MINNESOTA STATE BOARD OF INVESTMENT MEETING
June 3, 1992
&
INVESTMENT ADVISORY COUNCIL MEETING
June 2, 1992

AGENDA
STATE BOARD OF INVESTMENT
MEETING
Wednesday, June 3, 1992
8:30 A.M. - Room 125
State Capitol
Saint Paul

	TAB
1. Approval of Minutes of March 19, 1992	
2. Report from the Executive Director (H. Bicker)	
A. Quarterly Investment Review (January 1-March 31, 1992)	A
B. Portfolio Statistics (March 31, 1992)	B
C. Administrative Report	C
1. Budget and Travel Reports	
2. 1992 Legislative Report	
3. Resolution from the Proxy Voting Committee	
3. Report from the SBI Administrative Committee (M. McGrath)	D
A. Approval of Executive Director's Work Plan for FY93	
B. Approval of FY93 Administrative Budget Plan	
C. Approval of FY94-95 Biennial Budget Request	
D. Approval of Continuing Fiduciary Education Plan	
E. Adoption of Process for Executive Director's FY92 Evaluation	
F. Approval of Contract Amendments Necessary for Post Fund Transition	
G. Authorization to Establish Review Committees:	
1. 403(b) Vendor Selection	
2. Deferred Compensation Plan	
4. Report from the Consultant Review Committee (P. Sausen)	E
5. Reports from the Investment Advisory Council (J. Yeomans)	
A. Asset Allocation Committee	F
1. Approve International Equity Implementation Plan for Basic Funds	
2. Approve Revised Asset Allocation for Post Fund	
B. Stock and Bond Manager Committee	G
1. Impact of Liquor and Tobacco Restrictions	
2. Review of Manager Performance	
3. In-depth Review of Lieber & Company	
4. Review of Active Manager Contract Guidelines	
5. Updates on Rebalancing and Manager Monitoring System	
6. Approve Contract Extensions for Stock Managers (Alliance, Forstmann, IDS, Lieber, Waddell)	
7. Approve Contract Extensions for Bond Managers (IAI, Lehman, Miller, Western, Fidelity, Lincoln)	
8. Adopt Bond Manager Allocation Guidelines	
9. Return Expectations for Equity and Fixed Income Segments	
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1. Results of Annual Review Sessions	
2. Return Expectations for Alternative Assets Segment	

Minutes
State Board of Investment Meeting
March 19, 1992

The State Board of Investment (SBI) met at 9:00 A.M. on Thursday, March 19, 1992 in Room 125, State Capitol, St. 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.

Mr. Carlson called the meeting to order and the minutes of the December 18, 1991 meeting were approved. A meeting schedule for calendar year 1992 was distributed and Mr. Carlson suggested that the dates be reaffirmed by all members.

Executive Director's Investment Report
Mr. Bicker, Executive Director, referred Board members to Tab A of the meeting materials. He stated that the Basic Funds had exceeded the inflation rate over the last ten years (Basics Total Fund 14.3%, Inflation 3.9%) and equaled the composite index over the five year period (Basics Total Fund and Composite 12.4%). He added that the Basics had outperformed the median fund for the most recent five year period (Basics-excluding alternative assets 13.0%, Median 12.5%). Mr. Bicker reported that the benefit increase for the Post Retirement Fund is 4.3%, effective January 1, 1992. He added that the actuarial data for fiscal year 1991 had been updated.

Mr. Bicker stated that the Basic Funds increased in value 6.4% for the quarter ending December 1991 due to strong performance in stocks and bonds. He added that the asset mix changed during the quarter due to the strong performance and that rebalancing would occur during the next quarter. In response to a question from Mr. Dayton, Mr. Bicker stated that the rebalancing would not involve the alternative asset area. He reported that the Basic Funds had outperformed both the composite index and the median fund for the quarter (Basics Total Fund 6.8% vs. Composite 6.2% and Basics-excluding alternative assets 7.9% vs. Median 6.5%) and year (Basics Total Fund 26.3% vs. Composite 24.4% and Basics-excluding alternative assets 28.7% vs. Median 23.1%). He added that both the stock and bond segments exceeded their respective targets for the quarter (Basic stocks 9.0% vs. Wilshire 5000 8.7%, and Basic bonds 5.4% vs. Salomon Broad Index 5.0%).

Mr. Bicker directed members to the Post Retirement Fund Summary. He stated that the fund increased in value by 6.2% during the fourth quarter, due to strong investment performance. He added that the asset mix remained unchanged for the quarter. Mr. Bicker reported that the stock segment slightly underperformed its benchmark for the quarter (Post stock segment 6.0%, Post benchmark 6.3%) but outperformed it by a significant margin for the year (Post stock segment 37.0%, Post benchmark 34.0%). In response to a question from Mr. Carlson, Mr. Bicker stated that the Post Fund is managed internally, therefore, the performance will not match the performance of the Basic Funds, which are managed externally.

Mr. Bicker referred members to the new page of the report added for the Assigned Risk Plan. In conclusion, he stated that as of December 31, 1991, the State Board of Investment was responsible for nearly $19 billion in assets.

Administrative Report
Mr. Bicker referenced the Portfolio Statistics contained in Tab B and the budget and travel information found in Tab C.

He stated that as discussed at the December 1991 meeting, the SBI had presented several investment options to the Legislative Commission of Minnesota Resources (LCMR) for the Environmental Trust Fund, i.e. 100% bonds, 50% stocks/50% bonds, and 75% stocks/25% bonds. Mr. Bicker reported that after a lengthy debate, the LCMR had passed a resolution recommending that the fund be invested in a balanced portfolio of 50% stocks/50% bonds. Mr. Bicker stated that the LCMR was concerned that its level of spendable income not be reduced too significantly. He stated that staff would present an implementation plan for the IAC and Board to approve at its June 1992 meeting. He added that the size of the fund is currently $30 million and that it is expected to grow at a rate of $15-20 million a year during the next ten years. In response to questions from Mr. Carlson, Mr. Bicker said that staff advocated a 75/25 allocation, that the LCMR Chairman wanted 100% bonds but the entire Commission supported a 50/50 allocation. Ms. Growe stated that if the LCMR was going to become involved in investment decisions, the LCMR needs to accept the responsibility for the outcome. In response to a question from Mr. Carlson, Mr. Bicker stated that a copy of the LCMR's resolution was included in the meeting materials and that it outlines the LCMR's goals and objectives for the fund. Mr. Dayton moved that the Board ratify the LCMR's resolution requesting a balanced asset mix. Ms. Growe seconded the motion. The motion was approved.

Mr. Bicker stated that staff had been providing Board members with weekly legislative updates which would continue until the end of the legislative session. In the absence of any questions he moved on to the next agenda item.

Mr. Bicker stated that the terms of four current IAC members had expired in January 1992. He said the vacancies had been announced through the Open Appointments Process and that all four members had applied for re-appointment. Mr. Bicker stated that he was recommending that all four of the current members (James Eckmann, Peter J. Kiedrowski, Kenneth F. Gudorf, and Deborah Veverka) be reappointed for four year terms expiring in January 1996. Mr. Dayton moved approval of Mr. Bicker's recommendation. Ms. Growe seconded the motion. The motion was approved.

Investment Advisory Council Committee Reports
Asset Allocation Committee Report
Ms. Yeomans stated that the Committee was in the process of developing an implementation for international investments. She noted that the meeting materials included some information that had been requested earlier by the Board which showed long-term evidence that historically, value has been added to portfolios by diversifying into international investments.

In response to a question from Ms. Growe, Mr. Bicker stated that the Board had approved a 10% allocation to international equities, but that the Board had not approved a full implementation plan. He added that staff suggests that the Board evaluate a structural proposal at the June 1992 meeting, with manager selection decisions taking place as early as September 1992. Mr. Bicker stated that if the Board selected a new consultant the firm should review the strategy and comment to the Board. In response to a question from Ms. Growe, Mr. Bicker stated there would be no problem delaying the structure recommendation until after the June meeting, however, he added that the IAC was very interested in seeing the SBI progress in the international area. Mr. Dayton stated that he would be more comfortable making the structural decisions in September 1992, after the consultant has been determined in order to take advantage of the consultant's expertise in the international area. Mr. Carlson stated his concern with the slowness with which the Board is proceeding. Ms. Growe noted that the time frame Mr. Dayton was suggesting might slow things down in the beginning, but would not necessarily slow it down in terms of the final implementation date. Ms. Yeomans stated that the IAC members would be in favor of anything that can be done to accelerate the process. Mr. Dayton said he felt that there were major differences between the management structure proposals of staff and the IAC at a previous meeting. He stated that he was unsure of who, among the staff, Board and IAC members, have the expertise and experience that he feels is necessary to make these types of major decisions. Mr. McGrath raised the question as to whether or not the SBI needed a separate international consultant. Mr. Humphrey stated that he does not want to delay the process any longer. Following further discussion, Mr. Bicker said he understood that the Board was in agreement that the structural recommendation would be presented to the Board at the June 1992 meeting, and if a newly retained consultant has problems with the recommendation, that the Board could meet again in June or July to hear the consultant's concerns, prior to initiating a manager search. Ms. Growe moved approval of Mr. Bicker's re-statement. The motion was approved.

Stock and Bond Manager Committee Report
Ms. Yeomans referred members to Tab E of the meeting materials and noted that the Committee had dealt with several issues during the quarter. She reported that in-depth reviews had been conducted on Fidelity Asset Management and BEA Associates. She stated that both managers had outperformed their respective benchmarks and that staff and the Committee were satisfied with their performance.

She said that an in-depth review had also been completed on Rosenberg Institutional Management, an active equity manager. Ms. Yeomans noted that several concerns were raised such as the firm's rapid growth. She said the results of some back-testing on its valuation model revealed that long periods of underperformance to the benchmark could occur, which was significantly different from the performance expectations described when the firm was retained. She stated that Rosenberg's portfolio has underperformed its benchmark since inception and that a large source of that underperformance has been the manager's stock selection, which the manager had advertised to be the main source of its value added. Ms. Yeomans noted that while it was not a unanimous decision, the Committee did endorse staff's recommendation that the contract with Rosenberg not be renewed. In response to a question from Ms. Growe, Ms. Yeomans stated that IAC members had differences of opinion on whether the action to terminate was premature. Mr. Carlson referenced Mr. Troutman's letter (see Attachment A) and stated his concern regarding Mr. Troutman's point that the SBI could be terminating a value oriented manager at the bottom of a value market cycle. Ms. Yeomans acknowledged that possibility, but stated that the manager does not claim to be a "value manager" and that his stated strategy is to select stocks that are cheap relative to their normal selling price.

Mr. Dayton moved to approve the Committee's recommendation on contract extensions for Franklin, GeoCapital and BEA. Mr. McGrath seconded the motion, but added the provision that the assets from Rosenberg's portfolio be distributed to Forstmann Leff, Independence and Lynch and Mayer. The motion was approved.

Ms. Yeomans next described the equity manager monitoring program proposed by staff. She stated that a database would be established to monitor 10 firms on an on-going basis so that staff and the Search Committee would have ready access and familiarity with several firms to expedite future manager searches. Ms. Growe moved approval of both the equity manager monitoring recommendation and the equity manager allocation recommendation, as stated in the Committee report. Mr. Humphrey seconded the motion. Mr. Dayton requested that the allocation guidelines be amended to state that an active equity manager may not have more than 20% of the active program assets without explicit Board approval. Mr. Bicker said he had no problem with Mr. Dayton's amendment. The motion, as amended, was approved.

Alternative Investment Committee Report

Ms. Yeomans stated that the Alternative Investment Committee had no recommendations for action at this time.

Update on KKR

Ms. Haukedahl stated that the lawsuit in which the SBI is a nominal defendant is presently before the Second Circuit Federal Court in Washington and is in the briefing process. She stated that the Buttery suit, a case in another state, had been dismissed as to KKR and all of its partners and affiliates, but that the plaintiff had been given until later in March to refile a suit that would be against Michael Milken and other ex-employees of Drexel Burnham Lambert. She added that KKR will be a plaintiff in that suit and that if successful, they will distribute proceeds to members of the limited partnership, which would make the SBI a potential beneficiary. Ms. Haukedahl then reviewed legal issues regarding the SBI's commitment to KKR's 1991 Supplemental Fund.

Performance Objectives

Mr. Bicker distributed a handout describing the current performance goals (see Attachment B) and stated that Mr. Dayton had requested that the goals be reviewed by the Board. Ms. Yeomans stated that the IAC would not recommend changing the objectives at the present time. She added that the level of returns are dictated by the amount of risk the Board wants to assume, and that it would be difficult to exceed the current goals given the risk posture of the Board. Mr. Dayton stated that he would like to know what kind of risks the SBI would need to take to reach the top of the TUCS rankings. He requested that staff and the IAC specify performance expectations for each asset class so that the Board could better assess its ability to meet total fund performance goals. Mr. Bicker said that much of that information was already available and could be put in an appropriate format for the June meeting. Mr. Carlson observed that he and Mr.

Dayton were probably on opposite sides on the active/passive issue. He said he thought the analysis would probably result in a recommendation for a structure that is much like what is currently in place.

The meeting adjourned at 10:00 A. M.

Respectfully submitted,

Howard Bicker

Howard J. Bicker
Executive Director

Attachments

ATTACHMENT A

BOARD OF PENSIONS
EVANGELICAL LUTHERAN CHURCH IN AMERICA

800 Marquette Avenue Suite 1050 • Minneapolis MN 55402-2885 • 612-333-7651 • FAX 612-334-5307

DATE: March 5, 1992

TO: Members of the Investment Advisory Council

FROM: Michael L. Troutman MLT

RE: Rosenberg Institutional Equity Management

I regret that I will be unable to attend the Investment Advisory Council meeting on March 10, 1992. I do, however, want to share my concern with the recommendation from the Equity Bond Committee to terminate Rosenberg Institutional Equity Management as an investment manager for the State Board of Investment. I ask the IAC to carefully consider its recommendation on this proposed termination for the following reasons:

1. I believe it is premature to make a judgement on Rosenberg based on slightly less than three years of experience at the SBI.

2. I believe the staff additions and expanded investment services offered by Rosenberg since they were retained improve the firm's capability to provide superior management in the U.S. equity market.

3. High quality growth stocks have significantly outperformed more value oriented stocks over the past two years. This means the SBI may be terminating a value oriented core manager at the bottom of the growth vs. value market cycle.

4. Terminating a relatively new manager with recent poor performance, absent a dramatic negative change in the manager's organization, potentially sets an expensive precedent for prudently overseeing the multiple manager pool of equity assets at the SBI.

Thank you for your attention to these concerns.

cc: Howard J. Bicker

Basic Funds

Performance Goals

- **Inflation Comparison**

  3-5 percentage points greater than inflation over 10 years

- **Market Index Comparison**

  Exceed composite index over 5 years

- **Peer Group Comparison**

Current:	**Top half over 5 years**
9/91 Proposal:	**Top third over 5 years (Tied to increase in equity exposure which was not approved)**

AGENDA
INVESTMENT ADVISORY COUNCIL
MEETING
Tuesday, June 2, 1992
2:00 P.M. - SBI Conference Room
Room 105, MEA Building
Saint Paul

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1. 403(b) Vendor Selection	
2. Deferred Compensation Plan	
4. Report from the Consultant Review Committee	E
5. Reports from the Investment Advisory Council	
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2. Approve Revised Asset Allocation for Post Fund	
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2. Review of Manager Performance	
3. In-depth Review of Lieber & Company	
4. Review of Active Manager Contract Guidelines	
5. Updates on Rebalancing and Manager Monitoring System	
6. Approve Contract Extensions for Stock Managers (Alliance, Forstmann, IDS, Lieber, Waddell)	
7. Approve Contract Extensions for Bond Managers (IAI, Lehman, Miller, Western, Fidelity, Lincoln)	
8. Adopt Bond Manager Allocation Guidelines	
9. Return Expectations for Equity and Fixed Income Segments	
C. Alternative Investment Committee (D. Veverka)	H
1. Results of Annual Review Sessions	
2. Return Expectations for Alternative Assets Segment	

Minutes
Investment Advisory Council Meeting
March 10, 1992

The Investment Advisory Council met on Tuesday, March 10, 1992 at 2:00 P.M. in the State Board of Investment (SBI) Conference Room, 55 Sherburne Avenue, St. Paul, Minnesota.

Members Present: David Bergstrom; John Bohan; Jim Eckmann; Elton Erdahl; Ken Gudorf; Laurie Fiori Hacking; David Jeffery; Keith Johnson; Han Chin Liu; Malcolm McDonald; Gary Norstrem; Deborah Veverka; and Jan Yeomans.

Members Absent: John Gunyou; Peter Kiedrowski; Barbara Schnoor; and Michael Troutman.

SBI Staff: Howard Bicker; Beth Lehman; Jim Heidelberg; Deborah Griebenow; Harriet Balian; and Charlene Olson.

Others Attending: Gary Austin; Maureen Culhane, Richards & Tierney; Christie Eller; Joan Anderson Growe; Michael A. McGrath; John Manahan; Mike Ousdigian; Lisa Rotenberg; Elaine Voss; Glen West, MAPE; and Robert Whitaker.

Ms. Yeomans called the meeting to order and the minutes of the December 17, 1991 meeting were approved.

Executive Director's Investment Report
Mr. Bicker, Executive Director, referred IAC members to Tab A of the meeting materials. He stated that the Basic Funds have exceeded the inflation rate over the last ten years (Basics Total Fund 14.3%, Inflation 3.9%) and equaled the composite index over the five year period (Basics Total Fund and Composite 12.4%). He added that the Basics had outperformed the median fund for the most recent five year period (Basics-excluding alternative assets 13.0%, Median 12.5%). Mr. Bicker reported that the benefit increase for the Post Retirement Fund is 4.3%, effective January 1, 1992. He noted that the actuarial data in Tab A had been updated for fiscal year 1991.

Mr. Bicker stated that the Basic Funds increased in value 6.4% for the quarter ending December 31, 1991 due to strong performance in stocks and bonds. He added that the strong performance changed the asset mix slightly for the quarter, resulting in an increase in the stock percentage. He reported that for the quarter, the Basic Funds outperformed both the composite index and the median fund (Basics Total Fund 6.8% vs. Composite 6.2%, and Basics-excluding alternative assets 7.9% vs. Median 6.5%). He added that both the stock and bond segments exceeded their respective targets for the quarter (Basic Stocks 9.0% vs. Wilshire 5000 8.7% and Basic Bonds 5.4% vs. Salomon Broad Index 5.0%) and for the year (Basic Stocks 34.3% vs. Wilshire 5000 34.2% and Basic Bonds 17.1% vs. Salomon Broad Index 16.0%).

Mr. Bicker directed members to the Post Retirement Fund summary. He stated that the fund increased in value by 6.2% during the fourth quarter, due to strong investment performance. He added that the asset mix remained essentially unchanged for the quarter. Mr. Bicker reported that the stock segment slightly underperformed its benchmark for the quarter (Post stock segment 6.0%, Post benchmark 6.3%) but outperformed it for the year (Post stock segment 37.0%, Post benchmark 34.0%).

Mr. Bicker stated that the Assigned Risk Plan has outperformed its Composite Index for both the quarter (Total Fund 5.9%, Composite 5.1%) and since inception in July 1991 (Total Fund 10.3%, Composite 10.1%). He noted that since inception, the equity segment has underperformed its benchmark (Equity segment 12.4%, Benchmark 14.2%) while the bond segment has outperformed its benchmark (Bond segment 10.2%, Benchmark 8.9%).

In conclusion, he stated that as of December 31, 1991, the State Board of Investment was responsible for nearly $19 billion in assets.

Mr. Bicker referred members to Tab C of the meeting materials and discussed the management options available for the Environmental Trust fund. He stated that currently the market value of the fund is approximately $30 million and that it has been invested primarily as a short-term money market type fund. He noted that the fund is expected to grow by approximately $15-20 million a year during the next ten years. He stated that the Asset Allocation Committee had earlier recommended having a significant equity exposure in the fund and he listed the three alternatives that had been presented to the Legislative Commission of Minnesota Resources (LCMR) for their consideration, i.e. 100% bonds, 50% stocks/50% bonds, and 75% stocks/25% bonds.

Mr. Bicker stated that the SBI had recommended the 75%/25% option, but that the LCMR felt that this option reduced their spendable income too significantly. He added that the LCMR adopted a resolution to endorse a balanced asset mix of 50% stocks/50% bonds for the fund and that staff would be bringing back an implementation plan for the IAC and Board to approve at the June meeting.

Mr. Bicker reported that the SBI's 1992 administrative bill had been introduced and passed out of committees in both the Senate and the House. He stated that the bill regarding the Post Retirement Fund formula change appears to be progressing and that it is scheduled to be heard by the Pension Commission on March 10, 1992.

Mr. Bicker stated that Rep. Johnson had introduced a bill that would create a new State Board of Pension Investment. Ms. Growe added that a hearing was scheduled for March 11, 1992. She asked for opinions regarding the legislation. In response to a question from Ms. Yeomans, several individuals indicated that they had been asked to testify on the bill. Mr. Erdahl stated that the Teachers Retirement Board was concerned about obtaining direct representation on the Board. Mr. Jeffery stated that if the Board was expanded to include more members, it might become more difficult to reach investment decisions. Mr. Bicker stated that when a similar bill surfaced in the early 1980's he thought the retirees were opposed to it because they preferred having direct access to all five Board members. Mr. Whitaker, President of the Coalition of Retiree Associations, agreed. Mr.

Norstrem made a motion that the IAC participate, in some form, in the decision-making process. Mr. McDonald seconded the motion. The three retirement Board directors noted that while their respective Boards varied on having formal positions on the bill, they were all in agreement that the bill should be laid over for further study. Following further discussion, it was decided that Mr. McDonald would testify on behalf of the IAC, and that the IAC's position would be that the bill should be laid over for further study.

Investment Advisory Council Committee Reports
Asset Allocation Committee
Mr. Bohan referred members to Tab D of the meeting materials. Mr. Bohan discussed the chart shown in the meeting materials which showed that historically, overtime, non-U.S. stocks have outperformed domestic stocks, while at the same time reducing volatility of returns. Mr. Bicker said that at the last Board meeting, Auditor Dayton questioned whether the IAC believed that the SBI would "make money" by investing internationally. Mr. Bicker suggested that it would be helpful for the IAC to once again clearly state its expectations for international investing. Ms. Yeomans said she would report that it is the official position of the IAC that, over time, international investments will both increase returns and lower volatility of the total portfolio.

Stock and Bond Manager Committee
Mr. Eckmann referred members to Tab E of the meeting materials. He noted that both the stock and bond managers had outperformed their benchmarks for the quarter and year. He stated that the Committee had conducted an in-depth review of Fidelity Asset Management, an enhanced bond index manager. He reported that Fidelity had met the SBI's expectations and had outperformed the Salomon BIG by 23 basis points (Fidelity 11.58%, Salomon BIG 11.35%) for the period 7/1/87 - 11/30/91. Mr. Eckmann stated that an annual review of BEA Associates, the cash enhancement manager was also completed during the quarter. He reported that to date, BEA had outperformed their benchmark (BEA 9.23% annualized, Benchmark 7.65% annualized) and that the Committee and staff were satisfied with the performance of both of these managers.

Mr. Eckmann reported that an in-depth review had also been conducted for Rosenberg Asset Management due to poor performance relative to its benchmark. He stated that staff is concerned regarding the rapid growth of the firm, recent performance problems, and a loss of accounts within Rosenberg's domestic equity product. He noted that additional back-testing on Rosenberg's valuation model had indicated that the underperformance relative to their benchmark could continue for as long as 3-5 years, which is substantially different from the performance expectations described when the firm was retained. He added that quantitatively, the firm had not added value on a cumulative basis relative to its benchmark and that stock selection, which Rosenberg stated was its strongest point, has consistently underperformed relative to the benchmark. Mr. Eckmann referred members to the memo that had been distributed from Mr. Troutman which stated Mr. Troutman's opposition to Rosenberg's termination at this time, due to the short length of the evaluation period. Mr. Eckmann acknowledged the difficulty the Committee had in making this decision, however, he stated that the remaining Committee members were in agreement with staff that the contract with Rosenberg not be renewed. He then stated the Committee's recommendations as shown in the Committee report.

In response to a question from Ms. Yeomans, Mr. Eckmann stated that the major factor influencing his decision regarding Rosenberg's termination was their inability to add value. He noted that most of the discussion among committee members revolved around the relatively short timeframe of the evaluation period. Mr. Johnson noted that several committee members felt that the decision regarding Rosenberg was a difficult one to make.

Mr. Eckmann moved approval of the recommendation to terminate the contract with Rosenberg and to distribute the assets as noted in the Committee report. Mr. Norstrem seconded the motion. The motion was approved. Ms. Yeomans noted Mr. Troutman's opposition. Mr. Eckmann then moved approval of the Committee's recommendation to renew contracts for Franklin, GeoCapital and BEA for 15 months. Mr. Norstrem seconded. The motion was approved. In response to a question from Ms. Veverka, Mr. Bicker stated that the rationale for allocating assets from the Rosenberg portfolio was to bring the two new managers (Independent and Lynch and Mayer) to their full funding level and to give Forstmann Leff some additional funds since they have performed well against their benchmark.

Mr. Eckmann next discussed the proposed equity manager monitoring program. He stated that per the Board's request at the December 1991 meeting, staff had developed a monitoring proposal and had presented it to the Committee for its approval. Mr. Eckmann noted that the proposal was basically to intensely monitor no more than 10 managers on an on-going basis. Mr. Bicker added that the monitoring system would enable staff and the Search Committee to be prepared to make new manager recommendations when necessary for the domestic equity program. Mr. McDonald moved approval of the proposal as described in the meeting materials. Mr. Gudorf seconded the motion. The motion was approved.

Mr. Eckmann stated that the Committee had requested that staff develop guidelines for the allocation of assets among managers in both the stock and bond programs. He described the equity manager allocation guidelines as presented in the meeting materials. He stated that the Committee is recommending that the SBI adopt the position paper as its policy regarding equity manager allocations, with the stipulation that the guidelines be reviewed periodically in order to monitor transaction costs, and that the guidelines be implemented when the outcome of the Post Fund legislation is known. In response to a question from Mr. Gudorf, Mr. Bicker stated that Alliance Capital would currently fall outside the guidelines. However, if the Post Fund assets were included, he said Alliance would fall back within the guidelines. Mr. McDonald moved approval of the Committee's recommendation and Mr. Eckmann seconded the motion. In response to a question from Mr. McGrath, Mr. Bicker explained that this policy would assist in establishing an initial target for managers and would not require frequent rebalancings. The motion was approved.

Alternative Investment Committee

Ms. Veverka reported that the Alternative Investment Committee had reviewed the current strategy for alternative assets and had held annual review sessions with three existing managers, IAI Venture Capital Group, Norwest Venture Partners and Summit Partners. She noted that staff and the Committee were not satisfied with Norwest's performance, however, additional investments would be considered, if appropriate, with IAI and Summit, since their performance has been satisfactory. She stated that the market value plus unfunded commitments in alternative investments is 14.5% of the Basic Retirement Funds which is close to their target allocation of 15%.

Performance Goals
Mr. Bicker stated that Mr. Dayton had requested the addition of the last agenda item which concerns performance goals for the Basic Retirement Funds. He distributed a handout showing the current performance goals and the September 1991 proposal to change the peer group comparison from the top half of the TUCS Universe to the top third over a 5 year period. He added that this change was tied to the proposed increase in equity exposure that the Board did not approve at the September 1991 meeting. In response to a question from Ms. Rotenberg, Mr. Bicker explained that while the performance goals can be changed to reflect higher standards, realistically the SBI would not be able to reach those higher standards unless the asset allocation is structured more aggressively, a proposal the Board had just rejected. Ms. Culhane agreed that the majority of a fund's performance is determined by its asset allocation policy and that since the SBI has half of the Basics invested passively, that there would be only a small portion left to make the extra return to raise the fund into the top third of the universe. She added that it would be unrealistic to expect to achieve those higher performance results on a consistent basis without assuming a higher degree of risk. A discussion on appropriate timeframes and comparisons followed. Several members observed that a desire to attain higher universe rankings would necessitate a more aggressive asset allocation and suggested that an asset allocation review for the Basic Funds would be appropriate. Mr. Bicker reminded members of several other major issues such as the Post Fund legislation, the consultant RFP, and international investing policies that were outstanding that the staff, IAC and Board would need to focus on over the next few months. Ms. Lehman stated that the Board had addressed the issue of asset allocation less than six months ago. She said the Board had considered and explicitly rejected a proposal to increase the equity exposure of the Basic Funds at that time. Given that decision, she asked whether the IAC felt the current performance goals were realistic. Mr. McGrath said he supported a more aggressive asset allocation but that other Board members did not want to undermine the defensive position of a 25% allocation to fixed income. Ms. Yeomans, Mr. Bohan and Mr. McDonald said that given the Board's current asset allocation, the current performance standards were entirely appropriate. Mr. McDonald moved that the current standards be reaffirmed and that the Asset Allocation Committee should review changes to the asset allocation of the Basic Funds at a later date. Ms. Veverka seconded. Mr. Bohan requested that the motion be amended to include the words "given the current asset allocation." The motion as amended was approved.

The meeting adjourned at 3:45 p.m.

Respectfully submitted,

Howard J. Bicker

Howard J. Bicker
Executive Director

Tab A

RETURN OBJECTIVES

Basic Retirement Funds

$8.6 Billion Market Value

Total Return	Period Ending 3/31/92 Actual	Compared to Objective
Total Fund over 10 years	14.3%	10.3 percentage points above
■ Exceed inflation by 3-5 percentage points		
Total Fund over 5 years	9.6%	0.5 percentage points above
■ Exceed composite market index		
Stocks, Bonds, Cash over 5 years	9.7%	0.3 percentage points below
■ Exceed median fund		

Post Retirement Fund

$6.7 Billion Market Value

Realized Earnings	Actual	Benefit Increase Provided
Earnings over 1 year (Fiscal Year 1991)	9.3%	4.3% effective Jan. 1, 1992
Earnings over 5 years (Fiscal Years 1987-1991)	10.7%	5.7% annualized

ACTUARIAL VALUATIONS

MSRS, TRA, PERA General Plans

June 30, 1991

	Active (Basics)	Retired (Post)	Total (Basics & Post)
Liability Measures			
1) Current and Future Benefit Obligation	$14.0 billion	$5.1 billion	$19.1 billion
2) Accrued Liabilities	10.0	5.1	15.1
Asset Measures			
3) Current and Future Actuarial Value	$13.9 billion	$5.1 billion	$19.0 billion
4) Current Actuarial Value	6.4	5.1	11.5
Funding Ratios			
Future Obligations vs. Future Assets (3 ÷ 1)	99%	100%	99%
Accrued Liabilities vs. Current Actuarial Value (4 ÷ 2)*	64	100	76*

* 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, the Post Retirement Fund and the Assigned Risk Plan.

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

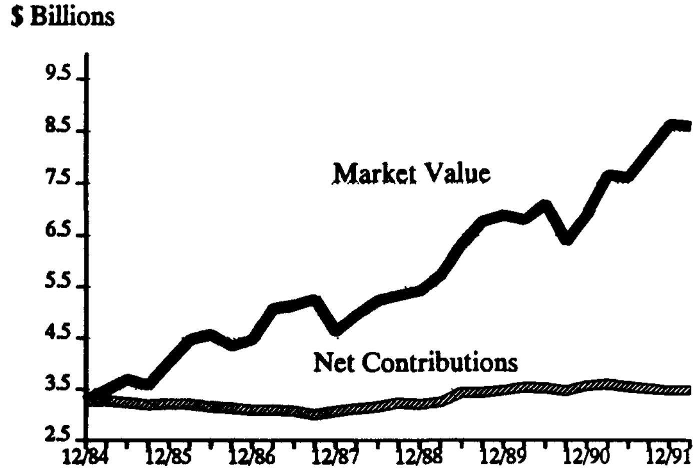
Basic Retirement Funds

Asset Growth

The market value of the Basic Funds essentially remained the same during the first quarter of 1992. There were no material increases or decreases in either net contributions or investment returns.

Asset Growth During First Quarter 1992 (Millions)

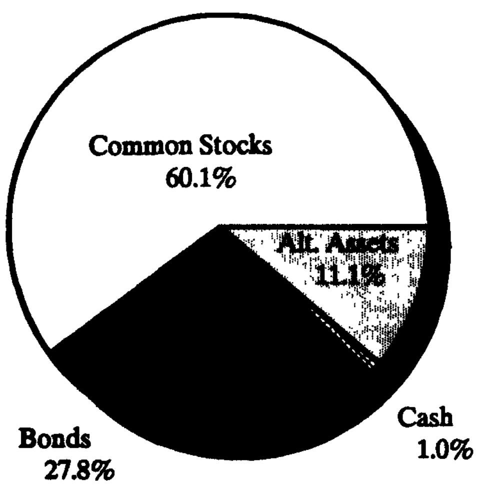
Beginning Value	$8,639
Net Contributions	9
Investment Return	-43
Ending Value	$8,605



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 percentage decreased and the bond percentage increased due to rebalancing $300 million from stocks to bonds. In addition, the alternative assets percentage increased due to strong performance in the venture capital area.



Actual Asset Mix 3/31/92

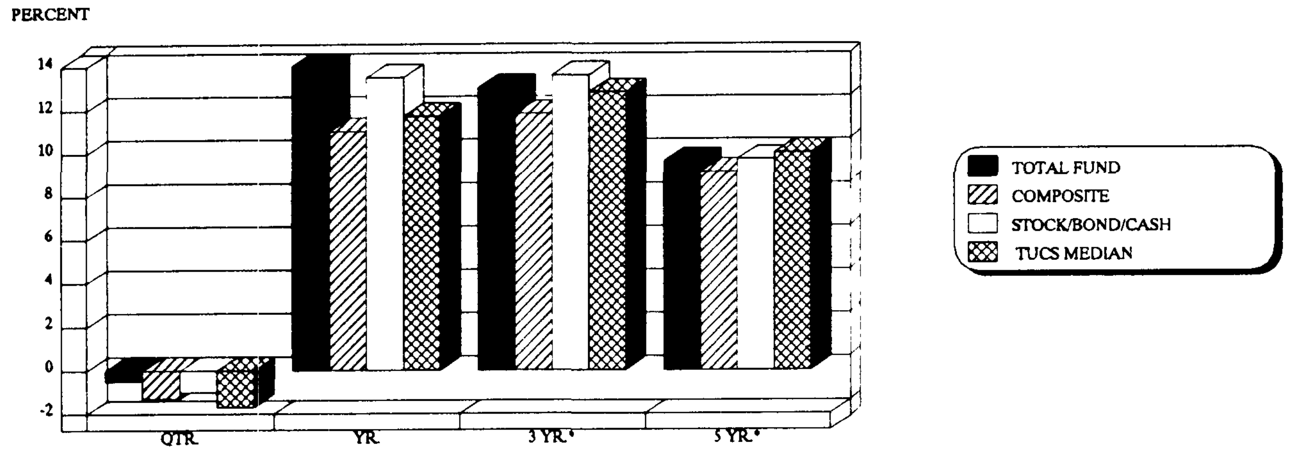
	Policy Asset Mix	Actual Mix 3/31/92	Actual Market Value (Millions)
Stocks	60.0%	60.1%	$5,173
Bonds	24.0	27.8	2,395
Alternative Assets	15.0	11.1	954
Unallocated Cash	1.0	1.0	83
	100.0%	100.0%	$8,605

Basic Funds (Con't.)

Total Fund Performance

For the quarter and latest year, the total fund with and without alternative assets exceeded 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 3/31/92

	Qtr.	Yr.	*(Annualized) 3 Yr.	5 Yr.
Total Fund	**-0.5%**	**14.0%**	**13.0%**	**9.6%**
Composite Index **	-1.3	11.0	11.8	9.1
Stocks, Bonds and Cash Only	**-1.0**	**13.5**	**13.6**	**9.7**
TUCS Median Balanced Fund***	-1.7	11.7	12.8	10.0

** Composite Index is weighted in a manner that reflects the policy asset mix of the Basic Funds. The index has been adjusted to reflect the restrictions on liquor and tobacco stocks.

*** 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 exceeded the performance of its target for the latest quarter and year.

	Qtr.	Yr.	(Annualized) 3 Yr.	5 Yr.
Stock Segment	-1.1%	14.0%	13.8%	9.5%
Wilshire 5000*	-1.5	13.3	13.7	9.3

* Adjusted for liquor and tobacco restrictions

Bond Segment Performance

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

	Qtr.	Yr.	(Annualized) 3 Yr.	5 Yr.
Bond Segment	-1.3%	12.3%	12.2%	9.2%
Salomon Broad Index	-1.2	11.7	12.2	9.4

EXECUTIVE SUMMARY

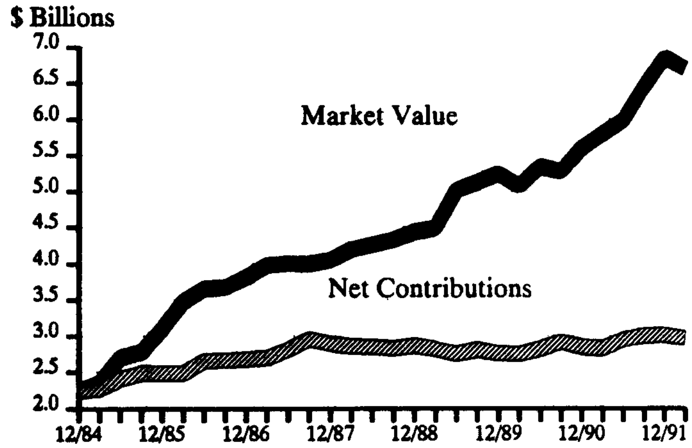
Post Retirement Fund

Asset Growth

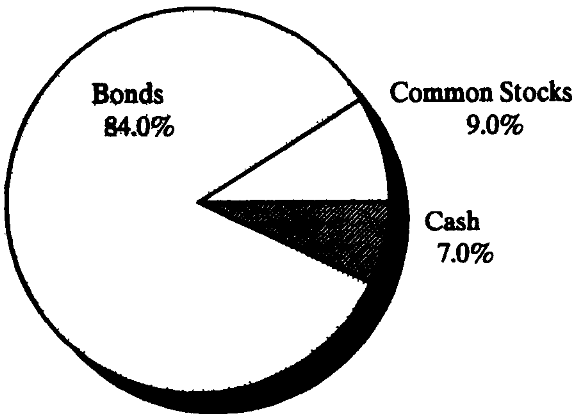
The market value of the Post Fund decreased by 2.2% during the first quarter of 1992. Assets decreased due to negative net contributions and negative bond performance.

Asset Growth During First Quarter 1992 (Millions)

Beginning Value	$6,855
Net Contributions	-40
Investment Return	-114
Ending Value	$6,701



Asset Mix



Actual Asset Mix 3/31/92

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 stock percentage increased due to strong performance. The bond percentage decreased due to negative performance and cashflow not being reinvested due to potential rebalancing in the near future.

	Actual Market Value (Millions)	Asset Mix 3/31/92
Common Stocks	$607	9.0%
Bonds	5,623	84.0
Unallocated Cash	471	7.0
	$6,701	100.0%

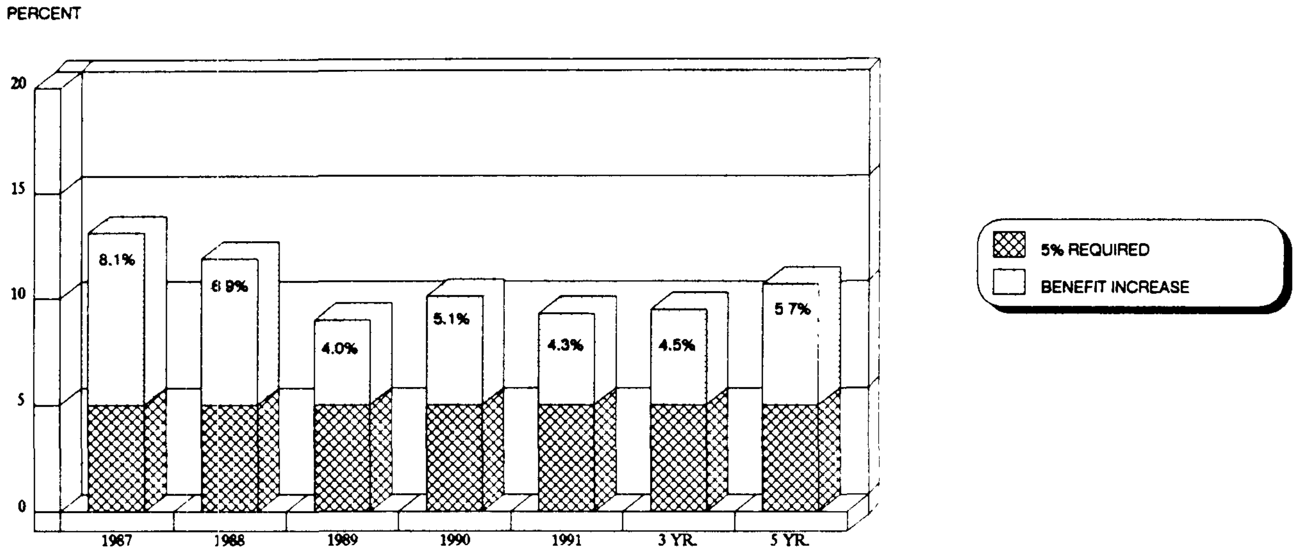
Post Fund (Con't.)

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 1987 - 1991



	1987	1988	1989	1990	1991	(Annualized) 3 Yrs.	5 Yrs.
Realized Earnings*	13.1%	11.9%	9.0%	10.1%	9.3%	9.5%	10.7%
Benefit Increase**	**8.1**	**6.9**	**4.0**	**5.1**	**4.3**	**4.5**	**5.7**
Inflation	3.7	3.9	5.2	4.7	4.7	4.9	4.4

* 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 and year.

Period Ending 3/31/92

	Qtr.	Yr.	(Annualized) 3 Yr.	5 Yr.
Stock Segment	5.1%	19.7%	12.4%	9.3%
Post Fund Benchmark	2.8	16.1	12.1	N.A.

Bond Segment Performance

At the close of the quarter, the dedicated bond portfolio had a current yield of 7.01% and average duration of 7.76 years. The market value of the dedicated bond portfolio was $5.5 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 -2.5% return for the quarter and a 12.7% return for the year. This is consistent with the design of the dedicated bond portfolio.

Assigned Risk Plan

Investment Objective
The Assigned Risk Plan has two investment objectives: to minimize the mismatch between assets and liabilities and to provide sufficient liquidity for the payment of on-going claims and operating expenses.

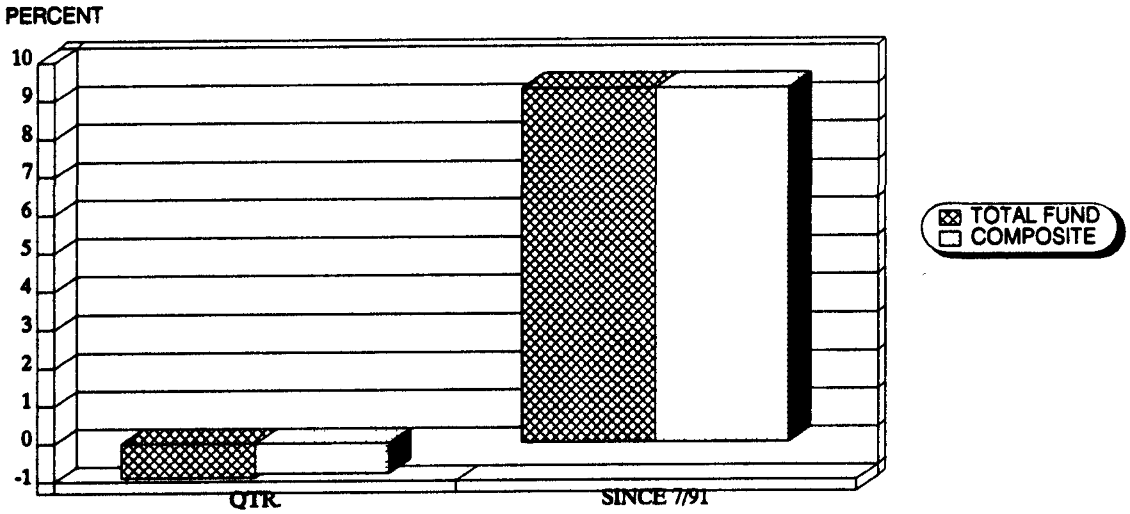
Asset Mix
The Assigned Risk Plan is invested in a balanced portfolio of common stocks and bonds. The actual asset mix will fluctuate in response to changes in the Plan's liability stream.

	3/31/92 Target	3/31/92 Actual
Stocks	15.0%	15.1%
Bonds	85.0	82.9
Unallocated Cash	0.0	2.0
Total	100.0%	100.0%

Investment Management
External management is utilized by the Assigned Risk Plan. The entire fund is managed by Voyageur Asset Management. The portfolio was transfered from the Department of Commerce to the SBI on May 1, 1991.

Performance Benchmarks
A custom benchmark has been established for the fixed income portfolio. It reflects the duration of the liability stream and the long-term sector allocation of Voyageur Asset Management. The equity benchmark is a custom benchmark consisting of A or greater rated stocks less utilities and restricted stocks. The total fund benchmark is a combination of the fixed income and equity benchmarks, weighted according to the asset allocation target.

Market Value
On March 31, 1992 the market value of the Assigned Risk Plan was $329 million.

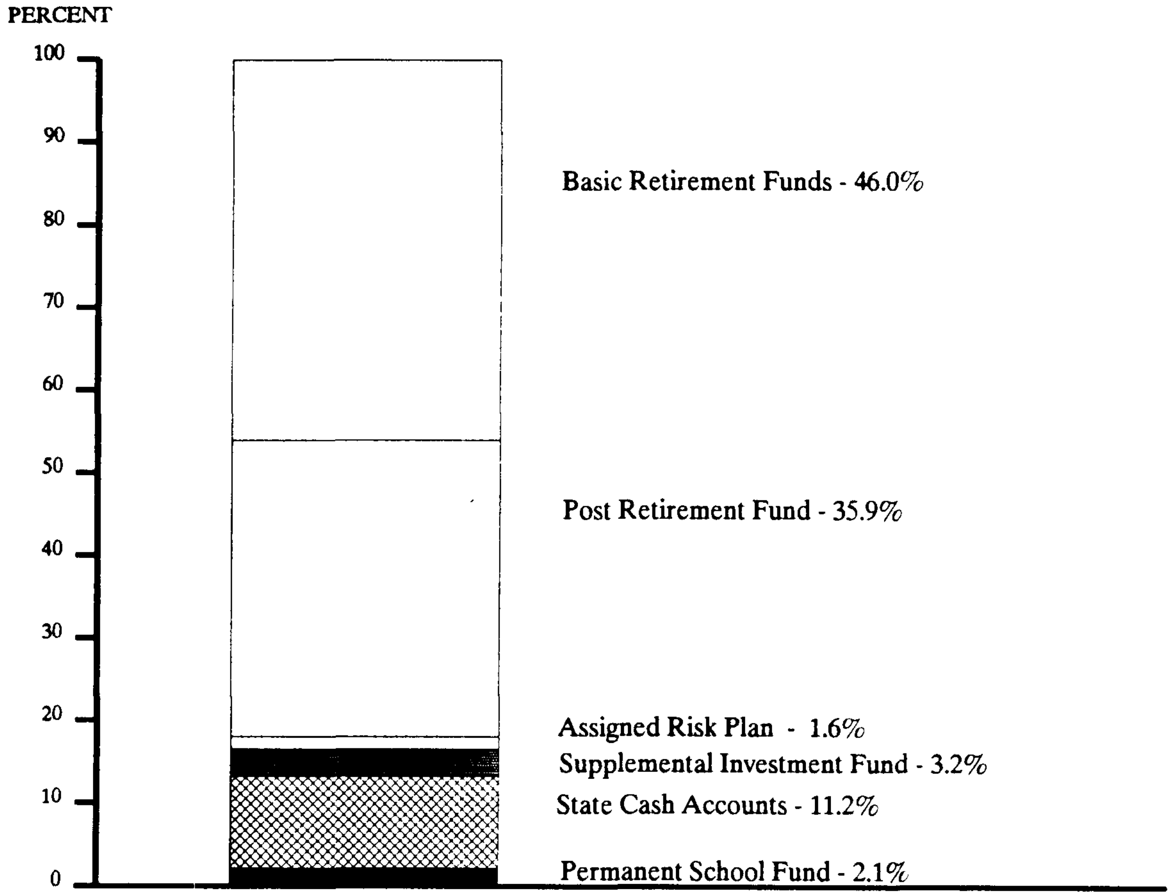


Period Ending 3/31/92

	Qtr.	Since 7/1/91
Total Fund	-0.9%	9.3%
Composite Index	-0.8	9.3
Equity Segment	-1.2	11.1
Benchmark	-3.1	10.8
Bond Segment	-0.8	9.3
Benchmark	-0.3	8.5

EXECUTIVE SUMMARY

Funds Under Management



	3/31/92 Market Value (Billions)
Basic Retirement Funds	$8.6
Post Retirement Fund	6.7
Assigned Risk Plan	0.3
Supplemental Investment Fund	0.6
State Cash Accounts	2.1
Permanent School Fund	0.4
Total	$18.7

MINNESOTA STATE BOARD OF INVESTMENT

QUARTERLY INVESTMENT REPORT

First Quarter 1992

(January 1, 1992 – March 31, 1992)

Table of Contents

FINANCIAL MARKETS REVIEW

STOCK MARKET

During the quarter the stock market decreased in response to economic reports, Federal Reserve press releases, and Congressionsl activity. The market pulled back in January from its rapid rise in late December. When the economy still showed no significant signs of a fast recovery in March, the market became cautious and decreased moderately from its February levels.

The Wilshire 5000 decreased 1.3% for the quarter. Performance among the different Wilshire Style Indexes for the quarter are shown below:

- Large Value -1.3%
- Small Value 7.3
- Large Growth -3.4
- Small Growth 2.3

The Wilshire 5000 increased 13.7% during the latest year.

BOND MARKET

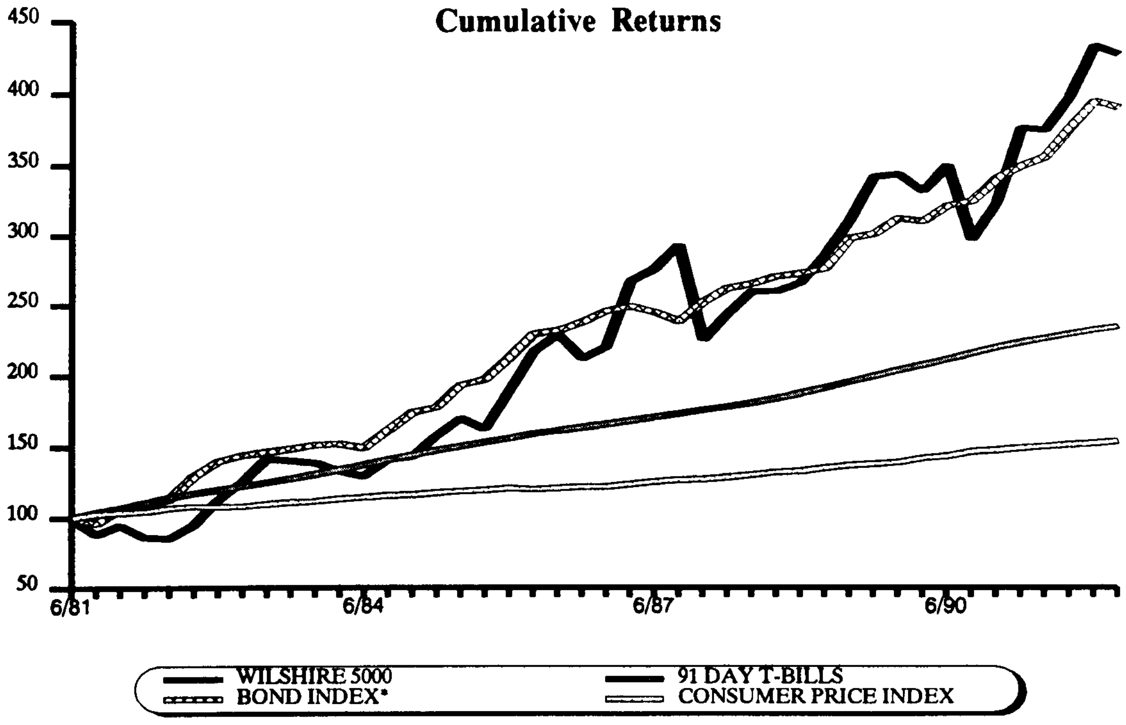
The bond market recorded a negative rate of return for the quarter. Bond prices increased in January correcting an overreaction to the large short-term rate reduction the Federal Reserve made in December. In March, some moderately positive economic news that the economy might start to improve caused the bond market to rise, anticipating the start of a slow economic recovery.

Overall, the Salomon Brothers Broad Investment Grade (BIG) Index decreased 1.2% for the quarter. The Salomon BIG sector returns for the quarter were:

- Treasury/Agency -1.8%
- Corporates -0.5
- Mortgages -0.5

The Salomon BIG increased 11.7% for the latest year.

PERFORMANCE OF CAPITAL MARKETS



* Salomon Broad Investment Grade Bond (BIG) Index

FINANCIAL MARKETS REVIEW

REAL ESTATE

The real estate market still faces capital shortages, oversupply and slow demand. Many real estate portfolios have experienced significant writedowns over the last year, reflecting the weak real estate markets. Longer term, the cut in the discount rate and a significant decline in construction activity are both favorable developments for the real estate market.

VENTURE CAPITAL

Calendar year 1991 was a stellar year for initial public offerings of venture-backed companies. Over one hundred venture-backed companies tapped the new issues market and raised a total of almost $3.8 billion. The previous record for venture-backed initial public offerings was 1983, when a similar number of venture-backed companies raised approximately $3.0 billion in the public equity markets.

RESOURCE FUNDS

Over the past year and a half 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 $20.75 per barrel.

Spot prices of natural gas reached a high of approximately $2.00 per MCF (thousand cubic feet) in October 1990 compared to a recent price of approximately $1.56 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.

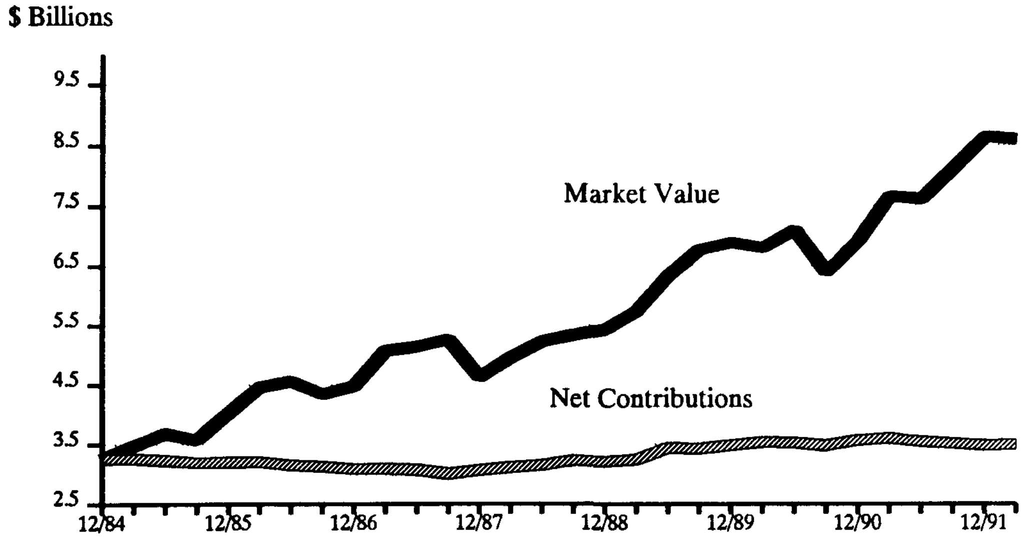
Based upon the Basic Funds' adequate funding levels and participant demographics, its investment time horizon is quite long. This extended time horizon permits the Board to take an aggressive, high expected return investment policy which incorporates a sizable equity component.

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 essentially remained the same during the first quarter of 1992. There were no material increases or decreases in either net contributions or investment returns.



In Millions

	12/87	12/88	12/89	12/90	12/91	3/92
Beginning Value	$4,474	$4,628	$5,420	$6,382	$8,120	$8,639
Net Contributions	-26	146	269	97	-32	9
Investment Return	180	646	1,186	440	551	-43
Ending Value	$4,628	$5,420	$6,875	$6,919	$8,639	$8,605

BASIC RETIREMENT FUNDS

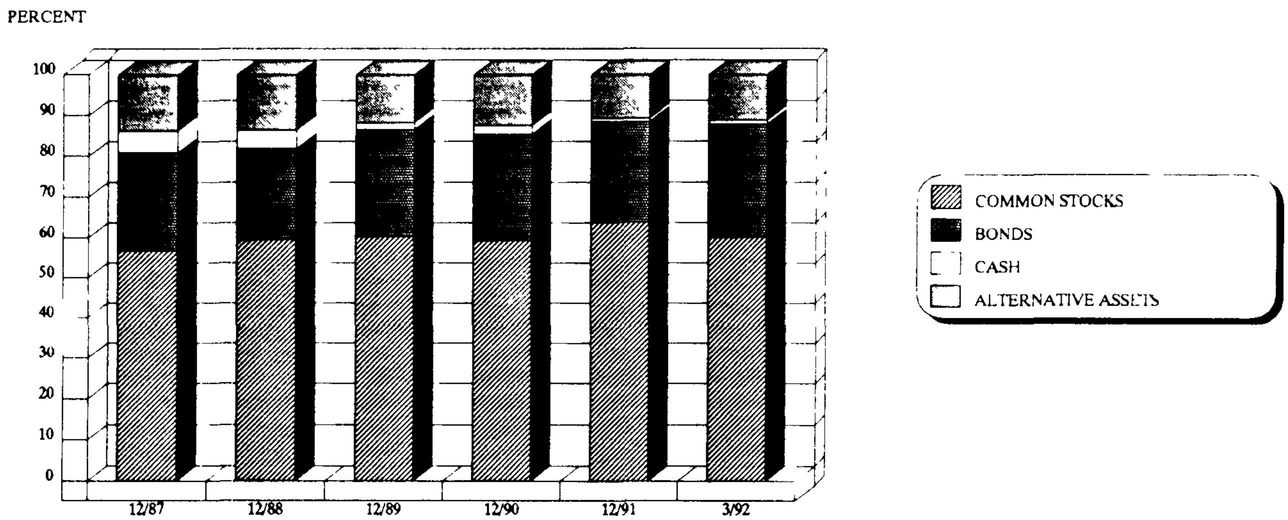
Asset Mix

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
Alternative Assets*	15.0
Unallocated Cash	1.0

*Alternative assets include real estate, venture capital and resource funds.

The stock percentage decreased and the bond percentage increased due to rebalancing $300 million from stocks to bonds. In addition, the alternative asset percentage increased due to strong performance in the venture capital area.



	Last Five Years					Latest Qtr.
	12/87	12/88	12/89	12/90	12/91	3/92
Stocks	56.7%	59.5%	60.2%	59.1%	63.9%	60.1%
Bonds	24.2	22.4	26.4	26.2	24.7	27.8
Real Estate	9.5	9.0	7.5	7.0	4.8	4.5
Venture Capital	2.8	3.1	2.8	4.2	4.7	5.4
Resource Funds	1.4	1.5	1.4	1.5	1.1	1.2
Unallocated Cash	5.4	4.5	1.7	2.0	0.8	1.0
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

BASIC RETIREMENT FUNDS

Total Fund Performance vs. Standards

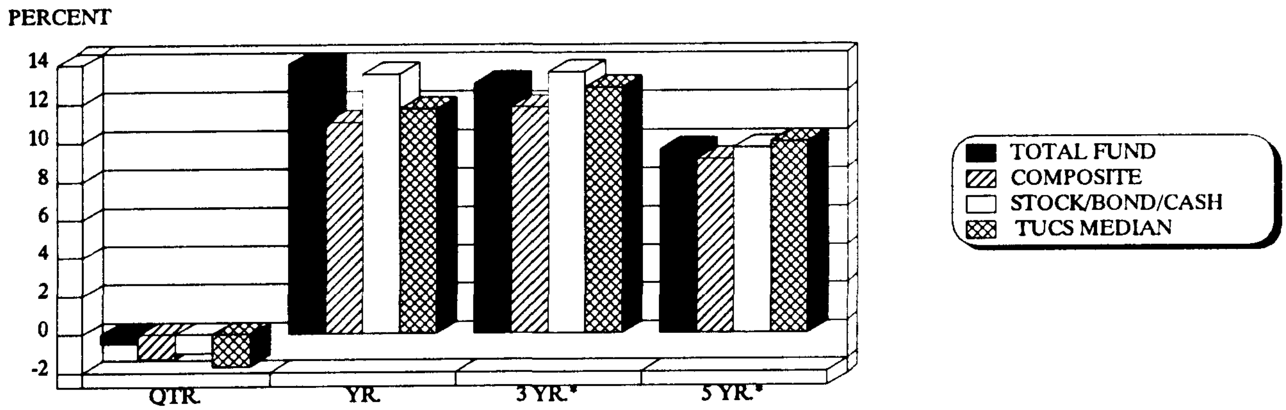
The Basic Funds' long-term rate of return performance is evaluated relative to two specific benchmarks:

- **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% Wilshire Real Estate Fund, 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 exceeded its composite index for the latest quarter and year. Excluding alternative assets, the Basic Funds ranked near the top third (35th percentile) of the TUCS universe for the quarter. In addition, it ranked in the top third (28th percentile) for the latest year and the middle third (59th percentile) for the last five years.



Period Ending 3/31/92

	Qtr.	Yr.	3 Yr.	5 Yr.
			*(Annualized)	
Total Fund	**-0.5%**	**14.0%**	**13.0%**	**9.6%**
Composite Index**	-1.3	11.0	11.8	9.1
Stocks, Bonds and Cash Only	-1.0	13.5	13.6	9.7
TUCS Median Balanced Fund	-1.7	11.7	12.8	10.0

** Adjusted to reflect the SBI's restrictions on liquor and tobacco stocks.

BASIC RETIREMENT FUNDS

Segment Performance vs. Standards

Stock Segment

The Basic Funds' common stock segment exceeded its performance target for the latest quarter and year.

			Annualized	
	Qtr.	Yr.	3 Yrs.	5 Yrs.
Stock Segment	-1 1%	14.0%	13.8%	9.5%
Wilshire 5000*	-1.5	13.3	13.7	9.3

* Adjusted for liquor and tobacco restrictions.

Bond Segment

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

			Annualized	
	Qtr.	Yr.	3 Yrs.	5 Yrs.
Bond Segment	-1 3%	12.3%	12.2%	9.2%
Salomon Bond Index	-1 2	11.7	12.2	9.4

Real Estate Segment

The real estate segment of the Basic Funds exceeded its target 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.

			Annualized	
	Qtr.	Yr.	3 Yrs.	5 Yrs.
Real Estate Segment	-6.8%	-9.7%	-2.5%	1.5%
Real Estate Index	-6.8	-15.6	-5.2	-0.3
Inflation	1 0	3.2	4.4	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. Some of the investments, therefore, are relatively immature and returns may not be indicative of future results.

			Annualized	
	Qtr.	Yr.	3 Yrs.	5 Yrs.
Venture Capital Segment	13 4%	62.3%	25.4%	21.6%
Resource Fund Segment	11 5	13.8	7.3	8.8

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.

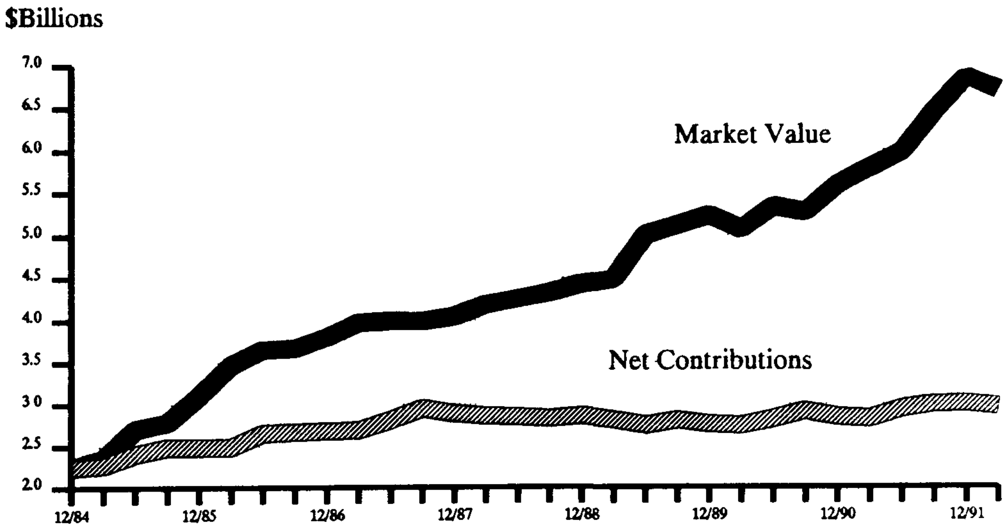
The Board has established two earnings objectives for the Post Fund:

- 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 decreased by 2.2% during the first quarter of 1992. Assets decreased due to negative net contributions and negative bond performance.



In Millions

	12/87	12/88	12/89	12/90	12/91	3/92
Beginning Value	$3,808	$4,047	$4,434	$5,278	$6,448	$6,855
Net Contributions	207	-27	25	-72	9	-40
Investment Return	32	414	779	384	398	-114
Ending Value	$4,047	$4,434	$5,238	$5,590	$6,855	$6,701

POST RETIREMENT FUND

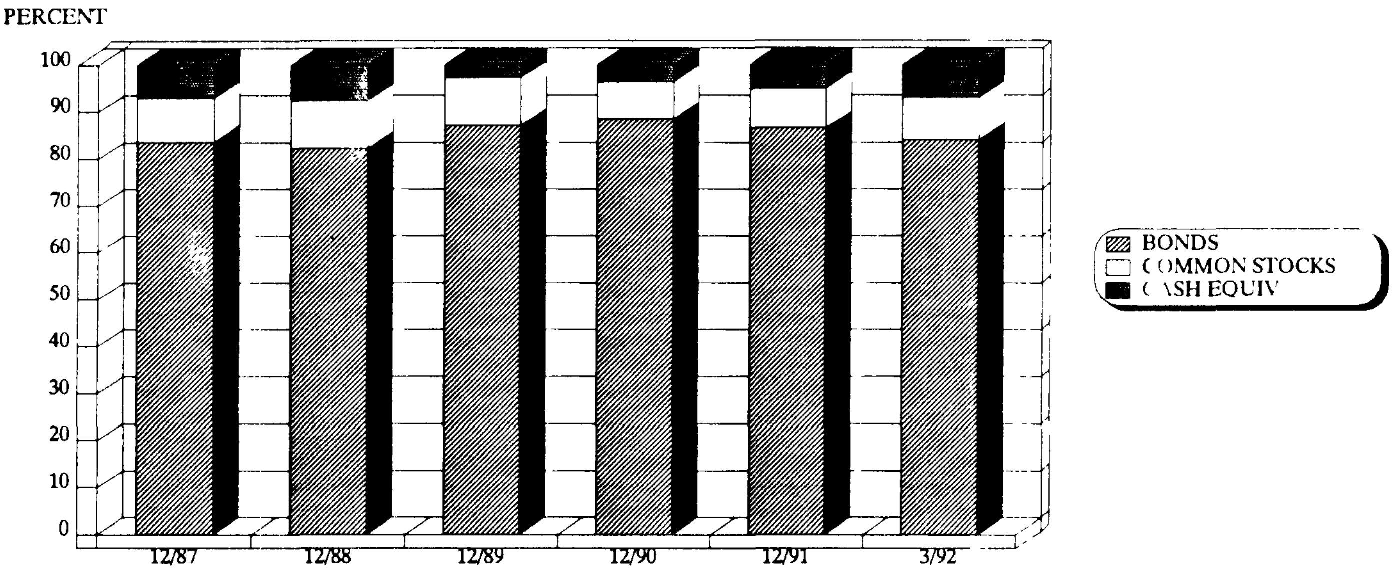
Asset Mix

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 stock percentage increased due to strong performance. The bond percentage decreased due to negative performance and cashflow not being reinvested due to a potential rebalancing in the near future



	Last Five Years					Latest Qtr.
	12/87	12/88	12/89	12/90	12/91	3/92
Bonds	83.7%	82.3%	87.1%	88.5%	86.5%	84.0%
Stocks	9.3	10.1	10.2	7.9	8.5	9.0
Unallocated Cash	7.0	7.6	2.7	3.6	5.0	7.0
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

POST RETIREMENT FUND

Total Fund Performance

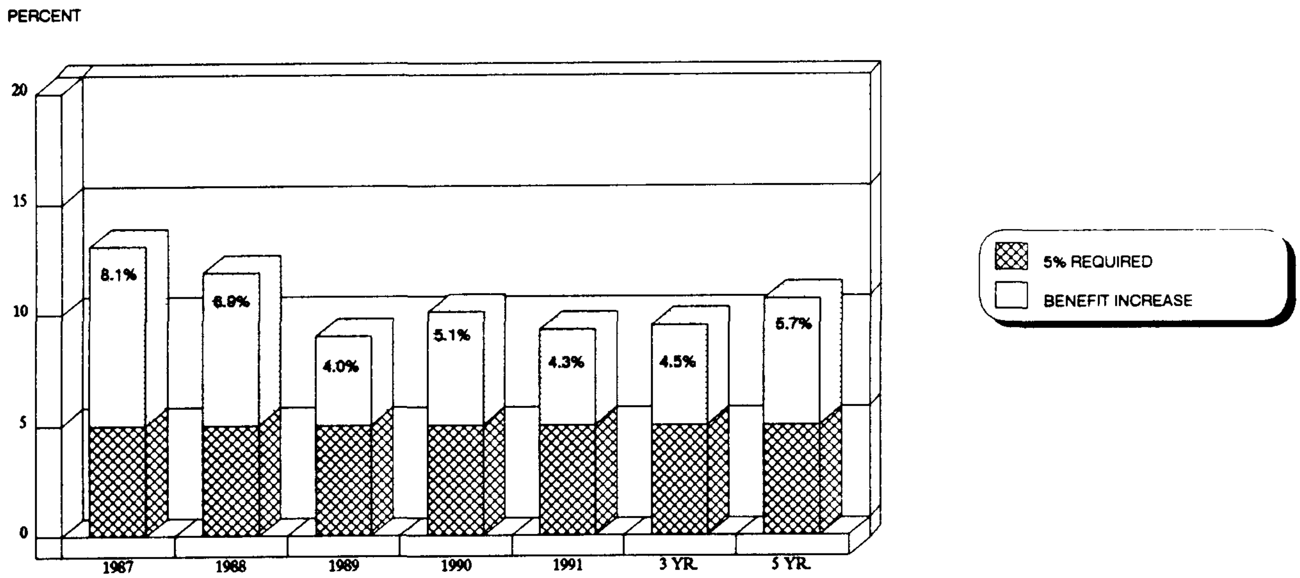
The ability of the Post Fund to maintain current benefit levels and provide future benefit increases depends upon its earnings. State statutes define earnings for the Post Fund as interest and dividend income as well as realized equity and fixed income capital gains (or losses). Unrealized capital gains (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 1987 - 1991



						(Annualized)	
	1987	**1988**	**1989**	**1990**	**1991**	**3 Yrs.**	**5 Yrs.**
Realized Earnings*	13.1%	11.9%	9.0%	10.1%	9.3%	9.5%	10.7%
Benefit Increase**	**8.1**	**6.9**	**4.0**	**5.1**	4.3	4.5	5.7
Inflation	3.7	3.9	5.2	4.7	4.7	4.9	4.4

* 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 and year.

Period Ending 3/31/92

			(Annualized)	
	Qtr.	Yr.	3 Yrs.	5 Yrs.
Stock Segment	5.1%	19.7%	12.4%	9.3%
Post Fund Benchmark	2.8	16.1	12.1	N.A

Bond Segment Performance

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

The Post Fund's bond portfolio provided a -2.5% total rate of return for the quarter and a 12.7% 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
3/31/92

Value at Market	$ 5,515,153,851
Value at Cost	5,025,611,693
Average Coupon	8.29%
Current Yield	7.01
Yield to Maturity	7.63
Current Yield at Cost	8.02
Time to Maturity	15.97 Years
Average Duration	7.76 Years
Average Quality Rating	AAA
Number of Issues	440

ASSIGNED RISK PLAN

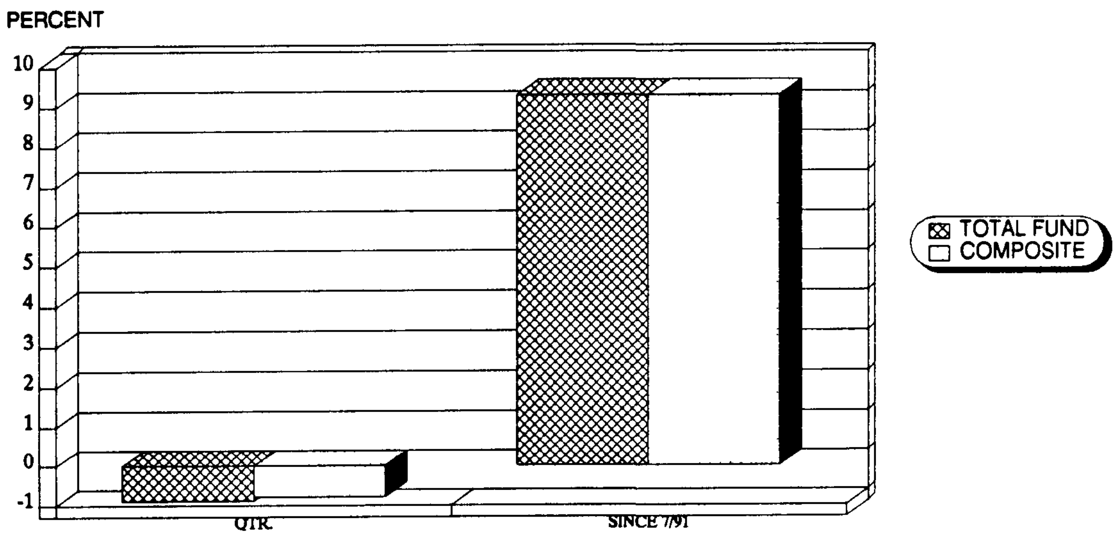
Investment Objective
The Assigned Risk Plan has two investment objectives: to minimize the mismatch between assets and liabilities and to provide sufficient liquidity for the payment of on-going claims and operating expenses.

Asset Mix
The Assigned Risk Plan is invested in a balanced portfolio of common stocks and bonds. The actual asset mix will fluctuate in response to changes in the Plan's liability stream.

	3/31/92 Target	3/31/92 Actual
Stocks	15.0%	15.1%
Bonds	85.0	82.9
Unallocated Cash	0.0	2.0
Total	100.0%	100.0%

Investment Management
External management is utilized by the Assigned Risk Plan. The entire fund is managed by Voyageur Asset Management.

Market Value
On March 31, 1992 the market value of the Assigned Risk Plan was $329 million.



Period Ending 3/31/92

	Qtr.	Since 7/1/91
Total Account	-0.9%	9.3%
Composite	-0.8	9.3
Equity Segment	-1.2	11.1
Wilshire 5000	-3.1	10.8
Bond Segment	-0.8	9.3
Benchmark	-0.3	8.5

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 an investment manager for most 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, 1992 the market value of the entire fund was $563 million.

Investment Options

Income Share Account - a 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

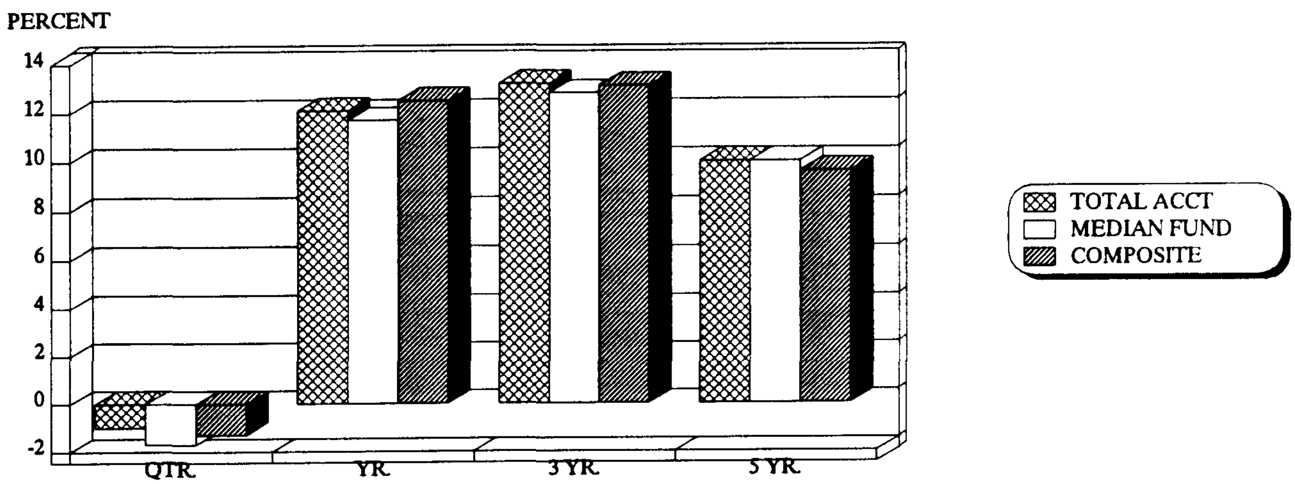
Investment Objective
The primary investment objective of the Income Share Account is similar to that of the Basic Retirement Funds. The Account seeks to maximize long-term real rates of return, while limiting short-run portfolio return volatility.

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%	63.0%
Bonds	35.0	28.5
Unallocated Cash	5.0	8.5
	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, 1992 the market value of the Income Share Account was $298 million.



Period Ending 3/31/92

	Qtr.	Yr.	Annualized 3 Yr.	Annualized 5 Yr.
Total Account	-1.0%	12.1%	13.2%	10.0%
Median Fund*	-1.7	11.7	12.8	10.0
Composite**	-1.3	12.5	13.1	9.6
Equity Segment	-1.4	13.5	13.9	9.6
Wilshire 5000**	-1.5	13.3	13.7	9.3
Bond Segment	-1.0	11.2	11.9	9.9
Salomon Bond Index	-1.2	11.7	12.2	9.4

* TUCS Median Balanced Portfolio

** 60% Wilshire 5000/35% Salomon Broad Bond Index/5% T-Bills Composite. Wilshire 5000 is adjusted to reflect liquor and tobacco restrictions.

SUPPLEMENTAL INVESTMENT FUND

Growth Share Account

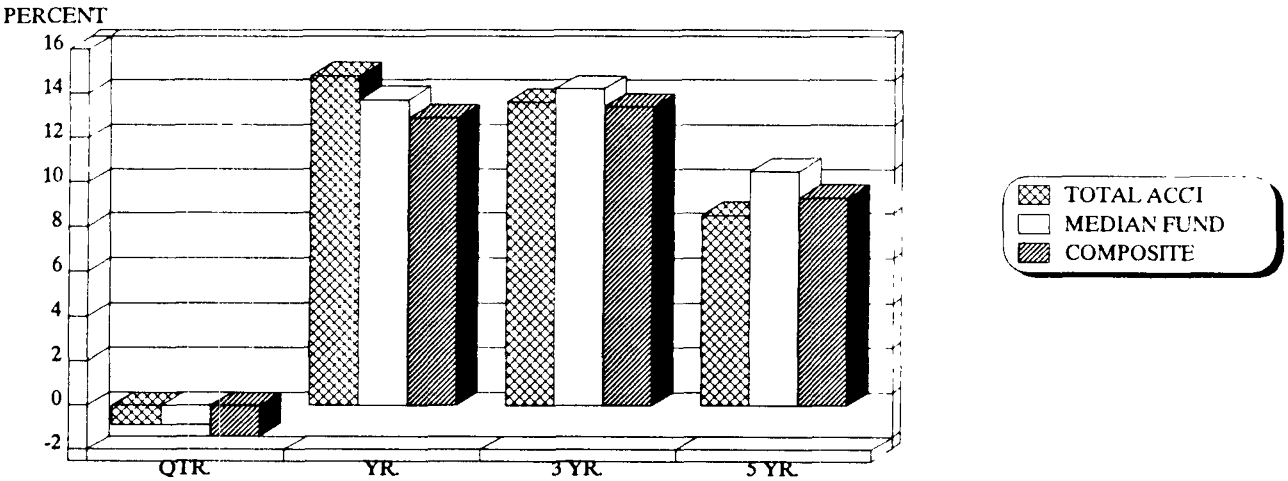
Investment Objective
The Growth Share Account's investment objective is to generate above-average returns from capital appreciation on common stocks.

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%	94.0%
Unallocated Cash	5.0	6.0
	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, 1992 the market value of the Growth Share Account was $84 million



Period Ending 3/31/92

	Qtr.	Yr.	Annualized 3 Yr.	5 Yr.
Total Account	-0.9%	14.8%	13.6%	8.5%
Median Fund*	-0.9	13.7	14.2	10.5
Composite**	-1.4	12.9	13.4	9.3
Equity Segment	-1.1	15.1	13.9	8.7
Wilshire 5000**	-1.5	13.3	13.7	9.3

* TUCS Median Managed Equity Portfolio

** 95% Wilshire 5000/5% T-Bills Composite. Wilshire 5000 is adjusted for liquor and tobacco restrictions.

SUPPLEMENTAL INVESTMENT FUND

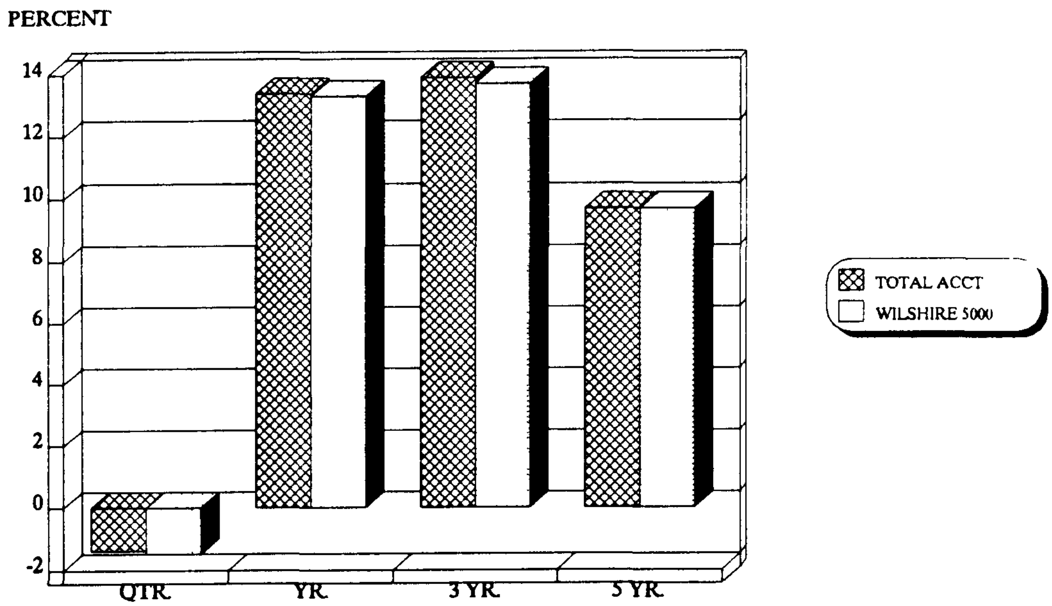
Common Stock Index Account

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, 1992 the market value of the Common Stock Index Account was $23 million.



Period Ending 3/31/92

	Qtr.	Yr.	3 Yr.	5 Yr.
			Annualized	
Total Account	-1.4%	13.4%	13.9%	9.7%
Wilshire 5000*	-1.5	13.3	13.7	9.3

* Adjusted for liquor and tobacco restrictions.

SUPPLEMENTAL INVESTMENT FUND

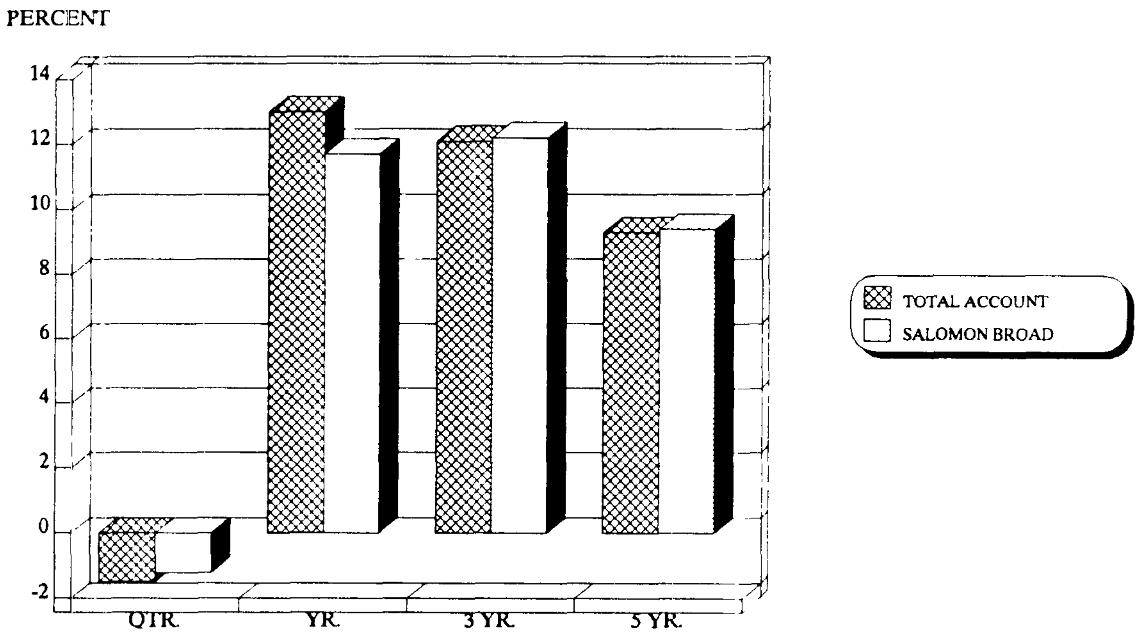
Bond Market Account

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, 1992 the market value of the Bond Market Account was $12 million.



Period Ending 3/31/92

			Annualized	
	Qtr.	Yr.	3 Yr.	5 Yr.
Total Account	-1.5%	13.0%	12.1%	9.3%
Salomon Broad	-1.2	11.7	12.2	9.4

SUPPLEMENTAL INVESTMENT FUND

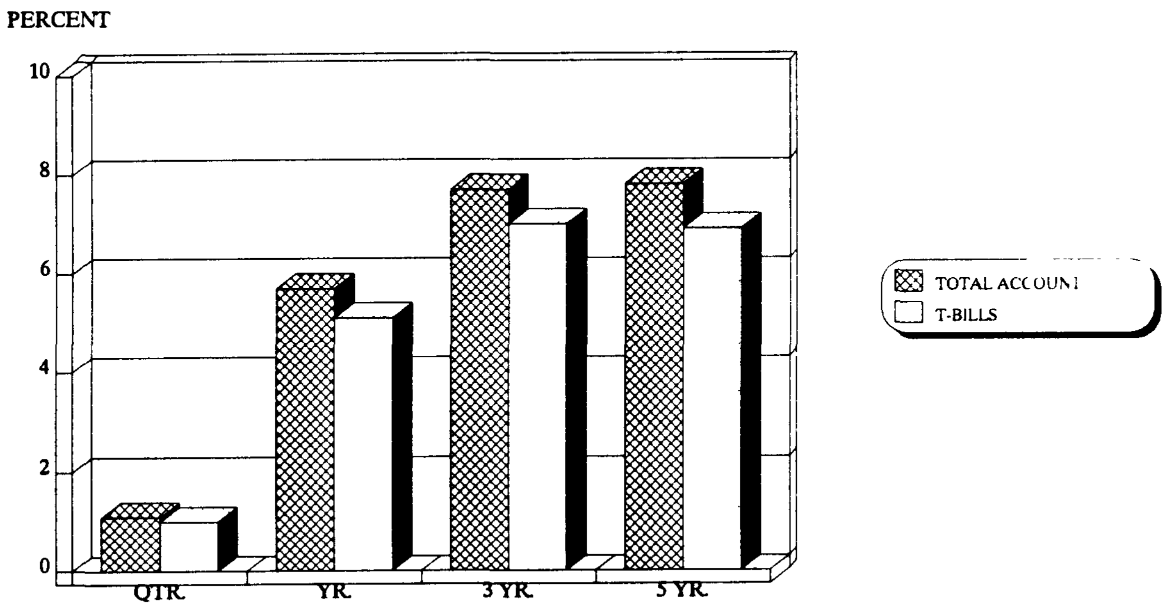
Money Market Account

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, 1992 the market value of the Money Market Account was $78 million.



Period Ending 3/31/92

	Qtr.	Yr.	Annualized 3 Yr.	5 Yr.
Total Account	1.1%	5.7%	7.7%	7.8%
91 Day T-Bills	1.0	5.1	7.0	6.9

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, 1992 the market value of the Guaranteed Return Account was $68 million.

Contract Period	Annual Effective Interest Rate	Manager
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)
Nov. 1, 1991 - Oct. 31. 1994	6.634%	Continental Assurance/ 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 remained essentially unchanged for the 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%	94.8%
Unallocated Cash	5.0	5.2
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 decreased 5.0% during the first quarter. Both withdrawals and negative bond performance contributed to the decrease.

Asset Growth
During First Quarter 1992
(Millions)

Beginning Value	$421.6
Net Contributions	-14.1
Investment Return	-7.5
Ending Value	$400.4

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 8.45%, an average life of 6.70 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
3/31/92

Value at Market	$371,717,545
Value at Cost	345,551,299
Average Coupon	9.13%
Current Yield	8.45
Yield to Maturity	7.99
Current Yield at Cost	9.17
Time to Maturity	14.98 Years
Average Duration	6.70 Years
Average Quality Rating	AAA
Number of Issues	130

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 re ctions, 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 3/31/92

	Market Value (Millions)	Qtr.	Yr.	3 Yrs. Annualized
Treasurer's Cash Pool	$1,640	1.5%	7.3%	8.4%
Trust Fund Cash Pool	578	1.2	6.0	7.8
91-Day T-Bills		1.0	5.1	7.0

Tab B

PORTFOLIO STATISTICS

STATE OF MINNESOTA
STATE BOARD OF INVESTMENT
Composition of State Investment Portfolios By Type of Investment
Market Value March 31, 1992
(in Thousands)

	Cash And Short Term Securities	Bonds Internal	Bonds External	Stocks Internal	Stocks External	Alternative Assets	Total
BASIC RETIREMENT FUNDS:							
Teachers Retirement Fund	$36,491	$0	$1,086,395	$0	$2,346,122	$432,571	$3,901,579
	0.94%		27.84%		60.13%	11.09%	100%
Public Employees Retirement Fund	$18,173	$0	$537,894	$0	$1,161,810	$214,211	$1,932,088
	0.94%		27.84%		60.13%	11.09%	100%
State Employees Retirement Fund	$15,751	$0	$468,408	$0	$1,012,024	$186,577	$1,682,760
	0.94%		27.83%		60.14%	11.09%	100%
Public Employees Police & Fire Fund	$9,217	$0	$213,589	$0	$461,347	$85,061	$769,214
	1.20%		27.77%		59.97%	11.06%	100%
Highway Patrol Retirement Fund	$1,694	$0	$34,342	$0	$74,203	$13,680	$123,919
	1.37%		27.71%		59.88%	11.04%	100%
Judges Retirement Fund	$57	$0	$1,675	$0	$3,619	$667	$6,018
	0.95%		27.83%		60.14%	11.08%	100%
Public Employees P.F. Consolidated	$955	$0	$28,672	$0	$61,770	$11,398	$102,795
	0.93%		27.89%		60.09%	11.09%	100%
Correctional Employees Retirement	$863	$0	$24,142	$0	$52,171	$9,618	$86,794
	0.99%		27.82%		60.11%	11.08%	100%
POST RETIREMENT FUND	$471,208	$5,622,470	$0	$607,409	$0	$0	$6,701,087
	7.03%	83.90%		9.07%			100%

	Cash And Short Term Securities	Bonds Internal	Bonds External	Stocks Internal	Stocks External	Alternative Assets	Total
MINNESOTA SUPPLEMENTAL FUNDS:							
Income Share Account	$25,586 8.56%	$85,054 28.47%	$0	$0	$188,107 62.97%	$0	$298,747 100%
Growth Share Account	$5,040 6.03%	$0	$0	$0	$78,518 93.97%	$0	$83,558 100%
Money Market Account	$78,488 100%	$0	$0	$0	$0	$0	$78,488 100%
Common Stock Index Account	$0	$0	$0	$0	$22,795 100%	$0	$22,795 100%
Bond Market Account	$0	$0	$12,008 100%	$0	$0	$0	$12,008 100%
Guaranteed Return Account	$0	$0	$67,563 100%	$0	$0	$0	$67,563 100%
TOTAL RETIREMENT FUNDS	$663,523 4.18%	$5,707,524 35.97%	$2,474,688 15.59%	$607,409 3.83%	$5,462,486 34.42%	$953,783 6.01%	$15,869,413 100%
ASSIGNED RISK PLAN	$6,738 2.05%	$272,579 82.91%	$0	$49,449 15.04%	$0	$0	$328,766 100%
PERMANENT SCHOOL FUND	$20,895 5.22%	$379,477 94.78%	$0	$0	$0	$0	$400,372 100%
TREASURERS CASH	$1,640,096 100%	$0	$0	$0	$0	$0	$1,640,096 100%
HOUSING FINANCE AGENCY	$198,569 100%	$0	$0	$0	$0	$0	$198,569 100%
MINNESOTA DEBT SERVICE FUND	$26,373 100%	$0	$0	$0	$0	$0	$26,373 100%
MISCELLANEOUS ACCOUNTS	$200,895 100%	$0	$0	$0	$0	$0	$200,895 100%
GRAND TOTAL	$2,757,089 14.77%	$6,359,580 34.07%	$2,747,688 13.26%	$656,858 3.52%	$5,462,486 29.27%	$953,783 5.11%	$18,664,484 100%

STATE OF MINNESOTA
STATE BOARD OF INVESTMENT

Net Cash Flow Available For Investment
January 1, 1992 - March 31, 1992

Basic Retirement Funds:	
Teachers Retirement Fund	$0.00
Public Employees Retirement Fund	(3,500,000.00)
State Employees Retirement Fund	7,980,000.00
Public Employees Police & Fire	2,000,000.00
Highway Patrol Retirement Fund	1,301,000.00
Judges Retirement Fund	200,000.00
Public Employees P&F Consolidated	988,371.73
Correctional Employees Retirement Fund	215,000 00
Post Retirement Fund	(40,099,306.40)
Supplemental Investment Fund - Income	(949,979.35)
Supplemental Investment Fund - Growth	(2,482,487 13)
Supplemental Investment Fund - Money Market	(2,289,060 98)
Supplemental Investment Fund - Index	1,158,173.71
Supplemental Investment Fund - Bond Market	862,967.82
Supplemental Investment Fund - Guaranteed	(1,059,477.97)
Total Retirement Funds Net Cash Flow	$(35,674,798.57)
Assigned Risk Plan	(1,739,941 00)
Permanent School Fund	(14,055,413.17)
Total Net Cash Flow	$(51,470,152.74)

STATE OF MINNESOTA
STATE BOARD OF INVESTMENT

Transaction and Asset Summary
Retirement Funds

	Net Transactions			Asset Summary (at Market Value)				
	Bonds (Millions)	Stocks (Millions)	Total (Millions)	Cash Flow (Millions)	Short-Term % of Fund	Bonds % of Fund	Equity % of Fund	Total Mkt. Value (Millions)
January 1989	$88	-$10	$78	$3	5.6%	47.7%	46.7%	$10,760
February	60	18	78	38	5.3	47.9	46.8	10,760
March	150	5	155	12	3.9	48.8	47.3	10,760
April	-16	188	172	16	2.3	48.1	49.6	10,760
May	-2	4	2	43	2.6	47.6	49.8	10,760
June	119	10	129	119	2.5	49.2	48.3	10,760
July	121	-100	21	44	2.6	49.0	48.4	12,287
August	275	-205	70	51	2.4	49.8	47.8	12,311
September	47	11	58	32	2.2	50.2	47.6	12,344
October	113	-154	-41	8	2.6	52.5	44.9	12,342
November	45	0	45	78	2.8	52.1	45.1	12,494
December	14	6	20	24	2.8	51.8	45.4	12,581
January 1990	-37	6	-31	85	3.9	52.0	44.1	12,126
February	-12	115	103	48	3.4	51.1	45.5	12,232
March	-3	7	4	8	3.4	50.5	46.1	12,334
April	105	3	108	8	2.7	51.4	45.9	12,070
May	-6	27	21	52	2.8	50.0	47.2	12,721
June	23	-22	1	122	3.7	50.3	46.0	12,916
July	130	3	133	65	3.1	51.6	45.3	12,962
August	98	-38	60	53	3.2	53.3	43.5	12,293
September	61	-42	19	13	3.2	55.1	41.7	12,098
October	35	8	43	11	3.0	56.0	41.0	12,103
November	-58	61	3	106	3.7	54.2	42.1	12,652
December	-59	115	56	33	3.4	53.3	43.3	12,967
January 1991	6	-2	4	47	3.6	52.3	44.1	13,356
February	-6	11	5	60	3.9	50.6	45.5	13,790
March	82	1	83	6	3.3	50.8	45.9	13,961
April	-24	-9	-33	9	3.6	50.9	45.5	14,045
May	33	1	34	66	3.8	49.8	46.4	14,308
June	25	2	27	115	4.4	50.5	45.1	14,106
July	124	0	124	48	3.8	50.4	45.8	14,527
August	85	21	106	55	3.3	50.8	45.9	14,891
September	22	1	23	5	3.1	51.4	45.5	15,105
October	21	1	22	14	3.1	51.2	45.7	15,285
November	81	-48	33	64	3.3	52.3	44.3	15,083
December	-4	9	5	25	3.2	51.2	45.6	16,065
January 1992	-42	-3	-45	11	3.6	50.3	46.1	[illegible]5,878
February	-19	0	-19	57	4.1	49.4	46.5	16,086
March	292	-300	-8	2	4.2	51.6	44.2	15,870

Tab C

COMMITTEE REPORT

DATE: May 26, 1992

TO: Members, State Board of Investment

FROM: Howard J. Bicker

1) Budget and Travel Reports

A report on the SBI's FY92 administrative budget for the period ending April 30, 1992 is included as **Attachment A.**

A travel report for the period from February 16, 1991 - May 15, 1992 is included as **Attachment B.**

2) 1992 Legislative Report

The 1992 Legislature enacted several measures of interest to the SBI:

a) SBI Budget Reduction, Chapter 513

The Omnibus Budget Act, provides that the SBI's general fund administrative budget will be reduced by $20,000, a reduction of about 1 percent. The reduction is effective for the reminder of the biennium ending June 30, 1993.

b) SBI Administrative Bill, Chapter 539

Permanent School Fund and Environmental Trust Fund: The act will allow the SBI to amortize realized gains and losses over a 10 year period. The provision will reduce the volatility of the funds' income streams and will make equities a more attractive investment for the funds.

Asset Based Administrative Charge: The act eliminates the front-end charge on new contributions from the statewide deferred compensation plan into the Supplemental Investment Fund (SIF) and replaces it with an asset based charge. The asset based charge will be assessed to all participants in the SIF. The front-end load is replaced by a charge against investment earnings that will be distributed to the plans to defray their expenses. Plans have the option to receive the asset based charge or to purchase additional shares in the respective accounts. The change does not impact the administrative cost structure of the SBI.

Name Change for Guaranteed Return Account: The Guaranteed Return Account is renamed the Fixed Interest Account to focus participant attention on the fixed interest rate feature of the account's guaranteed investment contracts (GIC's) rather than on the term "guaranteed" which may be misleading.

New Investment Authority: Provisions allow the SBI to invest in medium term debt securities issued by banks called deposit notes and in alternative GIC's which allow the SBI a way to retain the fixed interest feature of a GIC while reducing the risk associates with default.

c) **Post Retirement Investment Fund Formula Change,** Chapter 530

The act changes the post retirement benefit increase formula. The current formula which provides for an investment driven increased based on realized earnings is changed to a formula which has a base inflation adjustment and an investment component based on market returns. The new language will allow the Post Fund to focus on total return rather than realized income.

d) **State Auditor's Bill**, Chapter 592

The act contains a provision eliminating the SBI's authority to invest in high-yield, unrated and private placement debt.

e) **403(b) Annuity Vendors**, Chapter 487

The act requires the SBI to select ten insurance companies to will provide tax-sheltered annuities (403(b) annuities) to teachers statewide. The selections must be complete by January 1, 1993.

A summary of the disposition of all bills followed by the SBI staff during the 1992 Session is in **Attachment C**.

3) **Resolution from the Proxy Voting Committee**

At its meeting on May 14, 1992, the Proxy Voting Committee adopted a resolution concerning the issue of executive compensation. For your information the resolution is **Attachment D**.

ATTACHMENT A

STATE BOARD OF INVESTMENT
FISCAL YEAR 1992 ADMINISTRATIVE BUDGET REPORT
GENERAL FUND APPROPRIATION
FISCAL YEAR TO-DATE THROUGH APRIL 30,1992

ITEM	FISCAL YEAR 1992 BUDGET	FISCAL YEAR 1992 EXPENDITURES
PERSONAL SERVICES		
CLASSIFIED EMPLOYEES	$ 260,000	$ 213,772
UNCLASSIFIED EMPLOYEES	1,224,000	922,979
SEVERENCE PAYOFF	0	24,225
WORKERS COMPENSATION INSURANCE	0	3,025
MISCELLANEOUS PAYROLL	0	-20
SUBTOTAL	**$ 1,484,000**	**$ 1,163,981**
EXPENSES & CONTRACTUAL SERVICES		
RENTS & LEASES	92,000	76,807
REPAIRS/ALTERATIONS/MAINTENANCE	9,000	6,044
PRINTING & BINDING	18,000	14,744
PROFESSIONAL/TECHNICAL SERVICES	5,000	11,902
DATA PROCESSING & SYSTEM SERVICES	162,000	135,000
PURCHASED SERVICES	20,000	25,678
SUBTOTAL	**$ 306,000**	**$ 270,175**
MISCELLANEOUS OPERATING EXPENSES		
COMMUNICATIONS	20,000	19,355
TRAVEL, IN-STATE	3,000	615
TRAVEL, OUT-STATE	40,000	32,604
FEES & OTHER FIXED CHARGES	7,000	6,004
SUBTOTAL	**$ 70,000**	**$ 58,578**
SUPPLIES/MATERIALS/PARTS	**15,000**	**33,030**
CAPITAL EQUIPMENT	**19,000**	**4,492**
TOTAL GENERAL FUND	**$ 1,894,000**	**$ 1,530,256**

ATTACHMENT B

STATE BOARD OF INVESTMENT

Travel Summary by Date
February 16, 1992 - May 15, 1992

Purpose	Name(s)	Destination and Date	Total Cost
Miscellaneous SIF Presentation to Fire Relief Association	J. Heidelberg	Buffalo, MN 3/3	$13.86
Staff Conference State Street Bank Annual Client Conference	H. Bicker M. Schmitt	Phoenix 3/14-18	$1,708.00
Miscellaneous Retired Educators Association of Minnesota (REAM) Regional Meeting	H. Bicker	Mankato, MN 4/30	$34.44

Bills of Interest to the Minnesota State Board of Investment
1992 Legislative Session
Includes Action Through 5/1/92

Description of Bill	HF/SF # and Author	Current Status
SBI Bill -Various provisions	HF 2026 (Reding) SF 1917 (Waldorf)	Governor signed **Laws 1992, Chapter 539**
Changing the formula governing calculation of post retirement increases -SBI will have greater investment flexibility for the Post Fund	HF 1960 (Reding) SF 1910 (Morse)	Governor signed **Laws 1992, Chapter 530**
Allowing employer matched deferred comp moneys to be invested in teacher 403(b) annuities -Amendment would require SBI to select 10 insurance companies as statewide 403(b) vendors	HF 419 (Johnson) SF 410 (Morse)	Governor signed **Laws 1992, Chapter 487**
State Auditor's bill -modifies SBI's investment authority concerning high yield bonds	HF 2404 (Pugh) SF 2194 (Reichgott)	Governor signed **Laws 1992, Chapter 592**

Creating a state board of pension investment	HF 2423 (R. Johnson)	Amended and Passed House Gov't. Op. 3/13; Referred to Appropriations 3/19
	SF 2409 (Cohen)	No hearing by 2nd Committee deadline
		DID NOT PASS
Restricting SBI investment in certain metropolitan governmental debt	HF 1932 (Ostrom)	Referred to Local Gov't. and Metropolitan Affairs; No hearing by 2nd Committee deadline
-Amends SBI's investment authority to restrict investment in air carriers	SF 1725 (D.R. Frederickson)	Senate passed 3/27
		DID NOT PASS
Recodifying state deferred compensation plan	HF 2476 (Reding)	On General Orders
-Also adds a teachers extra-curricular plan	SF 2427 (Waldorf)	Senate Gov't. Op. laid over 3/18
		Pension Commission approved 3/10
		DID NOT PASS

ATTACHMENT D

Proxy Voting Committee

Resolution on Executive Compensation

WHEREAS, executive compensation is a widely discussed corporate governance issue because of intense and widespread concern over instances of excessive executive compensation.

WHEREAS, the Proxy Voting Committee has been studying information on executive compensation issues and has reviewed several shareholder proposals on executive compensation during the 1992 proxy season.

WHEREAS, the Proxy Voting Committee is in the process of gathering additional information on the subject and with this additional information intends to make a policy recommendation on the issue of executive compensation to the Board.

NOW, THEREFORE, BE IT RESOLVED that the Proxy Voting Committee will recommend to the Board a policy position on executive compensation and will vote on executive compensation proposals based upon the Board policy position.

Adopted this 14th day of May, 1992.

Peter Sausen

Peter Sausen, Chair
Proxy Voting Committee

Tab D

STATE OF MINNESOTA
OFFICE OF THE STATE TREASURER

303 State Administration Building
50 Sherburne Avenue
Saint Paul, Minnesota 55155

MICHAEL A. McGRATH
Treasurer

(612) 296-7091
Fax (612) 296-8615

DATE: May 26, 1992

TO: Members, State Board of Investment

FROM: Michael A. McGrath, Chair
SBI Administrative Committee

SUBJECT: Committee Report

The SBI Administrative Committee met on May 15, 1991 and took action on the following items:

1) Executive Director's FY93 Workplan

Mr. Bicker presented his proposed workplan for FY93. Like the previous workplans, the FY93 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**. Supporting information was sent to each Board member as part of the FY93 Management and Budget Plan document.

RECOMMENDATION:

The Committee recommends that the SBI approve the attached FY93 Executive Director's workplan. Further, the Committee recommends that the workplan serve as the basis for the Executive Director's performance evaluation for FY93.

2) FY93 Administrative Budget Plan

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

An overview and summary of the budget plan is in **Attachment B**. Supporting information was sent to each Board Member as part of the FY93 Management and Budget Plan.

RECOMMENDATION:

The Committee recommends that the SBI approve the attached FY93 Administrative Budget Plan.

3) FY 94-95 Biennial Budget Request

Mr. Bicker proposes that the SBI submit a "same level" budget request for FY 94-95. A summary of the proposed request is in **Attachment B**. The SBI needs to take action on the proposal at its June meeting so that the appropriate documents can be prepared and submitted to the Department of Finance on a timely basis over the summer months.

RECOMMENDATION:

The Committee recommends that the SBI approve submission of a "same level" administrative budget request as defined by the FY 94-95 budget guidelines issued by the Department of Finance (DOF). Further, the Committee recommends that the Executive Director be given the flexibility to make any adjustments to the proposed budget necessary to meet future directives from the DOF regarding submission of budget requests. Any significant changes will be reviewed with the Chair of the SBI Administrative Committee and SBI deputies prior to submission.

4) Fiduciary Education Plan

Minnesota Statutes Chapter 356A requires each public pension plan to establish a continuing education plan for its fiduciaries. The plan approved by the Committee is contained in **Attachment C**. Please note that the travel allocation policy for Board members and their designees is included in the plan.

RECOMMENDATION:

The Committee recommends that the SBI adopt the attached Continuing Fiduciary Education Plan.

5) **Process for Executive Director's FY92 Evaluation**

The Committee discussed the process that will be used by the Board to evaluate the Executive Director for FY92. The Committee members agreed that the performance review should be completed prior to the September 1992 meeting of the SBI and should follow the process used in the past.

RECOMMENDATION:

The Committee recommends adopt the following process for the Executive Director's FY92 performance evaluation:

- **The evaluation will be completed prior to the September 1992 meeting of the SBI.**

- **The evaluation will be based on the results of the Executive Director's workplan for FY92.**

- **The SBI deputies/designees will develop an appropriate evaluation form for use by each 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 the Executive Director to review all evaluations prior to the September meeting of the SBI.**

6) **Contract Amendments Necessary for Post Fund Transition**

Laws 1992 Chapter 530 made significant changes to the post retirement benefit increase formula. The new formula eliminates the requirement to generate realized income and allows the Fund to focus on generating higher, long term total rates of return. In light of these changes, the structure of the Post Fund must be revised as well. A new asset allocation proposal will be presented to the IAC/SBI in June 1992. If approved, the transition will occur over a period of several quarters.

In order to accommodate the administrative requirements associated with the custody and management of the Post Fund assets during the transition, the SBI needs to amend two of its existing contractual relationships:

- The custodial agreement with State Street Bank needs to be amended to include the Post Retirement Fund.

- The contract with Wilshire Associates, the SBI's passive stock manager, needs to be amended to allow Wilshire to manage additional passive accounts for purposes of the transition.

Mr. Bicker will work through the SBI Deputies to keep the Board members apprised of activities during the transition process.

RECOMMENDATION:

The Committee recommends that the SBI authorize the Executive Director, with assistance from SBI's legal counsel, to negotiate and execute contract amendments with State Street Bank and Wilshire Associates to provide for appropriate custody and management of assets in the Post Retirement Fund.

7) 403(b) Vendor Review Committee

Laws 1992 Chapter 487 requires the SBI to select ten (10) insurance companies to provide tax sheltered 403(b) annuity products to teachers and other educational employees statewide by January 1, 1993. The law authorizes the SBI to retain actuarial consulting services to assist in the evaluation and selection of the insurance companies. Each local school district may select one or more of the vendors approved by the SBI to sell annuity products to its employees.

The SBI must establish a process which will allow for timely selection of the vendors. The Committee agreed that a 403(b) Review Committee be established to oversee the selection process and make recommendations to the SBI.

The Review Committee will establish an appropriate search process within the following broad timetable:

June - Aug.	Committee issues request for proposal (RFP) for actuarial consulting services and recommends consultant
Sep.	SBI approves selection of consultant.
Sep. - Nov.	Committee conducts search process with assistance from consultant. RFP's will be requested from insurance companies.
Dec.	SBI authorizes 10 insurance companies as 403(b) annuity vendors.

RECOMMENDATION:

The Committee recommends that the SBI establish a 403(b) Vendor Review Committee to make recommendations to the SBI. The Review Committee should include a designee of each Board member and one or more members of the IAC. The Review Committee should seek input from affected employee and employer organizations during its deliberations. This may include Teachers Retirement Association, Minnesota Educational Association, Minnesota

Federation of Teachers, School Board Association, and other interested educational organizations

8) Deferred Compensation Review Committee

The SBI is charged with the responsibility to select vendors for the state's Deferred Compensation Plan (DCP). The plan is administered and marketed by the Minnesota State Retirement System (MSRS). Currently, investment options are available through three vendors:

- o Supplemental Investment Fund managed by the SBI
- o Minnesota Mutual/Northwestern National Life
- o Great West

In 1989, the SBI established a Deferred Compensation Review Committee to review the options. The Committee did not suggest that the contracts be re-bid at that time, but recommended that the plan be reviewed again in three years.

Mr. Bicker suggested that another Deferred Compensation review Committee be established to conduct the new review. The Review Committee will establish an appropriate review process with the following broad timetable:

Jul. - Dec.	Committee reviews current program structure and develops recommendations for SBI consideration. This may include a recommendation to re-bid the vendor contracts.
Jan. - Jun.	Committee conducts search for vendors through a request for proposal (RFP) process, if necessary.
As needed	Committee presents recommendations to the SBI for action.

RECOMMENDATION:

The Committee recommends that the SBI establish a Deferred Compensation Review Committee to make recommendations to the SBI. The Review Committee should include a designee of each Board member, the Executive Director of MSRS, and one or more members of the IAC. The Review Committee should seek input from organizations representing public employees, public employers and other interested parties.

ATTACHMENT A

STATE BOARD OF INVESTMENT

Executive Director's Proposed Workplan

FY93

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

A. DEVELOPMENT OF INVESTMENT POLICIES	**Projected Time Frame**
1. Select insurance companies to provide annuity contracts to teachers statewide under IRS code 403(b).	Jul. - Dec.
2. Review investment options and vendors available through the Deferred Compensation Plan.	Jul. - Jun.
3. Revise the asset allocation and management structure of the Post Retirement Fund.	Jul. - Jun.
4. Implement the Board's plan for international equities in the Basic Retirement Fund.	Jul. - Jun.
5. Review the SBI's Manager Continuation Policy and propose additions and changes, were appropriate.	Jul. - Jun.
6. Review the SBI's performance-based fee structure and propose modifications, if appropriate.	Jan. - Mar.
7. Review short-term portfolio investment guidelines.	Jul. - Sep.
8. Develop implementation plan for new investment techniques or vehicles that may enhance long term performance. Internal indexation application of derivative strategies (future and options) are topics currently under study.	Jul. - Jun.

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 (FY84-FY93).	
o Outperform the median fund from the TUCS universe of public and private balanced funds over the last 5 years (FY89-FY93).	
o Outperform a composite of market indices over the last 5 years (FY89-FY93).	
2. Meet or exceed the performance objectives established for the Post Retirement Fund. (New objectives will be developed in FY93 in conjunction with a new asset allocation policy for the Post Fund.)	On-going, reported Quarterly
3. Implement new/replacement manager search process for domestic active stock and bond managers.	On-going
4. Consider additional investments with new/existing alternative investment managers.	On-going

C. REVIEW AND CONTROL OF INVESTMENT POLICIES

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. Provide staff support for initiatives assigned to the Proxy Committee.	On-going

D. ADMINISTRATION AND MANAGEMENT OF STAFF OPERATIONS

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 1993 Legislative Session, if needed.	Jul. - May
3. Prepare and seek approval of the SBI's FY 94-95 budget request.	
4. Conduct RFP for the internal portfolio accounting system.	Jul. - Dec.
5. Formalize disaster recovery plan.	Jul. - Sep.
6. Prepare FY 1994 Management and Budget Plan.	Mar. - Jun.

E. COMMUNICATION AND REPORTING

1. Prepare reports on investment results.	Quarterly
2. Prepare status reports on the Executive Director's FY93 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. Prepare FY 1992 Annual Report.	Sep. - Feb.

ATTACHMENT A (con't)

6. Coordinate round table discussions with SBI's external managers.	Periodic, 2-4 per year
7. Conduct investment conference for SBI clientele.	Jan. - Mar.

ATTACHMENT B

Administrative Budget
FY93 Budget Plan
FY 1994-95 Request
Overview

The FY93 budget plan includes the budget reduction enacted by the 1992 Legislature.

The FY 94-95 budget request reflects a "same level" budget. No "change level" items are anticipated.

	F.Y. 1993 BUDGET	F.Y. 1994 REQUEST	F.Y. 1995 REQUEST
Personnel	$ 1,495,000	$ 1,495,000	$ 1,495,000
Contractual Services	332,000	332,000	332,000
Operating Expenses	77,000	77,000	77,000
Supplies and Equipment	64,000	64,000	64,000
	$ 1,968,000	$ 1,968,000	$ 1,968,000

Personnel Costs

The FY 94-95 figures on the attached report were prepared using the guidelines issued by the Department of Finance to date. As a result, no allowance for salary increases is shown for FY 94 or FY 95.

Salary increases are covered by collective bargaining agreements negotiated on a statewide basis. The SBI will not know what salary increases will be for the next biennium until the summer of 1993.

The total complement request remains at 25 positions for FY 94 and FY 95.

Other Expense Categories

All other expense categories for FY94 and FY95 reflect the same amounts as those budgeted for FY93. No allowance for inflation has been made.

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

ATTACHMENT B (con't)

STATE BOARD OF INVESTMENT
FISCAL YEARS 1994 - 1995 BIENNIAL BUDGET REQUEST
GENERAL FUND SUMMARY

DESCRIPTION	FY1990 ACTUAL	FY1991 ACTUAL	FY1992 PROJECTED	FY1993 BUDGETED	FY1994 REQUEST	FY1995 REQUEST
PERSONAL SERVICES						
CLASSIFIED EMPLOYEES	$ 230,351	$ 252,875	$ 264,164	$ 286,000	$ 286,000	$ 286,000
UNCLASSIFIED EMPLOYEES	1,087,741	1,136,215	1,142,164	1,206,000	1,206,000	1,206,000
PART-TIME EMPLOYEES	605	606	3,644	0	0	0
SEVERENCE PAY	16,729	0	24,225	0	0	0
MISCELLANEOUS PAYROLL	333	-87	-20	3,000	3,000	3,000
TOTAL PERSONAL SERVICES	$ 1,335,759	$ 1,389,609	$ 1,434,177	$ 1,495,000	$ 1,495,000	$ 1,495,000
EXPENSES & CONTRACTUAL SERVICES						
RENTS & LEASES	91,308	88,815	93,421	96,000	96,000	96,000
REPAIRS/ALTERATIONS/MAINTENANCE	8,122	7,401	7,326	9,000	9,000	9,000
PRINTING & BINDING	14,346	14,806	16,575	20,000	20,000	20,000
PROFESSIONAL/TECHNICAL SERVICES	7,210	6,984	14,500	15,000	15,000	15,000
DATA PROCESSING & SYSTEM SERVICES	162,000	162,000	162,000	162,000	162,000	162,000
PURCHASED SERVICES	29,023	24,726	29,600	30,000	30,000	30,000
TOTAL EXPENSES/CONTRACTUAL SERVICES	312009	$ 304,732	$ 323,422	$ 332,000	$ 332,000	$ 332,000
MISCELLANEOUS OPERATING EXPENSES						
COMMUNICATIONS	22,812	20,339	22,500	25,000	25,000	25,000
TRAVEL, IN-STATE	2,204	857	1,000	3,000	3,000	3,000
TRAVEL, OUT-STATE	38,592	25,719	40,000	40,000	40,000	40,000
FEES & OTHER FIXED CHARGES	4 237	4,485	7,500	9,000	9,000	9,000
TOTAL MISCELLANEOUS OPERATING EXPENSES	$ 67,845	$ 51,400	$ 71,000	$ 77,000	$ 77,000	$ 77,000
SUPPLIES/MATERIALS/PARTS	20,296	32,186	38,250	29,700	29,700	29,700
CAPITAL EQUIPMENT	6,098	14,582	7,200	34,300	34,300	34,300
TOTAL GENERAL FUND	$ 1,742,007	$ 1,792,509	$ 1,874,049	$ 1,968,000	$ 1,968,000	$ 1,968,000
PERCENT INCREASE OVER PRIOR YEAR		2.9%	4.5%	5.0%	0.0%	0.0%

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 the SBI's consultants. 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 Consultants

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

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 each fiscal year 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: June, 1992

1992 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 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: May 26, 1992

TO: Members, State Board of Investment

FROM: Consultant Review Committee

At its December 1991 meeting, the SBI authorized a Consultant Review Committee to prepare and distribute a request for proposal (RFP) for consulting services and make recommendations to the SBI concerning the selection of one or more consultants. The Committee members are:

Peter Sausen, Chair	Govenor's Designee
Christie Eller	Attorney General's Designee
Jake Manahan	Treasurer's Designee
Lisa Rotenberg	Auditor's Designee
Elaine Voss	Secretary of State's Designee
Laurie Hacking	IAC Representative
Mike Troutman	IAC Representative
Jan Yeomans	IAC Representative

Review Process

The Board member designees developed the RFP and criteria for evaluating responses during January-February 1992. The RFP was formally announced in the State Register on February 24, 1992 and sent to twenty-seven (27) firms. Eleven (11) firms responded by the April 3, 1992 deadline. A copy of the RFP document and a summary list of the responses are attached.

The Committee selected five (5) firms for interviews based on its evaluation of the written responses:

Callan Associates, Inc.
Ennis, Knupp & Associates
Pension Consulting Alliance
Richards & Tierney, Inc.
Frank Russell Company

Interviews were conducted on May 13, 1992. As part of the interview, each firm was asked to present its comments on the international equity implementation plan developed by the staff and the Investment Advisory Council (IAC) as a case study of their consulting approach and resources. The letter sent to each firm prior to the interview is attached. In addition, the Committee prepared a set of questions that were addressed to each firm on the interview day. A copy of the questions is attached as well.

Conclusions

Given the broad scope of the tasks set forth in the RFP, the Committee concluded that the SBI would benefit from the following approach to consulting services:

- o Select a primary or lead consultant to provide a broad range of consulting and analytical services.

- o Select specialized consultant(s) to address specific additional needs, as necessary. At present, the Committee believes that the SBI would benefit from additional consulting assistance in the international area.

The Committee found that each finalist firm has resources that could be of assistance to the SBI in one or both of the above roles. However, after reviewing the strengths of each firm in relation to the criteria established earlier, the Committee recommends the following:

- o **Richards & Tierney, Inc.** (R&T) should be retained as the SBI's primary or lead consultant. R&T can provide general consulting and a range of sophisticated analytical tools that will assist the SBI in the on-going development and evaluation of its investment programs.

- o **Pension Consulting Alliance** (PCA) should be retained to provide additional assistance in international assets. The Committee concluded that PCA can provide specialized consulting in four areas related to the SBI's international program in addition to the services available through R&T:

  - Further assistance in strategic approach and program design
  - Further assistance in developing the SBI's implementation plan
  - Assistance in manager selection
  - Analytics on manager performance

  As the SBI's primary consultant, R&T should incorporate international assets in its performance evaluation/attribution at the total fund level. R&T will also be expected to provide a variety of data and analytical services with respect to international assets and managers on an on-going basis.

Richards & Tierney, Inc. has served as the SBI's primary consultant since 1986. The firm was founded in 1984 and is wholly owned by four (4) principals. The firm is located in Chicago, Illinois and currently has twenty-two (22) pension fund clients. It is the primary consultant for several corporate pension plans including Owens-Illinois, Delta Air Lines, Digital Equipment Corporation and General Mills. The firm provides specialized consulting, primarily in domestic and international equities, for other organizations including Virginia Retirement System, Honeywell, and General Motors. The project team that would be assigned to the SBI's account are:

- o Maureen M. Culhane, Principal (lead)
- o Thomas M. Richards, Principal (back-up)
- o Five (5) other professionals would perform work on the account relationship

Pension Consulting Alliance was founded in 1988 and is owned by its senior consultants. The firm's primary offices are in Studio City, California. PCA focuses on consulting for large public plans. It is the general consultant for California State Teachers Retirement System. The firm provides specialized consulting in the international assets or real estate for several other funds including State of Connecticut Trust Funds and the Oregon Investment Council. PCA describes itself as a boutique pension consulting firm which contracts with specialized firms in several disciplines to provide technical research and databases. The project team that would be assigned to the SBI's account for international consulting are:

- o Allan Emkin, Managing Director, PCA
- o James Waterman, Senior Vice President, InterSec Research Corp.
- o Other professionals from PCA and InterSec would provide back-up services for the account relationship

RECOMMENDATION:

The Committee recommends that the SBI authorize the executive director, with assistance from SBI's legal counsel, to negotiate and execute contracts with Richards & Tierney, Inc. for general consulting services and with Pension Consulting Alliance for international consulting services. Both contracts should cover the four (4) year period beginning July 1, 1992 and will be subject to the standard 30-day termination provision required by state statute.

Attachments:

RFP issued February 24, 1992
Summary list of responses to RFP
Letter to finalist firms prior to the interview
Interview questions developed by the Committee

REQUEST FOR PROPOSAL (RFP)

REGARDING THE SELECTION OF A CONSULTANT OR CONSULTANTS TO ASSIST THE MINNESOTA STATE BOARD OF INVESTMENT (SBI) IN CARRYING OUT ITS FIDUCIARY RESPONSIBILITIES.

This RFP does not obligate the SBI to complete the project and the SBI reserves the right to cancel the solicitation if the SBI considers it to be in its best interest.

I. INTRODUCTION

The Minnesota State Board of Investment (SBI) is charged with the investment of approximately $19.1 billion for the State and related constituents. Of this amount, nearly $16.1 billion represents retirement funds which the SBI invests on behalf of various State and local governmental employees.

The selected consultant(s) will report to the Board and its individual members. In carrying out its responsibilities, the consultant(s) will work closely with individual Board members and their staffs, the SBI's Executive Director and other SBI staff and members of the SBI's Investment Advisory Council.

The SBI has established performance objectives for each of the funds under its control. A brief description of each fund and its performance objectives is included as **Exhibit A**. In its efforts to meet or exceed these objectives, the SBI has sought and will continue to seek consultants' advice and recommendations in the design, development and implementation of its investment programs.

The primary advisory responsibilities of the consultant(s) selected through this RFP shall include, but are not limited to, the subjects of investment objectives and asset allocation, management structures, performance measurement and evaluation, and other operational needs.

The SBI has retained the services of consulting firms since 1982. Currently, the firm of Richards & Tierney, Inc., Chicago IL serves as the SBI's primary consultant.

The SBI has requested a Consultant Review Committee to prepare and distribute a formal RFP to evaluate available consulting services. The Committee will review responses and will recommend one or more candidates to the SBI for approval. The SBI assumes that the process for evaluating and selecting a consultant or consultants will proceed expeditiously and will be completed by June 1992.

II. PURPOSE

The SBI utilizes qualified consultants to provide independent, objective and creative input in the process of fulfilling its fiduciary responsibility.

The consultant(s) employed by the SBI through this RFP will be expected to offer analysis, advice and recommendations with respect to one or more of the following:

- o Investment Policies
- o Investment Management Structures
- o Manager Selection
- o Performance Measurement and Evaluation
- o Operations and Resources
- o Special Projects
- o On-Site Consultation and Assistance

Detailed requirements are set forth in Section V of this RFP.

III. CONSULTANT RELATIONSHIP

The selected Consultant(s) will report to the Board. However, the Consultant(s) will bear the responsibility for maintaining direct communication with members of the Board and their staff, the SBI's Executive Director and other SBI staff and members of the SBI's Investment Advisory Council.

The SBI recognizes that more than one consulting firm may be required to fulfill the duties described in Section V . The SBI's goal is to hire a consultant or consultants whose experience, whether broad-based or specialized, can best satisfy its needs.

Consultants are encouraged to respond to each of the duties cited in Section V in which they have special expertise.

IV. BACKGROUND REGARDING THE SBI

A. Legal Authorization

The SBI was created pursuant to Article XI, Section 8, of the Minnesota Constitution for the purpose of "administering and directing the investment of all state funds." Statutory provisions relating to fiduciary responsibility, portfolio composition, and the types of securities in which the SBI may legally invest are set forth in Minnesota Statutes Chapter 11A and 356A, copies of which are attached as **Exhibit B**.

B. Composition

By constitutional requirement, the SBI is composed of five (5) elected officials: Governor, State Auditor, State Treasurer, Secretary of State, and State Attorney General.

The Consultant Review Committee is composed of a designee of each member of the SBI and two (2) members of the SBI's Investment Advisory Council.

C. Investments and Managers

Currently, the SBI invests in domestic stocks, bonds, real estate, venture capital, resource funds (oil and gas), guaranteed investment contracts and derivative securities. The SBI is developing an implementation plan to add international stocks to one of its funds at the present time.

Approximately one half of the assets under the control of the SBI are managed internally. The remaining assets are managed by external money managers: 11 domestic stock managers (10 active, 1 passive), 6 domestic bond managers (4 active, 2 semi-passive), 7 real estate fund managers, 13 venture capital fund managers, 4 resource fund managers, 1 futures manager, 4 GIC managers and 1 balanced manager. In addition, the SBI utilizes a master custodian to provide a variety of administrative and management functions.

D. Staffing and Support Services

The SBI has a staff of twenty-five (25) persons supervised by an Executive Director. This group manages the day-to-day investment responsibilities. The Executive Director reports investment developments to the SBI at its quarterly and special meetings. In order to carry out its duties effectively, the SBI staff maintains close contact with the Board members and their staffs, the State Legislature, the state-wide and local retirement systems with assets managed by the SBI, and the many firms providing various forms of investment services.

The SBI also receives investment assistance from its 17-member Investment Advisory Council (IAC), whose duties are set forth in Minnesota Statutes 11A.08. The IAC is composed of the State Commissioner of Finance, the Executive Directors of the three statewide retirement systems whose funds are invested by the SBI, a retiree representative, two active employee representatives and ten persons knowledgeable in general investment matters.

The IAC's duties are to advise the SBI on general investment policy matters and perform other advisory tasks as the SBI requests. In order to function efficiently, the IAC is organized into three separate committees: Asset Allocation, Stock and Bond Managers, and Alternative Investments. The committees consider issues of interest to the Board that fall within their specific areas of responsibility. The committees meet as needed and report to the full IAC at the IAC's quarterly meetings.

The SBI has established an Administrative Committee to oversee the Executive Director's work plan and administrative budget. The Committee is comprised of a designee of each Board member as well as the chair and vice chair of the IAC.

Charts illustrating the SBI's functional organizational structure and decision making process are included as **Exhibits C and D**.

E. Funds Invested by the SBI

The funds invested by the SBI are listed below, along with their December 31, 1991 market values.

	Market Value (Billions)
Basic Retirement Funds	$8.6
Post Retirement Fund	6.9
Supplemental Investment Fund	0.6
Permanent School Fund	0.4
Assigned Risk Plan	0.3
State Cash Accounts	2.3
Total	19.1

A brief description of each fund is included as **Exhibit A**.

V. DUTIES OF THE CONSULTANT(S)

The SBI has established performance objectives for each of the funds under its control (See **Exhibit A**). In its efforts to meet or exceed these objectives, the SBI has sought and will continue to seek consultants' advice and recommendations in the design, development and implementation of its investment programs.

The following list of duties represents the consultant(s) primary areas of responsibility. The SBI expects the consultant(s) selected through this RFP to provide independent, objective and creative input to its decision making process.

Please note that the SBI is developing an implementation plan to add international stocks to one of its funds at the present time. Responders should clearly identify their capabilities with respect to this asset class.

Most of the duties outlined in this section have been addressed by the SBI in the past or are being addressed now. However, during the contract period, the consultant(s) may be required to perform any or all of the following tasks:

A. Investment Policies:

1. Prepare a comprehensive review or analysis of the investment policies established for the Basic Retirement Funds and Post Retirement Fund and recommend changes, if appropriate. The review should address investment objectives, asset allocation and management structure. Performance benchmarks or measures at each management level (total fund, asset class segment, individual manager) should be reviewed as well.

2. Conduct a similar review for other funds managed by the SBI, as requested.

3. Provide technical assistance in analyzing the investment characteristics of available asset classes and alternative asset mixes for each fund managed by the SBI.

4. Recommend a target asset mix for each fund managed by the SBI.

5. Recommend guidelines and procedures for rebalancing the asset mix of each fund and for evaluating the effectiveness of such procedures.

6. Assist in developing or updating a comprehensive written investment policy statement for each fund managed by the SBI.

B. Investment Management Structures:

1. Assist in developing an appropriate investment management structure for each fund and asset class which considers the role of passive versus active management, the range and mix of available management styles, as well as the number of managers hired.

2. Assist in developing criteria for evaluating the effectiveness of the current investment management structure for each fund and for altering the investment management structures under various market conditions.

3. Keep the SBI abreast of new developments in investment management techniques within each asset class and each fund as a whole. Analyze how these new techniques might enhance the SBI's investment program and how they might best be implemented.

C. Manager Selection:

1. Assist in designing and implementing manager selection processes.

2. Analyze the SBI's needs for particular managers within each asset class.

3. Assist in establishing appropriate qualitative and quantitative requirements for reviewing potential candidates.

4. Assist in screening prospective managers and recommending finalists which meet stated requirements.

D. Performance Measurement and Evaluation:

1. Recommend a composite index for each fund to measure total fund performance relative to its established target asset mix.

2. Calculate and analyze actual performance relative to the composite index for the Basic Retirement Funds and Post Retirement Fund on an on-going basis.

3. Assist in analyzing the performance of other SBI funds, as requested.

4. Calculate performance for each manager in each asset class utilized in the Basic Retirement Funds and Post Retirement Fund.

5. Provide an analysis of the individual and aggregate risk positions of the above managers on a periodic basis.

6. Assist in establishing appropriate performance benchmarks or measures for each of the above managers.

7. Maintain customized benchmark portfolios for each stock or bond manager retained by the SBI.

8. Evaluate manager performance and consistency relative to guidelines, standards, and desired characteristics.

9. Assist the SBI in continued implementation of performance-based fees.

E. Operations and Resources:

1. Review the Executive Director's annual work plan and recommend modifications, where appropriate.

2. Comment on the adequacy of the operational resources available to carry out the plan (e.g. budget, staffing, data processing systems).

F. Special Requests:

1. Prepare comprehensive analyses of specific issues designated by the SBI. These may include topics such as South Africa divestiture, custodial relationships or data processing needs.

2. Present such analyses to the SBI and IAC when requested.

G. On-Site Consultation and Assistance:

1. Attend all quarterly and special meetings of the SBI and the Investment Advisory Council (IAC). Generally, the IAC and SBI meet on consecutive days once each quarter.

   The consultant may be called upon to comment on specific items presented to the SBI for approval, to evaluate elements of the SBI's investment management programs, to review trends in the economy and capital markets.

2. Meet with each member of the SBI or their designee on a quarterly basis, or as requested, to discuss pertinent investment management issues.

3. Meet with SBI staff, as needed, to assure timely completion of the tasks set forth in this section.

VI. PREPARATION OF PROPOSAL

The consultant's response to this RFP shall be organized in the following manner. **Please observe the page limits shown for each section.** Please note that consultants will be evaluated, in part, on their ability to communicate clearly and succinctly. **Brevity will be appreciated.**

Section 1: Work Plan
Page Limit: No more than 15

- o A statement of the services the consultant is prepared to provide the SBI in order to respond to one or more of the duties delineated in Section V of this RFP. If necessary, provide a statement of any other tasks the consultant believes must be performed to completely meet the SBI's needs.

- o The consultant's operational plan for fulfilling the above.

- o A statement of any expected tasks or contributions by the State of Minnesota (including the members of the Board, the Consultant Review Committee, the SBI staff, any other State agencies or the IAC) necessary to provide documents or other data needed by the consultant to accomplish the work plan.

- o Designation of a project manager and project team for the consulting relationship.

Section 2: Organization and Personnel
Page Limit: No more than 10

- o A description of the organization which includes the following information:

  - Date business commenced.

  - Ownership structure.

  - Affiliation with other firms (i.e. parent companies, brokerage firms, investment banking firms or other entities).

  - Description of the firm's financial position and sources of revenue. Include a copy of the firm's most recent audited financial statements.

  - Description of any litigation pending against the firm.

  - Number of consulting relationships gained and lost in each of the following periods:

    - o January - December 1989
    - o January - December 1990
    - o January - December 1991
    - o January - March 1992

  - Number and title of professional personnel gained and lost in the same periods.

  - Brief description of the firm's growth plan and capacity to undertake this consulting relationship.

- o A resume or biography of each professional staff person to be assigned to this consulting relationship, outlining their qualifications, previous experience in similar tasks or engagements and the relative contribution (in person-hours) of each.

Section 3: Computer Capability
Page Limit: No more than 3

- o A description of the databases, software and hardware that will be used to support the proposed work plan.

- o A description regarding how the databases and software will be accessed by SBI staff. Specify the hardware necessary to accomplish such access.

Section 4: Experience and References
Page Limit: No more than 7

- o A presentation of the previous experience of the consultant with similar tasks or engagements and the current capacity of the consultants to provide appropriate experienced staff to this engagement.

- o A list of all public pension fund clients under contract as of March 1992.

- o A list of at least three references. The references must be current public or private pension fund clients and should have accounts of similar size and complexity as those described in this RFP. The references shall include the name, title, organization, address and phone number of the responder's primary contact at the client organization.

Section 5: Fee Proposal
Page Limit: No more than 2

- o An estimate of the total fee necessary to complete the consultant's proposed work plan. The fee estimate must include a breakdown of the costs attributable to each of the services included in the consultant's proposal as well as the estimate of time necessary to satisfactorily complete each task.

- o A statement that the fee estimate is valid for a minimum of ninety (90) days. This period may be extended by mutual agreement between a responder and the Consultant Review Committee.

Section 6: Certificate of Compliance
Page Limit: No more than 1

- o A copy of the consultant's Certificate of Compliance from the State of Minnesota Department of Human Rights pursuant to Minnesota Statutes Section 363.073, <u>or</u> certification in writing that the consultant has not had more than twenty (20) full time employees at any time during the twelve (12) months preceding the date of this RFP. A copy of the applicable statute is in **Exhibit E**.

Section 7 or Attachments: Report Formats
Page Limit: None Specified

- o Sample reports or reporting formats that the consultant would intend to provide the SBI on a regular basis.

- o A list of research reports or articles prepared by the consultant for use by its clients within the last three (3) years.

- One (1) sample report or article from the above list which relates to one or more of the following topics: market analysis, asset allocation or performance evaluation.

VII. SUBMISSION OF RESPONSE

The responder shall submit twenty (20) copies of its RFP response to the SBI at the following address:

Beth Lehman
Assistant Executive Director
Minnesota State Board of Investment
Room 105, MEA Building
55 Sherburne Avenue
St. Paul, MN 55155

(612) 296-3328

- **No proposal received after 3:00 P.M. Central Time on April 3, 1992 will be considered.**

- **One (1) copy of the response must be <u>unbound</u> and <u>signed in ink</u> by an authorized officer of the responding firm.**

- **Each copy of the response must be sealed in a mailing envelope or package with the responder's name and address clearly written on the outside. Please identify the unbound copy on the outside of its envelope as well.**

VIII. PROJECT TIMETABLE AND RELATED REQUIREMENTS

<u>RFP Issued</u>. 2/24/92

<u>Responder's Conference.</u> 3/19/92
Minnesota State Board of Investment
Room 105, MEA Building
55 Sherburne Avenue
Saint Paul, MN 55155

The Conference will begin at 2:30 P.M.
SBI representatives will be present to respond to questions from potential responders concerning the RFP. <u>Consultants planning to attend must notify the SBI information contacts shown in Section IX by March 13, 1992. Attendance is not required.</u>

<u>Consultants' proposals due.</u> 4/3/92

NO PROPOSALS RECEIVED AFTER 3:00 P.M. CENTRAL TIME ON 4/3/92 WILL BE CONSIDERED.

Proposals evaluated by the Consultant Review Committee.	April-May 1992*

The Consultant Review Committee may require that a consultant submitting a proposal make an oral presentation to the Committee during the evaluation process. In such event, the committee shall notify the consultant of the time and location of same.

Consultant selected by the SBI.	June 1992*
Contract completed and executed.	July 1992*

* Projected dates, subject to change.

IX. INFORMATION CONTACTS

The SBI's exclusive agents for purposes of responding to consultants' inquiries on RFP requirements are:

Howard Bicker
Executive Director

Beth Lehman
Assistant Executive Director

Minnesota State Board of Investment
Room 105, MEA Building
55 Sherburne Avenue
Saint Paul, Minnesota 55155
Telephone: (612) 296-3328

Other persons are not authorized to discuss RFP requirements with responders before the proposal submission deadline.

The SBI shall not be bound by and responders may not rely on information regarding RFP requirements obtained from non-authorized persons.

X. PROPOSAL SELECTION

A. Nature of Procurement.

This procurement is undertaken by the SBI pursuant to the provisions of Minnesota Statutes 16B.17, a copy of which is attached as **Exhibit F** . As such, it is not governed by strict competitive bidding requirements frequently associated with the purchase of supplies and materials by the State and selection will not be based exclusively on the concept of lowest responsible bidder. The SBI reserves the right to waive minor informalities.

Accordingly, the SBI shall select the Consultant(s) whose proposal and oral presentation, if requested, demonstrate, in SBI's sole opinion, clear capability to best fulfill the purposes of the RFP in a cost effective manner. The SBI reserves the right to accept or reject proposals, in whole or in part, and to negotiate separately as necessary to serve the best interest of the State of Minnesota.

B. Selection Criteria.

The evaluation of proposals will be based on:

1. **The quality and completeness of the consultant's work plan as it relates to the prescribed duties.** The approach, methodology and techniques should be appropriately specific, logical and organized. The consultant must demonstrate the capability to gather the necessary information, develop fully supportable conclusions, and communicate findings and recommendations clearly and succinctly.

2. **The consultant's demonstrated knowledge and experience in the areas related to the project.** It is imperative that the consultant has been frequently and recently engaged in the field of investment consulting for large pension plan sponsors. In addition, knowledge and experience with respect to endowments, cash accounts, and insurance portfolios is desirable.

3. **The quality of staff to be assigned to the project and available support.** The consultant must assign to this contract, in terms of numbers and quality, sufficient staff with experience in the fields of financial and investment analysis, data processing and systems support, and general pension fund management. The consultant should explain to the best of its ability to what extent back-up professional personnel are available to substitute for loss of professional personnel identified as necessary in the proposal.

4. **The quality of the data processing and analytical systems necessary to support the work plan.** The consultant should demonstrate its ability to manage and maintain the computer software, hardware and databases referenced in its proposal. The consultant's commitment to upgrade existing

systems and to introduce new applications which will enhance its ability to perform its duties also will be assessed.

5. **The consultant's demonstrated ability to communicate effectively.** The consultant's ability to communicate with both technical and non-technical audiences will be evaluated.

6. **The consultant's demonstrated ability to manage the work plan effectively and assure the successful fulfillment of its duties.** The plan for performing and managing the contract, including the framework within which the project team will function relative to the State, will be evaluated. The consultant should demonstrate its ability to manage and control its duties, including specification of the reporting mechanisms and inter-relationships between the contracting parties.

XI. COST AND METHOD OF PAYMENT

- All costs relating to the proposal shall be explained in detail.

- The Consultant shall be paid in cash. Payment shall be made on a pro rata quarterly basis billed in arrears.

- The SBI reserves the right to reject a consultant's bid on the basis of cost.

XII. PERIOD OF CONTRACT

The initial contract shall be for four (4) years commencing on or about July 1, 1992. Thereafter, the contract may be renewed on an annual basis with such provisions as may be mutually agreed to.

By Minnesota law, the contract may be cancelled by the State or the contractor at any time, with or without cause, upon thirty (30) day written notice to the other party.

XIII. PUBLIC STATUS OF PROPOSALS SUBMITTED

Pursuant to Minnesota law, all proposals submitted in response to this RFP shall become the property of the State of Minnesota. Such proposals shall also constitute public records and shall be available for viewing and reproduction by any person.

DATE: February 24, 1992

1992 CONSULTANT RFP CANDIDATES

Submitted Proposal

Arthur Andersen
Callan Associates, Inc.
DeMarche Associates
Ennis Knupp & Associates, Inc.
William M. Mercer, Inc.
Pension Consulting Alliance (PCA)
Richards & Tierney, Inc.
Rogers, Casey & Associates, Inc.
Frank Russell Company
Segal Advisors, Inc.
Wyatt Company

Declined by Phone or Letter

Analysis Group, Inc.
Buck Pension Fund Services, Inc.
C.T. Consultants Limited
Evaluation Associates, Inc. (EAI)
Hewitt Associates
Intersec Research Corporation (responding through PCA)
SEI Funds Evaluation Services
Shearson Lehman
Jeffrey Slocum & Associates
Wilshire Associates

Received RFP But Did Not Respond

American Funds Distributors
Lewis Bailey Associates, Inc. (Cambridge Associates)
Developmental Resources, Inc.
Ernst and Young
Foremost Benefits Consultants
Hamilton & Company, Inc.

April 30, 1992

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Dear

This is to confirm your interview with the Consultant Review Committee of the Minnesota State Board of Investment (SBI):

Wednesday, May 13, 1992

SBI Main Conference Room
Room 105, MEA Building
55 Sherburne Avenue
St. Paul, Minnesota

The Consultant Review Committee is comprised of a designee of each Board member and three members of the Board's Investment Advisory Council (IAC). Howard Bicker, Executive Director, and I will also be present. The interview will be broken into three parts:

- Overview of your firm (no more than 5 minutes)

- Case study of your firm's consulting approach/resources (no more than 25 minutes)

  You are asked to prepare and present your comments on the international equity implementation plan currently under review by staff and the IAC. A draft position paper is enclosed which reviews the issues, rationales, and conclusions discussed to date by staff/IAC. Other background information which may assist you in preparing your comments is enclosed as well. Please note that the SBI has not adopted any of the specific implementation recommendations discussed in the paper as yet.

- o Questions from the Committee (50 minutes or remainder of interview)

  The Committee will address questions to you based on any or all services included in your response to the request for proposal (RFP).

If you choose to use hard copy presentation materials, please bring twenty (20) copies. An overhead projector and screen will also be available. You should provide hard copy of any overheads, as well.

We look forward to seeing you on May 13. Please contact me if you have any questions prior to the interview.

Sincerely,

Beth Lehman
Assistant Executive Director

BL:cao

Enclosures: International Position Paper Working Draft
International Chronology
South Africa Resolution
Fiscal Year 1991 Annual Report

Consultant Interview Questions
for May 13, 1992

1. In general, what role or responsibility do you feel a consultant should have in the decision making process?

2. The SBI's decision-making and review process involves many different individuals with different points of view. If you disagree with staff, the IAC or Board on a particular issue, how would you express your views?

3. We believe that a consultant is hired to add value. In your opinion, what does your firm provide that has the potential to add the most value to your client's investment programs? What tasks are you sometimes asked to perform that do not provide much value added?

4. Please answer the following questions based on your knowledge of the SBI's existing investment policies for the Basic Retirement Funds:

   o What changes, if any, would you immediately recommend to the SBI?

   o How would you approach reviewing our total fund objectives and asset allocation?

5. Much of the Board's attention is focused on its stock and bond managers:

   o How do you recommend that plan sponsors evaluate stock and bond manager performance? Under what circumstances would you recommend that a manager be terminated?

   o Have you ever recommended that a plan sponsor hire a manager and subsequently recommended that the same manager be terminated? If so, what were the circumstances?

6. The SBI periodically reviews the asset allocation and management structure for each of its funds:

   o Typically, what target asset mix has been selected by your pension fund clients? Have any of them changed their targets during your tenure? If so, what impact did your advice have on that decision?

   o What active/passive mix have your other clients selected for their stock and bond portfolios? What impact did your advice have on that decision?

7. The SBI has used customized benchmarks/normal portfolios as the performance standards for active stock managers. The SBI has implemented a tilted index fund/completeness fund to offset the style bias in the portfolio based on those benchmarks.

   o What is your view of this system?

   o If the Board continues with this approach, how would you work with it?

   o If the Board decides to move away from this system, what type of transition would you propose?

8. What changes in investment approach or philosophy do you think will develop among large pension funds during the next decade? How is your firm equipped to help us address these developments?

9. Most firms have presented the same basic outline of what they would or could do for the SBI. What is unique about your firm and why should you be selected over any other firms?

Tab F

COMMITTEE REPORT

DATE: May 26, 1992

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

FROM: Asset Allocation Committee

The Asset Allocation Committee met on March 26, April 16, April 22 and May 4, 1992 to consider the following:

- o International equity implementation plan for the Basic Retirement Funds
- o Revised asset allocation for the Post Retirement Fund

The SBI is asked to take action on both items.

ACTION ITEMS:

1) International Equity Implementation Plan

In December 1991, Board members received a preliminary report from the Asset Allocation Committee concerning a proposed implementation plan for international equities in the Basic Retirement Funds. At that time, staff and the Committee differed on certain important issues. After further study and discussion, the staff and the Committee have reached agreement on the implementation plan described in the attached position paper. The Committee recommends that the SBI adopt the position paper as presented. The paper discusses findings and conclusions on several broad issues:

- o Rationale for international equity investing
- o Impact of the SBI's investment restrictions
- o Currency risk and options for hedging strategies
- o Selection of an appropriate asset class target
- o Range of investment approaches and management options

The major recommendations for the SBI's international equity program are summarized on the following page.

Asset Class Target:

o Return Expectation	Equal to or greater than domestic stocks, long term.
o Source	Morgan Stanley Capital International index of Europe, Australia and the Far East (EAFE).
o Weighting	Capitalization, subject to restrictions shown below.
o Currency	U.S. Dollar, unhedged.

Restrictions:

o Active and Passive	Eliminate securities that U.S. investors are not allowed to own. Eliminate securities that are affected by the SBI's policy on liquor and tobacco.
o Active Only	Eliminate securities that are affected by the SBI's policy on South Africa and re-weight back to market weights by country.

Hedging Strategy:

o Passive	No hedging.
o Active	Opportunistic hedging by individual managers.

Management Structure:

o Initial	100% passive.
o Longer Term	At least 50% active.

Timing:

o Passive	Select manager by September 1992. Begin funding as soon as possible.
o Active	Active managers should be added as soon as practicable to enhance returns. Attractive candidates should be identified through an on-going search process.

Each of the above issues is discussed in the attached position paper. However, the two-phase approach recommended to implement the management structure deserves further explanation as part of this Committee Report:

- **Initial Structure, 100% passive**

  Staff and the Committee agree that passive management is an appropriate investment strategy during the start-up phase of the SBI's international program:

  - It provides immediate diversification benefits through exposure across international markets.

  - Large sums of money can be deployed relatively quickly and at lower administrative cost.

  - The returns produced by an index manager will be predictable relative to the SBI's chosen benchmark or target.

  - The search process for an index manager will be less complex and time consuming than for multiple active managers. Staff/Committee expect that the Board could hire an index manager as early as September 1992 and begin funding in October 1992.

  - Initial reliance on passive management provides time for the SBI to become familiar with the administrative issues of international investing (global custody and settlement, multi-currency accounting and performance reporting) without the added complexity of a multiple manager structure.

- **Longer Term Structure, at least 50% active**

  Active management is very attractive over the longer term. Staff and the Committee agree that the SBI should seek incremental gains/valued added through a variety of active strategies:

  - top-down (focus on country allocation)
  - bottom-up (focus on stock selection)
  - active country/passive stock
  - regional specialists
  - emerging market specialists

  Staff/Committee do not propose a specific allocation to any particular active approach and do not suggest a definite timetable for incorporating any strategy. Rather, they recommend that the SBI begin its search for active managers as soon as practicable. As attractive candidates are identified, they should be incorporated into the SBI's international program. Staff/Committee expect that one or more active managers could be hired by the end of calendar 1992. The SBI should expect to add other candidates during calendar 1993.

Over time, staff/Committee believe that the SBI should seek to have at least 50% of the international allocation actively managed. Before adding active managers above the 50% level, however, the Board should expressly affirm a higher commitment to active management.

RECOMMENDATION:

The Committee recommends that the SBI adopt the attached position paper as its implementation plan for international equity investing in the Basic Retirement Funds. A Search Committee should be convened as soon as practicable to begin the search for passive and active managers.

2) Revised Asset Allocation for the Post Retirement Fund

Laws 1992, Chapter 530 made significant changes to the post retirement benefit increase formula. The new formula eliminates the requirement to generate realized income and allows the Post Fund to focus on generating higher long term total rates of return. In light of these changes, the asset allocation of the Post Fund needs to be revised. Staff and the Committee concur on the proposed allocation shown below:

Asset Class	**Current 12/91**	**Proposed**
Domestic Stocks	8.5%	50.0%
Domestic Bonds	86.5	47.0
Cash Equivalents	5.0	3.0

The proposed asset allocation accomplishes two goals:

- o It raises equity exposure substantially and enhances the long term earning power of the fund. Over time, moving to the proposed stock allocation is expected to increase annual returns by 1.0 to 1.5% annualized.
- o It provides sufficient liquidity to meet monthly payments out of the fund. The 3% cash allocation represents approximately 3 months of benefit payments.

While the Basic and Post Funds will remain separate, the Committee feels it is instructive to look at asset allocation on a combined basis as well. This gives a picture of the level of capital market risk taken by the retirement system as a whole.

Asset Class	Basics (current)	Post (proposed)	Combined
Domestic Stocks	50%	50%	50.0%
International Stocks	10	--	5.6
Alternative Assets	15	--	8.4
Subtotal	75%	50%	64.0%
Domestic Bonds	24	47	34.1
Cash	1	3	1.9
Total	100%	100%	100.0%

A 50% stock allocation would place the Post Fund close to the historical median stock exposure for public and private pension portfolios. At the same time, it keeps the risk profile of the Post Fund more conservative than that of the Basic Funds. This is appropriate, given the somewhat shorter time horizon of the Post Fund (Basic Funds' time horizon is 30-40 years, similar to the length of an employee's working years. Post Fund's time horizon is 15-20 years, similar to the length of a retired employee's life span.)

During its deliberations, the Committee considered the risk and return characteristics of a range of asset allocation alternatives:

% Stocks/% Bonds	Annual Expected Return	Risk Standard Deviation
10 / 90*	8.35%	8.55%
30 / 70	8.99	10.16
40 / 60	9.34	11.34
50 / 50	9.69	12.62
60 / 40	10.04	13.97
75 / 25**	10.62	16.28

* Similar to current Post Fund

** Similar to current Basic Funds with alternative investments counted as equity

The underlying assumptions used to generate this data are the same as those used for a recent asset allocation study of the Basic Retirement Funds:

Return/Risk Assumptions

Asset Class	**Real Return**	**Nominal Return**	**Standard Deviation**
Domestic Stock	6.0%	11.5%	20.0%
Domestic Bonds	2.5	8.0	8.0
Cash	0.5	6.0	3.0

Correlation Matrix

	Stocks	Bonds	Cash
Domestic Stocks	1.00		
Domestic Bonds	0.60	1.00	
Cash	-0.10	0.10	1.00

The Committee believes that a 50% stock allocation is appropriate for the Post Fund at the present time. As with each of the funds under the SBI's control, this allocation will be reviewed periodically. Exposure to other asset classes, e.g. international securities and alternative investments, may be advantageous in the future.

The Committee recognizes that the transition process (moving the Post Fund from its current asset mix toward the proposed allocation) will begin after the start of the new fiscal year and will occur over a period of several quarters. If the proposed allocation is adopted, staff will work through the SBI deputies/designees to keep the Board members informed during the transition process.

RECOMMENDATION:

The Committee recommends that the SBI adopt new allocation targets for the Post Fund and direct staff to implement the transition from the current asset mix. The recommended targets are:

- **50% domestic stocks**
- **47% domestic bonds**
- **3% cash equivalents**

INTERNATIONAL EQUITY INVESTING
FOR THE BASIC RETIREMENT FUNDS

Position Paper

April 1992

EXECUTIVE SUMMARY

This paper reviews the rationale for international investing and highlights a number of issues which should be addressed as the Board develops its investment program for international equities. The major conclusions and recommendations are:

- The case for international investing lies in three areas: increased investment opportunity, greater diversification and potential for higher return. Nearly two-thirds of the world's market now lie outside the U.S. By diversifying across world markets the Board can both enhance return and reduce risk/volatility of the total portfolio.

- Japan, U.K., Germany and France comprise about three quarters of the value of the international markets. Fourteen (14) other countries in Europe and the Pacific Basin make up the remainder of the more well established stock markets. Emerging markets in Central and South America, Eastern Europe and Asia are growing rapidly and pose special investment considerations and limitations.

- The Board's decision to allocate 10% of the Basic Funds to international stocks is well within current practice among pension investors. A strong case can be made for increased commitments in the future as the Board's experience with international investing grows.

- The Board's South Africa policy will reduce the range investment opportunities but should not diminish the diversification potential of an international program. Restrictions will have either a positive or negative effect on performance, depending on the time period analyzed.

- Some additional costs are an unavoidable part of transacting in the international markets. All U.S. investors incur withholding taxes on dividend income from foreign securities. In addition, transaction costs and management fees are higher for international portfolios. As with the Board's domestic portfolios, however, all these costs will be deducted before returns are calculated. Income from securities lending on the Board's international portfolio will offset a portion of global custody charges and may even provide a net gain for the portfolio.

- International stock returns can be attributed to three factors: country allocation, stock selection and currency effect. Historically, about 80% of returns have been due to country or market allocation. In theory, greater inefficiencies in the international markets should offer opportunity to enhance return through stock selection as well.

- Investors incur foreign exchange exposure or currency risk when they buy foreign securities. When the dollar strengthens/appreciates, U.S. investors will suffer currency losses on their portfolios. When the dollar weakens/depreciates, U.S. investors see currency gains. Currency hedging can insulate international portfolios from the effect of currency fluctuations. Hedging can reduce risk/volatility of an international equity portfolio substantially. At the same time it will reduce the diversification benefit to some degree.

- There are strong arguments both for and against systematic currency hedging. At the present time, staff and the Investment Advisory Council (IAC) recommend that the Board allow the individual active managers to use currency management as part of their portfolio management process and not adopt a constant hedging strategy for the entire allocation. The option to hire a single currency overlay manager to address this issue at the total portfolio level deserves further study in the future.

- There are three sources for broad international index data: Morgan Stanley Capital International Index of Europe, Asia and the Far East (EAFE), Financial Times Europe-Pacific Basin (FT) and Salomon Brothers Frank Russell Europe-Asia (SFR). None of the three sources is ideal. Overall, staff/IAC recommend EAFE as the Board's index source. SFR's greater investability and FT's broader market coverage are not sufficient to overtake EAFE's advantage as the most widely recognized and accepted index source among U.S. investors.

- Staff/IAC recommend that the Board use a capitalization weighted version of EAFE which has been adjusted to reflect investment restrictions imposed by foreign governments on U.S. investors and the SBI's policies on liquor, tobacco and South Africa. Active managers should use a target index which has been re-weighted back to country market weights in order to minimize the tracking error that will be incurred by the SBI's South Africa policy.

- International investment managers fall into several broad categories:

  - Top-down (focus on country allocation)
  - Bottom-up (focus on stock selection)
  - Active/Passive (active country, passive stock)
  - Regional Mandates (focus on geographic area)
  - Passive (indexation)

Currently, most assets are actively managed by either top-down or bottom up managers. Active/passive and passive strategies are newer, growing strategies. Regional mandates, either active or passive, take advantage of specialized strengths and skills of certain managers and are gaining interest among plan sponsors.

- o Staff/IAC recommend a two-phase approach to the investment management structure:

  - Initial Structure: 100% passive
  - Longer Term Structure: at least 50% active

  Passive management offers immediate diversification benefits, can be implemented relatively quickly, and provides predictable returns relative to the SBI's chosen benchmark or target. Active managers should be sought as soon as practicable to enhance returns.

- o An index manager could be selected as early as September 1992. Active manager searches should begin as soon as possible with the goal of adding one or more managers by December 1992. Additional manager selections are likely during calendar 1993.

BASIC RETIREMENT FUNDS
INTERNATIONAL EQUITY PROGRAM
SUMMARY OF RECOMMENDATIONS

Asset Class Target:

o Source	Morgan Stanley Capital International Index of Europe, Australia and the Far East (EAFE)
o Weighting	Capitalization, subject to restrictions shown below
o Currency	U.S. Dollar, Unhedged

Restrictions:

o Active and Passive	eliminate securities that U.S. investors are not allowed to own
	eliminate securities that are affected by the SBI's policy on liquor and tobacco
o Active only	eliminate securities that are affected by the SBI's policy on South Africa and re-weight back to market weights by country

Hedging Strategy:

o Passive	no hedging
o Active	opportunistic/tactical hedging by individual managers

Management Structure:

o Initial	100% passive
o Longer Term	at least 50% active

Timing:

o Passive	select manager by September 1992
o Active	begin search process as soon as possible*

* Active managers will be added as soon as practicable. Attractive candidates will be identified through an on-going search process during 1992-93.

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INTRODUCTION

At its meeting on September 11, 1991, the State Board of Investment (Board) approved the addition of international equities to the Basic Retirement Funds and directed staff, in conjunction with the Investment Advisory Council (IAC), to develop an appropriate implementation plan for the Board's consideration. This position paper reviews the rationale for international investing and highlights a number of issues which should be addressed as the Board develops its investment program for international equities. Where appropriate, staff/IAC recommendations on specific issues are presented.

The paper is organized around the following questions:

- What is the rationale for international investing?
- How much should be allocated to international stocks?
- How do South Africa restrictions affect international portfolios?
- How do the costs of international portfolios and domestic portfolios compare?
- What is the relative importance of country allocation, stock selection and currency management in actual returns?
- Should currency risk be controlled?
- Are adequate benchmark indices available?
- What management options are available?

WHY INTERNATIONAL?

The case for international investing is well established. Its attractiveness is three-fold:

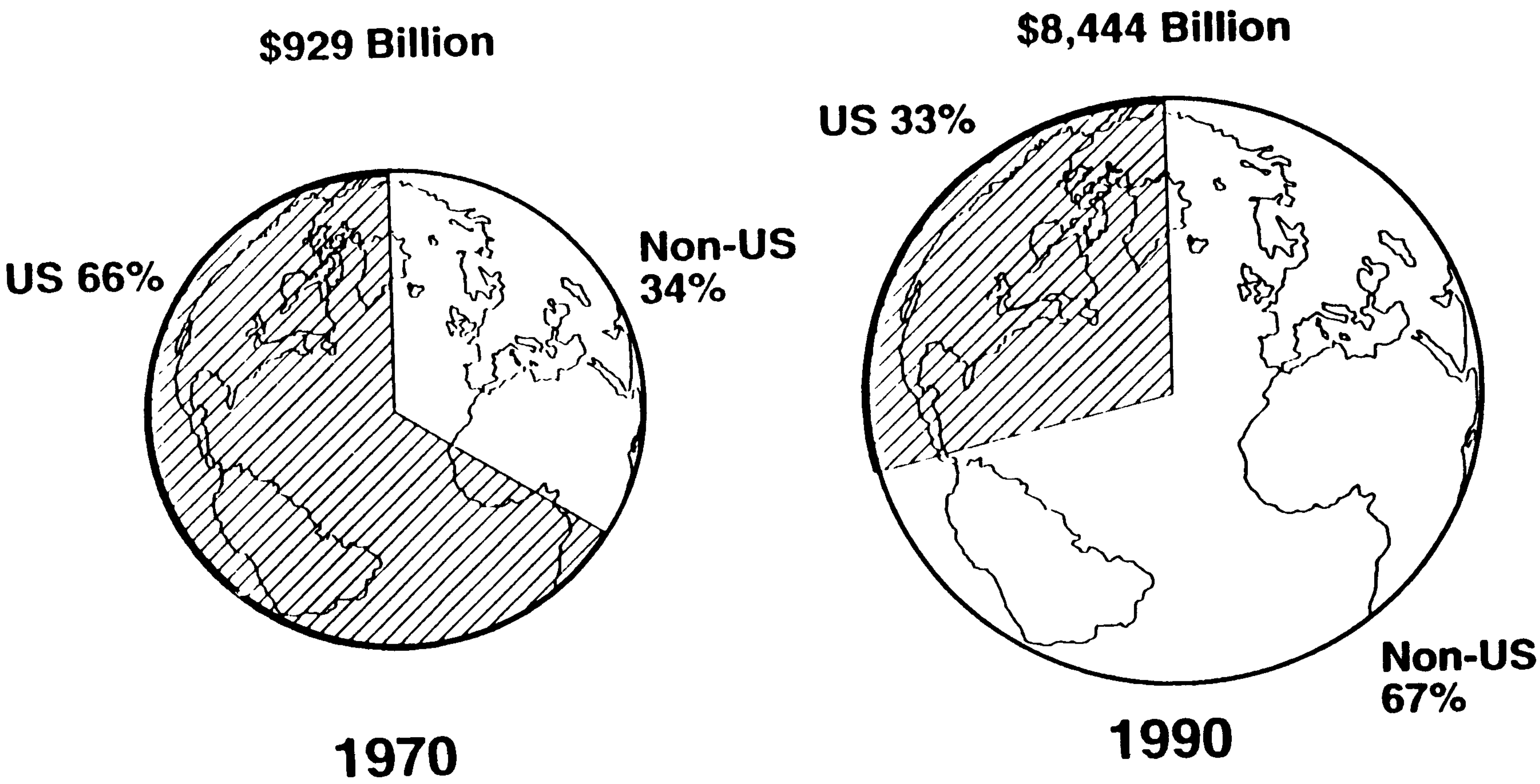
- increased investment opportunity
- diversification
- potential for higher return

Today, more than half the value of the world's capital markets lies outside the U.S. As shown in Figure 1, the U.S. stock market made up nearly two thirds of the value, or capitalization, of the world stock markets in 1970. By 1990, this proportion was reversed; approximately two thirds of stock market capitalization is now in non-U.S. markets. This change means that many of the world's largest corporations are based in Europe or the Pacific Basin. In addition, certain industries (e.g. consumer electronics) have little presence among U.S.-based companies. Expanding the investment universe beyond the U.S., therefore, substantially increases investment opportunity.

Where are these increased opportunities? The most widely quoted international index is the Morgan Stanley Capital International index of Europe, Australia and the Far East (EAFE). As shown in Figure 2, four (4) countries (Japan, U.K., Germany, and France) comprise more than three quarters of the market value of the established international stock markets. Fourteen (14) other countries in Europe and the Pacific Basin make up the remainder. While new stock markets in Central and South America, Eastern Europe and Asia are developing rapidly, these less well established markets are usually referred to as "emerging markets" and are not included in EAFE. Staff believes that emerging markets have unique investment opportunities and limitations and therefore should be considered separately from the more established international markets. These markets should not be ignored, however. Over the next decade their combined share of the international markets could grow to over 10%.(1)

FIGURE 1

World Market Capitalization



Russell

FIGURE 2

MORGAN STANLEY CAPITAL INTERNATIONAL INDEX
OF EUROPE, AUSTRALIA AND THE FAR EAST
EAFE*

By Country Weights	12/31/89	12/31/90	12/31/91
Japan	61.03%	51.37%	49.50%
United Kingdom	12.75	17.82	18.25
Germany	5.77	6.83	6.58
France	4.86	5.61	5.85
Switzerland	1.91	2.56	2.96
Netherlands	2.37	2.83	2.94
Australia	2.13	2.26	2.74
Italy	2.41	2.50	2.22
Spain	1.62	1.81	2.05
Hong Kong	1.06	1.43	1.95
Singapore	0.94	1.13	1.25
Belgium	1.00	1.24	1.17
Denmark	0.59	0.79	0.85
Sweden	0.65	0.70	0.64
Austria	0.33	0.51	0.49
Norway	0.28	0.37	0.30
New Zealand	0.24	0.18	0.22
Finland	0.04	0.04	0.03
Total	100.00%	100.00%	100.00%

By Region			
Europe	34.60%	43.63%	44.34%
Pacific Basin	65.40	56.37	55.66
Total	100.00%	100.00%	100.00%

* Includes only those companies which U.S. investors may purchase.

Source: Morgan Stanley Capital International
Richards & Tierney

Despite growing economic integration, global events still impact markets differently. For example, the stock market "crash" in October 1987 affected stock markets all over the world but forced greater declines in the U.S. than most other markets. A more recent example comes from the events leading up to the Gulf War in the summer of 1990 when concerns about an interruption in oil supplies impacted the Japanese stock market more severely than other markets. This was due, in part, to Japan's greater dependence on imported oil.

These examples suggest that investments in non-U.S. securities still offer diversification benefits despite the growing trend toward globalization. Figure 3 presents annualized return and risk data for U.S. and international markets as well as the corresponding correlation coefficient. As shown, the correlation between U.S. and international markets actually declined over the period. The data indicate that diversification potential from international investing remains strong.

Over time, certain regions of the world are likely to become more highly integrated. European countries are breaking down trade barriers and may move toward a common central bank and single currency. Growing trade and investment among countries in the Pacific Basin may bring more economic unity to that region as well. However, full integration of economic policies and financial markets does not appear imminent and world markets are not likely to move in tandem in the near future. Diversification across markets takes advantage of this phenomenon and offers a

FIGURE 3

U.S. VS NON U.S. EQUITIES
ANNUALIZED RETURN, RISK AND CORRELATION

10 Years	U.S.		Non-U.S.		
Ending	Return	Risk(1)	Return	Risk(1)	Correlation (2)
1981	6.5	17.5	10.6	19.1	.54
1982	6.7	18.6	7.0	19.6	.55
1983	10.6	18.2	11.1	18.4	.59
1984	14.8	15.6	14.8	17.5	.44
1985	14.2	14.0	16.4	15.3	.32
1986	13.7	14.4	22.3	17.3	.31
1987	15.2	17.0	22.9	18.9	.42
1988	16.2	16.5	22.4	19.4	.40
1989	17.4	16.6	22.9	19.6	.36
1990	13.8	17.1	17.2	21.9	.41

(1) Standard Deviation
(2) R^2, Coefficient of Determination

Source: Frank Russell Company

consistent way to control risk and dampen volatility of the total portfolio.

Historical returns have made international investing very attractive:

	U.S. Stocks	International Stocks
Last 20 Years	11.2%	15.4%
1970's	5.9	10.1
1980's	17.6	22.8

Source: Ibbottson Associates

Generally, the higher historical returns from international markets are attributed to the higher growth rates of countries outside the U.S. Recent gross domestic product (GDP) growth for major economies is shown below:

	Annual GDP Growth 1988 - 1990
Japan	5.5%
Germany	4.1
France	3.3
Italy	3.3
U.S.	2.6
U.K.	2.5

Source: PanAgora Asset management

Many observers believe that European and Pacific Basin economies will continue to outpace the U.S. in the 1990's. International stock investments provide a means to participate in these higher growth rates and offer the potential for higher returns than the U.S. market.

Despite the obvious attraction of higher returns, diversification remains the strongest argument for international investing. Non-U.S. securities will continue to provide counter cyclical investment returns to the U.S. market. Over time, adding international stocks to the Basic Funds will both enhance returns and reduce the risk/volatility of the total portfolio.

HOW MUCH SHOULD BE ALLOCATED?

The Board has approved a 10% allocation to international stocks in the Basic Retirement Funds. The total fund asset allocation targets for the Basic Funds are:

Equities		60%
Domestic Stocks	50	
International Stocks	10	
Alternative Investments		15
Private Equity		
Real Estate		
Fixed Income		25
Domestic Bonds	24	
Cash Equivalents	1	
		100%

How does the 10% international stock target compare to other public and private pension fund investors? A 5-10% allocation is typical among large pension plans at the present time but many plans are considering increasing their allocation in the 10-20% range.(2) A list of some of the large public funds who are investing internationally is included on Appendix A. The allocation to international securities among these funds ranges from 3% to 20%.

Figure 4 shows the effect of adding non-U.S. stocks to an equity portfolio for 15 year periods ending 1983 through 1990. Each line represents the risk/return relationship for a stock portfolio with 0, 10, 20 and 30% international exposure. In each time period, increasing international stocks reduced volatility and increased return. With 10% of the total Basic Funds allocated to international, the analogous exposure for the Basic Funds' stock segment is about 17% (10 ÷ 60 = 16.7%). Computer driven optimization models suggest that international allocations substantially above the 30% level will provide continued risk/return benefits.(3)

The Board's decision to allocate 10% of the Basic Funds to international equities clearly is within the range of current practice among pension plan sponsors. While a higher allocation could be justified based on risk/return analysis, staff believes that the 10% target represents a prudent commitment to a new asset class within the Basic Funds. As the Board gains greater experience with international investing, it may be appropriate to increase the allocation target in the future.

WHAT IMPACT DO SOUTH AFRICA RESTRICTIONS HAVE?

The Board's resolution on South Africa applies the same restrictions to foreign and domestic holdings in all of the Board's actively managed stock portfolios.(4) Under this policy, the Board's active international stock managers will be directed to refrain from purchasing stock of companies with direct investment in South Africa unless the manager determines that

FIGURE 4

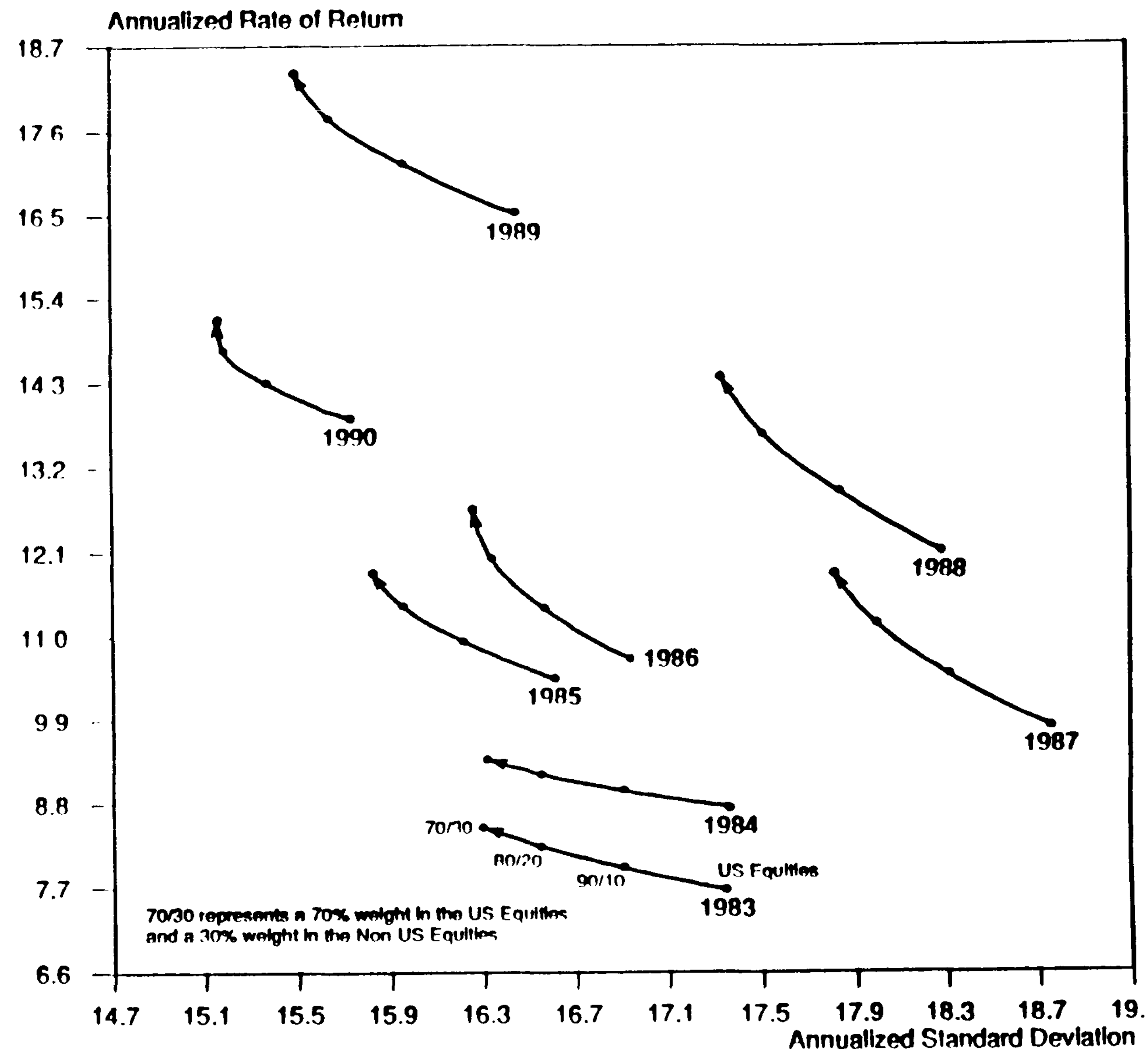
Long Term: Increased Return and Reduced Risk

Risk-Return Performance Comparisons

Combinations of Indexes:
US Equities
Non-US Equities

Currency:
US$

Time Period:
15 Years Ending
4th Quarter
1983-1990



Russell

failure to complete a purchase would be a breach of the manager's fiduciary responsibility.

Staff relies on information compiled by the Investor Responsibility Research Center (IRRC) in Washington D.C. to identify U.S. companies with direct investment in South Africa.(5) IRRC maintains a similar service for international companies and staff has access to this information through the Board's subscription to IRRC's South Africa Review Service. A list of publicly traded international companies with direct investment in South Africa is in Appendix B.

A South Africa restriction has two impacts on either domestic or international portfolios:

- o It reduces the range of investment opportunities.
- o It can have either a positive or negative affect on performance, depending on the time period examined.

As shown in Figure 5, about 27% of the market capitalization, or value, of EAFE is eliminated when South Africa-related securities are excluded. The impact is not uniform across all countries, however. For example:

- o The United Kingdom is reduced by about 55%
- o Germany is reduced by about 82%
- o Japan is reduced by about 9%

As a result, South Africa restrictions will increase exposure to the Pacific Basin/Japan, unless country weights are adjusted.

South Africa restrictions will alter industry diversification as well. A "South Africa Free" EAFE index shows increased exposure to financials, utilities and banks and a decrease in the

FIGURE 5

THE IMPACT OF SOUTH AFRICA HOLDINGS ON THE EAFE INDEX
12/31/91

	EAFE	South Africa Free EAFE
Number of companies	1,052	864
% capitalization of index	100%	72.9%

	# Companies in EAFE	# Companies Excluded	Market Capitalization Removed
Australia	54	4	23.4%
Austria	20	1	3.3
Belgium	20	1	7.8
Denmark	26	3	17.5
Finland	29	0	0.0
France	71	9	21.1
Germany	60	31	82.0
Hong Kong	35	0	0.0
Italy	65	9	40.4
Japan	266	16	8.5
Netherlands	23	4	51.2
New Zealand	8	0	0.0
Norway	30	1	1.7
Singapore	54	0	0.0
Spain	38	0	0.0
Sweden	35	7	15.6
Switzerland	71	45	90.0
U.K.	147	57	55.1
Total	1,052	188	27.1%

Sources: Morgan Stanley Capital International
Richards & Tierney

energy, health and consumer goods sectors. The remaining securities in the index have a greater bias toward small company stocks and growth oriented companies than an unrestricted EAFE index.(6)

- Return data for South Africa restricted indices have been available for only three to four years; too short a time period for meaningful analysis. Historical returns can be approximated, however, if an index is carefully reconstructed to reflect South Africa restrictions over time. In 1990, J.P. Morgan completed such a study using return data from 1982-1988.(7) Richards & Tierney used a similar methodology to extend the data through 1991. Three sets of returns were calculated and compared:

  - o Market returns calculated using a universe similar to EAFE (Unrestricted).
  - o Returns calculated after South Africa restricted securities were excluded (Restricted).
  - o Returns calculated after restricted securities were excluded but country weights were adjusted back to their original market weights (Restricted and Reweighted).

The results of the analysis are shown in Figure 6:

- o South Africa restrictions marginally raised returns over the time period studied. The impact tended to be positive from 1982-89 and negative from 1989-91 relative to an unrestricted index.
- o Restrictions are likely to increase the volatility of returns, unless the country weights are adjusted (Unrestricted 19.7; Restricted 21.1; Restricted and Re-weighted 19.8).
- o Restrictions will cause significant year-to-year tracking error relative to EAFE. The SBI could easily experience returns that deviate from the index by up to ± 8 percentage points or more in any year due to South Africa restrictions. If the index is re-weighted, the expected tracking error drops to within ± 4 percentage points but is still significant.

FIGURE 6

IMPACT OF SOUTH AFRICA RESTRICTIONS ON RETURNS (1)

	Non-U.S. Markets Unrestricted	(2) South Africa Restricted	(3) South Africa Restricted and Re-weighted
1982	-0.08%	-3.31%	-1.19%
1983	23.40	24.94	23.41
1984	8.86	12.93	10.83
1985	58.40	56.87	62.25
1986	67.61	78.49	67.34
1987	25.14	30.25	26.28
1988	27.16	29.41	27.10
1989	11.26	7.92	10.52
1990	-23.85	-27.74	-23.48
1991	12.62	12.14	10.67
Annualized	18.39%	18.86%	18.61%
Standard Dev.	19.56	21.12	19.83
Estimated Ranking Error	--	± 7.54	± 3.77

(1) Data obtained from J.P. Morgan using BARRA returns 1982-88 and from Richards & Tierney using FT Actuaries returns from 1989-91.

(2) Returns calculated after South Africa restricted securities were removed.

(3) Returns calculated after South Africa securities were removed but country weights were adjusted back to market weights.

Source: Richards & Tierney

Diversification potential is usually measured by correlation data. Correlation coefficients for most asset classes range between 0 and 1; the lower the number, the stronger the diversification effect. The J.P. Morgan study provided the following correlation data:

Correlation of Monthly Returns
1982-89

	U.S.	Non	Restricted	Re-weighted
U.S.	1.00			
Non-U.S.	0.45	1.00		
Non-U.S. Restricted	0.38	0.98	1.00	
Non-U.S. Restricted/and Re-weighted	0.42	0.99	0.99	1.00

Source: J.P. Morgan

As shown above, the correlation between non-U.S. portfolios is high (0.98-0.99). This indicates that non-U.S. portfolios with or without restrictions will move up and down together. The correlation between the non-U.S. portfolios and the U.S. portfolio is fairly low (0.38-0.45). This indicates South Africa restrictions do not diminish the diversification potential of an international portfolio.

Staff concludes that the Board's South Africa restrictions will alter the composition of its international portfolios relative to a broad index. While the resulting performance differences could be either positive or negative, the deviations are likely to be material on a quarterly or yearly basis. Therefore, staff recommends that the Board utilize a benchmark for its active managers that is "South Africa Free" and reweighted back to market weights on a country by country basis.

WHAT ARE THE COSTS?

The costs of investing internationally are higher than the costs for domestic portfolios in four key areas:

- o withholding taxes
- o trading/transaction costs
- o management fees
- o custody charges

Foreign investors must pay withholding taxes on dividend income imposed by other governments. While the exact amount depends on the different tax treaties between the U.S. and each country, the average non-reclaimable tax is 15% of dividend income received. Aggregate dividend yield on international portfolios is less than 2% so the net tax amounts to 25-30 basis points.(8)(9) Domestic investors do not pay this tax in their home markets.

Transaction costs, i.e., commissions and stamp taxes, are also higher, although these costs are coming down in most markets. Withholding taxes and higher transaction costs are an unavoidable part of doing business in the international markets. As with domestic portfolios, however, manager returns are calculated after these costs have been taken into account.

Investment management fees for actively managed portfolios are about 50-60 basis points higher than for domestic portfolios. The higher fees are assumed to reflect the higher costs of international research and global communication. The management fees for passive/index investing are about 15-20 basis points higher for international portfolios. As with the Board's domestic portfolios, however, management fees will be deducted before returns are calculated.

- Custody costs are higher for international portfolios as well. Global custody is a complex process which involves a network of local subcustodians. The personnel costs associated with an effective network along with increased record keeping demands have kept global custody costs high relative to U.S.-only portfolios. It should be noted that income generated by securities lending on international portfolios can offset a large portion of these costs and may even provide a net gain for the portfolio.

A summary of all these costs is shown below:

Costs That Are Deducted Before Returns are Calculated	(Basis Points) U.S.	(Basis Points) International
o Withholding taxes	----	25-30
o Transaction costs	less than 20	60 or more
o Management fees		
Active	30-50	50-70
Passive	2-8	15-30
Costs That May Be Offset By Income From Securities Lending		
o Custody charges	5-6	20-25

Sources: First Chicago Investment Advisers
Grantham, Mayo, Van Otterloo & Company

Higher costs are, for the most part, an unavoidable part of transacting in the international markets. As with the Board's domestic portfolios, most of these costs will be deducted before returns are calculated on the Board's portfolio. In addition, income from securities lending may provide a net gain for the portfolio.

WHAT ARE THE SOURCES OF RETURN?

The actual returns of international stock portfolios can be attributed to a combination of three factors:

- o Country allocation
- o Stock selection
- o Currency effect

Overall, country allocation or market selection decisions dominate actual returns. This is demonstrated by the wide range between the best and worst performing countries in the EAFE index over the last 10 years:

Year	Best Performing Market	EAFE	Worst Performing Market
1981	38%	-2%	-29%
82	24	-2	-44
83	81	24	-7
84	46	7	-36
85	176	56	-23
86	121	69	-2
87	56	25	-24
88	57	28	-13
89	104	11	-9
90	10	-23	-37

Source: Boston International Advisors, Inc.

Empirical studies confirm that, on average, 80% of overall international portfolio return comes from country or market selection allocation.(10)(11)

Stock selection also impacts portfolio returns. International markets are considered less efficient than the U.S. market. The lack of uniform accounting and disclosure standards in international markets are usually cited as the major contributors to inefficiency. In theory, international active managers should be able to exploit these inefficiencies and generate value added returns more easily than domestic managers.

The difference between return measured in U.S. dollars and return measured in local currency is the currency effect. As shown below, currency impact can help or hurt performance over the short term.

EAFE Index Return

	U.S. Dollar	Local Currency
1990	-23.4%*	-29.8%
1989	10.5	21.5*
1988	28.3	33.7*
1987	24.6*	-2.3
1986	69.4*	42.5
1985	56.2*	28.5
1984	7.4	20.9*
1983	23.7	31.6*
1982	-1.9	9.0*
1981	-2.3	10.8*

* Better performer

Source: Cambridge Associates, Inc. based on data from Morgan Stanley Capital International Perspective

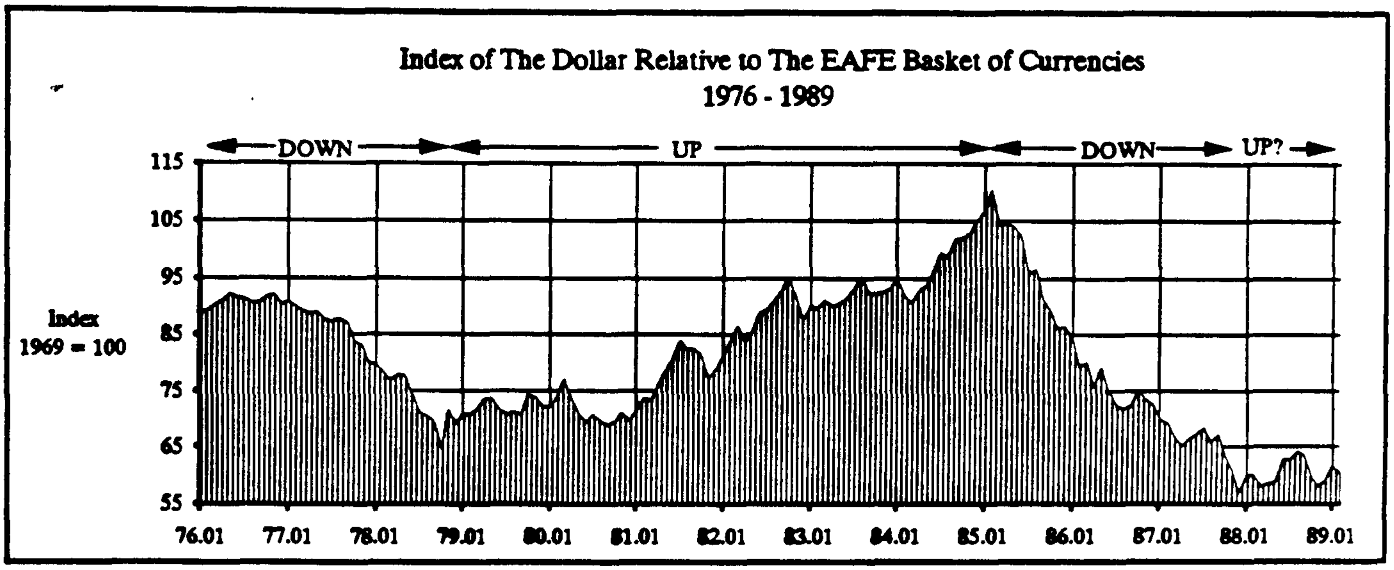
SHOULD CURRENCY RISK BE CONTROLLED?

Foreign securities are denominated in their own currencies. As a result, investors incur foreign exchange exposure at the same time they add international securities to their portfolios. The exchange rate in effect at the time of purchase affects the investor's initial cost in dollar terms. During the holding period, the currency exchange rate will move up or down from the rate in effect at the time of purchase. When these changes are translated back into dollar terms, the portfolio will register gains or losses solely due to the fluctuation in exchange rates. When the dollar strengthens/appreciates relative to other currencies, U.S. investors will suffer currency losses on their international portfolios. When the dollar weakens/depreciates U.S. investors see currency gains.

Time horizon is extremely important in analyzing the significance of foreign exchange movements on returns. As shown in Figure 7, the U.S. dollar had two major down cycles and one major up cycle between 1976 and 1988. When examined over both an up and down cycle, cumulative returns are much the same whether measured in dollar terms or local currency (see Figure 8). Before both the up and down cycles have been completed, however, dollar returns can differ markedly from local returns. These differences can be difficult for investors to tolerate since currency cycles can be protracted.

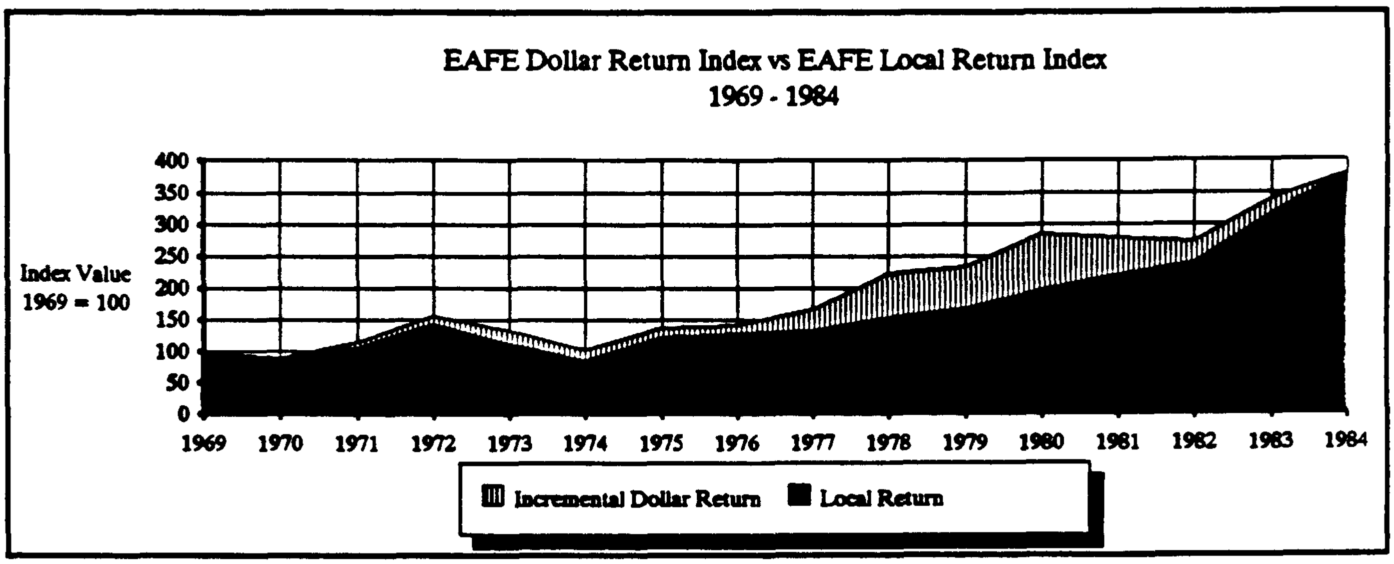
Currency hedging can insulate international portfolios from the effect of currency fluctuations. Typically, the hedge is accomplished by using the forward currency markets to lock-in a fixed exchange rate for a specified period of time. By removing currency exposure, the risk/volatility of an international equity portfolio can be reduced by 15-30%. Since it is possible to hedge currency with fairly low transaction costs (estimates are usually cited in the range of 25-30 basis points per year),

FIGURE 7



Source: Callan Associates

FIGURE 8



Source: Callan Associates

hedging is considered a very cost effective risk reduction technique by many investors.

The reduction in risk/volatility afforded by currency hedging is not entirely free, however:

- o When the fluctuations associated with currency exposure are removed, international securities behave more like domestic securities and some diversification benefit is lost.

- o Depending on the frequency and aggressiveness of the hedging strategy, transactions costs can erode total portfolio return. If the hedging strategy is carried out by a manager specifically hired for this purpose, incremental management costs will be incurred as well.

Several prominent theorists and practitioners advocate viewing currency risk as an active decision that should be explicitly controlled.(12) In effect, currency can be treated as a separate asset class and pension plan sponsors have a variety of options in dealing with it:

- o Systematic Approach

  This approach involves hedging all currency exposure, or a constant proportion of the exposure, at all times. The plan sponsor can implement the hedge itself or hire a currency overlay manager to maintain the hedge. This strategy has the greatest potential for risk reduction since the currency exposure is managed on a consistent basis. While this strategy has been the subject of a great deal study recently, a very small number of plan sponsors have taken this approach to date.(13)

- o Opportunistic Approach

  This strategy allows selective hedging based upon a currency forecast and is most often used when the goal of currency management is enhanced return. Tactical hedging can be implemented by a single currency overlay manager or left to the judgement of individual portfolio managers. Since individual managers vary greatly in the emphasis they place on currency management, the latter approach may result in uneven attention to currency exposure.

Currency hedges can be implemented using a single currency, all currencies or a basket of currencies. Nearly all exposure can be covered using a few major currencies: U.S. Dollar, Pound Sterling, Japanese Yen, Deutschmark. As a result, most hedging is accomplished by transacting in those few currencies.

There are strong arguments on both sides of the currency hedging question. The risk reduction potential of a systematic approach is significant. On the other hand, the long time horizon and relatively high risk tolerance of the Basic Retirement Funds make the portfolio an ideal candidate for opportunistic hedging. At this time, staff and the Investment Advisory Council (IAC) recommend that the Board design its investment structure around an opportunistic approach to currency hedging. At the outset, the individual active managers should be allowed to use currency management as part of their portfolio management process. The option to hire a single currency overlay manager to address this issue at the total portfolio level deserves further study.

ARE ADEQUATE INDICES AVAILABLE?

There are three sources for broad international indices available to plan sponsors:

- o Morgan Stanley Capital International's Europe, Australia and the Far East (EAFE).
- o Financial Times Europe-Pacific Basin (FT)
- o Salomon Brothers Frank Russell Europe-Asia (SFR)

EAFE pre-dates the other two and was created before indexing was contemplated for international portfolios. It became the first source for research and comparison of international markets and managers. FT sought to aid in comparison and research, but also aimed to provide an index that was more diversified and more easily applied to indexation strategies. SFR tried to create a broad index that traded easily in order to focus on the problems associated with creating and maintaining index funds.(14)

None of the three provides an ideal index; the choice of one over the other must relate to the plan sponsor's judgement about relative importance of the following factors:

- o construction rules
- o coverage and diversity
- o investability and cost
- o quantity and availability of data

All three indices are capitalization weighted, that is, issues in the index are weighted according to the value of their outstanding stock. While Modern Portfolio Theory holds that the most efficient and representative portfolio is capitalization weighted, this methodology poses several problems for international indices:

- o It gives greater importance to countries with highly developed public equity markets.

- o It overstates the value of some corporations because of "cross ownership" and results in some degree of double counting. (Cross ownership refers to the fact that many international corporations own significant portions of the stock of other companies.)

- o It overstates the value of shares actually available due to government restrictions on foreign ownership or to the lack of liquidity on very closely held companies.

EAFE, FT and SFR differ in the way they address the latter two issues. A summary of their characteristics is shown in Figure 9:

- EAFE attempts to include at least 60% of each industry in each country in its index. There is no adjustment for cross ownership, closely held companies or non-purchasable shares.

- FT includes a significantly higher number of issues in each country and is therefore broader than EAFE. While it does not adjust for cross ownership, FT excludes stock which cannot be purchased by U.S. investors and makes adjustments for closely held companies.

- SFR has fewer issues than either EAFE or FT because it focuses on larger capitalization companies. SFR adjusts for restricted stocks and closely held companies and is the only one of the three indices that attempts to compensate for cross holdings.

In terms of coverage and diversity, FT appears to be superior to the others. It includes a greater number of issues and its country by country sub-indices are better proxies for individual markets. EAFE ranks second in this area while SFR is the narrowest of the benchmarks. While all three indices have a large capitalization bias, FT captures a greater number of smaller issues and is thus more representative of the entire international market.

SFR ranks highest on investability. Its small number of issues and its concentration in larger, more liquid names makes it the lowest cost index in terms of trading and tracking. FT likely will be the most costly since more and smaller issues translate into higher commissions and higher custody costs. FT's larger number of names present some additional challenges when passive managers attempt to replicate the index through sampling.

FIGURE 9

COMPARISON OF INDEX SOURCES

	EAFE	SFR	FT
Adjustments for			
- cross ownership	no	yes	no
- closely held co's	no	yes	yes
- non-purchasable shares	no	yes	yes
Countries	18	20	20
Companies	981	541	1,683
Total Capitalization	$2.9 trillion	$2.2 trillion	$3.8 trillion
Mean Capitalization	3.0 billion	4.0 billion	2.3 billion
Median Capitalization	1.0 billion	1.8 billion	0.7 billion
Large Cap > $5 billion	63%	70%	59%
Medium Cap 0.5 - 5 billion	55	33	39
Small Cap < 0.5 billion	3	2	2
Correlation			
EAFE	---	.994	.997
SFR	.994	---	.989
FT	.997	.989	---
Standard Dev.	20.6%	21.2%	20.8%

Source: Bankers Trust, September 1988

Staff Ranking (1 = highest)			
- coverage	2	3	1
- investability/cost	2	1	3
- history/amount of data	1	2-3	2-3

EAFE - Morgan Stanley Capital International Index of Europe, Australia and the Far East

SFR - Salomon, Frank Russell Index

FT - Financial Times - World Actuaries Index

FIGURE 9 (con't)
COMPARISON OF INTERNATIONAL INDICES

# of Securities	SFR	MSCI	FT
Japan	163	239	457
UK	70	132	327
Germany	27	58	99
France	57	84	126
Italy	30	67	102
Netherlands	13	22	38
Australia	39	65	88
Switzerland	21	50	55
Sweden	16	36	35
Hong Kong	18	31	46
Spain	20	32	42
Belgium	14	20	63
New Zealand	8	15	21
Singapore/Malaysia	14	55	62
Denmark	9	26	39
Norway	8	17	25
Ireland	4	-	17
Austria	5	11	16
Finland	2	21	25
Luxembourg	3	-	-

As of 6/30/88

% Capitalization	SFR	MSCI	FT
Japan	66.0%	62.7%	64.9%
UK	14.5	13.0	14.6
Germany	3.8	4.3	4.3
France	3.1	3.6	3.2
Italy	1.7	2.1	2.1
Netherlands	2.3	2.1	1.8
Australia	2.1	2.4	2.3
Switzerland	1.4	2.4	1.5
Sweden	0.5	1.3	0.4
Hong Kong	1.0	1.3	1.2
Spain	1.5	1.6	1.5
Belgium	0.7	0.9	1.0
New Zealand	0.2	0.3	0.2
Singapore/Malaysia	0.3	0.9	0.3
Denmark	0.2	0.4	0.3
Norway	--	0.2	0.1
Ireland	0.2	--	0.2
Austria	*	0.1	0.1
Finland	*	--	0.1
Luxembourg	*	--	--

As of 6/30/88
* Less than 0.05%

Source: Bankers Trust
Data as of 6/30/88

SFR Salomon Frank Russell
MSCI Morgan Stanley Capital Int'l EAFE
FT Financial Times

EAFE appears somewhere between SFR and FT on the investability scale.

EAFE has a clear lead in terms of accessibility to data. Historical records on EAFE cover two decades while FT and SFR were created within the last few years. As a result, EAFE has a wealth of fundamental data that the other two indices cannot match.

Overall, staff and the Investment Advisory Council (IAC) believe that EAFE is strongest index source for the Board's international program at this time. The benefits offered by FT's broader market coverage and SFR's greater investability are not sufficient to overtake EAFE's advantage as the most widely recognized and accepted index source among U.S. investors.

HOW SHOULD THE BOARD'S INTERNATIONAL BENCHMARK BE WEIGHTED?

As cited in the previous section, capitalization weighting of an international index gives greater importance to countries with large public markets. In addition, capitalization weighted indices are somewhat unstable over time. For example, the Japanese market grew from 15% of EAFE in 1970 to 70% by 1989 and dropped to about 50% in 1990. Plan sponsors have used different weighting schemes to develop a reasonable country allocation for an international benchmark. For the most part, these methods have been devised to reduce the perceived overweighting of Japan created by a purely capitalization weighted index (15):

- o Use a benchmark that weights each country by its gross domestic product (GDP).
- o Set the benchmark at 50% Europe and 50% Pacific Basin.

GDP-weighted benchmarks have become fairly popular among plan sponsors and Morgan Stanley now publishes a GDP-weighted version of EAFE. GDP weights are quite stable over time and are more equally spread over the major international markets. Figure 10 shows the history of capitalization versus GDP weighted EAFE from 1970-1990 and Figure 11 compares actual EAFE and GDP-EAFE weights as of June 30, 1990. Despite its appeal, the GDP-EAFE has some problems of its own:

- Morgan Stanley re-weights the entire index only once per year based on data that is nearly a year old. Month-to-month changes are again subject to changes in market capitalization.

- The resulting weights for some countries seem inappropriate. For example, Italy takes on a weight equal to or greater than the U.K. despite the fact the U.K. is the world's third largest market and Italy's public market is very small. Since Germany's public market is small compared to its total economy, its proportion of a GDP-weighted benchmark can be questioned as well.

A benchmark that is weighted 50% Europe and 50% Pacific Basin, with countries weighted by capitalization within each region, is another way to address the high weight given Japan in purely capitalization weighted indices. This approach has several benefits:

- It ensures the benchmark will be diversified across international markets. Since no single country will be over half of the benchmark, Japan's status in a capitalization weighted benchmark is addressed effectively and permanently.

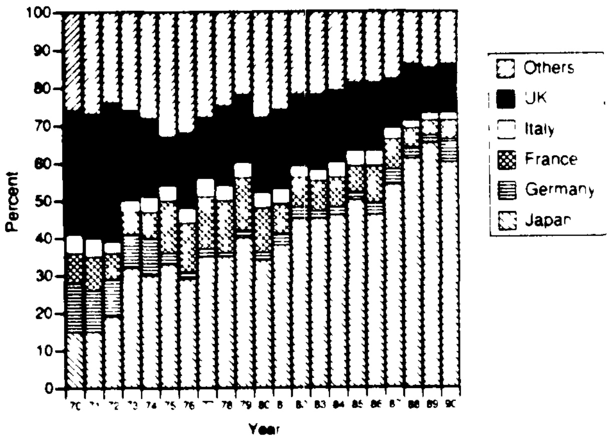
- It provides greater stability to country weights within the benchmark without the distortions of a GDP-weighted approach.

- It recognizes two distinct economic regions within international markets. This has applications to a regional approach in a plan sponsor's investment management structure.

FIGURE 10

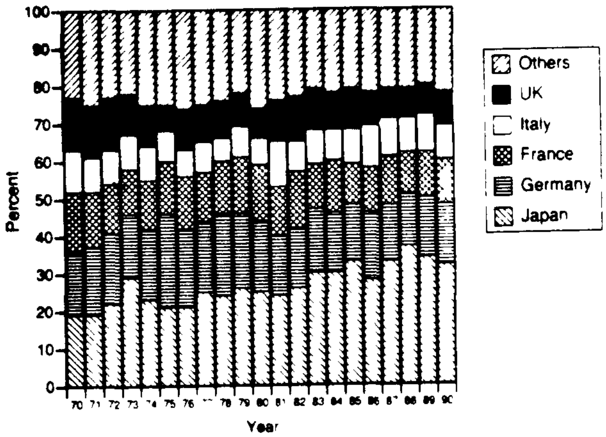
HISTORY OF CAPITALIZATION VS GDP WEIGHTED EAFE
1970-1990

Capitalization Weighted



Source Boston International Advisors Inc

Gross Domestic Product (GDP) Weighted



Source **Boston International Advisors, Inc**

FIGURE 11

COMPARISON OF GDP AND EAFE WEIGHTS
June 30, 1990

MARKET	GDP WEIGHTS	EAFE INDEX	MARKET	GDP WEIGHTS	EAFE INDEX
Austria	1.6%	0.5%	Switzerland	2.1	3.3
Belgium	1.9	1.1	United Kingdom	9.2	15.2
Denmark	1.3	0.7	**Europe**	**65.1%**	**43.5%**
Finland	1.4	0.3	Australia	3.1%	2.3%
France	11.6	5.7	Hong Kong	0.7	1.4
Germany	14.9	7.0	Japan	30.3	51.5
Italy	10.4	3.0	New Zealand	0.5	0.2
Netherlands	2.8	2.5	Singapore	0.3	1.1
Norway	1.1	0.5	**Pacific**	**34.9%**	**56.5%**
Spain	4.6	1.8			
Sweden	2.2	1.9	**Total**	**100.0%**	**100.0%**

Source: Morgan Stanley Capital International Perspective, July 1990

- It imposes a "buy low/sell high" rebalancing discipline within the international segment of a portfolio. As shown below, this has the potential to enhance returns:

1970-1991

	EAFE	50/50
Annualized Return	14.28%	15.61%
Standard Deviation	17.69	17.44

Source: Richards & Tierney, Inc.

The 50/50 weighting scheme also presents some disadvantages:

- The gains produced by the rebalancing discipline may be eroded or eliminated through additional transaction costs.
- It may imply some unintended judgement about the relative performance potential of various regions or countries.

The high weight given Japan in capitalization weighted benchmarks remains cause for concern. A recent study concluded that reasonable adjustments for cross ownership would cut Japan's presence by roughly half its current weight in the world markets.(16) Despite this distortion, however, staff and the Investment Advisory Council (IAC) recommend that the Board adopt a capitalization weighted target for its international program. Capitalization weighted EAFE is the accepted performance standard among plan sponsors and money managers. Staff/IAC can not find an overwhelming advantage to alternative weighting schemes at this time.

The EAFE index employed by the SBI should be adjusted to reflect the following investment restrictions:

- Securities that foreign governments do not allow U.S. investors to buy. This will affect both active and passive segments.

- Securities that are prohibited by the SBI's policy on liquor and tobacco(17). This policy affects both active and passive segments.

- Securities that are restricted by the SBI's resolution on South Africa(18). This policy affects the active segment only.

In order to minimize the tracking error associated with the South Africa restrictions, staff/IAC further recommend that the target for the active segment be re-weighted back to market weights by country (see the section "What Impact Do South Africa Restrictions Have?" for more information on tracking error due to restrictions).

WHAT ARE THE INVESTMENT MANAGEMENT OPTIONS?

Plan sponsors have a wide range of options in building their international portfolios. While investment approaches are expanding and evolving over time, the following categories are often used to describe the international manager universe today:

- Top-Down

  The top-down approach focuses on economic or other fundamental factors in an attempt to determine which local markets will perform better than others. Country allocation decisions are therefore of primary importance. Stock selection and currency management, while still part of the active management process, usually receive less attention.

  This approach takes advantage of the large impact that country allocation has on returns. Its disadvantage is that a change in country allocation can affect a large percentage of the portfolio and will drive up transaction costs.

- Bottom-Up

  As the terms implies, bottom-up strategies concentrate on stock selection and attempt to capitalize on the inefficiences in foreign markets. In this approach country and currency decisions are either secondary or are treated as a residual of the stock-picking philosophy. Styles emphasizing value, growth, small or large companies are more frequently seen in bottom-up approaches than in top-down methodologies. Quantitative disciplines are also gaining favor within this category.

- Active/Passive

  The active/passive approach is an offshoot of the top-down strategy that has emerged over the last five years. Here, the country allocation decision is actively managed but stock selection is implemented through a collection of country by country index funds. This approach evolved in response to the observation that many top-down managers added value through country selection but gave up much of the return through poor stock selection or high transaction costs. This strategy usually requires a minimum of $50-100 million in assets due to the large number of stocks that must be held to replicate indices for multiple countries.

- Passive

  Passive management/indexation gained favor in the 1980's as an economical way to place sizeable amounts of assets in the international markets. The poor relative performance of many managers during the last decade fueled the growth of indexation as well.

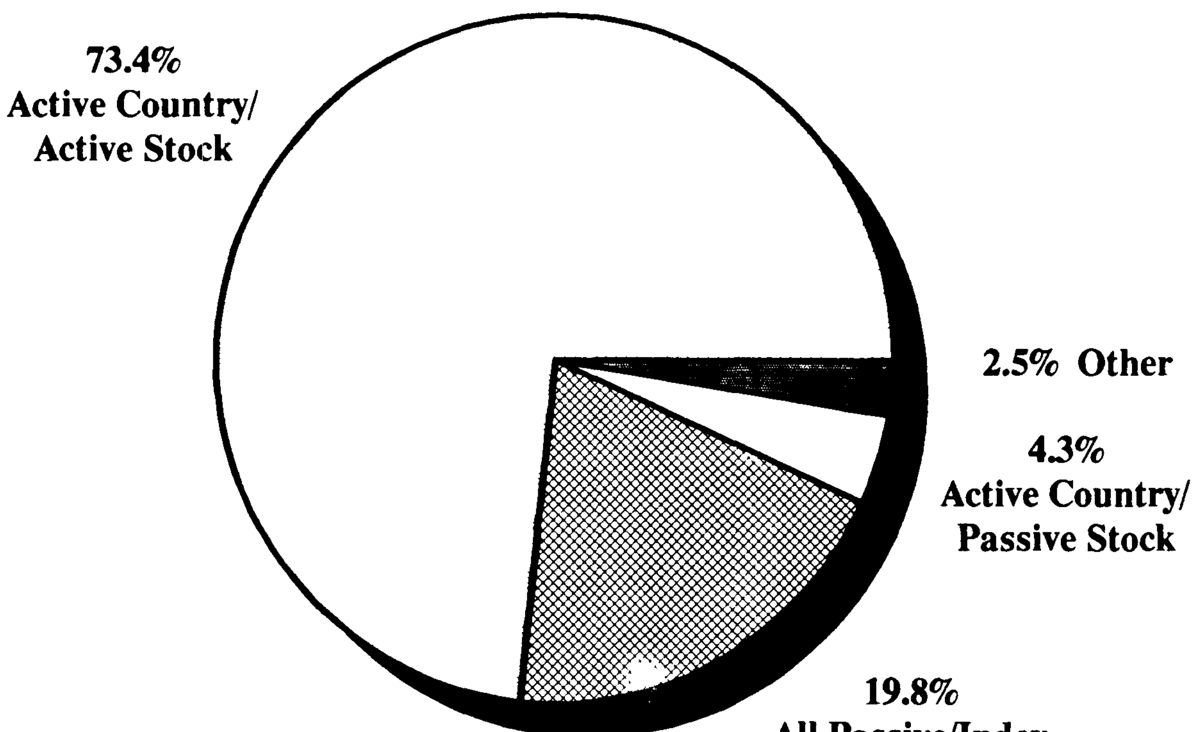
- Regional Mandates

  Regional mandates (e.g. Europe, Pacific Basin, Europe ex-U.K., Japan-only) can be applied to any of the above strategies. This approach takes advantage of specialized strengths and skills of certain managers and has growing interest among plan sponsors.

How are international portfolios being managed today? According to InterSec Research Corporation, nearly three quarters of U.S. tax exempt international equities are managed through traditional active strategies, either top-down or bottom-up. About twenty percent is indexed and the remainder is in either active/passive or other quantitative strategies (see Figure 12). The relatively low level of passive and active/passive strategies

Figure 12

International Investment Approaches Used by U.S. Tax Exempt Funds September 1990



Source: InterSec Research Corp.

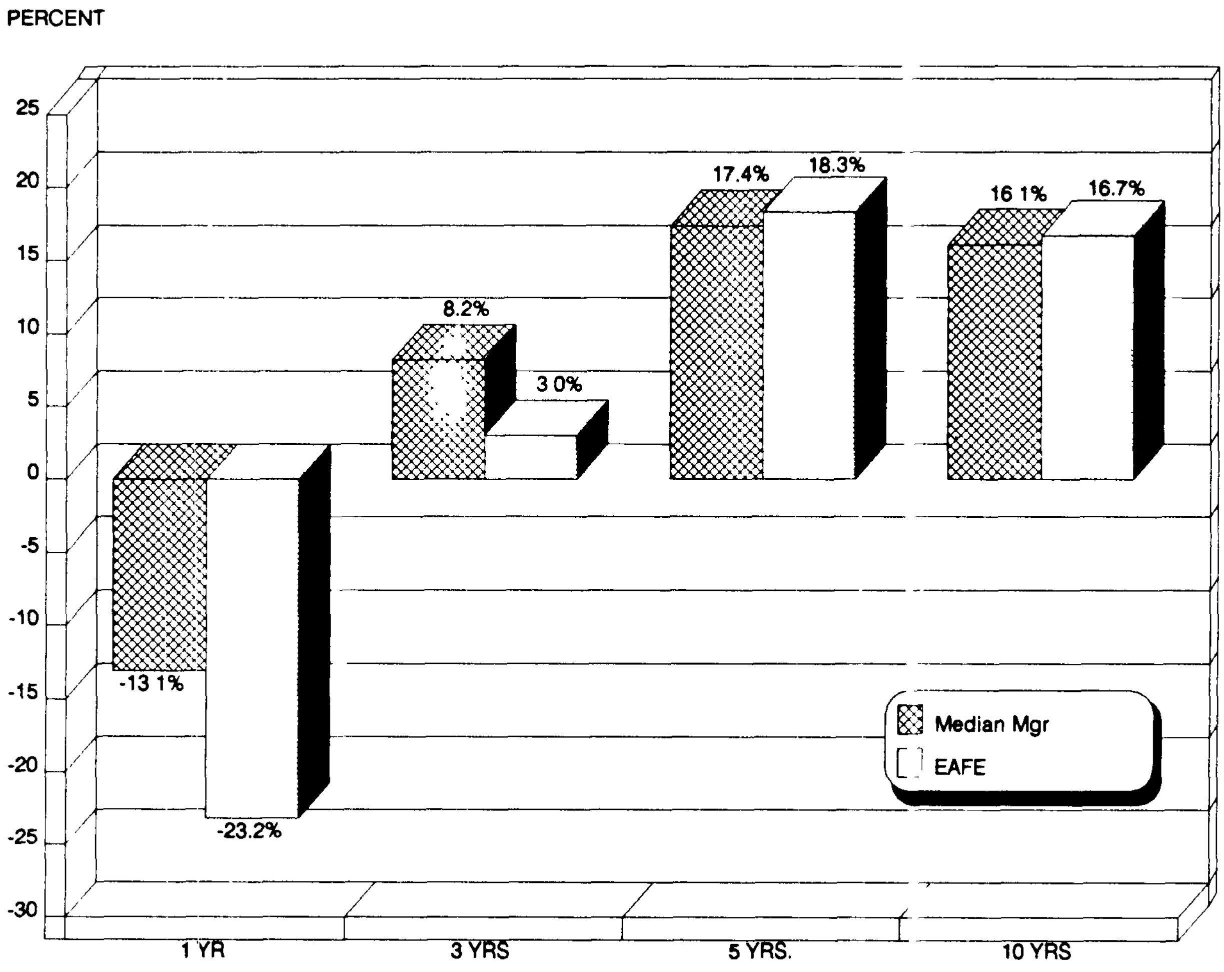
reflects the newness of these approaches in international management.

How have international managers performed? The performance of the median manager in InterSec's universe over the 10 years ending 1990 is shown in Figure 13. Over the 1 and 3 year periods, the median manager outperformed EAFE by substantial margins but over the trailing 5 and 10 year periods the median manager underperformed the index. The spectacular growth and performance of the Japanese markets during the mid 1980's had a large impact on these results. Many managers underweighted Japan for several years because they felt the Japanese market was seriously over-valued. This decision hurt returns relative to EAFE for a protracted period. Yearly returns from InterSec's data base illustrate that "beating the index" can be difficult for international managers over extended periods (see Figure 14).

It is important to recognize that the performance of international active managers is more volatile than that of domestic managers. As shown in Figure 15, the median U.S. active manager in the Trust Universe Comparison Service (TUCS) provided returns that were within ± 3 percentage points around the U.S. market from 1987-1991. The variability of the median international active manager in TUCS was more than four times that level, i.e. within ± 13 percentage points around the international market during the same period. The additional volatility of international managers will impact the SBI's evaluation process. Longer time frames may be necessary to judge a manager's potential to add value

Figure 13

Median Manager Performance
Periods Ending Dec. 31, 1990
Annualized Returns



Source: InterSec Research Corp.

FIGURE 14

MEDIAN MANAGER VS. EAFE

ANNUAL PERIODS

	EAFE	InterSec Median Manager	Median Manager Over (+)/Under (-) EAFE
1991	12.13%*	11.85%	-0.28 percentage points
1990	-23.45	-13.30*	+10.15
1989	10.53	21.63*	+11.10
1988	28.27*	17.35	-10.92
1987	24.63*	11.30	-13.33
1986	69.45*	60.00	-9.45
1985	56.16*	55.90	-0.26
1984	7.38*	-2.90	-10.28
1983	23.69	28.70*	+5.01
1982	-1.86	3.90*	+5.76

* better performance

Sources: Median manager returns from InterSec Research Corp.
EAFE returns from Richards & Tierney

FIGURE 15

VARIABILITY OF ACTIVE MANAGER RETURNS

ANNUAL RETURN

	TUCS Median International Manager	EAFE	Difference
1991	11.16%	12.13%	-0.97% percentage points
1990	-13.59	-23.45	9.86
1989	20.69	10.45	10.16
1988	15.46	28.27	-12.81
1987	14.87	24.63	-9.76

	TUCS Median U.S. Manager	Wilshire 5000	Difference
1991	31.64%	34.20%	-2.56 percentage points
1990	-4.19	-6.18	1.99
1989	26.25	29.17	-2.92
1988	17.14	17.94	-0.80
1987	3.90	2.27	1.63

Sources: Median manager data from Trust Universe Comparison Service (TUCS)

EAFE and Wilshire data from Richards & Tierney relative to EAFE due to the additional volatility/variability of returns.

HOW SHOULD THE BOARD STRUCTURE ITS INTERNATIONAL PROGRAM?

Staff and the Investment Advisory Council (IAC) recommend a two-phase approach to the investment management structure for the international equity segment of the Basic Funds:

- Initial Structure - 100% passive
- Longer Term Structure - at least 50% active

Passive management is an appropriate investment strategy, particularly during the start-up phase of the SBI's international program:

- It provides immediate diversification benefits through exposure across international markets.
- Large sums of money can be deployed relatively quickly and at lower administrative cost.
- The returns produced by an index manager will be predictable relative to the SBI's chosen benchmark or target.
- The search process for an index manager will be less complex and time consuming than for multiple active managers. Staff/IAC expect that the Board could hire an index manager as early as September 1992 and begin funding in October 1992.
- Initial reliance on passive management provides time for the SBI to become familiar with the administrative issues of international investing (global custody and settlement, multi-currency accounting and performance reporting) without the added complexity of a multiple manager structure.

Active management is very attractive over the longer term. Staff and the IAC agree that the SBI should seek incremental gains/valued added through a variety of active strategies:

- top-down
- bottom-up
- active country/passive stock
- regional specialists
- emerging market specialists

Staff/IAC do not propose a specific allocation to any particular active approach and do not suggest a definite timetable for incorporating any strategy. Rather, they recommend that the SBI begin its search for active managers as soon as practicable. As attractive candidates are identified, they should be incorporated into the SBI's international program. Staff/IAC expect that one or more active managers could be hired by the end of calendar 1992. The SBI should expect to add other candidates during calendar 1993.

Over time, staff/IAC believe that the SBI should seek to have at least 50% of the international allocation actively managed. Before adding active managers above the 50% level, however, the Board should expressly affirm a higher commitment to active management.

A summary of all recommendations contained in this position paper can be found in Figure 16.

FIGURE 16

BASIC RETIREMENT FUNDS
INTERNATIONAL EQUITY PROGRAM
SUMMARY OF RECOMMENDATIONS

Asset Class Target:	
o Source	Morgan Stanley Capital International Index of Europe, Australia and the Far East (EAFE)
o Weighting	Capitalization, subject to restrictions shown below
o Currency	U.S. Dollar, Unhedged
Restrictions:	
o Active and Passive	eliminate securities that U.S. investors are not allowed to own
	eliminate securities that are affected by the SBI's policy on liquor and tobacco
o Active only	eliminate securities that are affected by the SBI's policy on South Africa and re-weight back to market weights by country
Hedging Strategy:	
o Passive	no hedging
o Active	opportunistic/tactical hedging by individual managers
Management Structure:	
o Initial	100% passive
o Longer Term	at least 50% active
Timing:	
o Passive	select manager by September 1992
o Active	begin search process as soon as possible*

* Active managers will be added as soon as practicable. Attractive candidates will be identified through an on-going search process during 1992-93.

FOOTNOTES

1. Callan Associates, "Investing in International Equities: Issues to Consider," 1989.

2. Robert E. Angelica, AT&T, "International Investing Practices of Large Corporate Pension Funds," Investing Worldwide, Association for Investment Management and Research (AIMR) 1990.

3. Frank Russell Company states that mean-variance asset allocation models recommend up to 75% non-U.S. equities. Wilshire Associates states that efficient frontier studies demonstrate that up to a 60% allocation to international stocks can reduce risk and enhance returns.

4. Amended and Restated Resolution of the Minnesota State Board of Investment Concerning South Africa, March 1, 1989.

5. Direct investment is defined by IRRC as 10% or more equity in an active South Africa company or employees in South Africa.

6. Alliance Capital Management L.P., "Impact of South Africa Free Constraints in Non-U.S. Equity Markets," June 30, 1991.

7. J.P. Morgan Investment, "South Africa-Free International Investment 1982-1989," 1990.

8. One (1) basis point equals 1/100 of 1%.

9. Anthony W. Robinson, First Chicago Investment Advisers, "Comparison of Fundamental Issues in International and Domestic Equity Investing," International Investing for U.S. Pension Funds, Institute for Fiduciary Education (IFE), May 1989.

10. Rosaland M. Hewsenian, Wilshire Associates, "Summary of International Investing - What are the Issues?," International Investing for U.S. Pension Funds, IFE, May 1989.

11. Christopher A. Nawakowski, InterSec Research Corp., "A Review of Trends in Global Investing," Initiating and Managing a Global Investment Program, AIMR, November 1990.

12. See Andre F. Pernold and Evan C. Shulman, "The Free Lunch in Currency Hedging: Implications for Investment Policy and Performance Standards," Financial Analysts Journal, May-June 1988 and Fisher Black, "Universal Hedging: Optimizing Currency Risks and Reward in International Equity Portfolios," Financial Analysts Journal, July-August 1989.

13. Less than 1% of the international equity portfolios in the InterSec Research Corp universe of U.S. tax exempt investors used either partially or fully hedged benchmarks as of September 1990. This indicates a similarly low percentage of portfolios use systematic hedging.

14. Investment Management Group, Bankers Trust Company, "Comparison of International Indices," September 1988. This publication is the source for most of the data and analysis presented in this section.

15. David Umstead, Boston International Advisors, Inc., "The Portfolio Management Process," Initiating and Managing a Global Investment Program, AIMR 1990.

16. Kenneth R. French and James M. Poterba, "Were Japanese Stock Prices Too High?" Journal of Financial Economics, Vol. 29, 1991.

17. SBI policy prohibits holding the stock of companies who derive more than 50% of their revenues from the sale of liquor or tobacco.

18. SBI policy directs its active stock managers to refrain from purchasing stock of companies with direct investment in South Africa unless the manager determines that failure to complete a purchase would be a breach of the manager's fiduciary responsibility.

APPENDIX A

Statewide Public Pension Funds Invested Internationally

California Public Employees Retirement System
California Teachers Retirement System
Public Employees Retirement Association of Colorado
Connecticut Trust Funds
Delaware State Pension Funds
Public Employee Retirement System of Idaho
State Universities Retirement System of Illinois
Teachers Retirement System of the State of Illinois
Illinois State Board of Investment
Florida Retirement System Trust Fund
Iowa Public Employees Retirement System
Commonwealth of Massachusetts Pension Reserves Investment Trust
Public Employees Retirement System of Mississippi
Montana Board of Investments
Public Employees Retirement System of Nevada
New Jersey Division of Investment
New York State Common Retirement Fund
North Dakota State Investment Board
School Employees Retirement System of Ohio
Oregon Investment Council
Pennsylvania State Employees Retirement System
South Dakota Investment Council
Tennessee Consolidated Retirement System
Teacher Retirement System of Texas
Utah State Retirement Board
Washington State Investment Board
Wisconsin Investment Board

Source: Informal survey conducted by SBI staff in October 1991.

Number of states **with** international investments	24
Number of states **without** international investments	9
Total number of states in survey	33

APPENDIX B

PUBLICLY HELD INTERNATIONAL COMPANIES WITH DIRECT INVESTMENT IN SOUTH AFRICA

NOVEMBER 1990

AUSTRALIA

The Broken Hill Pty. Co. Ltd.

Everald Compton International Pty. Ltd.

G.C.F. Investments Pty. Ltd.
Goodman Fielder Wattie Ltd.
G.H. Michell Holdings Pty. Ltd.

The News Corp. Ltd.

Qantas Airways Ltd.

Siddons Ramset Ltd.

TNT Ltd.

AUSTRIA

Ludwig Engel KG

Hoerbiger Ventilwerke AG

Osterreichische Industrieholding AG (OIAG)

Plasser & Theurer Export von Bahnbaumaschinen GmbH

Konrad Rosenbauer KG

BELGIUM

CMB N.V.

Hamon-Sobelco S.A.
Solvay et Cie. Societe Anonyme

UCB S.A.

CANADA

Menora Resources Inc.

Unican Security Systems Ltd.

DENMARK

The East Asiatic Co. Ltd. A/S

Novo Nordisk A/S

Potagua A/S

Sophus Berendsen A/S

FEDERAL REPUBLIC OF GERMANY

Adidas Sportschuhfabriken Adi Dassler Stiftung & Co. KG
AGIV Aktiengesellschaft Furr Industrie und Verkehswesen
Allianz AG
Allweiler AG
Altana Industrie-Aktien und Anlagen AG

J.H. Bachmann GmbH & Co.
BASF AG
Baumwollspinnerei Gronau AG
Bayer AG
Bayerische Hpotheken- und Wechselbank AG (Hypobank)
Bayerische Landesbank Girozentrale
Bayerische Motoren Werke AG
Bayerische Vereinsbank AG
Bekum Maschinenfabrikenen GmbH
Bergische Achsenfabrik Fr. Kotz & Sohne
Bochumer Eisenhutte Heintsmann GmbH & Co. KG
Boehringer Ingelheim Zentrale GmbH
Boehringer Mannheim GmbH
Dr. Th. Bohme KG, Chemische Fabrik GmbH & Co.
Robert Bosch GmbH
Burkert GmbH & Co. KG

Colonia Versicherung AG
Commerzbank AG
Continental AG

Daimler-Benz AG
Degussa AG
Detia Degesch GmbH
Deutsche Afrika Linen
Deutsche Babcock AG
Deutsche Bank AG
Deutsche Bundesbahn
Deutsche Steinindustrie AG
Didier-Werke AG
DLW AG
Dragoco Geberding & Co. GmbH
Dresdner Bank AG
DS-Chemie GmbH & Co. KG

Gebr.Eickhoff Maschinenfabrik und Eisengiesserei mbH
EVT Energie- und Verfahrenstechnik GmbH

A.W. Faber-Castell Unternehmensverwaltung GmbH & Co.
FAG Kugelfischer Georg Schafer KGaA
Falke-Gruppe
C. & E. Fein Gmbh & Co.
Freudenberg & Co.
Fuchs, Petrolub AG Oel + Chemie

GEA Luftkuhlergesellschaft Happel GmbH & Co.
Gedore Werkzeugfabrik Otto Dowidat
Gewerkschaft Eisenhutte Westfalia GmbH
Gildemeister AG
Th. Goldschmidt AG

Haftpflichtvergband der Deutschen Industrie Versicherungsverein AG
E. Heitkamp Baugesellschaft mbH & Co. KG
Helm AG
Hermann Hemscheidt Maschinenfabrik GmbH & Co.
Henkel KGaA
Richard Hirschmann Radiotechnisches Werk
Hoechst AG
Hoesch AG
Philipp Holzmann AG
Huttenes- Albertus Chemische Werke GmbH

Industrieaufbaugesellschaft Schaeffler KG
Industrie- Werke Karlsruhe Augsburg AG

Jackstadt GmbH

Max Kettner Verpackungsmaschinenfabrik GmbH & Co. KG
Kienbaum Verwaltungsgesellschaft mbH
Klockner-Becorit GmbH
Klockner-Moeller Gruppe
Klockner-Werke AG
KM-Kabelmetal AG
Knorr-Bremse KG
Korber AG
Kunz Holding GmbH & Co. KG

Lapple GmbH, Verwaltungs- und Beteiligungsgesellschaft
Ledermann GmbH & Co.
(Deutsche) Lufthansa AG

Madaus AG
MAN AG
Mannesmann AG
F.X. Meiller Fahrzeug- und Maschinenfabrik GmbH & Co. KG
E. Merck Beteiligungen oHG
Metallgesellschaft AG
Miele & Cie. GmbH & Co.
Motorenfabrik Hatz GmbH & Co. KG
Munchener Ruckversicherungs-gesellschaft

Neckar Drahtwerke GmbH
Nixdorf Computer AG
Norddeutsche Affinerie AG

Optyl Holding GmbH & Co.

Pennekamp & Huesker KG
G.M. Pfaff AG
Preussag AG

Rheiner Maschinenfabrik Windhoff AG
Rohde & Liesenfeld GmbH & Co.
Rohm GmbH
August Ruggeberg KG

Johannes Schafer Vorm Stettiner Schraubenwerke GmbH & Co. KG
Schering AG
L. Schuler GmbH
Gebr. Sedlmayr GmbH & Co.
Semikron International
Siemens AG
Staff GmbH & Co.
Sud-Chemie AG

Tente Rollen GmbH & Co.
Thyssen AG Vorm August Thyssen-Hutte
Treuarbeit AG Wirtschaftsprufungsgesellschaft
Steuerberatungsgesellschaft
Gebruder Trox GmbH

Uhlmann & Co. KG
UTP Schweiss-Material GmbH & Co.

Veba AG
Volkswagen AG

Wacker-Chemie GmbH
WAP Reinigungssysteme GmbH & Co.
Max Weishaupt GmbH
Wella AG
Westfalia Separator AG
Ernst Winter & Sohn GmbH & Co.
Adolf Wurth GmbH & Co. KG

Carl-Zeiss-Stiftung
Zeppelin-Stiftung
Zimmermann & Jansen GmbH

FRANCE

Air France Cie. (Nationale)
L'Air Liquide S.A.
Assurances Generales de France

Banque Francaise du Commerce Exterieur

Chargeurs S.A.
Compagnie Financiere de Suez
Compagnie de Fives-Lille S.A.
Compagnie Generale d'Electricite (CGE)

Dollfus-Mieg & Cie. S.A.
Louis Dreyfus et Cie. S.A.
Faiveley Enterprises S.A.

Lafarge-Coppee S.A.
L'Oreal S.A.

Pechiney
Prouvost S.A.
Rhone-Poulenc S.A.
Societe Nationale des Chemins de fer Francais (SNCF)
Societe Parisienne d'Entreprises et de Participations S.A. (SPEP)

Total Compagnie Francaise des Petroles
Tractel S.A.

GREECE

National Bank of Greece

ISRAEL

Bank Leumi Le-Israel

El Al Israel Airlines Ltd.

ITALY

Assicurazioni Generali S.p.A.

Coe & Clerici S.p.A.

Ente Nazionale Idrocarburi (E.N.I.)

Fiat S.p.A.

Istituto Per La Ricostruzione Industriale (I.R.I.)

Montedison S.p.A.

Ing. C. Olivetti & C. S.p.A.

JAPAN

Amada Co. Ltd.

Brother Industries Ltd./Brother Kogyo

Chori Co. Ltd.

C. Itoh & Co. Ltd./Itochu Shoji

Japan Air Lines Co. Ltd./Nippon Koku

Kanematsu-Gosho Ltd.
Kinsho-Mataichi Corp.
Komatsu Ltd./Komatsu Seisakusho

Marubeni Corp.
Mayekawa Industries Co. Ltd.
Meiwa Trading Co. Ltd./Meiwa Sangyo
Mitsubishi Corp./Mitsubishi Shoji
Mitsui & Co. Ltd./Mitsui Bussan
Moritani & Co. Ltd.

NGK Spark Plug Co. Ltd./Nippon Tokushu Togyo
Nichimen Corp.
Nippon Seiko K.K.
Nippon Suisan Kaisha Ltd.
Nissho Iwai Corp.

Sanyo Electric Co. Ltd./Sanyo Denki
Sumitomo Corp./Sumitomi Shoji

Toyo Menka Kaisha Ltd./Tohmen
Toyota Tsusho Corp.

LUXEMBOURG

Ellipse S.A.

THE NETHERLANDS

DSM N.V.

Hunter Douglas N.V.

Internatio-Muller N.V.

KLM Royal Dutch Airlines/Koninklijke Luchtvaart Maatschappij N.V.
Koninklijke Distilleerderijen Erven Lucas Bols N.V.
Koninklijke Nedlloyd Groep N.V.

Philips International B.V.

Royal Dutch Petroleum Co.
Royal Packaging Industries Van Leer B.V.
(Koninklijke Emballage Industries Van Leer B.V.)

NETHERLANDS ANTILLES

Velcro Industries N.V.

NORWAY

Unitor Ships Service A/S

PORTUGAL

Air Portugal (TAP)

Banco Nacional Ultramarino

SPAIN

Pescanova S.A.

SWEDEN

Asea AB
Atlas Copco AB

Incentive AB

Sandvik AB
SKF AB

SWITZERLAND

Adia S.A.
Applied Research Laboratories S.A.

BBC Brown Boveri Ltd.
Birkhart Transport AG
Gebruder Buhler AG

Ciba-Geigy AG
CS Holding

Danzas AG

Endress + Hauser Consult AG

Hermes Precisa International S.A.
Hesta AG
Holderbank Financiere Glaris Ltd.

Kuhne & Nagel International AG

MAAG-Zahnrader und Maschinen AG

Nestle S.A.

Oerlikon-Buhrle Holding Ltd.

Roche Holding Ltd.

Sandoz Ltd.
Schindler Holding Ltd.
Schweizerische Aluminimum Ltd./Alusuisse
Schweizerische Bankgesellschaft/Union Bank of Switzerland
Schweizerische Eternit Holding AG
Schweizerischer Bankverein/Swiss Bank Corp.
Schweizerische Ruckversicherungsgesellschaft (Swiss Reinsurance Co.)
Spedag Speditions AG
STAG AG
Gebruder Sulzer AG
Swissair/Schweizerische Luftverkehr AG

Tarego AG
Transco Holding AG

UNITED KINGDOM

Allied Capital Investment P.L.C.
APV P.L.C.
Avdel P.L.C.

Babcock International Group P.L.C.
B.A.T. Industries P.L.C.
The Beckenham Group P.L.C.
BET P.L.C.
Blackwood Hodge P.L.C.
Blue Circle Industries P.L.C.
The BOC Group P.L.C.
The Boots Co. P.L.C.
Bowthorpe Holdings P.L.C.
BPB Industries P.L.C.
British Airways P.L.C.
The British Aviation Insurance Co. Ltd.
British & Commonwealth Holdings P.L.C.
British Petroleum Co. P.L.C.
Brown Shipley Holdings P.L.C.
BTR P.L.C.
The Burmah Oil P.L.C.

Cadbury Schweppes P.L.C.
Century Oils Group P.L.C.
Charter Consolidated P.L.C.
Chloride Group P.L.C.
Horace Clarkson P.L.C.
Clayhithe P.L.C.
Coates Brothers P.L.C.
Coats Viyella P.L.C.
Commercial Union Assurance Co. P.L.C.
Cookson Group P.L.C.
Courtaulds P.L.C.
Courtaulds Textiles P.L.C.
Croda International P.L.C.

Davies & Metcalfe P.L.C.
Davy Corp. P.L.C.
Delta P.L.C.
Desoutter Bros. (Holdings) P.L.C.
Dobson Park Industries P.L.C.
Drummond Group P.L.C.

B. Elliott P.L.C.
E.R.F. (Holdings) P.L.C.
Evode Group P.L.C.

J.H. Fenner (Holdings) P.L.C.
Fine Art Developments P.L.C.
Fisons P.L.C.
Foseco P.L.C.

GEI International P.L.C.
General Accident Fire & Life Assurance Corp. P.L.C.
General Electric Co. P.L.C.
Gestetner Holdings P.L.C.
GKN P.L.C.
Glaxo Holdings P.L.C.
Clopec Holdings Ltd.
Goode Durrant P.L.C.
Grand Metropolitan P.L.C.
Great Universal Stores P.L.C.
Walter Greenbank P.L.C.
Guardian Royal Exchange P.L.C.
Guinness P.L.C.

Haden MacLellan Holdings P.L.C.
Hall Engineering (Holdings) P.L.C.
Hanson P.L.C.
Harrisons & Crosfield P.L.C.
Hawker Siddeley Group P.L.C.
Hickson International P.L.C.
Hi-Tec P.L.C.
Howden Group P.L.C.
Hunting P.L.C.

Imperial Chemicals Industries P.L.C.

Johnson Matthey P.L.C.

Kelp Ltd.

The Laird Group P.L.C.
Laporte P.L.C.
Leica P.L.C.
Thomas Locker (Holdings) P.L.C.
London Finance & Investment Group P.L.C.
London International Group P.L.C.
Lonrho P.L.C.
Lopex P.L.C.
Low and Bonar P.L.C.
Lucas Industries P.L.C.

Marley P.L.C.
Maxwell Communication Corp. P.L.C.
McKechnie P.L.C.
The Morgan Crucible Co. P.L.C.

James Neill Holdings P.L.C.
Norcros P.L.C.
Norton Opax P.L.C.

The Ocean Group Ltd.

Paringa Mining & Exploration Co. P.L.C.
Pearson P.L.C.
The Peninsular and Oriental Steam Navigation Co.
Pilkington P.L.C.
Pirelli U.K. P.L.C.
The Plessey Co. P.L.C.
Powell Duffryn P.L.C.
Prudential Corp. P.L.C.
PWS Holdings P.L.C.

Racal Electronics P.L.C.
Reckitt & Colman P.L.C.
Record Holdings P.L.C.
Reed International P.L.C.
Renold P.L.C.
Rolls Royce P.L.C.
Royal Insurance Holdings P.L.C.
The RTZ Corp. P.L.C.

Scapa Group P.L.C.
Senior Engineering Group P.L.C.
Siebe P.L.C.
The 600 Group P.L.C.
SmithKline Beecham P.L.C.
Smith & Nephew P.L.C.
STC P.L.C.
Sun Alliance & London Insurance P.L.C.
Suter P.L.C.

Tate & Lyle P.L.C.
Telfos Holdings P.L.C.
Thames Water P.L.C.
Thermal International Holdings P.L.C.
Thorn EMI P.L.C.
TI Group P.L.C.
T&N P.L.C.
Tomkins P.L.C.
Tootal Group P.L.C.
Trafalgar House P.L.C.

Unilever P.L.C.
United Industries P.L.C.

Vickers P.L.C.

Wassall P.L.C.
The Weir Group P.L.C.
Wellcome P.L.C.
Wellman P.L.C.
Wiggins Teape Appleton P.L.C.
Willis Faber P.L.C.
George Wimpey P.L.C.
Wolseley P.L.C.
WPP Group P.L.C.

Yule Catto & Co. P.L.C.

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Tab G

COMMITTEE REPORT

DATE: May 26, 1992

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

FROM: Stock and Bond Manager Committee

The Stock and Bond Manager Committee met on May 20, 1992, to consider the following agenda items:

- o Discuss the impact of liquor and tobacco restrictions.
- o Review of manager performance.
- o In-depth review of Lieber & Company.
- o Review of the active manager contract guidelines.
- o Update on rebalancing activities for the last quarter.
- o Update on the stock manager monitoring system.
- o Consider contract renewals for stock and bond managers.
- o Review of proposed bond manager allocation guidelines.
- o Review return expectations for equity and fixed income segments.

INFORMATION ITEMS:

1) Impact of Liquor and Tobacco Restrictions

It is the SBI's policy to restrict stock holdings of a company that obtains more than 50% of its revenue from the sale of liquor or tobacco. As seen in **Attachment A,** this policy has had a negative impact on stock returns since 1980. The Wilshire 5000 return for 1/1/80-3/31/92 was 14.56% annualized. Adjusted for the SBI's restrictions, the return for the same period was 14.09% annualized, a difference of -0.44%. The impact in future periods could be either positive or negative depending on the performance of that sector of the market.

The Committee concurs with a staff recommendation that the SBI's performance standards should reflect the universe of securities actually available for investment. As a result, the data reported as Wilshire 5000 returns and any composite index which incorporates the Wilshire 5000 should be adjusted to reflect the SBI's liquor and tobacco restrictions. Such changes have been incorporated throughout the performance reports for the quarter ending 3/31/92 and will made in all future reports.

2) Review of Manager Performance

- **Stock Managers**

  For the quarter ending March 31, 1992, the Basic Funds' domestic equity program underperformed its aggregate benchmark but outperformed the Wilshire 5000 Adjusted (Equity Program -1.0%; Aggregate Benchmark -0.6%; vs. Wilshire 5000 Adjusted -1.5%). The current equity managers in the Basic Funds outperformed their aggregate benchmark and the Wilshire 5000 Adjusted for the latest year (Equity Managers 14.3%; Aggregate Benchmark 14.0%; Wilshire 5000 Adjusted 13.3%). For the latest five year period, the current equity managers also outperformed their aggregate benchmark and the Wilshire 5000 Adjusted.

- **Bond Managers**

  For the quarter ending March 31, 1992, the Basic Funds' domestic bond program underperformed the Salomon BIG (Bond Program -1.3%; Salomon BIG -1.2%). Primarily, returns were low because the aggregate managers' duration was longer than the market during a period when interest rates increased. The current managers in the Basic Funds outperformed the Salomon BIG over the last year (Bond Program 12.3%; Salomon BIG 11.7%) and matched the BIG over the last five years.

Value of active management (VAM) reports for all active stock and bond managers are attached at the end of this section. Narrative investment commentaries for the quarter and year are included as well.

3) In-depth Review of Lieber & Company

The SBI's Manager Continuation Policy requires that an in-depth review be conducted every three years for each active manager. This quarter, staff prepared an in-depth review of Lieber & Company. A copy of staff's full report is **Attachment B.** A summary of staff's findings follows:

- **Quantitative**

  Since inception of the account, Lieber has consistently generated value added versus an appropriate benchmark at an annualized rate of 0.73%. In addition, it has outperformed its benchmark in six of the last eight years.

- **Qualitative**

  Lieber's organization has strong and consistent leadership as well as low turnover among its investment personnel. The firm's research capabilities are extensive and thorough.

  The firm has not had a lot of experience in providing some of the data that staff requests. While Lieber is cooperative in providing the necessary information, that information is not always readily accessible. This is a relatively minor concern at this time.

  Staff believes Lieber's capacity is limited to a certain range and the firm is currently at the high end of that range. At this point in time it is not a problem. If Lieber were to experience a significant increase in assets in the small cap style, staff would become concerned about the firm's ability to consistently apply its investment style.

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

4) Annual Review of Active Stock and Bond Manager Contract Guidelines

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

Staff recommended a small correction to the stock guidelines to make them consistent with Minnesota Statutes Chapter 11A. The change deleted a reference to NASDQ OTC Exchange.

Staff recommended minor changes to the bond guidelines concerning benchmarks and communication requirements. References to customized benchmarks were changed to reflect the decision to use the Salomon BIG as the benchmark for all active managers. A previous requirement for quarterly conference calls was eliminated because the monthly updates from the managers have improved and are comprehensive.

The Committee concurs with staff's recommendations. Copies of the revised guidelines are in **Attachments C and D.**

5) Update on Basic Retirement Funds Rebalancing

On March 2, 1992 $300 million was transferred from the common stock index pool to the active and semi-passive bond pools. Of this amount, $185 million was allocated to the semi-passive managers and $115 million to the active bond managers. The rebalancing changed the actual asset allocation in the Basic Funds from 64.0% to 60.0% for equities and 24.1% to 27.9% for bonds.

6) Update on Equity Manager Monitoring Program

Last quarter staff sent out information requests to the five investment management firms (Brandywine, Fayez Sarofin, Fisher Investments, Mitchell Hutchins-Uncommon Value, IAI-Small Cap Regional) selected to start the domestic active equity manager monitoring program. Staff has received the responses from all five firms and has started to input the data into the database. During the next quarter, staff will begin the annual solicitation of new candidates from the Board, IAC and consultant. The review of those candidates will take place at the next committee meeting.

ACTION ITEMS:

1) Contract Renewals

Several annual contracts with stock and bond managers expire on June 30, 1992. The Committee concurs that all the contracts should be extended.

RECOMMENDATIONS:

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

- **Active Stock Managers**

  Alliance Capital Management
  Forstmann Leff Associates
  Lieber & Company
  IDS Advisory
  Waddell & Reed

- **Active Bond Managers**

  IAI, Inc.
  Lehman Ark Management Company, Inc.
  Miller, Anderson & Sherrerd
  Western Asset Management

- **Semi-passive Bond Managers**

  Fidelity Management Trust
  Lincoln Capital Management Company

2) Bond Manager Allocation Guidelines

Last quarter, the Committee reviewed and endorsed guidelines for stock manager allocations and rebalancing. Staff presented similar guidelines for bond managers this quarter (**Attachment E**). Staff proposed flexible individual bond manager target allocations with no strict rebalancing criteria. Following are the main points of staff's recommendation:

- A semi-passive manager will manage a minimum 15% and a maximum 35% of the bond portfolio. Therefore, there will be a minimum two enhanced index managers.

- An active manager will manage a minimum of 5% and a maximum of 25% of the bond portfolio. Therefore, if 50% of the portfolio is actively managed, there will be a minimum of two and maximum of five active managers.

- The specific target allocation for each manager will be determined using both quantitative and qualitative criteria.

- Any changes in the target allocations for each manager will be reviewed with the Stock and Bond Manager Committee.

- No constant rebalancing guidelines will be established. Since all of the bond managers use similar styles, constant rebalancing is likely to add little or no value.

RECOMMENDATION:

The Committee recommends that the SBI adopt the attached position paper concerning bond manager allocations.

3) Return Expectations

The IAC discussed total fund performance objectives for the Basic Retirement Funds at its last meeting. At the SBI meeting on March 19, 1992, Mr. Dayton asked that return expectations for each asset class be reviewed as well. Staff proposals for the equity and fixed income segments are shown below:

Domestic Stocks

Asset Class Target: Wilshire 5000 Adjusted*

	Allocation	Return Expectation**
Active	Maximum 50%	+50 to +100 b.p.
Passive	Minimum 50%	-10 b.p.
Total Program		**+20 to +45 b.p.**

* adjusted for liquor and tobacco restrictions
** relative to benchmark, net of all fees

International Stocks

Asset Class Target: EAFE Adjusted*

	Allocation	Return Expectation**
Active	Minimum 50%	+75 to +150 b.p.
Passive	Maximum 50%	-25 to +10 b.p.
Total Program		**+25 to +75 b.p.**

* passive and active adjusted for non-investable companies, liquor and tobacco active adjusted for South Africa and reweighted

** relative to benchmark, net of all fees

Domestic Bonds

Asset Class Target: Salomon BIG

	Allocation	Return Expectation*
Active	Maximum 50%	+25 to +50 b.p.
Semi-Passive	Minimum 50%	+15 to +25 b.p.
Total Program		**+20 to +35 b.p.**

* relative to benchmark, net of all fees

RECOMMENDATION:

The Committee recommends that the SBI adopt the proposal concerning return expectations for domestic stocks, international stocks and domestic bonds. Return expectations for cash equivalents should be reviewed in conjunction with development of a more appropriate benchmark for the SBI's cash portfolios.

ATTACHMENT A

Liquor and Tobacco Restrictions
Impact on Wilshire 5000 Returns

Year	Wilshire Restricted[1]	Wilshire 5000	Difference
1980	32.75%	33.66%	(0.91)%
1981	(4.87)	(3.75)	(1.12)
1982	20.00	18.69	1.31
1983	22.80	23.45	(0.65)
1984	3.19	3.04	0.15
1985	32.17	32.57	(0.40)
1986	15.15	16.09	(0.94)
1987	1.93	2.27	(0.34)
1988	17.53	17.93	(0.40)
1989	28.59	29.18	(0.59)
1990	(6.84)	(6.18)	(0.66)
1991	33.65	34.21	(0.56)
Period Ending 3/31/92			
Qtr.	(1.53)	(1.33)	(0.20)
1 yr.	13.27	13.70	(0.43)
3 yr.	13.71	14.31	(0.60)
5 yr.	9.29	9.82	(0.53)
Since 1/1/80	14.97	15.41	(0.44)
Since 1/1/84	14.09	14.56	(0.47)

(1) Securities restricted by the SBI's policy on liquor and tobacco i.e., companies who derive more than 50% of their revenue from the sale of liquor or tobacco.

ATTACHMENT A (con't)

Liquor and Tobacco Restrictions
Impact on Composite Index Returns
Periods Ending 3/31/92

			Annualized	
Basic Retirement Fund	**Qtr.**	**Yr.**	**3 Yr.**	**5 Yr.**
Total Fund	-0.5%	14.0%	13.0%	9.5%
Composite	-1.1	11.2	12.1	9.5
Composite Adjusted*	-1.3	11.0	11.8	9.1
Difference	-0.2	-0.2	-0.3	-0.4
Growth Share Account				
Total Fund	-0.9%	14.8%	13.6%	8.5%
Composite	-1.2	13.3	14.0	9.8
Composite Adjusted*	-1.4	12.9	13.4	9.3
Difference	-0.2	-0.2	-0.6	-0.5
Income Share Account				
Total Fund	-1.0%	12.1%	13.2%	10.0%
Composite	-1.2	12.7	13.5	10.0
Composite Adjusted*	-1.3	12.5	13.1	9.6
Difference	-0.1	-0.2	-0.4	-0.4

* Composite index computed using Wilshire 5000 after restricted liquor and tobacco securities were removed.

ATTACHMENT B

Detailed Review of Lieber & Company May 1992

I. ORGANIZATIONAL DETAIL

A. Ownership

Lieber & Company is an independent private partnership, founded in 1969 by Stephen Lieber. Mr. Lieber is the senior partner and Nola Falcone and Theodore Israel, Jr. are general partners. The ownership structure has not changed since the inception of the SBI account in 1983.

Lieber offers its services through the parent company and through the Evergreen family of publicly owned mutual funds. The Evergreen funds consist of seven equity mutual funds and four money market funds. These mutual funds comprise 75% of the firm's business. The remaining quarter is in institutional or tax exempt accounts.

B. Professional Staff

Mr. Lieber and Mrs. Falcone have co-managed the SBI portfolio since the account's inception in 1983. A staff of 17 security analysts assists the portfolio managers.

C. Assets Under Management

As seen in Table I, Lieber currently has $3.8 billion in assets. Approximately one billion of the assets is in money market funds and the remainder is in equities. Of the equity assets, $1.2 to $1.4 billion is in the small cap approach, which is the approach used for the SBI account.

Table I

Lieber & Co.
Assets Under Management
12/31/xx
($ in millions)

	1991	1990	1989	1988	1987	1986
Institutional Accounts	722.7	728.5	1,001.5	816.5	521.3	608.8
Taxable Clients	89.5	82.7	126.5	120.0	151.0	108.5
Other Tax Exempt	32.5	26.0	21.4	17.1	134.3	136.5
Evergreen Mutual Funds	2,086.4	1,771.9	2,246.1	2,073.3	1,904.7	1,749.6
Evergreen Money Market Funds	910.2	856.0	611.8	200.2	50.0	0.0
Total	**3,841.3**	**3,465.1**	**4,007.3**	**3,227.1**	**2,761.3**	**2,603.4**

Number of Accounts Under Management

	1991	1990	1989	1988	1987	1986
Institutional Accounts	16	19	24	24	34	33
Taxable Clients	159	193	207	217	283	301
Other tax exempt	8	11	12	12	13	10
Total	**183**	**223**	**243**	**253**	**330**	**344**

D. Personnel Turnover

There has been no significant personnel turnover since the inception of the SBI account. In general, Lieber has very low turnover among its professional staff. There were two analysts who left in the past two years; one left voluntarily and the other at the request of the firm.

The firm has 29 investment professionals. Their average tenure with Lieber is 8 years and their average total investment experience is 17 years.

II. INVESTMENT APPROACH

A. Investment Philosophy

Lieber's investment philosophy for the SBI account emphasizes growth potential and focuses primarily on smaller or little-known companies. The firm uses macroeconomic trends and specific product developments within particular industries or companies to identify stocks that are currently undervalued. Takeover candidates and successful turnaround situations also are attractive buy opportunities.

Stock Selection
Lieber uses a value-timing approach, which they describe as buying growth stocks with significant long-term potential, when the prices are deflated.

The firm classifies attractive buy candidates into four basic categories:

1. Smaller or relatively unknown companies which have not yet achieved full investment recognition.

2. High-grade companies which are currently out of favor due to temporary circumstances.

3. Companies which are in a rising growth trend but where these growth prospects have not been fully recognized.

4. Companies whose growth potential is enhanced by prospective refinancings.

Lieber uses perceived undervaluation to maximize reward. The firm minimizes risk through diversification. During the past four years, the SBI portfolio typically contained 175 to 200 securities.

In the SBI account, Lieber primarily invests in mid to small cap growth companies with entrepreneurial characteristics. Their target growth rate is 25% to 30% annualized over a two to three year horizon. At year-end 1991, the stocks in the SBI portfolio had a growth rate of 28.8%. They also look for companies with a P/E ratio that is equal to or less than the S&P 500. The P/E ratio of the SBI account was 14.2 vs. 20.9 for the S&P 500 at year-end 1991.

Lieber complements the above criteria with other investment themes, which they regard as desirable characteristics. An example of such a theme is management incentives. Lieber finds companies attractive if upper management has an equity stake or other incentives that make the managers act more like entrepreneurs. Approximately two-thirds of the companies in the SBI portfolio have management incentives in place. Other themes that Lieber will take advantage of are industry specific situations, such as the consolidation of the banking industry

Sell Criteria

There are two decision rules Lieber has developed regarding when to sell a security. Securities are not automatically sold at these points, but rather these points serve as a flag for further review of the company.

The first type of sell decision occurs when a company has reached its upside target. This target is unique to each stock and is set when the security is initially purchased. The target may be modified at any time due to changing circumstances surrounding the company or its industry.

Lieber also faces a sell decision when the price of the security has fallen 15% from its initial cost. A drop to this level triggers intense scrutiny by the appropriate research analyst. The analyst will talk to company management and other sources to determine the cause of the decline. Lieber then determines whether or not to sell the security. If the firm decides to hold it, and the stock subsequently falls an additional 10%, a new third party analyst will perform a detailed review of the company to determine whether to continue holding the stock.

Research

The majority of Lieber's research is generated internally by 17 fundamental research analysts. Some of these analysts specialize in certain industries while others act as generalists. A major resource of the firm is its library, which contains original company documents, reports and related background data on over 34,000 public companies. Analysts use this data, combined with field work, company visits and economic and financial data from industry and government sources, to perform analysis on individual companies and industries.

Portfolio Management

Steve Lieber and Nola Falcone jointly manage the SBI portfolio. The firm integrates research and portfolio management through its daily staff meetings. In these meetings, research analysts exchange information or ideas on new or changing areas of opportunity with the portfolio managers. With this input from the analysts, Mr. Lieber and Mrs. Falcone make the ultimate decisions regarding portfolio management.

When constructing the portfolio, Lieber limits exposure to any one industry to 15% of the total portfolio. An individual security is also limited to no more than 5% of the total portfolio.

B. Prominent Characteristics

Since inception of the account, Lieber has held an average of 145 securities in the SBI portfolio. The annual average number of securities in the portfolio has increased through the years. This is primarily due to an increase in assets from new contributions. In 1984, the average number in the portfolio was 108; last year the average was 184.

The portfolio generally is fully invested, with any cash positions the result of a lack of attractive investment opportunities. The average historical cash level is 5.67%. Exhibit 1 shows the historical cash levels of the account.

A review of Lieber's historical portfolios reveals a number of prominent risk characteristics and sector exposures. Exhibits 2 and 3 provide detailed information regarding the risk and sector exposures.

Risk Exposure Highlights: Lieber's portfolios tend to have a consistently higher exposure to variability in markets, growth and labor intensity relative to the BARRA Hicap Universe. The portfolios also have a lower exposure to yield and foreign income and a significantly lower exposure to size. The median market capitalization of the stocks in the portfolio is $361.1 million. The current breakdown of stocks by market capitalization in the SBI portfolio is as follows:

Market Capitalization	Percent
Under $100 million	9
100 - 300	21
300 - 500	16
500 - 1,000	15
1,000 - 2,000	15
Over $2 billion	24
	100

Sector Exposure Highlights: Lieber's portfolios tend to have overweightings in the financial and consumer non-durables sectors relative to the S&P 500 and are underweighted in the energy and utility sectors.

III. BENCHMARK ANALYSIS

A. Benchmark Construction Process

Prior to July 1989, Lieber used a benchmark constructed by the SBI staff. Lieber now uses a consultant to construct its benchmark. The benchmark construction process in place since July 1989 follows.

The process uses the Wilshire 5000 as its beginning universe and screens out securities according to the following criteria:

1. Companies with market capitalization of under $50 million are removed from the universe.

2. Companies with a combination of extremely large capitalizations, a lack of financial maturity (defined by years as a publicly traded entity) and sound financial footing (high ratios of debt to capitalization) are then removed from the universe. Companies below -1.5 standard deviations relative to the Wilshire 1000 are eliminated. This step eliminates large companies with poor fundamentals from the universe.

3. Companies with poor earnings growth are eliminated. These securities are defined as having an earnings growth orientation of below -1.0 standard deviations from the Wilshire 1000. This step prevents the benchmark from having large concentrations in the utilities and energy industries. This screen also eliminates some larger slow-growth blue chip issues.

4. Companies with extremely low or negative earnings/price ratios are removed. This includes securities whose E/P ratios are less than -1.5 standard deviations relative to the Wilshire 1000. This screen is characteristic of Lieber's "value" approach, which is to buy successful companies whose inherent value is not fully reflected in its stock price.

5. Securities with earnings variability greater than 1.5 standard deviations relative to the Wilshire 1000 are eliminated.

6. The process eliminates industries in which Lieber does not invest. Specifically, these industries are gold, tobacco, liquor and gambling as well as the SBI South Africa restrictions.

This screening process results in a benchmark with an average of 1,500 securities. These remaining stocks are divided by market capitalization into five deciles and basket weighted using the following method:

First Decile	28.5%
Second Decile	19.0
Third Decile	19.0
Fourth Decile	14.3
Fifth Decile	14.3
Cash Position	5.0
Total	100.0%

Stocks are equal-weighted within each basket. The benchmark is rebalanced and rescreened semi-annually.

B. Benchmark Explanatory Power

Lieber's benchmark provides a good base from which to measure the firm's performance. It is a valid benchmark because it exhibits characteristics found in a good benchmark. These characteristics are described below.

Benchmark Risk Factor and Sector Exposure Profile
A valid benchmark should exhibit risk factor and sector exposures similar in direction and magnitude to historical actual portfolio exposures.

As seen in Exhibit 2, Lieber's benchmark portfolio averages for the BARRA risk factors are similar to the average risk characteristics of the actual portfolio.

With regard to sector exposures, Exhibit 3 shows that the average portfolio held a higher exposure in the consumer non-durables sector, while maintaining a lower exposure to the capital goods and utilities sectors.

Benchmark Coverage, Active Positions and Turnover
Lieber's benchmark coverage, turnover and active position statistics are as follows:

Table II

Lieber & Co.
Benchmark Statistics
1/1/84 to 12/31/91

	Benchmark Coverage	Positive Active Positions	Semi-Annual Benchmark Turnover
Average	83.7%	99.9%	24.3%
Minimum	76.0	98.7	13.8
Maximum	91.9	100.0	50.7
Std. Deviation	1.3	0.04	14.1

Benchmark coverage measures the percentage of securities held in the actual portfolio which also are contained in the benchmark portfolio. If a benchmark truly captures the securities on which the manager has an opinion, it will have a high coverage ratio. Coverage ratios vary according to 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 80-90%. As seen in Table II, Lieber's benchmark coverage ratio consistently is in this range.

An *active position* is the difference between the actual portfolio weight of a security less the corresponding benchmark weight of the same security. A good benchmark will generate all positive active positions with very rare exceptions. The weighting of each holding in the active portfolio should exceed the corresponding weights assigned to the same securities in the benchmark because if a manager finds a particular stock attractive, he will hold more than the benchmark position. Conversely, if a manager feels a security is unattractive, he will not hold the security at all, rather than underweighting it relative to the benchmark. As seen in the above table, the percentage of positions in Lieber's portfolio which are positive is nearly 100%.

Benchmark turnover measures the proportion of the benchmark's market value allocated to purchases and reinvestment of income during a periodic rebalancing. A valid and investable benchmark should experience reasonable levels of turnover. Semi-annual turnover in the 30%-40% range is consistent with a passive investment in the benchmark. The Lieber benchmark experiences average semi-annual turnover of 24.3%, which is well within the acceptable range. It should be noted that the maximum benchmark turnover of 50.7% is an aberration. This occurred during one quarter and was due to an error caused by the consultant who constructed it. If this quarter is removed from the data, the average benchmark turnover is 22.6%.

The turnover, coverage and positive active positions data on the Lieber benchmark are all within the acceptable guidelines for benchmarks, indicating that the Lieber benchmark represents a valid and investable benchmark. The data also support the use of this benchmark as a valid base from which to conduct performance attribution analysis.

Benchmark Explanatory Power
Active risk is a useful measure in determining explanatory power of a customized benchmark. It is the variability (standard deviation) of the manager's active return (active portfolio return less benchmark return). Since a customized benchmark is constructed to capture a manager's investment style, a good benchmark should produce lower active risk than using a market index as the benchmark, all else equal. This indicates that the benchmark more effectively screens out random noise associated with factors unrelated to a manager's investment style. This lower active risk will produce a higher information ratio (IR) than a market index. An IR is calculated by dividing the Value of Active Management (VAM or active return) by the active risk. Table III summarizes the active risk analysis of Lieber's actual returns relative to their benchmark and the Wilshire 5000.

Table III

Lieber & Co.
Active Risk Analysis
1/1/84 to 12/31/91

	Actual vs. Benchmark	Actual vs. W 5000
Cumulative Annualized VAM	1.11	-3.73
Annualized Standard Deviation of VAM (Active Risk)	3.53	4.11
Information Ratio	0.31	-0.91
Information Ratio T-statistic	0.49	-1.46
Percentage of months VAM > 0	53.13%	40.63%

The Lieber benchmark produces lower active risk than using the Wilshire 5000 as the benchmark (3.53 vs. 4.11). Although the active risk is lower, the analysis still does not produce a statistically significant t-statistic for the IR (0.49). This means that although the analysis presents positive evidence that the benchmark provides better explanatory power than does the market, it cannot confirm at a reasonable confidence level that the manager can add value relative to its benchmark.

The explanatory power of a manager's benchmark can also be evaluated by looking at the correlation between three residual return series: the manager's actual portfolio returns versus those of the market (EXM), the benchmark returns versus those of the market (MFT) and the actual portfolio returns versus those of the benchmark (VAM).

A good benchmark should exhibit significantly positive correlation between EXM and MFT because when the manager's benchmark, or investment style, performs well relative to the market, the actual portfolio should also do well relative to the market.

If a manager's investment style is accurately reflected in the benchmark, the manager's ability to add value relative to the benchmark should not be affected by the performance of its investment style relative to the market. Therefore, the correlation between MFT and VAM should be essentially zero over time. Table IV contains the correlation analysis for Lieber's benchmark.

Table IV
Lieber & Co.
Residual Correlation Matrix
1/1/84 to 12/31/91

	EXM	MFT	VAM
Portfolio vs. Market (EXM)	1.00		
Benchmark vs. Market (MFT)	0.75	1.00	
Portfolio vs. Benchmark (VAM)	0.42	-0.28	1.00

The Lieber benchmark exhibits a strong positive correlation between EXM and MFT and an acceptable correlation between MFT and VAM. This analysis indicates that the Lieber benchmark provides more explanatory power than a broad market index. Therefore, a higher degree of reliability can be assigned to the conclusions drawn from performance analysis using Lieber's benchmark than from a broad market index

IV. PERFORMANCE ANALYSIS

The following conclusions can be made regarding Lieber's performance:

1. Lieber's benchmark provides a better basis from which to evaluate Lieber's performance than does a broad market average. Therefore, conclusions drawn from analysis using the benchmark as a base are more reliable than those drawn from a broad market average.

2. In the short-term, Lieber has added some value through sector decisions, 0.36% annualized since 1989, and has a slightly negative value added from stock selection in that same period, -0.74% annualized.

3. Over a longer time period, Lieber has added value. The VAM graph (Exhibit 4) shows that Lieber has consistently added value at an annualized rate of 0.73% since the inception of the account. As seen in Exhibit 5, Lieber has outperformed its benchmark in six of the eight years.

The following data support these conclusions.

A. Benchmark Performance Relative to The Wilshire 5000

As seen in Exhibit 5, the Lieber benchmark has underperformed relative to the broad market on a cumulative basis since 1984. Lieber's benchmark achieved cumulative returns of 141.22% versus 206.49% for the Wilshire 5000. The underperformance illustrates that this was a poor market environment for Lieber's investment style since 1984. Lieber's equity investments tend to be in smaller capitalization securities than the market as whole, which is the portion of the equity market that achieved the poorest performance during this time period.

B. Portfolio Performance Attribution

Lieber calculates performance attribution on a quarterly basis. It breaks down the value added returns relative to the benchmark into two components: sector weighting and stock selection.

Sector Weighting
Lieber began tracking performance attribution in January 1989. As seen in Exhibit 6, sector weighting contributed positive value added returns of 0.36% annualized relative to the Lieber benchmark during that time period.

Exhibit 7 provides a breakdown of where sector allocation return was achieved The finance and materials and services sectors provided the most value added during this time period. Technology provided the most negative value added.

Stock Selection
As seen in Exhibit 6, stock selection contributed -0.74% annualized value added relative to the benchmark since 1989.

Exhibit 8 shows that technology and materials and services are the sectors in which Lieber provided the most value added stock selection. Consumer goods and services and finance provided the most negative value added.

Since performance attribution data is calculated over such a short period of time, the relatively poor performance of the quarter ended March 1992 skewed the performance attribution numbers considerably. Without this quarter, stock selection would have contributed a positive 0.67% value added.

V. Summary of Board/IAC Actions To Date

In January 1983, the Board approved a recommendation to hire Lieber & Co. The firm was funded in March 1983 with $10 million of assets from the Supplemental Investment Fund.

From March 1983 through August 1985, Lieber served as a manager for the Growth Share Account in the Supplemental Investment Fund. Since September 1985, Lieber has managed assets in the Supplemental Investment Fund and the Basic Retirement Funds.

In April, June, August and December 1988, Lieber received an additional $10 million of SBI assets and in August 1990 they received $25 million.

VI. CONCLUSION

Lieber has an attractive, unique investment style that has been consistently applied over a number of market environments. Some of Lieber's strengths and weaknesses are:

Quantitative
Since inception of the account, Lieber has consistently generated value added versus a good benchmark at an annualized rate of 0.73%. It has outperformed its benchmark in six of the last eight years, for a cumulative value of 156.44% actual versus 141.22% for the benchmark.

Performance attribution analysis available since 1989 shows that Lieber has added value through its sector weighting decisions while stock selection decisions contributed a slightly negative valued added.

Qualitative
Lieber's organization has strong and consistent leadership as well as low turnover among its investment personnel. The firm's research capabilities are extensive and thorough.

Staff has two qualitative concerns.

- The firm has not had a lot of experience in providing some of the data that staff requests. While Lieber is cooperative in providing the necessary information, that information is not always readily accessible. This is a relatively minor concern at this time.

- Another issue to monitor is the firm's capacity. Staff believes Lieber 's capacity is limited to a certain range and the firm is currently at the high end of that range. At this point in time it is not a problem. If Lieber were to experience a significant increase in assets in the small cap style, staff would become concerned about the firm's ability to consistently apply its investment style.

ATTACHMENT B (con't)

Exhibit 1

Lieber & Company
Historical Portfolio Cash Levels

Year	***Qtr***	***Percent in Cash***
1984	Q1	16.24
	Q2	4.79
	Q3	11.36
	Q4	15.56
1985	Q1	6.81
	Q2	2.56
	Q3	2.77
	Q4	2.74
1986	Q1	1.11
	Q2	0.90
	Q3	2.80
	Q4	3.44
1987	Q1	5.21
	Q2	3.28
	Q3	6.16
	Q4	4.37
1988	Q1	5.12
	Q2	2.21
	Q3	8.20
	Q4	3.57
1989	Q1	4.25
	Q2	10.92
	Q3	5.79
	Q4	5.22
1990	Q1	6.10
	Q2	5.89
	Q3	4.57
	Q4	4.27
1991	Q1	6.86
	Q2	6.66
	Q3	6.51
	Q4	5.24
Mean		**5.67**
Minimum		**0.90**
Maximum		**16.24**
Std. Dev.		**3.57**
Bmk Average		**5.00**

ATTACHMENT B (con't)

Exhibit 2

Risk Analysis Summary
Lieber Actual Portfolio

		Variability in Markets	Size	Growth	Earnings Variation	Foreign Income	Labor Intensity	Yield
1984	Q1	0.45	-1.73	0.40	0.10	-0.37	0.68	-0.48
	Q2	0.46	-1.84	0.43	0.15	-0.41	0.68	-0.48
	Q3	0.36	-1.83	0.34	0.15	-0.37	0.68	-0.48
	Q4	0.37	-1.85	0.47	0.22	-0.36	0.63	-0.58
1985	Q1	0.43	-1.93	0.45	0.21	-0.29	0.59	-0.49
	Q2	0.40	-1.98	0.47	0.20	-0.38	0.63	-0.54
	Q3	0.41	-1.93	0.51	0.24	-0.41	0.64	-0.58
	Q4	0.36	-1.83	0.51	0.19	-0.56	0.57	-0.63
1986	Q1	0.33	-1.75	0.47	0.19	-0.57	0.50	-0.63
	Q2	0.36	-1.66	0.42	0.15	-0 59	0.45	-0.59
	Q3	0.30	-1.63	0.44	0.14	-0.57	0.54	-0.60
	Q4	0.28	-1.66	0.44	0.16	-0.57	0.55	-0.55
1987	Q1	0.14	-1.72	0.46	0.14	-0.63	0.50	-0.54
	Q2	0.13	-1.63	0.37	0.14	-0.61	0.48	-0.41
	Q3	0.13	-1.64	0.36	0.10	-0 63	0.46	-0.40
	Q4	0.42	-1.58	0.36	0.10	-0.56	0.51	-0.42
1988	Q1	0.39	-1.47	0.37	0.02	-0.51	0.52	-0.47
	Q2	0.44	-1.57	0.41	0.03	-0 44	0.62	-0.55
	Q3	0.45	-1.58	0.39	0.03	-0 36	0.57	-0.55
	Q4	0.46	-1.53	0.41	0.04	-0 38	0.55	-0.51
1989	Q1	0.39	-1.54	0.42	0.00	-0 43	0.50	-0.50
	Q2	0.39	-1.46	0.39	0.04	-0 39	0.47	-0.49
	Q3	0.38	-1.46	0.37	0.07	-0.27	0.47	-0.48
	Q4	0.31	-1.34	0.36	0.11	-0.27	0.43	-0.43
1990	Q1	0.40	-1.56	0.42	0.15	-0.35	0.45	-0.48
	Q2	0.38	-1.60	0.41	0.09	-0.40	0.45	-0.51
	Q3	0.41	-1.60	0.44	0.14	-0.37	0.46	-0.44
	Q4	0.43	-1.54	0.38	0.13	-0 40	0.43	-0.46
1991	Q1	0.48	-1.62	0.42	0.14	-0 44	0.43	-0.53
	Q2	0.57	-1.67	0.41	0.12	-0.45	0.46	-0.56
	Q3	0.65	-1.73	0.47	0.12	-0.45	0.48	-0.61
	Q4	0.69	-1.74	0.47	0.15	-0 44	0.47	-0.58
Mean		0.39	-1.66	0.42	0.12	-0.44	0.53	-0.52
Minimum		0.13	-1.98	0.34	0.00	-0.63	0.43	-0.63
Maximum		0.69	-1.34	0.51	0.24	-0 27	0.68	-0.40
Std. Dev.		0.12	0.15	0.04	0.06	0.10	0.08	0.06
Bmk. Average		0.48	-1.97	0.49	0.23	-0 40	0.50	-0.51

Exhibit 3

Lieber & Company
Sector Weights
January 1984 to December 1991

Actual Portfolio Weight Less Benchmark

	Cons. Non-Dur.	Cons. Dur.	Basic Materials	Capital Goods	Energy	Tech.	Trans.	Util.	Finan.
Minimum Portfolio	-8.67	-2.30	-8.20	-7.90	-3.94	-6.56	-1.48	-5.68	-18.86
Portfolio Average	4.99	0.33	-0.97	-3.34	-0.06	-1.81	1.05	-2.19	2.00
Maximum Portfolio	16.29	7.98	5.49	0.16	4.59	4.07	4.15	0.14	21.95
Benchmark Average	32.51	6.23	11.18	10.00	3.69	9.32	2.42	3.95	20.70

Actual Portfolio Weight Less S&P 500

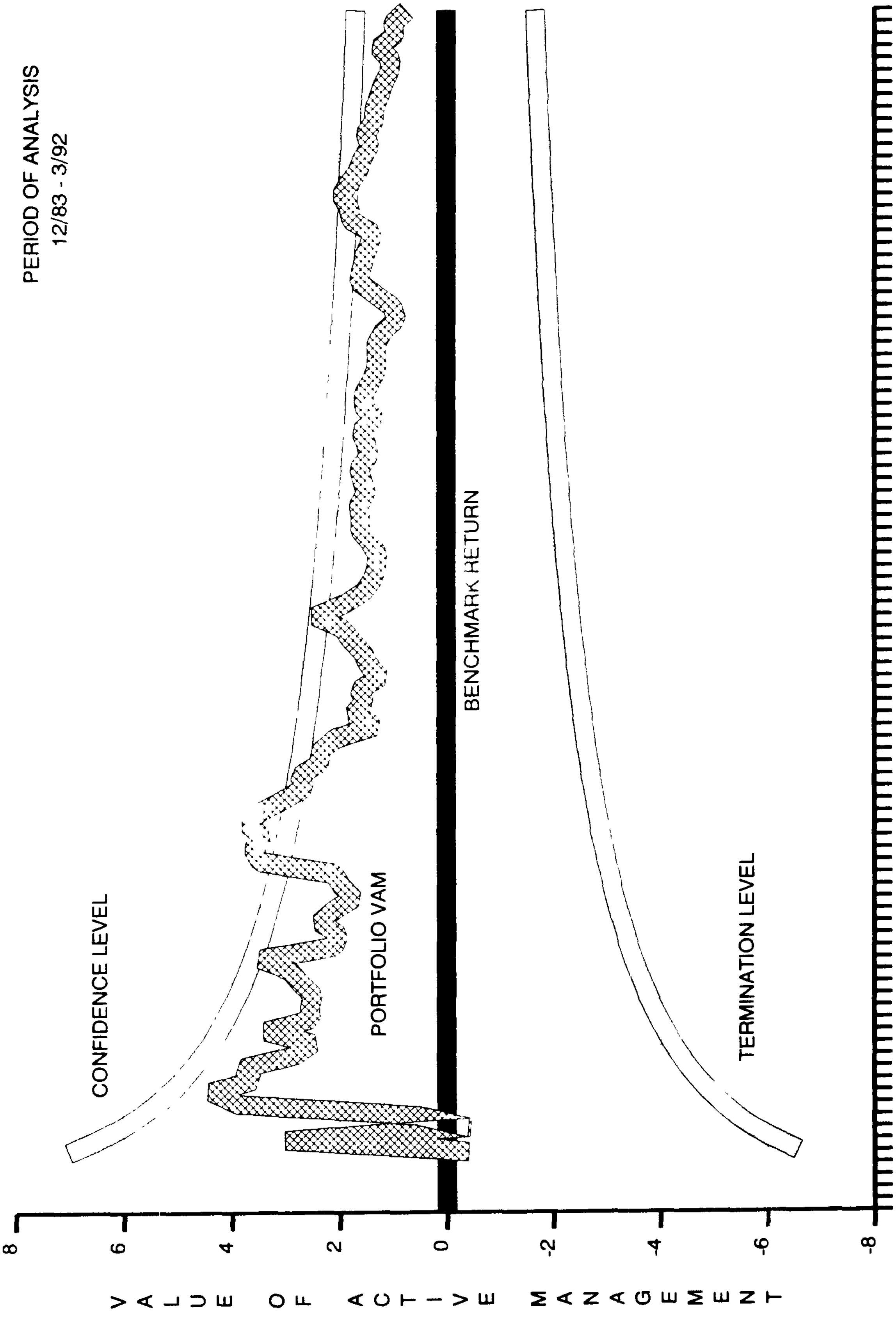
	Cons. Non-Dur.	Cons. Dur.	Basic Materials	Capital Goods	Energy	Tech.	Trans.	Util.	Finan.
Minimum Portfolio	-4.71	-0.43	-8.09	-3.38	-15.59	-4.27	-1.69	-13.49	2.39
Portfolio Average	5.04	1.89	0.08	-0.92	-9.32	-1.24	1.34	-11.47	14.58
Maximum Portfolio	12.31	8.79	6.83	2.30	-4.91	3.16	4.01	-9.51	32.89
Market Average (S& P 500)	32.87	4.68	9.90	7.22	12.99	8.65	2.10	13.22	8.37

ATTACHMENT B (con't)

Exhibit 4

VALUE OF ACTIVE MANAGEMENT REPORT

LIEBER & CO.



ATTACHMENT B (con't)

Exhibit 5

Lieber & Co.
Comparison of Actual Portfolio Performance with Customized Benchmark and Wilshire 5000

		Actual	Benchmark	Wilshire 5000
1984	Q1	-7.44	-6.83	-4.20
	Q2	-1.38	-1.82	-2.77
	Q3	7.87	7.21	9.19
	Q4	2.58	-0.58	1.32
		1.01	-2.51	3.05
1985	Q1	11.60	12.10	10.35
	Q2	5.99	5.27	7.47
	Q3	-1.91	-3.14	-4.27
	Q4	14.59	15.79	16.76
		32.96	32.36	32.56
1986	Q1	13.94	14.10	14.38
	Q2	10.98	5.92	5.80
	Q3	-9.54	-10.81	-7.73
	Q4	0.09	2.23	3.97
		14.48	10.20	16.10
1987	Q1	20.08	20.42	21.17
	Q2	-1.43	0.08	3.28
	Q3	2.66	4.08	6.22
	Q4	-23.02	-24.83	-23.05
		-6.46	-5.70	2.27
1988	Q1	16.18	15.04	8.01
	Q2	4.64	6.94	6.55
	Q3	0.82	-0.99	0.16
	Q4	0.08	0.26	2.31
		22.66	22.13	17.94
1989	Q1	7.19	7.10	7.42
	Q2	6.10	6.40	8.55
	Q3	8.81	7.96	10.14
	Q4	-3.88	-3.61	0.59
		18.94	18.58	29.17
1990	Q1	-5.26	-3.84	-3.52
	Q2	6.20	2.10	5.48
	Q3	-21.40	-20.69	-15.21
	Q4	11.81	7.14	8.73
		-11.58	-16.58	-6.18
1991	Q1	19.87	22.68	16.46
	Q2	0.11	1.32	-0.32
	Q3	6.06	7.11	6.35
	Q4	7.73	6.73	8.70
		37.11	42.10	34.21
1992	Q1	0.8	4.8	-1.5
Cumulative		156.44	141.22	206.49

Exhibit 6

Lieber & Company
Performance Attribution

January 1989 to March 1992

	Sector Weighting	Stock Selection	Total
1/1/89 to 12/31/89	0.64%	0.67%	1.30%
1/1/90 to 12/31/90	0.22%	4.73%	4.94%
1/1/91 to 12/31/91	-0.11%	-3.22%	-3.34%
1/1/92 to 3/31/92	0.43%	-4.23%	-3.80%
Annualized	0.36%	-0.74%	-0.36%

Exhibit 7

Lieber & Company
Performance Attribution
Sector Weighting

January 1989 to March 1992

	1989	1990	1991	Q1 92	Cumulative
Capital Goods	0.00%	-0.01%	0.24%	-0.04%	0.06%
Consumer Goods & Services	-0.10	-0.31	0.83	-0.17	0.08
Energy	0.00	0.08	-0.35	0.07	-0.06
Finance	0.89	0.56	-0.63	0.03	0.26
Materials & Services	0.40	0.03	0.33	0.13	0.27
Technology	0.06	-0.01	-0.45	0.07	-0.10
Transportation	-0.21	-0.01	0.02	0.00	-0.06
Utilities	-0.37	-0.05	0.23	0.19	0.00
Cash & Other	0.00	-0.06	-0.32	0.14	-0.07

ATTACHMENT B (con't)

Exhibit 8

Lieber & Company
Performance Attribution
Stock Selection

January 1989 to March 1992

	1989	1990	1991	Q1 92	Cumulative
Capital Goods	-0.02%	-0.24%	0.04%	-0.13%	-0.11%
Consumer Goods & Services	-0.70	3.31	-4.02	-1.56	-0.96
Energy	-0.12	-0.30	-0.39	-0.16	-0.22
Finance	-1.45	0.51	0.32	-1.01	-0.51
Materials & Services	2.22	0.42	0.06	0.04	0.84
Technology	0.78	1.76	1.94	-1.55	0.89
Transportation	-0.71	-0.13	-0.10	0.19	-0.23
Utilities	0.63	-0.73	-0.92	-0.04	-0.33
Cash & Other	0.00	0.11	-0.14	0.00	-0.01

ATTACHMENT C

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, or American Stock Exchange.

(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 1992

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 of 25 to 50 basis points above the benchmark portfolio. Excess returns should be commensurate with portfolio risk as measured by annualized standard deviation.

2. **ELIGIBLE INVESTMENTS**

   The benchmark portfolio chosen for the purpose of performance evaluation and risk measurement is the Salomon Broad Investment Grade Index (BIG). This index was selected because it satisfies the following characteristics:

   a) ***Unambiguous.*** The 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 calculate the benchmark's return on a monthly basis.

   d) ***Appropriate.*** The benchmark is consistent with the investment styles of the SBI's active managers.

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. or its agencies, Canada or its provinces, or obligations of other U.S. sponsored organizations must be payable in U.S. dollars and comply with the provisions of Minnesota Statutes 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 Minnesota Statutes 11A.24 subdivision 3.

c) Other obligations not specified in (a) or (b) must meet the provisions of Minnesota Statutes 11A.24 subdivision 4, clauses 1 through 5.

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 (e), above)
6) the use of fixed income index futures or options to adjust the effective total portfolio duration from 3 to 7 years (subject to (d), above)

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 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 the managers, both individually and collectively, are in compliance with Minnesota statues and SBI policy. Managers will be notified in advance of changes to these guidelines.

Revised: May 1992

BOND MANAGER ALLOCATION AND REBALANCING GUIDELINES

INTRODUCTION

In March 1992, the SBI adopted manager allocation and rebalancing guidelines for the domestic external equity program in the Basic Retirement Funds. The following paper gives staff's allocation and rebalancing recommendations for the bond program.

Staff recommends that the SBI use both general allocation guidelines and specific targets. The general guidelines outline the maximum and minimum allocation for active and enhanced index managers. The specific targets will be established using the guidelines described in the paper.

GENERAL ALLOCATION GUIDELINES

It is the SBI's policy that a minimum 50 percent of the bond segment of the Basic Funds should be managed by enhanced index managers. This limitation affects the following recommended maximum and minimum allocations for the managers.

Enhanced Index Managers

Staff recommends that an index manager manage a minimum of 15% and a maximum of 35% of the bond portfolio. If 50% of the portfolio is indexed, there will be a minimum two (2) index managers. There will be a maximum of six(6) index managers if the entire fund is indexed.

Active Bond Managers

In general, staff recommends that an active manager to manage a minimum of 5% and a maximum of 25% of the portfolio. If 50% of the portfolio is actively managed, there will be a minimum of two(2) and a maximum of five(5) active managers. Staff believes that it may be prudent to go outside these guidelines if a manager with an unusual style is hired. In this case, a manager's portfolio may represent only 1-2% percent of the total portfolio until staff and the Board are more comfortable with the new style.

SPECIFIC MANAGER TARGETS

The target allocations for each manager will be determined using the following criteria:

- o The manager's excess returns/value added and volatility of the excess returns..
- o The manager's capacity to accept new contributions.

- o The manager's ability to maintain resources to implement the investment process. This includes staff turnover, account gains and losses, sufficient staff support, change in business emphasis, and manager account load.

The first criterion considers the returns of the manager relative to a benchmark and the relative volatility of the returns. A manager who has higher returns and is expected to continue having high returns should have a higher allocation. Additionally, if managers have equal excess returns, the manager with lower return volatility about the benchmark should have a higher allocation.

The remaining criteria are more qualitative in nature. The second point limits allocations to managers based on account size and total assets. The last point includes information that is not measured easily but is important for determining a manager's allocation.

The guidelines must be flexible. Staff recommends that the targets be reviewed when there are significant cash flows in or out of the portfolio and staff or the Stock and Bond Manager Committee think it is necessary to change a specific manager target allocation. For instance, if staff anticipates the fund will be rebalanced in the following quarter and recommends changing targets, staff will review the proposed allocations with the Stock and Bond Manager Committee. If staff believes the target percentages do not need to be changed, assets will be added or subtracted proportionately using the previously agreed upon allocation percentages.

REBALANCING

Unlike the guidelines proposed for the stock segment, staff does not recommend a constant rebalancing strategy for the bond segment. Rebalancings may occur, but only after the recommended manager targets have been reviewed by the Stock and Bond Manager Committee. Since the current managers have similar styles and there is a high correlation in returns, rebalancing would add little or no return. An analysis of historical returns with the SBI's current managers illustrates this point.

For the analysis, staff rebalanced between the active managers and used approximately the same targets as the current allocations:

IAI	15 percent
Lehman	15 percent
Miller	25 percent
Western	45 percent
Total Active	100 percent

In the analysis, the allocations varied little from the targets. There were only two rebalancings necessary if the total portfolio was rebalanced whenever an individual portfolio was beyond two percent of the original allocation. Rebalancing added no value with these allocations in place for the last five years. If the portfolios were rebalanced when the managers deviated from the allocations by one percent, portfolio returns would have increased 0.00007% or 0.7 basis point. This added value would have been reduced by the increased turnover costs due to the rebalancing activity.

The above shows rebalancing does not add value when using historical returns for the current bond managers. Staff also believes that rebalancing would not add significant value in the future since, unlike the SBI's equity manager group where investment styles are different, the SBI bond managers' investment styles are similar. It is more appropriate to rebalance if the correlation between returns is low. In the case of bond managers, it would probably be appropriate to use a constant rebalancing guideline if the managers had significantly different durations or if one was an international manager.

CONCLUSION

Staff recommends that the Board adopt the above general allocation guidelines with flexible individual manager target allocations. Given the similarity between the manager styles and high correlation of returns, staff recommends that rebalancing only occur on an as needed basis with no set rebalancing guidelines.

STATE BOARD
OF INVESTMENT

Stock Manager Evaluation Reports

First Quarter, 1992

STOCK MANAGERS

First Quarter 1992

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 Stock and Bond Manager Committee of the Investment Advisory Council.

Staff Recommendations:
Staff recommends the following actions concerning manager status:

- Conduct an in-depth review of Franklin Portfolio Associates.

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

Current Managers	Total Market Value 3/31/92 (Millions)	Quarter Ending 3/31/92 Actual	Quarter Ending 3/31/92 Bmrk	Year Ending 3/31/92 Actual	Year Ending 3/31/92 Bmrk	Annualized Five Years Ending 3/31/92 Actual	Annualized Five Years Ending 3/31/92 Bmrk	Annualized Since Inception*** Actual	Annualized Since Inception*** Bmrk	Percent of Stock Segment 3/31/92 Basic Funds
Alliance	$571	-2.0%	-3.6%	18.6%	12.1%	14.3%	8.0%	18.6%	12.4%	10.9%
Forstmann	261	-2.0	1.3	14.7	13.5	8.9	9.0	13.9	12.2	5.0
Franklin	166	-1.7	-0.3	10.6	14.2			11.6	12.0	3.2
GeoCapital	205	-3.0	-1.0	28.2	19.7			24.8	16.7	3.9
IDS	225	-0.8	1.3	14.6	15.0	8.9	9.4	15.0	14.1	4.3
Independence	149	-0.6	-0.4					-0.6	-0.4	2.9
Lieber & Co.	175	0.8	4.8	15.3	21.4	6.8	7.1	12.1	11.3	3.3
Lynch & Mayer	150	0.2	-2.0					0.2	-2.0	2.9
Rosenberg	148	-1.6	-0.3	7.3	13.7			10.7	13.3	2.8
Waddell & Reed	217	3.4	3.6	14.7	15.3	8.5	8.4	11.8	11.4	4.1
Wilshire Assoc.	2,984	-1.1	-0.9	13.3	13.5	9.5	9.7	14.3	14.4	56.7
Aggregate*		-1.0	-0.6	14.3	14.0	10.0	9.4			100.0
Wilshire 5000 Adjusted**		-1.5		13.3		9.3				

* Historical performance reflects composite of current managers only.
** Adjusted for liquor and tobacco restriction.
*** Time periods vary for each manager depending on date of retention.

Notes: GeoCapital retained 4/90. Franklin, Rosenberg, retained 4/89.
Wilshire Assoc. began custom tilt phase-in in October 1990.
Lynch & Mayer, Independence retained 2/92.

ALLIANCE CAPITAL MANAGEMENT

PORTFOLIO MANAGER: Jack Koltes **ASSETS UNDER MANAGEMENT: $570,951,203**

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.

QUANTITATIVE EVALUATION

	Latest Qtr.	Latest 1 Yr.	Latest 5 Yrs.	Since 1/1/84
Actual Return	-2.0%	18.6%	14.3%	18.6%
Benchmark	-3.6	12.1	8.0	12.4

QUALITATIVE EVALUATION
(Reported By Exception)

Exceptional strengths are:

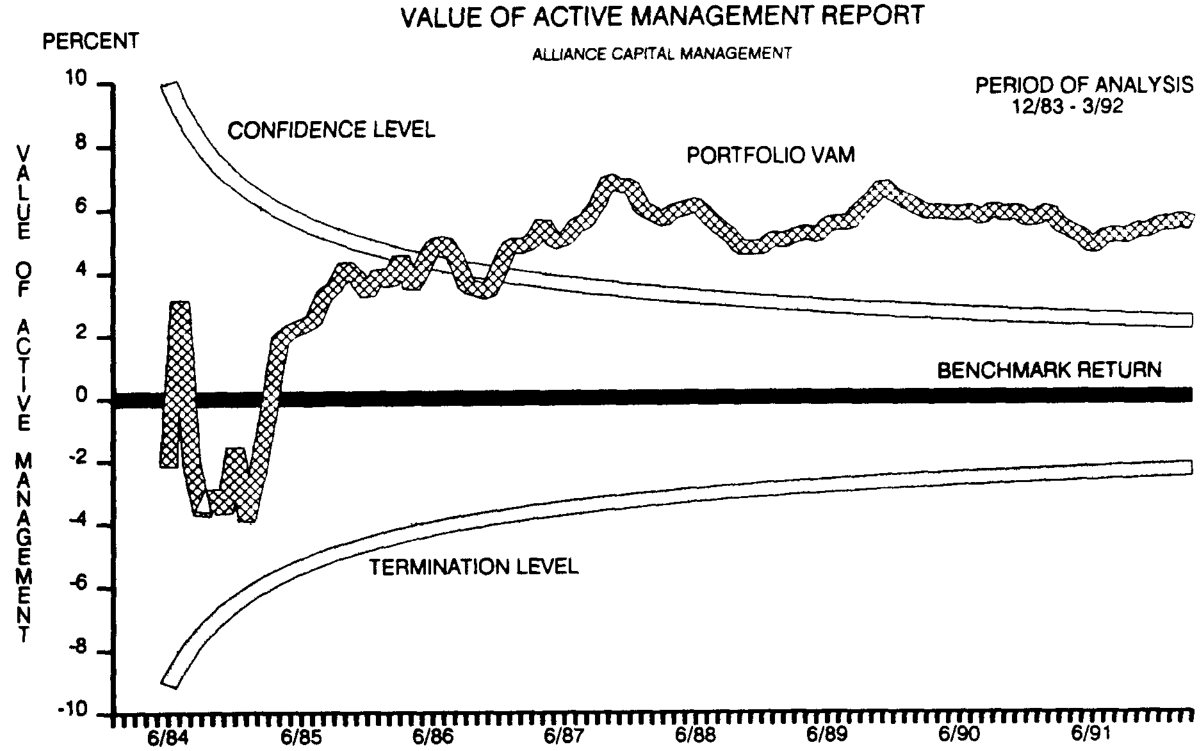
- Highly successful and experienced professionals.
- Organizational continuity and strong leadership.
- Well-acquainted with needs of large clients.
- Investment style consistently and successfully applied over a variety of market environments.

STAFF RECOMMENDATIONS

Renew annual contract for period beginning July 1, 1992.

VALUE OF ACTIVE MANAGEMENT REPORT

ALLIANCE CAPITAL MANAGEMENT



Performance Report **First Quarter 1992**

FORSTMANN LEFF ASSOCIATES

PORTFOLIO MANAGER: Joel Leff **ASSETS UNDER MANAGEMENT: $261,010,196**

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:

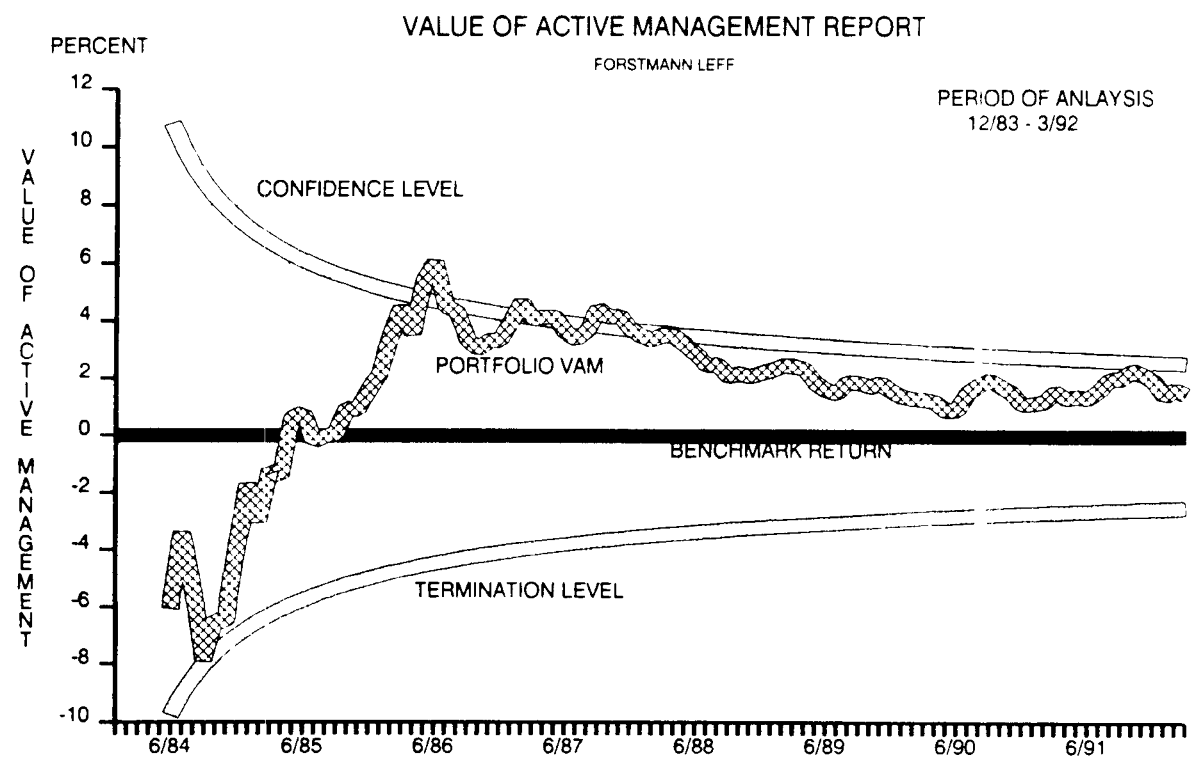
- Highly successful and experienced professionals
- Investment style consistently and successfully applied over a variety of market environments
- Well-acquainted with needs of large clients.

QUANTITATIVE EVALUATION

	Latest Qtr.	Latest 1 Yr.	Latest 5 Yrs.	Since 1/1/84
Actual Return	-2.0%	14.7%	8.9%	13.9%
Benchmark	1.3	13.5	9.0	12.2

STAFF RECOMMENDATIONS

Renew annual contract for period beginning July 1, 1992



FRANKLIN PORTFOLIO ASSOCIATES

PORTFOLIO MANAGER: John Nagorniak **ASSETS UNDER MANAGEMENT: $166,100,237**

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:

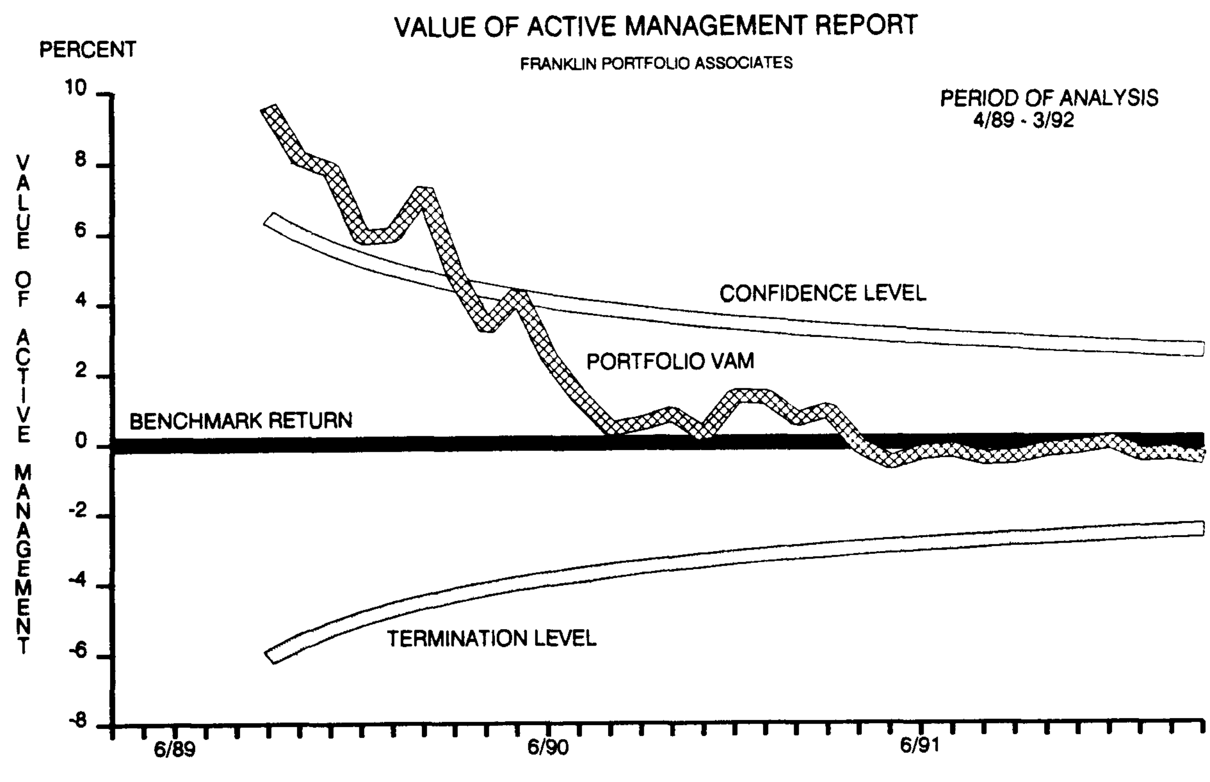
- Familiar with the needs of large institutional clients.
- Firm's investment approach has been consistently applied over a number of market cycles.

QUANTITATIVE EVALUATION

	Latest Qtr.	Latest 1 Yr.	Latest 5 Yrs.	Since 4/1/89
Actual Return	-1.7%	10.6%	N.A.	11.6%
Benchmark	-0.3	14.2	N.A.	12.0

STAFF RECOMMENDATIONS

Conduct an in-depth review during the next quarter.



Performance Report **First Quarter 1992**

GEOCAPITAL CORP.

PORTFOLIO MANAGER: Barry Fingerhut **ASSETS UNDER MANAGEMENT: $205,090,461**

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:

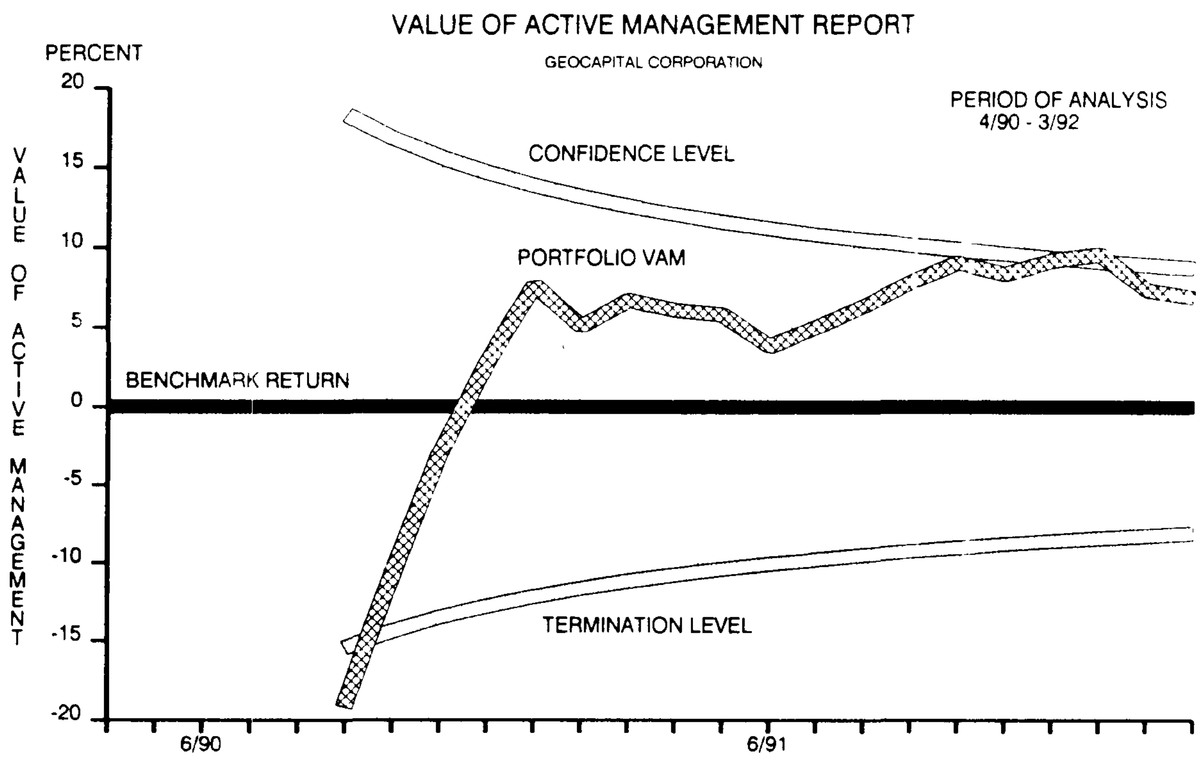
- Investment style consistently and successfully applied over a variety of market environments
- Attractive, unique investment approach
- Highly successful and experienced professionals

QUANTITATIVE EVALUATION

	Latest Qtr.	Latest 1 Yr.	Latest 5 Yrs.	Since 4/1/90
Actual Return	-3.0%	28.2%	N.A.	24.8%
Benchmark	-1.0	19 7	N.A	16 7

STAFF RECOMMENDATIONS

No action required



IDS ADVISORY

PORTFOLIO MANAGER: Pete Anderson

ASSETS UNDER MANAGEMENT: $225,077,291

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:

- Manager is currently addressing specific benchmark issues.

Exceptional strengths are:

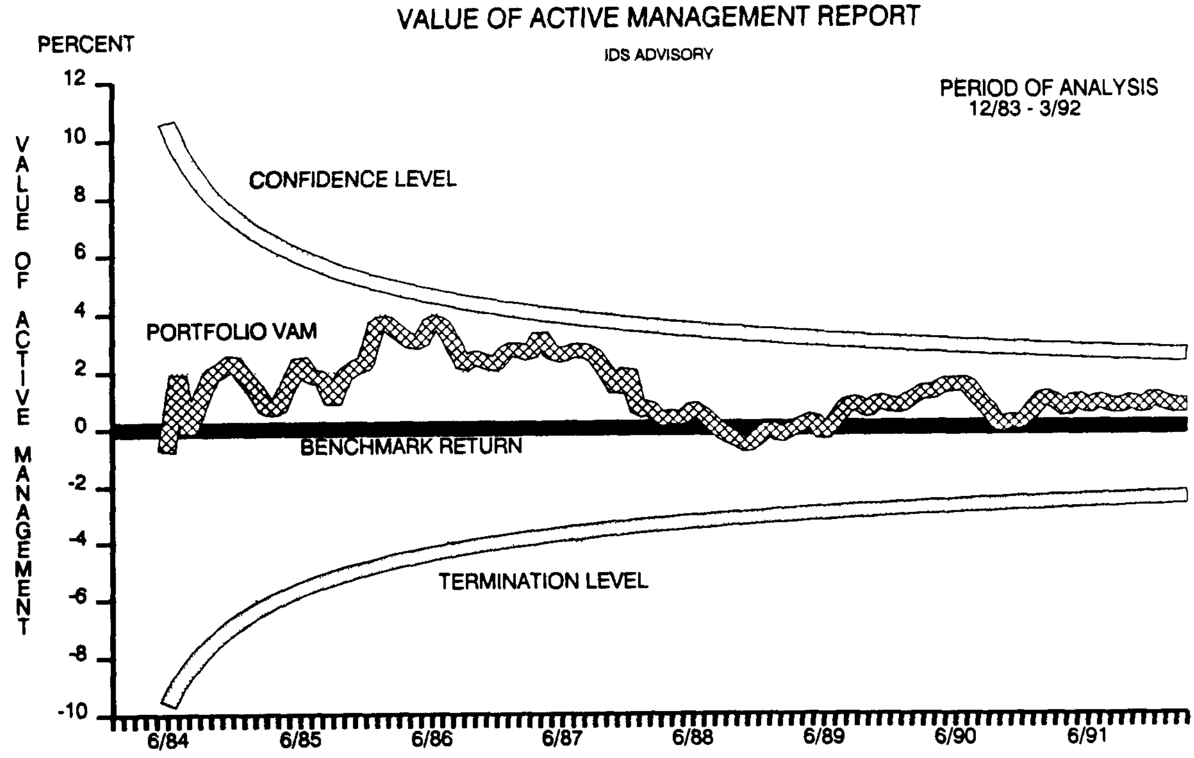
- Investment style consistently and successfully applied over a variety of market environments.

QUANTITATIVE EVALUATION

	Latest Qtr.	Latest 1 Yr.	Latest 5 Yrs.	Since 1/1/84
Actual Return	-0.8%	14.6%	8.9%	15.0%
Benchmark	1.3	15.0	9.4	14.1

STAFF RECOMMENDATIONS

Renew annual contract for period beginning July 1, 1992.



INDEPENDENCE ASSOCIATES

PORTFOLIO MANAGER: Bill Fletcher **ASSETS UNDER MANAGEMENT: $149,242,487**

INVESTMENT PHILOSOPHY

Independence believes that individual stocks which outperform the market always have two characteristics: 1) they are intrinsically cheap; and 2) their business is in the process of improving. Independence ranks their universe by using a multifactor model. Using imput primarily generated by their internal analysts, the model ranks each stock based on 10 discreet criteria Independence constricts their portfolio by using the top 60% of their ranked universe and optimizing it relative to the benchmark selected by the client to minimize the market and industry risks. Independence maintains a fully invested portfolio and rarely holds more than a 1% cash position.

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 2/1/92
Actual Return	-0.6%	N.A.	N.A	-0 6%
Benchmark	-0.4	N.A	N A	-0 4

* Manager funded 2/1/92

STAFF RECOMMENDATIONS

No action required

Vam graph will be created for period ending 9/30/93.

LIEBER & COMPANY

PORTFOLIO MANAGER: Stephen Lieber, Nola Falcone **ASSETS UNDER MANAGEMENT: $177,939,868**

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.

QUALITATIVE EVALUATION (Reported by Exception)

Exceptional strengths are:

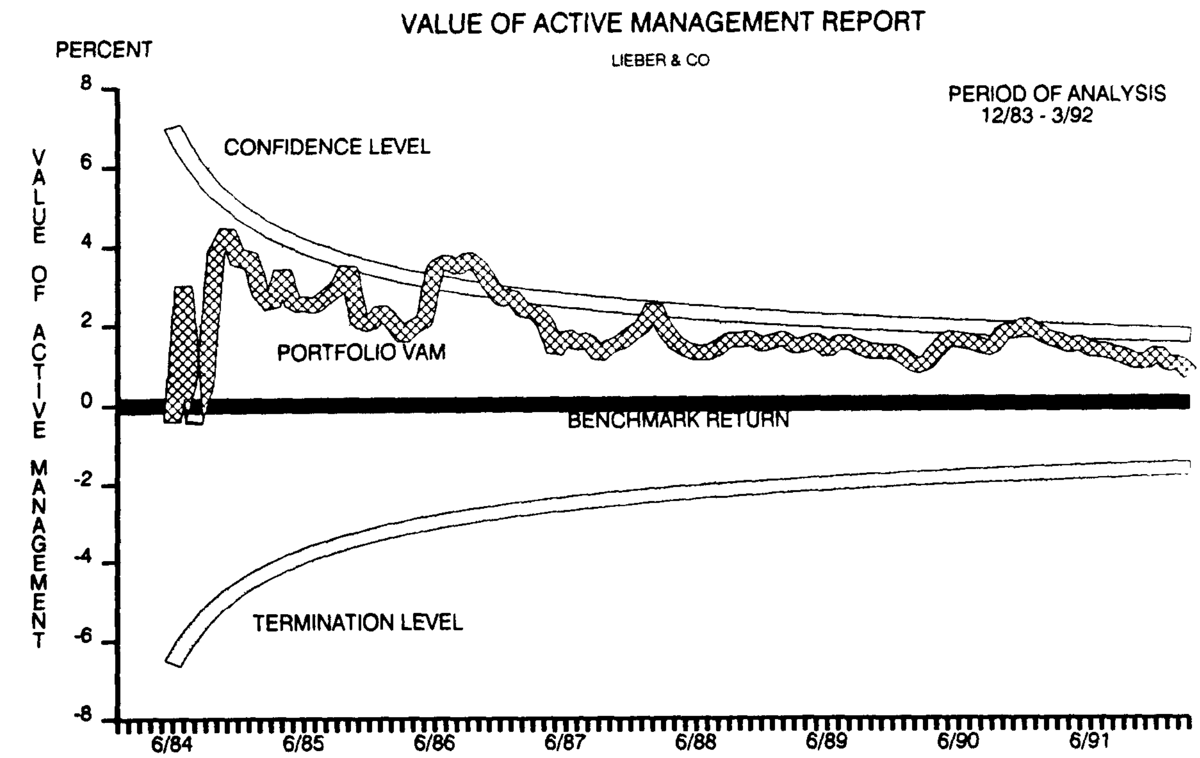
- Organizational continuity and strong leadership.
- Attractive, unique investment approach.
- Investment style consistently and successfully applied over a variety of market environments.
- Extensive securities research process.

QUANTITATIVE EVALUATION

	Latest Qtr.	Latest 1 Yr.	Latest 5 Yrs.	Since 1/1/84
Actual Return	0.8%	15.3%	6.8%	12.1%
Benchmark	4.8	21.4	7.1	11.3

STAFF RECOMMENDATIONS

Renew annual contract for period beginning July 1, 1992.



LYNCH & MAYER

PORTFOLIO MANAGER: Eldon Mayer **ASSETS UNDER MANAGEMENT: $150,129,626**

INVESTMENT PHILOSOPHY

Lynch and Mayer invest primarily in high-quality large capitalization growth stocks. They believe that outstanding investments are a function of corporate earnings growth considerably above historical trends or consensus expectations. Lynch and Mayer are bottom-up stock pickers and rely on very little economic analysis in their selection process. Lynch and Mayer screens out stocks below a certain market capitalization and liquidity level and then eliminates additional stocks based on various fundamental criteria. After the screening process they look for at least one of the following four factors: 1) acceleration of growth; 2) improving industry environment, 3) corporate restructuring, or 4) turnaround The firm generally stays fully invested, with any cash due to lack of attractive investment opportunities

QUALITATIVE EVALUATION
(Reported by Exception)

Exceptional strengths are:

- Organizational continuity and strong leadership.
- Highly successful and experienced professionals

QUANTITATIVE EVALUATION

	Latest Qtr.*	Latest 1 Yr.	Latest 5 Yrs.	Since 2/1/92
Actual Return	0.2%	N.A.	N.A	0 2%
Benchmark	-2.0	N A	N.A	-2 0

* Manager funded 2/1/92.

STAFF RECOMMENDATIONS

No action required

Vam will be created for period ending 9/30/93.

ROSENBERG INSTITUTIONAL EQUITY MANAGEMENT

PORTFOLIO MANAGER: Ken Reid **ASSETS UNDER MANAGEMENT: $148,034,636**

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)

Current concerns are:

- Rosenberg's rapid growth and expansion plans.
- Changing expectations on how their investment process will perform over time.

Exceptional strengths are:

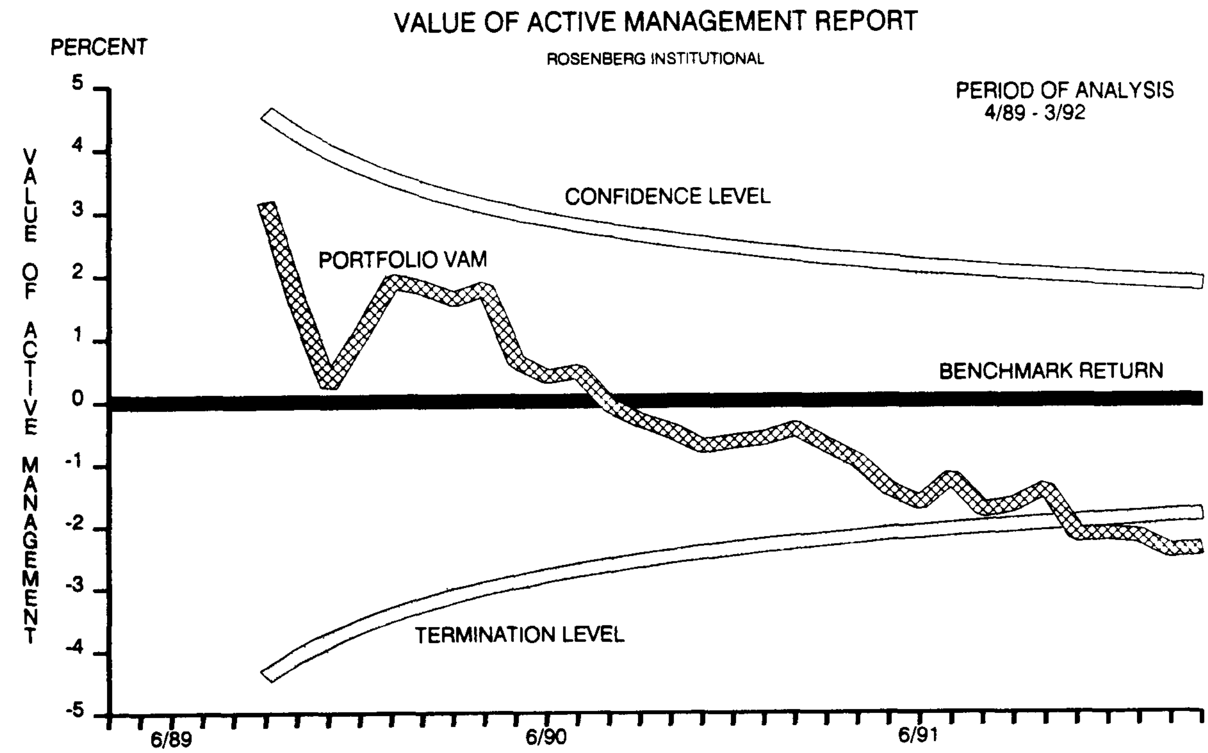
- Attractive, unique investment approach.
- Highly successful and strong leadership.

QUANTITATIVE EVALUATION

	Latest Qtr.	Latest 1 Yr.	Latest 5 Yrs.	Since 4/1/89
Actual Return	-1.6%	7.3%	N.A.	10.7%
Benchmark	-0.3	13.7	N.A.	13.3

STAFF RECOMMENDATIONS

Manager was terminated at the March 1992 Board meeting. Rosenberg's account was closed on April 1, 1992.



WADDELL & REED

PORTFOLIO MANAGER: Henry Herrman

ASSETS UNDER MANAGEMENT: $207,157,838

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:

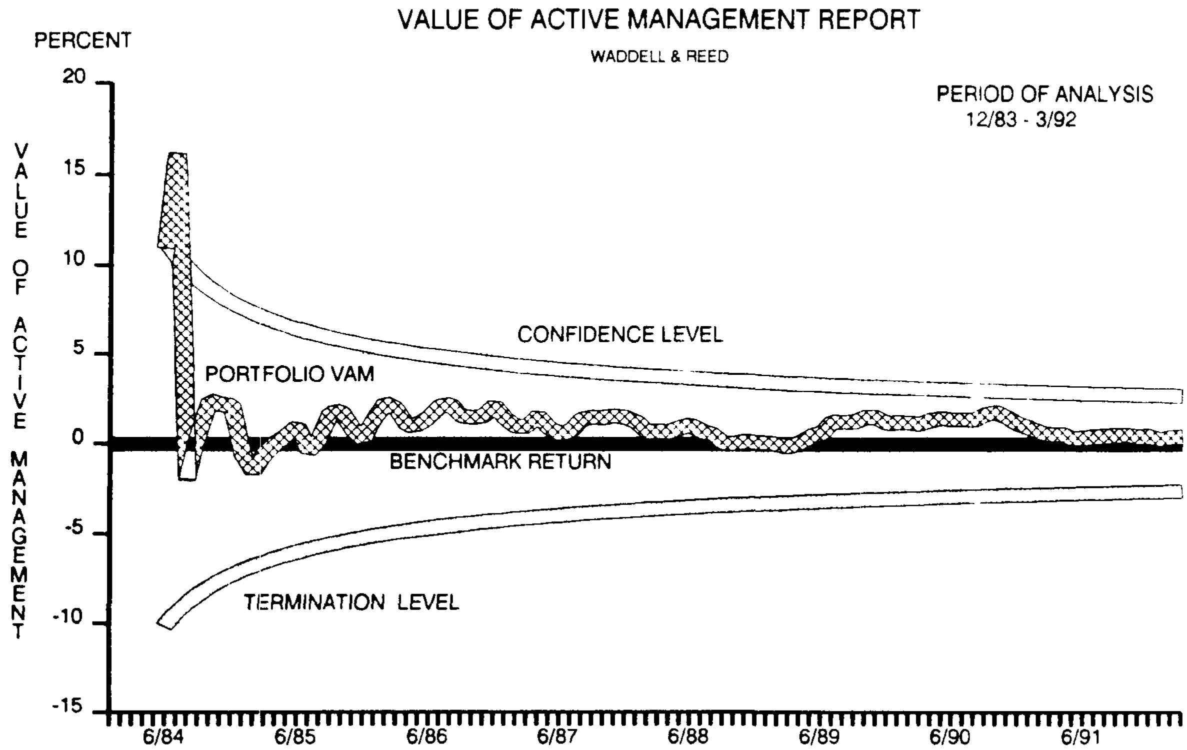
- Highly successful and experienced professionals

QUANTITATIVE EVALUATION

	Latest Qtr.	Latest 1 Yr.	Latest 5 Yrs.	Since 1/1/84
Actual Return	3.4%	14.7%	8.5%	11.8%
Benchmark	3.6	15.3	8.4	11.4

STAFF RECOMMENDATIONS

Renew annual contract for period beginning July 1, 1992.



POST FUND STOCK SEGMENT

PORTFOLIO MANAGER: SBI Staff

ASSETS UNDER MANAGEMENT: $607,409,418

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.

QUALITATIVE EVALUATION
(Reported By Exception)

Exceptional strengths are:

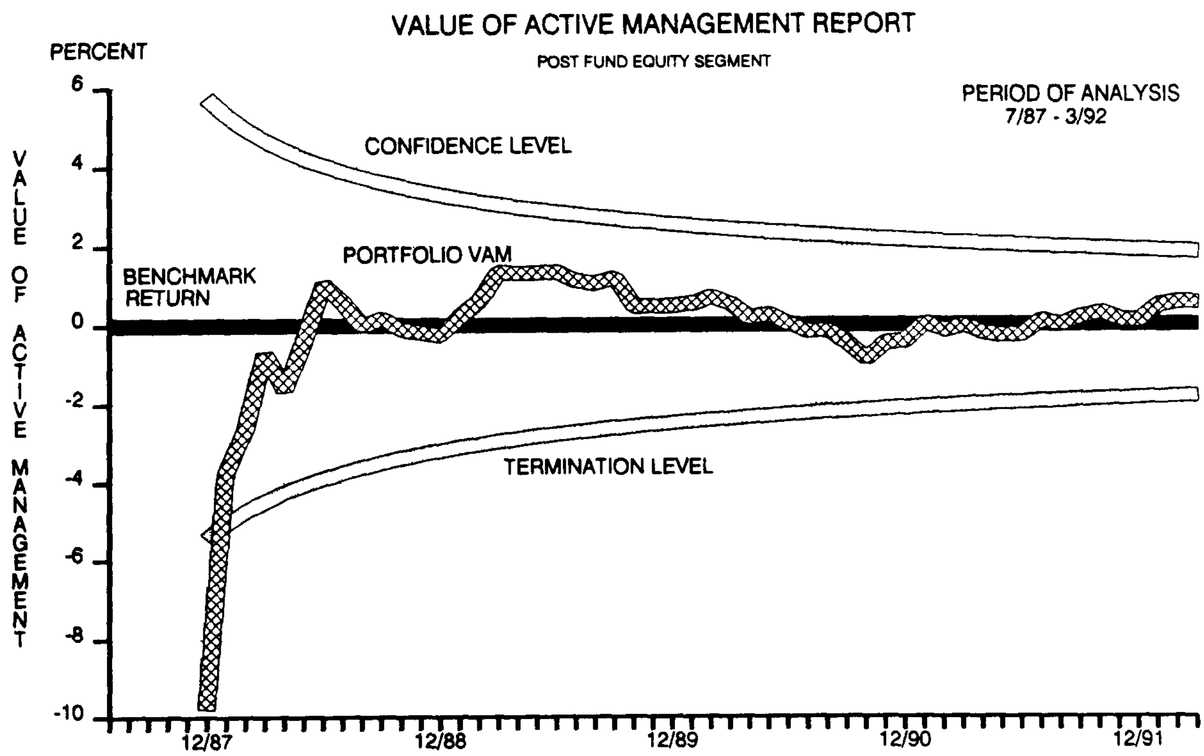
- The investment methodologies used in the portfolio have been applied successfully over various market environments.

QUANTITATIVE EVALUATION

	Latest Qtr.	Latest 1 Yr.	Latest 5 Yrs.	Since 7/1/87
Actual Return	5.1%	18.5%	9.3%	9.2%
Benchmark	2.8	16.1	N.A.	8.7

STAFF RECOMMENDATIONS

No action required.



ALLIANCE CAPITAL MANAGEMENT
Investment Commentary
3/31/92

As of 3/31/92, Alliance's portfolio represented 10.9% of the total stock portfolio and 25.2% of the active stock portfolio. For the most recent quarter and year, Alliance Capital outperformed its benchmark by 1.7% and 6.8% respectively. For the quarter, Alliance Capital generated positive value added through stock selection and sector allocation. For the year, Alliance Capital generated a positive value added in stock selection and a negative value added in sector allocation. The breakdown of Alliance Capital's value added for the latest quarter and year are shown below:

	Qtr.	Year
Stock Selection	1.3%	7.6%
Sector Allocation	0.4	-0.8

SECTOR ALLOCATION

Below is a breakdown of Alliance's actual allocation to each sector for the last four quarters compared to their benchmark of 3/31/92.

	Actual portfolio				
	6/91	9/91	12/91	3/92	Benchmark
Consumer Non-Durable	55.4%	61.1%	65.4%	65.0%	59.8%
Energy	2.8	2.3	1.4	1.0	3.3
Financial	17.6	15.9	16.2	18.3	12.1
Utilities	1.9	0.9	0.7	0.8	2.5
Transport	5.6	5.6	4.5	3.6	1.6
Consumer Durable	1.3	0.8	0.8	1.4	2.8
Capital Goods	4.4	4.1	3.9	3.4	5.9
Technology	7.4	6.2	4.0	3.2	4.4
Basic Material	3.6	3.1	2.9	3.3	7.6

For the quarter, Allince Capital's sector allocation positive value added was primarily due to the overweighting in the finance sector. For the year, the negative value added was dispersed among a number of different sectors.

STOCK SELECTION

For the latest quarter, the consumer non-durable and technology sectors provided the majority of the positive value added. For the year, the consumer non-durable, financial, and technology sectors were the largest contributors to the positive value added.

FORSTMANN LEFF ASSOCIATES
Investment Commentary
3/31/92

As of 3/31/92, Forstmann-Leff's portfolio represented 5.0% of the total stock portfolio and 11.5% of the active stock portfolio. For the most recent quarter, Forstmann-Leff underperformed its benchmark by 3.2% but outperformed its benchmark by 1.5% for the latest year. For the quarter, Forstmann-Leff generated negative value added through stock selection and sector allocation. For the year, Forstmann-Leff generated a positive value added in stock selection and a negative value added in sector allocation. The breakdown of Forstmann-Leff's value added for the latest quarter and year are shown below:

	Qtr.	Year
Stock Selection	-1.4%	2.6%
Sector Allocation	-1.8	-1.1

SECTOR ALLOCATION

Below is a breakdown of Forstmann-Leff's actual allocation to each sector for the last four quarters compared to their benchmark of 3/31/92.

	Actual portfolio				
	6/91	**9/91**	**12/91**	**3/92**	**Benchmark**
Consumer Non-Durable	52.1%	54.4%	53.8%	52.2%	38.2%
Energy	11.7	12.5	10.6	6.1	6.5
Financial	20.6	21.3	19.7	22.2	18.0
Utilities	1.1	3.4	6.3	6.7	4.6
Transport	1.0	1.1	1.6	3.5	3.1
Consumer Durable	1.6	0.6	1.1	1.6	5.1
Capital Goods	2.5	1.8	1.3	1.6	5.3
Technology	4.6	1.8	2.2	2.4	8.5
Basic Material	4.8	3.1	3.4	3.7	10.7

For the quarter, the primary cause for Forstmann-Leff's sector allocation underperformance was due to the overweighting of the consumer non-durable sector. However for the year, the overweighting in the consumer non-durable sector and their cash allocation generated the majority of the positive value added.

STOCK SELECTION

For the latest quarter, the financial and consumer non-durable sectors generated the majority of the negative value added. For the year, the technology sector generated the majority of the stock selection positive value added.

FRANKLIN PORTFOLIO ASSOCIATES TRUST
Investment Commentary
3/31/92

As of 3/31/92, Franklin's portfolio represented 3.2% of the total stock portfolio and 7.3% of the active stock portfolio. For the most recent quarter and year, Franklin underperformed its benchmark by 1.3% and 3.1% respectively. For the quarter, Franklin generated a negative value added for both stock selection and sector allocation. For the year, Franklin generated positive value added through sector allocation and negative value added through stock selection. The breakdown of Franklin's value added for the latest quarter and year are shown below:

	Qtr	Year
Stock Selection	-0.6%	-3.4%
Sector Allocation	-0.7	0.3

SECTOR ALLOCATION

Below is a breakdown of Franklin's actual allocation to each sector for the last four quarters compared to their benchmark of 3/31/92.

	Actual portfolio				
	6/91	**9/91**	**12/91**	**'92**	**Benchmark**
Consumer Non-Durable	36.5%	35.2%	31.3%	38.5%	32.9%
Energy	8.5	6.2	5.5	4.3	5.3
Financial	18.9	19.3	23.7	19.7	17.7
Utilities	17.1	16.7	15.4	17.9	15.0
Transport	0.6	0.3	0.2	0.3	2.4
Consumer Durable	2.5	2.4	2.7	4.7	4.8
Capital Goods	3.1	3.9	4.9	3.8	4.9
Technology	6.0	7.9	8.0	7.0	6.2
Basic Material	6.8	8.1	8.3	3.8	10.8

For the quarter, the primary cause for Franklin's sector allocation underperformance was the consumer non-durable sector. For the year, an overweighting in certain technology and utility industries were the largest contributor to their positive value added performance.

STOCK SELECTION

For the latest quarter, the consumer non-durable sector was the largest contributor to their negative value added. For the year, the consumer non-durable and energy sectors were the largest contributors to their negative value added.

GEOCAPITAL CORPORATION
Investment Commentary
3/31/92

As of 3/31/92, GeoCapital's portfolio represented 3.9% of the total stock portfolio and 9.0% of the active stock portfolio. For the most recent quarter, GeoCapital underperformed its benchmark by 1.9% but outperformed it for the latest year by 9.0%. For the quarter, GeoCapital generated a negative value added through stock selection but a positive value added with their sector allocation. For the year, GeoCapital generated a positive value added in both stock selection and sector allocation. The breakdown of GeoCapital's value added for the latest quarter and year are shown below:

	Qtr.	Year
Stock Selection	-2.9%	3.3%
Sector Allocation	1.0	5.7

SECTOR ALLOCATION

Below is a breakdown of GeoCapital's actual allocation to each sector for the last four quarters compared to their benchmark of 3/31/92.

	Actual portfolio				
	6/91	9/91	12/91	3/92	Benchmark
Consumer Non-Durable	64.9%	66.5%	69.4%	67.1%	60.0%
Energy	0.0	0.0	0.0	0.0	2.3
Financial	20.3	19.0	19.5	22.8	5.8
Utilities	7.6	6.6	4.8	3.2	6.2
Transport	0.3	0.3	0.2	0.1	1.7
Consumer Durable	0.5	0.0	0.0	1.0	1.7
Capital Goods	0.7	0.1	0.2	0.3	5.6
Technology	4.1	4.2	3.6	3.4	13.6
Basic Material	1.6	3.3	2.3	2.2	3.1

For the quarter, the majority of GeoCapital's sector allocation positive value added was due to an overweighting of the financial sector. For the year, the financial, technology, and energy sectors generated the majority of the positive value added.

STOCK SELECTION

For the latest quarter, almost all of the negative value added came from the technology and consumer non-durable sectors. However for the year, the same consumer non-durable and technology sectors provided the majority of the positive value added.

IDS ADVISORY
Investment Commentary
3/31/92

As of 3/31/92, IDS's portfolio represented 4.3% of the total stock portfolio and 9.9% of the active stock portfolio. For the most recent quarter and year, IDS underperformed its benchmark by 2.0% and 0.1% respectively. For the quarter and year IDS generated negative value added through stock selection and positive or zero value added for sector allocation. The breakdown of IDS's value added for the latest quarter and year are shown below:

	Qtr.	Year
Stock Selection	-3.1%	-0.1%
Sector Allocation	1.1	0.0

SECTOR ALLOCATION

Below is a breakdown of IDS's actual allocation to each sector for the last four quarters compared to their benchmark of 3/31/92.

	Actual portfolio				
	6/91	9/91	12/91	3/92	Benchmark
Consumer Non-Durable	33.6%	35.8%	32.8%	27.7%	30.8%
Energy	4.3	3.5	7.6	9.1	7.2
Financial	16.1	16.3	14.4	16.0	20.8
Utilities	0.4	1.9	3.2	0.0	11.5
Transport	6.7	5.4	8.5	5.7	3.7
Consumer Durable	4.2	3.9	3.7	8.2	3.0
Capital Goods	7.6	7.8	7.5	7.7	4.8
Technology	7.4	6.5	6.5	8.5	7.2
Basic Material	19.7	18.9	15.8	17.1	11.0

For the quarter, the majority of IDS's sector allocation positive value added was due to an underweighting of the utility sector. For the year, none of the sectors showed a materially large positive or negative value added.

STOCK SELECTION

For the latest quarter, the financial, technology, and consumer non-durable sectors generated the majority of the negative value added. The only area that showed a strong positive value added was the basic material sector. For the year, the sectors basically balanced each other out. The largest positive and negative value added came from the technology and capital goods sectors respectively.

LIEBER & COMPANY
Investment Commentary
3/31/92

PERFORMANCE RESULTS

As of 3/31/92, Lieber's portfolio represented 3.3% of the total stock portfolio and 7.7% of the active stock portfolio. For the most recent quarter and year Lieber underperformed its benchmark by 3.8% and 5.1% respectively. For the quarter and year Lieber generated negative value added through stock selection and positive value added for sector allocation. The breakdown of Lieber's value added for the latest quarter and year are shown below:

	Qtr.	Year
Stock Selection	-4.3%	-5.5%
Sector Allocation	0.5	0.4

SECTOR ALLOCATION

Below is a breakdown of Lieber's actual allocation to each sector for the last four quarters compared to their benchmark of 3/31/92.

	Actual portfolio				
	6/91	9/91	12/91	3/92	Benchmark
Consumer Non-Durable	39.7%	40.6%	42.9%	42.7%	37.3%
Energy	4.2	3.2	2.9	1.5	3.6
Financial	18.1	19.6	19.8	22.2	20.9
Utilities	3.2	1.5	1.4	0.2	5.7
Transport	3.9	3.7	3.6	3.2	2.5
Consumer Durable	4.9	4.6	3.7	4.6	5.3
Capital Goods	7.2	7.1	6.4	7.3	6.7
Technology	7.0	7.0	7.4	7.5	6.8
Basic Material	19.7	18.9	15.8	10.8	11.2

For the quarter the majority of Lieber's sector allocation positive value added was due to an underweighting of the utility and basic material sectors. For the year, the basic materials sector generated the majority of the positive value added.

STOCK SELECTION

For the latest quarter almost all of the negative value added came from the technology, consumer non-durable, and finance sectors. For the year the consumer non-durable and financial sectors generated the majority of the negative value added.

ROSENBERG INSTITUTIONAL EQUITY MANAGEMENT
Investment Commentary
3/31/92

As of 3/31/92, Rosenberg's portfolio represented 2.8% of the total stock portfolio and 6.5% of the active stock portfolio. For the most recent quarter and year Rosenberg underperformed its benchmark by 1.2% and 5.8% respectively. For the quarter, Rosenberg generated negative value added through stock selection but positive value added through sector allocation. For the year, Rosenberg generated a negative value added in both stock selection and sector allocation. The breakdown of Rosenberg's value added for the latest quarter and year are shown below:

	Qtr.	**Year**
Stock Selection	-1.5%	-5.1%
Sector Allocation	0.3	-0.7

SECTOR ALLOCATION

Below is a breakdown of Rosenberg's actual allocation to each sector for the last four quarters compared to their benchmark of 3/31/92.

	Actual portfolio				
	6/91	**9/91**	**12/91**	**3/92**	**Benchmark**
Consumer Non-Durable	33.9%	34.5%	37.7%	35.4%	35.6%
Energy	7.1	7.6	6.5	8.1	7.0
Financial	12.2	15.0	15.6	14.8	15.2
Utilities	17.1	15.6	16.5	15.5	16.0
Transport	1.6	2.1	2.5	4.1	2.1
Consumer Durable	2.0	2.1	2.0	2.5	4.5
Capital Goods	6.2	6.0	5.1	4.2	5.4
Technology	10.8	8.6	5.8	7.6	6.6
Basic Material	9.1	8.5	8.3	7.8	7.6

For the quarter, the primary cause for Rosenberg's sector allocation positive performance was a positive bet on low book-to-price stocks. For the year, their underweighting in banks generated the majority of the negative value added.

STOCK SELECTION

The under performance of Rosenberg's stock selection for the quarter and year was primarily in the consumer non-durable sector.

WADDELL & REED
Investment Commentary
3/31/92

As of 3/31/92, Waddell & Reed's portfolio represented 4.1% of the total stock portfolio and 9.6% of the active stock portfolio. For the most recent quarter and year, Waddell & Reed underperformed its benchmark by 0.1% and 0.3% respectively. For the quarter and year Waddell & Reed generated negative value added through stock selection and positive value added for sector allocation. The breakdown of Waddell & Reed's value added for the latest quarter and year are shown below:

	Qtr.	Year
Stock Selection	-0.7%	-0.9%
Sector Allocation	0.6	0.6

SECTOR ALLOCATION

Below is a breakdown of Waddell & Reed's actual allocation to each sector for the last four quarters compared to their benchmark of 3/31/92.

	Actual portfolio				
	6/91	9/91	12/91	3/92	Benchmark
Consumer Non-Durable	32.0%	33.2%	41.1%	37.2%	43.0%
Energy	12.2	9.8	9.2	7.1	8.0
Financial	10.3	12.9	9.6	13.1	2.2
Utilities	0.1	0.1	1.4	1.5	0.6
Transport	9.5	7.6	6.5	5.7	4.6
Consumer Durable	3.7	4.2	5.5	9.5	7.3
Capital Goods	8.9	9.0	3.9	3.6	8.2
Technology	8.2	9.7	8.8	7.7	10.5
Basic Material	15.1	13.4	14.0	14.6	15.6

For the quarter, the majority of Waddell & Reed's sector allocation positive value added was due to an underweighting of the consumer non-durable sector and an overweighting of the consumer durable sector. For the year, the energy and transportation sectors generated the majority of the positive value added.

STOCK SELECTION

For the latest quarter and year, none of the sectors had any significant positive or negative value added returns.

STATE BOARD OF INVESTMENT

Bond Manager Evaluation Reports

First Quarter, 1992

BOND MANAGERS

First Quarter 1992

Fixed income manager returns are evaluated against the performance of the Salomon Brothers Broad Investment Grade Index (BIG). The Salomon BIG represents most investment grade bonds (BBB or better). The bond managers initially had customized indices. However, since all the managers add value to their portfolio by using the entire bond market, their benchmarks were changed to the Salomon BIG on 10/1/91.

Manager performance relative to the Salomon BIG is evaluated on a quarterly basis by the Stock and Bond Manager Committee of the Investment Advisory Council.

Staff Recommendations:
Staff recommends the following actions concerning manager status:

- Renew annual contracts with IAI, Lehman Ark, Miller, Western, Fidelity and Lincoln.

Current Managers	Total Market Value 3/31/92 (Thousands)	Quarter Ending 3/31/92 Actual	Quarter Ending 3/31/92 Bmrk	Year Ending 3/31/92 Actual	Year Ending 3/31/92 Bmrk	Annualized Five Years Ending 3/31/92 Actual	Annualized Five Years Ending 3/31/92 Bmrk	Percent of Bond Segment 3/31/92 Basic Funds
IAI	$ 165,995	-2.7%	-1.2%	11.7%	11.8%	9.4%	9.4%	6.9%
Lehman Ark	121,550	-1.7	-1.2	10.3	10.8	8.8	8.9	5.1
Miller Anderson	266,823	-2.3	-1.2	14.3	11.7	9.1	9.4	11.1
Western Asset	496,927	-0.6	-1.2	13.4	12.0	10.0	9.6	20.6
Fidelity*	700,295	-1.0	-1.2	11.9	11.7			29.1
Lincoln*	655,535	-1.2	-1.2	11.6	11.7			27.2
Aggregate **	$2,407,125	-1.3	-1.2	12.3	11.7	9.4	9.4	100.0
Salomon Broad Investment Grade Index		-1.2%		11.7%		9.4%		

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

INVESTMENT ADVISERS

PORTFOLIO MANAGER: Larry Hill **ASSETS UNDER MANAGEMENT: $165,994,904**

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:

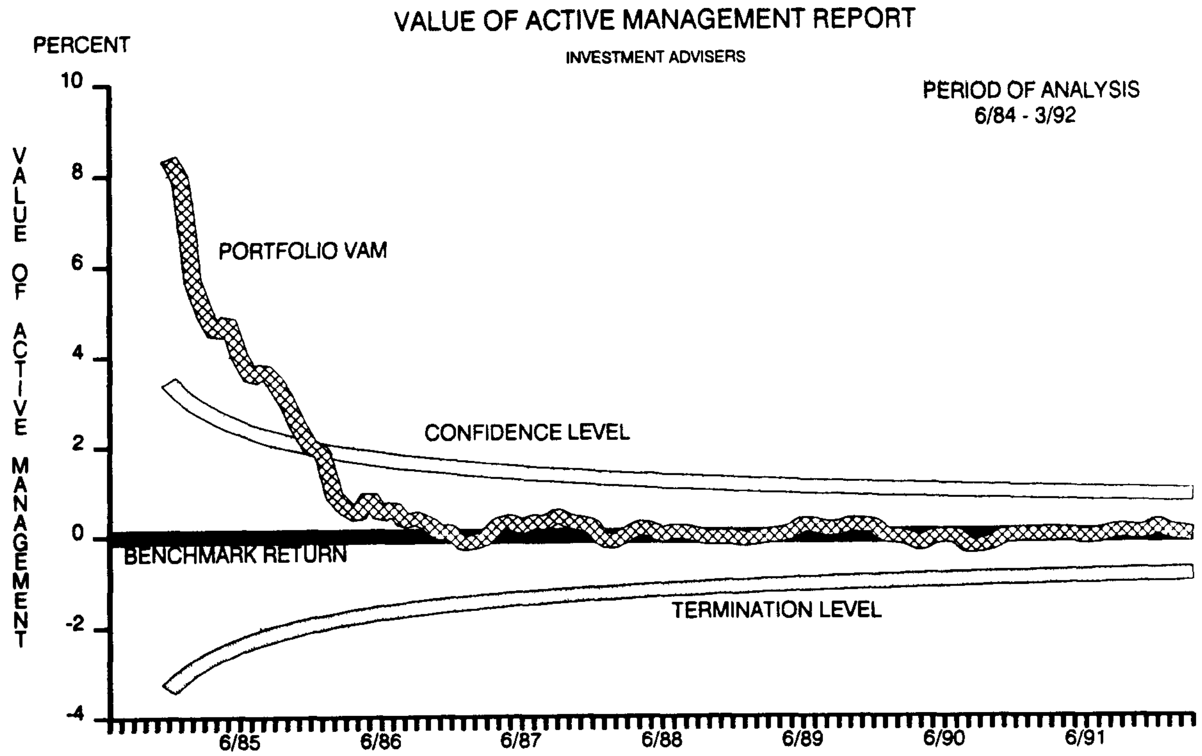
- The manager's duration decisions have not added significant value.

QUANTITATIVE EVALUATION

	Latest Qtr.	Latest 1 Yr.	Latest 5 Yrs.	Since 7/1/84
Actual Return	-2.7%	11.7%	9.4%	13.2%
Benchmark	-1.2	11.8	9.4	13.2

STAFF RECOMMENDATIONS

Renew annual contract.



Performance Report **First Quarter 1992**

LEHMAN ARK MANAGEMENT

PORTFOLIO MANAGER: Kevin Hurley **ASSETS UNDER MANAGEMENT: $121,550,344**

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:

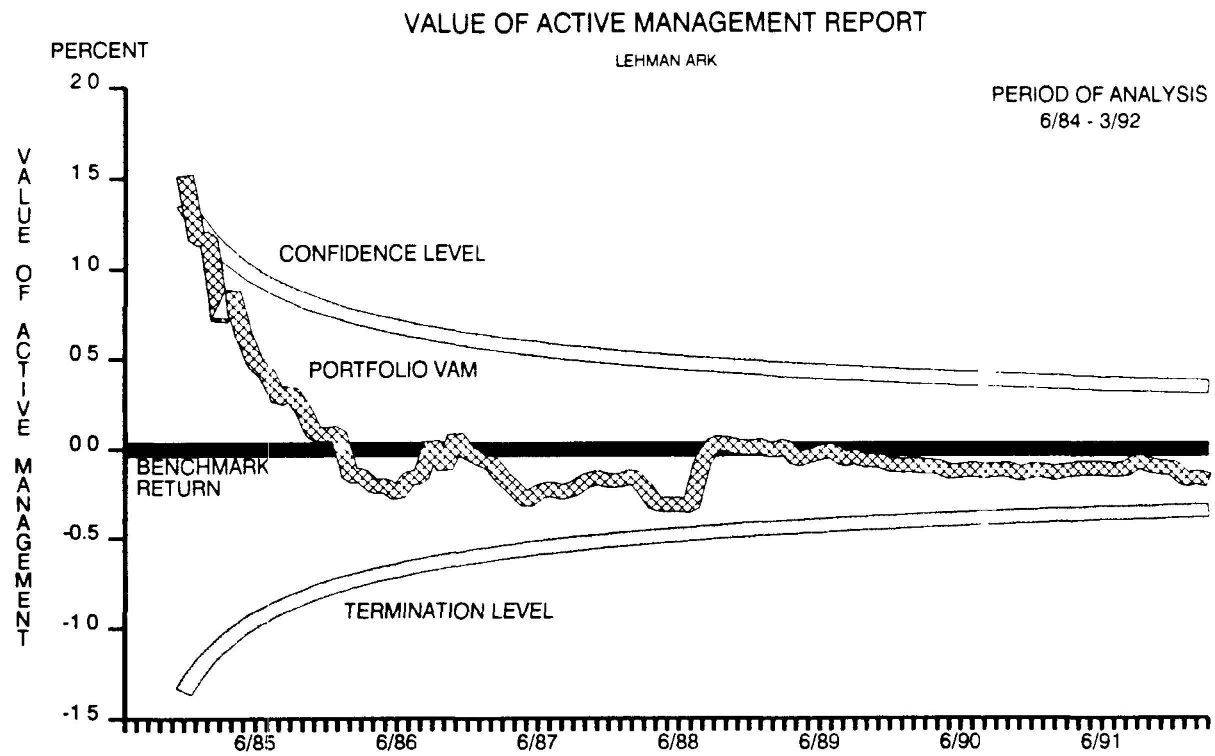
- The firm has used an index-like approach in its management of the portfolio and has made relatively few active bets.

QUANTITATIVE EVALUATION

	Latest Qtr.	Latest 1 Yr.	Latest 5 Yrs.	Since 7/1/84
Actual Return	-1.7%	10.3%	8.8%	1%
Benchmark	-1.2	10.8	9.0	12.3

STAFF RECOMMENDATIONS

Renew annual contract. Latest five year period is below benchmark. In-depth review was conducted for December 1990 Board meeting



MILLER ANDERSON

PORTFOLIO MANAGER: Tom Bennet **ASSETS UNDER MANAGEMENT: $266,822,936**

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:

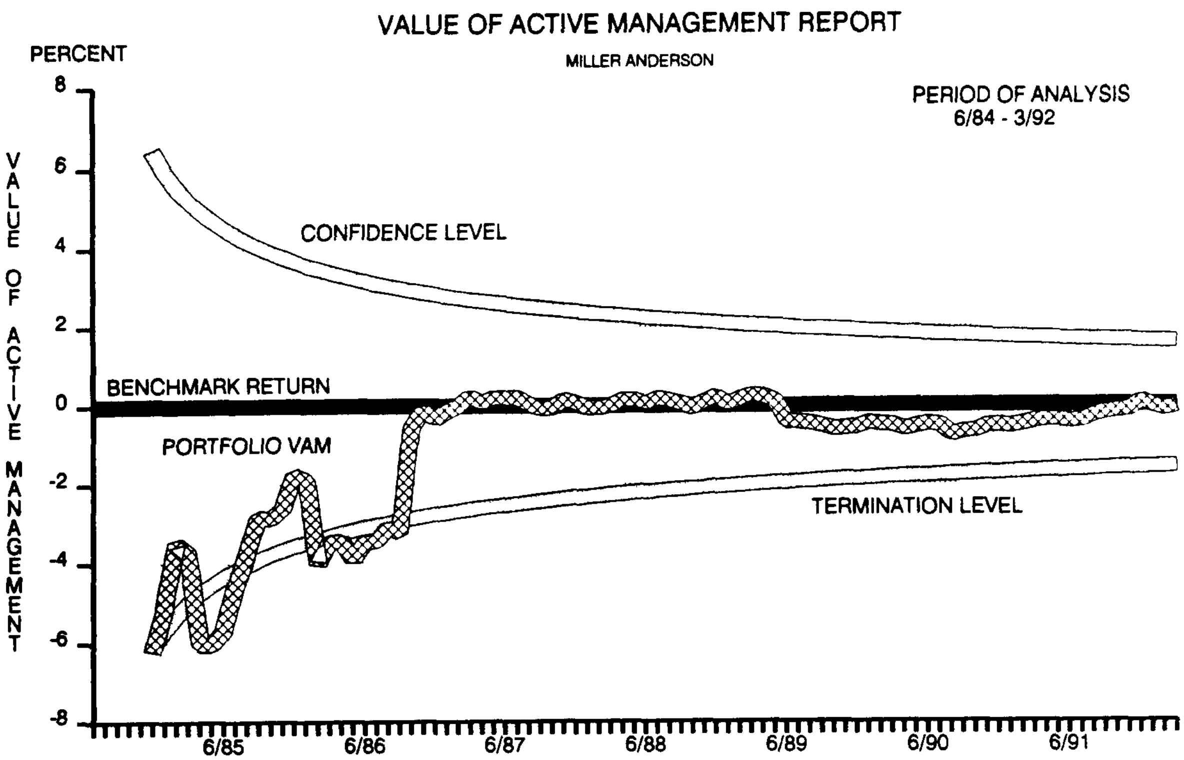
- Highly successful and experienced professionals.
- Extensive securities research process.

QUANTITATIVE EVALUATION

	Latest Qtr.	Latest 1 Yr.	Latest 5 Yrs.	Since 7/1/84
Actual Return	-2.3%	14.3%	9.1%	13.1%
Benchmark	-1.2	11.7	9.4	13.2

STAFF RECOMMENDATIONS

Renew annual contract. Latest five year period is below benchmark. In-depth review was conducted for June 1991 Board meeting.



WESTERN ASSET MANAGEMENT

PORTFOLIO MANAGER: Kent Engel **ASSETS UNDER MANAGEMENT: $496,926,778**

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:

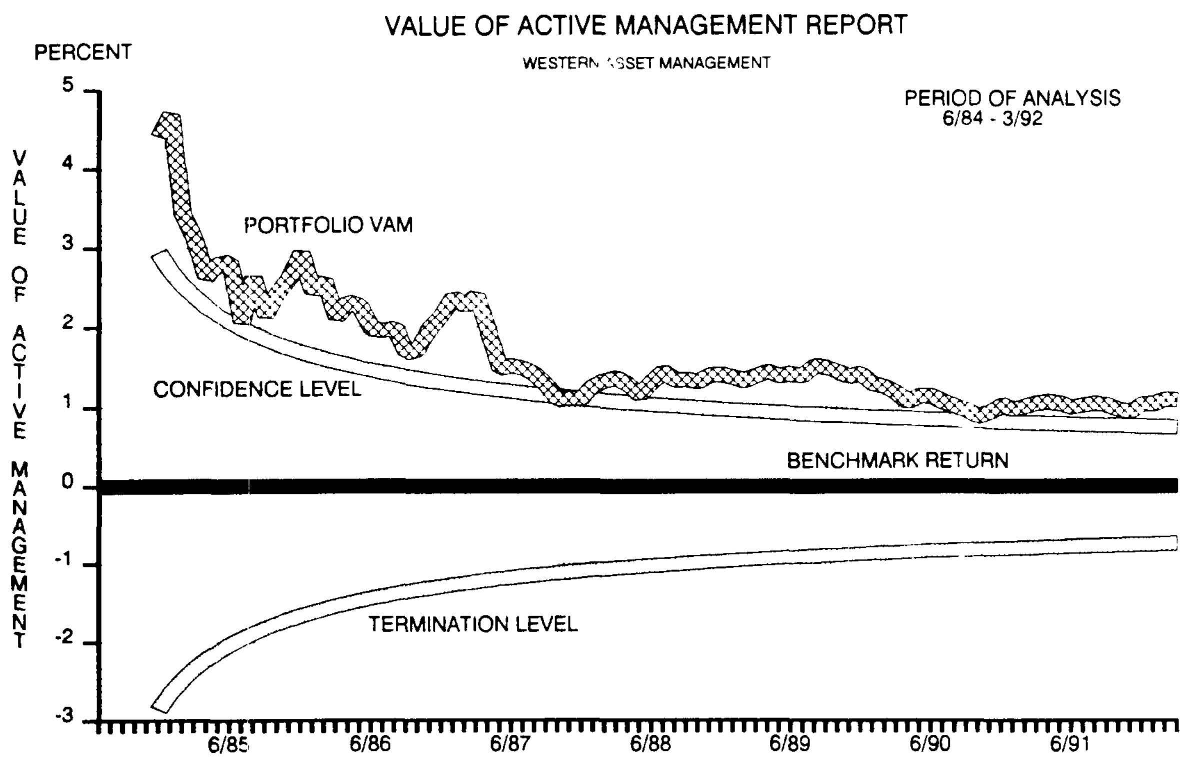
- Highly successful and experienced professionals.
- Extensive research and understanding in the application of normal portfolios to bond management.

QUANTITATIVE EVALUATION

	Latest Qtr.	Latest 1 Yr.	Latest 5 Yrs.	Since 7/1/84
Actual Return	-0.6%	13.4%	10.0%	14.3%
Benchmark	-1.2	12.0	9.6	13.1

STAFF RECOMMENDATIONS

Renew annual contract



INVESTMENT ADVISERS, INC.
Investment Commentary
3/31/92

As of 3/31/92, Investment Adviser's portfolio represented 7% of the SBI's fixed income portfolio. Over the past year, IAI underperformed the benchmark by 17 basis points, and this quarter they underperformed by 158 basis points. This was primarily due to maintaining a duration longer than the benchmark while interest rates increased.

IAI believes that the economic data do not support the rise in interest rates that occurred over the past quarter. In addition, they believe gradually declining inflation rates will eventually lead to lower long term interest rates. Thus, IAI is maintaining a duration significantly longer than the benchmark. Additionally, they believe the long end of the yield curve will decline more than intermediate or short portions, and are therefore positioning for a flattening of the yield curve. They have increased their holding of discount mortgages and added a position of long term Treasury zero coupon STRIPS to take advantage of falling rates and a flatter yield curve.

DURATION

During the quarter, signs emerged that the economy was recovering from the recession, causing interest rates to rise substantially. IAI's strategy of holding a duration longer than the benchmark, therefore, was the primary reason for underperforming. As of 3/31/92, the duration of the portfolio was 6.7 years versus the benchmark duration of 4.6 years.

SECTOR ALLOCATION

Below is a breakdown of IAI's sector allocation versus the benchmark which is the Salomon Broad Investment Grade Index:

	March 31, 1991		March 31,1992	
	IAI	Benchmark	IAI	Benchmark
Treasury/Agency	68%	54%	72%	52%
Mortgages	24	28	23	29
Corporates	4	18	3	19
Other	0	0	0	0
Cash	4	0	2	0

IAI remained overweighted in the Treasury/Agency sector, slightly underweighted in the mortgage sector, and significantly underweighted in corporate securities relative to the benchmark. The underweighting of corporate securities detracted from performance as this sector has performed well versus the Treasury sector.

LEHMAN ARK MANAGEMENT COMPANY, INC.
Investment Commentary
3/31/92

As of 3/31/92, Lehman Ark Management's portfolio represented 5% of the SBI's fixed income portfolio. Over the past year, Lehman underperformed the benchmark by 57 basis points, and this quarter they underperformed by 53 basis points. This underperformance was primarily due to maintaining a duration longer than the benchmark while interest rates increased. Overweighting asset backed securities helped moderate some of the negative effects of the duration decision.

Lehman believes that although there are signs of improvement, the recovery will be lackluster. This, combined with low inflation rates will eventually lead to lower long term interest rates. Thus, Lehman is maintaining a duration longer than the benchmark. In addition, because they perceive that investors are reaching for yield by extending maturities, they feel the long end of the yield curve will eventually decline relative to shorter maturities. Therefore, they are positioning the portfolio for a flattening of the yield curve. They have matched the benchmark weighting in the mortgage sector and overweighted asset-backed securities for their yield advantage, and concentrated their ownership of corporate debt in the intermediate maturity range.

DURATION

Lehman's duration as of 3/31/92 was 5.5 years, versus the benchmark of 4.6 years. This was the principle drag on performance since interest rates increased throughout the quarter.

SECTOR ALLOCATION

Below is a breakdown of Lehman's sector allocation versus the benchmark which is the Salomon Broad Investment Grade Index:

	March 31, 1991		March 31, 1992	
	Lehman	**Benchmark**	**Lehman**	**Benchmark**
Treasury/Agency	54%	54%	38%	52%
Mortgages	16	28	32	29
Corporates	25	18	17	19
Other	0	0	11	0
Cash	5	0	2	0

Lehman made two general sector bets this quarter. They underweighted the Treasury/Agency sector, and overweighted asset backed securities relative to the benchmark. No active bets were made in the mortgage or corporate sector. This hurt performance because these sectors outperformed the Treasury sector, despite having to absorb heavy issuance this quarter. The overweighting of asset backed securities contributed to performance since this sector also performed well this quarter.

MILLER, ANDERSON & SHERRERD
Investment Commentary
3/31/92

As of 3/31/92, Miller, Anderson & Sherrerd's portfolio represented 11% of the SBI's fixed income portfolio. Over the past year, Miller outperformed the benchmark by 264 basis points, however, this quarter they underperformed by 111 basis points. This underperformance was primarily due to maintaining a duration significantly longer than the benchmark while interest rates increased.

Miller believes that the economic recovery will prove to be subpar. This, combined with gradually declining inflation rates, will eventually lead to lower long term interest rates. Thus, Miller is maintaining a duration significantly longer than the benchmark. Additionally, they believe the long end of the yield curve will decline more than the intermediate or short portions, and are therefore positioning for a flattening of the curve. They continue to hold a large portion of the portfolio in mortgage securities and are slightly underweighted in corporates. They perceive high quality corporates to be fully valued, and are holding medium quality issues.

DURATION

Miller's duration as of 3/31/92 was 7.0 years, versus the benchmark of 4.6 years. Since the duration of the portfolio was substantially longer than the benchmark, and interest rates increased throughout the quarter, portfolio returns suffered. This was the primary reason for underperforming the benchmark.

SECTOR ALLOCATION

Below is a breakdown of Miller's sector allocation versus the benchmark which is Salomon Broad Investment Grade Index:

	March 31, 1991		March 31, 1992	
	Miller	Benchmark	Miller	Benchmark
Treasury/Agency	39%	54%	35%	52%
Mortgages	41	28	46	29
Corporates	17	18	15	19
Other	0	0	0	0
Cash	3	0	4	0

Miller underweighted the Treasury/Agency sector, and overweighted the mortgage sector this quarter relative to the benchmark. The overweighting of mortgage securities added slightly to performance as this sector performed well versus the Treasury sector. Rising interest rates caused prepayment fears to ease, benefiting higher coupon issues.

WESTERN ASSET MANAGEMENT
Investment Commentary
3/31/92

As of 3/31/92, Western Asset Management's portfolio represented nearly 21% of the SBI's fixed income portfolio. Over the past year, Western outperformed the benchmark by 144 basis points. For the quarter, Western outperformed the market by 60 basis points. The primary reasons for this were a substantial exposure to corporate securities, particularly non-callable industrials and finance issues and a barbell maturity exposure in anticipation of a flattening yield curve. Maintaining a duration longer than the benchmark detracted from performance as did underweighting higher coupon mortgage securities.

Western believes that inflation is under control and interest rates, especially on the long end, will eventually decline. Therefore, they are maintaining a duration longer than the benchmark and continue to hold a barbelled maturity structure. In addition, they continue to hold a large portion of the portfolio in corporate securities and are underweighted in mortgages. They believe that declining interest rates and accelerated mortgage prepayments will allow the corporate sector to outperform the mortgage-backed sector. Additionally, they believe the long end of the yield curve will outperform short and intermediate term issues as the yield curve flattens.

DURATION

Interest rates edged up during the quarter as the market perceived the economy was recovering from the recession. Thus, maintaining a portfolio duration longer than the benchmark detracted from Western's performance. On 3/31/92, Western's portfolio duration was 5.4 years versus the benchmark of 4.6 years.

SECTOR ALLOCATION

Western's sector allocation allowed them to outperform the benchmark. Below is a breakdown of Western's allocation to each sector versus the benchmark which is the Salomon Broad Investment Grade Index:

	March 31, 1991		**March 31, 1992**	
	Western	**Benchmark**	**Western**	**Benchmark**
Treasury/Agency	29%	54%	23%	52%
Mortgages	24	28	17	29
Corporates	44	18	43	19
Other	0	0	5	0
Cash	3	0	12	0

This quarter, Western underweighted Treasury and mortgage securities and overweighted corporate securities. This corporate exposure, especially in finance issues, contributed positively to performance. Underweighting the mortgage sector detracted from performance as interest rates increased and prepayments eased.

FIDELITY MANAGEMENT TRUST
Investment Commentary
3/31/92

Fidelity's portfolio represents 29.1 % of the SBI's portfolio. For the year, Fidelity's portfolio returned 11.91 % versus 11.68 % for the Salomon BIG. Fidelity also outperformed the BIG for the quarter , -1.03 % versus -1.16 %. Fidelity returned more than the market for the past year primarily because they overweighted corporate and asset-backed securities and underweighted Treasury securities. Additionally, value was added through subsector selection within the corporate sector and corporate issuer selection.

DURATION

Since Fidelity is an index manager, they do not add value through duration decisions. The portfolio is consistently within 0.1 year of the Salomon BIG duration.

SECTOR ALLOCATION

The following table compares sector allocations to the benchmark which is the Salomon Broad Investment Grade Index

	March 31, 1991		March 31, 1992	
	Fidelity	**Benchmark**	**Fidelity**	**Benchmark**
Treasury/Agency	35%	54%	33%	52%
Mortgages	29	28	30	29
Corporates	20	.18	24	19
Other	16	0	13	0
Cash	0	0	4	0

The above shows that for the quarter and year, Fidelity overweighted corporate and asset-backed securities. Fidelity performed well because the corporate sector performed well. Quarterly mortgage and corporate returns were -0.53% and -0.45% while the government sector returned -1.75%. Yearly returns for mortgages and corporates were 11.83% and 13.32 % while governments returned 11.68%.

Within the sectors, the majority of the government assets were invested in long duration securities while the corporate and asset-backed securities had a shorter duration. For the quarter, Fidelity added value through corporate overweighting with an emphasis on bank bonds. Issuer selection, a barbelled portfolio, and an overweighting of GNMA securities in the mortgage sector also contributed to returns.

LINCOLN CAPITAL MANAGEMENT COMPANY
Investment Commentary
3/31/92

Lincoln's portfolio represents 27.2 % of the SBI's portfolio. For the year, Lincoln's portfolio returned 11.57 % versus 11.68 % for the Salomon BIG. Lincoln also underperformed the BIG for the quarter , -1.22 % verses -1.16 %. Lincoln had lower returns because they were underweighted in corporates and mortgages. Lincoln reported that additional transaction costs due to rebalancing activity also eroded returns. Lincoln added value during the year through security selection.

DURATION

Since Lincoln is an index manager, they do not add value through duration decisions. The portfolio is consistently within 0.1 year of the Salomon BIG duration.

SECTOR ALLOCATION

The following table compares sector allocations to the benchmark which is the Salomon Broad Investment Grade Index:

	March 31, 1991		March 31, 1992	
	Lincoln	**Benchmark**	**Lincoln**	**Benchmark**
Treasury/Agency	57%	54%	51%	52%
Mortgages	24	28	28	29
Corporates	10	18	10	19
Other	6	0	7	0
Cash	3	0	4	0

The above shows that Lincoln's portfolio mirrored the market . If asset-backed and corporate securities are combined, Lincoln was slightly underweighted in both corporate and mortgages for the year and the quarter. This lowered returns since the mortgage and corporate sectors had higher returns for both the quarter and year. Quarterly mortgage and corporate returns were -0.53% and -0.45% while the government sector returned a negative 1.75%. Yearly returns for mortgages and corporates were 11.83% and 13.32 % while governments returned 11.68%.

Within the corporate sector, Lincoln underweighted utilities for the quarter and year because they thought option adjusted spreads were narrow. To offset the yield disadvantage of this underweighting, Government Trust Certificates were overweighted versus other agency securities in the government sector. These certificates offer wider spreads than other agency securities. The asset-backed securities replaced the shorter duration corporates in the index.

The mortgage sector of the portfolio was overweighted in 15-year conventionals and underweighted in 30-year conventionals. The 15-year mortgages offer higher option-adjusted spreads and are less vulnerable to prepayments.

Tab H

COMMITTEE REPORT

DATE: May 26, 1992

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 Review of Alternative Investment Performance Goals

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 $430 million to fifteen (15) commingled real estate funds.

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 twenty-one (21) commingled venture capital funds for a total commitment of $538 million.

The strategy for <u>resource</u> 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 $141 million to nine (8) commingled oil and gas funds.

2) **Results of Annual Review Sessions with Existing Managers**

During March and April, the Alternative Investment Committee and staff attended annual review sessions with six of the SBI's real estate managers (Equitable, Aetna, RREEF, Heitman, AEW and TCW), two of the SBI's venture managers (First Century and Allied) and two of the SBI's resource managers (First Reserve and J.P. Morgan). Summaries of the review sessions are included as **Attachments B, through K** of this Committee Report.

Overall, the meetings went well and produced no major surprises. Generally, the performance of the real estate managers over the last two years and the resource managers over the last six months has been hampered by depressed conditions in their respective markets. On the other hand, the venture managers have experienced relative good performance and market conditions bolstered by the robust initial public offerings market.

ACTION ITEM:

1) **Review of Return Expectations for Alternative Investments.**

During the quarter, the Committee reviewed the current return expectations for alternative investments (private equity and real assets):

Private Equity

Asset Class Target:	SBI Aggregate
Return Expectation:	+ 300 b.p. over historical public equity returns to compensate for lack of liquidity. Measured over life of the investment.
Structure:	Primarily limited partnerships and commingled funds.

Real Assets

Asset Class Target:	SBI Aggregate, including Wilshire Real Estate Index
Return Expectation:	+ 300-500 b.p. over inflation rate. Measured over the life of the investment.
Structure:	Primarily limited partnerships and commingled funds.

RECOMMENDATION:

The Committee endorses the above return expectations and recommends that they be re-affirmed by the SBI.

ATTACHMENT A

SUMMARY OF ALTERNATIVE INVESTMENTS AS OF 3/31/92

	MARKET VALUE	UNFUNDED COMMITMENT	TOTALS
REAL ESTATE	$378,459,420	$70,581,312	$449,040,732
% OF BASIC FUNDS	4.40%	0.82%	5.22%
VENTURE CAPITAL	$417,751,283	$225,107,428	$642,858,711
% OF BASIC FUNDS	4.85%	2.62%	7.47%
RESOURCE	$92,601,835	$25,539,366	$118,141,201
% OF BASIC FUNDS	1.08%	0.30%	1.37%
TOTAL	$888,812,538	$321,228,106	$1,210,040,644
% OF BASIC FUNDS	10.33%	3.73%	14.06%

* Market value of Basic Retirement Fund at 3/31/92 = $8,605,164,040.42

See next page for additional detail.

The market value information for alternative investments shown in this Attachment has been revised based on updated information obtained during April and May 1992.

ATTACHMENT A (con't)

ALTERNATIVE EQUITY INVESTMENTS

	INCEPT DATE	COMMITMENT	FUNDED COMMIT	MKT VALUE OF FUNDED COMMIT	CASH DISTRIBUTIONS	UNFUNDED COMMIT	IRR	MEASUREMENT PERIOD IN YEARS
REAL ESTATE:								
AETNA	4/82	$40,000,000	$40,000,000	$55,917,055	$0	$0	3.89%	9.9 Yrs
EQUITABLE	10/81	$40,000,000	$40,000,000	$70,480,980	$0	$0	6.22%	10.4
HEITMAN I	8/84	$20,000,000	$20,000,000	$17,150,977	$11,842,633	$0	7.11%	7.6
HEITMAN II	11/85	$30,000,000	$30,000,000	$31,474,764	$10,131,030	$0	6.54%	6.4
HEITMAN III	2/87	$20,000,000	$20,000,000	$17,548,735	$4,652,748	$0	2.54%	5.2
HEITMAN V	12/91	$20,000,000	$5,000,000	$5,060,421	$0	$15,000,000	3.75%	0.3
LASALLE	9/91	$15,000,000	$3,386,142	$3,394,077	$0	$11,613,858	0.66%	0.5
PAINE WEBBER *	2/90	$500,000	$500,000	$377,650	$28,078	$0	-9.35%	2.2
RREEF	5/84	$75,000,000	$75,000,000	$67,474,741	$18,401,062	$0	2.43%	7.9
AEW III	9/85	$20,000,000	$20,000,000	$21,405,780	$0	$0	1.07%	6.6
AEW IV	9/86	$15,000,000	$15,000,000	$4,805,063	$829	$0	-19.32%	5.5
AEW V	12/87	$15,000,000	$15,000,000	$11,857,731	$65,593	$0	-5.65%	4.3
TCW III	8/85	$40,000,000	$40,000,000	$37,063,452	$10,900,073	$0	3.31%	6.7
TCW IV	11/86	$30,000,000	$30,000,000	$28,549,294	$2,399,405	$0	0.72%	5.4
ZELL	11/91	$50,000,000	$6,032,546	$5,898,700	$0	$43,967,454	-15.59%	0.5
TOTAL R.E. PORTFOLIO		**$430,500,000**	**$359,918,688**	**$378,459,420**	**$58,421,451**	**$70,581,312**		
VENTURE CAPITAL:								
ALLIED	9/85	$5,000,000	$5,000,000	$4,212,560	$2,263,455	$0	6.37%	6.5
DSV	4/85	$10,000,000	$10,000,000	$12,387,964	$0	$0	3.49%	7.0
FIRST CENTURY	12/84	$10,000,000	$8,500,000	$7,487,382	$3,757,398	$1,500,000	8.73%	7.3
BRINSON	5/88	$5,000,000	$4,968,278	$3,980,487	$1,903,534	$31,722	8.26%	3.9
BRINSON II	11/90	$20,000,000	$8,000,000	$8,151,259	$2,690,238	$12,000,000	41.49%	1.6
GOLDER THOMA	10/87	$14,000,000	$8,405,000	$11,946,184	$190,070	$5,595,000	14.99%	4.4
IAI VENTURES I *	3/91	$500,000	$493,788	$518,692	$51,101	$6,212	15.38%	1.1
IAI VENTURES II	7/90	$10,000,000	$3,430,005	$3,948,579	$304	$6,569,995	14.84%	1.7
INMAN/BOWMAN	6/85	$7,500,000	$6,750,000	$4,707,176	$0	$750,000	-8.59%	6.8
KKR I	6/84	$25,000,000	$25,000,000	$43,160,000	$58,064,954	$0	31.72%	8.0
KKR II	4/86	$18,365,339	$18,365,339	$36,880,000	$19,456,413	$0	25.59%	6.0
KKR III	11/87	$146,634,660	$134,301,723	$216,600,000	$20,107,739	$12,332,937	20.97%	4.6
KKR IV	5/91	$150,000,000	$0	$0	$0	$150,000,000	N/A	0.9
MATRIX	8/85	$10,000,000	$10,000,000	$7,050,145	$8,808,202	$0	10.83%	6.6
MATRIX II	5/90	$10,000,000	$2,875,000	$2,762,052	$1,052	$7,125,000	-3.56%	1.9
NORWEST	1/84	$10,000,000	$10,000,000	$6,557,925	$4,646,430	$0	1.94%	8.2
SUMMIT I	12/84	$10,000,000	$10,000,000	$5,439,054	$10,964,610	$0	11.26%	7.3
SUMMIT II	5/88	$30,000,000	$22,500,000	$23,773,462	$6,782,906	$7,500,000	18.74%	3.9
SUPERIOR	6/86	$6,645,000	$5,149,875	$6,590,090	$0	$1,495,125	6.85%	5.8
T ROWE PRICE	11/87	$10,035,918	$10,035,918	$4,025,422	$8,313,259	$0	42.00%	4.4
ZELL/CHILMARK	7/90	$30,000,000	$9,798,563	$7,572,850	$1,187,438	$20,201,437	-22.47%	1.7
TOTAL V.C. PORTFOLIO		**$538,680,917**	**$313,573,489**	**$417,751,283**	**$149,189,103**	**$225,107,428**		
RESOURCES:								
AMGO I	9/81	$15,000,000	$15,000,000	$4,957,132	$3,412,248	$0	-7.09%	10.5
AMGO II	2/83	$7,000,000	$7,000,000	$6,370,512	$2,277,100	$0	3.12%	9.2
AMGO IV	5/88	$12,300,000	$12,300,000	$14,905,525	$1,508,552	$0	11.15%	4.0
AMGO V	5/90	$16,800,000	$14,535,147	$14,222,236	$3,210,793	$2,264,853	13.84%	1.9
APACHE III	12/86	$30,000,000	$30,000,000	$7,889,123	$30,652,219	$0	8.74%	5.3
MORGAN O&G	8/88	$15,000,000	$11,400,000	$13,056,820	$0	$3,600,000	5.15%	3.7
B.P. ROYALTY	2/89	$25,000,000	$25,000,000	$30,875,000	$10,402,825	$0	20.71%	3.1
SIMMONS OFS	8/91	$20,000,000	$325,487	$325,487	$0	$19,674,513	0.00%	0.7
TOTAL RES. PORTFOLIO:		**$141,100,000**	**$115,560,634**	**$92,601,835**	**$51,463,737**	**$25,539,366**		
TOTAL ALT. INV. PORTFOLIO		**$1,110,280,917**	**$789,052,811**	**$888,812,538**	**$259,074,291**	**$321,228,106**		

* RECEIVED FROM POLICE & FIRE CONSOLIDATIONS

ATTACHMENT B

ANNUAL REPORT SUMMARY
FIRST CENTURY PARTNERSHIP
March 3, 1992

MANAGER REPRESENTATIVES: Michael Meyers, Sage Givens, Gary Masner

SBI ASSETS UNDER MANAGEMENT: $7,487,384

BACKGROUND AND DESCRIPTION:

First Century III was formed in December, 1984 and has a term of 10 years. This is the third fund formed by the firm since 1972. The partnership was originated by Smith Barney Venture Corp., a subsidiary of Smith Barney Harris Upham and Company. On January 1, 1992, the six general partners of the fund were spun-off from Smith Barney as an independent firm. First Century has offices in New York and San Francisco. The partnership invests primarily in early stage, high technology companies that are diversified by location and industry group.

QUALITATIVE EVALUATION:

First Century's technology focus continues to center on software companies that are developing market niches rather than capital intensive hardware strategies. Healthcare and pharmaceuticals are an important part of the fund's investment strategy and represent a major source of future performance.

To date, the partnership has liquidated 14 of the portfolio company investments. There are 29 investments remaining in the fund, having been held an average only 2 1/2 years. Several of these investments are being readied for initial public offerings, or other transactions which will provide liquidity in 1992.

Since inception, First Century III has provided the SBI with an annualized internal rate of return of 8.8%.

The fund has drawn down $8.5 million of the SBI's investment commitment of $10 million. The manager expects to be fully invested by mid-year 1992.

During 1991, the SBI received $750,000 in distributions from the fund and cumulatively, the SBI has received $3.8 million. The manager expects that over the life of the partnership, limited partners will experience a 20% compounded annual rate of return.

ATTACHMENT B (con't)

QUANTITATIVE EVALUATION: (through March 31, 1992)

COMMITMENT:	$10,000,000
FUNDED COMMITMENT:	$8,500,000
MARKET VALUE OF FUNDED COMMITMENT:	$7,487,384
CASH DISTRIBUTIONS:	$3,757,398
INCEPTION DATE(S):	Dec. 1984
INTERNAL RATE OF RETURN (IRR): (annualized, since inception)	8.8%

DIVERSIFICATION PROFILE

LOCATION	PERCENTAGE
West	47%
South	11
Midwest	15
East	17
	100%

STAGE OF DEVELOPMENT	PERCENTAGE
Early	34%
Second Stage	28
Expansion	14
Buyout	16
Other	8
	100%

INDUSTRY	PERCENTAGE
Technology	33%
Healthcare	27
Retail	32
Special Situation	8
	100%

ATTACHMENT C

ANNUAL REPORT SUMMARY
ALLIED CAPITAL
March 17, 1992

MANAGER REPRESENTATIVES: Brooks Browne, George Williams

SBI ASSETS UNDER MANAGEMENT: $4,212,560

BACKGROUND AND DESCRIPTION:

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

QUALITATIVE EVALUATION:

The Allied Venture Partnership is almost fully invested with forty-three portfolio companies. Only one more new portfolio company investment is expected.

The fund's strategy has not changed. Allied has sought to invest 80-90% of the fund in small LBO's and later stage growth financings, and 10%-20% in earlier stage investments. The general industry objective has been 50% manufacturing and 50% service/retail businesses. Geographically, 49% of the portfolio is in the Mid-Atlantic area. In addition, investments have been concentrated in debt instruments with equity potential such as loans with warrants or convertible debentures.

Fund performance to date has been disappointing due primarily to the poor Northeastern U.S. economy and greater than expected realized losses.

Since inception in September 1985, the Allied fund has experienced a 6.4% annualized internal rate of return.

Over the life of the fund, the fund manager expects the fund to experience a 10-13% annualized internal rate of return.

Two professionals joined Allied as investment associates in 1991. One senior vice president has left Allied in early 1992. Allied is currently looking to hire a senior level investment officer.

ATTACHMENT C (con't)

QUANTITATIVE EVALUATION: (through March 31, 1992)

COMMITMENT:	$5,000,000
FUNDED COMMITMENT:	$5,000,000
MARKET VALUE OF FUNDED COMMITMENT:	$4,212,560
CASH DISTRIBUTIONS	$2,263,456
INCEPTION DATE(S):	Sept. 1985
INTERNAL RATE OF RETURN (IRR): (annualized, since inception)	6.4%

DIVERSIFICATION PROFILE

LOCATION	PERCENTAGE
Mid-Atlantic	49%
Southeast	24
Other	27
	100%

STAGE OF DEVELOPMENT	PERCENTAGE
Early	12%
Late	32
Buyout	56
	100%

INDUSTRY	PERCENTAGE
Manufacturing	37%
Service	49
Retail	15
	100%

ATTACHMENT D

ANNUAL REVIEW SUMMARY
J.P. MORGAN, PETROLEUM FUND II
April 9, 1992

MANAGER REPRESENTATIVES: Bill Walker

SBI ASSETS UNDER MANAGEMENT: $13,056,820

BACKGROUND AND DESCRIPTION:

Petroleum Fund II is managed by the Morgan Petroleum Group, a division of Morgan Guaranty Trust Company and headquartered in Houston, Texas. Three professional staff members manage the investment activities of the Petroleum group.

The Fund's strategy is to have a diversified portfolio with investments ranging in size from $5 million to $20 million. The fund will invest in producing properties, devleopment and exploration of gas gathering systems and natural gas liquid plants, and royalty or mineral interests.

Most investments will be structured as overriding royalties under a leasehold interest. The overriding royalty interest is payable from gross revenues, but measured by a percentage of net lease operating income (gross revenues less certain operating costs).

QUALITATIVE EVALUATION:

The recent performance of the fund has been hindered by the continuing lag in natural gas prices. Gas prices are suffering from low consumption due to successive warm winters and the U.S. recession, resulting in an expanding gas surplus. The manager believes the long-term outlook for natural gas is positive.

Since inception, Morgan Petroleum Fund II has provided the SBI with a 5.1% annualized internal rate of return.

Despite a huge "spike" in oil prices in 1991 relating to the Persian Gulf War, oil prices remained in the $20 range for most of the year. The fund manager believes oil prices will grow in real terms during the 1990's, citing the growing world wide demand for oil and the declining production capabilities in the U.S. and the former Soviet republics. However, oil price volatility will remain high.

The Fund acquired on East Texas gas field in the latter half of 1991, which the manager believes has high in-fill drilling potential. The other seven investments are almost evenly divided between oil and gas properties. This fund also has an investment in the British Petroleum Prudoe Bay Oil Royalty Trust, which is one of the better performing resource investments in the SBI portfolio.

QUANTITATIVE EVALUATION: (through March 31, 1992)

COMMITMENT:	$15,000,000
FUNDED COMMITMENT:	$11,400,000
MARKET VALUE OF FUNDED COMMITMENT:	$13,056,820
CASH DISTRIBUTIONS:	$0
INCEPTION DATE(S):	August 1988
INTERNAL RATE OF RETURN (IRR): (annualized, since inception)	5.1%

DIVERSIFICATION PROFILE

	INVESTMENT	TYPE	
1.	Petrocorp - Austin Properties	Gas	8.6%
2.	British Petroleum - Prudhoe Bay	Oil	20.4
3.	Laredo Ranch Royalties	Gas	14.6
4.	Kaiser Francis - Wyoming	Gas	11.3
5.	Petrocorp - TMC Properties	Gas	14.2
6.	Twin Montana - Conley Field	Oil	4.7
7.	Phibro Energy - Option Series I	Oil	26.3
			100.0%

ATTACHMENT E

ANNUAL REVIEW SUMMARY
AMGO I, II, IV, & V
April 9, 1992

MANAGER REPRESENTATIVES: John Hill, Cathleen Ellsworth

SBI ASSETS UNDER MANAGEMENT: $40,455,405

BACKGROUND AND DESCRIPTION:

The general partner and manager of AMGO I, II, IV, and V is First Reserve Corp. The general partner's strategy is to create a diversified portfolio of oil and gas investments. The portfolio is diversified by location, geological structure, investment type, and operating company. AMGO I, II, IV and V were formed in July 1981, December 1982, May 1988, and May 1990 and have terms of twenty, nineteen, ten and ten years, respectively.

QUALITATIVE EVALUATION:

The oil and gas environment in 1991 saw steadily declining oil and gas prices following the end of the Persian Gulf War. This mildly deteriorating environment resulted in stable to slightly declining performance in the AMGO funds during the last year.

SBI's investment in the four funds are spread over 19 portfolio companies. Following are fund highlights:

- Funds I and II now are invested in seven of the same portfolio companies which represent in excess of 95% of the investment in each fund. Portfolio activity in 1991 was dominated by the disposal or sale of all or a portion of six investments during the year, which generated significant cash proceeds for each fund. Since inception, Funds I and II have provided the SBI with annualized internal rates of return of -7.1% and 3.0%, respectively.

- Similarly, Funds IV and V have significantly overlapping portfolios. Fund V has a higher proporionate investment in the better performing oil field services and manufacturing sector than Fund IV. Since inception, Funds IV and V have provided the SBI with annualized internal rates of return of 11.1% and 13.9%, respectively.

ATTACHMENT E (con't)

QUANTITATIVE EVALUATION: (through March 31, 1992)

	AMGO I	AMGO II	AMGO IV	AMGO V
COMMITMENT:	$15,000,000	$7,000,000	$12,300,000	$16,800,000
FUNDED COMMITMENT:	$15,000,000	$7,000,000	$12,300,000	$14,535,147
MARKET VALUE OF FUNDED COMMITMENT:	$4,957,132	$6,370,512	$14,905,525	$14,222,236
CASH DISTRIBUTIONS:	$3,412,248	$2,277,100,	$1,508,552	$3,210,793
INCEPTION DATE(S):	Sep. 1981	Feb. 1983	May 1988	May 1990
INTERNAL RATE OF RETURN (IRR): (annualized, since inception)	-7.09%	3.12%	11.15%	13.84%

DIVERSIFICATION PROFILE

INVESTMENT TYPE

Property Interests	3.42%
Loans	21.26%
Equity	67.90%
Cash	7.42%
	100.00%

INDUSTRY SECTOR

Oil & Gas Properties	20.20%
Marketing & Distributions	23.70%
Services & Manufacturing	49.00%
Cash	7.10%
	100.00%

ATTACHMENT F

ANNUAL REVIEW SUMMARY
AETNA REAL ESTATE SEPARATE ACCOUNT (RESA)
April 20, 1992

MANAGER REPRESENTATIVES: Kevin O'Conner, Dan Leary

SBI ASSETS UNDER MANAGEMENT: $55,917,055

BACKGROUND AND DESCRIPTION:

RESA is a $1.4 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:

Aetna's RESA Fund performance during 1991 was disappointing and generally reflective of the downturn in the real estate market.

Since inception, over 9.9 years, Aetna has provided the SBI with a 3.9% annualized internal rate of return.

Currently the fund has investor withdrawal requests representing 26% of fund assets. These withdrawal requests will be funded, when possible, out of excess fund cash over the next several years.

Organizationally, over the last year, Aetna has separated the real estate separate account management function from other Aetna real estate business to improve accountability and management of these distinct entities. Rod Dimock will head the real estate unit for client business and Dan Leary will be the new portfolio manager for the RESA Fund.

On 12/31/91, RESA's real estate properties were 89% leased. This compares to occupancy levels of 91% at the end of 1990.

ATTACHMENT F (con't)

QUANTITATIVE EVALUATION: (through March 31, 1992)

COMMITMENT:	$40,000,000
FUNDED COMMITMENT:	$40,000,000
MARKET VALUE OF FUNDED COMMITMENT:	$55,917,055
CASH DISTRIBUTIONS:	$0
INCEPTION DATE:	April 1982
INTERNAL RATE OF RETURN (IRR): (annualized, since inception)	3.9%

DIVERSIFICATION PROFILE

LOCATION		**PROPERTY TYPE**	
Midwest	2.0%	Office	43.0%
Northeast	19.0	Retail	15.0
Northwest	8.0	Apartments	15.0
South Central	15.0	Office R&D	12.0
South East	6.0	Industrial	9.0
West	50.0	Hotel	6.0
	100.0%		100.0%

ATTACHMENT G

ANNUAL REVIEW SUMMARY
HEITMAN FUNDS I, II III, AND V
April 20, 1992

MANAGER REPRESENTATIVES: Steve Perlmutter, Teresa Myers, Herb Kuehnle

SBI ASSETS UNDER MANAGEMENT: $71,234,897

BACKGROUND AND DESCRIPTION:

The Heitman Funds I, II, and III and V are managed by Heitman Advisory Corporation, whose primary office is in Chicago. Funds I, II, III and V were begun in August 1984, November 1985, January 1987 and July 1991, respectively. The SBI investment commitment totals $90 million for the four Funds. As of December 31, 1988, Funds I, II and III have been fully funded. Fund V, however, is currently just starting to make acquisitions. 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:

Performance in 1991 was disappointing for all three Heitman funds and generally reflects the depressed real estate market.

Since inception, Heitman Funds I (7.6 years), II (6.4 years), III (5.2 years) and V (.7 years) have provided the SBI with 7.1%, 6.6%, 2.6% and 1.2% annualized internal rates of return, respectively.

Over the last year, notable additions to Heitman's staff include two senior level professionals who will provide additional expertise in real estate research and securitization. A major departure from Heitman's staff was David Glickman who resigned to pursue other interests. David was President of Heitman Advisory and was replaced by Andy Deckas who was previously the president of Heitman Properties. Fund V, in which the SBI has an investment commitment of $20 million, has just made its first acquisition of a shopping mall. Going forward, this fund will concentrate investments in retail, industrial and apartment properties.

As of 12/31/91, the Heitman Funds I, II and III properties were 87%, 89% and 93% leased, respectively. Generally, these funds have maintained occupancy levels in excess of 90% since inception.

QUANTITATIVE EVALUATION: (Through March 31, 1992)

	HEITMAN I	HEITMAN II	HEITMAN III	HEITMAN V
COMMITMENT:	$20,000,000	$30,000,000	$20,000,000	$20,000,000
FUNDED COMMITMENT:	$20,000,000	$30,000,000	$20,000,000	$5,000,000
MARKET VALUE OF FUNDED COMMITMENT:	$17,150,977	$31,474,764	$17,548,735	$5,060,421
CASH DISTRIBUTIONS:	$11,842,636	$10,131,030	$4,652,748	$0
INCEPTION DATE:	Aug. 1984	Nov. 1985	Feb. 1987	Jul. 1991
INTERNAL RATE OF RETURN (IRR): (annualized, since inception)	7.11%	6.54%	2.54%	3.75%

DIVERSIFICATION PROFILE

LOCATION

Northeast	13.14%
Midwest	10.16
Southeast	6.92
Southwest	7.37
E.N. Central	26.66
W.N. Central	16.01
Mountain	3.13
Pacific	16.60
	100.00%

PROPERTY TYPE

Office	46.38%
Retail	31.17
Industrial	17.14
Mixed Use	6.31
	100.00%

ATTACHMENT H

ANNUAL REVIEW SUMMARY
RREEF USA FUND III
April 21, 1992

MANAGER REPRESENTATIVES: Webb Sowden, Martin Cannon

SBI ASSETS UNDER MANAGEMENT: $67,474,741

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:

Overall, 1991 performance for the RREEF USA Fund III was disappointing and generally reflects the downward trend in the real estate market.

Since inception, over 7.9 years, RREEF has provided the SBI with a 2.5% annualized internal rate of return.

The RREEF portfolio managers feel they are in a exceptionally strong and conservative position regarding the valuation of and use of leverage for portfolio properties. As of the end of 1991, RREEF valued their portfolios 7.7% less than the independent outside appraisers. In addition, RREEF USA Fund III has 0% leverage.

Organizationally, RREEF has placed a strong emphasis over the last year on its real estate research capabilities. RREEF now employs a 12 person research staff.

At the end of 1991, RREEF's portfolio properties for the USA III Fund were 90% occupied versus 91% occupied in 1990.

ATTACHMENT H (con't)

QUANTITATIVE EVALUATION: (through March 31, 1992)

COMMITMENT:	$75,000,000
FUNDED COMMITMENT:	$75,000,000
MARKET VALUE OF FUNDED COMMITMENT:	$67,474,741
CASH DISTRIBUTIONS:	$18,401,061
INCEPTION DATE:	May 1984
INTERNAL RATE OF RETURN (IRR): (annualized, since inception)	2.5%

DIVERSIFICATION PROFILE

LOCATION

East	22.0%
Midwest	13.0
South	25.0
West	40.0
	100.0

PROPERTY TYPE

Retail	54.0%
Office	27.0
Industrial	19.0
	100.0

ATTACHMENT I

ANNUAL REVIEW SUMMARY
EQUITABLE PRIME PROPERTY FUND
April 21, 1992

MANAGER REPRESENTATIVES: Mike Cassidy, David Bradford

SBI ASSETS UNDER MANAGEMENT: $70,480,980

BACKGROUND AND DESCRIPTION:

The Prime Property Fund is a $3.3 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 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:

Equitable Prime Property Funds' performance in 1991 was disappointing and generally reflective of the adverse conditions in the real estate market.

Since inception, over 10.4 years, Equitable has provided the SBI with a 6.2% annualized internal rate of return.

Strategically, the fund continues to emphasize the expansion and/or renovation of its existing portfolio of 17 super regional and 10 regional malls comprising approximately 50% of the total portfolio value.

At the end of 1991 the Equitable Prime Property Fund had investor prorata withdrawal requests of approximately $595 million or 18% of fund value. These withdrawal requests will be funded, when possible, out of excess fund cash over the next several years.

Overall, occupancy of the properties in the Prime Property Fund was 87% at 12/31/91 compared to 88% in 1990.

QUANTITATIVE EVALUATION: (through March 31, 1992)

COMMITMENT:	$40,000,000
FUNDED COMMITMENT:	$40,000,000
MARKET VALUE OF FUNDED COMMITMENT:	$70,480,980
CASH DISTRIBUTIONS:	$0
INCEPTION DATE:	October 1981
INTERNAL RATE OF RETURN (IRR): (annualized, since inception)	6.2%

DIVERSIFICATION PROFILE

LOCATION

Mideast	16.1%
Pacific	15.6
Northeast	13.2
Southeast	12.7
Southwest	12.1
W. No. Central	13.0
E. No. Central	10.8
Mountain	6.5
	100.0%

PROPERTY TYPE

Retail	51.6%
Office	33.2
Industrial	10.9
Hotel	3.8
Specialized	0.5
	100.0%

ATTACHMENT J

ANNUAL REVIEW SUMMARY
TCW FUNDS III AND IV
April 21, 1992

MANAGER REPRESENTATIVES: Bruce Ludwig

SBI ASSETS UNDER MANAGEMENT: $65,612,746

BACKGROUND 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 has 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 firms.

QUALITATIVE EVALUATION:

Performance was disappointing for the two TCW Funds in 1991 and generally reflective of the depressed real estate market.

Since inception, TCW Funds III (6.7 years) and IV (5.4 years) have provided the SBI with 3.3% and .7% annualized internal rates of return, respectively.

TCW Realty Advisor's contention is that the U.S. is not witnessing the collapse of the commercial real estate market. The country is witnessing the bottom of the real estate "bear" market. TCW believes that the U.S. is finishing the long downward leg of a "bear" market cycle and is about to enter the upward leg of a classic "bull" market real estate cycle which will characterize the 1993-1996 period. In the recovery, "bid" and "ask" price spreads for real estate will narrow and property values will generally recover throughout the nation.

Occupancy rates for TCW Funds III and IV were 86% and 93%, respectively, at 12/31/91. At 12/31/90, occupancy rates for Funds III and IV were 93% and 91%, respectively.

ATTACHMENT J (con't)

QUANTITATIVE EVALUATION: (through March 31,1992)

	TCW III	TCW IV
COMMITMENT:	**$40,000,000**	**$30,000,000**
FUNDED COMMITMENT:	**$40,000,000**	**$30,000,000**
MARKET VALUE OF FUNDED COMMITMENT:	**$37,063,452**	**$28,549,294**
CASH DISTRIBUTIONS:	**$10,900,073**	**$2,399,405**
INCEPTION DATE:	**AUG. 1985**	**NOV. 1986**
INTERNAL RATE OF RETURN (IRR): (annualized, since inception)	**3.31%**	**.72%**

DIVERSIFICATION PROFILE

LOCATION

Northeast	22.0%
Midwest	13.0
Southwest	25.0
Southeast	40.0
E.N. Central	1.0
Pacific	40.0
	100.0%

PROPERTY TYPE

Office	33.0%
Retail	14.0
R&D/Mixed Use	8.0
Industrial Whse.	45.0
	100.0%

ATTACHMENT K

ANNUAL REVIEW SUMMARY
AEW/STATE STREET FUNDS III, IV, V
April 22, 1992

MANAGER REPRESENTATIVES: Jeff Stevenson, Bob Kilroy

SBI ASSETS UNDER MANAGEMENT: $38,068,574

BACKGROUND 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 to the AEW funds. 100% of the SBI's investment commitment had been funded. Each fund has a 15 year term. The funds' specialize in 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:

Performance was disappointing for all three AEW Funds in 1991 and generally reflects the current depressed conditions in the real estate market. The AEW Funds IV and V have shown particularly poor performance due to the high debt positions of their respective portfolios.

Since inception, AEW Funds III (6.6 years), IV (5.5 years) and V (4.3 years) have provided the SBI with 1.1%, -19.3%, and -5.7% annualized internal rates of return, respectively.

In 1991, AEW Fund IV participants agreed to invest prorata an additional $14,000,000 on a pro rata basis, if necessary, to meet the Fund's potential short term liquidity needs. To date, no capital calls have been made. This is due largely to cash from operations for 1991 exceeding expectations. Going forward, the prospects for not having to draw down the full amount of additional committed capital have improved over last year.

In 1991, occupancy for Funds III, IV and V were 89%, 91% and 91%, respectively. This compares to 1990 occupancy levels of 89%, 83% and 87%, respectively.

QUANTITATIVE EVALUATION: (through March 31, 1992)

	AEW III	AEW IV	AEW V
COMMITMENT:	$20,000,000	$15,000,000	$15,000,000
FUNDED COMMITMENT:	$20,000,000	$15,000,000	$15,000,000
MARKET VALUE OF FUNDED COMMITMENT:	$21,405,780	$4,805,063	$11,857,731
CASH DISTRIBUTIONS:	$0	$829	$65,593
INCEPTION DATE:	Sept. 1985	Sept. 1986	Dec. 1987
INTERNAL RATE OF RETURN (IRR): (annualized, since inception)	1.1%	-19.3%	-5.7%

DIVERSIFICATION PROFILE

LOCATION

Northeast	13.0%
Southeast	6.0
Mideast	8.0
East N. Central	4.0
West N. Central	12.0
Southwest	12.0
Pacific	45.0
	100.0%

PROPERTY TYPE

Office	20.0%
Retail	51.0
Industrial	25.0
Residential	4.0
	100.0%