensus approach to portfolio construction. Each portfolio manager retains a fair amount of flexibility in constructing their respective portfolios.

Alliance Capital requires that 50% of the total portfolio value must be selected from the "Alliance 100" which contains the 100 best ideas as determined by the total Alliance Capital investment staff. In addition, the Minneapolis office requires that two-thirds of the total portfolio value be selected from the Minneapolis "Top 25" as determined by the Minneapolis investment professionals.

Portfolio managers retain discretion in which stocks they choose from the preferred lists and which stocks will make up the remainder of the portfolio. However, all equity investments must be selected from Alliance's Research Universe which consists of over 400 stocks. Because of the flexibility given to the portfolio managers, performance among the various accounts will differ from year to year.

B. Prominent Characteristics

An analysis of Alliance's past portfolios reveals a number of prominent risk factors and sector exposures highlights. The following risk and sector exposure highlights were derived from Exhibits 1 and 2.

Risk Exposure highlights

Alliance Capital's Minneapolis office portfolios, relative to the BARRA Hicap Universe, show a consistent bias towards a higher exposure to beta, growth, and variability in markets and lower exposure to yield and book-to-price. These exposures confirm Alliance's stated philosophy towards growth stock investing. The range between Alliance's minimum and maximum positions shows that they will take moderate risk factor bets over time.

Sector Exposure Highlights

Alliance Capital's Minneapolis office portfolios, relative to the S&P 500, show an overweighting in consumer non-durable and financial and an underweighting in basic materials, energy, and utilities. The range between the maximum and minimum deviations shows that they will make substantial moves in most sectors. However, Alliance does not incorporate a sector rotational philosophy in its investment process. Instead the sector shifts occur primarily as a fallout of its stock selection process.

III. BENCHMARK

A. Construction Process

Since 1987 Alliance Capital has constructed its own benchmark. The original benchmark was constructed to be used by all of the Alliance's offices. However, the Minneapolis office tends to consistently have a larger capitalization bias in its portfolio's relative to the other Alliance's offices. This bias was recognized by the SBI and other Alliance clients in recent years. As a result, the firm was asked to make adjustments to the benchmark process in 1990. The new construction process implemented in the third quarter of 1990 uses the following criteria to build the benchmark:

1. Use the stocks in the Alliance Research Universe as the initial universe.

2. Eliminate securities with a market capitalization less than $500 million.

3. Eliminate securities that have a price-to-book ratio less than 80% of the S&P 400.

4. Eliminate all securities that did not have a dividend payout ratio of less than 50% in at least one of the two previously reported years.

5. Weight the remaining stocks in the following manner:

Quintile	Weight
1	75%
2	20
3-5	5

6. Equal weight all stocks within each quintile group.

7. Weight cash at 5% to reflect Alliance's tendency to stay relatively fully invested in equities.

B. Benchmark Risk Factor and Sector Profile

A valid benchmark should exhibit risk factor and sector exposures similar in direction and magnitude to average historical portfolio exposures.

As can been seen from Exhibit 1, Alliance Capital's average benchmark risk factor profile shows a reasonably close similarity to most of the average (mean) risk factors in the SBI portfolios. Only the size risk factor shows a significant deviation. However, Exhibit 5 shows that since the implementation of the new benchmark, the disparity in the size risk factor has decreased significantly.

With respect to sector weights, Exhibit 2 also shows a reasonable similarity between Alliance Capital's benchmark and the SBI portfolio. Only the basic material sector displays a significant deviation.

C. Benchmark Coverage and Turnover

Benchmark coverage measures the extent to which the benchmark contains securities actually held by the manager. Coverage will vary depending on the level of discipline exhibited in a manager's definition and implementation of its investment process. A valid benchmark should produce a coverage ratio of 80% or better. In addition, a stock held in the actual portfolio implies that the manager believes that particular stock will do well relative to the other stocks in the manager's benchmark. Therefore, the weighting of each of the holdings in the active portfolio should exceed the corresponding weights assigned to the same securities in the benchmark.

Benchmark turnover measures the proportion of the benchmark's total market value that represents either the purchase of new securities or additions or reductions to existing positions at each rebalancing period. A valid and investable benchmark should experience reasonable levels of turnover. However, a realistic passive management implementation of a manager's benchmark should not incur a semi-annual turnover greater than 15%.

Table I shows a summary of Alliance Capital's benchmark coverage and turnover results.

Table I

1/87-9/90 Semi-Annual Data	Benchmark Coverage	Actual Portfolio Weights Greater Than Benchmark Weights	Semi-Annual Benchmark Turnover
Average	58.9%	98.0%	33.2%
Minimum	44.4	96.8	29.7
Maximum	69.0	100.0	63.5

In terms of coverage, Alliance's Minneapolis office benchmark, on average, captured slightly less than 60% of the Alliance's actual portfolio since July of 1986. The implementation of the new benchmark improved the coverage ratio but the new ratio still remains in the 60% range. The significant number of actual holdings that do not also appear in the benchmark could increase the potential "noise" level in the residual returns used to conduct performance analysis. This makes it more difficult to determine the manager's ability to add value. However, nearly all the actual portfolio weights exceeded their corresponding benchmark weights. This supports the validity of using Alliance's benchmark as a baseline from which to conduct performance analysis.

Alliance Capital's Minneapolis office benchmark generated a relatively high semi-annual turnover rate. Elimination and additions generate about 90% of Alliance's benchmark turnover. A majority of the additions/deletions are stocks that appear and disappear from the benchmark on a random basis. Most likely, these stocks have values close to some of the cut-off criteria used in the screening process to build the benchmark. For example, a stock that has a market capitalization around $500 million will randomly go on and off the benchmark depending upon its current market value assuming no change in the shares outstanding. Staff believes that a new step to the benchmark building procedure should be added to minimize these "revolving door stocks". This would reduce turnover to a satisfactory level and provide a more stable and accurate reflection of Alliance's investment universe.

IV. PERFORMANCE ANALYSIS

A. Benchmark Explanatory Power

Information Ratio Analysis

Because the manager's benchmark more accurately represents the manager's investment style than the broad market, it should do a better job of explaining the returns generated by the manager. Calculating an information ratio (IR) provides an useful analytical measure to determine the benchmark's explanatory power. The IR compares the value of active management (VAM) to the standard deviation of the VAM. Holding VAM constant, a valid benchmark should decrease the amount of noise in the residual returns reducing the VAM standard deviation and produce a larger IR than using a broad market index (e.g. Wilshire 5000). Table II summarizes an IR analysis of Alliance's actual returns relative to their benchmark and the Wilshire 5000.

Table II

For the Time Period 1/1/84 to 12/31/90	Alliance Actual vs. Alliance Benchmark	Actual vs. W5000
Cumulative Annualized VAM	5.68	3.48
Annualized Standard Deviation of VAM	5.31	5.40
Information Ratio	1.07	0.65
Information Ratio T-Statistic	2.75	1.68
Percentage of months VAM > 0	64.29%	64.29%

The Alliance benchmark achieves only a minimal reduction in the VAM standard deviation relative to using the Wilshire 5000 as a benchmark. Over this time period this analysis indicates that the Alliance benchmark did only a marginally better job of explaining the returns generated by Alliance's Minneapolis office than the Wilshire 5000.

Residual Correlation Analysis

The explanatory power of the manager's benchmark can also be derived from correlation analysis using residual returns based on the manager's actual portfolio returns versus those of the market (EXM), the manager's VAM, and the manager's benchmark returns versus those of the market (MFT). A valid benchmark should exhibit a positive correlation between EXM and MFT. Intuitively the correlation should be positive because when the manager's benchmark (or investment style) performs well relative to the market, one would expect the manager's portfolio will also do well relative to the market. On the other hand, a valid benchmark should over time produce a roughly zero correlation between MFT and VAM, because the manager's ability to add value relative to the benchmark should not be affected by the performance of the benchmark (i.e. style) relative to the market. Table III displays Alliance's correlation analysis.

Table III

Alliance Capital
Residual Correlation Matrix

	EXM	MFT	VAM
Portfolio vs. Market (EXM)	1.00		
Benchmark vs. Market (MFT)	0.38	1.00	
Portfolio vs. Benchmark (VAM)	0.74	-0.34	1.00

The Alliance benchmark produces a reasonably strong correlation between EXM and MFT but does not display a zero correlation between MFT and VAM. This provides some evidence that the Alliance benchmark can do a better job of explaining the returns generated by the manager but also shows that room for improvement remains.

Exhibit 1 shows that one of the potential problems that could be causing the poor VAM/MFT result is the smaller capitalization of the original benchmark portfolio relative to Alliance's actual portfolios. Exhibit 7 displays an analysis that breaks down portfolios and classifies them according to their value/growth and capitalization characteristics. Exhibit 7 shows that the previous benchmark portfolios provided a reasonable reflection of the growth aspect of the actual portfolio but had a smaller capitalization bias. In addition, Exhibit 7 shows that the Wilshire Large Cap. Growth Index (LGI) provided a better benchmark in regards to Alliance's growth and size characteristics than its original benchmark. Table IV shows a residual correlation analysis comparing Alliance's Minneapolis office actual returns to the Wilshire LGI.

Table IV

Alliance Capital vs. Wilshire LGI
Residual Correlation Matrix

	EXM	MFT	VAM
Portfolio vs. Market (EXM)	1.00		
Wilshire LGI vs. Market (MFT)	0.41	1.00	
Portfolio vs. Wilshire LGI (VAM)	0.83	-0.17	1.00

The residual correlation analysis using the Wilshire LGI produces the same positive correlation between EXM and MFT but a reasonably close to zero correlation between MFT and VAM. This analysis shows that the smaller capitalization bias of the benchmark produced a material proportion of the poor MFT/VAM result. However, the Wilshire LGI would not be an appropriate benchmark for Alliance Capital. First, Wilshire's LGI includes a large number of stocks that Alliance Capital would never consider for investment. Secondly, Exhibit 9 shows that the Wilshire LGI overstates the consumer non-durable sector and understates the financial sector and the earnings variance risk factor.

1990 Benchmark Revision

In 1990 Alliance's Minneapolis office revisited their benchmark to correct for the capitalizations problem. Exhibit 5 and 6 shows the results of the new benchmark relative to their historical average and the previous benchmark. The current benchmark shows a material increase in the size risk factor relative to the previous benchmark without significantly affecting any of the other risk factors. Since the current benchmark has only been in place since July 1990, it will take some time before enough data has been collected to understand the full impact of the current benchmark and how much more accurately it reflects Alliance's Minneapolis office investment process than the previous benchmark.

Exhibit 7 also shows that the current benchmark provides a more accurate reflection of the application of Alliance's investment process by the Minneapolis office than the previous benchmark. Therefore, the current benchmark should generate a better residual correlation analysis consequently doing a better job of explaining the returns generated by Alliance.

Cash Allocation

The Alliance benchmark assigns a 5% position to cash. Exhibit 8 shows that the actual cash percentage for Alliance Capital's SBI portfolio since January 1984. The actual cash position remained above the 5% benchmark weighting for the first two years. Since then, the actual cash weighting has usually stayed below the 5% benchmark weighting.

Exhibit 3 also provides another way of analyzing the impact of cash on the actual portfolio relative to the benchmark. By looking at the impact of the actual cash holdings and the benchmark cash weighting on the total rate of return relative to their respective equity-only return, we can gain some insight as to the validity of the benchmark cash weighting. Exhibit 3 shows that cash has decreased the annualized total rate of return by 0.5% relative to the equity-only return for both the actual and benchmark portfolios.

Both of the analyses provide some evidence to the validity to using a 5% cash weighting in the benchmark. However, if the actual cash weighting continues to maintain the trend that has persisted over the last five years, staff believes that a lower cash weighting of approximately 3% might be justified.

B. Portfolio Performance Attribution

Equity-Only

Exhibit 3 shows that Alliance significantly outperformed its equity-only benchmark (203.5% vs. 106.1% or 6.3% annualized) indicating a strong ability to add value through stock selection and/or sector bets. Alliance Capital generated this value added on a consistent basis. The equity-only portfolio outperformed the equity-only benchmark in 20 of 28 quarters (71% of the time).

Market Timing

Alliance Capital does not incorporate a market timing philosophy in its investment process. If Alliance Capital truly does not try to market time around its benchmark cash weighting and the cash weighting represents a valid assessment of their long run average cash holding, the value added due to market timing should be approximately zero. As stated earlier, Exhibit 3 shows that cash has decrease the annualized total rate of return by 0.5% relative to the equity-only return for both the actual and benchmark portfolios. This result shows that market timing had no impact on the value added generated by Alliance Capital's Minneapolis office and supports Alliance's stated investment process that they do not use market timing.

VAM Analysis

The VAM graph (Exhibit 10) shows that Alliance has achieved significant value added on a cumulative basis since January 1984 relative to its current and historical benchmarks (5.5% annualized). In fact Alliance Capital shows a consistent ability to add value at a statistically significant level.

V. SUMMARY OF BOARD/IAC ACTIONS TO DATE

In January 1983 the Board approved a recommendation to hire Alliance Capital. The Minneapolis office received $50 million in March 1983.

During 1988 Alliance received an additional $60 million of SBI assets due to rebalancing activity in the Basic Retirement Funds.

In January 1989 the Board terminated Fred Alger's contract and transferred the assets (approximately $100 million) to Alliance Capital.

VI. CONCLUSION

The Alliance Minneapolis office maintains a strong, stable organization that consistently implements its investment style over a variety of market environments. In addition the Alliance Minneapolis office has generated a statistically significant positive value added return relative to its benchmark through stock and sector decisions.

The new benchmark for the Alliance Minneapolis office should be an improvement over the previous benchmark and should provide a better explanation of the manager's returns. Staff will continue to monitor the current benchmark to determine the affects of the changes and to propose any other changes that will materially improve the benchmark.

Staff concludes that the Alliance Minneapolis office should continue to be retained as an equity manager for the SBI. Staff's only minor concern would be that Alliance Minneapolis office should improve their benchmark turnover and coverage ratios.

EXHIBIT 1

RISK ANALYSIS SUMMARY
ALLIANCE CAPITAL

DATE	# STKS	SPEC RISK	EQ. BETA	VAR. MKTS	EAR. VAR	BOOK/ PRICE	SIZE RISK	GROWTH RISK	EAR./ PRICE	FIN. RISK	YIELD
8004	37	0.99	1.16	0.36	0.27	-0.35	-0.03	0.51	-0.03	-0.22	-0.42
8007	35	0.98	1.09	0.06	0.02	-0.40	-0.32	0.67	-0.21	-0.20	-1.04
8010	34	1.08	1.20	0.58	0.19	-0.50	-0.28	0.81	-0.19	0.01	-1.11
8101	30	1.10	1.24	0.63	0.13	-0.64	-0.02	0.92	-0.55	-0.09	-0.69
8104	36	1.04	1.21	0.58	0.06	-0.62	-0.12	0.81	-0.53	-0.04	-0.63
8107	49	0.97	1.32	0.87	0.35	-0.47	-0.38	0.90	-0.35	0.14	-0.81
8110	40	1.21	1.34	0.93	0.39	-0.80	-0.54	1.32	-0.60	0.16	-1.11
8201	42	0.98	1.18	0.45	0.23	-0.52	-0.23	1.03	-0.53	0.02	-0.89
8204	34	1.15	1.28	0.69	0.26	-0.61	-0.36	1.20	-0.57	0.19	-1.03
8210	36	1.09	1.13	0.29	0.09	-0.42	-0.03	0.70	-0.32	0.04	-0.73
8301	44	1.13	1.24	0.76	0.27	-0.27	0.00	0.69	-0.28	0.12	-0.70
8304	40	1.17	1.30	0.95	0.31	-0.45	-0.31	1.02	-0.41	0.07	-0.95
8307	32	1.18	1.23	0.69	0.14	-0.56	-0.03	0.67	-0.29	-0.05	-0.77
8310	33	1.29	1.29	0.96	0.43	-0.69	-0.15	0.87	-0.41	0.08	-0.94
8401	33	0.98	1.17	0.37	0.31	-0.63	-0.29	0.85	-0.34	0.01	-0.89
8404	31	1.01	1.19	0.44	0.36	-0.67	-0.28	0.79	-0.32	-0.04	-0.79
8407	31	0.99	1.18	0.31	0.30	-0.58	-0.28	0.81	-0.20	-0.12	-0.72
8410	30	0.99	1.13	0.21	0.29	-0.54	-0.22	0.72	-0.10	-0.07	-0.69
8501	33	0.99	1.15	0.30	0.28	-0.38	-0.27	0.80	-0.15	0.00	-0.70
8504	34	0.96	1.14	0.28	0.20	-0.41	-0.20	0.72	-0.15	0.00	-0.63
8507	33	0.98	1.14	0.29	0.22	-0.39	-0.24	0.66	-0.15	0.05	-0.67
8510	35	0.99	1.16	0.33	0.21	-0.55	-0.28	0.71	-0.21	0.03	-0.74
8601	38	0.93	1.16	0.34	0.20	-0.47	-0.22	0.68	-0.20	0.04	-0.70
8604	35	0.92	1.15	0.33	0.17	-0.44	-0.15	0.64	-0.23	0.07	-0.71
8607	36	0.88	1.14	0.26	0.01	-0.39	0.04	0.57	-0.11	0.01	-0.61
8610	38	0.87	1.16	0.32	0.04	-0.30	-0.02	0.58	-0.06	0.04	-0.72
8701	38	0.92	1.17	0.34	0.08	-0.28	-0.11	0.70	-0.06	-0.03	-0.80
8704	35	0.94	1.14	0.32	0.12	-0.42	0.08	0.60	-0.04	-0.03	-0.72
8707	40	0.87	1.15	0.30	0.03	-0.35	0.09	0.60	-0.09	0.09	-0.68
8710	39	0.91	1.18	0.41	0.03	-0.40	0.08	0.62	-0.12	0.13	-0.69
8801	36	0.93	1.13	0.23	0.01	-0.36	0.01	0.62	-0.13	0.06	-0.76
8804	39	0.89	1.13	0.22	0.05	-0.32	0.05	0.61	-0.14	0.14	-0.74
8807	43	0.82	1.12	0.20	0.05	-0.30	0.10	0.56	-0.12	0.07	-0.69
8810	42	0.85	1.14	0.21	0.08	-0.38	0.02	0.60	-0.17	0.17	0.71
8901	40	0.83	1.14	0.16	0.08	-0.34	0.13	0.53	-0.10	0.23	-0.62
8904	42	0.81	1.12	0.16	0.02	-0.37	0.14	0.48	-0.11	0.14	-0.60
8907	43	0.83	1.14	0.28	0.04	-0.41	0.13	0.55	-0.13	0.09	0.63
8910	43	0.80	1.11	0.23	-0.05	-0.39	0.17	0.49	-0.17	0.03	-0.57
9001	36	0.85	1.09	0.15	-0.09	-0.35	0.22	0.43	-0.16	0.14	-0.52
9004	38	0.85	1.10	0.14	-0.09	-0.35	0.30	0.41	-0.14	0.16	-0.51
9007	41	0.85	1.14	0.25	0.01	-0.30	0.30	0.46	-0.16	0.09	-0.52
9010	41	0.81	1.15	0.34	0.02	-0.28	0.19	0.44	-0.17	0.08	-0.54
9101	37	0.82	1.13	0.21	0.10	-0.30	0.20	0.48	-0.22	0.10	-0.58
MEAN	37	0.96	1.17	0.39	0.14	-0.44	-0.07	0.69	-0.23	0.04	-0.73
MIN	30	0.80	1.09	0.06	-0.09	-0.80	-0.54	0.41	-0.60	-0.22	-1.11
MAX	49	1.29	1.34	0.96	0.43	-0.27	0.30	1.32	-0.03	0.23	-0.42
STD DEV	4	0.12	0.06	0.23	0.13	0.13	0.20	0.20	0.15	0.10	0.16
BNMK AVG	--	--	1.16	0.36	0.04	-0.22	-0.38	0.50	-0.05	-0.01	-0.56

EXHIBIT 2

SECTOR WEIGHTS

ACTUAL PORTFOLIO WEIGHT LESS BENCHMARK PORTFOLIO
January 1987 - December 1990

	CONS NON-DUR	CONS DURABLE	BASIC MATERIALS	CAPITAL GOODS	ENERGY	TECH.	TRANS.	UTIL.	FIN.
MINIMUM PORTFOLIO	-7.35	-1.85	-9.93	-6.40	-1.68	-12.08	-3.21	-1.29	-3.15
PORTFOLIO AVERAGE	-0.07	0.46	-4.51	-0.25	1.86	-2.13	2.01	1.41	1.21
MAXIMUM PORTFOLIO	11.83	1.67	2.68	3.96	7.09	4.33	7.25	5.57	6.23
BENCHMARK AVERAGE	40.79	3.90	12.77	6.70	2.91	15.31	2.97	1.06	13.57

SECTOR WEIGHTS

ACTUAL PORTFOLIO WEIGHT LESS S&P 500
January 1984 - December 1990

	CONS NON-DUR	CONS DURABLE	BASIC MATERIALS	CAPITAL GOODS	ENERGY	TECH.	TRANS.	UTIL.	FIN.
MINIMUM PORTFOLIO	5.40	-1.64	-10.44	-6.24	-18.24	-1.99	-2.00	-13.94	-1.04
PORTFOLIO AVERAGE	14.52	0.38	-5.21	-2.68	-10.63	3.75	3.79	-10.64	6.72
MAXIMUM PORTFOLIO	26.12	3.29	1.95	1.26	-3.22	11.10	10.31	6.93	17.57
MARKET AVERAGE (S&P 500)	30.68	5.06	10.12	7.65	13.63	9.59	2.26	13.16	7.86

EXHIBIT 3

ALLIANCE CAPITAL

Comparison of Actual Portfolio Performance with Customized Benchmark and Wilshire 5000

(all figures are percentages)

QUARTER		T-BILLS	EQUITY-ONLY ACTUAL	EQUITY-ONLY BENCHMARK	TOTAL PORTFOLIO ACTUAL	TOTAL PORTFOLIO BENCHMARK	WILSHIRE 5000
1984	1Q	2.4	-11.1	-4.7	-10.0	-4.4	-4.2
	2Q	2.6	2.1	-3.1	2.1	-2.8	-2.8
	3Q	2.7	7.2	8.6	6.5	8.4	9.2
	4Q	2.3	1.3	0.0	1.3	0.1	1.3
		10.4	-1.5	- 0.3	-0.8	0.8	3.1
1985	1Q	2.1	13.2	11.6	12.2	11.1	10.3
	2Q	1.9	11.5	6.7	10.8	6.4	7.5
	3Q	1.9	-3.7	-6.3	-3.2	-5.9	-4.3
	4Q	1.8	19.1	18.1	17.8	17.3	16.8
		7.9	44.7	31.8	41.7	30.6	32.6
1986	1Q	1.8	19.9	16.2	19.3	15.5	14.4
	2Q	1.6	6.1	3.8	5.9	3.7	5.8
	3Q	1.4	-11.9	-10.4	-11.8	-9.9	-7.7
	4Q	1.3	5.3	2.6	5.2	2.6	4.0
		6.3	18.0	10.9	17.1	10.8	16.1
1987	1Q	1.4	28.8	24.0	27.4	22.8	21.2
	2Q	1.4	4.9	3.3	4.7	3.2	3.4
	3Q	1.5	11.1	5.2	10.8	5.1	6.2
	4Q	1.5	-22.2	-25.5	-21.4	-24.2	-23.1
		5.9	16.8	3.2	16.0	1.0	2.3
1988	1Q	1.4	4.2	7.1	4.0	6.8	8.0
	2Q	1.5	9.9	6.3	9.6	6.0	6.5
	3Q	1.7	-3.7	-1.1	-3.5	-0.9	0.2
	4Q	1.9	0.5	1.2	0.6	1.3	2.3
		6.8	10.9	14.0	10.6	13.7	17.9
1989	1Q	2.1	9.9	7.0	10.0	6.7	7.4
	2Q	2.2	11.8	8.6	11.7	8.3	8.6
	3Q	2.0	15.8	11.2	15.2	10.7	10.1
	4Q	2.0	0.3	-3.9	0.3	-3.6	0.6
		8.6	42.6	24.2	41.9	23.5	29.2
1990	1Q	2.0	-2.7	-1.1	-2.6	-0.9	-3.5
	2Q	2.0	10.0	8.8	9.7	8.5	5.6
	3Q	1.9	-17.1	-19.3	-16.4	-18.3	-15.2
	4Q	1.8	10.1	10.7	9.7	10.3	8.7
			-2.3	-3.8	-1.9	-3.2	
CUMULATIVE		67.9	203.5	106.1	194.0	100.2	131.9
ANNUALIZED		7.7	17.2	10.9	16.7	10.4	12.8

EXHIBIT 4

ALLIANCE CAPITAL
QUARTERLY SECTOR WEIGHTS

	CON NDUR	CONS DUR	BA MAT	CAP GOOD	ENERGY	TECH	TRANS	UTIL	FIN
8004	13.76	1.24	17.30	7.62	38.46	9.18	0.52	0.00	11.92
8007	27.10	1.58	7.33	8.08	22.44	17.51	0.00	0.00	15.97
8010	27.31	0.00	2.13	9.66	19.43	25.54	0.66	0.00	15.27
8101	27.25	0.33	4.69	7.68	26.73	18.21	4.20	0.00	10.91
8104	34.37	0.00	7.17	5.54	20.06	15.69	3.40	0.19	13.59
8107	25.75	2.56	7.16	7.50	17.85	15.10	7.99	1.04	15.04
8110	28.75	3.42	5.18	9.86	14.93	10.90	8.16	7.23	11.58
8201	40.70	2.89	5.50	4.73	9.15	14.69	7.84	7.55	6.94
8204	26.08	1.26	8.50	6.16	12.72	18.92	8.11	8.89	9.36
8210	46.52	2.21	1.52	4.89	1.45	10.34	6.97	11.54	14.56
8301	32.83	2.29	1.41	4.37	4.68	15.06	6.53	14.53	18.30
8304	44.89	3.02	0.80	3.90	3.29	18.13	8.32	9.91	7.73
8307	39.03	8.19	2.59	1.69	3.08	24.70	7.75	2.99	9.98
8310	40.96	7.85	0.00	3.32	0.00	20.37	8.38	6.13	12.99
8401	45.04	7.42	2.31	5.61	0.00	16.58	13.12	2.82	7.09
8404	48.05	8.19	0.19	4.05	2.47	19.24	10.41	1.83	5.57
8407	52.93	8.16	0.00	5.77	0.00	16.49	10.06	1.64	4.95
8410	49.98	9.06	0.00	3.23	0.00	15.35	9.64	5.28	7.45
8501	48.61	9.03	0.00	3.07	0.00	17.06	8.61	5.44	8.19
8504	47.96	8.58	0.20	2.53	2.34	13.78	8.40	5.18	11.01
8507	49.59	7.53	0.21	2.33	2.12	12.16	9.42	3.53	13.11
8510	53.84	6.30	0.00	2.01	0.00	10.08	7.77	0.00	20.00
8601	49.00	4.58	0.00	2.09	0.00	12.47	6.25	0.00	25.62
8604	50.96	4.84	1.39	1.77	0.30	8.84	5.74	0.00	26.15
8607	52.09	3.87	0.60	1.41	0.00	10.15	7.21	0.00	24.67
8610	45.48	4.14	4.95	1.86	0.00	13.41	8.70	0.12	21.35
8701	36.64	5.02	9.67	2.00	0.00	16.06	11.06	0.14	19.40
8704	37.52	5.84	9.38	4.14	1.78	18.89	3.36	0.28	18.80
8707	38.30	5.44	9.38	5.11	2.54	16.84	3.86	1.45	17.08
8710	37.76	4.82	11.21	4.86	4.23	18.15	3.12	1.41	14.42
8801	41.81	3.46	13.18	4.74	2.38	18.14	3.24	0.25	12.80
8804	40.17	4.38	9.60	6.68	4.79	17.54	6.22	0.39	10.25
8807	37.03	5.53	8.49	8.22	4.04	20.61	7.39	0.26	8.44
8810	43.54	3.64	8.81	8.16	3.60	15.96	5.50	0.29	10.51
8901	42.26	5.44	8.17	8.03	3.39	13.96	5.98	0.30	12.48
8904	45.34	4.67	6.75	8.20	3.87	9.25	5.50	3.47	12.95
8907	49.14	4.38	4.94	5.79	3.43	9.22	4.74	3.86	14.50
8910	42.50	3.97	5.90	7.04	6.82	7.60	3.16	6.15	16.85
9001	43.57	4.59	7.26	8.81	7.74	4.17	0.00	7.21	16.65
9004	39.43	4.28	7.43	7.69	8.95	7.04	1.63	7.46	16.09
9007	41.26	3.40	6.62	7.60	6.56	11.23	3.27	4.06	16.01
9010	43.07	2.39	6.05	6.09	10.16	9.48	1.94	5.11	15.73
9101	48.44	1.13	4.57	4.64	8.06	8.58	3.99	5.42	15.18
AVG	40.85	4.44	5.08	5.31	6.60	14.48	6.00	3.33	13.89
MIN	13.76	0.00	0.00	1.41	0.00	4.17	0.00	0.00	4.95
MAX	53.84	9.06	17.30	9.86	38.46	25.54	13.12	14.53	26.15
STD DEV	8.69	2.47	4.14	2.40	8.31	4.66	3.13	3.61	5.05
BNMK AVG (1/87-1/91)	42.17	3.78	12.42	6.88	2.86	14.71	2.67	1.50	13.02
S&P 500 AVERAGE	[illegible]	[illegible]	[illegible]	[illegible]					

EXHIBIT 5

ALLIANCE CAPITAL
BENCHMARK COMPARISONS

RISK EXPOSURES

BENCHMARK	EQ BETA	MARK VAR	SIZE RISK	GROWTH RISK	E/P	B/P	EARN VAR	FIN RISK	YIELD
8701	1.20	0.41	-0.50	0.62	-0.01	-0.25	0.07	-0.03	-0.67
8707	1.19	0.45	-0.51	0.59	-0.09	-0.27	0.11	0.00	-0.61
8801	1.14	0.35	-0.27	0.54	-0.09	-0.22	0.04	-0.09	-0.56
8804	1.15	0.37	-0.39	0.55	-0.06	-0.22	0.08	-0.14	-0.58
8807	1.15	0.37	-0.34	0.56	-0.09	-0.26	0.07	-0.05	-0.61
8810	1.16	0.41	-0.34	0.47	-0.05	-0.23	0.01	-0.05	-0.54
8901	1.15	0.31	-0.34	0.44	-0.05	-0.21	-0.03	0.07	-0.52
8904	1.17	0.38	-0.40	0.49	-0.02	-0.20	0.05	0.00	-0.55
8907	1.16	0.38	-0.47	0.47	-0.04	-0.17	0.11	0.01	-0.53
8910	1.17	0.40	-0.52	0.45	-0.02	-0.17	0.11	-0.04	-0.49
9001	1.16	0.37	-0.51	0.44	0.01	-0.10	0.09	0.00	-0.50
9004	1.15	0.35	-0.53	0.47	-0.04	-0.19	0.01	-0.02	-0.54
9007	1.14	0.28	-0.10	0.50	-0.14	-0.37	-0.11	0.12	-0.59
9012	1.13	0.22	-0.09	0.40	-0.06	-0.25	-0.09	0.13	-0.50
PREVIOUS BNMK AVG	1.16	0.38	-0.43	0.51	-0.05	-0.21	0.06	-0.03	-0.56
CURRENT BNMK AVG	1.14	0.25	-0.09	0.45	-0.10	-0.31	-0.10	0.12	-0.54
ALLIANCE HISTORICAL AVG	1.17	0.39	-0.07	0.69	-0.23	-0.44	0.14	0.04	-0.73

EXHIBIT 6

ALLIANCE CAPITAL
BENCHMARK COMPARISONS

SECTOR EXPOSURES

BENCHMARK	CONS NDUR	CONS DUR	BASIC MAT	CAPITAL	ENERGY	TECH	TRANS	UTILI	FIN
8701	34.82	3.35	12.20	8.40	1.68	14.14	3.81	0.74	20.86
8707	39.91	4.48	11.62	6.34	2.03	15.34	3.03	0.71	16.54
8801	45.47	2.47	10.50	8.17	3.62	16.03	3.44	0.51	9.79
8804	43.40	4.01	11.07	8.75	2.82	14.77	3.11	1.27	10.79
8807	40.46	3.96	11.81	7.43	4.79	16.28	2.25	1.55	11.46
8810	42.92	3.93	12.17	6.94	3.54	14.48	1.83	0.52	13.66
8901	43.41	3.84	12.66	6.34	2.74	14.66	2.27	0.50	13.60
8904	40.16	3.27	13.33	6.63	2.99	14.81	3.13	0.76	14.92
8907	37.31	4.28	13.41	7.87	4.01	15.00	3.68	1.27	13.16
8910	37.16	4.86	15.83	4.59	2.25	16.60	4.12	0.82	13.77
9001	39.63	4.25	14.22	4.85	2.62	16.25	3.21	1.64	13.31
9004	44.83	4.10	14.43	4.13	1.86	15.35	1.81	2.46	11.03
9007	48.60	3.11	12.08	7.43	1.77	12.49	0.41	4.33	9.78
9012	52.28	2.97	8.57	8.37	3.32	9.74	1.25	3.93	9.56
PREVIOUS BNMK AVG	40.79	3.90	12.77	6.70	2.91	15.31	2.97	1.06	13.57
CURRENT BNMK AVG	50.44	3.04	10.32	7.90	2.54	11.12	0.83	4.13	9.67
ALLIANCE HISTORICAL AVG	40.85	4.44	5.08	5.31	6.60	14.48	6.00	3.33	13.89

EXHIBIT 7

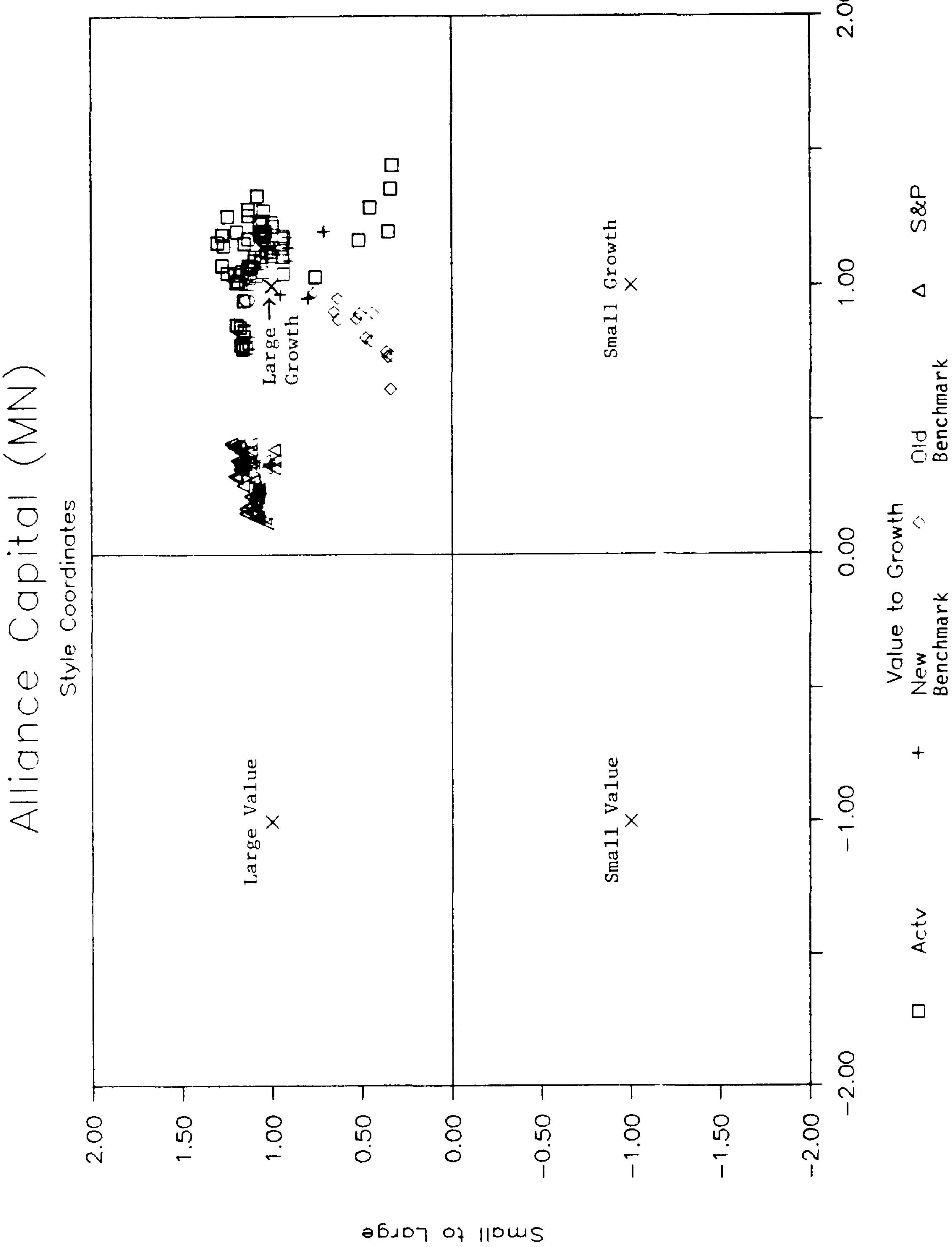

Alliance Capital (MN)
Style Coordinates
Large Value
Small Value
Large Growth
Small Growth
Value to Growth
Small to Large
Actv
New Benchmark
Old Benchmark
S&P
2.00
1.50
1.00
0.50
0.00
-0.50
-1.00
-1.50
-2.00

EXHIBIT 8

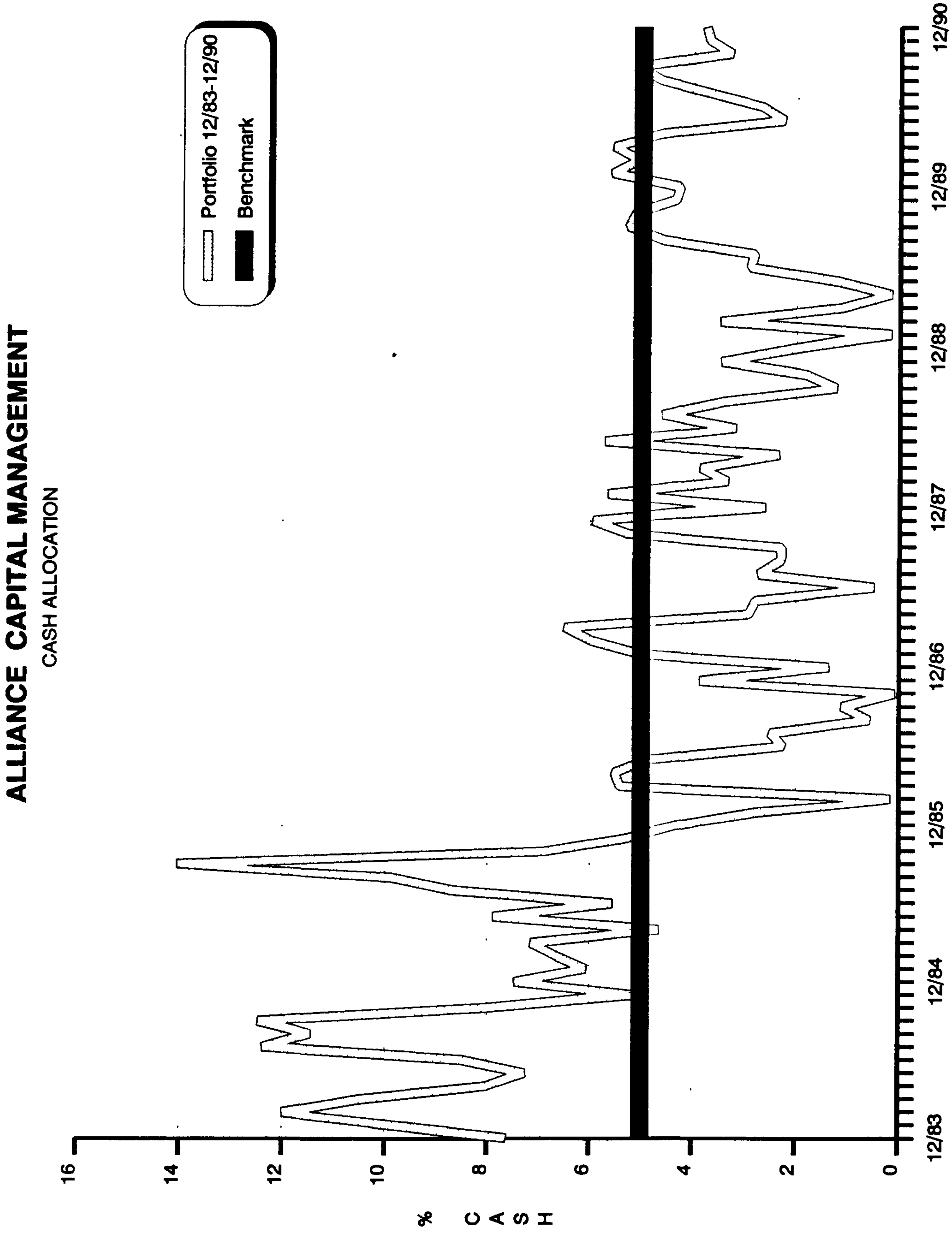

ALLIANCE CAPITAL MANAGEMENT
CASH ALLOCATION
Portfolio 12/83-12/90
Benchmark
% CASH
16
14
12
10
8
6
4
2
0
12/83
12/84
12/85
12/86
12/87
12/88
12/89
12/90

EXHIBIT 9

SECTOR ANALYSIS

COMPARISON

	CONS NON-DUR	CONS DURABLE	BASIC MATERIALS	CAPITAL GOODS	ENERGY	TECH	TRANS	UTIL	FIN
Actual Average	41.63	4.26	8.08	6.34	4.84	13.10	4.35	2.79	14.60
Benchmark Average	42.17	3.78	12.42	6.80	2.86	14.71	2.67	1.50	13.02
Wilshire Index Average	50.13	3.26	9.35	10.79	4.47	10.42	1.56	1.30	8.71

RISK ANALYSIS

COMPARISON

	EQ BETA	VAR MKTS	EAR VAR	BOOK/ PRICE	SIZE RISK	GROWTH RISK	EAR/ PRICE	FIN RISK	YIELD
Actual Average	1.13	0.24	0.03	-0.35	0.12	0.54	-0.13	0.13	-0.64
Benchmark Average	1.16	0.36	0.04	-0.22	-0.38	0.50	-0.05	-0.01	-0.56
Wilshire Index Average	1.09	0.10	-0.26	-0.38	-0.04	0.35	-0.11	-0.05	-0.47

EQUITY MANAGERS

First Quarter 1991

Common stock manager returns are evaluated against the performance of customized indices constructed to represent the managers' specific investment approaches. These custom indices are commonly referred to as "benchmark portfolios." The benchmark portfolios take into account the equity market forces that at times favorably or unfavorably impact certain investment styles. Thus, benchmark portfolios are the appropriate standards against which to judge the managers' performance.

Manager performance relative to benchmarks is evaluated on a quarterly basis by the Equity Manager Committee of the Investment Advisory Council.

Staff Recommendations
Staff recommends the following actions concerning manager status:

- Perform an in-depth review of Lieber & Co. as part of the regular three year review cycle.

- Renew annual contracts for Alliance Capital, Forstmann Leff, IDS, IAI, Lieber & Co., and Waddell & Reed.

Current Managers	Total Market Value 3/31/90 (Thousands)	Quarter Ending 3/31/90 Actual	Bmrk	Year Ending 3/31/90 Actual	Bmrk	Annualized Five Years Ending 3/31/90 Actual	Bmrk	Percent of Stock Segment 3/31/90 Basic Funds
Alliance	$ 481,502	17.4%	17.3%	18.1%	14.6%	15.5%	9.1%	9.9%
Concord	110,563	12.4	19.1	0.1	11.8			2.3
Forstmann	227,541	19.3	15.2	15.1	11.4	9.9	9.6	4.7
Franklin	150,069	17.3	17.9	9.0	12.2			3.1
GeoCapital	129,877	30.3	24.6	21.5	13.8			2.7
IDS	196,362	19.7	13.3	8.7	10.0	10.6	10.8	4.0
IAI	101,615	13.3	13.4	8.6	12.4	10.0	11.7	2.1
Lieber & Co.	151,691	19.9	22.7	11.9	6.4	7.8	6.2	3.1
Rosenberg	314,414	16.2	16.5	8.2	11.5			6.5
Sasco	115,375	17.4	17.6	-8.1	4.0			2.4
Waddell & Reed	189,064	14.1	18.5	5.5	8.8	9.2	9.3	3.9
Wilshire Assoc.*	2,681,491	15.6	15.6	11.9	12.5	11.2	11.4	55.3
Aggregate **		16.5	16.4	11.5	12.2	11.2	10.2	100.0
Wilshire 5000		16.5%		13.3%		11.6%		

* Passive Manager/Custom Tilt Index only
** Historical performance reflects composite of current managers only.

Notes: GeoCapital retained 4/90. Concord, Franklin, Rosenberg, Sasco retained 4/89.
Wilshire Assoc. began custom tilt phase-in in October 1990.

ALLIANCE CAPITAL MANAGEMENT

PORTFOLIO MANAGER: Jack Koltes **ASSETS UNDER MANAGEMENT: $481,501,852**

INVESTMENT PHILOSOPHY

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

QUALITATIVE EVALUATION
(Reported By Exception)

Exceptional strengths are:

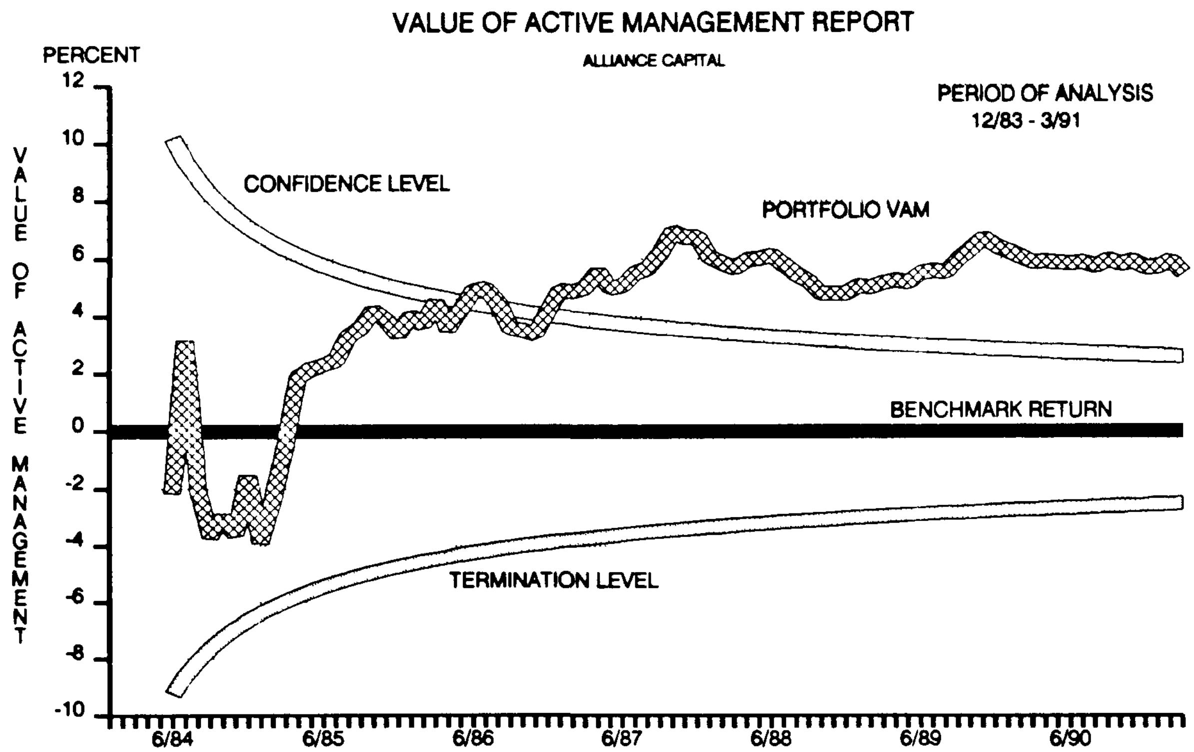
- Highly successful and experienced professionals.
- Organizational continuity and strong leadership.
- Well-acquainted with needs of large clients.
- Investment style consistently and successfully applied over a variety of market environments.

QUANTITATIVE EVALUATION

	Latest Qtr.	Latest 1 Yr.	Latest 5 Yrs.	Since 1/1/84
Actual Return	17.4%	18.1%	15.5%	18.7%
Benchmark	17.3	14.6	9.1	12.5

STAFF RECOMMENDATIONS

Renew annual contract for period beginning 7/1/91.



FORSTMANN LEFF ASSOCIATES

PORTFOLIO MANAGER: Joel Leff **ASSETS UNDER MANAGEMENT: $227,541,144**

INVESTMENT PHILOSOPHY

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

QUALITATIVE EVALUATION
(Reported By Exception)

Current concerns are:

- Relatively high turnover among firm's professionals. This issue, while not serious, remains outstanding.

Exceptional strengths are:

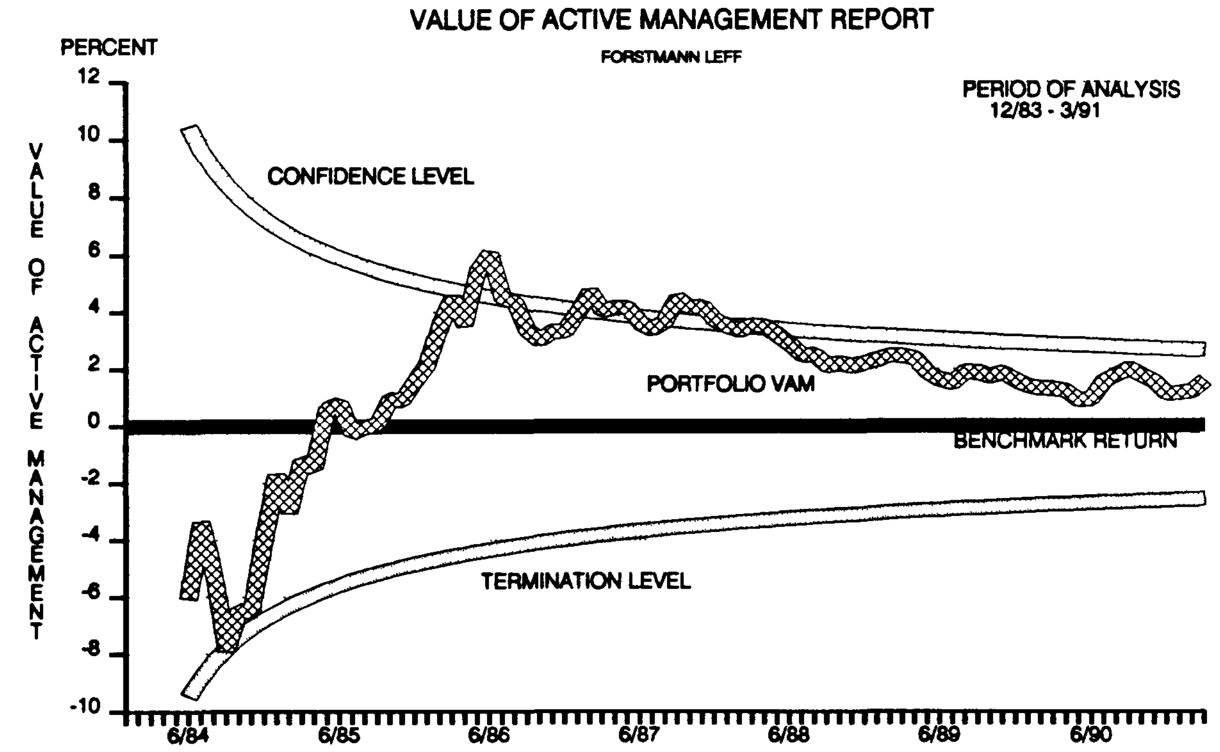
- Highly successful and experienced professionals.
- Investment style consistently and successfully applied over a variety of market environments.
- Well-acquainted with needs of large clients.

QUANTITATIVE EVALUATION

	Latest Qtr.	Latest 1 Yr.	Latest 5 Yrs.	Since 1/1/84
Actual Return	19.3%	15.1%	9.9%	13.7%
Benchmark	15.2	11.4	9.6	12.0

STAFF RECOMMENDATIONS

Renew annual contract for period beginning 7/1/91.



FRANKLIN PORTFOLIO ASSOCIATES

PORTFOLIO MANAGER: John Nagorniak **ASSETS UNDER MANAGEMENT: $150,068,839**

INVESTMENT PHILOSOPHY

Franklin's investment decisions are quantitatively driven and controlled. The firm's stock selection model uses 30 valuation measures covering the following factors: fundamental momentum, relative value, future cash flow, and economic cycle analysis. The firm believes that a multi-dimensional approach to stock selection provides greater consistency than reliance on a limited number of valuation criteria. Franklin's portfolio management process focuses on buying and selling the right stock rather than attempting to time the market or pick the right sector or industry groups. The firm remains fully invested at all times.

QUALITATIVE EVALUATION
(Reported by Exception)

Exceptional strengths are:

- Familiar with the needs of large institutional clients.
- Firm's investment approach has been consistently applied over a number of market cycles.

QUANTITATIVE EVALUATION

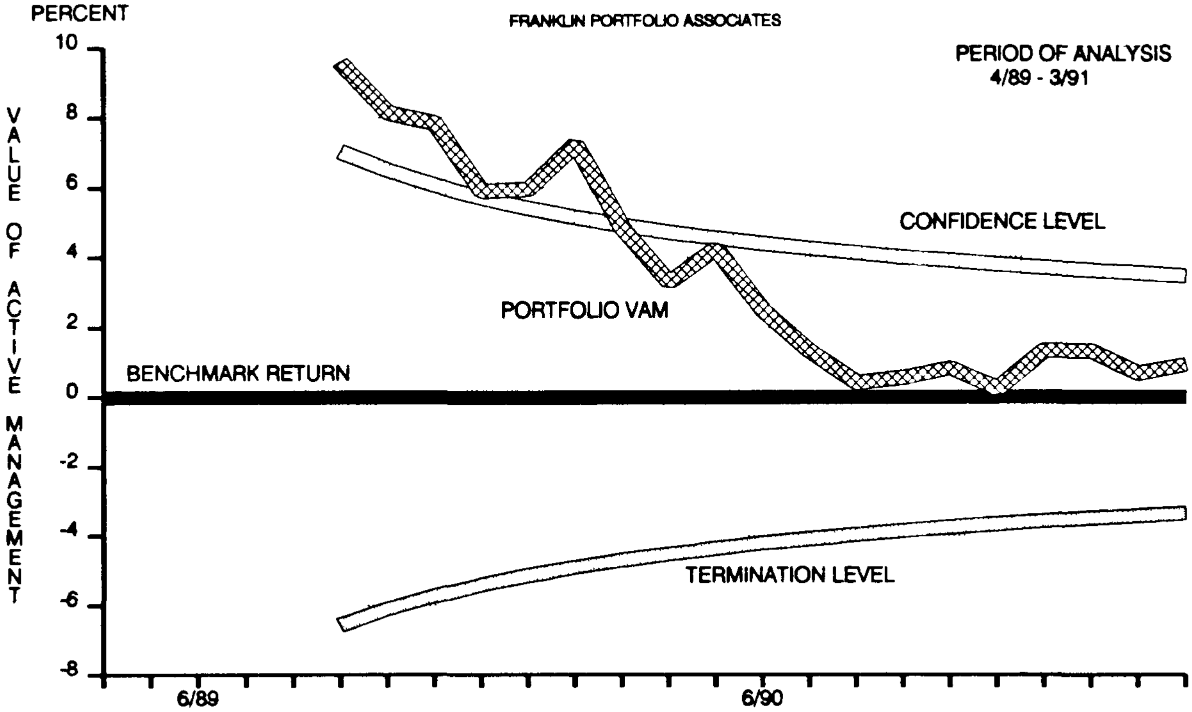
	Latest Qtr.	Latest 1 Yr.	Latest 5 Yrs.	Since 4/1/89
Actual Return	17.3%	9.0%	N.A.	12.0%
Benchmark	17.9	12.2	N.A.	11.0

STAFF RECOMMENDATIONS

No action required.

VALUE OF ACTIVE MANAGEMENT REPORT

FRANKLIN PORTFOLIO ASSOCIATES



GEOCAPITAL CORP.

PORTFOLIO MANAGER: Barry Fingerhut **ASSETS UNDER MANAGEMENT: $129,877,430**

INVESTMENT PHILOSOPHY

GeoCapital invests primarily in small capitalization equities with the intent to hold them as they grow into medium and large capitalization companies. The firm uses a theme approach and an individual stock selection analysis to invest in the growth/technology and intrinsic value areas of the market. In the growth/technology area GeoCapital looks for companies that will have above average growth due to a good product development program and limited competition. In the intrinsic value area, the key factors in this analysis are the corporate assets, free cash flow, and a catalyst that will cause a positive change in the company. The firm generally stays fully invested, with any cash positions due to the lack of attractive investment opportunities.

QUALITATIVE EVALUATION
(Reported by Exception)

Exceptional strengths are:

- Investment style consistently and successfully applied over a variety of market environments.
- Attractive, unique investment approach.
- Highly successful and experienced professionals.

QUANTITATIVE EVALUATION

	Latest Qtr.	Latest 1 Yr.	Latest 5 Yrs.	Since 4/1/90
Actual Return	30.3%	21.5%	N.A.	21.5%
Benchmark	24.6	13.8	N.A.	13.8

STAFF RECOMMENDATIONS

No action required.

(Vam graph will be provided for period ending 9/30/91.)

IDS ADVISORY

PORTFOLIO MANAGER: Mitzi Malevich **ASSETS UNDER MANAGEMENT: $196,361,948**

INVESTMENT PHILOSOPHY

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

QUALITATIVE EVALUATION
(Reported By Exception)

Current concerns are:

- Benchmark does not adequately reflect the growth bias that IDS incorporates into their investment process.

Exceptional strengths are:

- Investment style consistently and successfully applied over a variety of market environments.

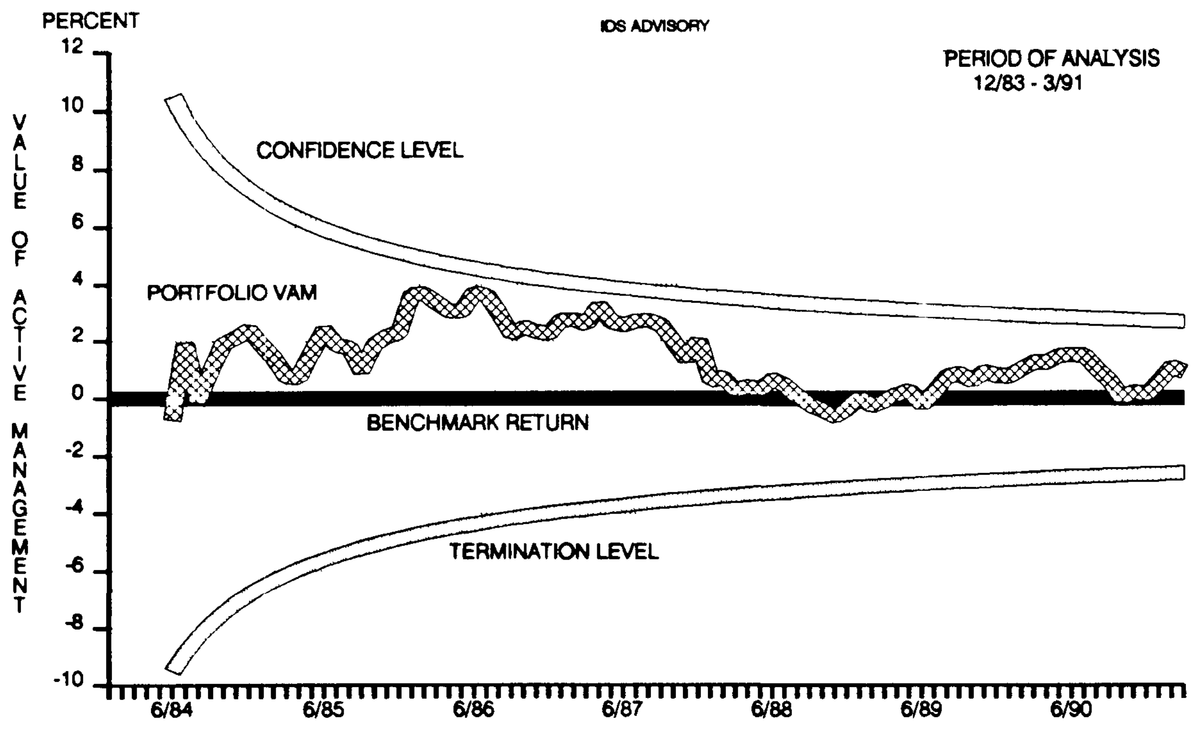
STAFF RECOMMENDATIONS

Renew annual contract for period beginning 7/1/91.

QUANTITATIVE EVALUATION

	Latest Qtr.	Latest 1 Yr.	Latest 5 Yrs.	Since 1/1/84
Actual Return	19.7%	8.7%	10.6%	15.1% ·
Benchmark	13.3	10.0	10.8	14.0

VALUE OF ACTIVE MANAGEMENT REPORT



INVESTMENT ADVISERS

PORTFOLIO MANAGER: Charles Webster **ASSETS UNDER MANAGEMENT: $101,615,334**

INVESTMENT PHILOSOPHY

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

QUALITATIVE EVALUATION
(Reported By Exception)

Current concerns are:

- Growth plan not in place.
- Slow response to administrative information requests from SBI staff

The items, while not serious, should continue to be monitored.

Exceptional strengths are:

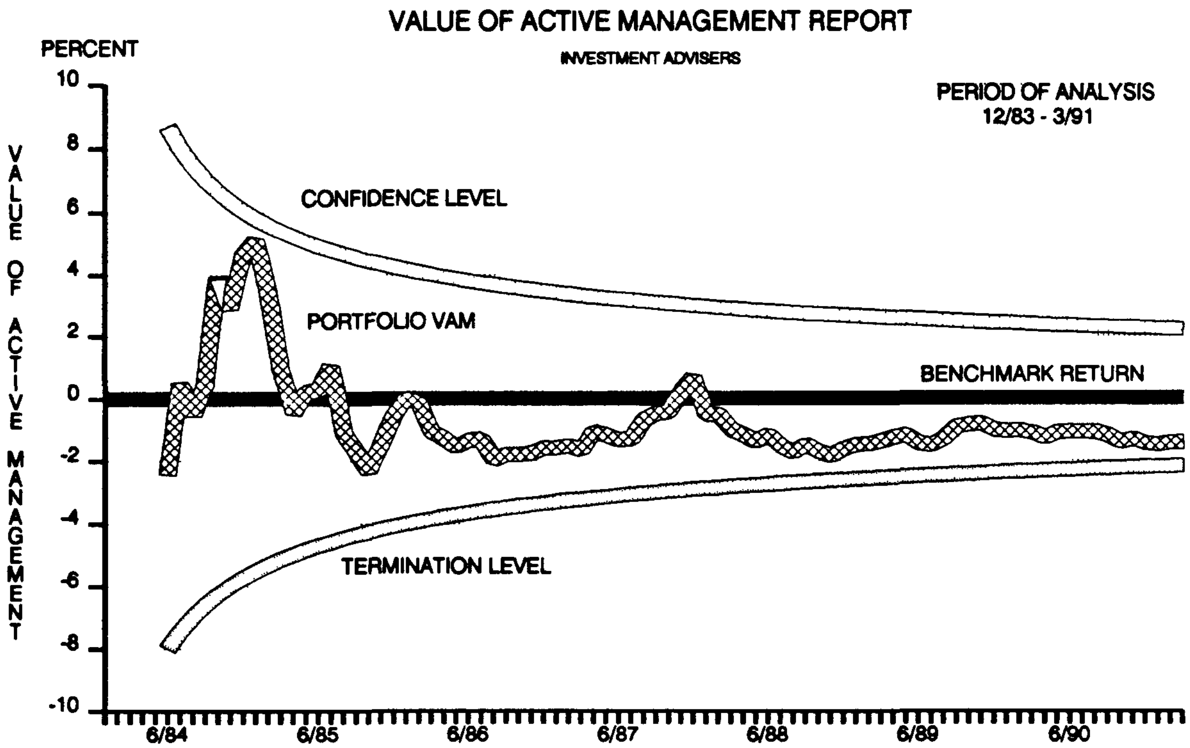
- Investment style consistently applied over a variety of market environments.

QUANTITATIVE EVALUATION

	Latest Qtr.	Latest 1 Yr.	Latest 5 Yrs.	Since 1/1/84
Actual Return	13.3%	8.6%	10.0%	13.1%
Benchmark	13.4	12.4	11.7	14.7

STAFF RECOMMENDATIONS

Renew annual contract for period beginning 7/1/91.



LIEBER & COMPANY

PORTFOLIO MANAGER: Stephen Lieber, Nola Falcone **ASSETS UNDER MANAGEMENT: $151,691,266**

INVESTMENT PHILOSOPHY

Lieber and Co. seeks to identify investment concepts that are either currently profitable, or likely to become so in the near future, yet whose prospects are not reflected in the stock prices of the companies associated with the concepts. The firm focuses on macroeconomic trends and specific product developments within particular industries or companies. Stock selection concentrates on well-managed, small-to-medium sized companies with high growth and high return on equity. Particularly attractive to Lieber are takeover candidates or successful turn around situations. The firm generally is fully invested, with any cash positions the result of a lack of attractive investment concepts.

QUANTITATIVE EVALUATION

	Latest Qtr.	Latest 1 Yr.	Latest 5 Yrs.	Since 1/1/84
Actual Return	19.9%	11.9%	7.8%	11.7%
Benchmark	22.7	6.4	6.2	9.9

QUALITATIVE EVALUATION
(Reported by Exception)

Current concerns are:

- Firm is unfamiliar with needs of large clients.

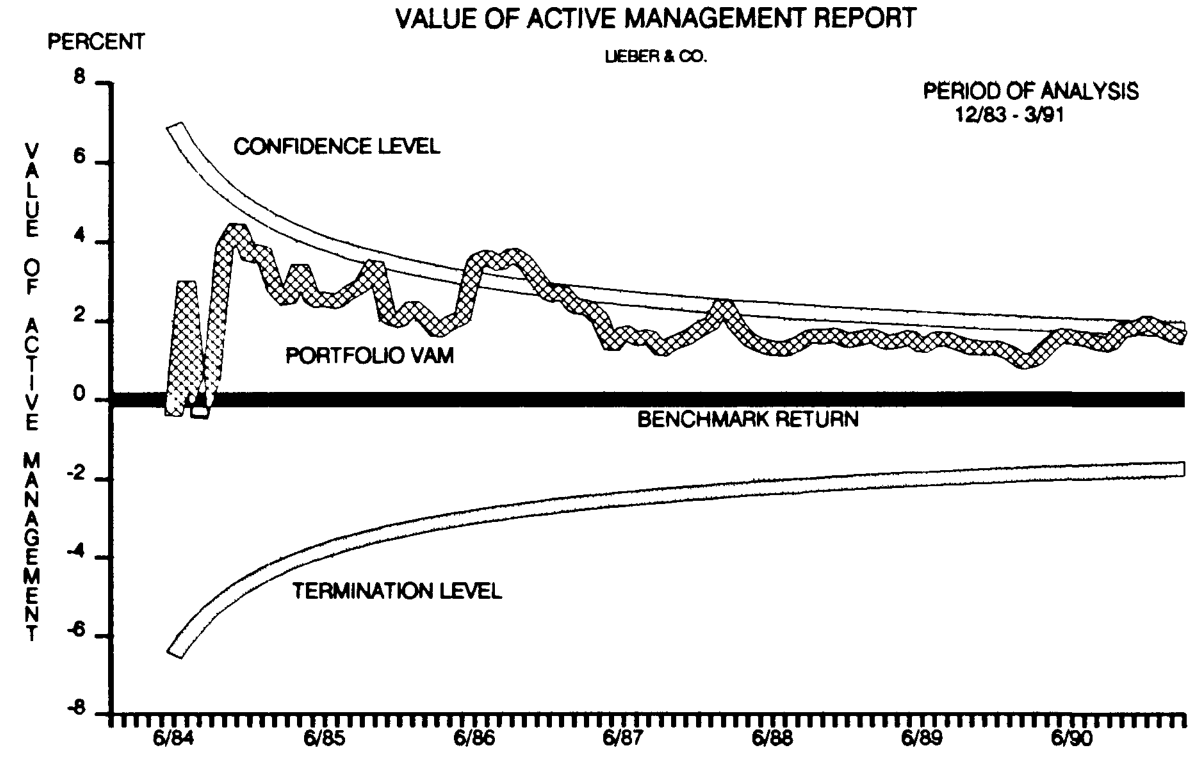
This item, while not serious, warrants additional monitoring.

Exceptional strengths are:

- Organizational continuity and strong leadership.
- Attractive, unique investment approach.
- Investment style consistently and successfully applied over a variety of market environments.
- Extensive securities research process.

STAFF RECOMMENDATIONS

Perform an in-depth review as part of the regular three year review cycle. Renew annual contract for period beginning 7/1/91.



ROSENBERG INSTITUTIONAL EQUITY MANAGEMENT

PORTFOLIO MANAGER: Ken Reid **ASSETS UNDER MANAGEMENT: $314,414,458**

INVESTMENT PHILOSOPHY

Rosenberg uses quantitative techniques to identify stocks that are undervalued relative to other similar companies. The firm's computerized valuation system analyzes accounting data on over 3,500 companies. Each company's separate business segments are compared to similar business operations of other companies. These separate valuations are then integrated into a single valuation for the total company. Stocks with valuations that are significantly below their current market price are candidates for purchase. The firm remains fully invested at all times.

QUALITATIVE EVALUATION
(Reported by Exception)

Exceptional strengths are:

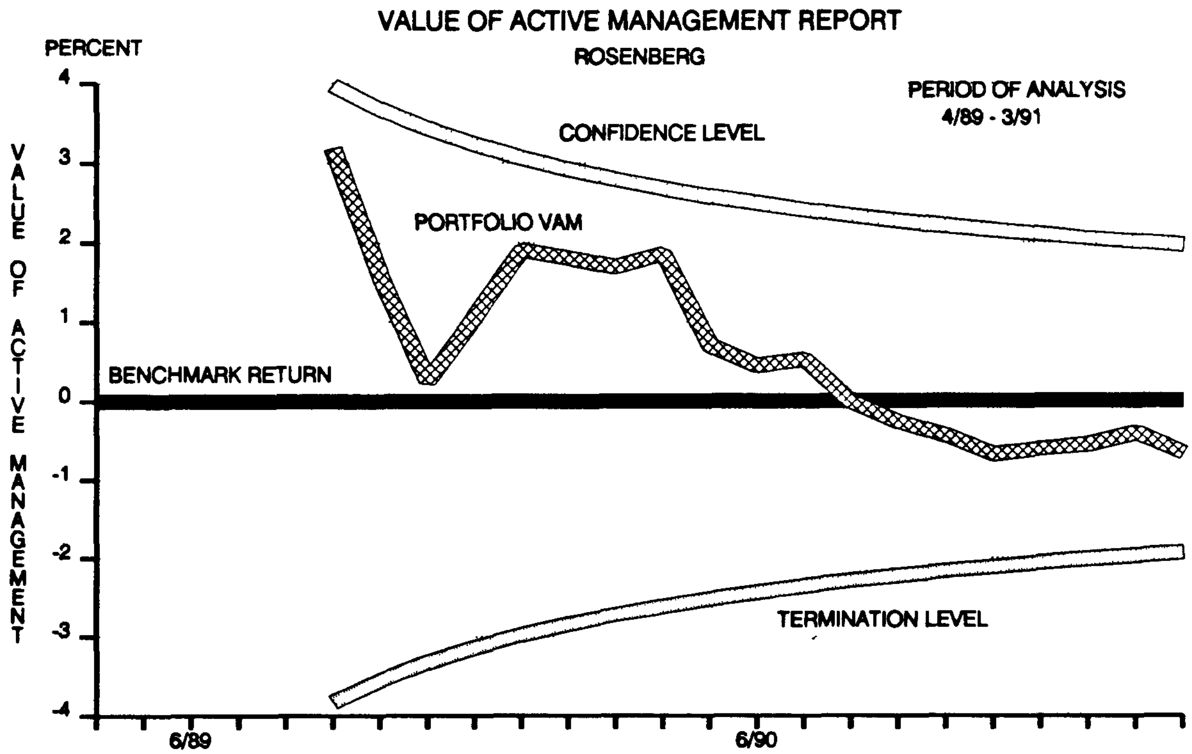
- Attractive, unique investment approach.
- Highly successful and strong leadership.

QUANTITATIVE EVALUATION

	Latest Qtr.	Latest 1 Yr.	Latest 5 Yrs.	Since 4/1/89
Actual Return	16.2%	8.2%	N.A.	12.4
Benchmark	16.5	11.5	N.A.	13.1

STAFF RECOMMENDATIONS

No action required.



WADDELL & REED

PORTFOLIO MANAGER: Henry Herrman **ASSETS UNDER MANAGEMENT: $189,064,074**

INVESTMENT PHILOSOPHY

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

QUALITATIVE EVALUATION
(Reported By Exception)

Exceptional strengths are:

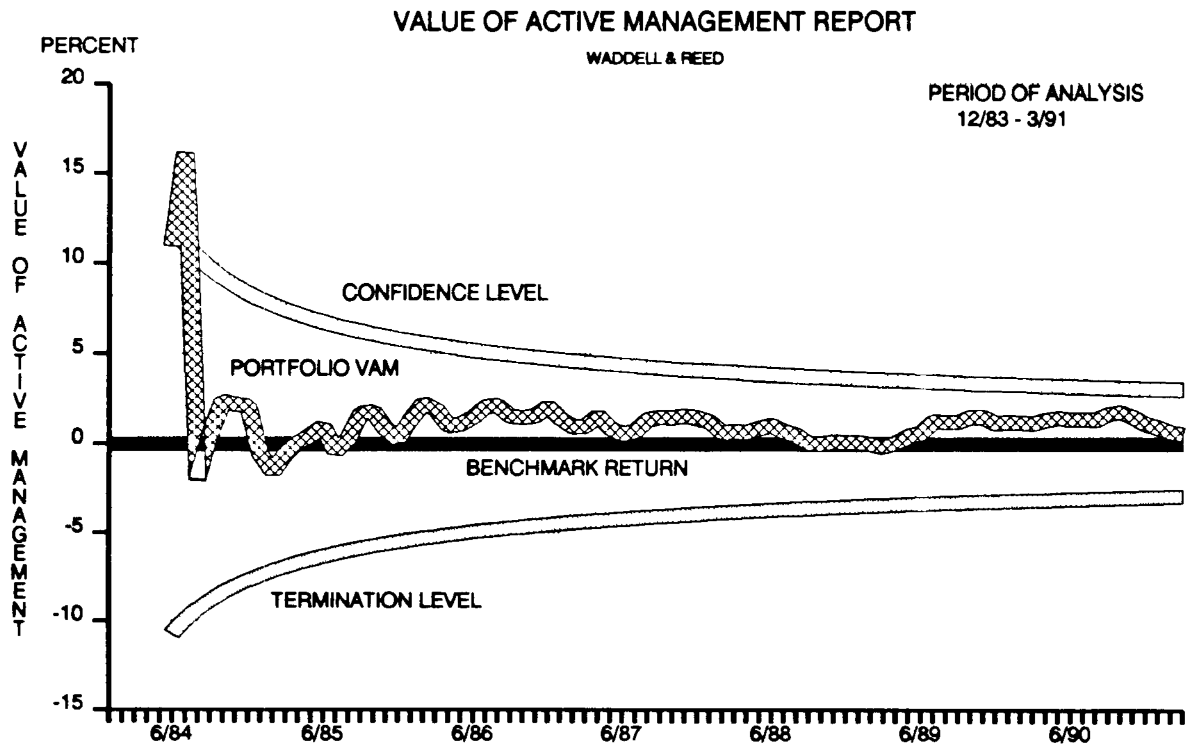
- Highly successful and experienced professionals.

QUANTITATIVE EVALUATION

	Latest Qtr.	Latest 1 Yr.	Latest 5 Yrs.	Since 1/1/84
Actual Return	14.1%	5.5%	9.2%	11.4%
Benchmark	18.5	8.8	9.3	10.8

STAFF RECOMMENDATIONS

Renew annual contract for period beginning 7/1/91.



POST FUND STOCK SEGMENT

PORTFOLIO MANAGER: SBI Staff **ASSETS UNDER MANAGEMENT: $523,242,273**

INVESTMENT PHILOSOPHY

The Post Fund Stock Segment utilizes a disciplined portfolio management process which relies on quantitative measures of investment characteristics to screen for investment opportunities. Two distinct methodologies are employed to moderate portfolio return volatility and provide diversification. Both methodologies emphasize traditional value criteria. One methodology, Abel Noser, emphasizes low price/earnings and low price/book ratios. The other, R.F. Fargo, focuses on high relative yield. Historically, these value characteristics have provided superior relative returns in down and early cycle markets. The portfolio maintains a fully invested position at all times.

QUANTITATIVE EVALUATION

	Latest Qtr.	Latest 1 Yr.	Latest 5 Yrs.	Since 7/1/87
Actual Return	20.3%	7.4%	7.9%	6.8%
Benchmark	18.7	8.9	N.A.	6.8

QUALITATIVE EVALUATION
(Reported By Exception)

Current concerns are:

- The fund is using a relatively new benchmark.

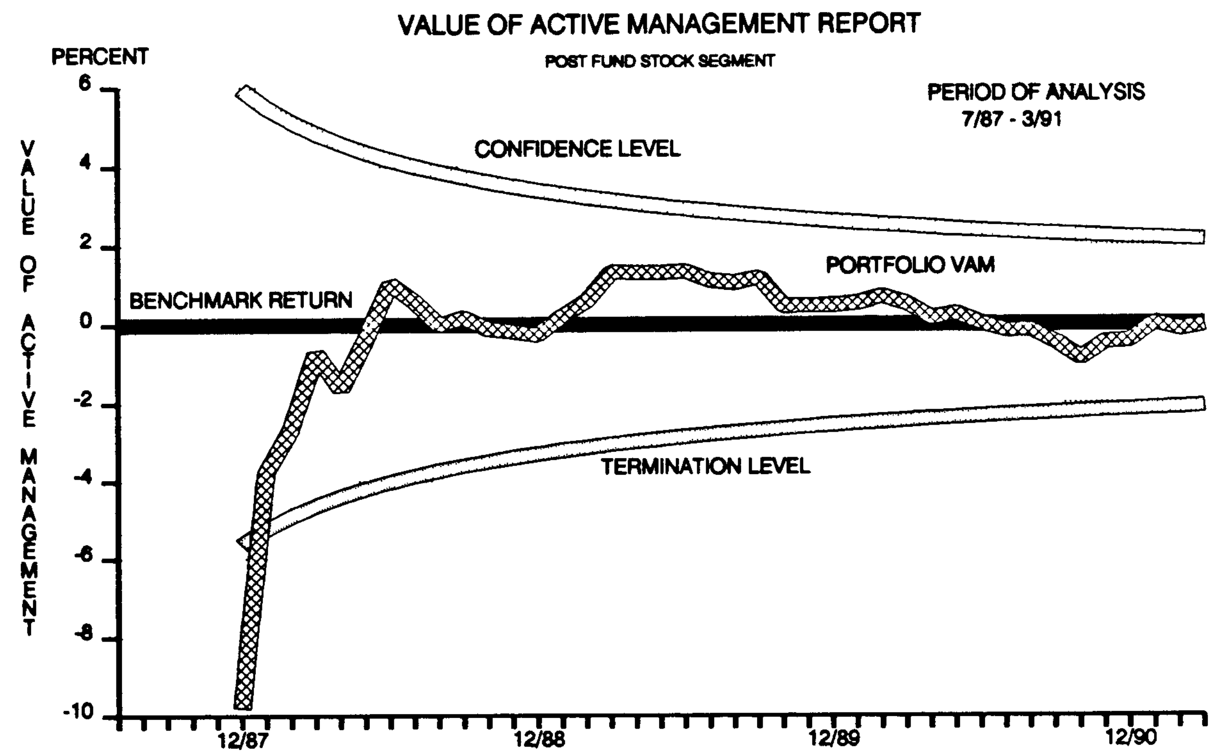
This item, while not serious, should continue to be monitored.

Exceptional strengths are:

- The investment methodologies used in the portfolio have been applied successfully over various market environments.

STAFF RECOMMENDATIONS

No action required.



Tab G

COMMITTEE REPORT

DATE: June 3, 1991

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

FROM: Fixed Income Manager Committee

The IAC Fixed Income Manager Committee met on May 28, 1991 to review the following items:

- o In-depth Review of Miller Anderson & Sherrerd
- o Annual Review of Investment Manager Guidelines
- o Review of Manager Performance
- o Contract Renewals

INFORMATION ITEMS:

1) In-Depth Review of Miller Anderson & Sherrerd

Staff conducted an in-depth review of Miller Anderson and Sherrerd as part of regular 3-year review cycle. A copy of the review is attached. The Committee concurred with staff's conclusion that Miller should be retained as a manager until the fixed income segment of the Basic Funds is restructured. At that time, the firm's role in the SBI's fixed income program will be evaluated with all other potential managers.

The review showed that:

- o Miller's style features value investing, determining which sectors and securities provide the most value. Miller places less emphasis on anticipating interest rates and shifting duration.
- o Miller determines value along the yield curve, deciding which corporate and mortgage-backed securities provide risk-adjusted returns superior to Treasury securities at different maturities on the yield curve.
- o Miller uses the Salomon Broad Investment Grade Index as its benchmark. Since Miller was hired, they have underperformed their benchmark (Miller 13.0%, Benchmark 13.4%). Mortgage security pricing problems may account

for a significant portion of the underperformance. It appears that Miller's sector and security selections added value to the portfolio while its duration decisions hurt portfolio performance.

2) Annual Review of Investment Manager Guidelines

The Committee reviewed the investment guidelines for the active and semi-passive bond managers. These guidelines govern the manager's investment actions and are part of the agreement between the SBI and the manager.

The original guidelines for active managers were established in 1983 when the external manager program was initiated. The most recent revision to the guidelines occurred in May 1989 and staff recommends no changes at this time.

Separate guidelines for each of the semi-passive managers were established in 1988. In order to simplify the guidelines, staff recommends that the individual guidelines for semi-passive managers be consolidated into one format.

The Committee concurs with both recommendations regarding the guidelines. Copies of the current guidelines are attached.

ACTION ITEMS:

1) Review of Manager Performance

Manager performance during the quarter was favorable. Each active and semi-passive manager exceeded or equaled its benchmark for the quarter. Overall, the managers exceeded their aggregate benchmarks and the broad market for the period (Managers 3.0%, Aggregate Benchmarks 2.7%, Salomon BIG 2.6%). The current manager group exceeded the aggregate benchmark and the market for the past year and the last five years.

The value of active management (VAM) reports for the active bond managers are at the end of this tab section. In aggregate, the active managers had a longer duration than the market over a period when interest rates fell. This accounted for the above market returns during the quarter.

At its meeting in March 1991, the Board placed Western Asset on probation due to the departure of the SBI's portfolio manager. Since that time, staff have reviewed the situation and met with Western personnel to assess the impact of the change. Staff is comfortable with the new portfolio manager and believes the personnel change will not significantly offset the SBI's portfolio.

RECOMMENDATION:

The Committee recommends that the SBI remove Western Asset from probationary status.

2) Contract Renewals

Contracts for all the current bond managers expire on June 30, 1991. At present, each manager meets the qualitative and quantitative criteria set forth in the SBI's Manager Continuation Policy.

RECOMMENDATION:

The Committee recommends that the SBI authorize the Executive Director, with assistance from SBI's legal counsel, to negotiate and execute one year contract extensions with the following firms subject to the standard 30-day termination provision:

- Fidelity Management Trust
- Investment Advisers, Inc.
- Lehman Ark Management Company, Inc.
- Lincoln Capital Management
- Miller, Anderson & Sherrerd
- Western Asset Management

DETAILED REVIEW OF

MILLER ANDERSON & SHERRERD

EXTERNAL MANAGER DETAIL

MILLER ANDERSON & SHERRERD

I. ORGANIZATION

A. Ownership

The fourteen principals control 100 percent and own 81.7 percent of Miller Anderson and Sherrerd. All are active in the daily management of the firm. In January 1988, the Long-Term Credit Bank of Japan acquired an 18.3 percent interest in the firm. As limited partners, they have no role in either the investment process or management of the firm.

B. Professional Staff

Miller has seven fixed income portfolio managers and two fixed income analysts. Thomas L. Bennett has managed the SBI's portfolio since inception of the account.

C. Fixed Income Assets Under Management

Year	Accounts	Assets (000,000)
1990	105	$13,062
1989	102	$13,901
1988	91	$ 9,399
1987	78	$ 8,783
1986	61	$ 5,673
1985	55	$ 4,254
1984	40	$ 2,534

Miller has shown rapid account growth and has handled this increase by hiring three portfolio managers in 1987, two fixed income analysts in 1988, and one portfolio manager in 1989.

D. Personnel Turnover

The only changes in fixed income personnel are the six hirings shown in Exhibit 1.

II. INVESTMENT PHILOSOPHY

A. Stated Philosophy

Miller's philosophy is based on the belief that risks confronting fixed income investors -- credit, event, prepayment, yield curve and purchasing power -- vary with the business and interest rate cycle. Miller believes these risks can be quantified and exploited using value investing.

To Miller, value investing involves purchasing cheap securities and holding them until their relative value changes, or until Miller identifies other securities which are better values than those in the portfolio. Miller has a long term perspective and is willing to purchase a core portfolio that represents the best value in the market, even if that value may not be recognized in the near future. Miller also believes portfolios should be diversified in terms of exposures to specific fixed income risks, eg. to reduce the risk within the mortgage sector, they diversify using a variety of mortgage subsectors.

Although value based investing is the most important part of Miller's investment philosophy, Miller's outlook for inflation or interest rates is also important. Miller varies the portfolio's duration based on its interest rate judgement.

Finally, Miller believes in investing the majority of the portfolio in intermediate maturity securities. According to Miller, intermediate securities provide returns equivalent to long maturity securities with less volatility and provide adequate protection from deflation. The firm believes that when compared to short duration securities, the superior return of the intermediates more than compensates for their increased volatility.

B. Investment Process

Miller manages all portfolios as a team. Portfolio managers are responsible for individual sectors of the portfolio. For instance, one portfolio manager is responsible for mortgage securities. Senior partners determine overall duration and portfolio composition. These areas of portfolio management are all driven by Miller's belief in value management.

Miller begins their value search by analyzing U.S. Treasury securities at each point on the yield curve. They also use the yield curve to determine the option adjusted yield (see Exhibit 2 for definition of option adjusted yield) of corporate and mortgage securities. Miller estimates the return for each security based on the prevailing yield curve for 6 and 12 month holding periods. They also forecast security returns due to both parallel and non-parallel yield curve shifts.

The above analysis allows Miller to determine value along the yield curve and to determine which corporate and mortgage-backed securities should provide risk-adjusted returns superior to Treasury securities. The initial screens used to identify the most attractive corporate and mortgage-backed securities include:

1. The yield-to-maturity (or expected life), the option-adjusted yield and yield spreads;

2. The history of the security's yield and option-adjusted yield to determine whether it is cheap or rich versus historical patterns;

3. The credit risk, volatility risk, prepayment risk, and term structure risk (including duration) associated with the security.

Miller uses its own models to value the embedded options in callable and putable securities as well as the models of various fixed income dealers. While factors relating to the quantitative portion of their analysis tend to change slowly over time, the firm modifies its qualitative portion of the process based on its judgement about the future levels of interest rates and inflation as well as the impact that such developments will have on credit quality, yield spreads, the exercise of embedded options, and the shape of the yield curve.

Miller's selection process eliminates a large number of sectors or securities due to unattractive option adjusted yield and yield spreads. The firm frequently finds the security with the highest yield-to-maturity has a low option-adjusted yield, while the security with a low yield-to-maturity has a high option-adjusted yield and yield spread. Miller's credit analysis further reduces the number of securities or areas they view as attractive. Mortgage-backed securities and derivative products such as collateralized mortgage obligations must be analyzed in greater depth and on a case-by-case basis due to the importance of their specific structure on value.

C. Implementation of Philosophy

Miller has generally followed its stated investment philosophy. The value investing philosophy has led the firm to make significant investments in mortgage-backed securities (see Exhibit 3). Mortgages have been the best performing sector of the market since Miller was hired. Additionally, they have overweighted corporates which also outperformed Treasury securities (see Exhibit 3).

Miller has invested mainly in intermediate securities with their duration ranging between 3.0 and 5.5 years the majority of the time.

III. BENCHMARK

Unlike all of the SBI's other active bond managers, Miller does not have a customized benchmark and uses the Salomon Broad Investment Grade Index as its benchmark. Miller does not have a custom benchmark because the firm believes it is a value investor, leading it to invest in the best performing market sectors. Miller believes a customized benchmark would restrict its style and not allow it to invest in the best performing sectors.

Since they were hired, the best value has been in the mortgage sector and Miller has been overweighted in this sector. However, Miller does not believe they should have a benchmark overweighted in mortgages because this sector may not always add the most value.

IV. PERFORMANCE ANALYSIS

Since the Salomon BIG is used as a benchmark, the section on benchmark explanatory power included in the analysis of other active managers is excluded. In other analyses, staff reviewed how portfolio returns compared to the benchmark and the broad market. Since Miller's benchmark is the broad market, such an analysis is irrelevant. The sections on portfolio performance relative to the benchmark and performance attribution are still included.

A. Performance Relative to the Benchmark

Portfolio performance is shown in Exhibit 4 and illustrated by the VAM chart in Exhibit 5. The VAM chart shows that Miller's performance is not statistically different from benchmark returns and the returns are slightly less than the benchmark (13.0% actual, 13.4% benchmark, annualized).

The accuracy of both Miller's actual performance and the VAM charts derived from the data can be questioned due to pricing problems of mortgage securities like CMOs and non-agency mortgage securities in Miller's portfolio. This is illustrated by Exhibit 6 which shows Miller's portfolio quality distribution. The large percentage of non-rated securities is composed of non-agency mortgage securities that are not rated by a nationally recognized rating agency but are considered investment grade. Miller grades the securities by determining the loan to value ratio. (The non-rated securities are pools of mortgages 15 to 17 years old. The homes have appreciated in value making default unlikely.)

The SBI relies on its Master Custodian, State Street Bank, to price all fixed income securities. Miller values the mortgage securities differently than State Street. Miller uses dealer quotes to establish prices while State Street uses Miller's pricing or estimates values. The difference in returns shows that State Street has not always used Miller's values.

Using Miller's prices, Miller matches benchmark returns with a lower VAM standard deviation. This lower standard deviation suggests that the returns used by Miller track the benchmark better than the returns used by the SBI. The following table compares returns and VAM standard deviation through 2/28/91 using State Street and Miller pricing.

Pricing Source	Annualized Return	VAM Standard Deviation
State Street	12.94%	1.04%
Miller	13.49%	0.49%

These pricing problems affect the returns used to evaluate Miller and other bond managers who hold a large percentage of mortgage securities. Due to these pricing problems, the validity of statistical data used to evaluate bond managers must be questioned.

B. Portfolio Performance Attribution

Precise fixed income performance attribution is difficult due to pricing problems inherent in bond portfolios. However, past portfolio characteristics indicate that Miller tried to add value through sector allocation and by adjusting duration to take advantage of interest rate moves.

Value Added through Sector Allocation

As shown in Exhibit 3, Miller has been overweighted significantly in mortgages and slightly in corporates since the firm was hired. This helped performance since the mortgage and corporate sectors' annualized returns were 14.85% and 14.39% respectively while the government sector returned 12.53% since July, 1984.

Except for a period in 1988, Miller always overweighted the mortgage sector. Unlike corporate securities that are available at all maturities, mortgages are primarily an intermediate security. Therefore, mortgage sector returns should be compared to intermediate Treasury securities. Staff compared returns for the mortgage sector with both the 3-7 and 7-10 year Treasury securities. The mortgage sector outperformed both.

	Mort.	Treas. 3-7 yr.	Treas. 7-10 yr.
Return 7/84 -3/90	14.85%	12.52%	14.23%
Duration Avg 1/87-9/90	4.29 yr.	3.69 yr.	5.80 yr.

The table also shows that the mortgage duration is closer to 3-7 year maturity treasury securities duration. However, since its duration is longer than the 3-7 year treasury duration, the mortgage sector should also be compared to the 7-10 year maturity securities. During this time period, interest rates fell so longer duration securities should have had the highest returns.

When interest rates decline, mortgage securities will not necessarily outperform shorter duration securities. If interest rates decline substantially, homeowners refinance and cut principal gain to bond holders. This happened in 1986 when mortgage returns lagged the Treasury returns. Miller's overweighting in mortgages hurt their performance during this period.

Exhibits 7 and 8 show Miller's relative mortgage holdings (actual/benchmark) at the beginning of each quarter and the difference between mortgage and Treasury returns for that quarter. These graphs show that in general, Miller's performance was enhanced by the overweighting in mortgages. However, Miller's overweighting in 1986 and underweighting in 1988 lowered performance.

Performance attributable to Miller's corporate allocation is much harder to evaluate. Unlike mortgages, corporates are not just an intermediate security. Therefore, even when the corporate sector outperforms the Treasury sector, a corporate subsector may not outperform the equivalent Treasury subsector.

For instance, in 1985 and 1986, the overall corporate market outperformed the Treasury market. However, Treasury securities outperformed corporates at nearly all maturities for both years (see Exhibit 9). Miller maintained its mortgage holdings each year and shifted the corporate holdings to the higher performing longer maturity Treasury securities. This lengthened duration and took advantage of falling interest rates. Therefore, the underweighting in corporates enhanced portfolio performance even though the overall corporate market outperformed the Treasury market during 1985 and 1986.

Overall, since the corporate market outperformed the Treasury market, Miller's overweighted average in this sector probably enhanced performance.

Value Added through Interest Rate Anticipation

Miller has tried to anticipate interest rate moves by adjusting duration. The duration of the portfolio has fluctuated within the allowable three to seven year range. Miller usually adjusted duration using cash. For instance in 1988, cash represented as much as 43% of the portfolio and portfolio duration was around three years.

Exhibit 10 shows the portfolio and benchmark/market durations along with the ten year spot rates. This exhibit shows how Miller's duration varies when compared to its benchmark and interest rates, assuming the ten year spot rates represent the direction and magnitude of all interest rate shifts. Exhibit 11 shows this information graphically.

Miller's duration decisions have both helped and hurt performance. For instance, interest rates declined in 1986 and Miller's duration was longer than the market. This enhanced portfolio performance. However, interest rates were also declining in 1984 and Miller's duration was shorter than the market. This hurt portfolio performance.

Overall Performance Attribution

It appears that Miller's overweighting of mortgage and corporate securities enhanced portfolio performance relative to the benchmark. However, according to State Street's security valuations, Miller has underperformed the market. Therefore, it appears that Miller's duration decisions have lowered portfolio returns.

V. History of SBI Action

- In July 1984, Miller received $150 million.
- In June 1988, $110 million was taken from Miller when the semi-passive managers were funded.

VI. CONCLUSION

Staff concludes that Miller should continue as an active fixed income manager until the fixed income segment of the Basic Retirement Funds is restructured. At that time, the firm's role in the SBI's fixed income program will be evaluated with all other potential managers.

EXHIBIT 1

ADDITIONS TO THE FIXED INCOME MANAGEMENT GROUP SINCE 1984:

1987	Herbert P. Evert	Fixed Income Portfolio Manager Partner, 1989
1987	Kenneth B. Dunn	Fixed Income Portfolio Manager Partner, 1989
1987	James L. Kickline	Fixed Income Portfolio Manager Partner, 1989
1988	Stephen F. Esser	Fixed Income Analyst
1988	Steven K. Kreider	Fixed Income Analyst
1989	H. Scott Miller	Fixed Income Portfolio Manager

EXHIBIT 2

Illustration of Option Adjusted Yield

A callable bond, such as a corporate or mortgage security, can be viewed as two separate securities with two distinct values:

1. A bond with no call feature.
2. A call option.

The following example illustrates the effect of the call option on yield.

20 year, 10% coupon bond
Callable after 5 years at 110.

Current Price: 100
Current yield: 10.00%

Price of callable bond	$100.00
+ Price of call option *	1.75
Price of bond without call	$101.75

Option adjusted yield declines because of the option value to 9.8%.

* option priced using option pricing model.

Source of example: The Handbook of Fixed Income Securities.

EXHIBIT 3

MILLER, ANDERSON SHERRERD
SECTOR DISTRIBUTION

(Percentages)

	GOVERNMENTS		MORTGAGES		CORPORATES		CASH EQUIVALENTS	
	Port	Bench	Port	Bench	Port	Bench	Port	Bench
1991								
Q1	39.0	53	41.3	29	16.6	18	3.1	0
1990								
Q4	39.4	53	45.0	29	14.0	18	0.5	0
Q3	42.4	53	37.7	29	18.5	18	1.4	0
Q2	19.2	54	47.7	28	32.7	18	0.5	0
Q1	23.7	54	47.6	28	26.2	18	2.4	0
1989								
Q4	10.1	55	60.0	27	25.9	19	4.0	0
Q3	5.4	55	54.4	26	29.4	19	10.8	0
Q2	8.9	54	37.9	26	31.7	19	21.5	0
Q1	3.8	54	33.9	26	33.9	19	28.4	0
1988								
Q4	0.0	54	29.6	26	26.6	20	43.8	0
Q3	1.3	54	29.7	26	27.0	20	41.9	0
Q2	16.1	55	19.1	26	31.4	19	33.4	0
Q1	21.5	55	23.6	26	36.3	19	18.6	0
1987								
Q4	37.8	56	23.5	25	30.5	19	8.3	0
Q3	43.8	56	24.4	24	26.1	20	5.8	0
Q2	36.7	57	31.0	24	27.6	19	4.8	0
Q1	38.4	57	30.6	22	14.1	21	16.9	0
1986								
Q4	38.5	58	37.7	21	16.0	21	7.9	0
Q3	22.1	59	62.6	21	14.5	20	0.8	0
Q2	23.8	59	61.4	20	14.7	21	0.1	0
Q1	43.8	60	47.7	20	12.0	20	1.1	0
1985								
Q4	44.2	61	44.5	19	11.1	20	0.2	0
Q3	23.6	61	60.9	19	15.2	20	0.4	0
Q2	21.0	61	60.8	19	17.8	20	0.5	0
Q1	3.2	61	53.4	19	37.2	20	6.1	0
1984								
Q4	7.3	61	55.8	19	36.9	20	0.0	0

EXHIBIT 4

PERFORMANCE COMPARISONS

Comparison of Actual Portfolio Performance
With Benchmark
(Benchmark is Salomon BIG)

		ACTUAL	BENCHMARK
1984	3Q	6.4%	8.6%
	4Q	6.3	7.5
		13.1%	16.8%
1985	1Q	2.5%	2.2%
	2Q	5.7	8.9
	3Q	4.3	2.0
	4Q	8.7	7.7
		22.9%	22.3%
1986	1Q	4.2%	7.9%
	2Q	0.2	1.1
	3Q	2.2	2.5
	4Q	10.3	3.3
		17.6%	15.4%
1987	1Q	2.8%	1.3%
	2Q	-1.6	-1.6
	3Q	-3.6	-2.8
	4Q	6.3	5.8
		3.7%	2.6%
1988	1Q	3.6%	3.8%
	2Q	1.5	1.2
	3Q	1.9	2.0
	4Q	1.6	0.8
		8.8%	8.0%
1989	1Q	1.4%	1.2%
	2Q	4.4	7.9
	3Q	0.4	1.0
	4Q	3.4%	3.7
		9.9%	14.4%
1990	1Q	-0.7%	-0.8%
	2Q	3.8	3.6
	3Q	-0.5	1.0
	4Q	6.1	5.1
		8.8%	9.1%
1991	1Q	3.2%	2.6%
Cumulative		127.7%	134.0%
Annualized		13.0%	13.4%

EXHIBIT 5

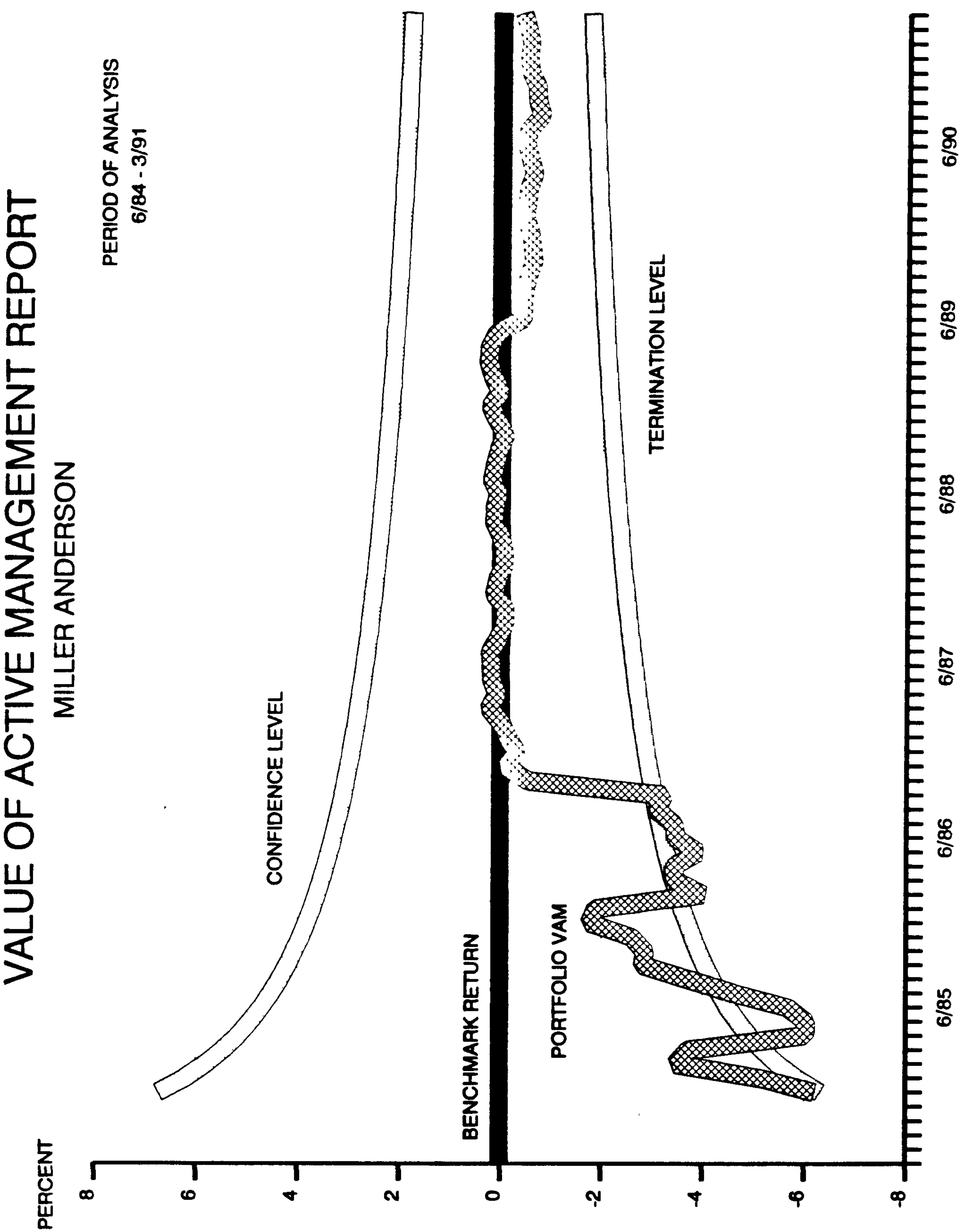

VALUE OF ACTIVE MANAGEMENT REPORT
MILLER ANDERSON
PERIOD OF ANALYSIS
6/84 - 3/91
CONFIDENCE LEVEL
BENCHMARK RETURN
PORTFOLIO VAM
TERMINATION LEVEL
PERCENT
8
6
4
2
0
-2
-4
-6
-8
6/85
6/86
6/87
6/88
6/89
6/90
VALUE OF ACTIVE MANAGEMENT

EXHIBIT 6

MILLER, ANDERSON SHERRERD
QUALITY DISTRIBUTION

(Percentages)

	AAA/AGY/CASH	AA	A	BAA	NOT RATED
1991					
Q1	69.4	0.0	14.2	3.6	12.8
1990					
Q4	74.0	2.4	7.3	2.7	13.6
Q3	69.4	2.4	9.3	4.4	14.5
Q2	56.1	6.9	16.4	5.7	14.9
Q1	60.4	4.5	14.1	5.1	15.9
1989					
Q4	61.3	5.5	11.6	5.1	16.5
Q3	57.0	6.9	12.9	5.8	17.4
Q2	45.8	11.2	15.8	9.0	18.2
Q1	37.4	11.4	22.9	9.2	19.1
1988					
Q4	39.6	10.5	19.2	10.6	20.1
Q3	37.6	7.7	21.2	12.2	21.3
Q2	50.2	9.6	16.0	19.5	14.7
Q1	63.2	6.0	7.4	7.8	15.6
1987					
Q4	64.7	5.8	7.8	5.1	16.6
Q3	65.4	4.5	8.3	5.4	16.4
Q2	67.5	1.8	10.3	6.5	13.9
Q1	75.5	1.3	3.5	5.2	14.5
1986					
Q4	68.0	5.2	5.7	5.6	15.5
Q3	68.0	5.3	4.8	5.7	16.2
Q2	68.2	5.6	4.1	5.3	16.8
Q1	70.4	1.5	4.7	5.3	18.1
1985					
Q4	69.8	1.2	5.6	4.2	19.2
Q3	64.6	1.2	8.6	4.2	21.4
Q2	62.7	2.7	8.1	4.2	22.3
Q1	52.3	14.6	9.9	4.5	18.7
1984					
Q4	61.8	5.4	12.1	4.6	16.1
Q3	86.8	3.1	4.6	2.4	3.1

EXHIBIT 7

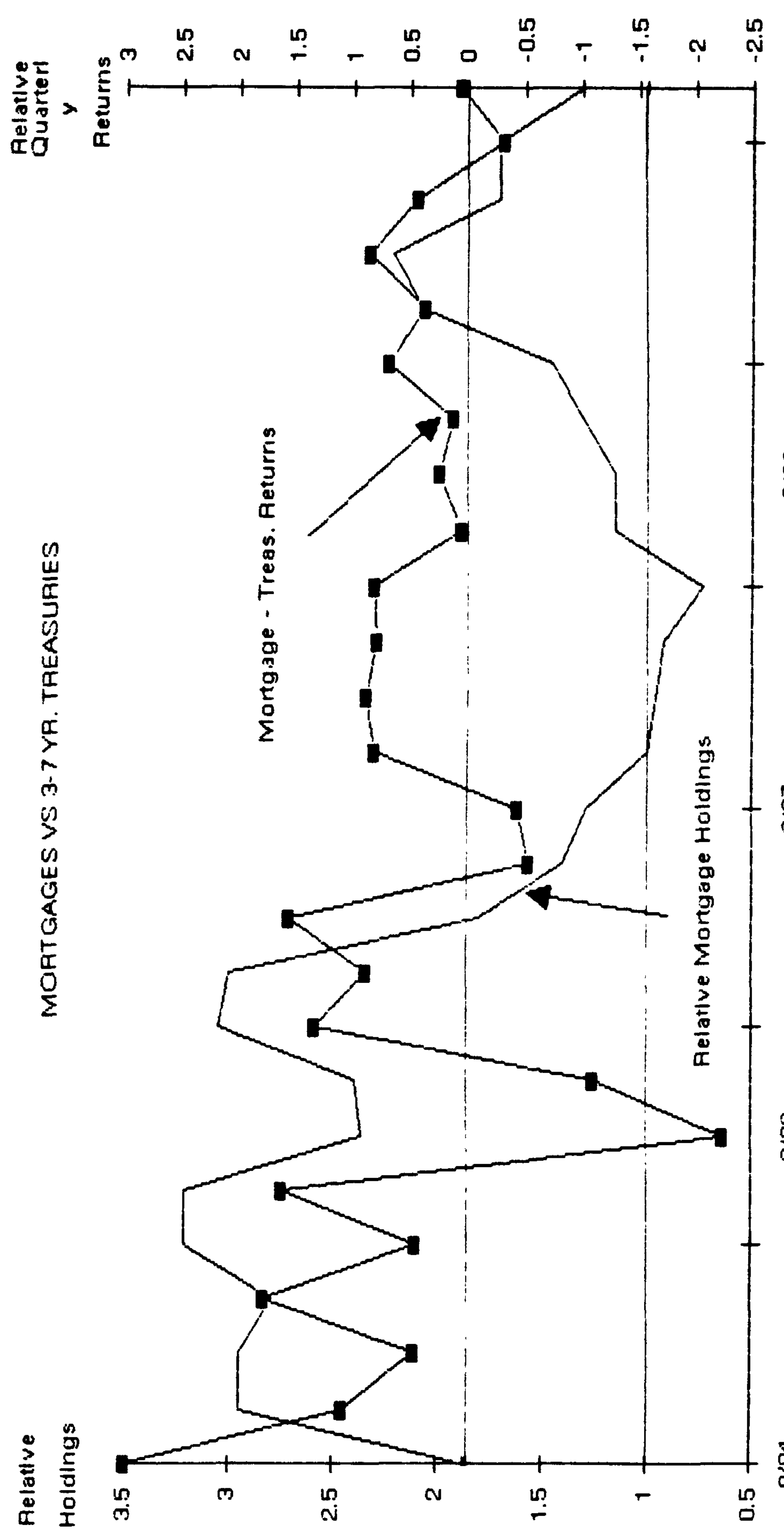
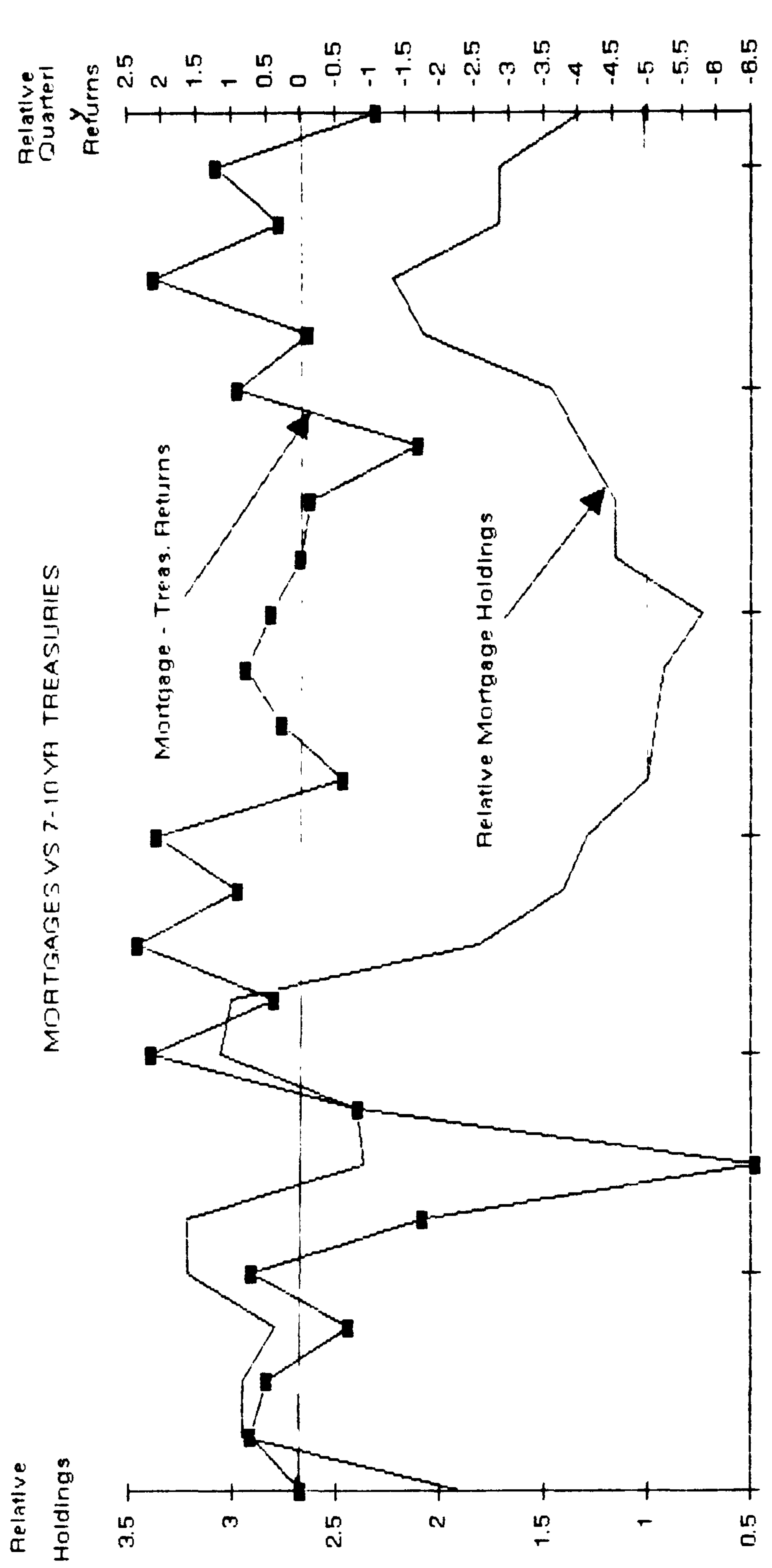

MORTGAGES VS 3-7 YR. TREASURIES
Relative Quarterl y Returns
3
2.5
2
1.5
1
0.5
0
-0.5
-1
-1.5
-2
-2.5
Relative Holdings
3.5
3
2.5
2
1.5
1
0.5
Mortgage - Treas. Returns
Relative Mortgage Holdings
9/84
3/86
9/87
3/89
9/90

EXHIBIT 8



MORTGAGES VS 7-10YR TREASURIES
Relative Holdings
Relative Quarterly Returns
Mortgage - Treas. Returns
Relative Mortgage Holdings
9/84
3/86
9/87
3/89
9/90

EXHIBIT 9

MILLER, ANDERSON SHERRERD
SECTOR RETURNS

(Percentage)

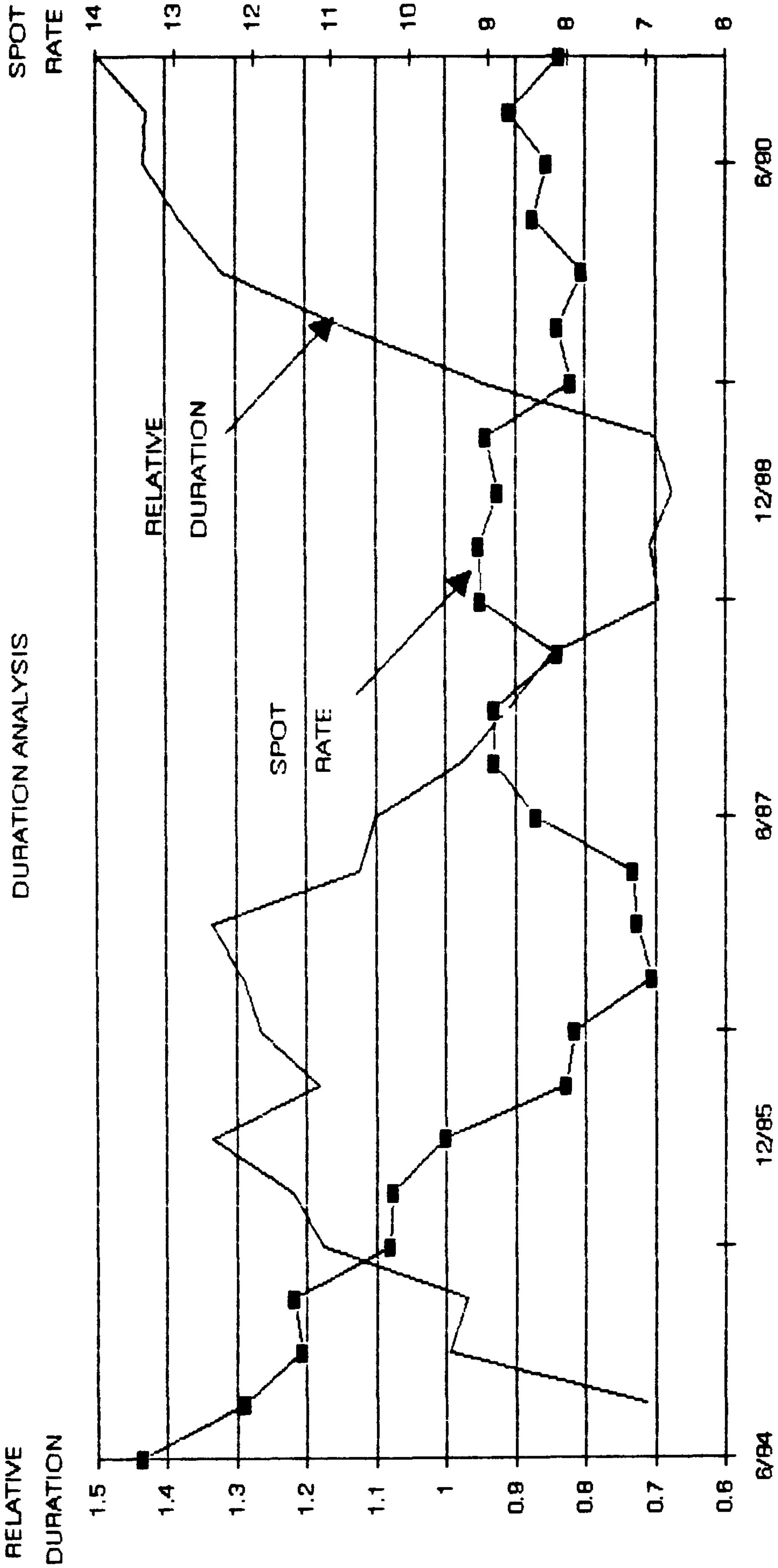
MATURITY	1-3 YEARS		3-7 YEARS		7-10 YEARS		10 + YEARS		TOTAL	
YEAR	TREAS	CORP	TREAS	CORP	TREAS	CORP	TREAS	CORP	TREAS	CORP
1985	13.92%	13.88%	20.73%	18.30%	27.01%	23.02%	31.53%	29.24%	20.95%	24.93%
1986	10.23	11.43	14.68	13.45	18.63	15.83	24.06	19.25	15.73	17.03

EXHIBIT 10

MILLER, ANDERSON SHERRERD
DURATION VS. SPOT RATE

	10 YEAR SPOT RATE	PORTFOLIO DURATION	BENCHMARK/ MARKET DURATION
1991			
Q1	8.00%	7.0 Years	4.60 Years
1990			
Q4	8.04%	6.9	4.61
Q3	8.74	6.7	4.69
Q2	8.27	6.6	4.61
Q1	8.44	6.3	4.56
1989			
Q4	7.81	6.0	4.55
Q3	8.12	5.2	4.55
Q2	7.95	4.2	4.45
Q1	9.04	3.1	4.42
1988			
Q4	8.89	3.0	4.44
Q3	9.12	3.1	4.39
Q2	9.11	3.1	4.46
Q1	8.12	3.8	4.49
1987			
Q4	8.94	4.1	4.50
Q3	8.93	4.4	4.50
Q2	8.41	4.9	4.45
Q1	7.17	4.7	4 18
1986			
Q4	7.13	5.5	4.12
Q3	6.94	5.4	4 19
Q2	7.91	5.3	4.19
Q1	8.03	4.7	3.98
1985			
Q4	9.55	5.3	3 97
Q3	10.23	4.9	4.02
Q2	10.27	4.7	4.00
Q1	11.50	3.8	3.92
1984			
Q4	11.39	4.3	4.32
Q3	12.11	3.0	4.21

EXHIBIT 11


DURATION ANALYSIS
RELATIVE DURATION
SPOT RATE
RELATIVE DURATION
SPOT RATE
1.5
1.4
1.3
1.2
1.1
1
0.9
0.8
0.7
0.6
14
13
12
11
10
9
8
7
6
6/84
12/85
6/87
12/88
6/90

MINNESOTA STATE BOARD OF INVESTMENT

INVESTMENT GUIDELINES
EXTERNAL ACTIVE FIXED INCOME MANAGERS

The investment actions of State Board of Investment (SBI) external active fixed income managers will be governed and evaluated by the following guidelines:

1. RISK/RETURN OBJECTIVES

Each fixed income manager will be expected to produce portfolios which differ from the manager's benchmark portfolio in a manner consistent with their investment philosophy. These differences will be monitored on the key areas of duration, sector weighting, industry weighting, and coupon and company selection.

Over time, each fixed income manager will be expected to deliver cumulative annualized returns after fees 25 to 50 basis points above a predetermined benchmark portfolio return. Excess returns should be commensurate with portfolio risk as measured by annualized standard deviation.

2. ELIGIBLE INVESTMENTS

Each manager must provide and maintain a customized benchmark (normal) portfolio, agreed upon by both manager and SBI, for the purpose of performance evaluation and risk measurement. The benchmark portfolio provided by the manager must satisfy the following characteristics:

(a) **Unambiguous.** The sectors and weights of sectors comprising the benchmark are clearly delineated.

(b) **Investable.** The option is available to forego active management and simply hold the benchmark portfolio.

(c) **Measurable.** It is possible to calculate the benchmark's return on a monthly basis.

(d) **Appropriate.** The benchmark is consistent with the manager's investment style or biases.

(e) **Reflective of current investment opinions.** The manager has current investment opinions (be they positive, negative, or neutral) on the securities which make up the benchmark.

(f) **Specified in advance.** The benchmark must be available prior to the start of an evaluation period.

3. INVESTMENT PARAMETERS

The investment managers may hold fixed income instruments, fixed income index options and futures, and cash equivalents. The investments of each manager must satisfy the following criteria and constraints:

(a) Government obligations of the U.S., its agencies, Canada, its provinces, or U.S. sponsored organizations must be payable in U.S. dollars and comply with the provisions of SBI investment guidelines 11A.24 subdivision 2.

(b) U.S. and Canadian corporate obligations must be payable in U.S. dollars, be rated among the top four quality categories by a nationally recognized rating agency, and comply with all provisions of 11A.24 subdivision 3.

(c) Other obligations not specified in (a) or (b) must meet the provisions of 11A.24 subdivision 4.

(d) The use of fixed income index futures and options requires a separate commodities trading agreement between the SBI, manager, and CFTC clearing broker prior to commencement of trading.

(e) Total portfolio duration must stay within a 3 to 7 year band.

(f) Cash equivalent reserves shall be invested in the SBI's STIF fund, managed by its custodian bank.

Investment managers are not constrained regarding:

(1) transaction turnover
(2) use of covered call options as hedging devices
(3) liquidity requirements
(4) number of fixed income issues which must be held at any given point in time
(5) the percentage of assets held in cash reserves (subject to constraint(e))
(6) the use of fixed income index futures or options to adjust the effective total portfolio duration from 3 to 7 years.

4. PERFORMANCE EVALUATION

Manager performance will be evaluated according to the guidelines established in the SBI's Manager Continuation Policy. These guidelines assist the SBI in its decisions concerning retention and termination of investment managers.

5. COMMUNICATION

The SBI requires its investment managers to communicate with SBI staff on a regular basis.

(a) On a semi-annual basis, managers will meet with staff to review the results of the manager's investment decision-making process. In reviewing past and current investment strategies and performance, the manager is expected to present the analysis relative to the benchmark portfolio.

(b) On quarters between meetings, managers will call the SBI staff to review the results of the manager's investment decision-making process.

(c) On a monthly basis, managers will provide SBI staff with a status report pertaining to the status of accounts, assets under management, and relevant personnel and ownership changes.

6. FUTURE MODIFICATIONS

The SBI reserves the right to modify these investment guidelines at any time to insure that the managers, both individually and collectively, are in compliance with Minnesota statutes and SBI policy. Managers will be notified in advance of changes to the investment guidelines.

Revised: May 1989

MINNESOTA STATE BOARD OF INVESTMENT

LINCOLN CAPITAL
INVESTMENT GUIDELINES
EXTERNAL PASSIVE FIXED INCOME MANAGERS

The investment actions of Lincoln Capital for the Minnesota State Board of Investment (SBI) will be governed and evaluated by the following guidelines:

1. RISK/RETURN OBJECTIVES

The SBI expects Lincoln to develop and manage the index portfolio with characteristics similar to the Salomon Broad Investment Grade (BIG) index. The specific manager risk tolerances are specified below in the section on investment parameters. These parameters should generate only moderate tracking errors from index performance and are consistent with an enhanced index strategy.

The management objective is to provide a return above the Salomon index performance. The manager will be expected to generate returns of 10 to 25 basis points above the BIG index return on an annual basis.

2. ELIGIBLE INVESTMENTS

The investment managers may hold fixed income instruments, fixed income index options and futures, and cash equivalents. The investments of each manager must satisfy the following criteria and constraints:

(a) Government obligations of the U.S., its agencies, Canada, its provinces, or U.S. sponsored organizations must be payable in U.S. dollars and comply with the provisions of SBI investment guidelines 11A.24 subdivision 2.

(b) U.S. and Canadian corporate obligations must be payable in U.S. dollars, be rated among the top four quality categories by a nationally recognized rating agency, and comply with all provisions of 11A.24 subdivision 3.

(c) Other obligations not specified in (a) or (b) must meet the provisions of 11A.24 subdivision 4.

(d) The use of fixed income index futures and options requires a separate commodities trading agreement between the SBI, manager, and CFTC clearing broker prior to commencement of trading.

Investment managers are not constrained regarding:

(1) transaction turnover
(2) use of covered call options as hedging devices
(3) liquidity requirements
(4) number of fixed income issues which must be held at any given point in time

3. INVESTMENT PARAMETERS

The investment guidelines are expressed as "risk exposures." A risk exposure is the expected return differential between our portfolio and the index resulting from a 100 basis point change in any one of 54 variables. These variables include yield curve segments, total portfolio duration, quality spreads, sector spreads, coupon spreads, and mortgage issuer spreads. The guidelines are:

Risk Exposure

Description of Risk Variable	Sectors	Variables	Exposure
Individual Yield Curve Segment	Govt/Corp	20	.05
Group Yield Curve Segment	Govt/Corp	4	.03
Level of Yields	Govt/Corp/Mtg	1	.03
Coupon Spreads	Govt/Corp	2	.15
Individual Agency Spreads	Government	4	.15
Individual Corporate Quality Spreads	Corporate	4	.15
Individual Corporate Sector Spreads	Corporate	9	.15
Aggregate Corporate Spread Risk	Corporate	1	.30
Mortgage Coupon Sectors	Mortgage	3	.30
Mortgage Issuer Sectors	Mortgage	2	.30
Mortgage Maturity Sectors	Mortgage	3	.30
		54	

Index Duration

Salomon Broad Investment Grade Duration ± .10 year

4. COMMUNICATION

The SBI requires its investment managers to communicate with SBI staff on a regular basis.

(a) On a semi-annual basis, managers will meet with staff to review the results of the manager's investment decision-making process. In reviewing past and current investment strategies and performance, the manager is expected to present the analysis relative to Salomon BIG index.

(b) On quarters between meetings, managers will call the SBI staff to review the results of the manager's investment decision-making process.

(c) On a monthly basis, managers will provide SBI staff with a status report pertaining to the status of accounts, assets under management, and relevant personnel and ownership changes.

5. FUTURE MODIFICATIONS

The SBI reserves the right to modify these investment guidelines at any time to insure that Lincoln is in compliance with Minnesota statutes and SBI policy. Lincoln will be notified in advance of changes to the investment guidelines.

Revised: May 1989

MINNESOTA STATE BOARD OF INVESTMENT

FIDELITY MANAGEMENT TRUST
INVESTMENT GUIDELINES
EXTERNAL PASSIVE FIXED INCOME MANAGERS

The investment actions of Fidelity Management Trust for the Minnesota State Board of Investment (SBI) will be governed and evaluated by the following guidelines:

1. RISK/RETURN OBJECTIVES

The SBI expects Fidelity to develop and manage the index portfolio with characteristics similar to the Salomon Broad Investment Grade (BIG) index. The specific manager risk tolerances are specified below in the section on investment parameters. These parameters should generate only moderate tracking errors from index performance and are consistent with an enhanced index strategy.

The management objective is to provide a return above the Salomon index performance. The manager will be expected to generate returns of 10 to 25 basis points above the BIG index return on an annual basis.

2. ELIGIBLE INVESTMENTS

The investment managers may hold fixed income instruments, fixed income index options and futures, and cash equivalents. The investments of each manager must satisfy the following criteria and constraints:

(a) Government obligations of the U.S., its agencies, Canada, its provinces, or U.S. sponsored organizations must be payable in U.S. dollars and comply with the provisions of SBI investment guidelines 11A.24 subdivision 2.

(b) U.S. and Canadian corporate obligations must be payable in U.S. dollars, be rated among the top four quality categories by a nationally recognized rating agency, and comply with all provisions of 11A.24 subdivision 3.

(c) Other obligations not specified in (a) or (b) must meet the provisions of 11A.24 subdivision 4.

(d) The use of fixed income index futures and options requires a separate commodities trading agreement between the SBI, manager, and CFTC clearing broker prior to commencement of trading.

Investment managers are not constrained regarding:

(1) transaction turnover

(2) use of covered call options as hedging devices
(3) liquidity requirements
(4) number of fixed income issues which must be held at any given point in time

3. INVESTMENT PARAMETERS

Sector Weighting Guidelines

	Percent in Salomon BIG Index (3/31/89)	Deviations/Range
Treasury	46.7%	± 15%
Agency	7.9	± 5
Corporates	18.4	± 5
Yankees	0.8	0, +5 (i.e. zero holdings is minimum)
Mortgage-Backed Securities	26.2	± 7.5

Yield Curve Guidelines (Governments Only)

Maturity years 0-4.99	29.8%	± 5%
4.99 - 9.99	11.8	± 10
10+	13.0	± 5

Corporate Credit Guidelines

AAA	2.7	0, +2.5% (i.e. zero holding is acceptable)
AA	6.2	± 5
A	6.0	± 5
BBB	4.3	0, +5 (i.e. zero holding is acceptable)

Proposed Holdings of Securities Outside Index

Other Securities (e.g. Futures, Options, Strips, CMOs, Medium-Term Notes, Deposit Notes, private mortgage pass-throughs)	0.0	+ 25%

Index Duration

Salomon Brothers Board Investment Grade Duration ± .10 year

4. COMMUNICATION

The SBI requires its investment managers to communicate with SBI staff on a regular basis.

(a) On a semi-annual basis, managers will meet with staff to review the results of the manager's investment decision-making process. In reviewing past and current investment strategies and performance, the manager is expected to present the analysis relative to the Salomon BIG index.

(b) On quarters between meetings, managers will call the SBI staff to review the results of the manager's investment decision-making process.

(c) On a monthly basis, managers will provide SBI staff with a status report pertaining to the status of accounts, assets under management, and relevant personnel and ownership changes.

5. FUTURE MODIFICATIONS

The SBI reserves the right to modify these investment guidelines at any time to insure that Fidelity is in compliance with Minnesota statutes and SBI policy. Fidelity will be notified in advance of changes to the investment guidelines.

Revised: May 1989

BOND MANAGERS

First Quarter 1991

Fixed income manager returns are evaluated against the performance of customized indices constructed to represent the managers' specific investment approaches. These custom indices are commonly referred to as "benchmark portfolios." The benchmark portfolios factor in bond market influences that at times favorably or unfavorably impact certain investment styles. Thus, benchmark portfolios are the appropriate standards against which to judge the managers' performance.

Manager performance relative to benchmarks is evaluated on a quarterly basis by the Fixed Income Manager Committee of the Investment Advisory Council.

Staff Recommendations
Staff recommends the following actions concerning manager status:

- Remove Western from probation.
- Renew annual contracts for all managers.

Current Managers	Total Market Value 3/31/90 (Thousands)	Quarter Ending 3/31/90 Actual	Bmrk	Year Ending 3/31/90 Actual	Bmrk	Annualized Five Years Ending 3/31/90 Actual	Bmrk	Percent of Bond Segment 3/31/90 Basic Funds
IAI	$ 123,997	2.4%	2.3%	13.3%	12.8%	8.5%	8.6%	6.6%
Lehman Ark	110,237	2.5	2.5	11.9	12.2	8.4	8.5	5.9
Miller Anderson	198,438	3.2	2.6	13.0	12.8	9.5	8.7	10.6
Western Asset	394,197	3.4	3.0	13.2	12.9	9.6	8.9	21.0
Fidelity*	536,737	3.3	2.6	13.4	12.8			28.6
Lincoln*	511,639	2.6	2.6	12.8	12.8			27.3
Aggregate **		3.0	2.7	13.1	12.8	9.2	8.7	100.0
Salomon Broad Investment Grade Index		2.6%		12.8%		8.7%		

* Semi-passive manager
** Historical performance reflects composite of current managers only.

INVESTMENT ADVISERS

PORTFOLIO MANAGER: Larry Hill

ASSETS UNDER MANAGEMENT: $123,996,661

INVESTMENT PHILOSOPHY

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

QUALITATIVE EVALUATION
(Reported By Exception)

The current evaluation notes the following:

- No current concerns.

QUANTITATIVE EVALUATION

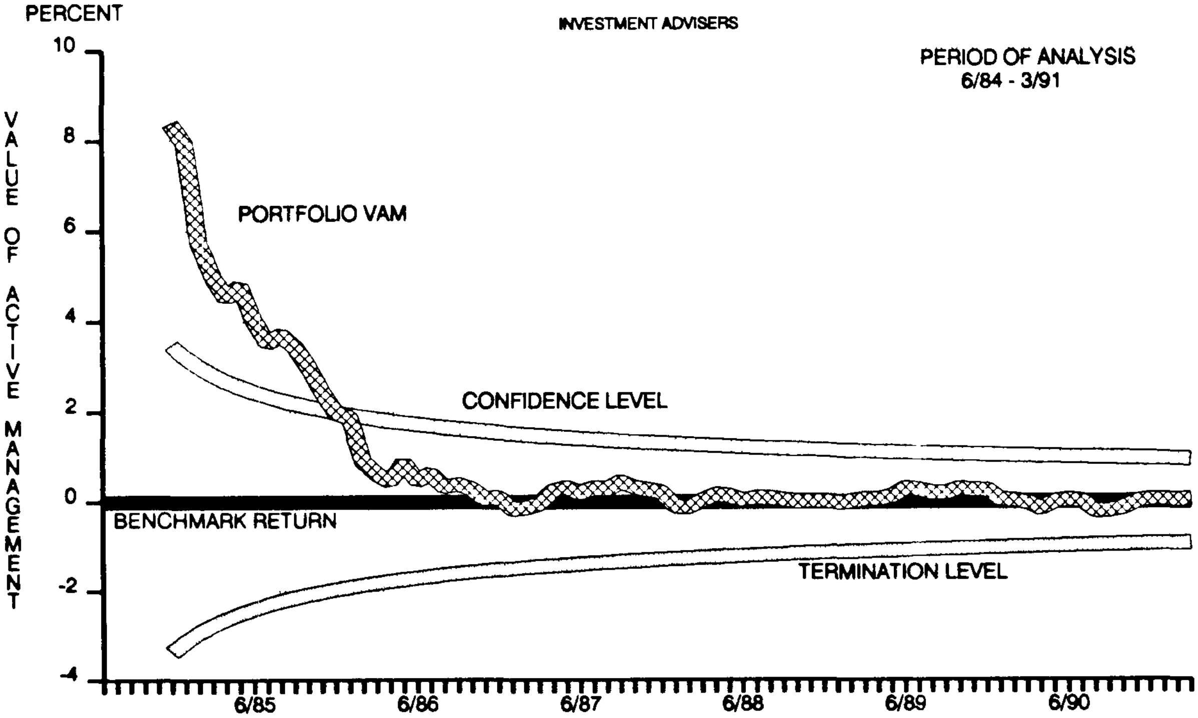
	Latest Qtr.	Latest 1 Yr.	Latest 5 Yrs.	Since 7/1/84
Actual Return	2.4%	13.3%	8.5%	13.4%
Benchmark	2.3	12.8	8.6	13.4

STAFF RECOMMENDATIONS

Renew annual contract for period beginning 7/1/91.

VALUE OF ACTIVE MANAGEMENT REPORT

INVESTMENT ADVISERS



LEHMAN ARK MANAGEMENT

PORTFOLIO MANAGER: Kevin Hurley **ASSETS UNDER MANAGEMENT: $110,237,034**

INVESTMENT PHILOSOPHY

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

QUALITATIVE EVALUATION
(Reported By Exception)

The current evaluation notes the following:

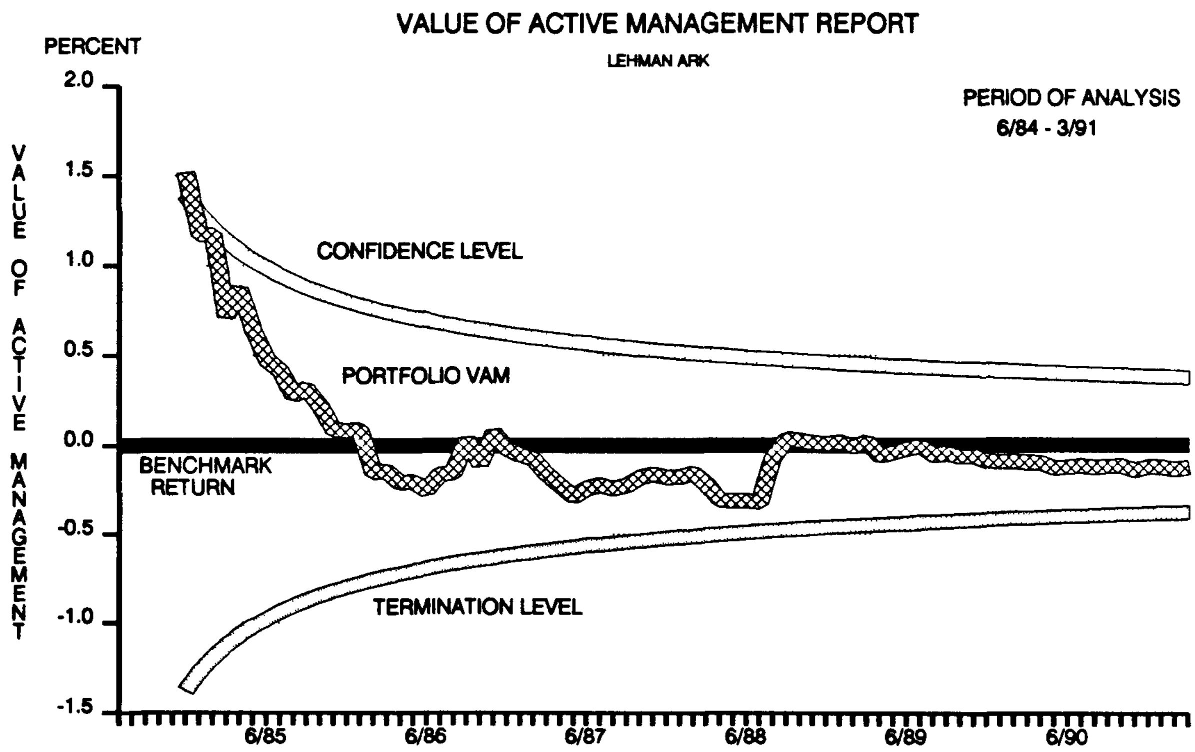
- The firm has used an index-like approach in its management of the portfolio and has made relatively few active bets.

QUANTITATIVE EVALUATION

	Latest Qtr.	Latest 1 Yr.	Latest 5 Yrs.	Since 7/1/84
Actual Return	2.5%	11.9%	8.4%	12.4%
Benchmark	2.5	12.2	8.5	12.5

STAFF RECOMMENDATIONS

Renew annual contract for period beginning 7/1/91.



MILLER ANDERSON

PORTFOLIO MANAGER: Tom Bennet **ASSETS UNDER MANAGEMENT: $198,437,711**

INVESTMENT PHILOSOPHY

Miller Anderson focuses its investments in misunderstood or under-researched classes of securities. Over the years this approach has led the firm to emphasize mortgage-backed and specialized corporate securities in its portfolios. Based on its economic and interest rate outlook, the firm establishes a desired maturity level for its portfolios. Changes are made gradually over an interest rate cycle and extremely high cash positions are never taken. Total portfolio maturity is always kept within an intermediate three-to-seven year duration band. Unlike other firms that invest in mortgage securities, Miller Anderson intensively researches and, in some cases, manages the mortgage pools in which it invests.

QUALITATIVE EVALUATION
(Reported By Exception)

The firm's strengths continue to be:

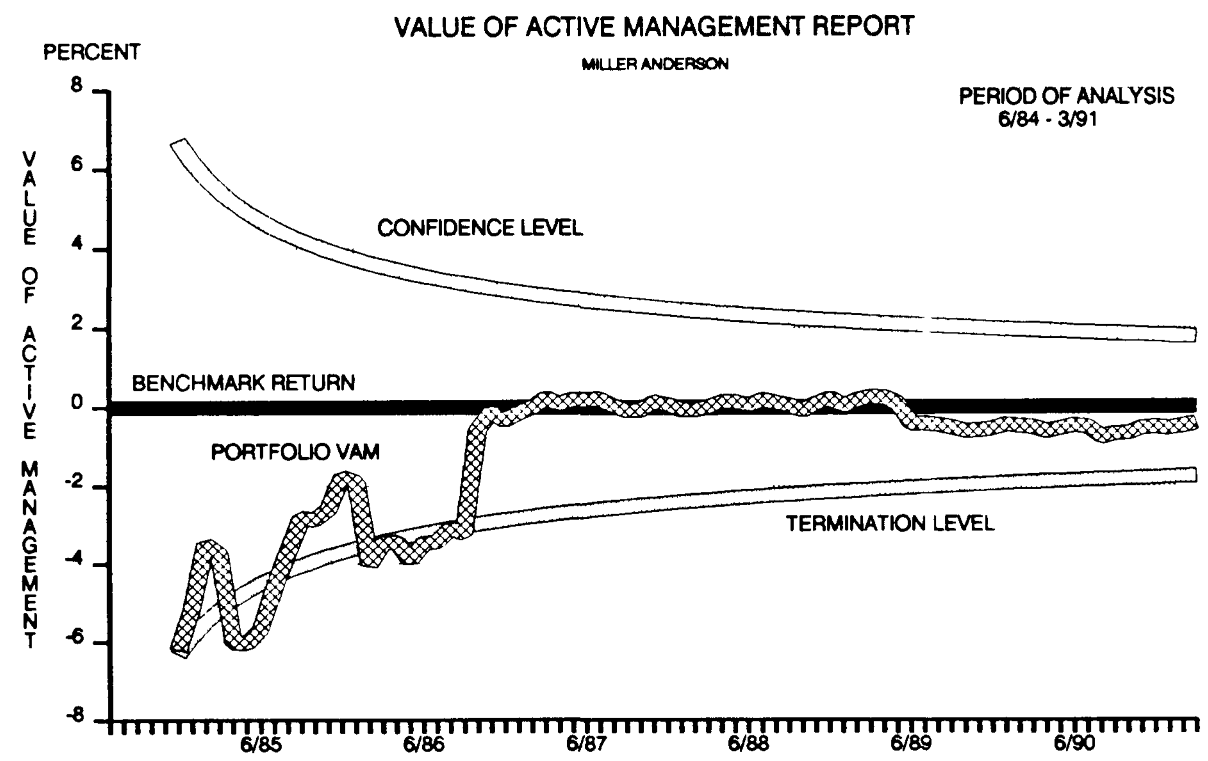
- Highly successful and experienced professionals.
- Extensive securities research process.

QUANTITATIVE EVALUATION

	Latest Qtr.	Latest 1 Yr.	Latest 5 Yrs.	Since 7/1/84
Actual Return	3.2%	13.0%	9.5%	13.0%
Benchmark	2.6	12.8	8.7	13.4

STAFF RECOMMENDATIONS

Renew annual contract for period beginning 7/1/91.



WESTERN ASSET MANAGEMENT

PORTFOLIO MANAGER: Kent Engel **ASSETS UNDER MANAGEMENT: $394,197,488**

INVESTMENT PHILOSOPHY

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

QUALITATIVE EVALUATION
(Reported By Exception)

The firm's exceptional strengths continue to be:

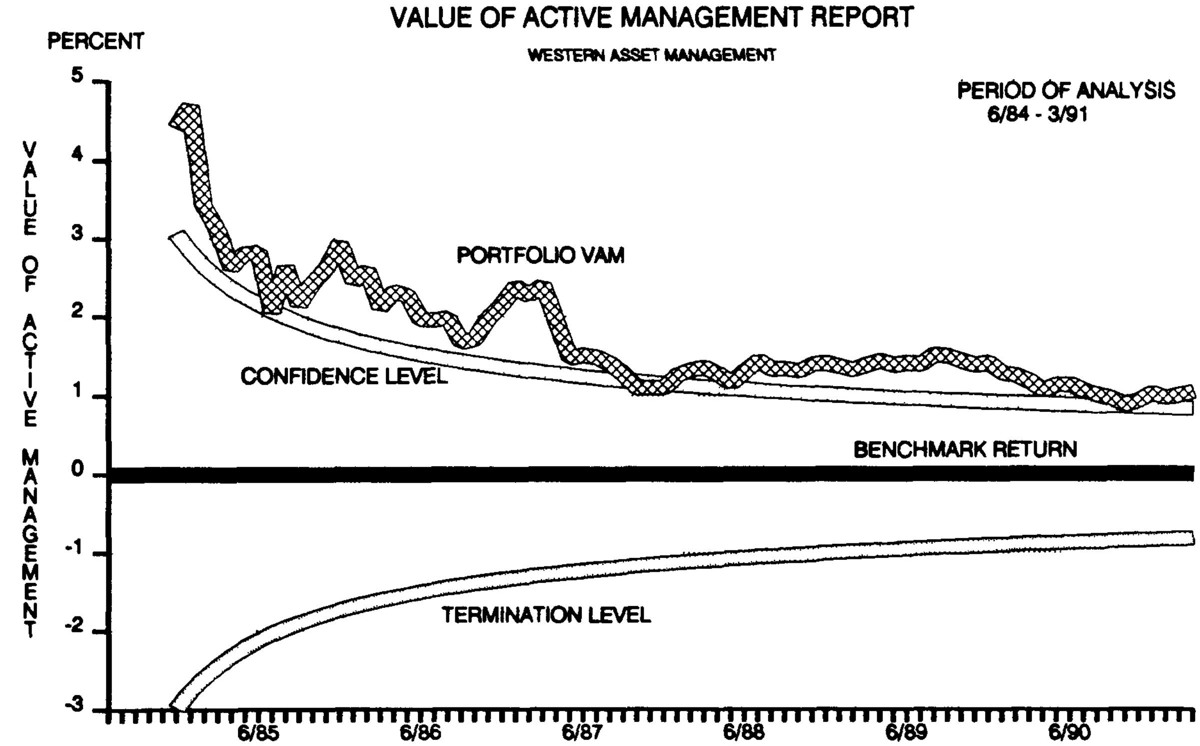
- Highly successful and experienced professionals.
- Extensive research and understanding in the application of normal portfolios to bond management.

QUANTITATIVE EVALUATION

	Latest Qtr.	Latest 1 Yr.	Latest 5 Yrs.	Since 7/1/84
Actual Return	3.4%	13.2%	9.6%	14.4%
Benchmark	3.0	12.9	8.9	13.2

STAFF RECOMMENDATIONS

Renew anuual contract for period beginning 7/1/91 and remove Western from probationary status. The portfolio manager responsible for the SBI's account left the firm recently. Western was placed on probation in March 1991 while the impact of the change was assessed. Staff has completed its review and is confident that adequate continuity will be provided by the new portfolio manager.



Tab H

COMMITTEE REPORT

DATE: June 3, 1991

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

FROM: Alternative Investment Committee

The Alternative Investment Committee met during the quarter to review the following information and action items:

- o Review of current strategy.
- o Results of annual review sessions with existing managers.
- o Additional investment with an existing real estate manager, Aldrich, Eastman and Waltch (AEW).
- o Investment with a new oil and gas manager, L.E. Simmons.
- o Investment with a new venture capital manager, Irwin Jacobs.

INFORMATION ITEMS:

1) Review of Current Strategy

To increase overall portfolio diversification, 15% of the Basic Retirement Funds is allocated to alternative investments. Alternative investments include real estate, venture capital and resource investments where Minnesota State Board of Investment (SBI) participation is limited to commingled funds or other pooled vehicles. A chart summarizing the Board's current commitments is attached (see Attachment A).

The real estate investment strategy calls for the establishment and maintenance of a broadly diversified real estate portfolio comprised of investments that provide overall diversification by property type and location. The main component of this portfolio consists of investments in diversified open-end and closed-end commingled funds. The remaining portion of the portfolio can include investments in less diversified, more focused (specialty) commingled funds. Currently, the SBI has committed $345 million to eleven commingled real estate funds. In addition, since June 1990, the SBI has approved investments in the LaSalle Income

Parking Fund for up to $20 million, the Zell Real Estate Fund for up to $100 million and the Heitman Real Estate Fund for up to $30 million. Despite a slower than expected fund raising process, the LaSalle, Heitman and Zell funds are expected to be closed and finalized in the second or third quarter of 1991.

The venture capital investment strategy is to establish and maintain a broadly diversified venture capital portfolio comprised of investments that provide diversification by industry type, stage of corporate development and location. To date, the SBI has committed to nineteen commingled venture capital funds for a total commitment of $379 million. In addition, at its March 1991 meeting, the SBI authorized an investment of up to $150 million or 20%, whichever is less, in the 1991 KKR Supplemental Fund. The KKR investment was finalized in May 1991.

The strategy for resource investment requires that investment be made in resource investment vehicles that are specifically designed for institutional investors to provide an inflation hedge and additional diversification. Individual resource investments will include proved producing oil and gas properties, royalties and other investments that are diversified geographically and by type. Currently, the SBI has committed $124 million to eight commingled oil and gas funds.

2) Results of Annual Review Sessions with Existing Managers

During April, the Alternative Investment Committee and staff conducted annual review sessions with all of the SBI's existing real estate investment managers: RREEF, AEW, TCW, Heitman, Aetna and Equitable.

Summaries of the review sessions are included as Attachments B,C,D,E,F and G to this committee report.

Overall, the meetings went well and produced no major surprises. Generally, all of the managers are experiencing the effects of the depressed real estate markets. Intensified property management and leasing efforts are common strategies amongst the managers in this stage of the real estate cycle.

A standout among the real estate funds reviewed was AEW Fund IV. Fund IV posted a significant writedown relative to the other real estate funds due to the large amount of leverage used in the portfolio. Details about AEW Fund IV are in Attachment D and Action Item #1 (below).

In sum, the Alternative Investment Committee and staff have been satisfied with the real estate managers' operation and real estate management performance to date. Additional investments with these managers will be considered, when appropriate.

As part of the discussion regarding the results of real estate manager annual review sessions, the Committee reexamined the Board's return expectations for real estate in the Basic Retirement Funds. The Committee has concurred that the stated purpose of real estate investments should be to provide a hedge against inflation. While a more specific return objective has not been adopted by the Board, the Committee expects that real estate returns should exceed the rate of inflation by 3-5% over the long term.

ACTION ITEM:

1) Additional investment with Aldrich, Eastman and Waltch (AEW), an existing real estate manager, in AEW Real Estate Fund IV.

AEW Real Estate Fund IV was incepted in 1986 with $86.5 million of investor commitments including a $15 million investment from the SBI. Fund IV has, over the last year, suffered a significant writedown in value to approximately 34% of Fund IV's original committed capital. The writedown reflects the depressed real estate market and has been magnified by the large amount of leverage used by the Fund.

In response to the poor performance of Fund IV, AEW has had several special meetings of Fund IV investors to explain the writedowns and plot a future course of action for the Fund. Currently, the Fund is at a critical juncture where its working capital is almost depleted. A new cash investment is needed or properties will have to be sold and significant value will be lost. Therefore, AEW is suggesting an additional pro rata cash investment be made by Fund IV participants. The cash investment should restore a sufficient level of working capital to allow the fund to continue operating and preserve its original principal value.

At the last meeting of Fund participants on April 17, 1991, all participants stated that they would make an additional pro rata capital investment in Fund IV, subject to their own internal approval processes. The level of total cash infusion recommended by AEW for Fund IV is up to an estimated $14 million.

The SBI's pro rata share of this $14 million new investment would be approximately $2.4 million. The table that follows illustrates the pro rata capital breakdown of Fund IV at inception and relative to the proposed new capital infusion.

AEW FUND IV

	Original Capital $	Fund Share %	Pro rata breakdown of $14 million new investment
Connecticut	$20.0	23.1%	$ 3.2
Dow Chemical	7.5	8.7	1.2
General Signal	5.0	5.8	0.8
International Paper	10.0	11.6	1.6
Mass. Teachers	7.5	8.7	1.2
MIT Retirement	5.0	5.8	0.8
Minnesota SBI	15.0	17.3	2.4
State Street Bank	1.5	1.7	0.2
TWA	15.0	17.3	2.4
	$86.5	100.0%	$14.0 million

RECOMMENDATION:

The Committee recommends that the SBI authorize the Executive Director, with assistance from SBI legal counsel, to negotiate and execute an additional investment of up to $5 million in AEW Fund IV.

The $5 million recommendation includes the SBI's estimated $2.4 million pro rata share of the new investment in Fund IV and additionally allows flexibility for possible changes in the estimated cash needs of the Fund.

2) Investment in L.E. Simmons OFS Investments, L.P. Oil and Gas Fund.

L.E. Simmons and Simmons and Company are seeking investors in a new $120 million oil and gas investment fund, OFS Investments, L.P. This fund will be a follow-on fund to OFS L.P. I which was formed in 1989 with $55 million in investor commitments. Like Fund I, Fund II will make investments in the oil field service and equipment industry.

More information on the Simmons Fund is included as Attachment H.

RECOMMENDATION:

The Committee recommends that the SBI authorize the Executive Director, with assistance from the SBI's legal counsel, to negotiate and execute an investment up to $20 million or 20%, whichever is less, in L.E. Simmons OFS Investments, L.P.

3) Investment in Irwin Jacobs IMR Fund, L.P.

Irwin Jacobs and the Jacobs Group are seeking investors in a new $500 million to $1 billion opportunistic corporate investment fund, IMR Fund L.P. This will be Irwin Jacobs' first limited partnership fund. However, since the late 1970's, Mr. Jacobs and his other partners have had significant experience in the type of investments contemplated for this fund. Like many of the Jacobs Group's other prior investments, the IMR Fund will consider larger and more mature companies which have under-utilized or under-valued assets which provide opportunities for financial reorganization, disposition or partial or complete spin-offs.

More information on the IMR Fund is included as Attachment I. The Committee concurred with the staff recommendation shown below. The vote was one for the proposal with two abstentions.

RECOMMENDATION:

Staff recommends that the SBI authorize the Executive Director, with assistance from the SBI's legal counsel, to negotiate and execute an investment up to $30 million in Irwin Jacobs IMR Fund. Additionally, the staff recommendation is contingent upon the IMR Fund achieving at least $500 million in total investor commitments.

ATTACHMENT A

Summary of Alternative Investments

	Inception Date	Commit. (Millions)	Funded Commit. (Millions)	Mkt. Value Of Funded Commit. (Millions)	Cash Distr. (Millions)	Unfunded Commit. (Millions)	IRR	Measurement Period
Real Estate								
Aetna	4/82	$40.0	$40.0	$60.6	$0.0	$0.0	5.7%	8.7 Yrs.
AEW III	9/85	20.0	20.0	23.4	0.0	0.0	3.1	5.3
AEW IV	9/86	15.0	15.0	5.7	0.0	0.0	-21.2	4.3
AEW V	12/87	15.0	15.0	17.1	0.0	0.0	5.1	3.0
Equitable	10/81	40.0	40.0	76.7	0.0	0.0	8.3	9.2
Heitman I	8/84	20.0	20.0	20.6	10.9	0.0	9.9	6.4
Heitman II	11/85	30.0	30.0	33.5	9.1	0.0	8.6	5.1
Heitman III	1/87	20.0	20.0	19.0	3.7	0.0	4.3	3.9
RREEF	9/84	75.0	75.0	80.3	15.2	0.0	5.4	6.6
TCW III	8/85	40.0	40.0	47.9	10.1	0.0	8.2	5.4
TCW IV	11/86	30.0	30.0	34.5	2.1	0.0	6.3	4.2
Real Estate Totals		**$345.0**	**$345.0**	**$419.2**	**$51.1**	**$0.0**		
Resource (Oil & Gas)								
AMGO I	9/81	$15.0	$15.0	$6.0	$3.2	$0.0	-6.3%	9.5 Yrs.
AMGO II	2/83	7.0	7.0	7.9	1.9	0.0	5.4	8.2
AMGO IV	7/88	12.3	12.3	15.1	1.1	0.0	16.4	2.7
AMGO V	5/90	16.8	9.8	12.5	0.0	7.1	26.4	0.9
Apache I	5/84	3.0	2.0	2.0	0.7	1.0	15.9	6.2
Apache III	12/86	30.0	30.0	20.9	20.3	0.0	13.6	3.5
Morgan O&G	8/88	15.0	10.8	13.3	0.0	4.2	16.8	2.1
British Pet.	2/89	25.0	25.0	34.0	4.3	0.0	37.9	1.4
Resource Totals		**$124.1**	**$111.8**	**$111.1**	**$31.5**	**$12.3**		

(Continued on next page)

Notes: Figures are updated after each manager's annual review session.
IRR indicates internal rate of return.
Totals may not add due to rounding.

5/91

Summary of Alternative Investments Con't.

	Inception Date	Commit. (Millions)	Funded Commit. (Millions)	Mkt. Value Of Funded Commit. (Millions)	Cash Distr. (Millions)	Unfunded Commit. (Millions)	IRR	Measurement Period
Venture Capital								
Allied	9/85	$5.0	$5.0	$4.9	$1.3	$0.0	7.7%	4.8 Yrs.
DSV	4/85	10.0	10.0	11.3	0.0	0.0	2.7	5.2
First Century	12/84	10.0	6.5	5.3	3.0	3.5	8.3	5.8
First Chicago	5/88	5.0	4.2	4.3	0.4	0.8	8.3	2.4
First Chicago II	7/90	20.0	4.0	4.0	0.0	16.0	0.0	0.4
Golder Thoma	10/87	14.0	6.3	5.7	0.0	7.7	-5.9	2.9
IAI Ventures II	7/90	10.0	1.0	1.0	0.0	9.0	5.5	0.2
Inman/Bowman	6/85	7.5	5.3	4.5	0.0	2.3	-4.5	5.1
KKR 1984 Fund	3/84	25.0	25.0	18.4	53.2	0.0	27.7	6.7
KKR 1986 Fund	12/85	18.4	18.4	27.7	14.5	0.0	23.2	4.9
KKR 1987 Fund	10/87	146.6	133.1	141.2	8.0	13.5	6.0	3.1
Matrix	8/85	10.0	10.0	11.2	2.1	0.0	8.9	4.9
Matrix II	5/90	10.0	1.0	1.0	0.0	9.0	0.0	0.2
Norwest	1/84	10.0	10.0	6.3	2.5	0.0	-3.0	6.7
Summit I	12/84	10.0	10.0	9.9	4.5	0.0	9.8	5.8
Summit II	5/88	30.0	12.0	11.1	0.6	18.0	-2.0	2.4
Superior	6/86	6.6	4.2	3.7	0.0	2.5	-3.8	4.3
T. Rowe Price	11/87	1.1	1.1	0.0	1.3	0.0	32.4	2.6
Zell/Chilmark	7/90	30.0	0.2	0.2	0.0	29.8	0.0	0.0
Venture Capital Totals		**$379.3**	**$267.3**	**$271.7**	**$91.3**	**$111.9**		

SUMMARY

Real Estate Totals	$ 345.0	$ 345.0	$ 419.2	$ 51.1	$ 0.0
Resource Totals	124.1	111.8	111.1	31.5	12.3
Venture Capital Totals	379.3	267.3	271.7	91.3	111.9
GRAND TOTALS	**$848.4**	**$724.1**	**$802.0**	**$173.9**	**$124.2**

Notes: Figures are updated after each manager's annual review session.
IRR indicates internal rate of return.
Totals may not add due to rounding.

5/91

ATTACHMENT B

ANNUAL REVIEW SUMMARY
RREEF USA FUND III
April 2, 1991

MANAGER REPRESENTATIVES: Don King, Martin Cannon

SBI ASSETS UNDER MANAGEMENT: $79,917,574

BACKGROUND AND DESCRIPTION: RREEF USA Fund III is managed by the Rosenberg Real Estate Equity Funds. The SBI's $75 million commitment was made to the Fund in May 1984. As of December 31, 1988 the entire commitment had been funded. The Fund has a twelve year term. Typically, the Fund purchases 100 percent of the equity of its properties with cash and does not utilize leverage or mortgages. Properties are diversified by location and type. RREEF's in-house staff manages the real estate properties. The firm's primary offices are located in San Francisco and Chicago.

QUALITATIVE EVALUATION:

The Fund's performance in 1990 declined from prior year levels and generally was reflective of the overall downturn in the national real estate market.

Total return for the RREEF USA Fund III was 4.2% in 1990 compared to a total return of 7.0% in 1989. Since inception, the fund has provided a 5.4% annualized return to the SBI.

Strategically, the fund has 57% of the portfolio invested in the retail sector which has come under less pressure than other real estate sectors. The portfolio's retail properties experienced a total return of 13.6% in 1990 versus -7.8% and -0.8% returns for the office and industrial properties, respectively.

Operationally, the eleven properties in the portfolio generated 5% greater net operating income (NOI) in 1990 versus 1989. The fund has undertaken value creation and renovation projects at three of the four regional malls and three of the four office buildings in the portfolio. This will cause a slight decline in 1991 NOI. While retail properties are expected to continue to produce strong performance, adverse market conditions and large tenant improvement costs will continue to exert pressure on office properties. The demand for industrial space is anticipated to improve as the economy recovers. Occupancy for the total portfolio was 91% in 1990 versus 93% in 1989.

ATTACHMENT B (con't)

QUANTITATIVE EVALUATION FOR RREEF USA FUND III AGGREGATE AS OF 12/31/90

COMMITMENT	$75,000,000
FUNDED COMMITMENT:	$75,000,000
MARKET VALUE OF FUNDED COMMITMENT:	$80,261,330
CASH DISTRIBUTIONS:	$15,190,911
INCEPTION DATE:	May 1984
INTERNAL RATE OF RETURN (IRR): (annualized, since inception)	5.4%

DIVERSIFICATION PROFILE (AS OF 12/31/90)

LOCATION		PROPERTY TYPE	
East	22%	Retail	54%
Midwest	13	Office	27
South	25	Industrial	19
West	40		

STAFF COMMENTS AND RECOMMENDATIONS:

The Alternative Investment Committee and staff have been satisfied with RREEF's operation and real estate management performance to date. Additional investments with RREEF will be considered when appropriate.

ATTACHMENT C

ANNUAL REVIEW SUMMARY
TCW FUNDS III AND IV
April 9, 1991

MANAGER REPRESENTATIVES: Bruce Ludwig, Mark Gibello

SBI ASSETS UNDER MANAGEMENT: $82,330,295

BACKGOUND AND DESCRIPTION: Management of TCW Funds is a joint venture between Trust Company of the West (TCW) and Westmark Real Estate Investment Services of Los Angeles. Funds III and IV were begun in August 1985 and November 1986, respectively. The SBI's investment commitment totals $70 million for the two funds. As of December 31, 1988, the entire $70 million had been funded. Both funds have ten year terms. The fund managers utilize specialty investment vehicles such as convertible and participating mortgages to enhance real estate returns. In addition, they specialize in real estate research to identify attractive property markets. Generally, investments are diversified by location and property type with some concentration in particular property types and locations identified by internal research. Management of portfolio properties is typically handled by local property management firms.

QUALITATIVE EVALUATION:

The performance of the two TCW funds was disappointing in 1990, and reflective of the general downturn in the real estate market.

Total returns for TCW Funds III and IV in 1990 were -1.7% and -2.5%, respectively. 1989 total returns for Funds III and IV were 13.0% and 14.6%, respectively. Since inception, Funds III and IV have provided the SBI with annualized rates of return of 8.2% and 6.3%, respectively.

Strategically, TCW has, and will continue to maintain, a large concentration of industrial properties within the portfolios. However, in order to maximize cash returns to investors, TCW is currently exploiting a surge in demand from owners-users of industrial properties in the South Bay area of California by selling certain properties at premiums to appraised values.

Operationally, the sluggish real estate market has prompted TCW to increase their staff of leasing and property management professionals. Occupancy levels for Funds III and IV in 1990 were 93.4% and 90.7%, respectively. This compares to 1989 occupancy levels for Fund III and IV of 85.4% and 92.1%, respectively.

ATTACHMENT C (con't)

QUANTITATIVE EVALUATION FOR TCW FUNDS III AND IV AGGREGATE AS OF 12/31/90

COMMITMENT:	$70,000,000
FUNDED COMMITMENT:	$70,000,000
MARKET VALUE OF FUNDED COMMITMENT:	$82,330,295
CASH DISTRIBUTIONS:	$12,280,019
INCEPTION DATE(S):	Fund III August 1985 Fund IV November 1986
INTERNAL RATE OF RETURN (IRR): (annualized, since inception)	Fund III 8.2% Fund IV 6.3%

DIVERSIFICATION PROFILE (AS OF 12/31/90)

LOCATION		PROPERTY TYPE	
Northeast	8.55%	Office	39.12%
Mideast	32.72	Retail	18.33
Southwest	4.03	R&D/Mixed Use	6.84
Southeast	6.61	Industrial Whse.	35.70
E.N. Central	0.95		
Pacific	47.16		

STAFF COMMENTS AND RECOMMENDATIONS:

The Alternative Investment Committee and staff have been satisfied with TCW's operation and real estate management performance to date. Additional investments with TCW will be considered when appropriate.

ATTACHMENT D

ANNUAL REVIEW SUMMARY
AEW/STATE STREET FUNDS III, IV, V
April 9, 1991

MANAGER REPRESENTATIVES: John Patillo, Bob Kilroy

SBI ASSETS UNDER MANAGEMENT: $46,295,170

BACKGOUND AND DESCRIPTION: The AEW/State Street Funds III, IV and V are managed by Aldrich, Eastman and Waltch under the Trusteeship of State Street Bank and Trust of Boston. Funds III, IV and V were begun in September 1985, September 1986 and December 1987, respectively. The SBI's investment commitment totals $50 million for the three funds. As of December 31, 1988, all $50 million of the SBI's investment commitment had been funded. Each fund has a 15 year term. The funds' special orientation is the use of creative investment vehicles such as convertible and participating mortgages to maximize real estate returns. The real estate portfolios are diversified by location and property type. On-site property management is typically contracted to outside firms or conducted by joint venture partners. The firm's primary office is in Boston.

QUALITATIVE EVALUATION

The performance of the three AEW funds was mixed and generally disappointing in 1990. While the funds have all suffered because of general adverse conditions in the real estate markets, the AEW Fund IV performance has been particularly poor because of the significant use of debt leverage in its portfolio.

AEW Funds III and V had total returns of 4.4% and 1.6% in 1990. Fund IV's 1990 total return of -64.7% was most disappointing and reflective of the high degree of debt leveraging used in the acquisition of properties. In 1989, Funds III, IV and V had total returns of -10.5%, -5.2% and 7.2%, respectively. Since inception Funds III, IV, and V have provided the SBI with annualized rates of return of 3.1%, -21.2% and 5.1%, respectively.

The fund manager is focusing significant attention on the Fund IV portfolio. Strategically, they are attempting to improve the current returns from the highly leveraged properties, improving the leasing and reducing the operating expenses at the properties. There is no liquidity within the portfolio and the prospects of the investors having to provide additional capital are certain. The liquidation of properties to eliminate the Fund's liquidity problems is not advisable in today's depressed and capital constrained market.

Overall occupancy for AEW Funds III, IV and V for 1990 were 89%, 83% and 87%, respectively. This compares to 1989 occupancy levels of 90%, 90% and 77%, respectively, for Funds III, IV and V.

QUANTITATIVE EVALUATION FOR AEW/STATE STREET FUNDS III, IV, V AGGREGATE AS OF 12/31/90

COMMITMENT:	$50,000,000
FUNDED COMMITMENT:	$50,000,000
MARKET VALUE OF FUNDED COMMITMENT:	$46,295,170
CASH DISTRIBUTIONS:	$0
INCEPTION DATE(S):	Fund III - September 1985 Fund IV - September 1986 Fund V - December 1987
INTERNAL RATE OF RETURN (IRR): (annualized, since inception)	Fund III - 3.1% Fund IV - -21.2% Fund V - 5.1%

DIVERSIFICATION PROFILE (AS OF 12/31/90)

LOCATION	
Northeast	17.0%
Southeast	6.4
Mideast	4.7
East N. Central	2.3
West N. Central	10.6
Southwest	15.7
Pacific	37.6
Mountain	5.6

PROPERTY TYPE	
Office	36.0%
Retail	34.7
Industrial	25.8
Residential	3.6

STAFF COMMENTS AND RECOMMENDATIONS:

The Alternative Investment Committee and staff have been satisfied with AEW's operation and real estate management performance to date. Additional investments with AEW will be considered when appropriate.

ATTACHMENT E

ANNUAL REVIEW SUMMARY
EQUITABLE PRIME PROPERTY FUND
April 2, 1991

MANAGER REPRESENTATIVES: Mike Cassidy, Harry Pierandri, David Bradford

ASSETS UNDER MANAGEMENT: $76,715,235

BACKGROUND AND DESCRIPTION: The Prime Property Fund is a $3.7 billion open-end, commingled real estate fund managed by Equitable Real Estate Group, Inc. of New York. The Fund was formed in August 1973 and has no termination date. Investors have the option to withdraw all or a portion of their investment. The Equitable primarily makes equity investments in existing real estate. Investments are diversified by location and type of property. On-site management of properties is contracted to outside firms or conducted by joint venture partners, but will be handled increasingly by a new in-house property management division.

QUALITATIVE EVALUATION:

The Fund's performance in 1990 was disappointing and generally reflective of the overall downturn in the real estate market. Total return for Equitable Prime Property Fund was -0.6% in 1990 compared to a total return of 8.6% in 1989. Since inception, the fund has provided a 8.3% annualized rate of return to the SBI.

Strategically, the fund will maintain its largest exposure in the retail regional mall sector, which continues to be the strongest real estate performer. While the office property sector has been weak, the fund has been selling off smaller, suburban properties in favor of downtown central business district properties. The fund is attempting to reduce its investment in hotel properties while maintaining a significant exposure in industrial properties.

So far in 1991, clients had withdrawal requests amounting to $535 million. It is anticipated that it will take through 1992 to satisfy all requests.

Operationally, the fund manager continues to focus on real estate fundamentals (producing current income, maintaining high occupancy, acquiring quality properties and structuring a diverse portfolio) to minimize the adverse economic impact in the current environment. Occupancy for the total portfolio was 88.3% in 1990 versus 89.4% in 1989.

QUANTITATIVE EVALUATION FOR EQUITABLE PRIME PROPERTY FUND AGGREGATE AS OF 12/31/90

COMMITMENT	$40.0 Million
FUNDED COMMITMENT:	$40.0 Million
MARKET VALUE OF FUNDED COMMITMENT:	$76,715,235
CASH DISTRIBUTIONS:	$00.0 Million
INCEPTION DATE(S):	October 1981
INTERNAL RATE OF RETURN (IRR): (annualized, since inception)	8.3%

DIVERSIFICATION PROFILE (AS OF 12/31/90)

LOCATION		PROPERTY TYPE	
Mideast	20.5%	Retail	44.0%
Pacific	18.0	Office	36.6
Northeast	12.9	Industrial	13.4
Southeast	12.6	Hotel	5.1
Southwest	9.7	Specialized	0.9
W. No. Central	9.7		
E. No. Central	8.5		
Mountain	8.1		

STAFF COMMENTS AND RECOMMENDATIONS:

The Alternative Investment Committee and staff have been satisfied with Equitable's operation and real estate management performance to date. Additional investments with Equitable will be considered when appropriate.

ATTACHMENT F

ANNUAL REVIEW SUMMARY
AETNA REAL ESTATE SEPARATE ACCOUNT (RESA)
April 3, 1991

MANAGER REPRESENTATIVES: Tom Anathan, Maurice Giannotti
Kevin O'Conner

ASSETS UNDER MANAGEMENT: $60,590,030

BACKGROUND AND DESCRIPTION: RESA is a $1.5 billion open-end, commingled, real estate fund managed by Aetna Life and Casualty Company of Hartford, Connecticut. The Fund was formed in January 1978 and has no termination date. Investors have the option to withdraw all or a portion of their investment. RESA primarily makes equity investments in existing real estate. Investments are diversified by location and type of property. On-site management of properties is contracted to outside firms or conducted by a joint venture partner.

QUALITATIVE EVALUATION:

The Funds' performance in 1990 was disappointing and generally reflective of the adverse conditions experienced in the real estate market.

RESA's total return in 1990 was -5.2%, compared to a total return in 1989 of 6.9%. Since inception, the fund has provided a 5.7% annualized rate of return to the SBI.

Strategically, the fund anticipates being a long-term seller of office property while phasing hotels out of the portfolio. The fund manager expects to maintain a strong presence in the retail, multifamily residential, and industrial property sectors. During 1990, the fund was successful in selling a shopping center property for $300 million at a capitalization rate of 5%.

Currently, the fund has investor withdrawal requests representing 24% of the fund assets. These withdrawal requests will be funded, when possible, out of excess fund cash over the next several years.

Operationally, the performance of the properties within the fund continue to be in line with historical comparisons. Current yield on properties in 1990 improved 20 basis points over 1989, reflecting major improvements in leasing efforts at several larger properties during the year. Overall occupancy improved to 91% in 1990 versus 89% in 1989.

ATTACHMENT F (con't)

QUANTITATIVE EVALUATION FOR AETNA REAL ESTATE SEPARATE ACCOUNT AGGREGATE AS OF 12/31/90

COMMITMENT	$40.0 Million
FUNDED COMMITMENT:	$40.0 Million
MARKET VALUE OF FUNDED COMMITMENT:	$60,590,030
CASH DISTRIBUTIONS:	$00.0 Million
INCEPTION DATE(S):	April 1982
INTERNAL RATE OF RETURN (IRR): (annualized, since inception)	5.7%

DIVERSIFICATION PROFILE (AS OF 3/31/90)

LOCATION		PROPERTY TYPE	
Midwest	1.97%	Office	43.48%
Northeast	18.84	Retail	14.52
Northwest	8.21	Apartments	15.71
South Central	14.65	Office R&D	11.46
South East	6.43	Industrial	9.01
West	49.90	Hotel	5.82

STAFF COMMENTS AND RECOMMENDATIONS:

The Alternative Investment Committee and staff have been satisfied with AETNA's operation and real estate management performance to date. Additional investments with AETNA will be considered when appropriate.

ATTACHMENT G

ANNUAL REVIEW SUMMARY
HEITMAN FUNDS I, II AND III
April 3, 1991

MANAGER REPRESENTATIVES: David Glickman, Teresa Myers, Bob Lewis

SBI ASSETS UNDER MANAGEMENT: $73,052,211

BACKGROUND AND DESCRIPTION: The Heitman Funds I, II and III are managed by Heitman Advisory Corporation, whose primary office is in Chicago. Funds I, II, III were begun in August 1984, November 1985, and January 1987, respectively. The SBI investment commitment totals $70 million for the three Funds. As of December 31, 1988, the entire $70 million had been funded. Each fund has a twelve year term. The majority of the funds' investments are equity real estate diversified by property type and location. Heitman Properties Ltd., an affiliate of Heitman, manages the funds' wholly owned properties.

QUALITATIVE EVALUATION:

The performance of the Heitman Funds was disappointing in 1990, and was generally reflective of the depressed real estate environment.

Total returns for Heitman Funds I, II and III in 1990 were -1.0%, -2.1% and -5.0%, respectively. 1989 total returns for Fund I, II and III were 10.2%, 7.6% and 8.2%, respectively. Since inception, Funds I, II and III have provided the SBI with annualized internal rates of return of 9.9%, 8.6% and 4.3%, respectively.

Strategically, Heitman plans to shift its major investment focus to regional shopping malls and residential housing properties. To date, the funds' largest exposure has been in the office property sector, where the increase in capitalization rates in the past three years have contributed to the significant decline in office property values. During 1990, Heitman put overall responsibility for individual properties under individual senior executive managers. This approach is intended to intensify attention given to the management of individual properties. No near-term property dispositions are anticipated.

Operationally, the funds have maintained occupancy levels in excess of 90% since inception. During 1990 and 1991, an integral part of the leasing effort has been to both lengthen lease terms and renew tenants prior to their lease expirations.

QUANTITATIVE EVALUATION FOR HEITMAN FUNDS I, II, AND III AGGREGATE AS OF 12/31/90

COMMITMENT:	$70,000,000
FUNDED COMMITMENT:	$70,000,000
MARKET VALUE OF FUNDED COMMITMENT:	$73,052,211
CASH DISTRIBUTIONS:	$23,652,835
INCEPTION DATE(S):	Fund I - August 1984 Fund II - November 1985 Fund III - January 1987
INTERNAL RATE OF RETURN (IRR): (annualized, since inception)	Fund I 9.9% Fund II 8.6% Fund III 4.3%

DIVERSIFICATION PROFILE (AS OF 12/31/90)

LOCATION		PROPERTY TYPE	
Northeast	13.32%	Office	45.69%
Mideast	8.20	Retail	30.60
Southeast	7.25	Industrial	17.03
Southwest	7.73	Mixed Use	6.68
E.N. Central	26.55		
W.N. Central	16.91		
Mountain	2.89		
Pacific	17.15		

STAFF COMMENTS AND RECOMMENDATIONS:

The Alternative Investment Committee and staff have been satisfied with Heitman's operation and real estate management performance to date. Additional investments with Heitman will be considered when appropriate.

ATTACHMENT H

OIL AND GAS MANAGER PROFILE

I. BACKGROUND DATA

FUND MANAGER: L.E. Simmons, OFS Investments, L.P.

TYPE OF FUND: Oil and Gas Industry Investments

TOTAL FUND SIZE: $120 million

REVIEW DATE: 4/29/91

MANAGER CONTACT: L.E. Simmons

ADDRESS: 4900 NCNB Center, Houston Texas 77002

TELEPHONE: 713-236-9999

II. ORGANIZATION AND STAFF

The Fund will be managed by the General Partner which will include L.E. Simmons, Patti Bryant Melcher and several other professionals. In addition, Simmons and Company, a leading Houston-based oil field services investment banking firm, will be retained when needed. Also, Fayez Sarofim and Company, a large Houston-based money management firm, will be Limited Partner of the General Partner, will invest $7.5 million, and will assist the General Partner in reviewing investment transactions.

III. INVESTMENT STRATEGY

OFS Investments, L.P. is being formed to serve as a vehicle for investment in the oil field service (OFS) and equipment industry.

The management of the Fund will endeavor to negotiate transactions that display strong fundamentals, valued-added opportunities, reasonable pricing and an appropriate financial structuring possibilities.

Primary emphasis is placed upon the business having excellent management, a history of cash flow from operations (realizing that the company is operating at a forty-year low point in the OFS industry cycle) and a defendable market and product position. In addition, emphasis will be given to companies having a significant degree of operating leverage from increased sales volume and expected price increases. In most cases, companies should be in a position to cash flow 35 percent or more of incremental revenues. This will allow for significant increases in earnings as the industry recovers to historic levels of activity in the United States.

Significant value can be created by combining companies to affect strategic growth. The nature of the OFS industry lends itself to such consolidation and synergistic growth. Consolidation transactions include combining companies in similar markets to achieve a strong market presence, geographical expansion or product line extension. These transactions also often create significant cost savings. In many cases, the cost savings made possible by an acquisition result in a purchase price multiple of less than the targeted six times EBIDT.

When possible, and as appropriate, transactions will be based upon a multiple of approximately six times Earnings Before Interest, Depreciation and Taxes ("EBIDT"). Valuations should be attractive enough to allow for a reasonable investment return if the OFS industry continues to be soft while providing significant upside through strategic growth and recovery of the OFS industry.

Additional value can be added by an appropriate but often creative financial structure that is intended to minimize downside risk, maximize seller and third-party financing (without jeopardizing the company's ability to service the obligations) and provide for a reasonable degree of financial leverage. When possible, and as appropriate, the transactions are structured with approximately 33 percent equity and the balanced in bank or seller financing.

IV. INVESTMENT PERFORMANCE

OFS Investments, L.P. will be L.E. Simmons' second fund. A similar fund, SCF Partners, L.P. (SCF) was formed in February 1989 to invest in companies in the oil service and equipment industry. Eleven institutional investors subscribed for $55 million.

Over the last 2 years, 7 portfolio company investments were made totalling approximately $49 million. A total of approximately $10 million in capital and income has been distributed leaving a net investment outstanding of approximately $39 million. As of May 1, 1991, the portfolio company investments had a value of approximately $100 million. To date, the fund has experienced a compound annual internal rate of return of 106%.

V. GENERAL PARTNERS INVESTMENT

Simmons and Company will contribute $2.5 million to the Fund.

VI. INVESTMENT AGREEMENT

Term and Takedowns

The term of the Fund investments will be 10 years. Takedowns of investors commitments will be funded, as needed.

Investment Decisions

After receipt of an investment proposal provided by the General Partner, the Limited Partner will have ten (10) business days to decline participation in the investment. Assuming at least 75 percent of the Limited Partners (based upon Subscription amounts) are participating in the investment, a participating Limited Partner will be subscribed for a pro rata share of total participations.

Management Fee

A quarterly fee in the amount of one-half of one percent of the Limited Partner's commitment less distributions will be assessed.

Incentive Fee

The General Partner will receive a maximum of 20 percent of the profits based upon each Limited Partner's aggregate investment after return of original capital.

ATTACHMENT I

VENTURE CAPITAL MANAGER PROFILE

I. BACKGROUND DATA

FUND MANAGER:	Irwin Jacobs IMR Fund, L.P.
TYPE OF FUND:	Opportunistic Situation Venture Capital Limited Partnership
TOTAL FUND SIZE:	$500 Million to $1 Billion
REVIEW DATE:	May 17, 1990
MANAGER CONTACT:	Irwin Jacobs
ADDRESS:	100 South Fifth Street Suite 2500 Minneapolis, MN 55402
TELEPHONE:	612-339-9500

II. ORGANIZATION AND STAFF

Irwin Jacobs and other members of the Jacobs Group will have primary investment responsibility for the fund.

Irwin Jacobs is Chairman and CEO of the Jacobs Group and related affiliates. The Jacobs Group consists principally of 10 member team of business managers, who collectively have experience in the investigation, negotiation, financing and completion of business acquisitions and divestitures. The other principal members of the Jacobs Group are: Gerald Schwalbach, Daniel Lindsay, Ken Seuerinson, Roger Cloutier, Robert Sutter, David Mahler, James Farrell, Cheryl Gruetzmacher, and Clarence Frame.

III. INVESTMENT STRATEGY

The investment strategy of the Fund is to invest in established operating companies with assets and/or business segments offering opportunities for significantly enhanced appreciation. All investments will be accomplished through negotiated transactions with the Board of Directors for control of the portfolio company. The Fund will attempt to make investments in larger and more mature companies which have under-utilized or under-valued assets and segments and which provide opportunities for financial reorganization, disposition or partial or complete spin-offs. Investments in financially troubled or excessively leveraged companies, particularly bankrupt or poorly-managed companies with high asset bases, will be a focus of the Fund. The General

Partner has been successfully involved in several such investments and strongly believes that a company with the proper business attributes can be restructured effectively through the bankruptcy process and/or the significant restructuring of existing leverage.

IV. INVESTMENT PERFORMANCE

This will be Irwin Jacobs' first investment fund. However, Mr. Jacobs and his other partners have had experience in the type of investments contemplated for this fund. Past investments of this type (Minstar, Bekins, Aegis, AMF and CVN Companies) have generated annual returns ranging from 25% to 82% compounded. Similar investments on an unleveraged basis would have provided returns ranging from 24% to 64%.

V. GENERAL PARTNER'S COMMITMENT

The Jacobs Group will commit at least 1% of total capital commitments. Irwin Jacobs and members of the General Partner will invest additional funds which will provide an aggregate capital commitment in excess of $50 million.

VI. TAKEDOWN SCHEDULE

Commitments will be drawn down over a period of up to 5 years, with not more than 40% being drawn down in any 12-month period. However, each limited partner will have the one-time right to terminate at least 50% of its capital commitment, exercisable at the earlier of (i) the date on which more than 50% capital commitment is or is about to be invested; or (ii) three years after the initial closing date.

VII. DISTRIBUTIONS

A summary of the distribution schedule is:

(a) first, 100% to all Partners in proportion to their capital contributions until they have received total distributions equal to their aggregate capital contributions;

(b) second, 100% to all Partners pro rata until each Partner has received distributions equal to an annualized 12% compounded return;

(c) third, 100% to the General Partner until it has received cumulative distributions equal to 20% of all distributions made by the Fund in excess of the

Partners' aggregate capital contributions plus the General Partner's proportionate share of all remaining Fund distributions;

(d) fourth, 80% to all Partners in proportion to their capital commitments and 20% to the General Partner until each Limited Partner has received a return on its capital contributions equal to 30% per year, compounded annually, from the date of contribution to the date of distribution; and

(e) fifth, thereafter, 70% to all Partners in proportion to their capital commitments and 30% to the General Partner.

VIII. MANAGEMENT FEE

A management fee will be payable annually during the first five years on the basis of an investors capital commitment in accordance with the following percentages:

1.4% of the first $25 million of capital commitment; plus

1.1% of the next $25 million of capital commitment, if any; plus

0.8% of the next $25 million of capital commitment, if any; plus

0.5% of the next $25 million of capital commitment, if any; plus

0.3% of the amount of any capital commitment over $100 million.

In the sixth and subsequent years, the fee will be reduced by subtracting 0.2% from the above percentage amounts.

IX. TERM

The term of the Fund will be 10 years, subject to two optional one-year extensions.

Tab I

Motion needed for the Assigned Risk Plan:

________________________ moves that the SBI authorize the Executive Director, with assistance from SBI's legal counsel to negotiate and execute a contract with ________________________ to manage the assets of the Minnesota Workers Compensation Assigned Risk Plan for a period of two (2) years and to negotiate and execute any necessary contractual amendments to provide custody of the assets.