MINNESOTA STATE BOARD OF INVESTMENT

Governor Rudy Perpich

State Auditor Arne H. Carlson

State Treasurer Michael A. McGrath

Secretary of State Joan Anderson Growe

Attorney General Hubert H. Humphrey III

MINNESOTA STATE BOARD OF INVESTMENT MEETING
December 7, 1988

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INVESTMENT ADVISORY COUNCIL MEETING
December 6, 1988

MINNESOTA STATE BOARD OF INVESTMENT MEETING

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INVESTMENT ADVISORY COUNCIL MEETING

December 6, 1988

AGENDA

STATE BOARD OF INVESTMENT MEETING

Wednesday, December 7, 1988
8:30 A.M.
Room 15 - State Capitol
Saint Paul

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1. Approval of Minutes of September 19, 1988	
2. Report on Escheated Property (M. McGrath)	
3. Executive Director's Report (H. Bicker)	
A. Quarterly Investment Review (July 1-September 30, 1988)	A
1. Basic Retirement Funds	
2. Post Retirement Fund and Other Investment Funds	
B. Portfolio Statistics (September 30, 1988)	B
C. Administrative Report	C
1. Budget and Travel Reports	
2. Board Meeting Schedule for Calendar 1989	
3. 1989 Post Fund Benefit Increase	
4. Status Report on Investment Conference	
5. 1988 Annual Report Draft	
4. Report from the SBI Administrative Committee (M. McGrath)	D
5. Review of Fund Objectives (H. Bicker)	
A. Basic Retirement Funds	
B. Post Retirement Fund	
6. Reports from Investment Advisory Council Committees (J. Yeomans)	
A. Equity Manager Committee	E
1. Investment Manager Guidelines	
2. Equity Asset Class Target	
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4. Equity Manager Selection Recommendation (Laid over from September meeting 1988)	
B. Fixed Income Manager Committee	F
1. GIC Bid Review	
2. Index Fund Manager Performance	
3. Active Manager Performance	
4. Dedicated Bond Portfolio Software Vendor Review	
C. Alternative Investment Committee	G
1. Venture Capital Fund Manager Annual Reviews	
2. Commitment to New Resource Fund Manager	

MEMBERS OF THE BOARD:
GOVERNOR RUDY PERPICH
STATE AUDITOR ARNE H CARLSON
STATE TREASURER MICHAEL A McGRATH
SECRETARY OF STATE JOAN ANDERSON GROWE
ATTORNEY GENERAL HUBERT H HUMPHREY III

EXECUTIVE DIRECTOR
HOWARD J. BICKER

STATE OF MINNESOTA
STATE BOARD OF INVESTMENT
Room 105, MEA Building
55 Sherburne Avenue
St Paul, MN 55155
Tel (612) 296-3328
FAX (612) 296-9572

MINUTES

STATE BOARD OF INVESTMENT

September 19, 1988

The State Board of Investment (SBI) met on Thursday, September 19, 1988 in Room 120 of the State Capitol at 8:40 A.M. Governor Rudy Perpich, Chair, Secretary of State Joan Anderson Growe, State Treasurer Michael A. McGrath, State Auditor Arne H. Carlson, and Attorney General Hubert H. Humphrey, III, were present.

The minutes of the June 9, 1988 meeting were unanimously approved.

ESCHEATED PROPERTY

Mr. McGrath stated that his office is in the process of disposing of escheated property in accordance with Board action at the June 9, 1988 meeting. He stated that he would make a status report at the December Board meeting.

EXECUTIVE DIRECTOR'S REPORT

Howard Bicker, Executive Director, stated that the Basic Retirement Funds increased in value by 5.4% during the second quarter of 1988. He stated that the increase was attributable to the rise in the common stock market during the period. Mr. Bicker stated that the Board received a positive cash flow in the Basic Retirement Funds of $40 million. He stated that the actual asset mix of the Basic Retirement Funds changed slightly during the quarter, with the previous underweighting of common stocks being corrected somewhat due to market movements.

Mr. Bicker then reviewed performance of the Basic Funds over the last five fiscal years (see Exhibit A). Mr. Bicker said that the Basic Funds have a larger than average common stock exposure, so that during years when the common stock market performs poorly, the SBI would expect the Basic Funds to underperform the median balanced fund, and in years when the stock market has a positive performance, the SBI would expect the Basic Funds to outperform the median balanced fund. He stated in fiscal year 1984 the Basic Funds underperformed the median balanced fund in the Wilshire Associates Trust Universe Comparison Service (TUCS) for two reasons: a weak common stock market and the transition from internal to external investment management. He said in fiscal years 1985, 1986 and 1987 the Basic Funds outperformed the median fund. In fiscal year 1988, the Basic Funds underperformed the median fund, due to the sharp drop in the stock market during October 1987. Mr. Bicker stated that, overall, the Basic Funds are performing as expected, given their long term asset allocation policy.

In response to a question from Mr. McGrath, Mr. Bicker stated that the Post Retirement Fund is a yield oriented fund designed to generate sufficient cash flow to pay initially promised benefits to retirees and to pay benefit increases. He stated that the management of the Post Fund is totally different from the management of the Basic Retirement Funds; i.e., the Basic Funds are oriented to total rate of return while the Post Fund is yield oriented. In response to another question from Mr. McGrath, Mr. Bicker stated that the Basic Funds are compared with other private and public funds that are invested in balanced portfolios (i.e., has a mix of equities and fixed income securities).

Mr. Bicker stated that the stock segment of the Basic Retirement Funds outperformed the market during the second quarter 1988 and for the year ending June 30, 1988. He stated that the bond segment underperformed the market for the quarter and essentially tracked the market for the latest year.

Mr. Bicker then summarized the performance of the Post Retirement Fund. He stated that the value of the Post Fund increased by 1.6 percent for the quarter. He reported that because the "Rule of 85" has now expired, the Post Retirement Fund is beginning to experience negative net cash flow. He stated that the asset mix for the Post shows a somewhat larger than normal cash segment due to a rebalancing of the dedicated bond portfolio which will take place over the next quarter. Mr. Bicker reported that over the last five years benefit increases generated by the Post Fund have averaged eight percent on an annualized basis. He said that the benefit increase to be granted January 1, 1989 is estimated to be between six percent and six and one-half percent. The final number will not be calculated until actuarial data is received in November, 1988.

Mr. Bicker stated that as of June 30, 1988 all assets under management by the State Board of Investment totalled $12.9 billion.

Mr. Bicker closed his report with reference to the quarterly budget and travel report in the materials in the Board folder.

REPORT FROM THE BOARD'S CONSULTANT

Mr. Tom Richards, Richards and Tierney, Inc., explained that he had been asked to analyze the increase in the value of the Basic Retirement Funds. He stated that the analysis he had done was intended to explain why the Basic Funds increased in value from $3.129 billion on December 31, 1983 to $5.224 billion on June 30, 1988, a four and one-half year period.

Mr. Richards stated that the Board's asset allocation policy for the Basic Funds added $977 million more than a policy that would have simply protected the purchasing power of the assets by investing in short term Treasuries. He said investment in the Basic Funds' exact policy weights would have provided the Funds with a 13.44 percent rate of return over the period studied. Mr. Richards stated that the Board's policy to use active management, chosen in an effort to generate returns greater than those available from passive management, cost the Basic Funds $15 million over the four and one-half year period. He said this lowered the overall return by 13 basis points to 13.31 percent on an annualized basis. He stated that the equity managers in place today made a positive contribution of $31.6 million and the managers who have been terminated over the life of the active external manager program made a negative contribution of $52.7 million.

In response to a question from Mr. Carlson, Mr. Richards explained that his study was based on the investment policies as they were during the period studied and incorporated changes as they occurred. In response to another question from Mr. Carlson, Mr. Richards stated that he did not evaluate the Board's asset allocation decision as part of the study he just presented. He said hindsight would lead to the conclusion that the Board should have been 100 percent allocated to equities during this period because equities clearly outperformed all other assets. However, Mr. Richards said, the Board must make its allocation decision under uncertainty. He stated that the Board adopted the current allocation policy because of the amount of risk associated with it. He said he had contributed to the development and review of the policy and he stated he felt it was sound.

SBI ADMINISTRATIVE COMMITTEE REPORT

Mr. McGrath stated that the SBI Administrative Committee met twice since the last Board meeting. He stated that the first action item was to approve the 1990-1991 legislative budget request. Mr. McGrath then moved approval of the 1990-1991 legislative budget request as presented in the Committee report with further discussion of the capital portion of the budget reserved for the Administrative Committee. The motion was seconded by Secretary of State Growe. The motion was unanimously approved.

Mr. McGrath stated the Committee discussed the 1989-1991 management budget plan, reviewed a report from Mr. Richards showing the dollars earned from fees paid to active and passive stock managers during the 1984 to 1987 period, and discussed the Northern Ireland legislation passed by the 1988 Legislature. Concerning the Northern Ireland legislation, he stated the Attorney General provided the Committee with advice that the Legislature acted within its authority and the Board must implement the legislation as it was adopted. Mr. McGrath then stated that the Committee referred the broad issue of social investing to the Proxy Committee for study.

Mr. McGrath stated that the last item in the report concerns a request to establish a procedure for evaluating the Executive Director. He moved to authorize the Chair of the Administrative Committee to appoint a subcommittee of the Administrative Committee to conduct a performance appraisal of the Executive Director before the end of the calendar year 1988. Mr. Humphrey seconded the motion for discussion. Mr. Carlson stated that a separate subcommittee is not necessary and that it is the responsibility of each Board member to evaluate the Executive Director. In response to a question from Governor Perpich, Mr. Bicker said he did not believe a standard evaluation procedure or form was available from a national association of public funds. Ms. Growe stated she agreed with Mr. Carlson that it is the Board's responsibility to do the evaluation and she did not support an evaluation by the SBI Administrative Committee. Ms. Growe then asked Mr. Richards whether a standard method to evaluate directors of investment boards or pension plans was available. Mr. Richards stated that he would make available to the Board whatever he could find from both the public and private sectors. Mr. McGrath then withdrew his motion. Ms. Growe moved that each Board member evaluate the Executive Director, on a form Mr. Richards will help provide, by the December Board meeting. The motion was seconded by Mr. McGrath. The motion passed unanimously.

REPORT FROM THE MASTER CUSTODIAN REVIEW COMMITTEE

Mr. Peter Sausen, Assistant Commissioner of Finance and Chair of the Master Custodian Review Committee, presented the Committee's report to the Board. Mr. Sausen stated that the charge to the Committee was to determine whether the current custodian, State Street Bank and Trust Company, Boston, is providing adequate service and whether its services are state-of-the-art. He stated that the Committee determined that it was the best process to send out a request for proposal (RFP) to banks that would be interested in providing the services. He stated that the Committee received 10 responses, including one from State Street Bank. He stated that the Committee reviewed each response to determine whether the quality of services offered by any other bank was better than those offered by State Street. He said that the Committee then reviewed associated costs for these services. He stated that based on these reviews the Committee concluded that State Street offered state-of-the-art services at the lowest cost. He said the Committee recommended State Street be retained for a three year period as the SBI's Master Custodian. Mr. McGrath then moved that the report of the Review Committee be adopted. The motion passed unanimously.

INVESTMENT ADVISORY COUNCIL COMMITTEE REPORTS

EQUITY MANAGER COMMITTEE

Ms. Jan Yeomans reported that the Equity Committee considered three items during the quarter. First, she stated that the Committee reviewed existing active equity managers and recommended Fred Alger be continued on probation for quantitative reasons. Second, she stated that the Committee reviewed the equity manager selection process that had been developed by staff and concluded that the process was sound and should be used to evaluate various types of active equity managers in the future.

Finally, she stated that the Committee reviewed the Equity Manager Selection Committee's recommendation for hiring new active "value" equity managers. She reported that staff began with a list of 59 candidates, interviewed each, and selected four semi-finalists for further consideration by the Selection Committee. She stated that the Selection Committee interviewed each semi-finalist in person in St. Paul. Ms. Yeomans said that the Equity Committee of the IAC believed that each of the four candidates, (Concord Capital, Franklin Portfolio Associates, Rosenberg Equity, and Sasco Capital) would bring something unique to the Board. As a result, she reported that the Equity Committee accepted the report of the Selection Committee and recommended the retention of all four managers to the IAC. She stated that the full IAC recommended that the Board retain the four managers and that each be given a portfolio of $100 million funded from the Index Fund. She further stated that if the recommendation were implemented, the passive component of the stock segment of the Basic Funds would be reduced from 72 percent to 64 percent. Ms. Yeomans said each of these managers, being value managers, would serve to diversify the current group of active equity managers retained by the Board.

Mr. McGrath moved that the Board adopt the report of the Equity Manager Selection Committee. Mr. Humphrey seconded the motion for discussion purposes. Mr. Carlson stated that he disagreed with the motion and stated that he preferred that the Board determine 1) whether it should increase the number of active managers, and 2) if so, whether it wants to be more flexible and move faster to change asset allocation and to hire and fire managers. He said he felt the Board was being asked to accept a staff decision without Board participation. Ms. Growe stated the staff and Investment Advisory Council did what the Board requested of them, i.e., to provide a list of managers that could be hired as replacements or additions to the current group. She said all Board members participated in the selection process through the appointment of a designee to the Selection Committee.

In response to a question from Ms. Growe, Mr. Bicker stated that the asset allocation of the Basic Funds was reviewed very recently as part of a lengthy policy paper. Ms. Growe then stated that she believed it was time for the Board to review the results of current policies and to gauge future consequences of maintaining and changing those policies. Mr. Carlson stated he would support Ms. Growe's suggestion to review Board investment policies. Mr. McGrath stated that he believed the policy decisions made by the Board were correct and stated that the Board would lose three or six months if it did not hire the managers at this time.

After further discussion, Mr. Carlson moved that the hiring of the four managers be laid over until December and that staff and the consultant be directed to perform a review of the goals and objectives of the Basic Retirement Funds. Ms. Growe asked to divide the motion. Mr. Carlson then moved to direct staff and the consultant to review investment policies of the Basic Retirement Funds at the December meeting. Ms. Growe seconded the motion.

Mr. Perpich asked Mr. Triplett to comment on the discussion. Mr. Triplett stated that he is comfortable with the advice the Board is receiving from the IAC and the consultant. He said that he accepts their explanation that there is a gap in the composition of the current equity manager group. He stated that the current group of managers lacks value managers and that the hiring of the four recommended managers would fill that deficiency. He then stated that he believed a review of the Board's investment policies as articulated by the Secretary of State and the State Auditor would be a good idea. Mr. Humphrey commented that if the Board were to review its investment policies at the December meeting, then the hiring of the four managers ought to be tabled for three months. In response to a question from Ms. Growe, Mr. Richards stated that if the Board decided to move entirely to passive management after reviewing the Basic Funds' policies, all active managers would be terminated. He commented that the hiring of the four managers at the present time with the possibility of terminating all active managers in three months would be unproductive.

Governor Perpich called for a vote on the motion to retain the four managers. The motion failed. (Aye: McGrath; Nay: Growe, Carlson, Humphrey,Perpich). Governor Perpich called for a vote on the motion to review the policies of the Basic Retirement Funds at the December meeting. The motion passed unanimously.

FIXED INCOME MANAGER COMMITTEE

Ms. Yeomans stated that the Committee considered four items. First, she stated that the Committee first reviewed implementation of the bond index fund. She said that the two new managers, Lincoln Capital and Fidelity, each received approximately $292 million so that the fixed income component of the Basic Funds was now invested about 50 percent passively and 50 percent actively. Second, Ms. Yeomans stated that the Committee reviewed the existing fixed income managers and recommended that 1) Lehman Management be left on probation for quantitative reasons, and 2) Morgan Stanley be maintained on probation for qualitative reasons. Third, she reported that the Committee will review the dedicated bond portfolio software vendor during the next quarter. She stated that the Board has purchased software services from the same vendor, Bankers Trust of New York, for the past four years, and it was appropriate to survey the software alternatives and to review the dedicated bond portfolio methodology in general. She stated the Committee expected to request Board action on this matter at the meeting in December. Finally, Ms. Yeomans reported that the Committee considered an amendment to the contract with BEA Associates, the Board's enhanced cash manager. She said the Committee recommends the Board authorize the Executive Director, with assistance from SBI legal counsel, to negotiate and execute contract amendments with BEA Associates to delete reference to individual investment strategies and with Bankers Trust for the associated custody arrangements. Mr. Carlson moved approval. The motion was adopted unanimously.

ALTERNATIVE INVESTMENT COMMITTEE

Ms. Yeomans stated the Alternative Investment Committee had only informational items and requested no action. She stated that the Committee met with and reviewed five managers during the quarter: one venture capital manager, three open-end real estate managers, and one oil and gas manager. She stated that manager activity and results appear to be as expected.

The meeting adjourned at 9:45 A.M.

Respectfully submitted,

Howard Bicker
Executive Director

Attachment

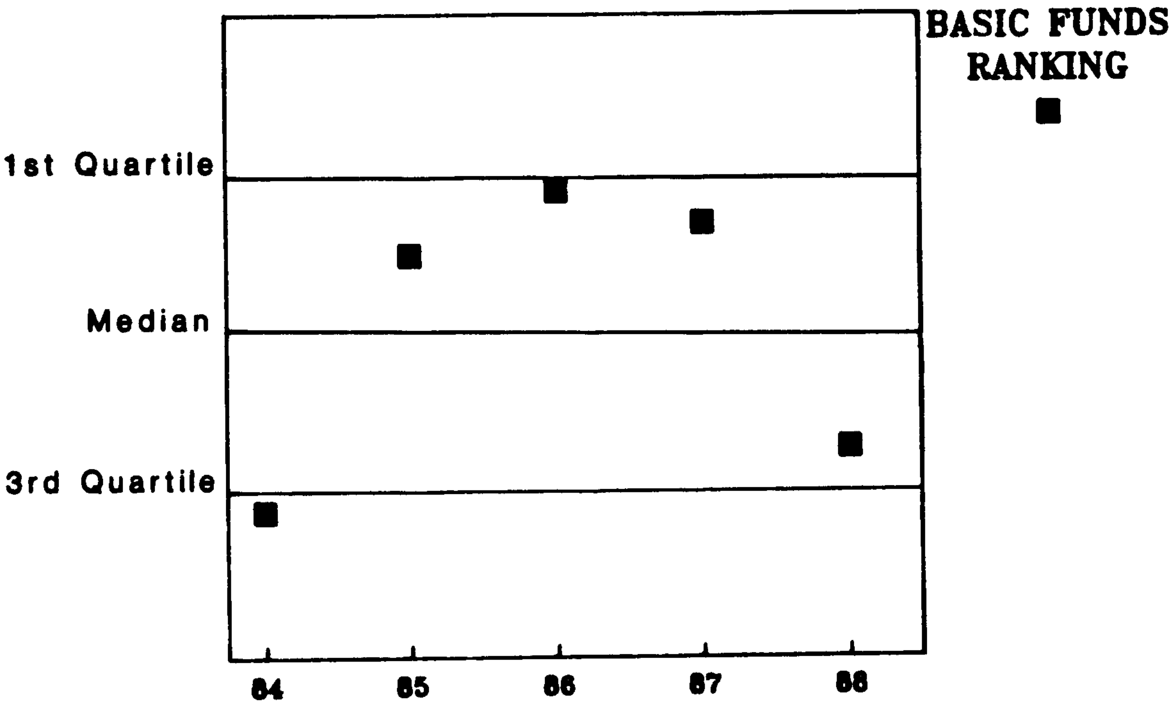
EXHIBIT A

BASIC FUNDS PERFORMANCE

Total Fund

vs.

Public and Private Funds



	Fiscal Year				
	1984	1985	1986	1987	1988
Basic Funds Returns*	-6.4%	28.4%	28.9%	15.8%	-0.8%
TUCS**					
1st Quartile	1.3	30.3	29.6	16.7	4.2
Median	-2.0	26.4	25.2	13.5	1.1
3rd Quartile	-5.5	22.6	21.7	10.1	-1.6

* Basic Funds returns without alternative investments

** Trust Universe Comparison Service (TUCS) contains returns from more than 800 tax-exempt public and private investors

Source: Trust Universe Comparison Service

AGENDA

INVESTMENT ADVISORY COUNCIL
MEETING

Tuesday, December 6, 1988
2:00 P.M.
MEA Building - Conference Room "A"
Saint Paul

		TAB
1.	Approval of Minutes of September 16, 1988	
2.	Executive Director's Report (H. Bicker)	
	A. Quarterly Investment Review (July 1-September 30, 1988)	A
	1. Basic Retirement Funds	
	2. Post Retirement Fund and Other Investment Funds	
	B. Portfolio Statistics (September 30, 1988)	B
	C. Administrative Report	C
	1. Budget and Travel Reports	
	2. IAC Meeting Schedule for Calendar 1989	
	3. 1989 Post Fund Benefit Increase	
	4. Status Report on Investment Conference	
	5. 1988 Annual Report Draft	
3.	Report from the SBI Administrative Committee (T. Triplett)	D
4.	Review of Fund Objectives (H. Bicker)	
	A. Basic Retirement Funds	
	B. Post Retirement Fund	
5.	Reports from Investment Advisory Council Committees	
	A. Equity Manager Committee (D. Veverka)	E
	1. Investment Manager Guidelines	
	2. Equity Asset Class Target	
	3. Active Manager Performance	
	4. Equity Manager Selection Recommendation (Laid over from September 1988 meeting)	
	B. Fixed Income Manager Committee (G. Norstrem)	F
	1. GIC Bid Review	
	2. Index Fund Manager Performance	
	3. Active Manager Performance	
	4. Dedicated Bond Portfolio Software Vendor Review	
	C. Alternative Investment Committee (K. Gudorf)	G
	1. Venture Capital Fund Manager Annual Reviews	
	2. Commitment to New Resource Fund Manager	

MEMBERS OF THE BOARD:
GOVERNOR RUDY PERPICH
STATE AUDITOR ARNE H CARLSON
STATE TREASURER MICHAEL A McGRATH
SECRETARY OF STATE JOAN ANDERSON GROWE
ATTORNEY GENERAL HUBERT H HUMPHREY III

EXECUTIVE DIRECTOR
HOWARD J. BICKER

STATE OF MINNESOTA
STATE BOARD OF INVESTMENT
Room 105, MEA Building
55 Sherburne Avenue
St Paul, MN 55155
Tel (612) 296-3328
FAX. (612) 296-9572

MINUTES

INVESTMENT ADVISORY COUNCIL

September 16, 1988

The Investment Advisory Council met on Friday, September 16, 1988 at 2:00 P.M. in the MEA Building, St. Paul, MN.

MEMBERS PRESENT:

Harry Adams, James Bohan, James Eckmann, Elton Erdahl, Paul Groschen, Ken Gudorf, Jim Hacking, David Jeffery, Malcolm McDonald, Judy Mares, Gary Norstrem, Tom Triplett, Ray Vecellio, Debbie Veverka, and Jan Yeomans.

MEMBERS ABSENT:

Vern Jackels, and Joe Rukavina.

SBI STAFF:

Howard Bicker, Beth Lehman, Jim Heidelberg, Harriet Balian, and Charlene Olson.

OTHERS ATTENDING:

Shane Allers, Gary Austin, Christie Eller, Joan Anderson Growe, Jake Manahan, Tom Richards, and Peter Sausen.

The minutes of the June 7, 1988 meeting were approved.

Mr. Bicker introduced the two new members of the Investment Advisory Council, John Bohan and David Jeffery.

EXECUTIVE DIRECTOR'S REPORT

Howard Bicker, Executive Director, stated that the Basic Retirement Funds increased in value by 5.4% during the second quarter of 1988. He stated that the increase was attributable to the rise in the common stock market during the period. Mr. Bicker stated that the Board received a positive cash flow in the Basic Retirement Funds of $40 million. He stated that the asset allocation for the Basic Retirement Funds changed slightly during the quarter, with the previous underweighting of common stocks being corrected somewhat due to market movements.

Mr. Bicker then reviewed performance of the Basic Funds over the last five fiscal years (see Exhibit A). He said that the Basic Funds have a larger than average common stock exposure, so that during years when the common stock market performs poorly, the SBI would expect the Basic Funds to underperform the median balanced fund, and in years when the stock market has a positive performance, the SBI would expect the Basic Funds to outperform the median balanced fund. He stated that in fiscal year 1984 the Basic Funds underperformed the median balanced fund in the Wilshire Associates Trust Universe Comparison Service (TUCS) for two reasons: a weak common stock market and the transition from internal to external management. He said in fiscal years 1985, 1986 and 1987 the Basic Funds outperformed the median fund. In fiscal year 1988, the Basic Funds underperformed the median fund, due to the sharp drop in the stock market during October 1987. Mr. Bicker stated that, overall, the Basic Funds are performing as expected, given their long term asset allocation policy.

Mr. Bicker then summarized the performance of the Post Retirement Fund. He stated that the value of the Post Fund increased by 1.6 percent for the quarter. He reported that because the "Rule of 85" has now expired, the Post Retirement Fund is beginning to experience negative cash flow. He stated that the asset mix for the Post shows a somewhat larger than normal cash segment due to a rebalancing of the dedicated bond portfolio which is taking place over the next quarter. Mr. Bicker reported that over the last five years benefit increases generated by the Post Fund have averaged eight percent on an annualized basis. He said that the benefit increase to be granted January 1, 1989 is estimated to be between six percent and six and one-half percent. The final number will not be calculated until actuarial data is received in November, 1988.

Mr. Bicker stated that as of June 30, 1988 all assets under management by the State Board of Investment totalled $12.9 billion.

Mr. Bicker closed his report with reference to the quarterly budget and travel report in the materials in the Board folder.

REPORT FROM THE BOARD'S CONSULTANT

Mr. Tom Richards of the firm Richards and Tierney, introduced himself and explained that he had been asked to do a performance analysis of the increase in the value of the Basic Retirement Funds. He stated that the analysis he had done was intended to explain why the Basic Funds increased in value from $3.129 billion on December 31, 1983 to $5.224 billion on June 30, 1988.

Mr. Richards explained that the Board's chosen investment policy to expose the Basic Funds to capital market risk added $977 million more than a policy that would have simply protected the purchasing power of the assets. The more aggressive investment policy provided the funds a 13.44 percent rate of return over the time period studied. Mr. Richards stated that the Board's investment policy to use active management, chosen in an effort to generate returns greater than those available from passive management, cost the Basic Funds $15 million and lowered the overall return by 13 basis points. In response to a question from Mr. Bohan, Mr. Richards stated that the $15 million figure does include the impact of management fees. In response to another question from Mr. Bohan, Mr. Richards stated that the analysis was based on a specific percentage commitment which was rebalanced monthly. Mr. Richards stated the equity managers in place today made a positive contribution of $31.6 million and the managers who have been terminated made a negative contribution of $52.7 million. In response to a question from Mr. Gudorf, Mr. Bicker stated that the Board has a permanent allocation of three percent to cash. In response to a question by Judy Mares, Mr. Richards stated that a share of the negative $52.7 million may have occurred early in the time period when several managers were terminated. In reply to a question from Joan Growe concerning asset allocation policy, Mr. Bicker stated that it is reviewed on a periodic basis. In response to another question from Ms. Growe, Jan Yeomans stated that the heavy losses were sustained early on. She said the IAC would be concerned if the losses were increasing rather than decreasing. Ms. Growe stated that she feels it is important for the Board to know the matter of active management was discussed at this meeting. She said she had listened to the comments made during the meeting and had concluded that the IAC felt there was no particular cause for concern about any of the information Mr. Richards was presenting regarding active management. Several members of the IAC indicated they agreed with her assessment and Tom Triplett suggested this analysis should be shared with Board members. Mr. Richards commented that the Board should be proud of what has been accomplished with the Basic Funds' investment program.

ADMINISTRATIVE COMMITTEE REPORT

Mr. Triplett requested that all members of the IAC receive copies of the minutes of the Administrative Committee meetings in the future. Mr. Bicker indicated this would be done.

Mr. Triplett reported that the Committee discussed the 1989-1991 management budget plan, and reviewed a report from Richards & Tierney showing the dollars earned from fees paid to active and passive stock managers during the 1984 to 1987 period. Mr. Triplett stated that the Committee discussed the Northern Ireland legislation passed by the 1988 Legislature. He stated that in response to a request made by Auditor Carlson, the Attorney General provided the Committee with advice that the Legislature acted within its authority and the Board must implement the legislation as it was adopted. Mr. Triplett also stated that the Committee referred the broad issue of social investing to the Proxy Committee for further study. Mr. Triplett stated that the Committee did not have anything definitive to report in the area of personnel but said the Committee discussed the need for a periodic performance appraisal for the Executive Director.

MASTER CUSTODIAN REVIEW COMMITTEE REPORT

Mr. Peter Sausen, Assistant Commissioner of Finance and Chair of the Master Custodian Review Committee, presented the Committee's report. Mr. Sausen stated that the charge of the Committee from the Board was to determine whether the current custodian, State Street Bank and Trust Company, Boston, is providing adequate service and whether its services are state-of-the-art. He stated that the Committee determined that it was the best process to send out a request for proposal (RFP) to banks that would be interested in providing the services. He stated that the Committee received 10 responses, including one from State Street. He stated that the Committee reviewed the services that would be provided by each to determine whether the quality of services offered by any other bank was better than the quality offered by State Street. He stated that the Committee then reviewed cost. He then stated that based on these reviews the Committee concluded that State Street offered state-of-the-art services and was the lowest cost bidder, and that the Committee recommended State Street be retained as Master Custodian. Mr. Groschen moved that State Street Bank and Trust be retained as the Board's Master Custodian for a period of three years. Mr. McDonald seconded the motion. The motion passed unanimously.

INVESTMENT ADVISORY COUNCIL COMMITTEE REPORTS

EQUITY MANAGER COMMITTEE

Ms. Debbie Veverka presented the report of the Equity Committee. She stated that the Committee considered three items during the quarter. She stated that the Committee first reviewed existing active equity managers and recommended Fred Alger be continued on probation for both qualitative and quantitative reasons. She stated that the Committee then reviewed the equity manager selection process that had been devised by staff and concluded that the process was sound and could be used to evaluate various types of equity managers in the future. She stated that the Committee also reviewed the Equity Manager Selection Committee's recommendation for hiring new active equity managers. She stated that staff began with a list of 59 candidates, interviewed each in detail, and selected four semi-finalists. She stated that the Selection Committee then reviewed each semi-finalist in person in St. Paul. Ms. Veverka then stated that the Equity Committee believed that each of the four candidates would bring something unique to the Board and recommended the selection of all four to the IAC. She said the Committee recommended that each be given a portfolio of $100 million funded from the Index Fund. She further stated that if the recommendation were implemented, the passive component of the equity portion of the Basic Funds would be reduced from 72 percent to 64 percent and that each of these managers, being value managers, would serve to diversify the current collection of managers. Gary Norstrem moved approval of the four managers: Concord Capital Management, Franklin Portfolio Associates Trust, Rosenberg Institutional Equity Management, and Sasco Capital, Incorporated. Mr. Harry Adams seconded the motion. The motion was unanimously approved.

FIXED INCOME MANAGER COMMITTEE

Gary Norstrem presented the report from the Fixed Income Manager Committee. He stated that the Committee considered four items. Mr. Norstrem stated that the Committee first reviewed the bond index fund implementation. He reported that two new bond managers, Lincoln Capital and Fidelity Management, each received approximately $292 million so that the fixed income component of the Basic Funds is now invested about 50 percent passively and 50 percent actively. He reported that the Committee reviewed the Value of Active Management Reports for each manager. He stated that Miller, Anderson, Sherrerd and Western Asset Management outperformed their benchmarks for the quarter ending June 30, 1988, while IAI, Lehman Management, and Morgan Stanley underperformed. The Committee recommended that Lehman be maintained on probation for quantitative reasons and Morgan Stanley be maintained on probation for qualitative reasons.

Mr. Norstrem stated that the third matter considered by the Committee was the upcoming review of the dedicated bond portfolio software vendor. He stated that the Board has purchased software from the same vendor, Bankers Trust of New York, for the past four years, and it was appropriate to survey the software alternatives. Mr. Norstrem then stated that the fourth item considered by the Committee was the contract with BEA Associates which provides direction to BEA Associates as an enhanced cash manager. He stated that the Committee's recommendation is that a new contract be negotiated with BEA in order to eliminate the restrictions under which the firm currently operates. Jim Eckmann moved approval of the Committee Report. The motion was adopted unanimously.

ALTERNATIVE INVESTMENT COMMITTEE

Malcolm McDonald presented the report of the Alternative Investment Committee in the absence of Ken Gudorf. He stated that the Committee had only informational items and requested no action. Mr. McDonald stated that 15 percent of the Basic Retirement Funds is allocated to alternative investments with 10 percent to real estate and 5 percent to venture capital and resource investments. He also stated that the Committee reviewed Kohlberg, Kravis and Roberts (KKR), a venture capital manager; three open-end real estate managers, including Aetna, Equitable and Prudential; and Apache, an oil and gas manager. He reported that a comprehensive review of the real estate portfolio is currently being conducted by Laventhol and Horwath, the Board's special project real estate consultant. Mr. Triplett moved adoption of the report of the Alternative Investment Committee.

The meeting adjourned at 3:25 P.M.

Respectfully submitted,

Howard J. Bicker
Executive Director

Attachment

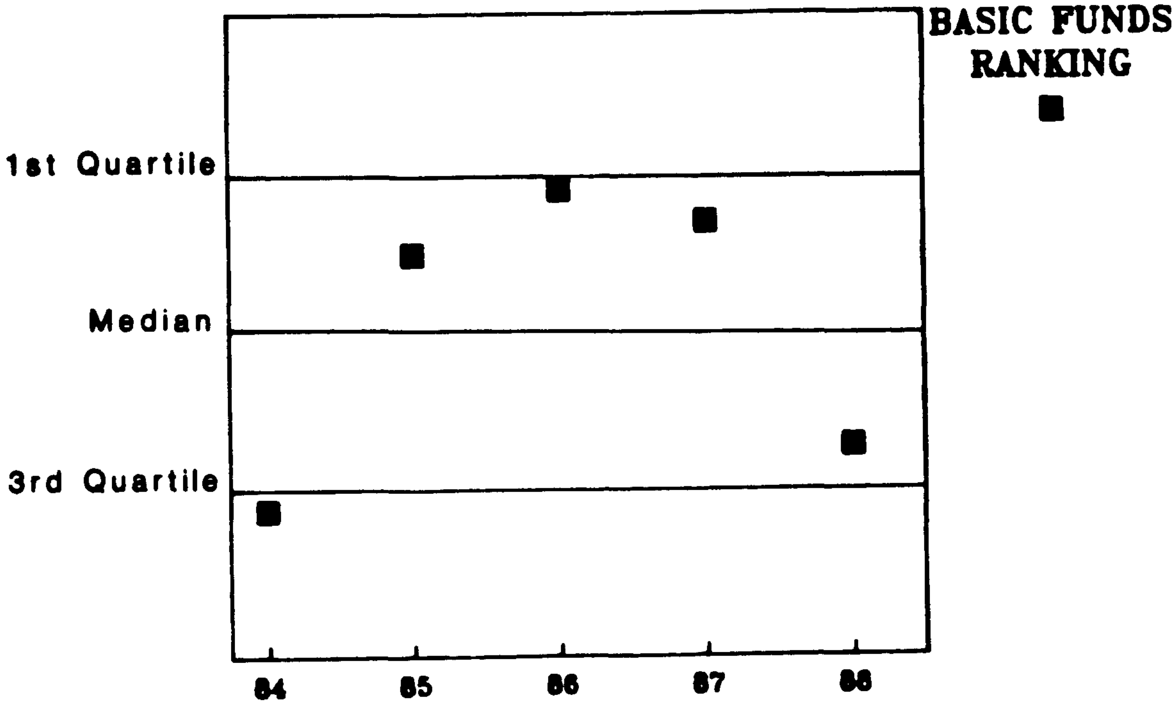
EXHIBIT A

BASIC FUNDS PERFORMANCE

Total Fund

vs.

Public and Private Funds



	Fiscal Year				
	1984	1985	1986	1987	1988
Basic Funds Returns*	-6.4%	28.4%	28.9%	15.8%	-0.8%
TUCS**					
1st Quartile	1.3	30.3	29.6	16.7	4.2
Median	-2.0	26.4	25.2	13.5	1.1
3rd Quartile	-5.5	22.6	21.7	10.1	-1.6

* Basic Funds returns without alternative investments

** Trust Universe Comparison Service (TUCS) contains returns from more than 800 tax-exempt public and private investors

Source: Trust Universe Comparison Service

Tab A

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

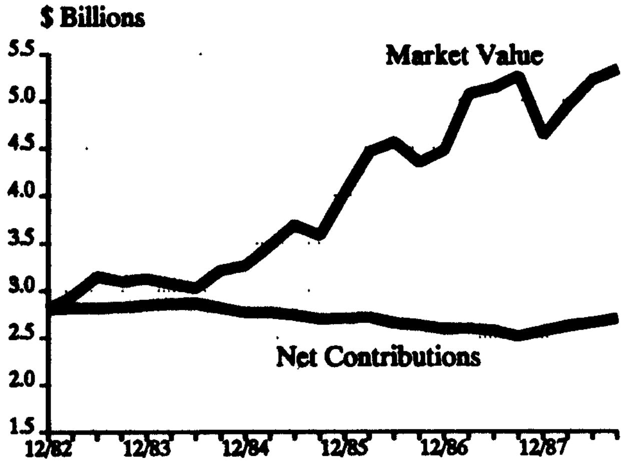
Additional detail on these funds as well as information on other funds managed by the Board can be found in the body of the Quarterly Investment Report.

EXECUTIVE SUMMARY

Basic Retirement Funds

Asset Growth

The market value of the Basic Funds increased 2.0% during third quarter 1988. The increase was primarily due to the Basic Funds receiving net contributions of $75 million during the quarter. The majority of the investment return was contributed by the bond portfolio in the form of interest payments received during the quater.



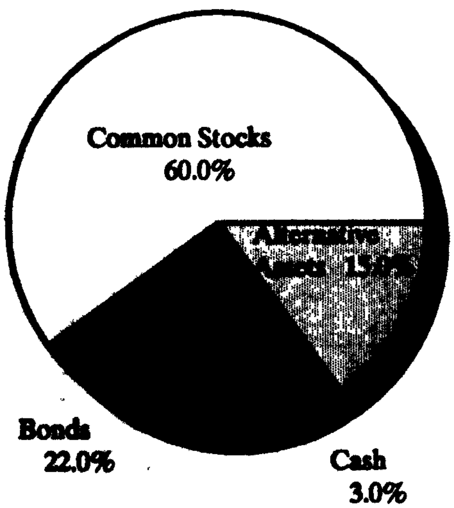
Asset Growth During Third Quarter 1988 (Millions)

Beginning Value	$5,224
Net Contributions	75
Investment Return	29
Ending Value	$5,328

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 Basic Funds asset mix changed during the third quarter. The most significant change was the increase in cash due to the $75 million of net contributions received during the quarter that have not been allocated to other investments. Also the segment is overweighted due to larger than normal cash holdings by outside active equity and bond managers.



Policy Asset Mix

	Policy Asset Mix	Actual Mix 9/30/88	Actual Market Value (Millions)
Stocks	60.0%	56.8%	$3,030
Bonds	22.0	19.8	1,056
Cash*	3.0	11.0	585
Alternative Assets	15.0	12.4	657
	100.0%	100.0%	$5,328

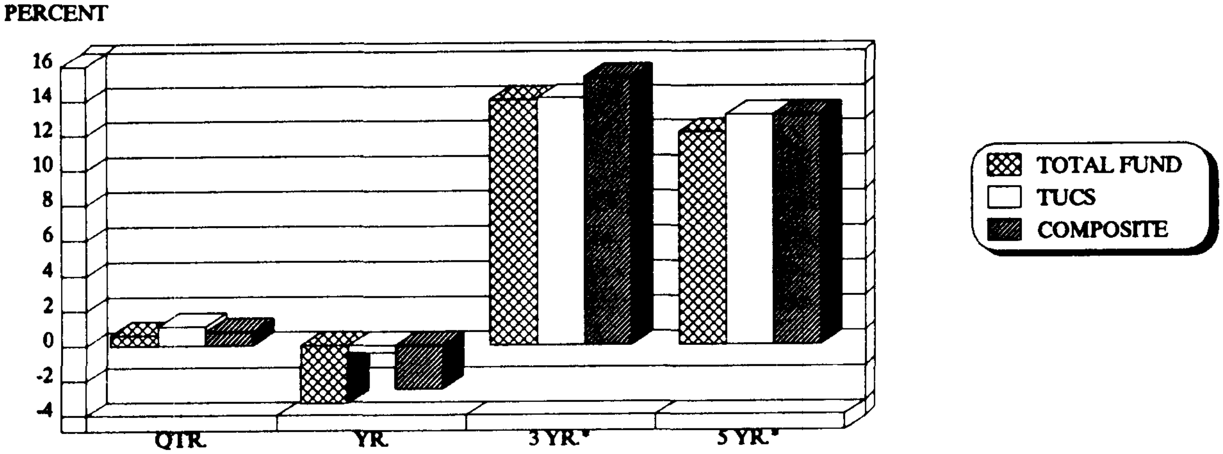
* Includes cash uncommitted to long-term assets plus all cash held by external managers.

Basic Funds (Con't.)

Total Fund Performance

The Basic Funds' total portfolio trailed its assigned performance standards for the latest quarter and year.

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 9/30/88

	Qtr.	Yr.	*(Annualized) 3 Yr.	5 Yr.
Total Fund	0.6%	-3.3%	14.0%	12.1%
Total Fund Without Alternative Assets	0.3	-4.2	15.0	12.8
TUCS** Median Balanced Fund	1.1	-0.4	14.1	13.1
Stock/Bond/Cash/Composite	0.8	-2.5	15.3	13.1

** 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 trailed the performance of its target for the latest quarter and matched the broad market for the latest year. Details on individual manager stock performance can be found on page 7 of the report.

	Qtr.	Yr.	(Annualized) 3 Yr.	5 Yr.
Stock Segment	-0.5%	-11.3%	16.4%	12.6%
Wilshire 5000	0.2	-11.3	16.9	13.1

Bond Segment Performance

The bond segment of the Basic Funds exceeded the performance of its target for the last quarter but trailed its target for the latest year. Details on individual bond manager performance can be found on page 8 of the report.

	Qtr.	Yr.	(Annualized) 3 Yr.	5 Yr.
Bond Segment	2.1%	12.7%	10.9%	12.5%
Salomon Broad Index	2.0	13.4	11.0	12.7

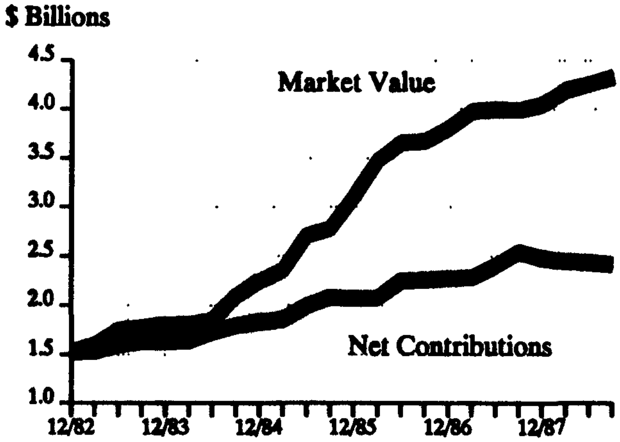
EXECUTIVE SUMMARY

Post Retirement Fund

Asset Growth

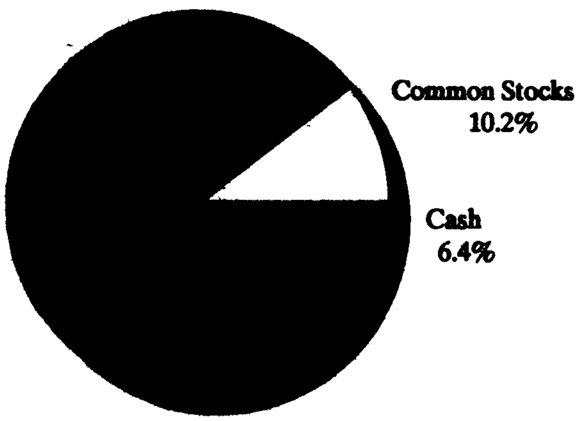
The market value of the Post Fund increased by 1.6% during third quarter 1988.

Asset Growth During Third Quarter 1988 (Millions)	
Beginning Value	$4,258
Net Contributions	-24
Investment Return	92
Ending Value	$4,326



Asset Mix

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. There were no significant changes in the Post Retirement Fund asset mix during the third quarter.



Actual Asset Mix
9/30/88

	Actual Market Value (Millions)	Asset Mix 9/30/88
Common Stocks	$442	10.2%
Bonds	3,608	83.4
Cash	276	6.4
	$4,326	100.0%

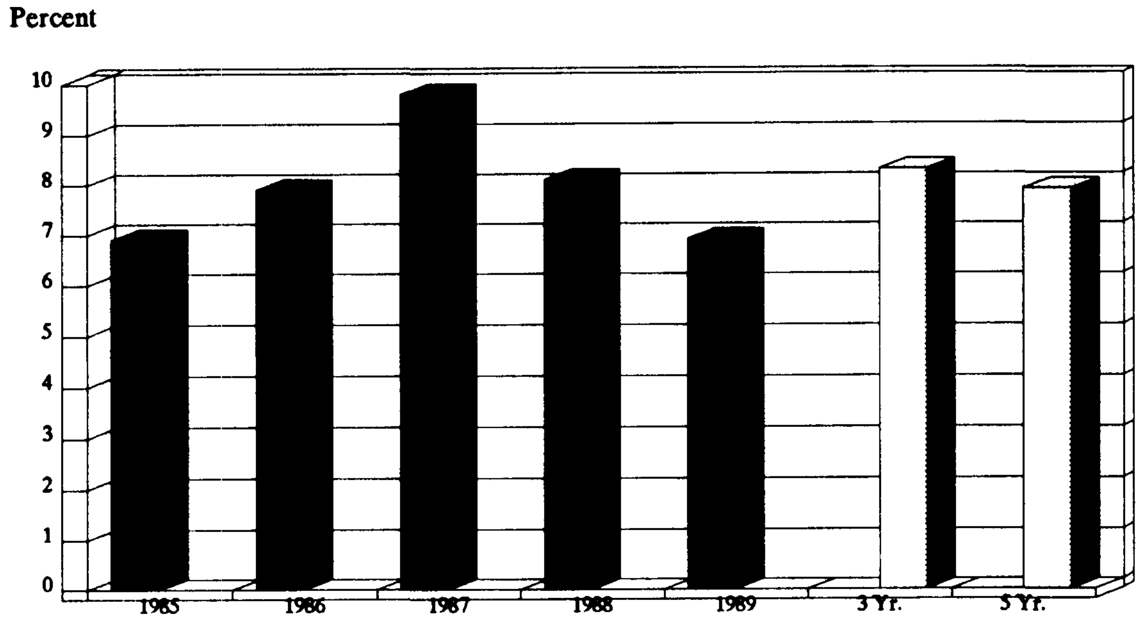
Post Fund (Con't.)

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.

Benefit Increases



Calendar Year

						(Annualized)	
	1985	**1986**	**1987**	**1988**	**1989**	**3 Yrs.**	**5 Yrs.**
Benefit Increases	6.9%	7.9%	9.8%	8.1%	6.9%	8.3%	7.9%

Benefit increases are intended to compensate, to some degree, for the effect of inflation.

As measured by the Consumer Price Index (CPI), inflation increased by an estimated 3.7% on an annualized basis over the last five years (calendar 1984-1988).

Stock Segment Performance

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

	Period Ending 9/30/88		(Annualized)	
	Qtr.	**Yr.**	**3 Yr.**	**5 Yr.**
Stock Segment	0.3%	-7.2%	12.3%	10.4%
Post Fund Benchmark	0.5	-10.8	N.A.	N.A.

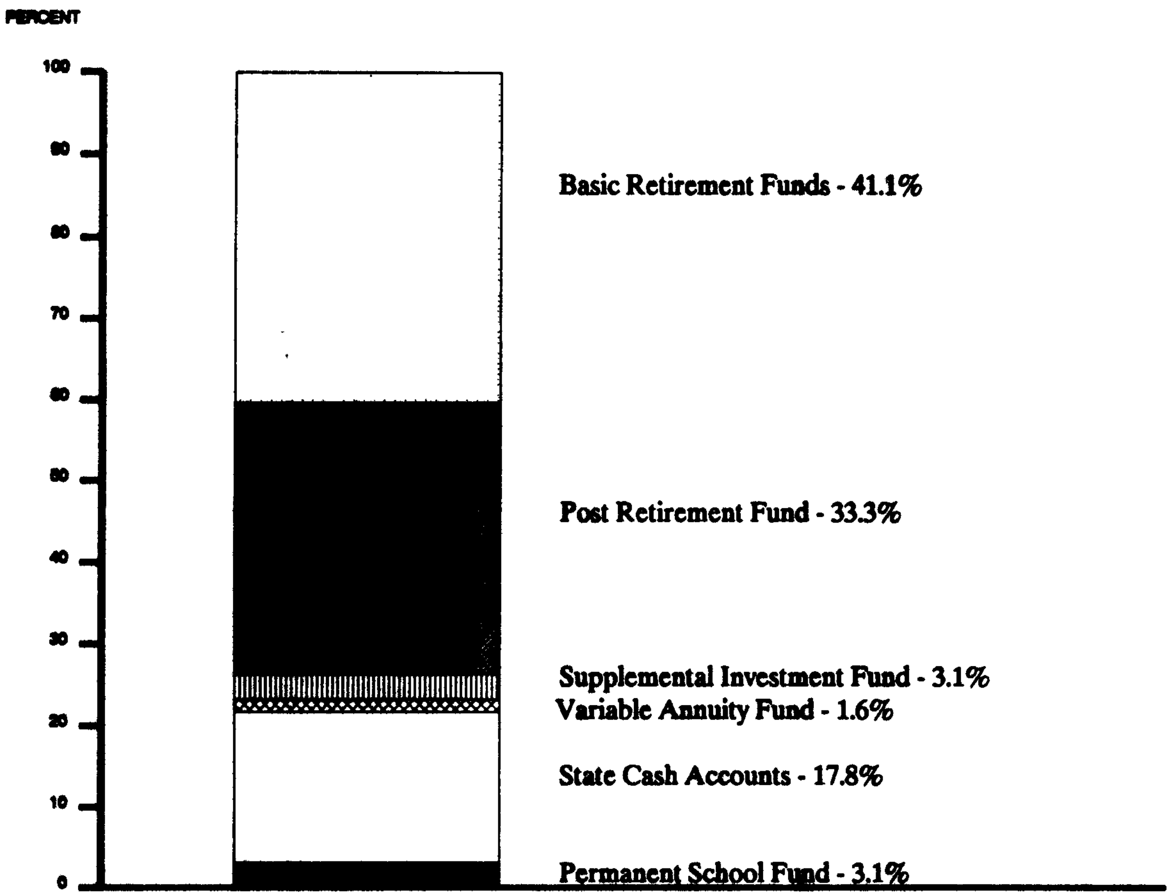
Bond Segment Performance

At the close of the quarter, the dedicated bond portfolio had a current yield of 8.58% and average duration of 7.35 years. The market value of the dedicated bond portfolio was $3.5 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 2.4% return for the quarter and a 15.6% return for the year. This is consistent with the design of the dedicated bond portfolio.

EXECUTIVE SUMMARY

Funds Under Management



	9/30/88 Market Value (Billions)
Basic Retirement Funds	$5.3
Post Retirement Fund	4.3
Supplemental Investment Fund	0.4
Variable Annuity Fund	0.2
State Cash Accounts	2.3
Permanent School Fund	0.4
Total	$12.9

MINNESOTA STATE BOARD

OF INVESTMENT

QUARTERLY INVESTMENT REPORT

Third Quarter 1988

(July 1, 1988 - September 30, 1988)

Table of Contents

FINANCIAL MARKETS REVIEW

STOCK MARKET

Stock prices declined slightly during the third quarter due to uncertainty in the marketplace over the direction of the dollar, the growth rate of the economy, and the rate of inflation. Overall, the Wilshire 5000 stock index provided a total return of 0.2% during the quarter. Because of the dramatic market decline on October 19, 1987, the Wilshire index lost 11.3% for the latest year.

There was a wide disparity in the price performance of different sectors during the quarter. Consumer non-durables and finance were the best performing sectors with a return of 4.8% and 4.1% respectively. The two worst performing sectors were technology and capital goods stocks which declined 7.7% and 5.6% respectively.

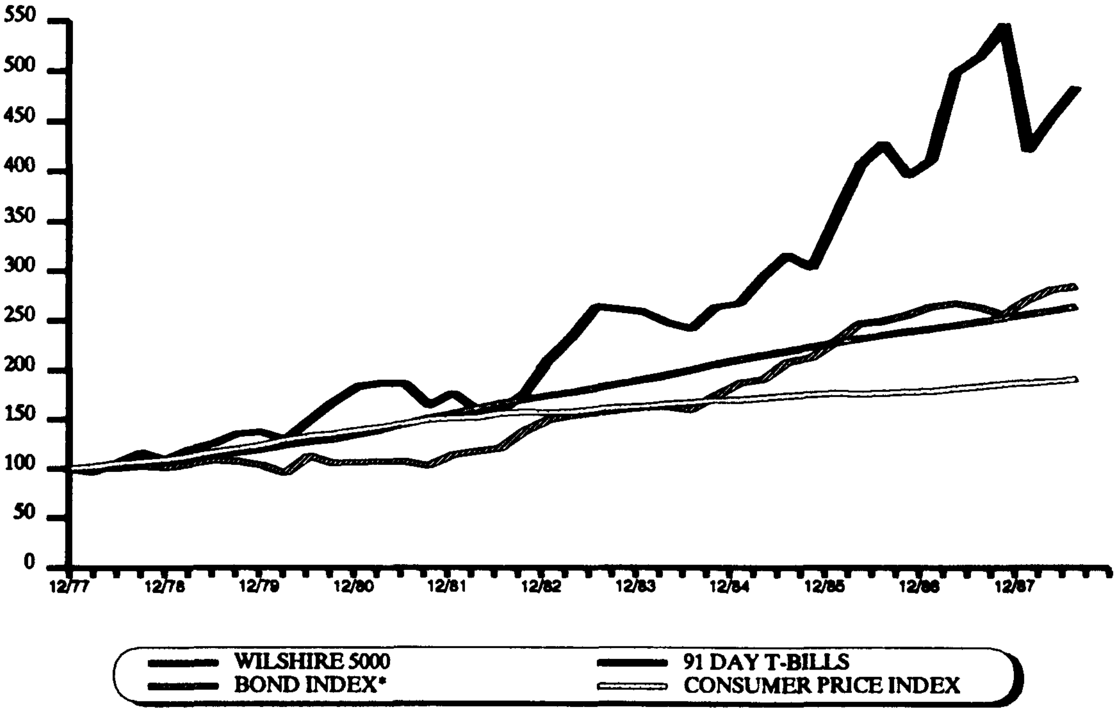
BOND MARKET

Interest rates trended slowly upward during the quarter. The rate increase was due to continuing efforts by the Federal Reserve to head off any possibility of the economy overheating and a resurgence in inflation.

Overall, the Salomon Brothers Broad Investment Grade (BIG) Index gained 2.0% for the quarter and had a 13.4% return for the latest year. Corporate securities were the best performing sector with a gain of 2.4% and Treasury issues provided the lowest return of 1.6%.

PERFORMANCE OF CAPITAL MARKETS

Cumulative Returns



* Merrill Lynch Master Index through 12/79; Salomon Broad Investment Grade Bond Index thereafter

FINANCIAL MARKETS REVIEW

REAL ESTATE

The real estate market currently faces oversupply and slow demand growth. These factors are most apparent in second tier office properties, small shopping centers and properties located in the Southwest. The stronger sectors of the real estate market include warehouse and distribution facilities and larger retail centers. Current supply/demand forecasts extrapolate these trends into 1989.

VENTURE CAPITAL

The venture capital industry continues to grow. Analysts reported that $1.4 billion was raised during the first and second quarters of 1988 by more than forty independent venture capital firms. This was approximately the same amount reported for the same period in 1987. In both years, commitments from pension funds dominated capital raised from other sources.

RESOURCE FUNDS

The price of crude oil is expected to remain approximately $14 per barrel until the OPEC oil ministers meet in Vienna on November 17, 1988. Depending upon whether ministers strike a production accord, the price of crude could trade $2 a barrel higher or $2 a barrel lower through year end.

BASIC RETIREMENT FUNDS

Investment Objectives

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

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

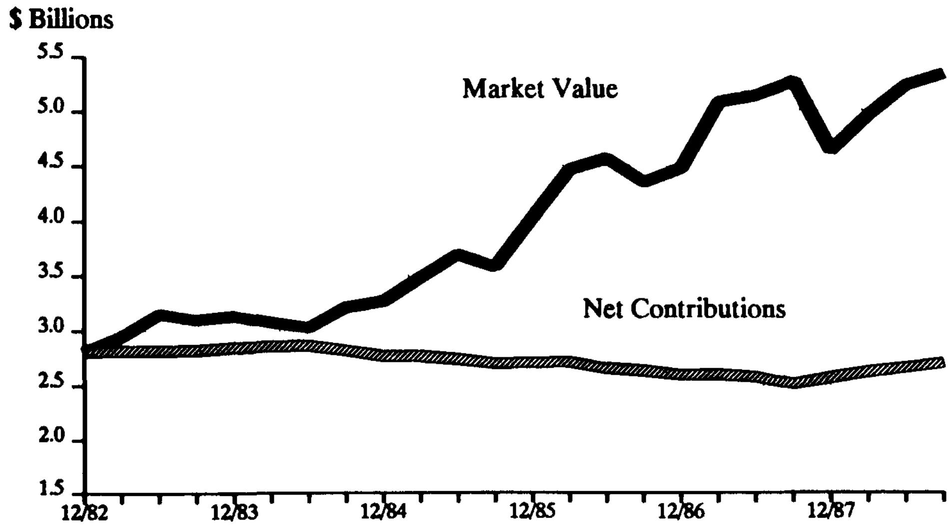
- To secure the benefits promised public employees covered by the statewide retirement plan.
- To reduce employer/employee contributions and/or increase promised benefits.
- To avoid excessive volatility in portfolio returns over the short-run.

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 is cognizant, however, that excessive short-run return volatility is undesirable. As a result, the investment policy of the Basic Funds also is designed to limit extreme portfolio return results through the inclusion of other asset classes that act as hedges against inflationary and deflationary environments.

Asset Growth

The market value of the Basic Retirement Funds' assets increased 2.0% during the third quarter. The increase was due primarily to the receipt of $75 million in net contributions during the quarter. The majority of the investment return was contributed by the bond portfolio in the form of interest payments received during the quarter.



In Millions

	12/84	12/85	12/86	12/87	3/88	6/88	9/88
Beginning Value	$3,129	$3,265	$4,030	$4,474	$4,628	$4,958	$5,224
Net Contributions	-78	-62	-113	-26	53	40	75
Investment Return	214	827	557	180	277	226	29
Ending Value	$3,265	$4,030	$4,474	$4,628	$4,958	$5,224	$5,328

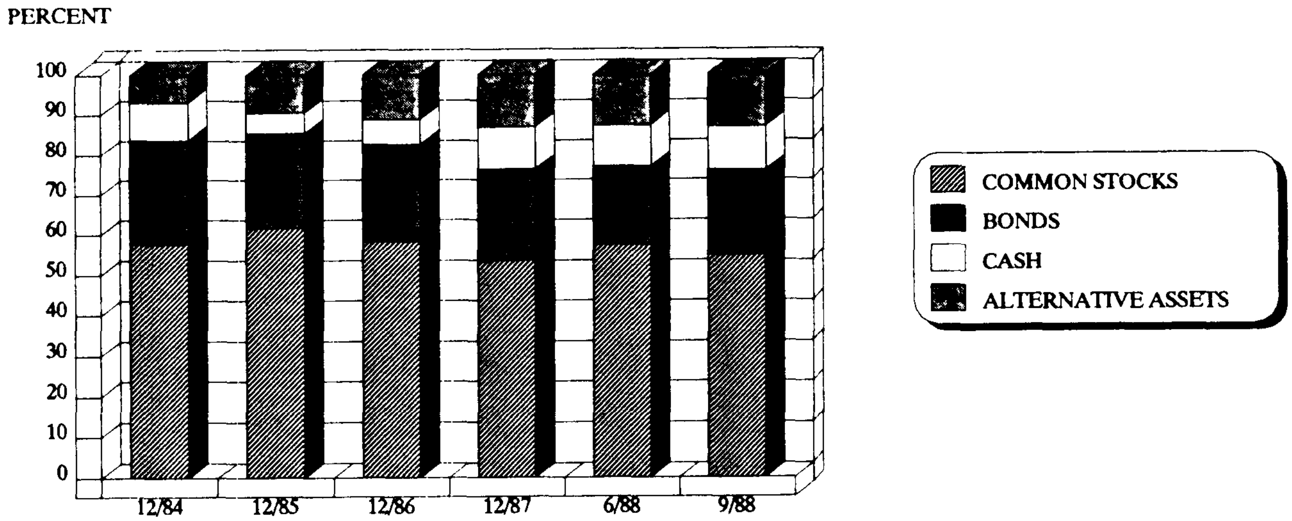
BASIC RETIREMENT FUNDS

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	22.0
Cash Equivalents	3.0
Real Estate	10.0
Venture Capital	2.5
Resource Funds	2.5

The Basic Funds asset mix changed during the third quarter. The most significant change was the increase in cash due to the $75 million of net contributions received during the quarter that have not been allocated to other investments. Also, the cash segment was overweighted due to larger than normal cash holdings by outside active equity and bond managers.



	Last Five Years				Latest Qtrs.		
	12/84	12/85	12/86	12/87	3/88	6/88	9/88
Stocks	57.8%	61.6%	58.3%	53.6%	56.8%	57.5%	54.9%
Bonds	25.9	23.8	24.3	22.6	21.2	19.5	21.0
Cash*	9.4	5.1	6.2	10.6	9.5	10.3	10.4
Real Estate	5.5	7.1	8.2	9.3	9.0	8.9	8.9
Venture Capital	0.7	1.2	1.6	2.5	2.3	2.6	2.8
Resource Funds	0.7	1.2	1.4	1.4	1.2	1.2	1.5
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

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

BASIC RETIREMENT FUNDS

Total Fund Performance vs. Standards

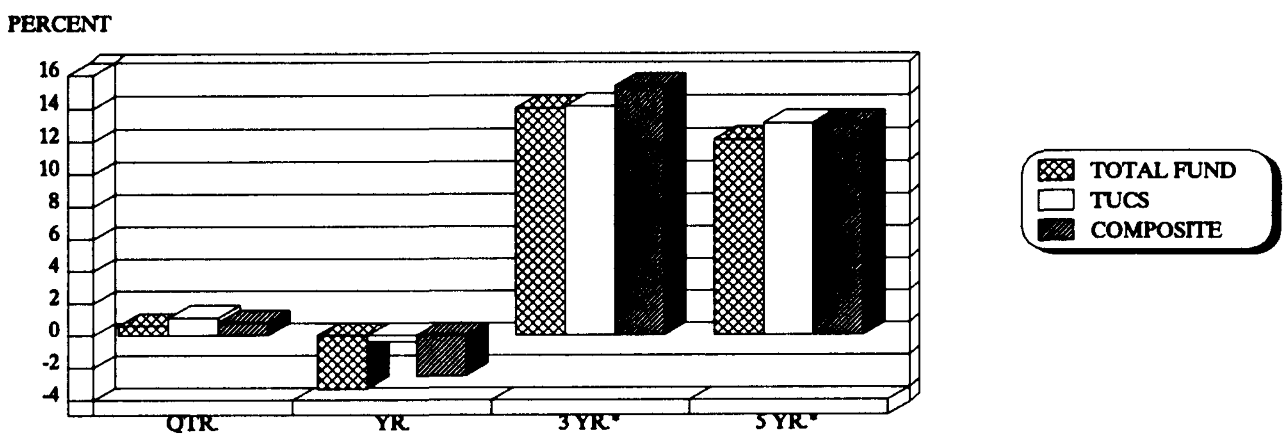
The Basic Funds' long-term rate of return performance is evaluated relative to two specific benchmarks:

- **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. Because comprehensive data is available for only the stock, bond and cash equivalents markets, the composite index is weighted 65% stocks, 30% bonds, 5% cash equivalents.

- **Median Tax-Exempt Fund.** The Basic Funds' portfolio is expected to outperform the median return produced by a representative sample of other public and private tax-exempt balanced funds. The sample universe used by the Board is the Wilshire Associates Trust Universe Comparison Service (TUCS). TUCS data reflects the investment returns of over 800 public and private pension investors.

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

The Basic Funds total portfolio trailed its assigned performance standards for the latest quarter and year. Because of the Basic Funds sizable stock allocation and relatively poor performance of the stock market, the Basic Funds' trailed the median balanced portfolio performance during the third quarter. Also, the poor performance of the stock market during fourth quarter 1987 caused the Basic Funds' performance to trail the median balance portfolio for the year.



Period Ending 9/30/88

	Qtr.	Yr.	*(Annualized) 3 Yr.	5 Yr.
Total Fund	0.6%	-3.3%	14.0%	12.1%
Total Fund WithoutAlternative Assets	0.3	-4.2	15.0	12.8
TUCS Median Balanced Fund	1.1	-0.4	14.1	13.1
Stock/Bond/Cash Composite	0.8	-2.5	15.3	13.1

BASIC RETIREMENT FUNDS

Segment Performance vs. Standards

Stock Segment

The Basic Funds' common stock segment trailed its performance target for the most recent quarter. For the latest year, the stock segment matched the performance of the broad market.

			Annualized	
	Qtr.	Yr.	3 Yrs.	5 Yrs.
Stock Segment	-0.5%	-11.3%	16.4%	12.6%
Wilshire 5000	0.2	-11.3	16.9	13.1

Bond Segment

The bond segment of the Basic Funds exceeded the performance of its target for the quarter but trailed its target for the latest year. The slight overperformance for the quarter was caused by an overweighting of corporate bonds and underweighting of Treasury/Agency bonds compared to their target. For the latest year the bond managers have been maintaining a defensive position by holding portfolios of shorter duration than their target. With interest rates having trended downward for the last year, the shorter durations of the manager's portfolio resulted in minor underperformance.

			Annualized	
	Qtr.	Yr.	3 Yrs.	5 Yrs.
Bond Segment	2.1%	12.7%	10.9%	12.5%
Salomon Bond Index	2.0	13.4	11.0	12.7

Cash Segment

The cash segment of the Basic Funds exceeded its target for the quarter and year.

			Annualized	
	Qtr.	Yr.	3 Yrs.	5 Yrs.
Cash Segment	2.0%	7.6%	7.0%	8.1%
91 Day T-Bills	1.7	6.2	6.3	7.3

Alternative Assets Segment

Comprehensive data on returns provided by the real estate, resource and venture capital markets are not available at this time. Therefore, performance standards for the alternative investment segment have not been established. Returns from the alternative asset segment are shown in the table.

			Annualized	
	Qtr.	Yr.	3 Yrs.	5 Yrs.
Alternative Assets	2.8%	9.1%	6.7%	7.6%

BASIC RETIREMENT FUNDS

Stock Manager Performance vs. Benchmarks

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 bogeys against which to judge the managers' performances.

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

As a group, the active and passive common stock managers trailed the performance of their aggregate benchmark for the latest quarter and year. The performance of the individual managers was extremely varied. Several exceeded the performance of their targets while others underperformed their benchmarks. A comprehensive analysis of the individual managers' performance is included in this quarter's Equity Manager Committee Report.

	Percent of Segment 9/30/88	Market Value 9/30//88 (Thousands)	Quarter Ending 9/30/88		Year Ending 9/30/88		(Annualized) Since 1/1/84	
			Actual	Bmrk	Actual	Bmrk	Actual	Bmrk
Active Managers								
Alger	2.6%	$83,736	-2.5%	0.0%	-18.2%	-10.7%	10.2%	13.3%
Alliance	4.8	150,993	-3.5	-1.0	-13.6	-15.0	16.9	11.1
BMI	1.9	60,251	-0.7	-0.9	-9.7	-11.2	9.6	10.9
Forstmann	4.1	129,318	-2.6	1.0	-11.4	-4.6	14.0	11.9
IDS	3.3	102,743	-3.7	-0.3	-17.7	-8.6	14.0	14.3
IAI	2.4	74,826	-1.0	0.7	-13.5	-8.8	12.6	14.3
Lieber & Co.	1.9	60,957	0.8	-1.0	-5.7	-8.4	12.7	10.9
Waddell & Reed	3.5	109,152	-5.9	-1.7	-13.6	-8.9	10.8	10.7
Aggregate Active	24.5%	$771,976	-2.8%		-13.3%		13.0%	
Passive Manager								
Wilshire Associates	75.5%	$2,384,775	0.2%	0.3%	-10.8%	-11.0%	14.0%	14.1%
Aggregate Passive	75.5%	$2,384,775	0.2%		-10.8%		14.0%	
Total Stock Segment	**100.0%**	**$3,156,751**	**-0.5%**	**0.1%**	**-11.3%**	**-10.6%**	**13.5%**	**13.9%**
Wilshire 5000 Index			0.2%		-11.3%		14.1%	

Note: Total segment and aggregate active performance numbers include returns of any managers retained during the time periods shown but subsequently terminated by the Board.

BASIC RETIREMENT FUNDS

Bond Manager Performance vs. Benchmarks

Staff is in the process of working with the Board's bond managers to develop appropriate benchmark portfolios. Two of the five managers have completed their benchmark portfolios. Returns for these portfolios are reported below. For the remaining three managers, the benchmark portfolio currently in use is the Salomon Broad Investment Grade Bond Index, which represents the performance of essentially the entire investment-grade bond market, plus a small allocation to cash equivalents.

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

As a group, the active and passive bond managers exceeded the performance of their aggregate benchmark for the quarter but trailed their aggregate benchmark for the latest year. The performance of the individual managers for the quarter was somewhat varied. The majority exceeded or matched the performance of their targets while two slightly underperformed their benchmarks. A comprehensive analysis of the individual managers' performance is included in this quarter's Fixed Income Manager Committee Report.

	Percent of Segement 9/30/88	Market Value 9/30/88 (Thousands)	Quarter Ending 9/30/88		Year Ending 9/30/88		(Annualized) Since 7/1/84	
			Actual	Bmrk	Actual	Bmrk	Actual	Bmrk
Active Managers								
IAI	3.9%	$46,361	1.9%	1.9%	11.6%	13.0%	15.0%	14.5%
Lehman	8.9	107,232	3.3	1.8	13.0	12.1	13.9	13.8
Miller Anderson	13.2	158,080	1.9	1.9	13.9	13.0	15.1	14.5
Morgan Stanley	8.6	103,269	1.8	1.9	10.3	13.0	14.1	14.5
Western Asset	15.7	188,877	2.7	2.2	15.6	13.7	16.2	14.6
Aggregate Active	50.3%	$603,819	2.4%		13.0%		14.2%	
Passive Managers								
Fidelity Management	24.8%	$298,112	1.8%	1.9%				
Lincoln Capital	24.9	298,360	1.9	1.9				
Aggregate Passive	49.7%	$596,472	1.8%					
Total Bond Segment	**100.0%**	**$1,200,291**	**2.1%**	**2.0%**	**12.7%**	**13.0%**	**12.5%**	**12.6%**
Salomon Broad Index			2.0%		13.4%		15.0%	

Notes: Total segment and aggregate active performance numbers include returns of any managers retained during the time periods shown but subsequently terminated by the Board.

The semi-passive managers were retained effective July 1, 1988. Returns from prior periods are not available.

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.

The SBI pursues two investment goals for the Post Fund:

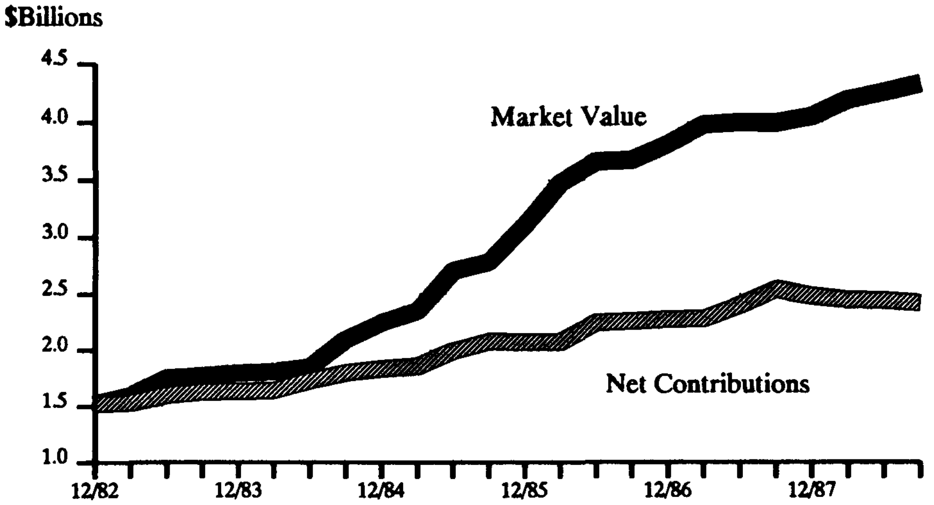
- To produce annual earnings sufficient to maintain promised benefits at current levels
- To generate additional earnings which allow benefits to be increased at a rate which compensates, to some degree, for inflation

To achieve these two objectives, the SBI recognizes that the Post Fund requires a completely different investment approach than that applied to the Basic Retirement Funds.

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

Asset Growth

The market value of the Post Fund increased by 1.6% during the third quarter of 1988. Moderate asset growth was achieved through investment returns since net contributions for the quarter were negative $24 million.



In Millions	12/84	12/85	12/86	12/87	3/88	6/88	9/88
Beginning Value	$1,803	$2,246	$3,107	$3,808	$4,047	$4,193	$4,258
Net Contributions	201	239	199	207	-32	-8	-24
Investment Return	242	622	502	32	178	73	92
Ending Value	$2,246	$3,107	$3,808	$4,047	$4,193	$4,258	$4,326

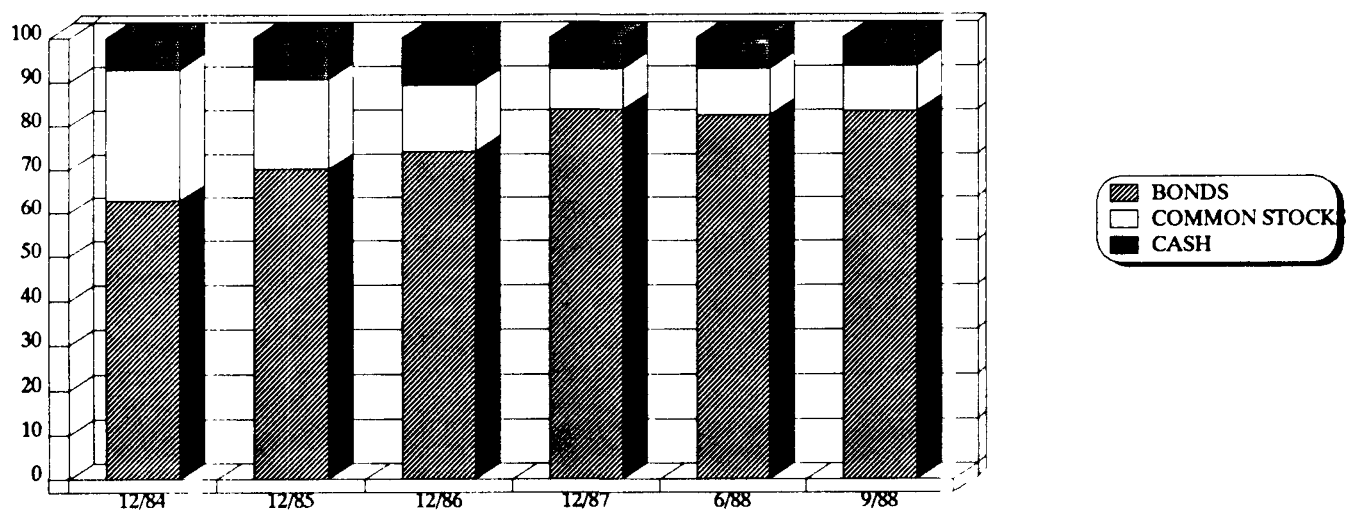
POST RETIREMENT FUND

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. There were no significant changes in the Post Retirement Fund asset mix during the third quarter.



	Last Five Years				Latest Qtrs.		
	12/84	**12/85**	**12/86**	**12/87**	**3/88**	**6/88**	**9/88**
Bonds	62.9%	70.2%	74.2%	83.7%	85.1%	82.5	83.4%
Stocks	30.0	20.5	15.1	9.3	9.6	10.5	10.2
Cash	7.1	9.3	10.7	7.0	5.3	7.0	6.4
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

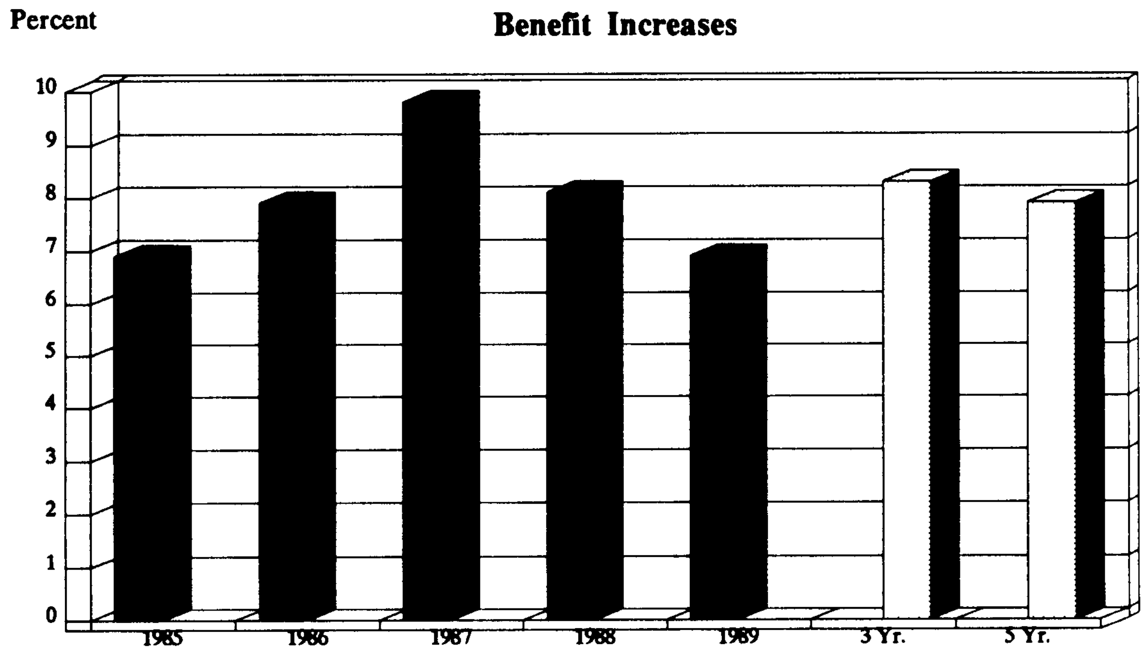
POST RETIREMENT FUND

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.



						(Annualized)	
	1985	**1986**	**1987**	**1988**	**1989**	**3 Yrs.**	**5 Yrs.**
Benefit Increases	6.9%	7.9%	9.8%	8.1%	6.9%	8.3%	7.9%

Benefit increases are intended to compensate, to some degree, for the effect of inflation.

As measured by the Consumer Price Index (CPI), inflation increased by an estimated 3.7% on an annualized basis over the last five years (calendar 1984-1988).

POST RETIREMENT FUND

Segment Performance

Stock Segment Performance

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

	Period Ending 9/30/88			
			(Annualized)	
	Qtr.	Yr.	3 Yrs.	5 Yrs.
Stock Segment	0.3%	-7.2%	12.3%	10.4%
Post Fund Benchmark	0.5	-10.8	N.A.	N.A.

Bond Segment Performance

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

The Post Fund's bond portfolio provided a 2.4% total rate of return for the quarter and a 15.6% 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
9/30/88

Value at Market	$ 3,527,321,322
Value at Cost	3,419,084,706
Average Coupon	6.48%
Current Yield	8.58
Yield to Maturity	9.23
Current Yield at Cost	8.85
Time to Maturity	17.53 Years
Average Duration	7.35 Years
Average Quality Rating	AAA
Number of Issues	392

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

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

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

On September 30, 1988 the market value of the entire fund was $394 million.

Investment Options

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

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

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

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

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

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

SUPPLEMENTAL INVESTMENT FUND

Income Share Account

Investment Objectives
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.

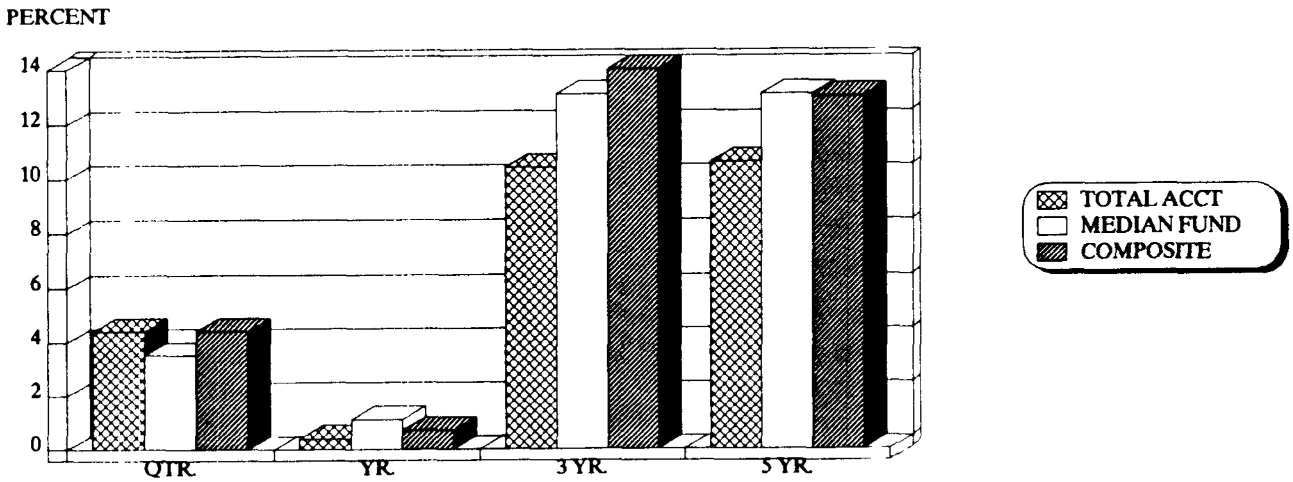
Asset Mix
The Income Share Account is invested in a balanced portfolio of common stocks and fixed income securities. Common stocks provide the potential for significant capital appreciation, while bonds act as a deflation hedge and provide portfolio diversification.

	Target	Actual
Stocks	60.0%	58.6
Bonds	35.0	29.3
Cash*	5.0	12.1
	100.0%	100.0%

* Includes cash held by the external managers

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

Market Value
On September 30, 1988 the market value of the Income Share Account was $213 million.



Period Ending 9/30/88

	Qtr.	Yr.	Annualized 3 Yr.	5 Yr.
Total Account	0.9%	-1.5%	12.1%	11.2%
Median Fund*	1.1	-0.4	14.1	13.1
Composite**	0.9	-1.3	15.0	13.2
Equity Segment	0.2	-10.3	12.9	9.9
Wilshire 5000	0.2	-11.3	16.9	13.1
Bond Segment	2.1	13.0	10.9	13.3
Salomon Bond Index	2.0	13.4	11.0	12.7

* TUCS Median Balanced Portfolio

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

SUPPLEMENTAL INVESTMENT FUND

Growth Share Account

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

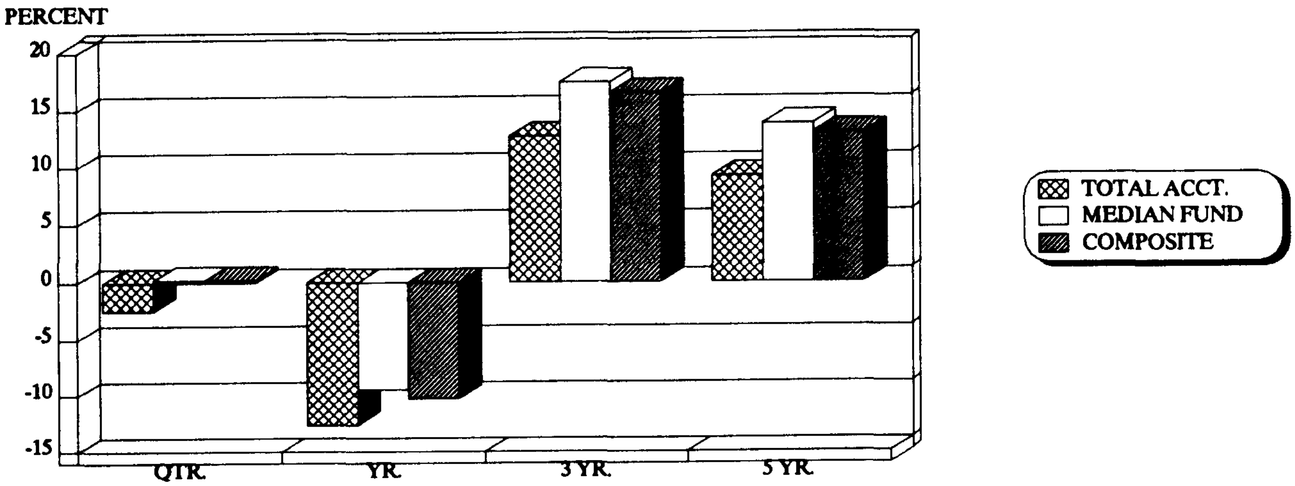
Asset Mix
The Growth Share Account is invested almost entirely in common stocks. Generally, the small cash equivalents component represents the normal cash reserves held by the Account as a result of net contributions not yet allocated to stocks.

	Target	Actual
Stocks	95.0%	81.6%
Cash*	5.0	18.4
	100.0%	100.0%

*Includes cash held by the external managers

Investment Management
The entire Account is managed by the same group of active external stock managers utilized by the Basic Retirement Funds. (See page 7 for performance results for these managers.)

Market Value
On September 30, 1988 the market value of the Growth Share Account was $75 million.



Period Ending 9/30/88

	Qtr.	Yr.	Annualized 3 Yr.	Annualized 5 Yr.
Total Account	-2.5%	-12.6%	12.7%	9.2%
Median Fund*	0.2	-9.5	17.4	13.8
Composite**	0.2	-10.3	16.5	13.0
Equity Segment	-2.8	-12.6	13.0	8.0
Wilshire 5000	0.2	-11.3	16.9	13.1

* TUCS Median Managed Equity Portfolio

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

SUPPLEMENTAL INVESTMENT FUND

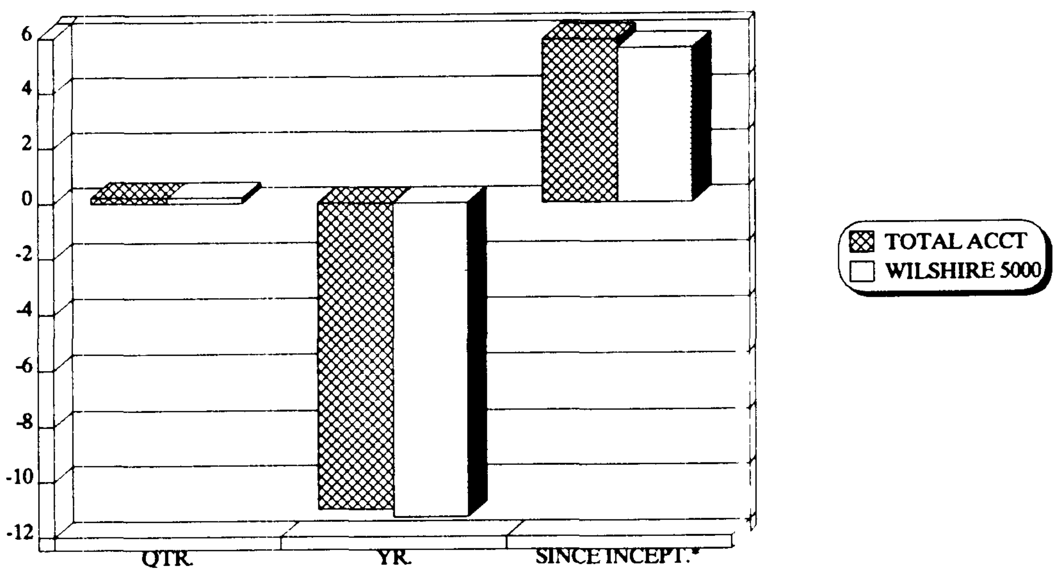
Common Stock Index Account

Investment Objectives 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 September 30, 1988 the market value of the Common Stock Index Account was $4 million.



Period Ending 9/30/88

	Qtr.	Yr.	Annualized Since Inception* 7/1/86
Total Account	0.2%	-11.0%	5.9%
Wilshire 5000	0.2	-11.3	5.6

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

SUPPLEMENTAL INVESTMENT FUND

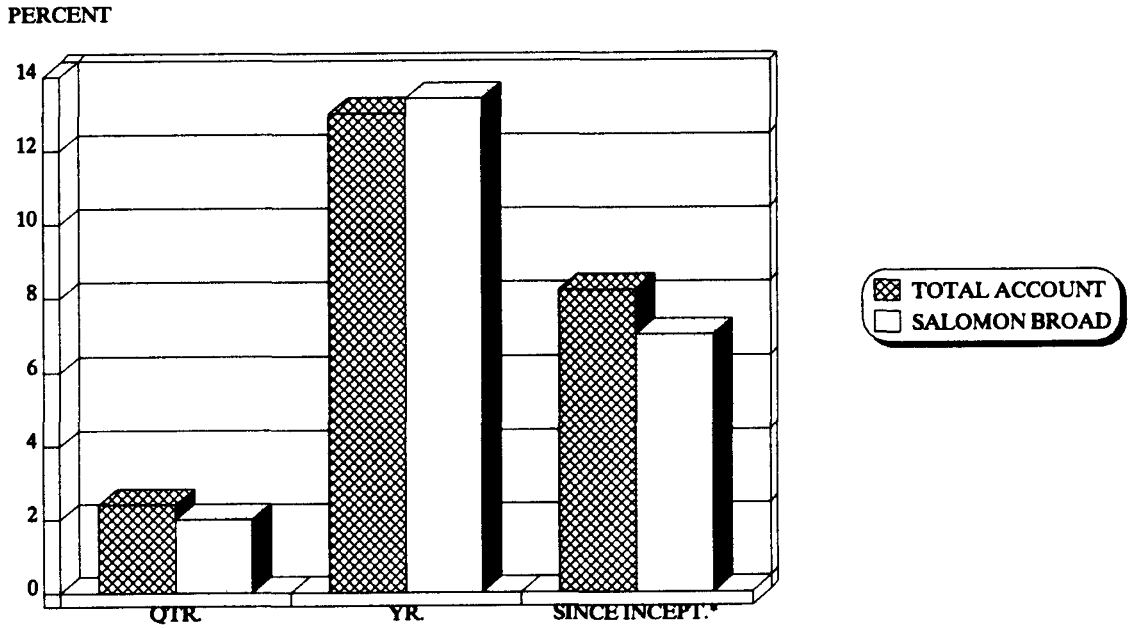
Bond Market Account

Investment Objectives
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. (See page 8 for performance results for these managers.)

Market Value
On September 30, 1988 the market value of the Bond Market Account was $1 million.



Period Ending 9/30/88

	Qtr.	Yr.	Annualized Since Inception* 7/1/86
Total Account	2.4%	13.0%	8.2%
Salomon Broad	2.0	13.4	7.0

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

SUPPLEMENTAL INVESTMENT FUND

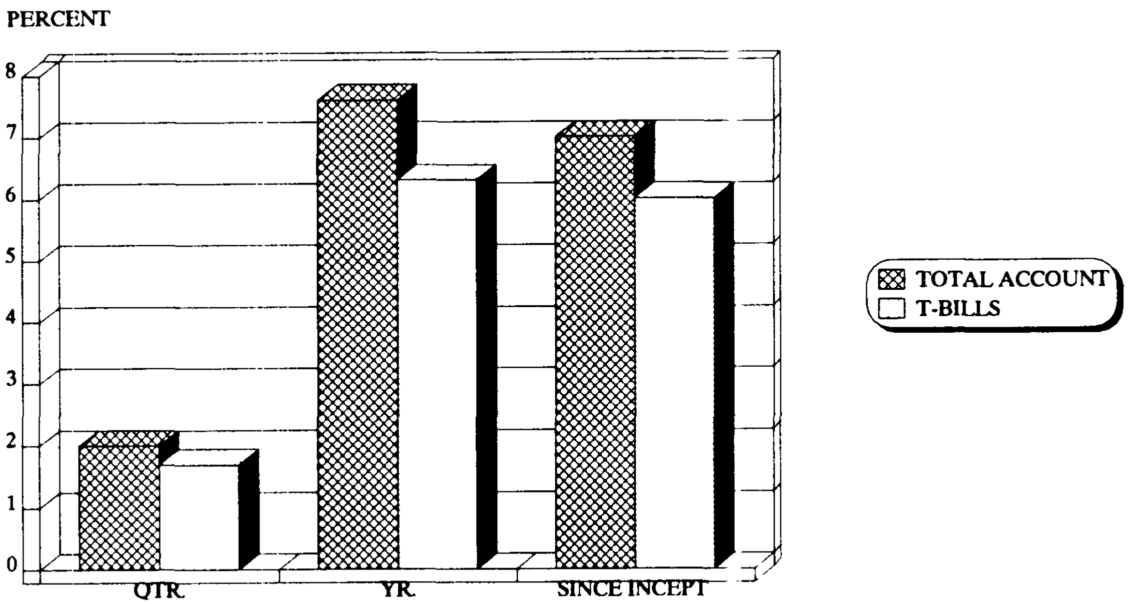
Money Market Account

Investment Objectives
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 September 30, 1988 the market value of the Money Market Account was $79 million.



Period Ending 9/30/88

	Qtr.	Yr.	Annualized Since Inception* 7/1/86
Total Account	2.0%	7.6%	7.0%
91 Day T-Bills	1.7	6.2	6.0

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

SUPPLEMENTAL INVESTMENT FUND

Guaranteed Return Account

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

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

Investment Management
Annually, the Board accepts bids from insurance companies that meet the financial quality criteria defined by State statute. Generally, the insurance company 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 September 30, 1988 the market value of the Guaranteed Return Account was $23 million.

Contract Period	Annual Effective Interest Rate	Manager
Nov. 1, 1986 - Oct. 31, 1989	7.72%	Principal Mutual Life
Nov. 1, 1987 - Oct. 31, 1990	8.45%	Principal Mutual Life
Nov. 1, 1988 - Oct. 31, 1991	9.01%	Mutual of America

VARIABLE ANNUITY FUND

Investment Objective
The Variable Annuity Fund is an investment option formerly offered to members of the Teachers' Retirement Association. The fund was designed as an alternative to the regular teachers' retirement plan. The opportunity to enroll in the Fund is no longer offered to new Association members, although members enrolled prior to the cutoff date may retain their participation in the Fund and continue to make contributions.

The investment objective of the Variable Annuity Fund is comparable to that of the Supplemental Investment Fund's Growth Share Account. The goal of the Variable Annuity fund is to generate above-average capital appreciation.

Asset Mix
The Variable Annuity Fund is invested almost entirely in common stocks.

	Target	Actual
Stocks	95.0%	80.8%
Cash*	5.0	19.2
Total	100.0%	100.0%

*Includes cash held by the external managers

Investment Management
The entire Fund is managed by the same group of active external stock managers utilized by the Basic Retirement Funds. (See page 7 for performance results for these managers.)

Asset Growth
The market value of the Variable Annuity Fund decreased by 3.0% during the third quarter of 1988. The decrease was attributable to declining stock prices during the period.

Asset Growth During Third Quarter 1988 (Millions)

Beginning Value	$160.9
Net Contributions	-0.7
Investment Return	-4.2
Ending Value	$156.0

Performance
The Variable Annuity Fund outperformed the Median Fund for the quarter but trailed the target for the latest year.

Period Ending 9/30/88

			Annualized	
	Qtr.	Yr.	3 Yr.	5 Yr.
Total Fund	-2.6%	-12.6%	13.0%	9.7%
Median Fund*	0.2	-9.5	17.4	13.8
Composite**	0.2	-10.3	16.5	13.0
Equity Segment	-2.8	-12.5	13.2	9.4
Wilshire 5000	0.2	-11.3	16.9	13.1

* TUCS Median Managed Equity Portfolio

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

PERMANENT SCHOOL FUND

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

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

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

Asset Mix
The asset mix of the Permanent School Fund was essentially unchanged during the third 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%	91.8
Cash	5.0	8.2
Total	100.0%	100.0%

Investment Management
The entire fund is managed by an internal investment staff.

Asset Growth
The market value of the Permanent School Fund's assets increased 2.1% during third quarter. Withdrawals from the fund exceeded contributions by 1.2 million.

Asset Growth During Third Quarter 1988 (Millions)

Beginning Value	$357.8
Net Contributions	-1.2
Investment Return	8.8
Ending Value	$365.4

Bond Segment Performance
The composition of the Permanent School Fund's bond portfolio changed during the quarter. Treasury and agency issues increased from 45.3% to 52.3% while decreases took place in industrials, public utility, and mortgage bonds holdings. 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 9.3%, an average life of 6.3 years, and a AAA quality rating. The portfolio remains concentrated in Treasury and Agency issues and has a significant mortgage component as well.

Bond Portfolio Statistics 9/30/88

Value at Market	$327,777,364
Value at Cost	329,897,585
Average Coupon	9.07%
Current Yield	9.30
Yield to Maturity	9.38
Current Yield at Cost	9.33
Time to Maturity	17.72 Years
Average Duration	6.27 Years
Average Quality Rating	AAA
Number of Issues	125

Tab B

PORTFOLIO STATISTICS

STATE OF MINNESOTA
STATE BOARD OF INVESTMENT
COMPOSITION OF STATE INVESTMENT PORTFOLIOS BY TYPE OF INVESTMENT
MARKET VALUE SEPTEMBER 30, 1988
(in 000's)

	CASH AND SHORT TERM SECURITIES	BONDS INTERNAL	BONDS EXTERNAL	STOCKS INTERNAL	STOCKS EXTERNAL	ALTERNATIVE ASSETS	TOTAL
BASIC RETIREMENT FUNDS:							
TEACHERS RETIREMENT FUND	$ 129,588	$ -0-	$ 520,241	$ -0-	$1,368,229	$304,470	$ 2,322,528
	5.58%		22.40%		58.91%	13.11%	100%
PUBLIC EMPLOYEES RETIRE. FUND	63,927	-0-	306,281	-0-	805,514	179,250	1,354,927
	4.72%		22.60%		59.45%	13.23%	100%
STATE EMPLOYEES RETIRE. FUND	50,571	-0-	242,287	-0-	637,212	141,798	1,071,868
	4.72%		22.60%		59.45%	13.23%	100%
PUBLIC EMP. POLICE & FIRE FUND	20,903	-0-	100,150	-0-	263,394	58,613	443,060
	4.72%		22.60%		59.45%	13.23%	100%
HIGHWAY PATROL RETIRE. FUND	3,714	-0-	17,795	-0-	46,800	10,414	78,723
	4.72%		22.60%		59.45%	13.23%	100%
JUDGES RETIREMENT FUND	161	-0-	769	-0-	2,023	450	3,403
	4.73%		22.60%		59.45%	13.22%	100%
PUBLIC EMP. P.F. CONSOLIDATED	262	-0-	1,257	-0-	3,304	735	5,558
	4.71%		22.62%		59.45%	13.22%	100%
CORRECTIONAL EMPLOYEES RETIREMENT	2,403	-0-	11,513	-0-	30,278	6,738	50,932
	4.72%		22.60%		59.45%	13.23%	100%
POST RETIREMENT FUND	275,852	3,608,256	-0-	441,974	-0-	-0-	4,326,082
	6.37%	83.41%		10.22%			100%
MINNESOTA SUPPLEMENTAL FUNDS:							
INCOME SHARE ACCOUNT	19,692	62,278	-0-	-0-	130,938	-0-	212,908
	9.25%	29.25%			61.50%		100%
GROWTH SHARE ACCOUNT	2,817	-0-	-0-	-0-	72,142	-0-	74,959
	3.76%				96.24%		100%
MONEY MARKET ACCOUNT	78,992	-0-	-0-	-0-	-0-	-0-	78,992
	100%						100%

	CASH AND SHORT TERM SECURITIES	BONDS INTERNAL	BONDS EXTERNAL	STOCKS INTERNAL	STOCKS EXTERNAL	ALTERNATIVE ASSETS	TOTAL
COMMON STOCK INDEX ACCOUNT	-0-	-0-	-0-	-0-	3,469 100%	-0-	3,469 100%
BOND MARKET ACCOUNT	-0-	-0-	1,234 100%	-0-	-0-	-0-	1,234 100%
GUARANTEED RETURN ACCOUNT	-0-	-0-	22,578 100%	-0-	-0-	-0-	22,578 100%
MINNESOTA VARIABLE ANNUITY	7,326 4.70%	-0-	-0-	-0-	148,689 95.30%	-0-	156,015 100%
TOTAL RETIREMENT FUNDS	$ 656,208 6.43%	$3,670,534 35.96%	$1,224,105 11.99%	$441,974 4.33%	$ 3,511,992 34.41%	$702,468 6.88%	$10,207,281 100%
PERMANENT SCHOOL FUND	29,988 8.21%	335,362 91.79%	-0-	-0-	-0-	-0-	365,350 100%
TREASURERS CASH	1,973,008 100%	-0-	-0-	-0-	-0-	-0-	1,973,008 100%
HOUSING FINANCE AGENCY	181,357 100%	-0-	-0-	-0-	-0-	-0-	181,357 100%
MINNESOTA DEBT SERVICE FUND	18,110 100%	-0-	-0-	-0-	-0-	-0-	18,110 100%
MISCELLANEOUS ACCOUNTS	178,937 100%	-0-	-0-	-0-	-0-	-0-	178,937 100%
MINNESOTA STATE BUILDING FUNDS	33,276 100%	-0-	-0-	-0-	-0-	-0-	33,276 100%
GRAND TOTAL	$3,070,884 23.70%	$4,005,896 30.92%	$1,224,105 9.45%	$441,974 3.41%	$3,511,992 27.10%	$702,468 5.42%	$12,957,319 100%

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

For period of
July 1, 1988 - September 30, 1988

Teachers Retirement Fund	$ 61,000,000.00
Public Employees Retirement Fund	(4,000,000.00)
State Employees Retirement Fund	18,000,000.00
Public Employees Police & Fire	-0-
Highway Patrol Retirement Fund	-0-
Judges Retirement Fund	-0-
Public Emp. P & F Consolidated	-0-
Correctional Employees Retirement Fund	-0-
Post Retirement Fund	(23,787,942.81)
Supplemental Retirement Fund - Income	(5,016,120.91)
Supplemental Retirement Fund - Growth	(6,272,824.31)
Supplemental Retirement Fund - Money Market	1,535,976.75
Supplemental Retirement Fund - Index	247,273.80
Supplemental Retirement Fund - Bond Mkt.	(74,554.88)
Supplemental Retirement Fund - Guaranteed	485,589.87
Minnesota Variable Annuity Fund	$ (686,106.26)
Total Retirement Funds Net Cash Flow	$ 41,431,291.25
Permanent School Fund	(1,189,543.41)
Total Net Cash Flow	$ 40,241,747.84

STATE OF MINNESOTA
STATE BOARD OF INVESTMENT

TRANSACTION AND ASSET SUMMARY
RETIREMENT FUNDS

	Net Transactions				Asset Summary (at market)			
	Bonds (000,000)	Stocks (000,000)	Total	Cash Flow	Short-term % of Fund	Bonds % of Fund	Equity % of Fund	Total (000,000) (at market)
September 1986	14	(67)	(53)	(48)	4.9	47.0	48.1	8490
October	4	(117)	(113)	10	6.2	46.5	47.3	8724
November	(17)	(3)	(20)	40	6.8	46.0	47.2	8864
December	(51)	44	(7)	12	7.0	46.0	47.0	8772
January 1987	34	21	42	15	6.2	44.4	49.4	9283
February	120	(9)	111	50	5.4	44.4	50.2	9576
March	76	(15)	61	18	4.9	44.5	50.6	9614
April	100	(7)	93	4	4.1	45.0	50.9	9383
May	3	(136)	(133)	33	5.9	44.6	49.5	9403
June	(42)	(22)	(64)	141	7.8	42.6	49.6	9706
July	283	(119)	164	52	6.4	44.9	48.7	10028
August	181	(14)	167	40	5.2	44.7	50.1	10020
September	50	10	60	59	5.3	44.5	50.2	9850
October	(12)	(37)	(49)	20	6.5	50.1	43.4	9077
November	9	(10)	(1)	69	7.4	51.1	41.5	8890
December	(3)	34	31	0	6.8	50.1	43.1	9180
January 1988	(5)	118	113	57	5.9	50.0	44.1	9572
February	102	1	103	47	5.2	49.8	45.0	9841
March	25	(10)	15	6	5.2	49.8	45.0	9686
April	(9)	16	7	11	5.2	49.1	45.7	9667
May	(2)	(2)	(4)	41	5.7	48.3	46.0	9633
June	(3)	18	15	75	6.1	47.5	46.4	10045
July	91	(5)	86	56	5.8	48.1	46.1	10003
August	(3)	14	11	55	6.3	48.2	45.5	9920
September	(7)	(3)	(10)	19	6.4	48.0	45.6	10208

Tab C

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

EXECUTIVE DIRECTOR
HOWARD J. BICKER

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

November 18, 1988

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

FROM: Howard Bicker

SUBJECT: Executive Director's Administrative Report

1) Budget Report

A budget-to-actual report for the SBI's fiscal year 1989 administrative budget is included as Attachment A. It includes expenditures through October 31, 1988.

2) Travel Report

A summary of SBI travel for August 16 through November 15, 1988 is included as Attachment B.

3) Board/IAC Meeting Schedules for Calendar 1989

Quarterly meeting schedules for the Board and IAC are included as Attachments C and D.

4) 1989 Post Retirement Fund Benefit Increase

As shown in the quarterly investment report, the Post Retirement Investment Fund generated a 6.918% lifetime benefit increase for eligible retirees. This increase will take effect January 1, 1989.

5) Status Report on Investment Conference Planning

The Board's Investment Conference is tentatively scheduled for late January 1989. Board member deputies/designees are working with SBI staff to finalize the agenda.

6) Fiscal Year 1988 Annual Report

A draft copy of the text for the Fiscal Year 1988 Annual Report was sent to Board and IAC members on November 18, 1988. Comments were requested by December 2, 1988. Printed copies should be available for distribution in mid January 1989.

ATTACHMENT A

STATE BOARD OF INVESTMENT
FISCAL YEAR 1989 ADMINISTRATIVE BUDGET REPORT
GENERAL FUND APPROPRIATION
FISCAL YEAR TO-DATE THROUGH OCTOBER 31,1988

ITEM	**FISCAL YEAR 1989 BUDGET**	**FISCAL YEAR 1989 EXPENDITURES**
PERSONAL SERVICES		
CLASSIFIED EMPLOYEES	$ 222,572	$ 66,451
UNCLASSIFIED EMPLOYEES	1,050,000	307,820
PART-TIME EMPLOYEES	0	0
SEVERENCE PAY	10,600	0
MISCELLANEOUS PAYROLL	6,000	* -444
SUBTOTAL	**$ 1,289,172**	**$ 373,827**
EXPENSES & CONTRACTUAL SERVICES		
RENTS & LEASES	97,000	31,392
REPAIRS/ALTERATIONS/MAINTENANC	9,000	1,250
PRINTING & BINDING	18,000	6,375
PROFESSIONAL/TECHNICAL SERVICE	5,000	4,752
DATA PROCESSING & SYSTEM SERVI	162,000	40,500
PURCHASED SERVICES	20,000	8,233
SUBTOTAL	**$ 311,000**	**$ 92,502**
MISCELLANEOUS OPERATING EXPENSES		
COMMUNICATIONS	20,000	6,583
TRAVEL, IN-STATE	3,000	262
TRAVEL, OUT-STATE	40,000	14,316
FEES & OTHER FIXED CHARGES	7,000	2,189
SUBTOTAL	**$ 70,000**	**$ 23,350**
SUPPLIES/MATERIALS/PARTS	**15,000**	**5,336**
CAPITAL EQUIPMENT	**22,000**	**3,786**
TOTAL GENERAL FUND	**$ 1,707,172**	**$ 498,801**

*Reflects an accounting adjustment for an expenditure in a prior period

ATTACHMENT B

STATE BOARD OF INVESTMENT

Travel Summary by Date
August 16, 1988 - November 15, 1988

Purpose	Name(s)	Destination and Date	Total Cost
Staff Education Tactical Asset Allocation Seminar (sponsored by Columbine)	M. Edwards	Co. Springs CO 8/21-24	$ 998.47
Miscellaneous IRRC Meeting on 1989 Proxy Season	J. Heidelberg	Washington D.C. 9/6-7	$ 569.70
Manager Monitoring Active Equity Managers Alger, BMI, Forstmann, Lieber	D. Gorence M. Menssen	New York, NY 9/12-14	$1,898.34
Staff Education Equity Portfolio Mgmt. Seminar (sponsored by BARRA)	M. Menssen	New York NY 9/14-16	Included in above costs
Manager Monitoring Bond Index Managers Lincoln, Fidelity	R. Henry J. Lukens	Chicago IL 9/14	$ 658.59
Miscellaneous Information session for local police and fire funds on Supplemental Fund	H. Bicker M. Schmitt J. Heidelberg	St. Cloud MN 9/15	$ 22.38
Consultant Meeting Richards & Tierney	D. Gorence	Chicago, IL 9/21-23	$ 701.80
Staff Conference Institutional Investor Conference	H. Bicker	Dallas TX 9/22-23	$ 848.75
Staff Conference National Council of Teachers Retirement Systems Annual Meeting	H. Bicker	Reno NE 9/26-29	$1,180.43
Manager Monitoring Active Equity Manager Waddell & Reed	D. Gorence M. Menssen	Kansas City MO 10/3	$ 573.00

Purpose	Name (s)	Destination and Date	Total Cost
Staff Conference Midwest Government Finance Officers Association Annual Meeting	H. Bicker	Alexandria MN 10/11-13	$ 170.00
Staff Conference National Association of State Investment Officers Annual Meeting	H. Bicker B. Lehman	Willmington DE 10/16-19	$2,007.25
New Manager Search 1988-1991 GIC Bid	J. Heidelberg	Boston MA 10/25-26	$ 647.49
Staff Education Venture Capital Forum (sponsored by Venture Economics)	J. Lukens	Boston MA 10/26-28	$1,564.32
Miscellaneous State Highway Patrol Retirees Annual Meeting	H. Bicker	Plymouth MN 10/27	$ 32.50
Staff Education Real Estate Seminar (sponsored by State of Utah and the Northwest Education Center)	J. Heidelberg	San Fran. CA 11/6-9	$1,295.60
Consultant Meeting Richards & Tierney	H. Bicker B. Lehman	Chicago IL 11/7	$ 541.00
Staff Education Portfolio Management Seminar (sponsored by Investment Management Institute)	D. Gorence	Boston MA 11/9-11	$1,003.10
Staff Conference National State Treasurers and Controllers Annual Meeting	G. Feldman	San Diego CA 11/12-16	$ 727.88

ATTACHMENT C

STATE BOARD OF INVESTMENT

1989 Meeting Schedule

The State Board of Investment (SBI) is scheduled to meet on the following dates:

Wednesday, March 1, 1989
Wednesday, June 7, 1989
Wednesday, September 6, 1989
Wednesday, December 6, 1989

The SBI, The Land Exchange Board and the Executive Council meet consecutively on the meeting day between 8:00 A.M. and 12:00 P.M. Generally, meetings are held in the State Capitol.

INVESTMENT ADVISORY COUNCIL

1989 Meeting Schedule

The Investment Advisory Council (IAC) is scheduled to meet on the following dates:

Tuesday, February 28, 1989
Tuesday, June 6, 1989
Tuesday, September 5, 1989
Tuesday, December 5, 1989

Generally, IAC meetings are held at 2:00 P.M. in Conference Room A, MEA Building, 41 Sherburne Avenue, St. Paul, MN.

Tab D

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

MICHAEL A. McGRATH
Treasurer

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

November 21, 1988

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

FROM: State Treasurer Michael A. McGrath, Chair
SBI Administrative Committee

SUBJECT: SBI Administrative Committee Report

This report summarizes the major items discussed by the SBI Administrative Committee at their October 6 and November 18, 1988 meetings. The Committee is not referring any items to the Board for action at this time.

1) Capital Equipment Budget

The Committee reviewed planned expenditures for capital equipment. The fiscal year 1989 plan includes additional data storage hardware, personal computer work stations and computer peripherals. Total expenditures will be approximately $22,000. The Committee concurred with the plan as presented.

2) Return on Management Fees

At the Committee's request, Tom Richards of Richards & Tierney, Inc., the Board's consultant, provided additional analysis on the return the SBI is receiving on fees paid to its stock and bond managers. Over a four and one half year period (January 1984 through June 1988), Mr. Richards reported that the current group of active managers provided a return of more than three dollars per dollar of fee paid when compared against their individual benchmarks. He reported that the current active managers added about one dollar per dollar of fee paid when compared against the Wilshire 5000. He noted the managers that have been terminated caused a large negative payoff per dollar of fees paid. The index fund made a positive payoff due to positive tracking error during the time period studied.

3) Meetings of the Committee

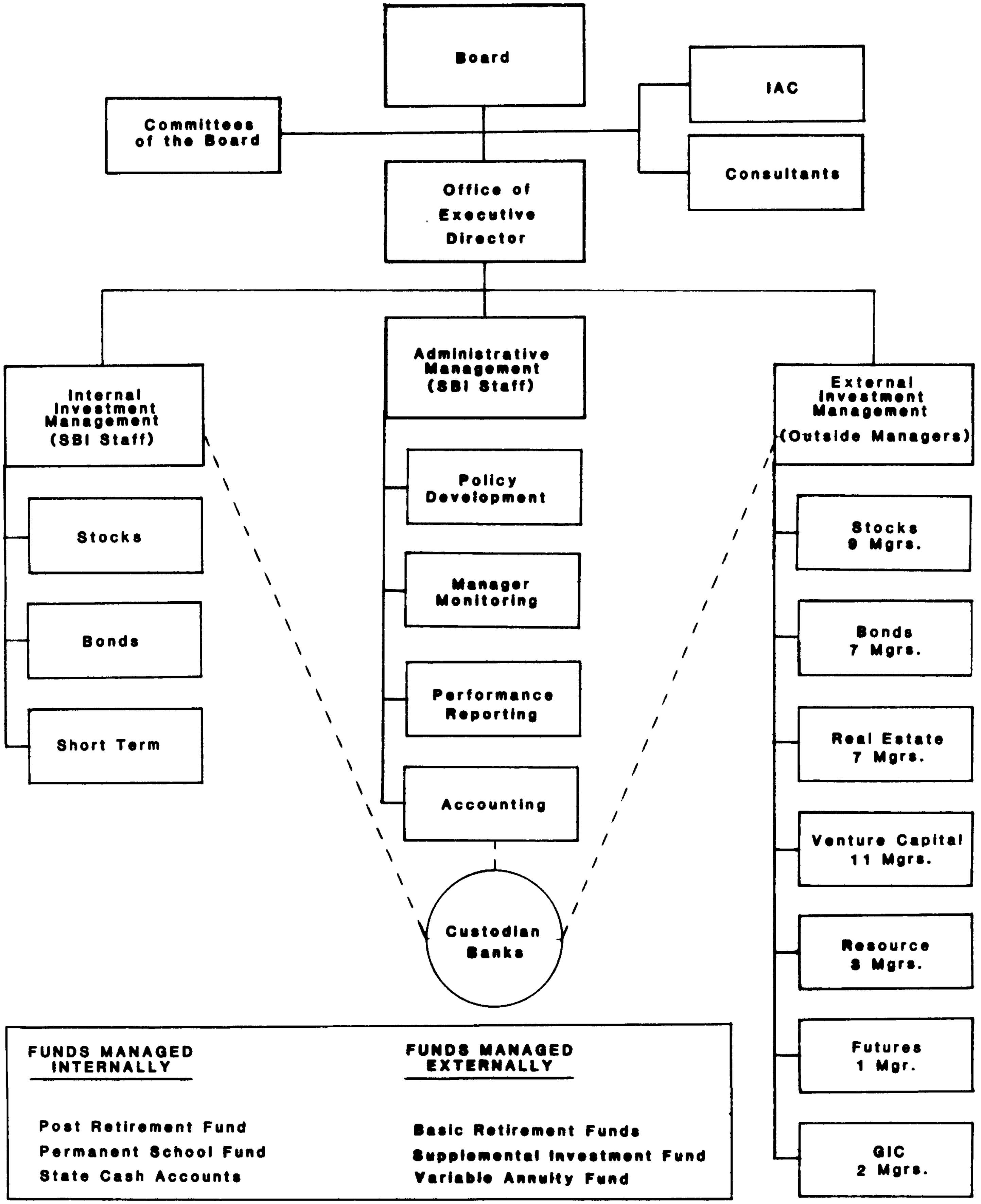
Since its formation in March 1988, the SBI Administrative Committee has met twice each quarter. In the future, the Committee plans to meet once each quarter during the month prior to the regular Board meeting (February, May, August, November).

4) Relationship of Board, IAC, Consultant and Staff

The Committee reviewed the functional organization and decision-making process currently used by the SBI. These relationships are illustrated in Attachments A and B.

ATTACHMENT A

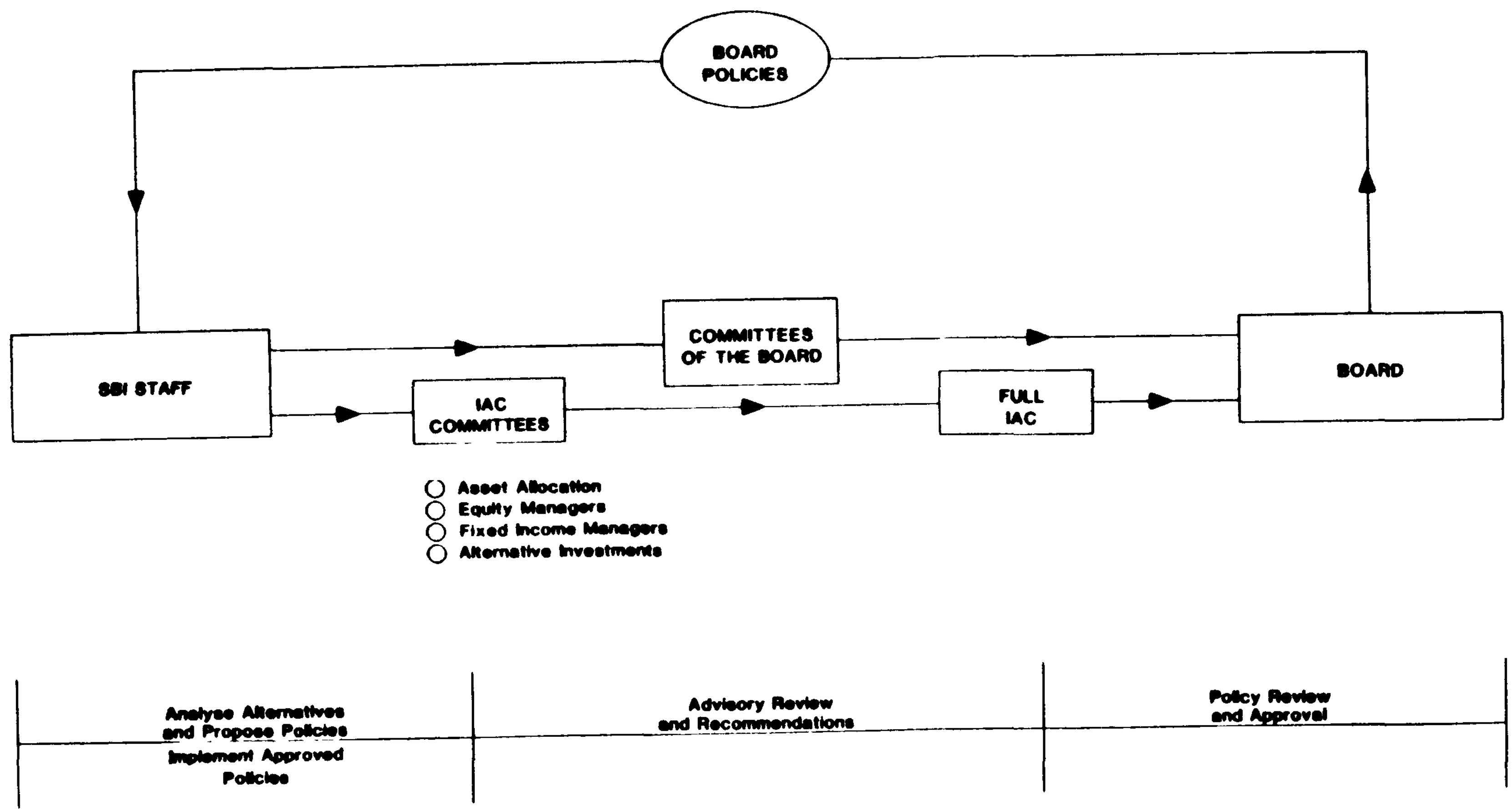
STATE BOARD OF INVESTMENT
Functional
Organization Structure



November 1988

ATTACHMENT B

DECISION - MAKING PROCESS



The Board's consultants provide input throughtout the decision-making process.

Tab E

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

EXECUTIVE DIRECTOR
HOWARD J. BICKER

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

November 17, 1988

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

FROM: Equity Manager Committee

SUBJECT: Committee Report

The Committee met on Thursday, November 17, 1988 to discuss the following agenda items:

- o Review of updated equity manager investment guidelines
- o Review of staff position paper "Wilshire 5000 as an Equity Asset Class Target"
- o Review of active equity manager performance
- o Review of previous recommendation to hire four active equity managers.

A summary of Committee discussion and recommendations for each agenda item are provided below.

INFORMATION ITEMS:

1) Review of updated active equity manager investment guidelines.

The Committee reviewed the active equity manager investment guidelines recently updated by staff. The guidelines are used to govern and evaluate the investment actions of the Board's active domestic common stock managers and are part of the investment management agreement between the Board and manager.

The original guidelines were established in 1983 when the active manager program was initiated. The updated guidelines incorporate the role of benchmark portfolios and the evaluation of managers as provided in the Board's recently adopted manager continuation policy. A copy of the updated investment guidelines is attached to this report (see Attachment A).

2) Review of staff position paper, "Wilshire 5000 as an Equity Asset Class Target."

   The Equity Manager Committee discussed a staff position paper reviewing the rationale for the Board's decision to use the Wilshire 5000 as the asset class target for domestic equities. The Committee supports the use of the Wilshire 5000 as an extended broad market index and concurs with the staff recommendation that the Board continue to use the Wilshire 5000 as its asset class for domestic equities. A copy of the staff position paper is included in the attachments (see Attachment B).

<u>ACTION ITEMS</u>:

1) Review of equity manager performance.

   The Committee reviewed the performance evaluation reports for each of the Board's external equity managers and concurred with the following staff recommendation:

   o Maintain the probation status of Fred Alger Management.

     The firm was placed on probation for quantitative reasons at the Board's June 1988 meeting. Fred Alger's cumulative Value of Active Management (VAM) chart performance through September 30, 1988 remains below the probation level. The Committee reviewed previously noted concerns regarding Fred Alger's continued account erosion and personnel changes. These concerns have been reviewed with the firm and warrant continued monitoring.

2) Recommendation laid over at the September 19, 1988 Board meeting.

   At its meeting on September 19, 1988, the Board laid over consideration of the Equity Committee's recommendation to hire four new active equity managers. The Committee reaffirms its previous recommendation. The recommendation from the previous Committee report is shown below:

     "The Committee reviewed the results of the Equity Manager Selection Committee and accepts its recommendations concerning the addition of four managers to the SBI's active stock manager group. Specifically, the Selection Committee recommends that:

- the SBI authorize the Executive Director, with assistance from SBI's legal counsel, to execute and negotiate contracts with Concord Capital Management, Franklin Portfolio Associates Trust, Rosenberg Institutional Equity Management and Sasco Capital Inc.

- each manager receive an initial portfolio of approximately $100 million

- each manager be compensated through the performance based fee formula used for the SBI's current active stock managers

As noted in the Selection Committee report, $100 million is approximately 3% of the Basic Funds' common stock segment. The Committee believes that a 3% initial allocation represents the minimum level necessary for a manager to have a meaningful impact on total fund performance.

The Committee also discussed the impact that the Selection Committee's recommendation will have on the diversification of the Basic Funds' common stock segment. The Committee reviewed a risk analysis, data indicating that the addition of these four managers will reduce the Basic Funds' misfit exposure.

The Committee recommends that the new managers be funded with assets from the index fund."

ATTACHMENT A

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 one (1) 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 the 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 October 1985 the SBI adopted a resolution regarding companies that do business in South Africa. Currently, the resolution requires the SBI to restrict its holdings to companies that have achieved the highest category rating on their implementation of the Sullivan Principles.

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. 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: October 25, 1988

ATTACHMENT B

WILSHIRE 5000

AS AN

EQUITY ASSET CLASS TARGET

Staff Position Paper

November 1988

EXECUTIVE SUMMARY

In 1983, the State Board of Investment (SBI) selected the Wilshire 5000 as its asset class target for domestic common stocks. The purpose of this paper is to review the rationale for that decision.

Generally, the most appropriate asset class target is a broad market index which represents the full range of investment opportunities within an asset class. The asset class target should embody the plan's return objectives and risk tolerance for a particular asset class. It also provides a measurable performance standard with which to evaluate investment results.

Most plan sponsors have chosen either the Standard and Poor's 500 (S&P 500) or the Wilshire 5000 as their domestic equity asset class target. In recent years, many plans have moved away from the S&P 500 in order to gain greater exposure to the smaller capitalization area of the market. Since the Wilshire 5000 includes many small capitalization stocks, it is a logical alternative to the S&P 500.

Historically, the Wilshire 5000 has produced returns that are somewhat greater and slightly more volatile than those of the S&P 500. Over shorter periods of time (one to five years), performance may differ significantly. Over longer periods of time (ten to fifteen years), the performance difference between the two indices is minimal.

There are two primary advantages to the Wilshire 5000 as an asset class target:

- The Wilshire 5000 represents virtually all publicly traded domestic common stocks. It is the most direct means of gaining exposure to the entire stock market and includes both small and large capitalization stocks.
- The Wilshire 5000 is more representative of the universe of stocks held by the Board's managers. The SBI's active stock managers, in aggregate, are oriented toward smaller capitalization stocks.

Staff believes that the use of an extended broad market index is consistent with the Board's investment objectives and risk tolerance. Staff recommends that the Board continue to use the Wilshire 5000 as its asset class target for domestic equities.

INTRODUCTION

In 1983, the State Board of Investment (SBI) selected the Wilshire 5000 as its asset class target for the domestic common stocks. The purpose of this paper is to review the rationale for that decision. The discussion has been organized in a question and answer format:

1. What is an asset class target?
2. What is the purpose of an asset class target?
3. What market indexes are typically chosen as asset class targets?
4. Are there situations where a market index is not appropriate?
5. Do any of these considerations apply to the SBI?
6. How does the performance of the two most common asset class targets compare (S&P 500 vs. Wilshire 5000)?
7. Is relative performance a sound basis for choosing an asset class target?
8. What are the advantages of the Wilshire 5000 as an asset class target?
9. What would be the impact of changing the SBI's asset class target?

The paper concludes with a staff recommendation that the Board continue to use the Wilshire 5000 as its asset class target for domestic common stock.

1. <u>What is an asset class target</u>?

An asset class target is a diversified collection of securities within a particular asset class. It represents the set of feasible investment opportunities that the plan sponsor believes best achieve the purposes for which the asset class is included in the policy asset mix. The plan's investments in the asset class, in aggregate, should reflect the risk-return characteristics of the selected asset class target.

Generally, the most appropriate asset class target is a broad market index which represents the full range of investment opportunities within the asset class. Currently, the SBI uses the Wilshire 5000 Index as its asset class target for domestic equities and the Salomon Broad Investment Grade Bond Index as its class target for domestic fixed income.

2. <u>What is the purpose of an asset class target</u>?

There are two primary purposes for establishing an asset class target:

- o The asset class target should embody the plan's return objectives and risk tolerance for a particular asset class. The establishment of an appropriate asset class target, by defining the range of available investments, assures that implementation is consistent with stated policy.
- o The asset class target should provide a measurable performance standard with which to evaluate the results of the plan's investment program.

3. <u>What market indices are typically chosen as asset class targets</u>?

The majority of plan sponsors utilize the Standard & Poor's 500 (S&P 500) as their asset class target. The popularity of the S&P 500 is due primarily to its widespread use in the financial press. (See Appendix A for a description of the S&P 500).

In recent years, many plan sponsors have moved to non-S&P 500 targets. The desire on the part of some plan sponsors to extend the range of investment opportunities in the smaller capitalization area of the market has been the primary motivation. The Wilshire 5000 is a widely used "extended" index. (See Appendix A for a description of the Wilshire 5000).

4. <u>Are there situations where a market index is not appropriate</u>?

Yes. A plan sponsor may choose to restrict the composition of its asset class target if:

- o Statutory, regulatory or policy requirements prohibit ownership of certain securities within an asset class.
- o The nature of the plan sponsor's business makes it desirable to exclude certain types of securities within an asset class.
- o The plan sponsor perceives certain significant long-run investment opportunities within an asset class.

In the first case, a pension plan may be prohibited from owning particular types of securities. For example, many public pension plans operate under legal lists which permit ownership of only certain specified securities. Securities not on these legal lists are ineligible for inclusion in the plans' investment portfolios.

In the second case, the plan sponsor may wish to avoid certain securities whose returns are highly correlated with the plan sponsor's economic prospects. For example, corporations ordinarily do not own large positions of their own stock in their employees' pension plans. In periods when the corporations's profit outlook is poor, its stock will also perform poorly, detracting from pension plan performance at a financially inopportune time.

In the third case, the plan sponsor may believe that certain persistent investment opportunities exist within an asset class. As a result, the plan sponsor may wish to concentrate investments within the asset class in those opportunities. For example, it is well-documented that over the last 60 years small capitalization stocks have outperformed large capitalization stocks. A plan sponsor could permanently emphasize small capitalization stocks in the plan's common stock component by selecting an asset class target that is heavily weighted in small cap stocks.

In each of these situations, the plan sponsor's decision to limit the types of securities held in a particular asset class should be reflected in the target for that asset class. By doing so, the plan's investment opportunities are reconciled with its policy asset mix.

5. <u>Do any of these considerations apply to the SBI</u>?

Not at the present time. Since none of the these target-restricting circumstances described in Question #4 currently applies to the Board's common stock investments, the broadest possible market index is most appropriate choice for the SBI domestic stock target. Specifically:

- There are no statutory restrictions on the Basic Funds common stock investments. It should be noted, however, that the Board policy concerning South Africa, liquor and tobacco have some impact on security selection.
- Given Minnesota's broad economy, it is impractical to avoid economic sectors of the stock market that are highly correlated with Minnesota's tax revenue base.
- Certain sources of persisent above average returns in the stock market do exist (e.g., small capitalization stocks, low price-to-book value stocks, low price-to-earnings stocks, etc.). However, given the difficulty in accurately predicting the cyclical nature of these opportunities, it is not feasible to select an asset class target designed to exploit market anomalies.

Given these considerations, there has been no reason to limit the Board's investments in the domestic stock market at the present time. Therefore, a broad market index is appropriate for the SBI's equity asset class target.

6. <u>How does the performance of the two most common asset class targets compare (Wilshire 5000 vs. S&P 500)</u>?

Historically, the Wilshire 5000 has produced returns that are somewhat greater and slightly more volatile than those of the S&P 500. As is illustrated in Table I, the standard deviation of returns on the Wilshire 5000 over the last 213 months is 17.0% per annum versus 16.3% per annum for the S&P 500. Over this same time period, the Wilshire 5000 has returned 11.3% per annum versus 10.9% for the S&P 500. Over long periods of time the performance difference between the two indices is minimal. Exhibit I shows the value of $1 invested on January 1, 1971 in the Wilshire 5000 and S&P 500.

EXHIBIT I

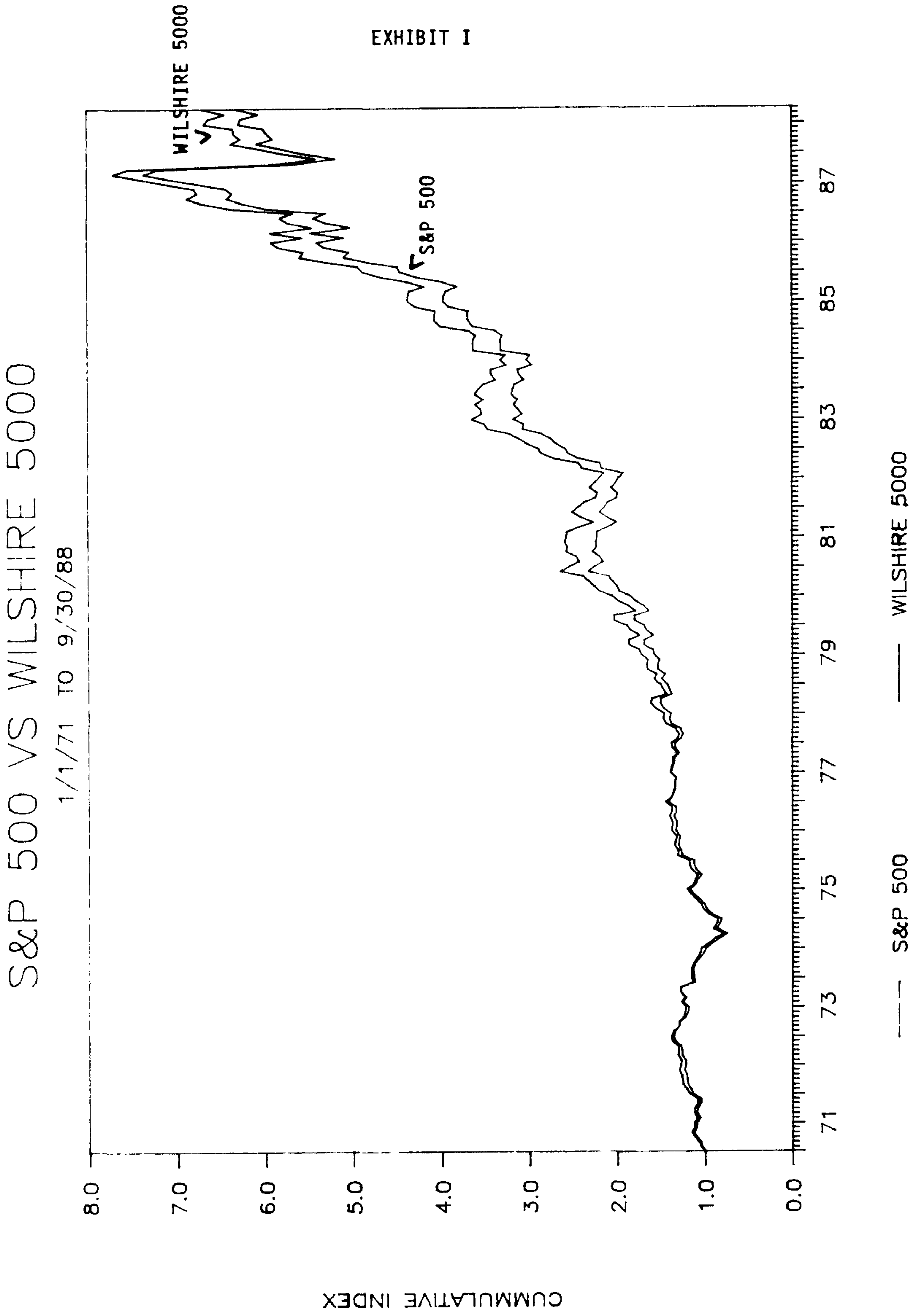

S&P 500 VS WILSHIRE 5000
1/1/71 TO 9/30/88
WILSHIRE 5000
S&P 500
8.0
7.0
6.0
5.0
4.0
3.0
2.0
1.0
0.0
CUMMULATIVE INDEX
71
73
75
77
79
81
83
85
87
S&P 500
WILSHIRE 5000

TABLE I

TOTAL RETURN AND STANDARD DEVIATION
OF THE WILSHIRE 5000 AND THE S&P 500

	For The Period Jan. 1971 - Sept. 1988	
	Wilshire 5000	S&P 500
Annualized Total Return	11.3%	10.9%
Annualized Standard Deviation	17.0%	16.3%

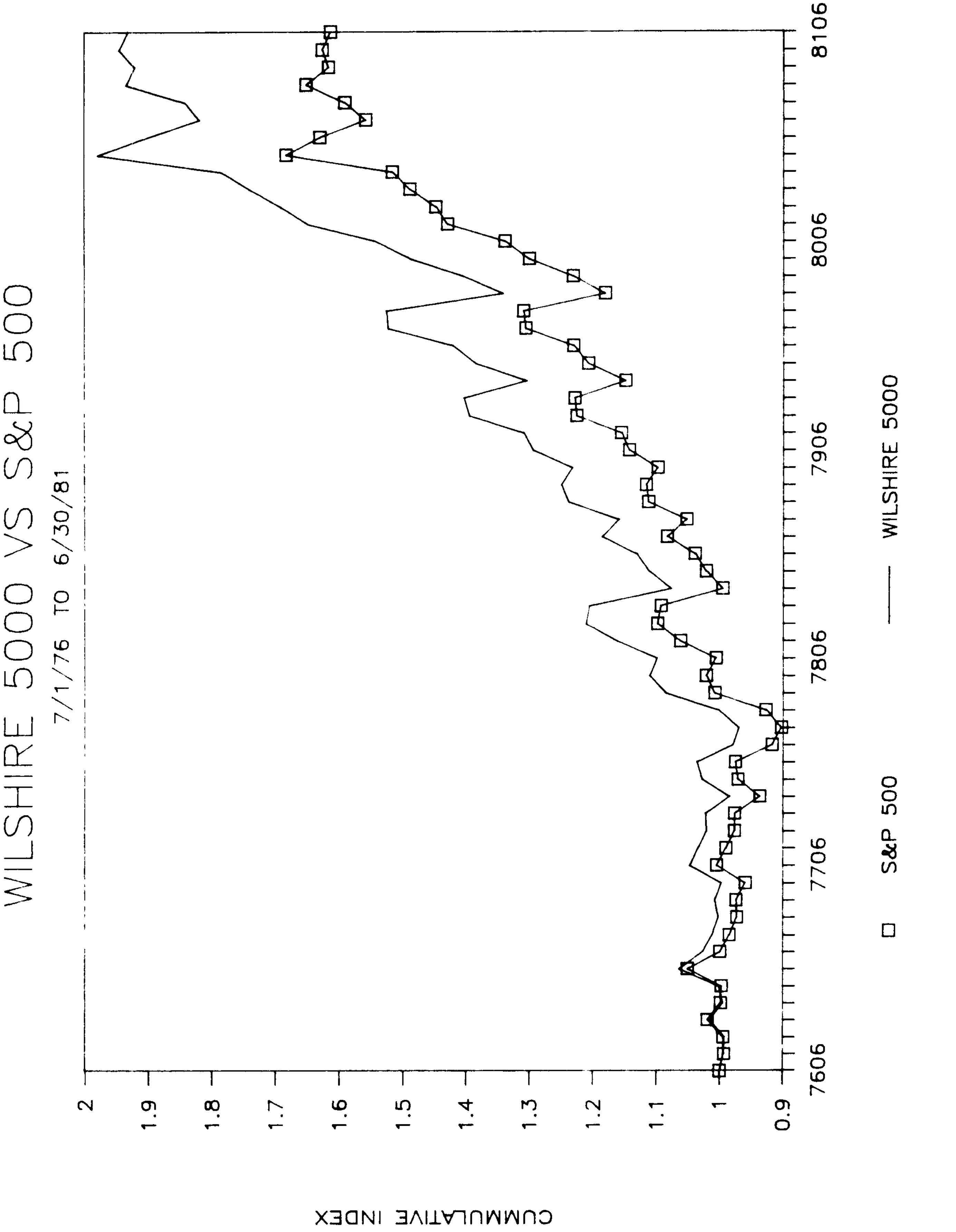
7. <u>Is relative performance a sound basis for choosing an asset class target?</u>

No. Using performance as a criterion can be very misleading. This can be illustrated by comparing the performance of the Wilshire 5000 and S&P 500 over two different five-year periods.

Exhibit II encompasses the five year period ending June, 1981. During this period the Wilshire 5000 outperformed the S&P 500 by 4.1% per annum (Wilshire 14.1% vs. S&P 10.0%). The S&P 500 underweighting in the "small cap" sectors is the primary cause of the differences in the rates of return produced by the two market indicators. Over this period, small capitalization stocks significantly outperformed large capitalization stocks, just as they have done over the last 60 years. This was not captured by the S&P 500.

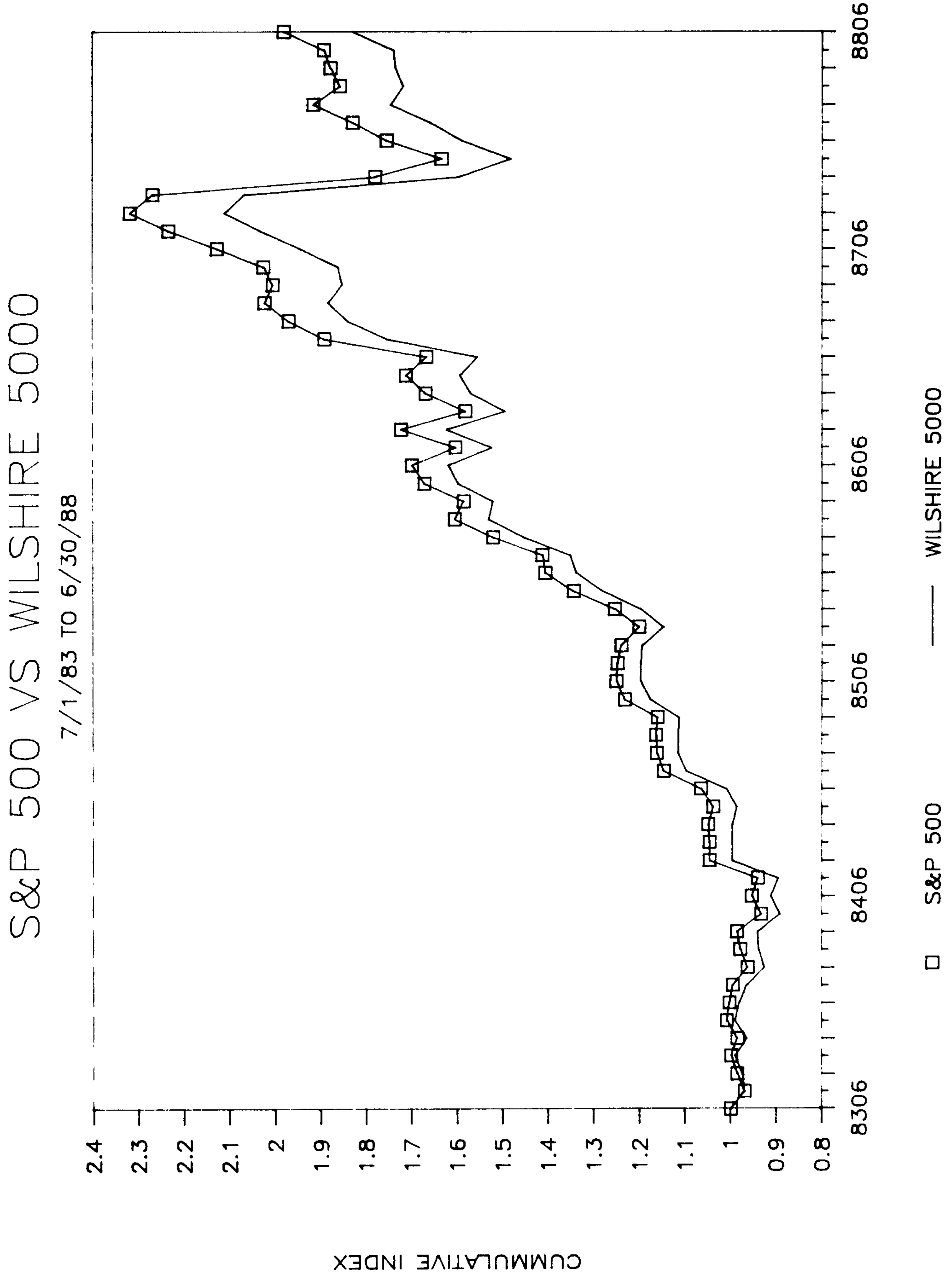
By contrast, the five year period ending June 30, 1988 produces a much different result. As shown in Exhibit III, the S&P 500 provided superior results relative to the

EXHIBIT II



WILSHIRE 5000 VS S&P 500
7/1/76 TO 6/30/81
CUMMULATIVE INDEX
2
1.9
1.8
1.7
1.6
1.5
1.4
1.3
1.2
1.1
1
0.9
7606
7706
7806
7906
8006
8106
S&P 500
WILSHIRE 5000

EXHIBIT III



S&P 500 VS WILSHIRE 5000
7/1/83 TO 6/30/88
CUMMULATIVE INDEX
2.4
2.3
2.2
2.1
2
1.9
1.8
1.7
1.6
1.5
1.4
1.3
1.2
1.1
1
0.9
0.8
8306
8406
8506
8606
8706
8806
S&P 500
WILSHIRE 5000

Wilshire 5000. Over this period the S&P 500 outperformed the Wilshire 5000 by an annualized rate of 1.7% (S&P 14.6% vs. Wilshire 12.9%).

Many explanations have been offered for the S&P 500's recent exceptional performance, e.g. liquidity, financial futures, portfolio insurance, indexing. Whether these phenomena will continue into the future is unknown.

8. <u>What are the advantages of the Wilshire 5000 as an asset class target?</u>

Staff believes there are several advantages to the Wilshire 5000:

(1) Using the Wilshire 5000 as a target index is the most direct means of gaining exposure to the entire common stock market. The Wilshire 5000 represents virtually all publicly traded domestic common stocks. The S&P 500, on the other hand, has a capitalization only 70% of that of the Wilshire 5000. It is significantly underweighted in the "smaller cap" sectors of the market. Thus, it provides a much less adequate representation of the overall stock market.

(2) The SBI's active managers, in aggregate, are oriented toward smaller capitalization stocks. Thus, using the Wilshire 5000 is more representative of the universe of stocks held by the Board's managers.

(3) Market indices that focus predominately on large capitalization stocks, like the S&P 500, are becoming less representative of the entire stock market. As indicated in Table II, the percent of the equity market represented by large capitalization stocks has declined over the last fifteen years.

TABLE II

CAPITALIZATION OF STOCKS

	Percent of Wilshire 5000	
Capitalization	As of 12/31/72	As Of 9/30/88
Largest 250 issues	67.6%	61.9%
500 issues	81.3	77.0%
1000 issues	93.9	88.9%

It is hypothesized that as the U.S. economy continues to evolve from an industrial, centralized structure to an information-oriented, decentralized form, total capitalization within the stock market will become even more diffuse.

(4) The Wilshire 5000 is not a "managed" index. Although changes occur fairly infrequently, the composition of the S&P 500 occasionally is altered. This fact, combined with the somewhat arbitrary rationale by which stocks are included in the index, give the S&P 500 a certain "managed" style. The particular stocks which comprise the S&P 500 are selected by the "500 Committee." The

Committee bases its choices not only on capitalization and industry representation, but investor interest as well. The Wilshire 5000, on the other hand, is a completely unmanaged market indicator. No judgments regarding whether a particular stock should be included in the indicator are required since all publicly traded stocks are represented.

9. <u>What would be the impact of changing the SBI's asset class target</u>?

Changing the SBI's domestic equity asset class target from the Wilshire 5000 to the S&P 500 would impact the fund in two ways.

First, more than two-thirds of the common stock assets in the Basic Funds are passively managed in a Wilshire 5000 index fund. A Wilshire 5000 index fund measured against an S&P 500 target is totally incompatible. The expense of moving the Wilshire 5000 index fund portfolio to a compatible S&P 500 portfolio must be outweighed by the expectation of better relative performance from the S&P 500. As discussed in Questions #6 and #7, staff does not believe such an expectation is warranted over the long term.

Second, a move to the S&P 500 would be an implicit "bet" on larger capitalization stocks. That is, it would indicate the Board perceives a significant long-run investment opportunity in large capitalization companies. This is contrary to the evidence that smaller stocks have outperformed larger stocks over the past 60 years.

CONCLUSION

Staff believes that the use of an extended broad market index as the asset class target for domestic common stocks is consistent with the Board's investment objectives and risk tolerance.

Staff recommends that the Board continue to use the Wilshire 5000 as the asset class target for domestic common stocks. The Wilshire 5000, which represents essentially the entire U.S. stock market, is the least restrictive index currently available.

APPENDIX A

Description Of Wilshire 5000

The Wilshire 5000 is a broad based domestic equity market indicator, composed of all common stocks publicly traded in the U.S. market for which daily prices are obtainable. The actual number of issues contained in the market indicator varies over time as publicly held companies come into and go out of existence. As of September 30, 1988, the Wilshire 5000 included 5,825 common stock issues.

The Wilshire 5000 is a capitalization-weighted market measure. In calculating its value, the weight assigned to a particular issue is based upon the market value of the total shares outstanding of that issue. Unlike the S&P 500, the current market value of the Wilshire 5000 is not stated relative to a base period market value. Rather, the Wilshire 5000 is measured in billion dollar units. On September 30, 1988, the unit value of the Wilshire 5000 was reported to be 2,706,669, indicating that the aggregate market value of the stocks in the market indicator was roughly $2.7 trillion.

Historical data is available on the Wilshire 5000 extends back to 1971.

Description Of The Standard & Poor's 500

Like the Wilshire 5000, the S&P 500 is designed to provide a broad representation of the entire domestic common stock market. However, instead of including all issues for which daily pricing is obtainable, the S&P 500 attempts to represent the stock market by utilizing a limited subset of the available stocks. More specifically, as of September 30, 1988, the S&P 500 included 400 industrial, 40 transportation, 20 utility, and 40 financial issues. The particular stocks which make up the index are selected by Standard & Poor's "500 Committee." The Committee bases its choices not only on capitalization size and industry representation, but investor interest as well. Major changes in the composition of the index are rare. However, since the number of stocks in the index is a constant 500, mergers or acquisitions of companies, whose stock is part of the index, require for replacements. Further, the "500 Committee" may determine that certain stocks are no longer "appropriate" for inclusion in the index and it may choose to replace those stocks.

Like the Wilshire 5000, the S&P 500 is a capitalization-weighted market indicator. Unlike the Wilshire 5000, however the current value of the S&P 500 represents a ratio of the current total market value of the stocks in the index relative to the total market value of the stocks in the index as of the period 1941-43. This ratio then is scaled to produce a base year value of 10. On September 30, 1988, the value of the S&P 500 index was 271.91, indicating that the total market value of all stocks in the index is currently 27.19 times greater then it was in the base period 1941-43.

Historical information is available on the S&P 500 extending back to 1941.

ACTIVE EQUITY MANAGERS

Value of Active Management Reports

Third Quarter 1988

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 bogeys against which to judge the managers' performance.

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

Staff Recommendations
Staff recommends the following actions concerning manager status:

- Maintain probation status for Fred Alger.

Managers	Market Value 9/30/88 (Thousands)	Quarter Ending 9/30/88 Actual	Quarter Ending 9/30/88 Bmrk	Calendar Year To Date Actual	Calendar Year To Date Bmrk	Year Ending 9/30/88 Actual	Year Ending 9/30/88 Bmrk	(Annualized) Since 1/1/84 Actual	(Annualized) Since 1/1/84 Bmrk
Alger	$107,690	-2.5%	0.0%	7.9%	18.3%	-18.2%	-10.7%	10.2%	13.3%
Alliance	194,186	-3.5	-1.0	10.0	12.1	-13.6	-15.0	16.9	11.1
BMI	77,487	-0.7	-0.9	29.4	18.7	-9.7	-11.2	9.6	10.9
Forstmann	166,310	-2.6	1.0	7.6	13.8	-11.4	-4.6	14.0	11.9
IDS	132,134	-3.7	0.3	3.7	13.5	-17.7	-8.6	14.0	14.3
IAI	96,230	-1.0	0.7	2.0	12.5	-13.5	-8.8	12.6	14.3
Lieber & Co.	78,394	0.8	-1.0	22.5	21.8	-5.7	-8.4	12.7	10.9
Waddell & Reed	140,376	-5.9	-1.7	9.1	15.3	-13.6	-8.9	10.8	10.7
Wilshire 5000		0.2%		15.3%		-11.3%		14.1%	

FRED ALGER MANAGEMENT

PORTFOLIO MANAGER: David Alger

ASSETS UNDER MANAGEMENT: $107,689,837

INVESTMENT PHILOSOPHY

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

QUANTITATIVE EVALUATION

Performance Relative to Benchmark

	Latest Quarter	Calendar Year To Date	Latest Year	Since 1/1/84 Annualized
Fred Alger Actual	-2.5%	7.9%	-18.2%	10.2%
Fred Alger Benchmark	0.0%	18.3	-10.7	13.3

(See Value of Active Management graph below)

QUALITATIVE EVALUATION

(Reported By Exception)

The previous evaluation noted several items of concern:

- Growth plan not in place.
- Significant account loss experienced during past year.
- Loss of key research professional

The first item remains outstanding. The recent account losses and the lost of a key investment professional cause concern and warrant continued monitoring.

The firm's exceptional strengths continue to be:

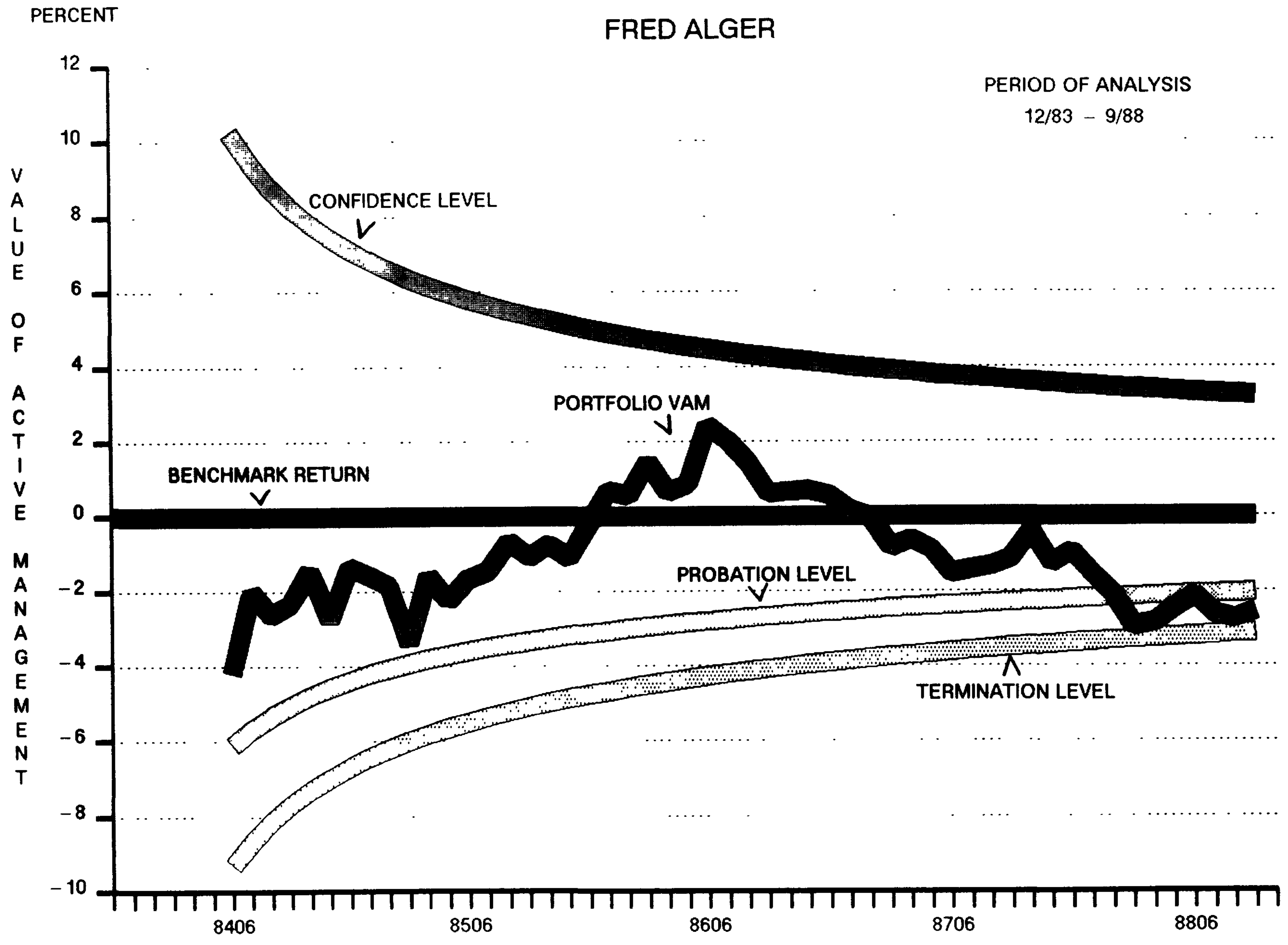
- Highly successful and experienced professionals.
- Organizational continuity and strong leadership.
- Extensive securities research process.

STAFF RECOMMENDATIONS

Maintain probation status. The manager was placed on probation by the Board at its June 1988 meeting. Fred Alger continues to perform poorly relative to benchmark.

VALUE OF ACTIVE MANAGEMENT REPORT

FRED ALGER



ALLIANCE CAPITAL MANAGEMENT

PORTFOLIO MANAGER: Jack Koltes **ASSETS UNDER MANAGEMENT: $194,186,183**

INVESTMENT PHILOSOPHY

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

QUALITATIVE EVALUATION

(Reported By Exception)

The previous evaluation noted several items of concern:

- Insufficient effort to understand performance relative to an appropriate benchmark.

Discussions regarding this issue have produced a satisfactory result.

The firm's exceptional strengths continue to be:

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

QUANTITATIVE EVALUATION

Performance Relative to Benchmark

	Latest Quarter	Calendar Year To Date	Latest Year	Since 1/1/84 Annualized
Alliance Capital Actual	-3.5%	10.0%	-13.6%	16.9%
Alliance Capital Benchmark	-1.0	12.1	-15.0	11.1

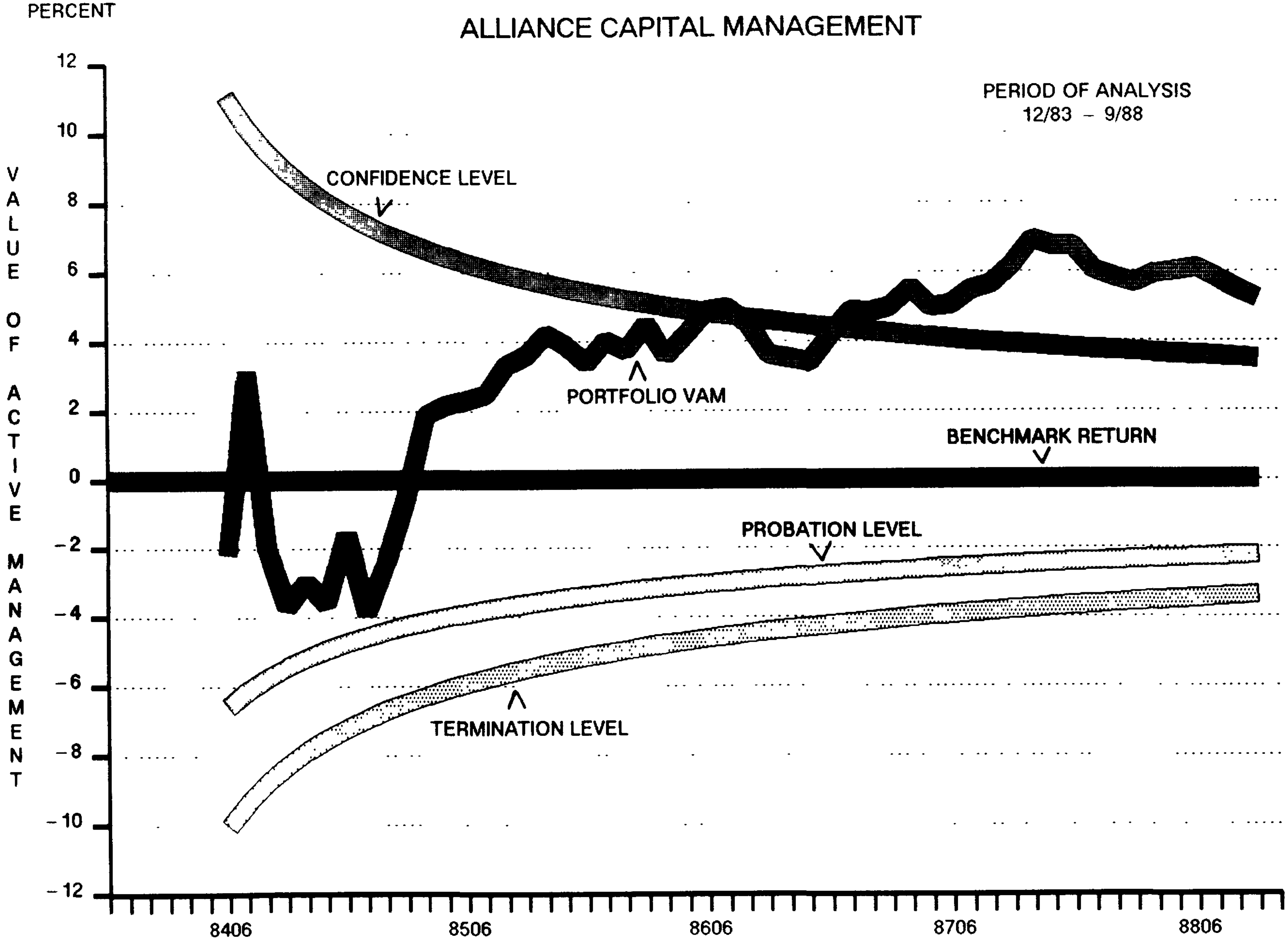
(See Value of Active Management graph below)

STAFF RECOMMENDATIONS

No action required.

VALUE OF ACTIVE MANAGEMENT REPORT

ALLIANCE CAPITAL MANAGEMENT



BMI CAPITAL MANAGEMENT

PORTFOLIO MANAGER: Frank Houghton, James Awad **ASSETS UNDER MANAGEMENT: $77,486,553**

INVESTMENT PHILOSOPHY

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

QUALITATIVE EVALUATION

(Reported By Exception)

The previous evaluation noted several items of concern:

- Lack of clearly identifiable leadership.

This issue, while not serious, warrants continued monitoring.

The firm's exceptional strengths continue to be:

- Extensive securities research process.

QUANTITATIVE EVALUATION

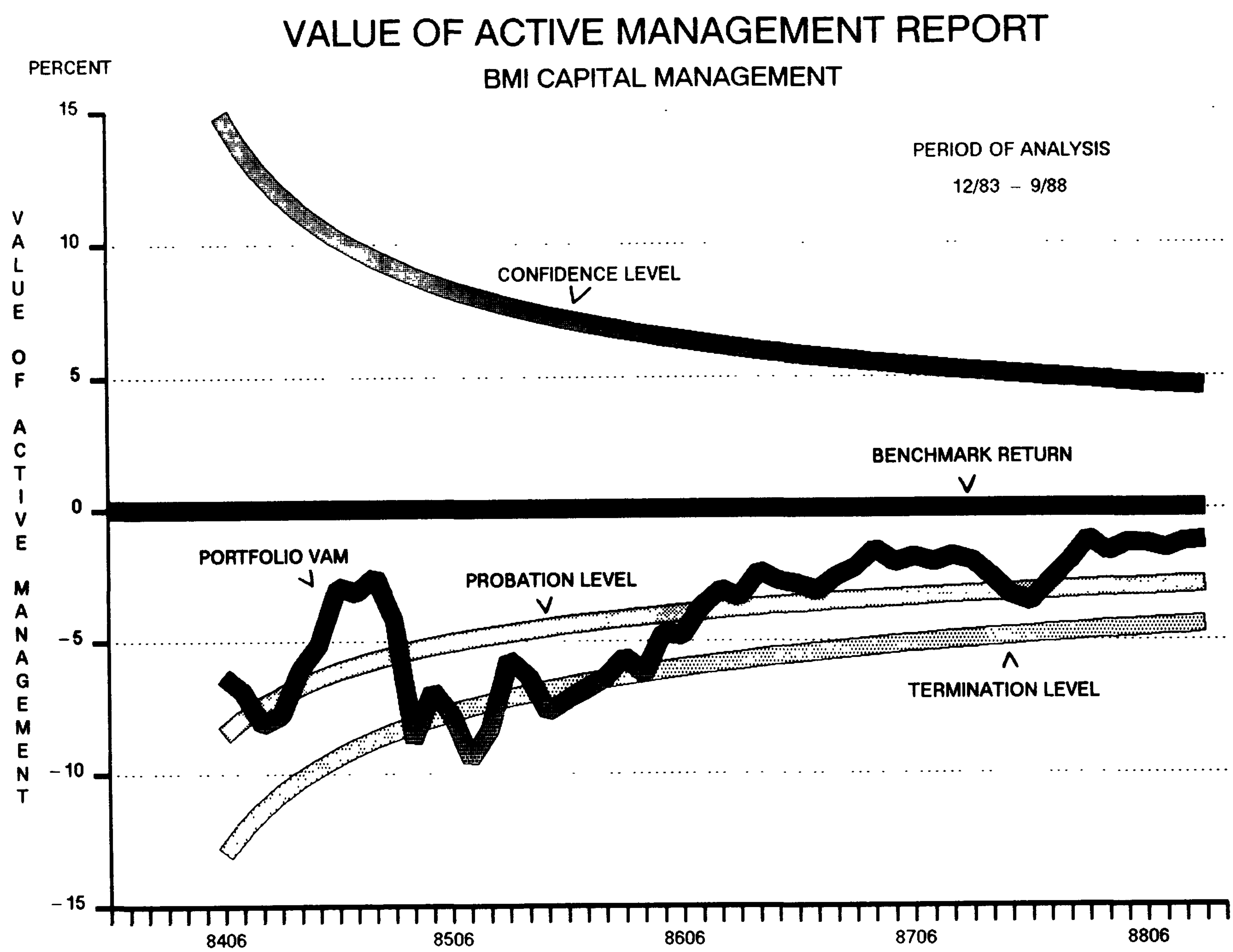
Performance Relative to Benchmark

	Latest Quarter	Calendar Year To Date	Latest Year	Since 1/1/84 Annualized
BMI Capital Actual	-0.7%	29.4%	-9.7%	9.6%
BMI Capital Benchmark	-0.9	18.7	-11.2	10.9

(See Value of Active Management graph below)

STAFF RECOMMENDATIONS

No action required.



VALUE OF ACTIVE MANAGEMENT REPORT
BMI CAPITAL MANAGEMENT
PERCENT
VALUE OF ACTIVE MANAGEMENT
PERIOD OF ANALYSIS
12/83 – 9/88
CONFIDENCE LEVEL
BENCHMARK RETURN
PORTFOLIO VAM
PROBATION LEVEL
TERMINATION LEVEL
15
10
5
0
-5
-10
-15
8406
8506
8606
8706
8806

FORSTMANN LEFF ASSOCIATES

PORTFOLIO MANAGER: Joel Leff

ASSETS UNDER MANAGEMENT: $166,310,179

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)

The previous evaluation noted several items of concern:

- Relatively high turnover among firm's professionals.
- Valuation process not clearly defined.

The first issue, while not serious, remains outstanding. The second issue has been addressed by the firm to the satisfaction of staff.

The firm's exceptional strengths continue to be:

- 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

Performance Relative to Benchmark

	Latest Quarter	Calendar Year To Date	Latest Year	Since 1/1/84 Annualized
Forstmann-Leff Actual	-2.6%	7.6%	-11.4%	14.0%
Forstmann-Leff Benchmark	1.0%	13.8	-4.6	11.9

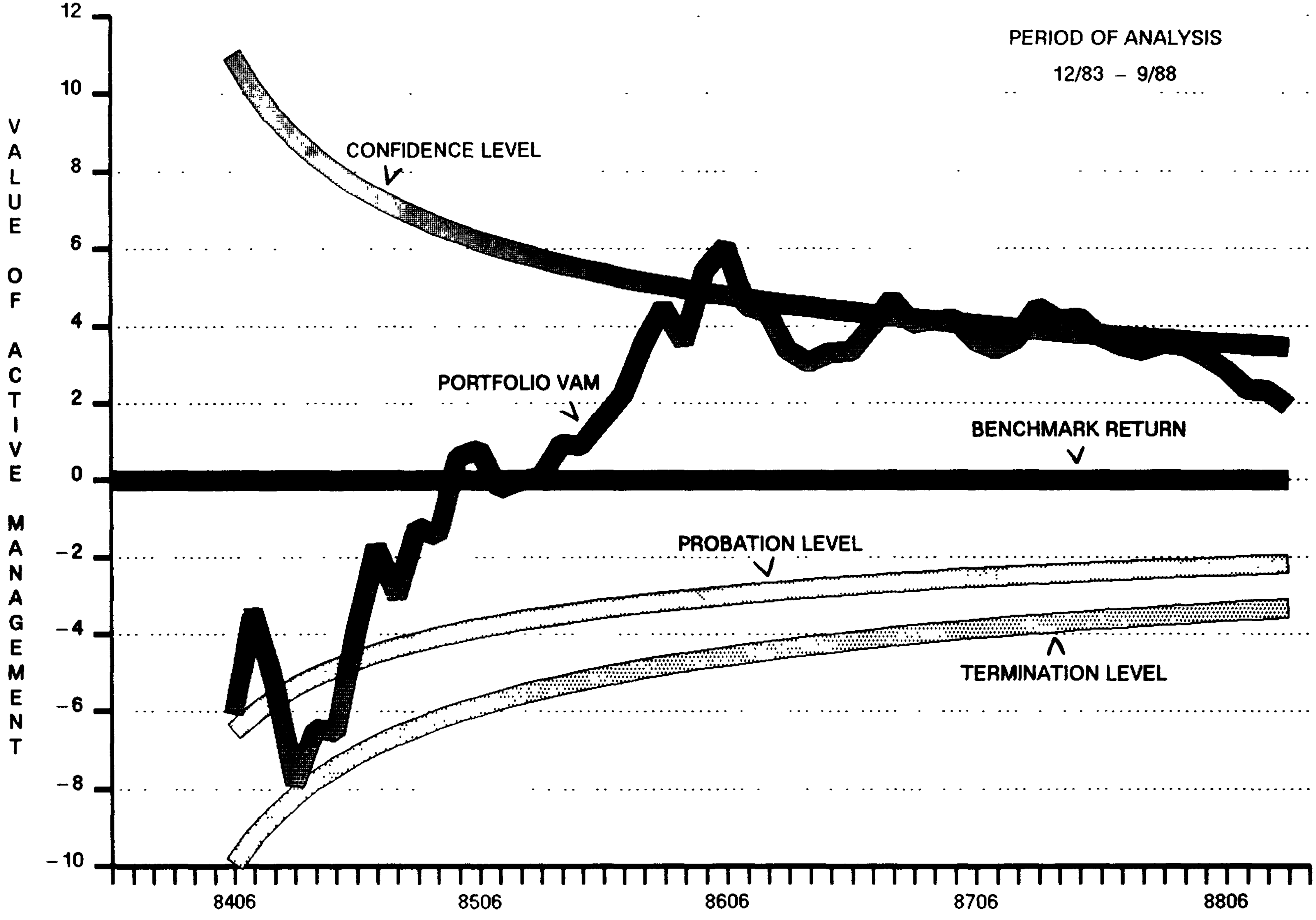
(See Value of Active Management graph below)

STAFF RECOMMENDATIONS

No action required.

VALUE OF ACTIVE MANAGEMENT REPORT

FORSTMANN LEFF



IDS ADVISORY

PORTFOLIO MANAGER: Mitzi Malevich **ASSETS UNDER MANAGEMENT: $132,133,938**

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)

The previous evaluation noted several items of concern:

- Growth plan not in place.
- Account load for portfolio managers is large.

These items remain outstanding and, while not serious, should continue to be monitored.

The firm's exceptional strengths continue to be:

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

QUANTITATIVE EVALUATION

Performance Relative to Benchmark

	Latest Quarter	Calendar Year To Date	Latest Year	Since 1/1/84 Annualized
IDS Advisory Actual	-3.7%	3.7%	-17.7%	14.0%
IDS Advisory Benchmark	0.3%	13.5	-8.6	14.3

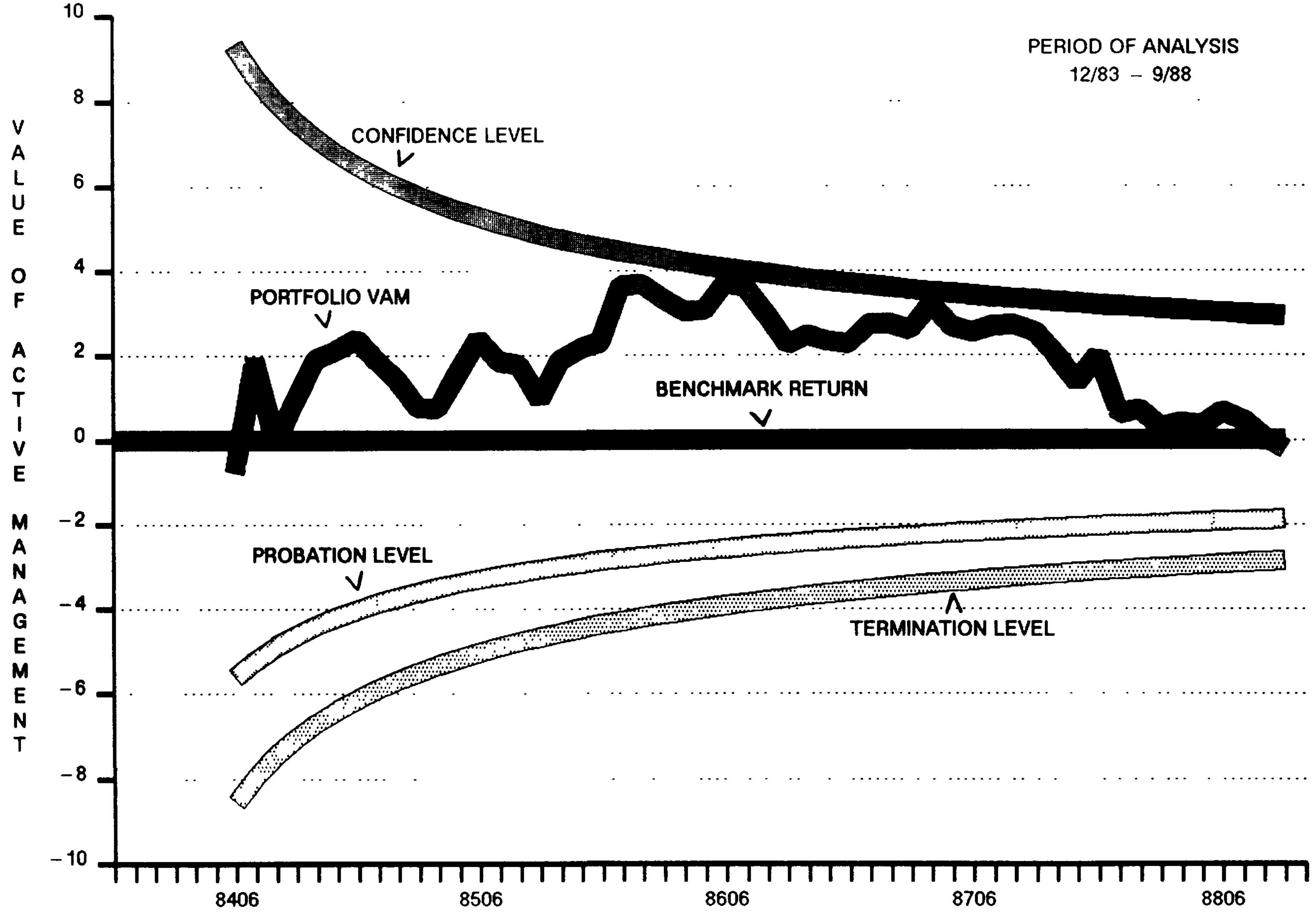
(See Value of Active Management graph below)

STAFF RECOMMENDATIONS

No action required.

VALUE OF ACTIVE MANAGEMENT REPORT

IDS ADVISORY



INVESTMENT ADVISERS

PORTFOLIO MANAGER: Charles Webster **ASSETS UNDER MANAGEMENT: $96,230,544**

INVESTMENT PHILOSOPHY

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

QUANTITATIVE EVALUATION

Performance Relative to Benchmark

	Latest Quarter	Calendar Year To Date	Latest Year	Since 1/1/84 Annualized
IAI Actual	-1.0%	2.0%	-13.5%	12.6%
IAI Benchmark	0.7	12.5	-8.8	14.3

(See Value of Active Management graph below)

QUALITATIVE EVALUATION

(Reported By Exception)

The previous evaluation noted several items of concern:

- Growth plan not in place.
- Lack of familiarity with needs of large institutional clients.

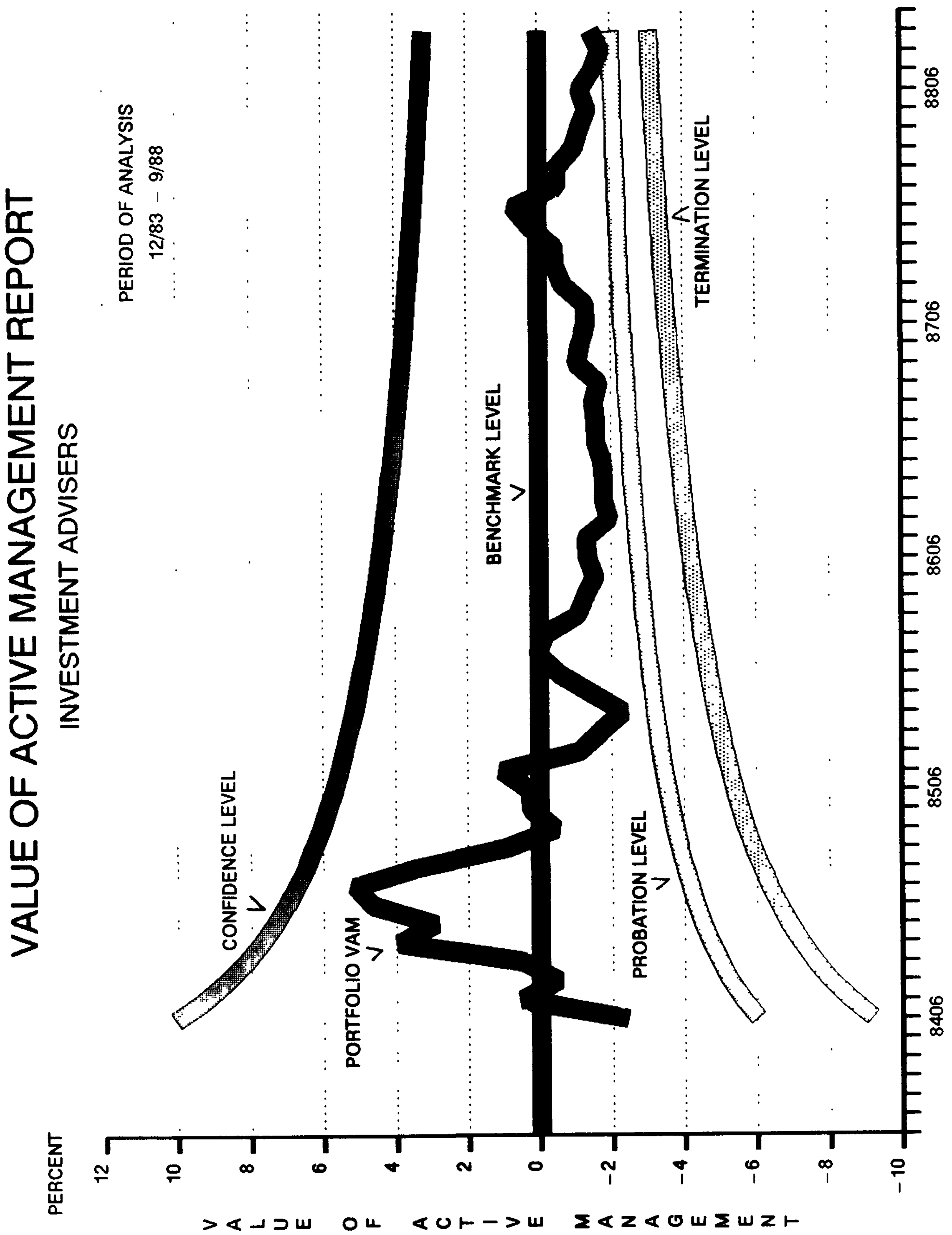
The first item, while not serious, warrants additional monitoring. While the firm continues to address the second issue, staff believes additional monitoring is warranted.

The firm's exceptional strengths continue to be:

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

STAFF RECOMMENDATIONS

No action required.



VALUE OF ACTIVE MANAGEMENT REPORT
INVESTMENT ADVISERS
PERIOD OF ANALYSIS
12/83 - 9/88
PERCENT
VALUE OF ACTIVE MANAGEMENT
12
10
8
6
4
2
0
-2
-4
-6
-8
-10
CONFIDENCE LEVEL
PORTFOLIO VAM
BENCHMARK LEVEL
PROBATION LEVEL
TERMINATION LEVEL
8406
8506
8606
8706
8806

LIEBER & COMPANY

PORTFOLIO MANAGER: Stephen Lieber, Nola Falcone **ASSETS UNDER MANAGEMENT: $78,393,991**

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 investment concepts upon which the firm focuses are related to both macroeconomic trends and specific product developments within particular industries or companies. Stocks purchased by Lieber tend to be those of well-managed, high growth and high return on equity, small-to-medium sized companies. The stocks may be undervalued due to the failure of investors to recognize fully either the value of new products or a successful turnaround situation. Particularly attractive to Lieber are small-to-medium size takeover candidates. The firm generally is fully invested, with any cash positions the result of a lack of attractive investment concepts.

QUALITATIVE EVALUATION

The previous evaluation noted several items of concern:

- Firm is unfamiliar with needs of large clients.
- No analysis of performance relative to benchmark.

These concerns remain largely unresolved. The firm is currently undertaking the task of developing its own customized benchmark portfolio. Staff is confident that the firm will provide that a satisfactory resolution of these issues in the near future.

The firm's exceptional strengths continue to be:

- 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

Performance Relative to Benchmark

	Latest Quarter	Calendar Year To Date	Latest Year	Since 1/1/84 Annualized
Lieber & Co. Actual	0.8%	22.5%	-5.7%	12.7%
Lieber & Co. Benchmark	-1.0	21.8	-8.4	10.9

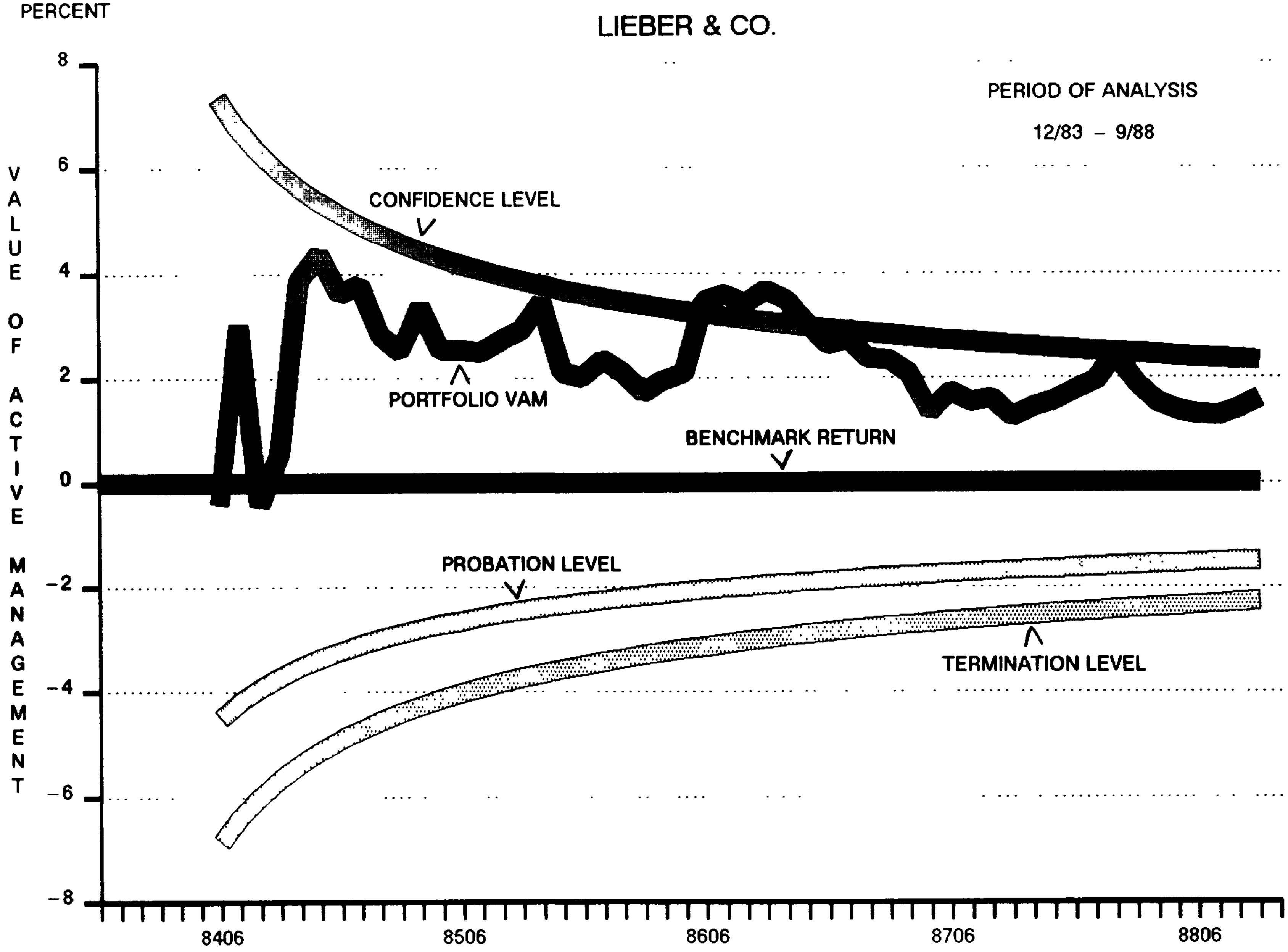
(See Value of Active Management graph below)

STAFF RECOMMENDATIONS

No action required.

VALUE OF ACTIVE MANAGEMENT REPORT

LIEBER & CO.



WADDELL & REED

PORTFOLIO MANAGER: Henry Herrman

ASSETS UNDER MANAGEMENT: $140,376,191

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)

The previous evaluation noted several items of concern:

- Insufficient effort to understand performance relative to an appropriate benchmark.
- Valuation process not well-defined.

The first issue warrants further monitoring and discussion with the firm. The second issue has been satisfactorily addressed by the firm.

The firm's exceptional strengths continue to be:

- Highly successful and experienced professionals.

QUANTITATIVE EVALUATION

Performance Relative to Benchmark

	Latest Quarter	Calendar Year To Date	Latest Year	Since 1/1/84 Annualized
Waddell & Reed	-5.9%	9.1%	-13.6%	10.8%
Waddell & Reed Benchmark	-1.7	15.3	-8.9	10.7

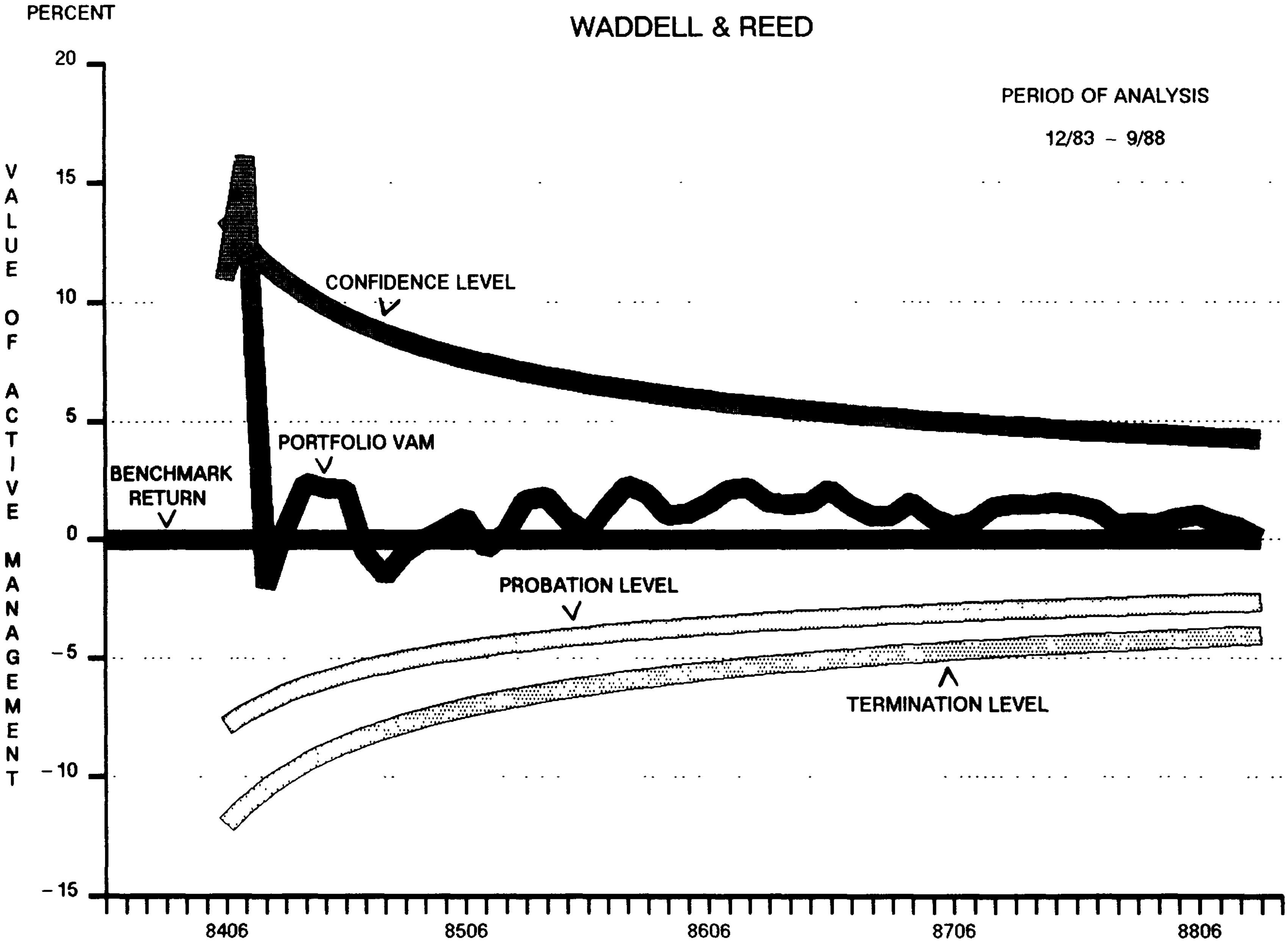
(See Value of Active Management graph below)

STAFF RECOMMENDATIONS

No action required.

VALUE OF ACTIVE MANAGEMENT REPORT

WADDELL & REED



Tab F

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

EXECUTIVE DIRECTOR
HOWARD J. BICKER

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

November 17, 1988

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

FROM: Fixed Income Manager Committee

SUBJECT: Committee Report

The IAC Fixed Income Committee met on November 14, 1988 to review the following agenda items:

- o Review of GIC bid
- o Index fund manager performance
- o Active manager performance
- o Benchmark portfolio recommendations
- o Dedicated bond portfolio software vendor RFP

INFORMATION ITEMS:

1) Review of GIC Bid.

On October 26, 1988, the SBI bid its third 3-year guaranteed investment contract (GIC) for the Supplemental Investment Fund. Mutual of America submitted the winning bid of 9.01%. More information on the GIC bid process is included as an attachment to this report (see Attachment A).

2) Review of Index Fund Start-up.

SBI Staff reviewed the performance of the index managers for the Committee. Due to transaction costs associated with the trading necessary to establish the index portfolios, start-up returns were expected to trail the Salomon BIG index by 15 to 20 basis points (b.p.) in the first quarter of operations. Actual returns are shown below:

	Actual Return Jul.-Sep. 1988	Comparison to Salomon BIG
Fidelity	1.76%	-19 b.p.
Lincoln	1.86%	-7 b.p.

These performance levels are consistent with expectations and indicate a smooth transition into the index format.

ACTION ITEMS:

1) Review of active manager performance.

The Committee reviewed the Value of Active Management (VAM) reports for each manager (attached) and makes the following recommendations:

- Remove Morgan Stanley from probation status.

  Morgan Stanley was placed on probation for qualitative reasons at the June 1988 Board meeting. Since that time the firm has taken steps to address the SBI's concerns. They have developed a satisfactory benchmark and have not violated the SBI's portfolio duration constraints.

- Remove Lehman Management from probation status.

  Lehman Management was placed on probation for qualitative reasons at the June 1988 Board meeting. At that time, their performance had breached the probation level established in the VAM analysis. The firm had exceptionally strong performance during third quarter 1988, their actual portfolio return now plots well above the probation line.

- Adopt proposed benchmarks for IAI, Morgan Stanley and Miller Anderson.

  Two of the SBI's active bond managers, Western and Lehman, have customized benchmarks in place. Over the last two quarters, SBI staff have worked with the remaining active bond managers to develop appropriate customized benchmarks. The Committee reviewed proposed benchmarks for Investment Advisers, Miller Anderson and Morgan Stanley which take into account each manager's investment style. A summary of these characteristics is included in Attachment C. The proposed benchmarks for Investment Advisers and Morgan Stanley differ from the Salomon BIG while the Miller Anderson benchmark would mirror the characteristics of the broad index.

The Committee recommends the proposed manager benchmarks be adopted and directed staff to incorporate these benchmarks in future performance reports.

2) Dedicated bond portfolio software vendor RFP.

The SBI purchases software services from an outside vendor to assist in rebalancing the Post Retirement Fund's dedicated bond portfolio. For the past four years, Bankers Trust has provided this service. In order to assure that the SBI receives the best services at a competitive cost, the SBI issued a request for proposal (RFP) to ten firms, including two local institutions. The SBI staff received seven responses and reviewed them on the basis of service, experience and cost criteria (see Attachment B for a summary).

The Committee evaluated the qualifications of the seven firms and recommends that Bankers Trust be retained as the dedicated bond portfolio software vendor. The principal reasons for this recommendation are:

- o comprehensive service features
- o extensive trading expertise
- o large asset base
- o demonstrated understanding of SBI needs
- o lowest fee proposal

Unlike the other responders, Bankers Trust will guarantee their fee for three years. This would protect the SBI from price increases over the next three years, provided the SBI maintain its current cash-match dedication strategy.

Specifically, the Committee recommends the SBI authorize the Executive Director, with assistance from SBI's legal counsel, to negotiate and execute a three year contract with Bankers Trust for dedicated bond portfolio software services.

ATTACHMENT A

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

EXECUTIVE DIRECTOR
HOWARD J. BICKER

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

November 7, 1988

TO: Members, Fixed Income Manager Committee

FROM: SBI Staff

SUBJECT: Results of 1988-1991 GIC Bidding

On October 26, 1988, the SBI bid its third 3-year guaranteed investment contract (GIC) for the Guaranteed Return Account in the Supplemental Investment Fund. Mutual of America Life Insurance Company, New York, submitted the winning bid of 9.01 percent annual effective rate, net of expenses:

Contract Period:	Nov. 1, 1988-Oct. 31, 1991 (3 years)
Contribution Period:	Nov. 1, 1988-Oct. 31, 1989 (1 year)

Estimated Lump Sum:	$21.9 Million
Estimated Flow	$ 4.3 Million
Estimated Total	$26.2 Million
Bid Awarded to:	Mutual of America
Net Effective Annual Interest Rate:	9.01%

Mutual of America Life Insurance Company is headquartered in New York City. As of August 1988 the company managed $4.5 billion in assets. It is the 39th largest life insurance company in the U.S. The company is rated AAA by Standard and Poor, and A+ by A.M. Best. Both of these ratings are the highest possible awarded to an insurance company by the nationally recognized rating organizations.

The 1988-1991 GIC was considerably larger than the first two GIC's: $26.2 million compared to $16.7 million for the 1987-1990 GIC and $4.5 million for the 1986-1989 GIC. The 1988-1991 GIC drew much more participant interest from the Deferred Compensation Plan and was available for the first time to members of the Unclassified Employees Retirement Plan and the Ambulance Service Personnel Retirement Plan. In addition, the present GIC drew a $1 million lump sum deposit from a local police and fire retirement plan. Future GIC's may be larger as new employee groups become eligible to participate in the Guaranteed Return Account and as current participants become more familiar with the investment option.

The 1988-1991 GIC was structured very much like the previous GIC's. Its characteristics include:

- The GIC carries a fixed interest rate for three years. No blending of rates with past or future GIC's will occur.
- Lump sum's were pledged to the GIC prior to the start of the contract (by participants in the Deferred Compensation Plan and for the first time, Unclassified Employees Plan). On-going contributions may be made by payroll deduction during the first year of the three year contract period.
- Lump sum pledges to the GIC prior to the start of the contract were allowed from police and fire fighter plans. One plan pledged a $1 million transfer.

As an adjunct to their master trustee relationship with the SBI, State Street Bank and Trust assisted the SBI in the GIC bid process.

Several documents summarizing the bid process are attached:

GIC Bidding Day Review
Bids on the 1988-1991 GIC
Responses to Bidding Specifications

GIC BIDDING DAY REVIEW

As outlined in the GIC bidding specifications, indicative, but not binding, interest rate bids were required on October 24, 1988. Binding bids were required in the morning of October 26, 1988. A final bid was accepted at approximately 12:15 P.M. on October 26, 1988.

Events of October 26, 1988 were as follows:

Phone Bids 10:00 A.M. - 11:30 A.M.

Various companies phoned in bids. All seven companies that made indicative bids by October 24, 1988 phoned in binding bids. Two companies that had not made indicative bids phoned in binding bids. As the final bids were being tallied, only Mutual of America and Aetna offered an increase over their original indicative bids. In addition, several companies stipulated restrictions regarding the amount of money they would bid on at their highest rate. At approximately 11:30 A.M., Mutual of America had the highest bid at 9.01 percent; John Hancock had the next highest bid at 8.55 percent.

Final Bid 11:30 A.M. - 12:15 P.M.

While Mutual of America had submitted the highest bid so far, Bankers Trust phoned in at 11:30 A.M. and said that they would be submitting a bid shortly. Bids were held open until Bankers Trust submitted its bid of 8.59 percent with a cap on the amount of money that would earn this rate. At 12:15 P.M. bids were closed and the bid awarded to Mutual of America at 9.01 percent.

ATTACHMENT A (con't)

BIDS ON THE 1988-1991 GIC

	ESTIMATED LUMP SUM (thousands)	ESTIMATED FLOW (thousands)	ESTIMATED TOTAL (thousands)
DEFERRED COMPENSATION	$16,344	$3,768	$20,112
UNCLASSIFIED PLAN	$4,529	$432	$4,961
POLICE AND FIRE	$1,000	$0	$1,000
AMBULANCE SERVICE PERSONNEL	$0	$120	$120
TOTAL	$21,873	$4,320	$26,193

NET EFFECTIVE ANNUAL INTEREST RATE BIDS
GIC BID FOR OCTOBER 26th 1988

COMPANY	INDICATIVE BIDS **	FINAL BID ***	
MUTUAL OF AMERICA	9.00%	9.01%	-
EXECUTIVE LIFE	8.55% (CAP)	8.40%	-
PRINCIPAL MUTUAL	8.40%	8.25%	8.40% (FOR 50%)
AETNA	8.21% (FLRS,CAPS)	8.22% (FLRS,CAPS)	-
JOHN HANCOCK	8.62%	8.55%	-
HARTFORD	8.23%	8.23%	8.33% (FOR 50%)
METROPOLITAN	NO	8.36%	-
BANKERS TRUST	NO	8.59% (CAP)	-
PRUDENTIAL	8.48%	8.47%	-
STATE MUTUAL	NO	-	8.54% (FOR 50%)
BID RANGE			
HIGH	9.00%	9.01%	
LOW	8.21%	8.22%	
3-YEAR TREASURIES ON 10/26/88	8.37%		

* ALL FIGURES ARE COMPOUNDED
** INDICATIVE BIDS AS OF 10/24/88
*** FINAL BIDS TAKEN ON 10/26/88

(CAPS),(FLRS),(50%) - INDICATE RESTRICTIONS ON AMOUNT OF MONEY ELIGIBLE FOR THAT RATE.

RESPONSES TO BIDDING SPECIFICATIONS

Bidding specifications were sent to 35 insurance companies and 4 banks. Fifteen companies responded that they would not be submitting bids. They are summarized as follows:

COMPANIES THAT DID NOT SUBMIT BIDS

COMPANY NAMES	REASON
ALL STATE	NO 1988 CAPACITY
CNA	WON'T QUOTE ON LESS THAN 5 YEAR GIC
CITIBANK	NOT BIDDING
CONNECTICUT MUTUAL	CAN'T BID ON UNQUALIFIED MONEY
EQUITABLE	NO 3 YEAR MONEY
HOME LIFE	NO 1988 CAPACITY
LIFE OF VIRGINIA	SIZE OF GIC TOO LARGE
MONY	SIZE OF GIC TOO LARGE
MUTUAL BENEFIT	NOT IN GIC MARKET
THE NEW ENGLAND	NOT IN GIC MARKET
PACIFIC MUTUAL	NO 1988 CAPACITY
PENN MUTUAL	SIZE OF GIC TOO LARGE
PHOENIX MUTUAL	NOT BIDDING
TRANSAMERICA	CAN ONLY BID ON PORTION (50%)
TRAVELERS	NO 3 YEAR MONEY

Great West indicated that a GIC bid would compete with annuity options already offered to the Deferred Compensation Plan.

ATTACHMENT B

DEDICATED BOND PORTFOLIO
RFP RESPONSE

SERVICES PROVIDED	SOFTWARE/DATABASE CAPABILITIES	FIRM EXPERIENCE	STAFF EXPERIENCE	REFERENCES	ANNUAL FEES
Bankers Trust					
Liability stream analysis Cash flow analysis Portfolio rebalancing Record keeping analysis Alternative methodology review Relative value analysis Credit research Incremental performance analysis	Proprietary dedicated software Internal VAX-unlimited access Most extensive constraint capability: sector, issue, credit, quality, turnover, reinvestment No gain/loss constraint now 12,000 issue database 400-500 corporate issue inventory/week	10 yrs. experience Methodologies: Cash flow Horizon Immunized $3.7 B. asset mgmt. 12 clients	Key Staff: L. Katzenstein (5) L. D'Arienzo (8) P. Mahoney (11) W. Neuger (16) 5 support staff	Federal Paper NY State Bankers Pacific Power	$150,000
Chase Investors					
Cash flow analysis Cash match optimizations Alternative methodology review Maintain security files Monitor cash flows/call dates Market advice Market yield spreads	Proprietary dedicated software Swapping routines Constraints not mentioned 3000 issue database Use external valuation systems Screens: value, quality, liquidity amount outstanding	9 yrs. experience Methodologies: Cash flow Duration Immunized $1.6 B. asset mgmt. 11 clients	Key Staff: D. Benner (16) M. Walsh (13) R. Nagaswami (3) 10 support staff	Caterpillar Mack Truck Reynolds	$250,000

ATTACHMENT B (con't)

SERVICES PROVIDED	SOFTWARE/DATABASE CAPABILITIES	FIRM EXPERIENCE	STAFF EXPERIENCE	REFERENCES	ANNUAL FEES
First Wisconsin					
Cash match optimization Alternative methodology review Market analysis Portfolio record keeping On line access to portfolio Liability stream analysis Enhanced software development	Use Capital Management Services Cash match and horizon software Swapping routines Supplement CMS with Arbitrage Constraints: issue, sector, cusip 9,500 issue database	Methodologies: Cash match Duration $919 asset mgmt. 18 clients	Key Staff: J. Kirk (19) E. Stanek (9) C. Groeschell (10) G. Elfe (10) T. Fink (3)	Dayton Hudson Varity Corp. Milwaukee	$500,000
Mellon					
Dedication software Portfolio record maintenance Database analysis Portfolio optimization Methodology analysis Technical assistance in research/software Portfolio mgmt. assistance On line access	Most extensive software package Handle all portfolio mgmt. needs On line access Sophisticated optimization program Extensive constraint capability Can handle gain/loss 18,000 issue data base Rich/cheap analysis	11 yrs. experience Methodologies: Cash match Horizon Immunization $2 B. asset mgmt. 28 clients	Key Staff: P. McCann (18) D. Chittim S. McClorey M. Heppenstall	Alcoa Koppers Crucible Mat.	$498,059

SERVICES PROVIDED	SOFTWARE/DATABASE CAPABILITIES	FIRM EXPERIENCE	STAFF EXPERIENCE	REFERENCES	ANNUAL FEES
J.P. Morgan					
Alternative methodology review Screen investment universe Credit Analysis Portfolio manager review Periodic rebalancings Provide trade package execution Must have right to trade	Proprietary systems Swap analysis Cash flow analysis Barra system Constraints: call, sector, coupon, transaction costs, reinvestment 5,000 bond database Internal valuation software	7 yrs. experience Methodologies: Cash match Duration Contingent $7 B. asset mgmt. 39 clients	Key Staff: J. Kappenburg (7) L. Smith (7) 17 support staff	Upon request	$500,000
National Investment Services of America					
Liability stream analysis Alternative methodologies review Monitor bond universe Credit research Portfolio optimization and review Update SBI on dedicated bond technology Supply Duff & Phelps research	Extensive cash flow analysis Use Capital Mgmt. Science Constraints: sector, coupon, issue quality No gain/loss capability now Bloomberg/IDC database	10 yrs. experience Methodologies: Cash match Immunization $4.6 B. asset mgmt. 17 clients	Key Staff: J. Gorman (25) J. Bryden (11) MJ Dempsey (14) R. Siefert (14) T. Tuschen (22)	Ameritech U.S. West A.O. Smith	$1,820,000
Putnam					
Provide dedication software Alternative methodology review Rebalancing programs Maintain SBI records Maintain database Liability analysis	Proprietary software systems Fong/Vasicek designed Extensive constraints No gain/loss capability 10,000 bond database	Methodologies: Cash match Horizon Immunization $850 M. asset mgmt.	Key Staff: M. Mullaney (7) S. Roberts J. Schwister N. Powers	Washington Gas Baltimore Gas Insilco	$1,750,000

ATTACHMENT C

ACTIVE BOND MANAGER
ANALYSIS OF PROPOSED BENCHMARKS

	Portfolio Composition			
Treasuries By Maturity	Morgan Stanley	Investment Advisors	Miller Anderson	Salomon BIG Index
1 - 2 years	0.0%	15.0%	12.1%	12.1%
2 - 3 years	10.0	7.5	7.6	7.6
3 - 4 years	10.0	7.5	5.9	5.9
4 - 5 years	15.0	10.0	4.3	4.3
5 - 6 years	10.0	10.0	3.3	3.3
6 - 7 years	5.0	10.0	3.2	3.2
7+	0.0	15.0	18.4	18.4
Total	50.0%	75.0%	54.8%	54.8%
Corporates By Maturity				
1 - 3 years	0.0%	2.5%	2.0%	2.0%
3 - 4 years	2.0	2.5	1.1	1.1
4 - 5 years	7.0	0.0	1.7	1.7
5 - 6 years	3.0	0.0	0.7	0.7
6 - 7 years	3.0	0.0	0.9	0.9
7+	0.0	5.0	13.1	13.1
Total	15.0% *	10.0%	19.5%	19.5%
Mortgages By Effective Duration				
0 - 3 years	4.4%	0.0%	3.2%	3.2%
3 - 4 years	5.6	7.5	4.1	4.1
4 - 5 years	13.2	7.5	9.7	9.7
5+	11.8	0.0	8.7	8.7
Total	35.0%	15.0%	25.7%	25.7%
	100.0%	100.0%	100.0%	100.0%

* Excluded from the Morgan Stanley corporate benchmark:

AAA's
BBB's
Utilities
Phones
Banks
Yankees

ACTIVE BOND MANAGERS

Value of Active Management Reports

Third Quarter 1988

Staff is working with the Board's bond managers to develop appropriate benchmark portfolios. Two of the five managers, Lehman and Western, have completed their benchmark portfolios. Returns for these portfolios are reported below. The three remaining managers use the Salomon Broad Investment Grade Bond Index as a benchmark which represents the performance of essentially the entire investment-grade bond market, plus a small allocation to cash equivalents.

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

Staff Recommendations
Staff recommends the following actions regarding manager status:

- Remove probationary status for Lehman Mgmt. for quantitative reasons.
- Remove probationary status for Morgan Stanley for qualitative reasons.
- Approve benchmarks for IAI, Morgan Stanley and Miller Anderson.

Managers	Market Value 9/30/88 (Thousands)	Quarter Ending 9/30/88 Actual	Quarter Ending 9/30/88 Bmrk	Calendar Year To Date Actual	Calendar Year To Date Bmrk	Year Ending 9/30/88 Actual	Year Ending 9/30/88 Bmrk	(Annualized) Since 7/1/84 Actual	(Annualized) Since 7/1/84 Bmrk
IAI	$ 46,456	1.9%	1.9%	6.3%	7.0%	11.6%	13.0%	15.0%	14.5%
Lehman	107,451	3.3	1.8	7.4	6.4	13.0	12.1	13.9	13.8
Miller Anderson	158,403	1.9	1.9	7.2	7.0	13.9	13.0	15.1	14.5
Morgan Stanley	103,480	1.8	1.9	5.4	7.0	10.3	13.0	14.1	14.5
Western Asset	189,263	2.7	2.2	9.8	7.8	15.6	13.7	16.1	14.6
Salomon Broad Investment Grade Index		2.0%		7.0%		13.4%		15.0%	

INVESTMENT ADVISERS

PORTFOLIO MANAGER: Larry Hill

ASSETS UNDER MANAGEMENT: $46,456,005

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, focusing largely on specific bond characteristics such as call provisions. Investment Advisers uses the Salomon Broad Investment Grade (BIG) index as their benchmark.

QUANTITATIVE EVALUATION

Performance Relative to Benchmark

	Latest Quarter	Calendar Year To Date	Latest Year	Since 6/30/84 Annualized
IAI Actual	1.9%	6.3%	11.6%	15.0%
IAI Benchmark	1.9	7.0	13.0	14.5

(See Value of Active Management graph below)

QUALITATIVE EVALUATION

(Reported By Exception)

The previous evaluation noted the following concern:

- Insufficient effort to understand performance relative to an appropriate benchmark.

The current evaluation notes one positive item:

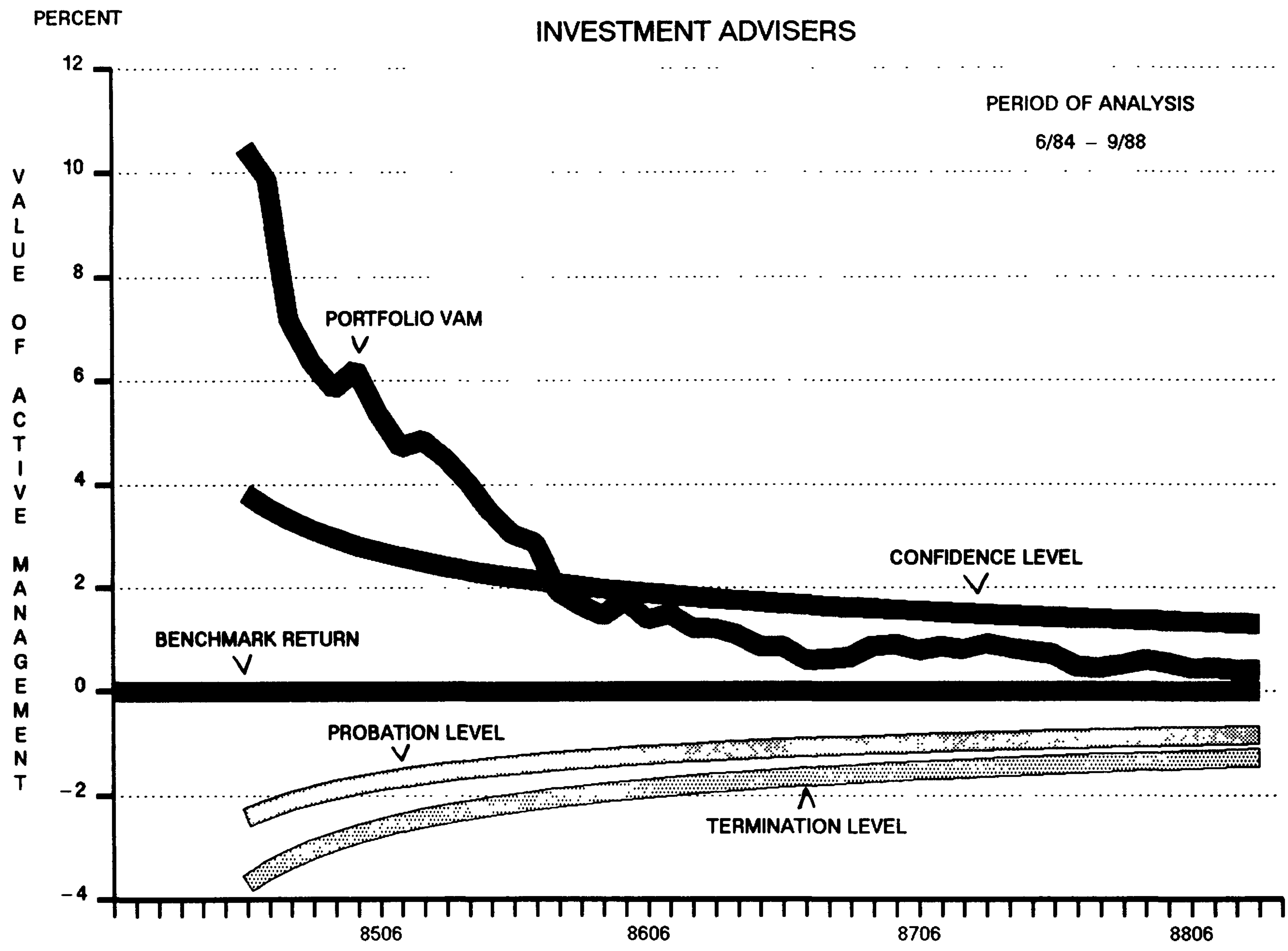
- IAI has made substantial progress in relating portfolio strategy to a customized benchmark.

STAFF RECOMMENDATIONS

Incorporate proposed customized benchmark for performance analysis. No other action required.

VALUE OF ACTIVE MANAGEMENT REPORT

INVESTMENT ADVISERS



LEHMAN MANAGEMENT

PORTFOLIO MANAGER: Paul Hutter **ASSETS UNDER MANAGEMENT: $107,450,939**

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. However, the firm avoids significant, rapidly changing interest rate bets. Instead, it prefers to shift portfolio interest rate sensitivity gradually over a market cycle, avoiding extreme positions in either long or short maturities. Individual bond selection is based on a quantitative valuation approach and the firm's internally-conducted credit analysis. High quality (A or better) undervalued issues are selected consistent with the desired maturity, quality and sector composition of the portfolios. Lehman has a custom benchmark which has a shorter duration and higher quality orientation than the Salomon Broad Investment Grade (BIG) index.

QUANTITATIVE EVALUATION

Performance Relative to Benchmark

	Latest Quarter	Calendar Year To Date	Latest Year	Since 6/30/84 Annualized
Lehman Actual	3.3%	7.4%	13.0%	13.9%
Lehman Benchmark	1.8	6.4	12.1	13.8

(See Value of Active Management graph below)

QUALITATIVE EVALUATION

(Reported By Exception)

The previous evaluation noted several items of concern:

- Firm is matched to a new benchmark since inception.

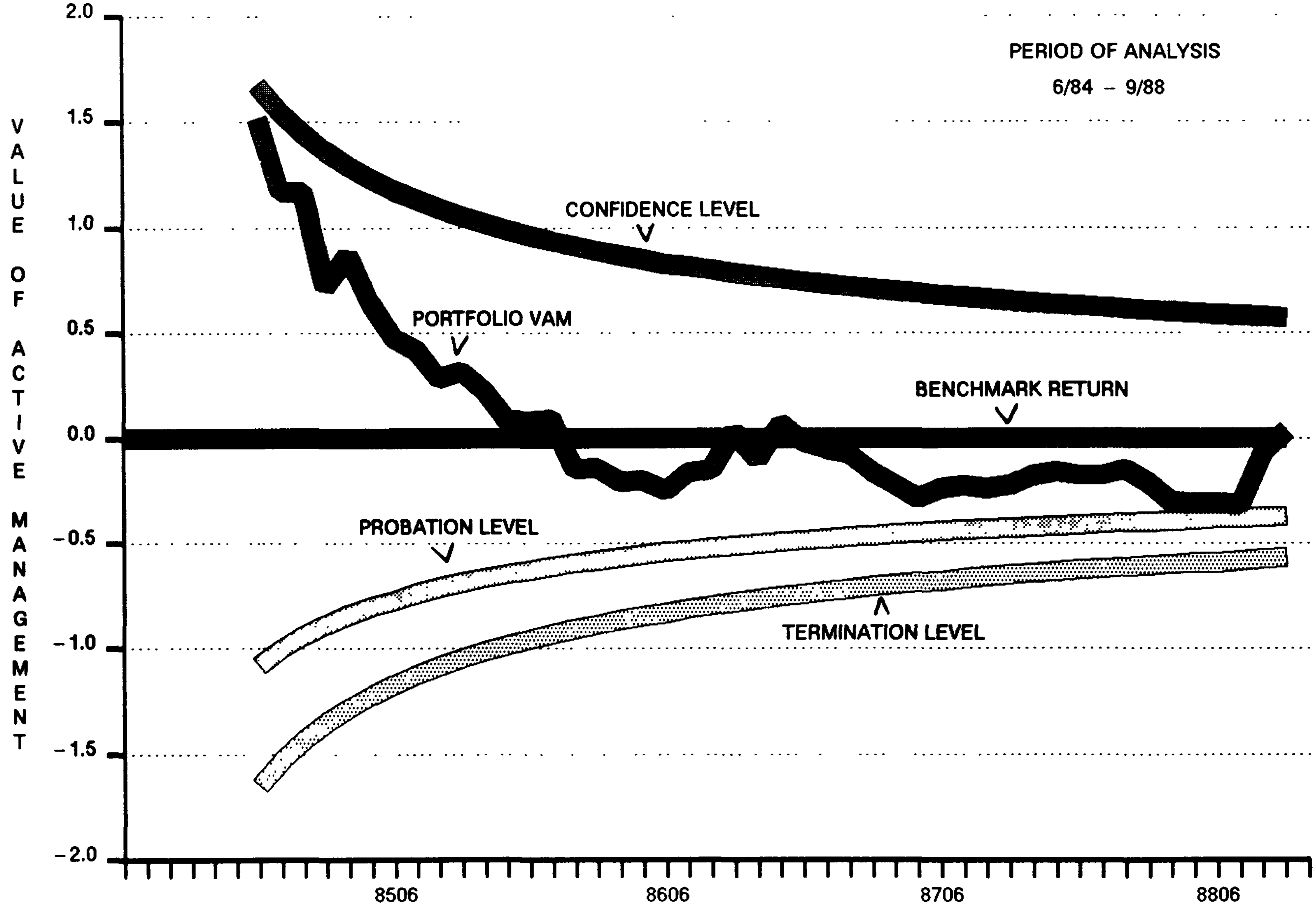
This issue deserves close monitoring over the next three to six months to judge the continuing appropriateness of the new benchmark and Lehman's returns relative to that benchmark.

STAFF RECOMMENDATIONS

Remove probationary status initiated by the Board at its June, 1988 meeting. Fund performance during the past quarter has raised their return above the VAM benchmark.

VALUE OF ACTIVE MANAGEMENT REPORT

LEHMAN MANAGEMENT



MILLER ANDERSON

PORTFOLIO MANAGER: Tom Bennet | **ASSETS UNDER MANAGEMENT: $158,402,869**

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. This decision is instituted primarily through the selection of specific types of securities and cash levels that are consistent with the portfolio's desired maturity. However, such moves 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 also invest in mortgage securities, Miller Anderson intensively researches and, even in some cases manages, the mortgage pools in which it invests. Miller Anderson currently uses the Salomon Broad Investment Grade (BIG) index as their benchmark.

QUALITATIVE EVALUATION

(Reported By Exception)

The previous evaluation noted the following concern:

- Insufficient effort to understand performance relative to an appropriate benchmark.

The current evaluation notes one postive item:

- Miller Anderson analysis supports retention of the Salomon BIG index as their benchmark.

The firm's exceptional strengths continue to be:

- Highly successful and experienced professionals.
- Extensive research and management skills in mortgage and mortgage-backed securities.

QUANTITATIVE EVALUATION

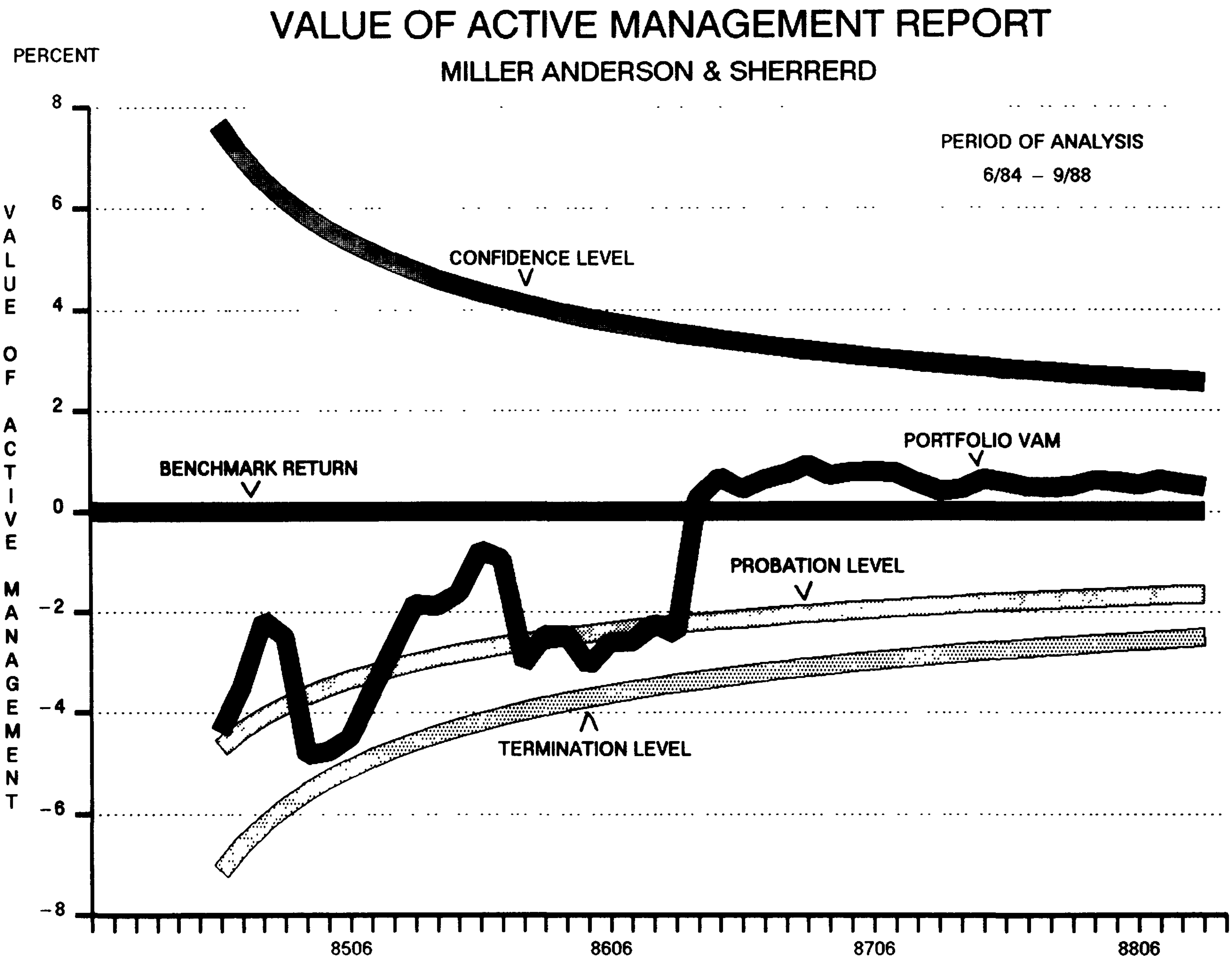
Performance Relative to Benchmark

	Latest Quarter	Calendar Year To Date	Latest Year	Since 6/30/84 Annualized
Miller Actual	1.9%	7.2%	13.9%	15.1%
Miller Benchmark	1.9	7.0	13.0	14.5

(See Value of Active Management graph below)

STAFF RECOMMENDATIONS

Incorporate the Salomon BIG Index with a small allocation to cash as Miller Anderson's benchmark. No other action required.


VALUE OF ACTIVE MANAGEMENT REPORT
MILLER ANDERSON & SHERRERD
PERCENT
VALUE OF ACTIVE MANAGEMENT
PERIOD OF ANALYSIS
6/84 – 9/88
CONFIDENCE LEVEL
PORTFOLIO VAM
BENCHMARK RETURN
PROBATION LEVEL
TERMINATION LEVEL
8
6
4
2
0
−2
−4
−6
−8
8506
8606
8706
8806

MORGAN STANLEY

PORTFOLIO MANAGER: Geoffrey Gettman **ASSETS UNDER MANAGEMENT: $103,480,123**

INVESTMENT PHILOSOPHY

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

QUALITATIVE EVALUATION

(Reported By Exception)

The previous evaluation noted several items of concern:

- Insufficient effort to understand performance relative to an appropriate benchmark.

The current evaluation notes one positive item:

- Morgan Stanley has made substantial progress in relating portfolio strategy to a custom benchmark.

QUANTITATIVE EVALUATION

Performance Relative to Benchmark

	Latest Quarter	Calendar Year To Date	Latest Year	Since 6/30/84 Annualized
Morgan Actual	1.8%	5.4%	10.3%	14.1%
Morgan Benchmark	1.9	7.0	13.0	14.5

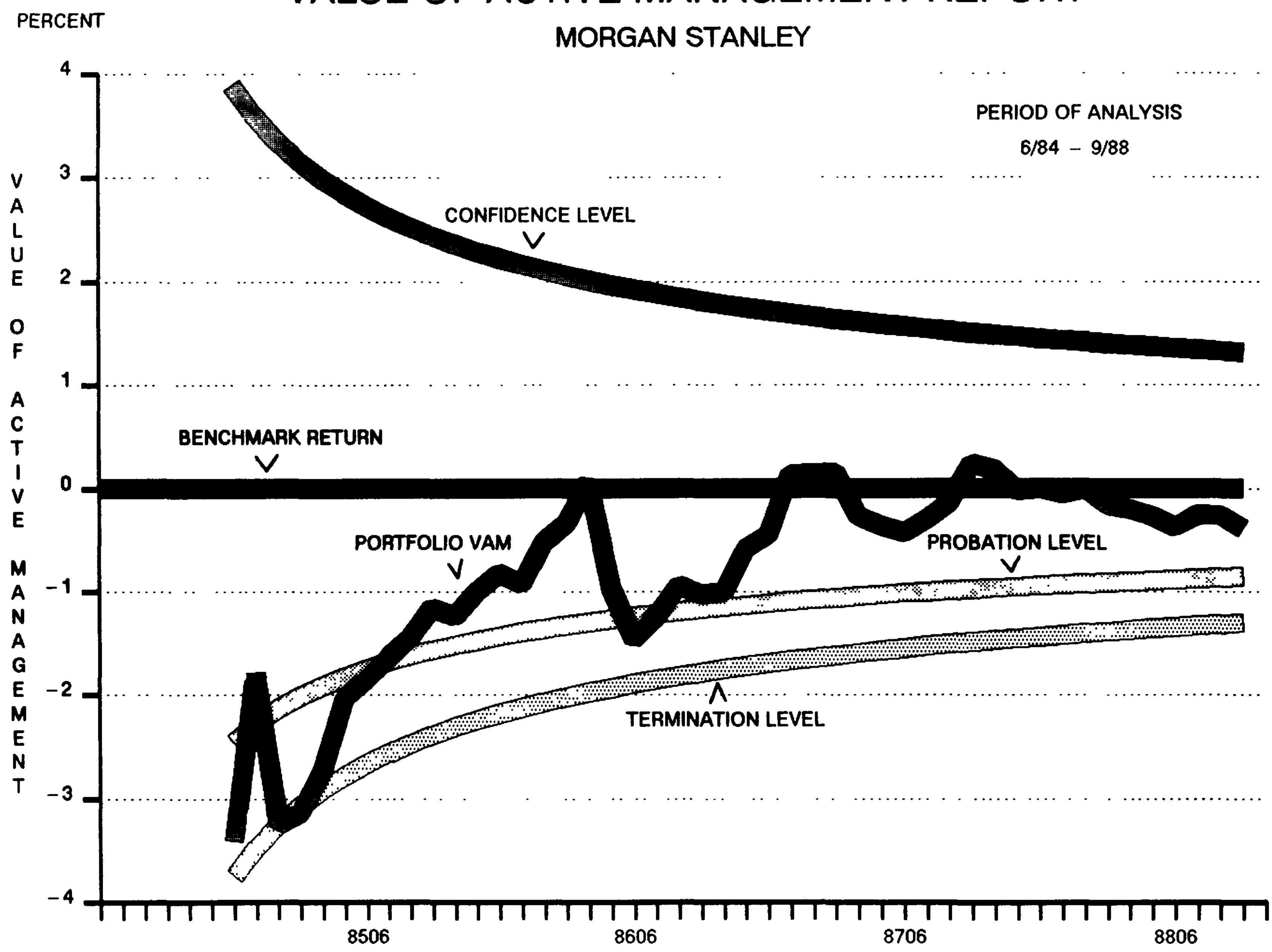
(See Value of Active Management graph below)

STAFF RECOMMENDATIONS

- Incorporate proposed custom benchmark for performance analysis.
- Remove probationary status initiated by the Board at its June, 1988 meeting. The development of a custom benchmark and the reiteration of portfolio duration constraints address the principal issues of concern.

VALUE OF ACTIVE MANAGEMENT REPORT

MORGAN STANLEY



WESTERN ASSET MANAGEMENT

PORTFOLIO MANAGER: Edgar Robie, Jr.

ASSETS UNDER MANAGEMENT: $189,263,286

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.

QUANTITATIVE EVALUATION

Performance Relative to Benchmark

	Latest Quarter	Calendar Year To Date	Latest Year	Since 6/30/84 Annualized
Western Actual	2.7%	9.8%	15.6%	16.1%
Western Benchmark	2.2	7.8	13.7	14.6

(See Value of Active Management graph below)

QUALITATIVE EVALUATION

(Reported By Exception)

The previous evaluation noted several items of concern:

- Firm is under new ownership.

This issue, while not serious, should be monitored.

The firm's exceptional strengths continue to be:

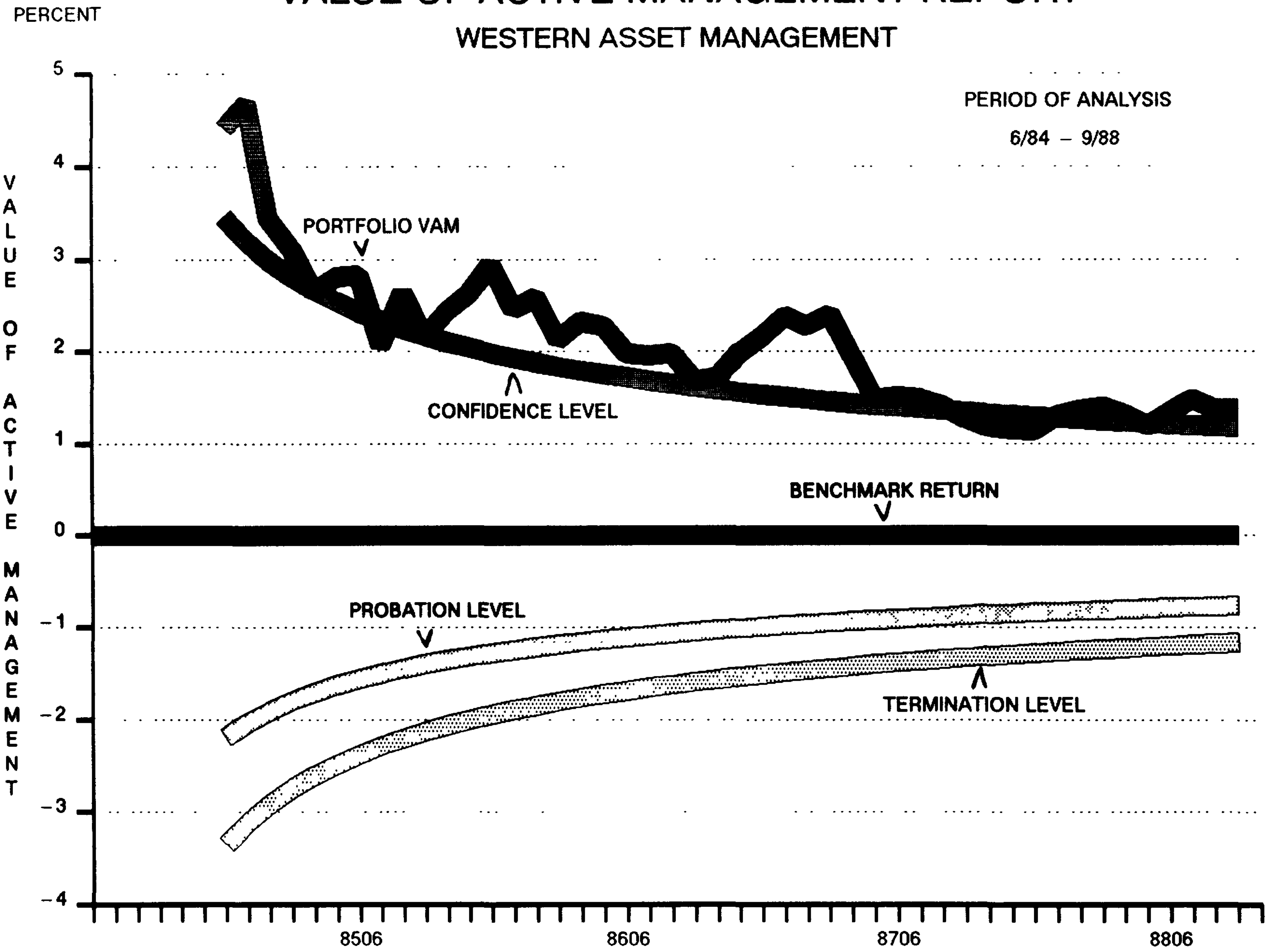
- Highly successful and experienced professionals.
- Extensive research and understanding in the application of normal portfolios to bond management.

STAFF RECOMMENDATIONS

No action required.

VALUE OF ACTIVE MANAGEMENT REPORT

WESTERN ASSET MANAGEMENT



Tab G

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

EXECUTIVE DIRECTOR
HOWARD J. BICKER

STATE OF MINNESOTA
STATE BOARD OF INVESTMENT

Room 105, MEA Building
55 Sherburne Avenue
Saint Paul 55155
(612) 296-3328

November 23, 1988

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

FROM: Alternative Investment Committee

SUBJECT: Committee Report

The Alternative Investment Committee met during the quarter to review the following items.

INFORMATION ITEMS:

1) Strategy Review

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 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 fourteen commingled venture capital funds for a total commitment of $308 million.

The real estate investment strategy involves three steps. The first step calls for investment of 30-40% of the real estate portfolio in diversified open-end commingled funds. The second step calls for investment of 30-40% of the real estate portfolio in diversified closed-end commingled funds. The third step calls for investment of 20-30% of the real estate portfolio in less diversified, more focused (specialty) commingled funds. Currently, the SBI has committed $385 million to twelve commingled real estate funds.

The strategy for resource investment requires that investments 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 $120 million to seven commingled oil and gas funds.

2) Annual Review Sessions

During July 1988, the Alternative Investment Committee and staff conducted annual review sessions with five of the SBI's alternative investment venture capital managers:

- o Allied
- o Matrix
- o Inman Bowman
- o Superior
- o DSV

Summaries of the review sessions are included as attachments to this Committee report (see Attachments B-F).

In aggregate, these managers represent approximately 18% of the SBI's total venture capital holdings and approximately 0.5% of the Basic Retirement Funds as of 9/30/88.

In general, the five venture capital investment funds reviewed are still in the early stages of their expected lives. The most mature fund, DSV, has only been in existence for three and one-half years of its ten year investment term. This makes conclusive judgments regarding performance and strategies difficult.

Nonetheless, in comparing investment strategies, organizational effectiveness, and performance to date, the Alternative Investment Committee and staff have been satisfied with the investment progress made by Allied, Matrix Inman-Bowman and Superior. Overall, the investment activities of these managers are proceeding as originally expected. The Committee and staff would consider new investments with these managers, if appropriate.

The Committee and staff have been less satisfied with the investment progress of DSV. In general, DSV is investing at a pace slower than originally expected. At this time, the Committee and staff would not consider a new investment with DSV.

3) Future Considerations

Going forward, the Alternative Investment Committee agenda will include:

- o Reviewing investment objectives, strategy, asset allocation and performance measurement.
- o Working with the existing real estate and oil and gas special project consultants.
- o Considering potential venture capital consultants.
- o Considering additional investments with new and existing managers.
- o Conducting annual review sessions with existing alternative investment managers.

ACTION ITEM:

The Alternative Investment Committee considered one investment with a new resource manager during the quarter.

Specifically, the Committee recommends the Board authorize the Executive Director, with assistance from the Board's legal counsel, to negotiate and execute a contract with Standard Alaska Production Company, a U.S. subsidiary of The British Petroleum Company, for a commitment of up to $25 million in the BP Prudhoe Bay Royalty Trust.

This proposed investment is summarized below:

Standard Alaska Production Company (SAPC) is offering an overriding royalty interest (ORI) in the Prudhoe Bay Field, the largest oil and gas producing field in the U.S. The ORI will equal 15.35% of the first 90,000 barrels per day of oil production net to SAPC's interest in the Prudhoe Bay Field. SAPC's current total production from the field is over seven times greater than this amount. Under terms of the agreement, production costs are fixed and can vary only with inflation. The oil price will be tied directly to the West Texas Intermediate spot price. SAPC has guaranteed an average minimum price of $15 per barrel for the first 2.5 years.

More information on Prudhoe Bay Royalty Trust is included as Attachment G.

ATTACHMENT A

ALTERNATIVE EQUITY INVESTMENTS
THIRD QUARTER 1988

	INCEPT DATE	FUND SIZE (MILLIONS)	SBI COMMITMENT	SBI-FUNDED	SBI-TO BE FUNDED	FUND DESCRIPTION
REAL ESTATE:						
AETNA	Apr-82	$1,791	$40,000,000	$40,000,000	$0	OPEN END - DIVERSIFIED
EQUITABLE	Oct-81	$3,067	$40,000,000	$40,000,000	$0	OPEN END - DIVERSIFIED
HEITMAN I	Jun-84	$113	$20,000,000	$20,000,000	$0	CLOSED END - DIVERSIFIED
HEITMAN II	Oct-85	$238	$30,000,000	$30,000,000	$0	CLOSED END - DIVERSIFIED
HEITMAN III	Nov-86	$200	$20,000,000	$18,119,115	$1,880,885	CLOSED END - DIVERSIFIED
PRUDENTIAL	Sep-81	$3,767	$40,000,000	$40,000,000	$0	OPEN END - DIVERSIFIED
RREEF	Apr-84	$773	$75,000,000	$71,300,000	$3,700,000	CLOSED END - DIVERSIFIED
STATE STREET III	Jul-85	$103	$20,000,000	$20,000,000	$0	CLOSED END - SPECIALIZED
STATE STREET IV	Jul-86	$86	$15,000,000	$15,000,000	$0	CLOSED END - SPECIALIZED
STATE STREET V	Nov-87	$82	$15,000,000	$15,000,000	$0	CLOSED END - SPECIALIZED
TCW III	Jul-85	$216	$40,000,000	$40,000,000	$0	CLOSED END - SPECIALIZED
TCW IV	Sep-86	$250	$30,000,000	$30,000,000	$0	CLOSED END - SPECIALIZED
TOTAL R.E. PORTFOLIO			$385,000,000	$379,419,115	$5,580,885	
VENTURE CAPITAL:						
ALLIED	Jul-85	$40	$5,000,000	$3,333,334	$1,666,666	LATER STAGE
DSV	Apr-85	$60	$10,000,000	$10,000,000	$0	EARLY STAGE
FIRST CENTURY	Dec-84	$100	$10,000,000	$4,000,000	$6,000,000	EARLY STAGE
FIRST CHICAGO	Mar-88	$50	$5,000,000	$557,915	$4,442,085	SECONDARY INTERESTS
GOLDER THOMA	Oct-87	$225	$14,000,000	$2,100,000	$11,900,000	LATER STAGE
INMAN/BOWMAN	Jun-85	$44	$7,500,000	$3,750,000	$3,750,000	EARLY STAGE
KKR I	Mar-84	$1,000	$25,000,000	$25,000,000	$0	LBO
KKR II	Dec-85	$2,000	$18,365,172	$18,365,172	$0	LBO
KKR III	Oct-87	$5,600	$146,634,660	$50,771,422	$95,863,238	LBO
MATRIX	Jul-85	$70	$10,000,000	$7,500,000	$2,500,000	EARLY STAGE
NORWEST	Jan-84	$60	$10,000,000	$10,000,000	$0	EARLY STAGE
SUMMIT I	Dec-84	$93	$10,000,000	$10,000,000	$0	LATER STAGE
SUMMIT II	May-88	$230	$30,000,000	$3,000,000	$27,000,000	LATER STAGE
SUPERIOR	Jun-86	$35	$6,645,000	$3,322,500	$3,322,500	EARLY STAGE - MN.
T.ROWE PRICE	Mar-86	-	-	-	-	IPO MANAGER
TOTAL V.C. PORTFOLIO			$308,144,832	$151,700,343	$156,444,489	
RESOURCES:						
AMGO I	Jul-81	$144	$15,000,000	$15,000,000	$0	DEBT WITH EQUITY
AMGO II	Feb-83	$36	$7,000,000	$7,000,000	$0	DEBT WITH EQUITY
AMGO IV	May-88	$75	$15,000,000	$3,590,700	$11,409,300	DEBT WITH EQUITY
APACHE I	May-84	$100	$15,000,000	$1,564,025	$13,435,975	DEBT WITH EQUITY
APACHE II	Oct-85	$180	$23,000,000	$23,000,000	$0	DEBT WITH EQUITY
APACHE III	Dec-86	$190	$30,000,000	$30,000,000	$0	NET PROFITS INTEREST
MORGAN O&G	Jul-88	$135	$15,000,000	$1,100,900	$13,899,100	DEBT WITH EQUITY
TOTAL RES. PORTFOLIO			$120,000,000	$81,255,625	$38,744,375	
TOTAL ALT. INV. PORT			$813,144,832	$612,375,083	$200,769,749	

ATTACHMENT B

ANNUAL REVIEW SUMMARY
ALLIED CAPITAL
October 3, 1988

MANAGER REPRESENTATIVES: David Gladstone

SBI ASSETS UNDER MANAGEMENT: $3,333,334

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 will be made in syndication with Allied Capital, a large publicly-owned venture capital corporation formed in 1958.

QUALITATIVE EVALUATION:

Allied does not expect to change strategy given the success of their current investment approach. Allied's strategy includes:

- Investing in low technology companies that other venture capitalists ignore.

- Being lead investor whenever possible so they can exert maximum control over company direction.

- Maintaining a proactive search for new investments instead of waiting for potential investments to approach them.

In the future, Allied plans to:

- Spend less time looking at small leveraged buyouts as potential investments. Currently, competition and price make these deals unattractive.

- Invest in later stage companies.

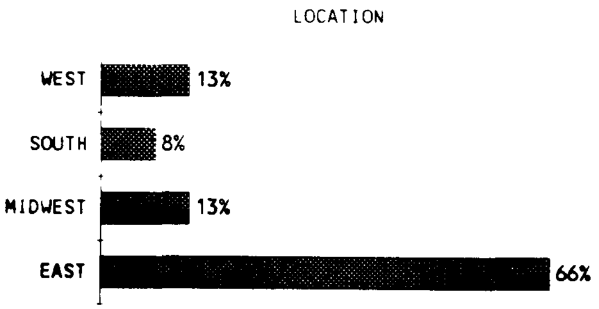
- Identify outstanding management teams that may be used for both potential and existing company investments.

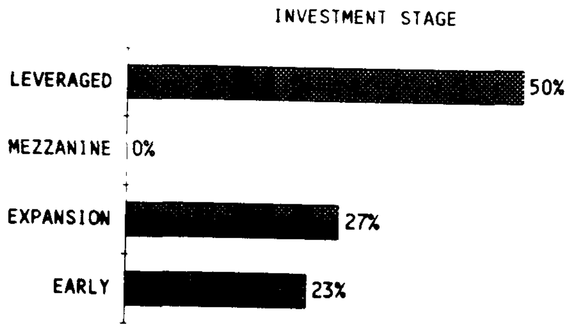
ATTACHMENT B (con't)

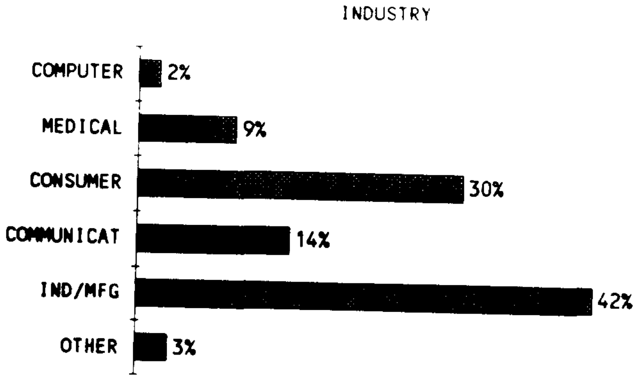
QUANTITATIVE EVALUATION

COMMITMENT:	$5,000,000
FUNDED COMMITMENT:	$3,333,334
MARKET VALUE OF FUNDED COMMITMENT:	$3,513,392
CASH DISTRIBUTIONS:	$ 542,962
INCEPTION DATE(S):	September, 1985
WEIGHTED AVERAGE INTERNAL RATE OF RETURN (IRR): (annualized, since inception)	10.7%

DIVERSIFICATION PROFILE (% OF COST)







STAFF COMMENTS AND RECOMMENDATIONS:

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

ATTACHMENT C

ANNUAL REVIEW SUMMARY
MATRIX II
October 4, 1988

MANAGER REPRESENTATIVES: Mike Humphreys

SBI ASSETS UNDER MANAGEMENT: $7,500,000

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

QUALITATIVE EVALUATION:

The general partners of Matrix feel these factors will contribute to the performance of their portfolio:

- Increased ownership positions in portfolio companies. This allows more influence on company strategies.

- More investments in medical-related companies with proven products. However, no bio-technology investments are planned.

- More investments in unique areas and niche markets.

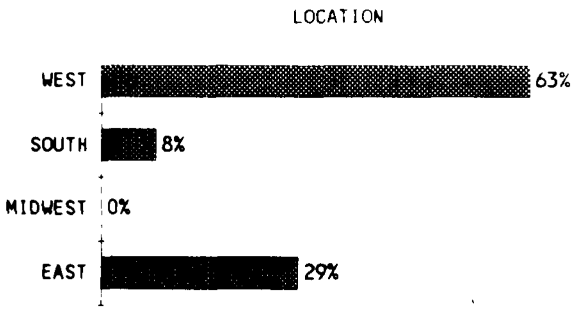
- Less dependence on initial public offerings for existing portfolio company investments.

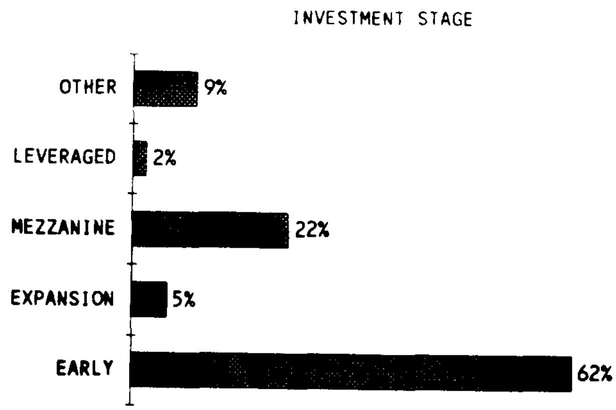
Matrix will have a final drawdown on October 31, 1988. The fund should be fully invested by June, 1989.

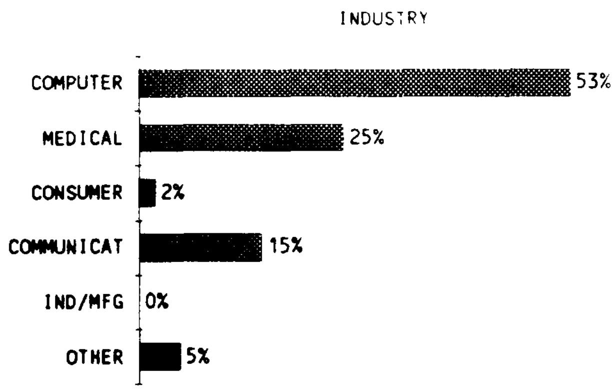
QUANTITATIVE EVALUATION

COMMITMENT:	$10,000,000
FUNDED COMMITMENT:	$7,500,000
MARKET VALUE OF FUNDED COMMITMENT:	$7,687,385
CASH DISTRIBUTIONS:	$0
INCEPTION DATE(S):	August, 1985
WEIGHTED AVERAGE INTERNAL RATE OF RETURN (IRR): (annualized, since inception)	1.3%

DIVERSIFICATION PROFILE (% OF COST)







STAFF COMMENTS AND RECOMMENDATIONS:

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

ATTACHMENT D

ANNUAL REVIEW SUMMARY
INMAN AND BOWMAN
October 11, 1988

MANAGER REPRESENTATIVES: Kirk Bowman

SBI ASSETS UNDER MANAGEMENT: $3,750,000

BACKGROUND AND DESCRIPTION: Inman and Bowman was formed in June, 1985. Its investment focus is early-stage, high-technology firms. The fund will emphasize investments in California, where the general partner, Inman and Bowman Management, is based. Inman and Bowman work closely with Rainier Venture Partners, a small Washington venture firm. They expect to make several co-investments with Rainier in the Pacific Northwest. The partnership has a ten year term.

QUALITATIVE EVALUATION:

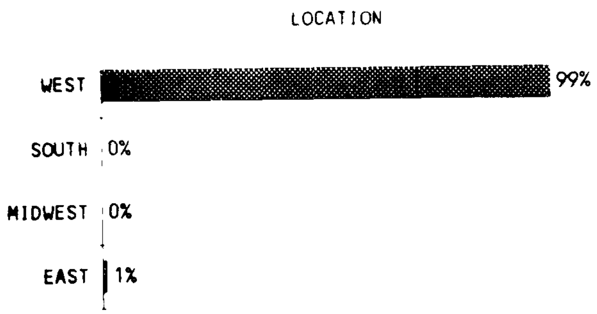
Inman and Bowman accelerated their investment pace in 1988, adding seven portfolio company investments to the eight existing investments. Upon full investment, Inman Bowman expects to have a total of 20-25 investments, five fewer than anticipated.

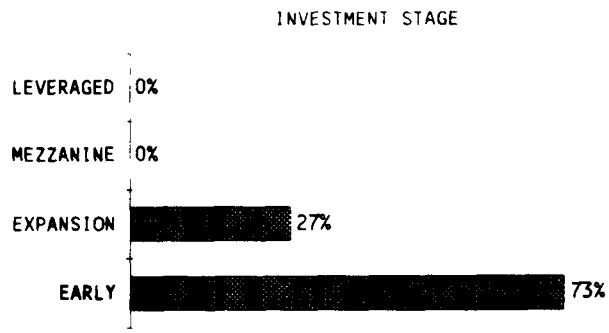
Bill Elmore was recently hired as an additional general partner. Mr. Elmore has an engineering background and worked for Hewlett Packard. Inman Bowman feels he can enhance technical evaluation of potential investments. In addition, Mr. Elmore should add new deal flow through his network of industry contacts.

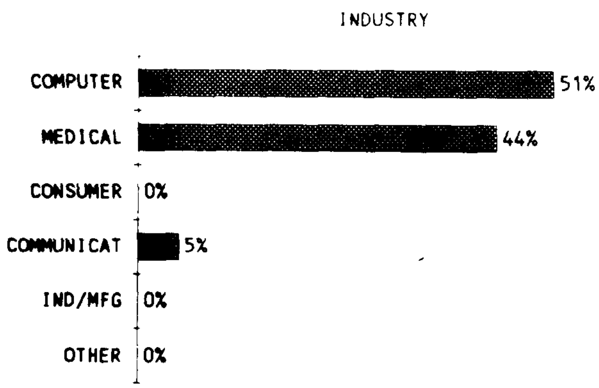
QUANTITATIVE EVALUATION

COMMITMENT:	$7,500,000
FUNDED COMMITMENT:	$3,750,000
MARKET VALUE OF FUNDED COMMITMENT:	$3,215,477
CASH DISTRIBUTIONS:	$0
INCEPTION DATE(S):	June, 1985
WEIGHTED AVERAGE INTERNAL RATE OF RETURN (IRR): (annualized, since inception)	-7.0%

DIVERSIFICATION PROFILE (% OF COST)







STAFF COMMENTS AND RECOMMENDATIONS:

The Alternative Investment Committee and staff have been satisfied with Inman Bowman's operation and performance to date. Additional investments with Inman Bowman will be considered, when appropriate.

ATTACHMENT E

ANNUAL REVIEW SUMMARY
INVESTMENT ADVISERS, INC.
October 10, 1988

MANAGER REPRESENTATIVES: Mitch Dann

SBI ASSETS UNDER MANAGEMENT: $3,322,500

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

QUALITATIVE EVALUATION:

Investment Advisers has invested approximately one-sixth of the committed capital. They feel their investment pace has been slower than expected due to:

- Upfront time spent investigating and cultivating less traditional new deal sources.
- Certain existing investments which require more intense involvement.
- Negotiations and due diligence on potential investments that have not yet, or will not, result in an investment.

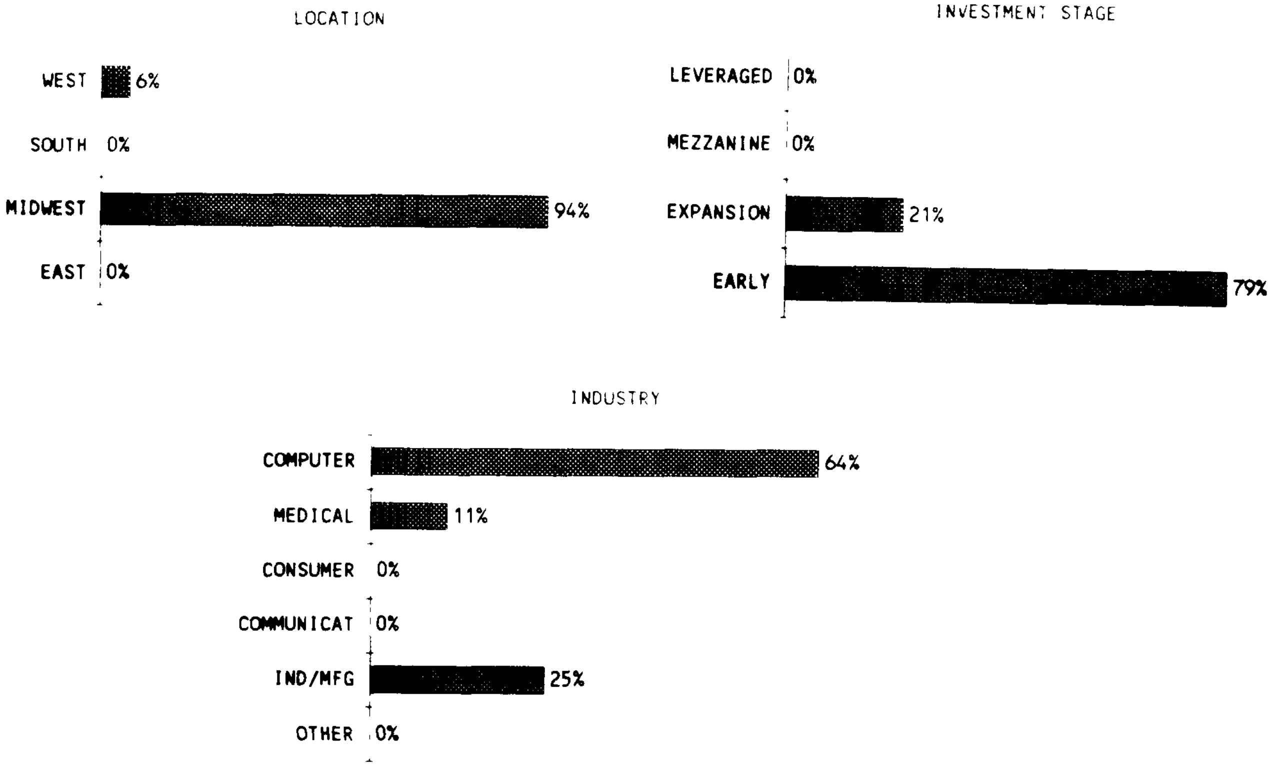
Investment Advisers recently invested in a California-based company (Neurocare) that intends to expand operations into Minnesota.

Investment Advisers has optimistic expectations for this fund. They feel there is great potential for discovering and cultivating new investment opportunities within Minnesota.

QUANTITATIVE EVALUATION

COMMITMENT:	$6,600,000
FUNDED COMMITMENT:	$3,322,500
MARKET VALUE OF FUNDED COMMITMENT:	$3,105,843
CASH DISTRIBUTIONS:	$0
INCEPTION DATE(S):	June, 1986
WEIGHTED AVERAGE INTERNAL RATE OF RETURN (IRR): (annualized, since inception)	-6.0%

DIVERSIFICATION PROFILE (% OF COST)



STAFF COMMENTS AND RECOMMENDATIONS:

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

ATTACHMENT F

ANNUAL REVIEW SUMMARY
DATA SCIENCE VENTURES
October 13, 1988

MANAGER REPRESENTATIVES: Bob Hillas

SBI ASSETS UNDER MANAGEMENT: $10,000,000

BACKGROUND AND DESCRIPTION: DSV Partners IV was formed in April, 1985. It has a twelve year term. DSV Partners IV is the fourth venture fund to be managed by DSV Management since the firm's inception in 1968. The firm's primary office is located in Princeton, New Jersey. However, the firm opened a new California office in 1986. DSV Partners' investment emphasis is on portfolio companies in the start-up and early stages of corporate development. The geographic focus of the partnership is on east and west coast firms. Investments are diversified by industry type.

QUALITATIVE EVALUATION:

DSV has continued its emphasis on start-up companies. Therefore, portfolio company investments will likely take longer to mature than many of the SBI's venture capital investments.

DSV has invested only one sixth of fund commitments to date. Increased competition and fewer start-up deals have contributed to this slower than expected investment pace. Additionally, since they invest primarily in start-ups, larger cash reserves will be required to continue funding existing portfolio companies as they develop.

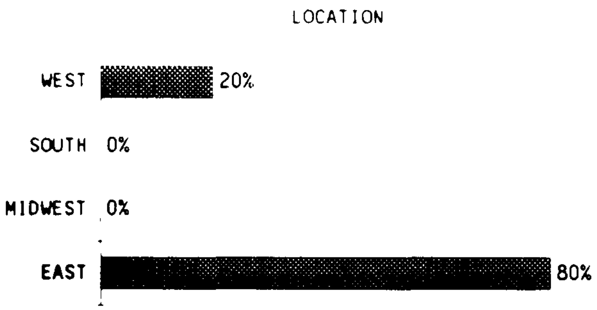
DSV is currently looking for another general partner to add to the California staff.

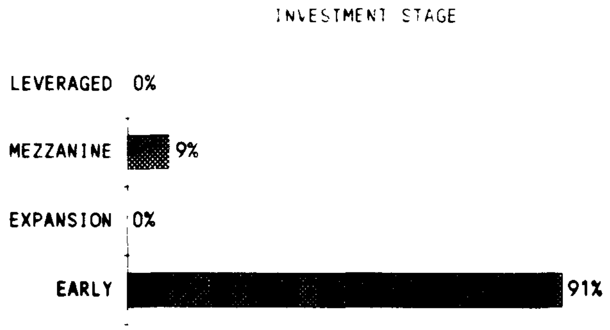
ATTACHMENT F (con't)

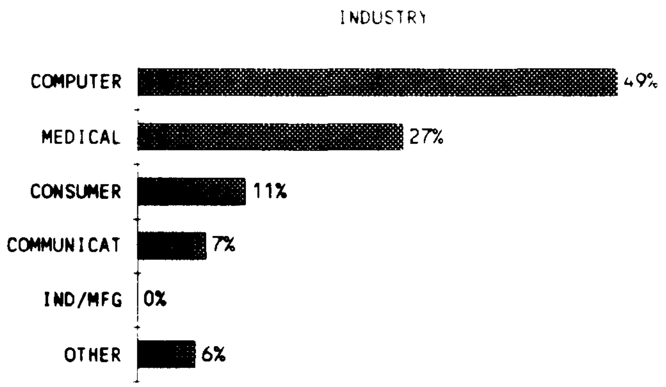
QUANTITATIVE EVALUATION

COMMITMENT:	**$10,000,000**
FUNDED COMMITMENT:	**$10,000,000**
MARKET VALUE OF FUNDED COMMITMENT:	**$10,828,914**
CASH DISTRIBUTIONS:	**$0**
INCEPTION DATE(S):	**April, 1985**
WEIGHTED AVERAGE INTERNAL RATE OF RETURN (IRR): (annualized, since inception)	**3.3%**

DIVERSIFICATION PROFILE (% OF COST)







STAFF COMMENTS AND RECOMMENDATIONS:

Of the five capital managers reviewed this quarter, the Alternative Investment Committee and staff rank DSV lowest in terms of operations and performance to date. Therefore, at this time, the Alternative Investment Committee and staff do not recommend additional investments with DSV.

ATTACHMENT G

NEW RESOURCE MANAGER PROFILE

I. BACKGROUND DATA

FUND MANAGER:	Standard Alaska Production Company
TYPE OF FUND:	Oil and Gas Royalty Trust
TOTAL FUND SIZE:	$500 Million to $1 Billion
INTERVIEW DATE:	11/23/88
MANAGER CONTACT:	Ed Whitehead
ADDRESS:	200 Public Square Cleveland, OH 44114-2375
TELEPHONE:	216-586-6678

II. ORGANIZATION AND STAFF

Standard Alaska Production Company (SAPC), a U.S. Subsidiary of the British Petroleum Company, owns a substantial interest in the Prudhoe Bay Field, the largest oil and gas producing field in North America. In order to raise equity and reduce corporate debt, SAPC is offering investors an overriding royalty interest (ORI) in this field to be known as the Prudhoe Bay Royalty Trust.

The ORI will entitle the trust to 15.35% of the first 90,000 barrels per day (b/d) of oil and condensate production of SAPC's interest in the Prudhoe Bay Field. SAPC is a 50% owner of the field with Exxon, Arco and Mobil owning the remainder. SAPC's current total production from the field is 663,000 b/d, far in excess of 90,000 b/d included in the guarantee. This structure is designed to reduce the reserves risk in the investment. Cost deductions will be made from a fixed schedule to reduce the uncertainty of future operating and transportation costs. Costs will vary only with inflation and only if oil prices exceed $17.50 per barrel. The oil price will be tied to West Texas Intermediate spot prices to eliminate the problem of price being largely determined by SAPC. SAPC has guaranteed an average minimum price of $15 per barrel for the first 2.5 years.

The value of this investment is generated primarily by developed reserves, which represent 85% of the total proved reserves. In addition, the investment structure creates exceptionally long-lived reserves; 50% will remain in the ground after the year 2000. Potential new projects and new technology are continuously being examined for this field.

This could substantially increase reserves and further lengthen the life of the field.

III. PROPERTY DESCRIPTION

The Prudhoe Bay Field is the largest producing field in North America. It is located on the North Slope of Alaska, 250 miles north of the Artic Circle and 650 miles north of Anchorage. It extends approximately 12 miles by 27 miles and contains nearly 150,000 productive acres. The Prudhoe Bay Field, which was discovered in 1968 by SAPC and others, has been in production for almost 11 years.

The field is currently producing at or near the State of Alaska approved maximum annual average off-take rate of 1.5 million barrels of oil per day plus associated condensate and natural gas liquids. Current production accounts for about 10% of daily U.S. demand for oil. As of January 1, 1988, approximately 5.4 billion barrels of oil has been produced from the field. Production should remain at or near this until 1989, and decline at an average rate of approximately 10% per year thereafter. Field development is well advanced with approximately $13 billion gross capital spent.

IV. FUND TRUSTEE

The Fund will be administered by the Morgan Guaranty Trust Company of New York.

V. REDEMPTION

SAPC will file a registration statement with the SEC within nine months of the closing date for the Trust.

AGENDA

STATE BOARD OF INVESTMENT
MEETING

Wednesday, December 7, 1988
~~8:30 A.M.~~ 10:00
Room 15 - State Capitol
Saint Paul

TAB

1. Approval of Minutes of September 19, 1988

2. Report on Escheated Property (M. McGrath)

3. Executive Director's Report (H. Bicker)

   A. Quarterly Investment Review (July 1-September 30, 1988) — A

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

   B. Portfolio Statistics (September 30, 1988) — B

   C. Administrative Report — C

      1. Budget and Travel Reports
      2. Board Meeting Schedule for Calendar 1989
      3. 1989 Post Fund Benefit Increase
      4. Status Report on Investment Conference
      5. 1988 Annual Report Draft

4. Report from the SBI Administrative Committee (M. McGrath) — D

5. Review of Fund Objectives (H. Bicker)

   A. Basic Retirement Funds - MOTION NEEDED
   B. Post Retirement Fund - MOTION NEEDED

6. Reports from Investment Advisory Council Committees (J. Yeomans)

   A. Equity Manager Committee — E

      1. Investment Manager Guidelines
      2. Equity Asset Class Target
      3. Active Manager Performance - MOTION NEEDED
      4. Equity Manager Selection Recommendation (Laid over from September meeting 1988) - MOTION NEEDED

   B. Fixed Income Manager Committee — F

      1. GIC Bid Review
      2. Index Fund Manager Performance
      3. Active Manager Performance - MOTION NEEDED
      4. Dedicated Bond Portfolio Software Vendor Review - MOTION NEEDED

   C. Alternative Investment Committee — G

      1. Venture Capital Fund Manager Annual Reviews
      2. Commitment to New Resource Fund Manager - MOTION NEEDED

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

EXECUTIVE DIRECTOR
HOWARD J. BICKER

STATE OF MINNESOTA
STATE BOARD OF INVESTMENT

Room 105, MEA Building
55 Sherburne Avenue
Saint Paul 55155
(612) 296-3328

December 8, 1988

TO: Governor Rudy Perpich
Attorney General Hubert H. Humphrey III

FROM: Howard Bicker Howard Bicker

SUBJECT: Escheated Property Status Report

At the State Board of Investment (SBI) meeting on December 6, 1988, Treasurer Michael McGrath provided a report on the disposition status of escheated property. Mr. McGrath requested that I send a copy of his report to SBI members who were not present at the meeting.

The attached report was presented for information purposes only. No action was required by the SBI.

If you have any questions on this matter, please contact me.

cc: C. Eller
T. Triplett

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

MICHAEL A. McGRATH
Treasurer

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

December 7, 1988

TO: Members, State Board of Investment

FROM: Michael A. McGrath
State Treasurer

SUBJECT: Escheated Property

The following is a status report on escheated property.

1) Securities Sold

2,042 shares of Northern States Power Common stock		$66,025.86
214 shares of Philadelphia Electric Common stock		4,164.30
1,000 Bond of Northern Pacific Railway 3% due 1/1/2047		806.25
Total Proceeds	Sub Total	$70,996.41

2) Securities in re-registration (to be sold)

10 Shares of Cities Service		NA
500 Bond of Missouri Pacific Railway 4.25% due 1/1/2005		250.00
500 Bond of Missouri Pacific Railway 4.25% due 1/1/1990		450.00
1,200 United States Savings Bonds		5,350.00
Expected Proceeds	Sub Total	$ 6,050.00
Total Estimated Value		$77,046.41

AN EQUAL OPPORTUNITY EMPLOYER

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

MICHAEL A. McGRATH
Treasurer

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

December 7, 1988

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

EXECUTIVE DIRECTOR
HOWARD J. BICKER

STATE OF MINNESOTA
STATE BOARD OF INVESTMENT

Room 105, MEA Building
55 Sherburne Avenue
Saint Paul 55155
(612) 296-3328

November 29, 1988

TO: Members, Investment Advisory Council

FROM: Howard Bicker

SUBJECT: Fund Objectives

At its December 1988 meeting, the State Board of Investment will review the objectives of the Basic Retirement Funds and the Post Retirement Investment Fund. This is the first step in a broader review of investment policy. Other steps in the review process will include discussion of asset allocation, management structure and performance standards for each fund.

I am enclosing material on investment objectives that will be discussed at the December 1988 meetings of the Board and the Investment Advisory Council.

If you have any questions prior to the IAC meeting on December 6, 1988, please contact me.

cc: Board Members
Board Member Deputies/Designees

AN EQUAL OPPORTUNITY EMPLOYER

SETTING INVESTMENT POLICY

Step 1 - Fund Objectives

What are the long term goals of the Fund?

Step 2 - Asset Allocation

What mix of stocks, bonds or other asset classes is most likely to achieve those goals?

Step 3 - Management Structure

What methods or techniques should be employed to manage each asset class?

- Active/Passive
- Internal/External

Step 4 - Performance Standards

How will actual performance at each level of asset management be measured and evaluated?

- Total Fund
- Asset Class Segment
- Individual Manager

MINNESOTA STATE BOARD OF INVESTMENT

Investment Authority

Objectives and Risk Tolerance
- Basic Retirement Funds
- Post Retirement Investment Fund

December 1988

INVESTMENT AUTHORITY

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

PRUDENT PERSON RULE

The prudent person rule requires the SBI to "...act in good faith and exercise that degree of judgment and care, under circumstances then prevailing, which persons of prudence, discretion and intelligence exercise in the management of their own affairs, not for speculation, but for investment, considering the probable safety of their capital as well as the probable income to be derived therefrom." (MS 11A.09)

AUTHORIZED ASSET CLASSES

In addition to the prudent person rule, the Minnesota Statutes contain a specific list of asset classes available for investment:

Equities
- o common stocks
- o alternative investments
  - real estate
  - venture capital
  - resource funds
  - unrated and high yield debt
  - international securities

Together, common stocks and alternative assets can total no more than 85% of a fund. Alternative assets can total no more than 35% of a fund.

Fixed Income
- o bonds
- o short-term securities

Up to 100% of a fund may be invested in fixed income securities.

The statutes contain specific restrictions to ensure the quality of the investments in each asset class. The major provisions are shown below:

- o Common stock must be issued by a corporation organized under U.S. or Canadian law or be listed on the New York or American Stock Exchanges. No more than 5% of a corporation's outstanding shares may be owned.

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- o Real estate, venture capital and resource fund investments must be made through partnerships or private placements. The investment can be no more than 20% of a partnership and there must be at least four other investors.

BASIC RETIREMENT FUNDS
OBJECTIVES AND RISK TOLERANCE

PURPOSE OF THE FUND

o Serve as accumulation pools prior to employee retirement.

The Basic Funds invest the contributions of public employees and employers during the employee's years of active service. Approximately 200,000 public employees participate in the Basic Funds.

TIME HORIZON

o Very long term, up to 40 years.

The Basic Funds' time horizon reflects the length of an employee's active service, generally 20-40 years.

OBJECTIVES: The objectives shown below have appeared in the SBI's annual report since 1986.

1) "To generate total returns sufficient to finance initially promised benefits at time of retirement."

In order to meet actuarial funding targets set in State statute, the Basic Funds must earn an 8% annualized total rate of return over the long-term.

Given historical relationships of the capital markets, this objective requires a significant allocation to common stocks (see Attachment).

Over the last five fiscal years, the Basic Funds generated an annualized rate of return of 12.3%, excluding alternative assets.

2) "To generate additional total returns that will allow a reduction in employee/employer contribution rates or finance an increase benefits."

If returns exceed the actuarial target, the State could lower employee/employer contribution rates or enhance benefit formulas. Like Objective #1, this objective requires a high allocation to common stocks.

During the 1980's, the Legislature has lowered employee/employer contribution rates and adopted several benefit enhancements.

3) "<u>To avoid excessive volatility of returns in the short-run</u>."

Common stocks provide high expected returns but exhibit the greatest amount of volatility in the short-run (see Attachment).

The inclusion of other asset classes in the Basic Funds will provide portfolio diversification and dampen short-run volatility of returns.

<u>CONCLUSION</u>

Objective #1 is clearly the over-riding goal. Together, Objectives #1 and #2 direct the investment policy of the Basic Retirement Funds towards a large allocation to common stocks in order to maximize long term total rates of return.

Given their very long time horizon, the Basic Funds are well-suited to take advantage of the risk-return trade-off provided by an aggressive investment policy. As a result, the Board's risk tolerance for the Basic Funds is quite high. While it is concerned about excessive short-run declines in portfolio value, the Board is willing to accept a wide range of performance results in exchange for the likelihood of earning superior long-run returns.

POST RETIREMENT INVESTMENT FUND
OBJECTIVES AND RISK TOLERANCE

PURPOSE OF THE FUND

- Payout promised retirement benefits

  Upon retirement, sums sufficient to finance fixed monthly annuities for the expected life of retirees are transferred from the Basic Funds to the Post Fund. Approximately 55,000 retirees participate in the Post Fund.

TIME HORIZON

- Moderate term, average 15 years

  Retirement annuities are paid for an average of 15 years for each retiree.

OBJECTIVES: The objectives shown below have appeared in the SBI's annual report since 1984.

1) "To generate realized earnings necessary to maintain currently promised benefits."

   In order to meet actuarial funding targets set in Statute, the Post Fund must generate 5% realized earnings (interest, dividends and net realized capital gains) each year.

   This objective is best achieved by focusing on current income, or yield, rather than total return. Historically, fixed income securities have provided higher yields than other asset classes (see Attachment).

2) "To generate benefit increases which compensate, to some degree, for inflation."

   By statute, realized earnings in excess of 5% are distributed to eligible retirees through permanent lifetime benefit increases. There is no statutory assurance that earnings will be sufficient to provide annual benefit increases of any amount.

   Historically, only common stocks have produced meaningful, positive inflation-adjusted returns. The best opportunity to achieve this objective is through a sizable investment in common stocks (see Attachment).

POST FUND (con't)

CONCLUSION

These two objectives have conflicting investment implications and suggest the investment policy of Post Retirement Fund should be segmented. Objective #1, the over-riding goal, can be satisfied by generating a large, steady stream of income from fixed income securities. Once the income stream is secure, the remaining assets can be more aggressively invested to address Objective #2.

Overall, the Board's risk tolerance for the Post Fund is quite low. The need for current income directs the Post Fund toward a very conservative investment policy which focuses on fixed income securities.

ATTACHMENT

HISTORICAL CAPITAL MARKET RELATIONSHIPS

Annualized Total Returns

	Last 62 Yrs. 1926-1987	Last 20 Yrs. 1968-1987
Common Stocks	9.9%	9.3%
Long Term Gov't Bonds	4.3	7.3
Treasury Bills	3.5	7.4
Inflation	3.0	6.3

Volatility of Total Returns 1926-1987

	Highest Annual Return	Lowest Annual Return	Standard Deviation
Common Stock	54.0%	-43.3%	21.1%
Long Term Gov't Bonds	40.4	- 9.2	8.5
Treasury Bills	14.7	0.0	3.4
Inflation	18.2	-10.3	4.8

Average Annual Yields

	Last 62 Yrs. 1926-1987	Last 20 Yrs. 1968-1987
Common Stocks	4.8%	4.4%
Long Term Gov't Bonds	5.0	8.5
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Source: Ibbotson Associates

SETTING INVESTMENT POLICY

Step 1 - Fund Objectives

What are the long term goals of the Fund?

Step 2 - Asset Allocation

What mix of stocks, bonds or other asset classes is most likely to achieve those goals?

Step 3 - Management Structure

What methods or techniques should be employed to manage each asset class?

- Active/Passive
- Internal/External

Step 4 - Performance Standards

How will actual performance at each level of asset management be measured and evaluated?

- Total Fund
- Asset Class Segment
- Individual Manager

MINNESOTA STATE BOARD OF INVESTMENT

Investment Authority

Objectives and Risk Tolerance
- Basic Retirement Funds
- Post Retirement Investment Fund

December 1988

INVESTMENT AUTHORITY

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

PRUDENT PERSON RULE

The prudent person rule requires the SBI to "...act in good faith and exercise that degree of judgment and care, under circumstances then prevailing, which persons of prudence, discretion and intelligence exercise in the management of their own affairs, not for speculation, but for investment, considering the probable safety of their capital as well as the probable income to be derived therefrom." (MS 11A.09)

AUTHORIZED ASSET CLASSES

In addition to the prudent person rule, the Minnesota Statutes contain a specific list of asset classes available for investment:

Equities
- o common stocks
- o alternative investments
  - real estate
  - venture capital
  - resource funds
  - unrated and high yield debt
  - international securities

Together, common stocks and alternative assets can total no more than 85% of a fund. Alternative assets can total no more than 35% of a fund.

Fixed Income
- o bonds
- o short-term securities

Up to 100% of a fund may be invested in fixed income securities.

The statutes contain specific restrictions to ensure the quality of the investments in each asset class. The major provisions are shown below:

- o Common stock must be issued by a corporation organized under U.S. or Canadian law or be listed on the New York or American Stock Exchanges. No more than 5% of a corporation's outstanding shares may be owned.

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BASIC RETIREMENT FUNDS
OBJECTIVES AND RISK TOLERANCE

PURPOSE OF THE FUND

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In order to meet actuarial funding targets set in State statute, the Basic Funds must earn an 8% annualized total rate of return over the long-term.

Given historical relationships of the capital markets, this objective requires a significant allocation to common stocks (see Attachment).

Over the last five fiscal years, the Basic Funds generated an annualized rate of return of 12.3%, excluding alternative assets.

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Common stocks provide high expected returns but exhibit the greatest amount of volatility in the short-run (see Attachment).

The inclusion of other asset classes in the Basic Funds will provide portfolio diversification and dampen short-run volatility of returns.

CONCLUSION

Objective #1 is clearly the over-riding goal. Together, Objectives #1 and #2 direct the investment policy of the Basic Retirement Funds towards a large allocation to common stocks in order to maximize long term total rates of return.

Given their very long time horizon, the Basic Funds are well-suited to take advantage of the risk-return trade-off provided by an aggressive investment policy. As a result, the Board's risk tolerance for the Basic Funds is quite high. While it is concerned about excessive short-run declines in portfolio value, the Board is willing to accept a wide range of performance results in exchange for the likelihood of earning superior long-run returns.

POST RETIREMENT INVESTMENT FUND
OBJECTIVES AND RISK TOLERANCE

PURPOSE OF THE FUND

o Payout promised retirement benefits

Upon retirement, sums sufficient to finance fixed monthly annuities for the expected life of retirees are transferred from the Basic Funds to the Post Fund. Approximately 55,000 retirees participate in the Post Fund.

TIME HORIZON

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OBJECTIVES AND RISK TOLERANCE

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BASIC RETIREMENT FUNDS

OBJECTIVES

#1 To generate total returns sufficient to finance initially promised benefits at time of retirement

#2 To generate additional total returns that will allow a reduction in employee/employer contribution rates or finance an increase in benefits

#3 To avoid excessive volatility of returns in the short-run

POST RETIREMENT FUND

OBJECTIVES

#1 To generate realized earnings necessary to maintain currently promised benefits

#2 To generate benefit increases which compensate, to some degree, for inflation

INVESTMENT AUTHORITY

PRUDENT PERSON RULE

AUTHORIZED ASSET CLASSES

<u>Equities</u> - up to 85% of a fund

- o Common Stocks
- o Alternative Assets
  - Real Estate
  - Venture Capital
  - Resource Funds
  - Unrated and High Yield Debt
  - International Securities

<u>Fixed Income</u> - up to 100% of a fund

- o Bonds
- o Short-Term Debt Securities

BASIC RETIREMENT FUNDS

PURPOSE

Serve as accumulation pools prior to retirement

TIME HORIZON

Very long, up to 40 years

OBJECTIVES

#1 To generate total returns sufficient to finance initially promised benefits at time of retirement

#2 To generate additional total returns that will allow a reduction in employee/employer contribution rates or finance an increase in benefits

#3 To avoid excessive volatility of returns in the short-run

CONCLUSION

Objective #1 is the over-riding goal.

Basic Funds should be directed toward an aggressive investment policy focused on common stocks.

POST RETIREMENT FUND

PURPOSE

Payout promised retirement benefits

TIME HORIZON

Moderate, average 15 years

OBJECTIVES

#1 To generate realized earnings necessary to maintain currently promised benefits

#2 To generate benefit increases which compensate, to some degree, for inflation

CONCLUSION

Objective #1 is the over-riding goal.

Post Fund should be directed toward a conservative investment policy focused on fixed income securities.