MINNESOTA STATE BOARD
OF INVESTMENT
MEETING

March 21, 1985

&

INVESTMENT ADVISORY COUNCIL
MEETING

March 20, 1985

PLEASE NOTE CHANGE IN MEETING PLACE FOR THE STATE BOARD OF INVESTMENT MEETING.

ROOM 500-S
STATE OFFICE BUILDING
435 PARK STREET

EXECUTIVE DIRECTOR
HOWARD J. BICKER

STATE OF MINNESOTA
STATE BOARD OF INVESTMENT

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

AGENDA

STATE BOARD OF INVESTMENT
MEETING
Thursday, March 21, 1985
8:30 A.M.

ROOM 500-S
STATE OFFICE BUILDING
435 Park
Saint Paul

1. Approval of Minutes of December 12, 1984 meeting

2. Executive Director's Report:
   A. Quarterly Investment Review
      1) Basic Retirement Funds
      2) Post Retirement Fund
      3) Other Investment Board Funds

   B. Portfolio Statistics

3. Legislative Auditor's Report

4. Report from Investment Advisory Council Committees:

   A. Administrative Committee
      1) 1985 Legislative Update
      2) Incentive fee discussion

   B. Asset Allocation Committee
      1) Permanent School and Post Retirement Fund

   C. Equity Manager Committee
      1) Review of equity managers

   D. Fixed Income Committee
      1) Dedicated bond portfolio

   E. Alternative Investment Committee

      1) Report on the progress of the implementation of the alternative investment program and request for approval to participate in one venture capital partnership

EXECUTIVE DIRECTOR
HOWARD J. BICKER

STATE OF MINNESOTA
STATE BOARD OF INVESTMENT

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

MINUTES
STATE BOARD OF INVESTMENT
December 12, 1984

The State Board of Investment met on Wednesday, December 12, 1984 at 2:00 P.M. Governor Rudy Perpich, State Auditor Arne H. Carlson, Secretary of State Joan Anderson Growe, and State Treasurer Robert W. Mattson were present.

The minutes of the September 5, 1984 meeting were unanimously approved.

Executive Director's Report

Howard Bicker, Executive Director, reviewed the quarterly report for the Basic Retirement Funds. Mr. Bicker stated that the Fund experienced a $50 million negative cash flow resulting from retirements due to the Rule of 85. He stated that the allocation to bonds was reduced by approximately 3 1/2% due to the bond liquidation to provide cash. The common stock component increased due to strength in the stock market during the quarter.

Mr. Bicker reported the total rate of return for the quarter for the Basic Retirement Funds was 7.9%. He noted that the aggregate of the external managers lagged the indices by approximately 1.5%. Mr. Bicker stated that in aggregate the bond managers underperformed the indices due to the restructuring of portfolios they received from the Board in July.

Mr. Bicker stated that continued negative contributions to the Basic Retirement Funds are expected, including an estimated $75-100 million in June of 1985 due to teachers' retirements. He stated that staff is designing the asset mix and liquidity to handle the negative contributions. Mr. Bicker also reviewed the returns for the remaining funds, and stated that the retirees will receive a 6.9% benefit increase in January.

Mr. Bicker reviewed the portfolio statistics.

Investment Advisory Council Members

Mr. Carlson moved approval of the appointment of Henry Adams and James Eckmann to the Investment Advisory Council. The motion passed unanimously.

Council of Institutional Investors

Mr. Bicker discussed the formation of the Council of Institutional Investors. Mr. Bicker recommended that the State Board of Investment participate in the Council during its first year. Mr. Mattson moved approval. The motion passed unanimously.

Investment Advisory Council Report

Judith Mares, Chair of the Investment Advisory Council presented the following committee reports, which were endorsed unanimously by the full council:

Administration

Ms. Mares stated that the committee reviewed the legislative proposals and had no comment. The committee also endorsed the new format and graphics used in the annual report.

Ms. Mares stated the committee recommended the transfer of assets in the Minnesota Supplemental and Variable Annuity Funds to State Street Bank for the following reasons: 1) State Street Bank could provide unit value for the Income and Growth Share accounts on a more timely basis so that participants would receive refunds without the current delays; 2) State Street could provide services on a more cost effective basis due to the income earned from the securities lending program; and 3) consolidation of assets would result in administrative efficiencies for the internal staff.

Finally, Ms. Mares stated that the Administrative Committee addressed the issue of accountability at the end of its report.

Mr. Carlson stated that the decision to move additional assets to State Street Bank is a sensitive issue. He suggested that the Board's surrogates study whether a Minnesota bank can match State Street's services and report to the Board at its March meeting. Ms. Mares stated that several members of the Council had conducted Master Custodian analyses for their respective corporate pension funds, and concluded that the local institutions did not provide the depth of resources provided by State Street Bank. Mr. Carlson moved that the Master Custodian portion of the report be deleted and that each Board member appoint a surrogate to form a subcommittee to meet with the existing local institution to find out if it can match State Street's performance. Mr. Mattson moved the full committee report, stating that he participated in the Master Custodian interviews, and State Street is heads above everyone else. Mr. Carlson's motion was not seconded. Mr. Mattson's motion was seconded by Ms. Growe. Mr. Bicker stated that in June of 1985 the Board's committee would review State Street to assure it was still providing state of the art services. He stated it would be an appropriate time to review the local banks, as current reorganization activities should have been completed at some institutions. Mr. Mattson's motion passed, with the Governor, Mr. Mattson and Ms. Growe voting in the affirmative, and Mr. Carlson in the negative.

Asset Allocation Committee

Ms. Mares stated that the committee recommended that the Board formally dedicate a portion of the bond portfolio of the Post Retirement Investment Fund to generate a stream of income to match the required benefit payments. The remainder of the funds would be invested in a portfolio of stocks and bonds to provide benefit increases. Ms. Mares stated that it is important to adopt a formal investment policy for the Post Retirement Fund, particularly in view of the ongoing sizable shift in assets described by Mr. Bicker. Ms. Mares stated that the proposal is not substantially different from current practice. She requested that the Fixed Income Committee be delegated the authority to retain a software vendor and work with the staff and consultant on the development and execution of the implementation plan. She stated that some trading would be required to establish the portfolio. Upon completion, a full report would be made to the Council and Board.

Mr. Bicker stated that staff had worked with the retirement systems and retiree representatives in developing the proposal. In response to a question from Mr. Carlson, Mr. Schmidt, Executive Director of the Teachers Retirement Association, stated that he is comfortable with the proposal. Ms. Growe moved approval. The motion passed unanimously.

Regarding the issue of market timing, Ms. Mares stated the council members unanimously recommended that the Board not do market timing for the funds.

Equity Manager Committee

Ms. Mares stated that three managers are on probation, primarily for poor performance. The committee recommends no action at this time, but that the Board wait until the two year mark has been reached in March of 1985. She stated that four managers are on the watch list; three because they have been purchased by other organizations and one due to the loss of several accounts. Ms. Mares reported that the committee is examining whether the active managers have a bias in style. She said the relatively poor performance this year reflected an aggressive growth style, and the committee would analyze whether the current configuration should be changed.

In response to a question from Mr. Carlson, Mr. Bicker stated that in March of 1985 managers would be reviewed relative to the investment styles recommended by the Council. Mr. Bicker advised against making changes based only on short term poor performance. Mr. Carlson recommended that the Board be involved in the review of managers through a joint committee formed of the Board surrogates and Council members. Mr. Carlson stated that if the Board is not part of the process, it will be difficult to assume responsibility for the ultimate result. Mr. Carlson moved that the surrogate committee be reformed to work with the Council, staff, and retirement funds and report back to the Board in March on the equity manager review. Mr. Mattson concurred. The motion passed unanimously.

Fixed Income Committee

Ms. Mares reported that the Fixed Income Committee had adopted guidelines for evaluation of the bond managers. The Committee reviewed the managers' performance and had no comment as the program had just been initiated in July.

Alternative Investment Committee

Ms. Mares reported that the committee recommended the Board invest $10 million in each of two venture capital limited partnerships: Summit Ventures and the First Century Fund. Mr. Carlson moved approval. The motion passed unanimously.

Ms. Mares reported that the Committee is continuing to work on real estate and resource programs for future commitments.

Mr. Bicker reported the fourth Annual Conference would be held in March, 1985. He also informed the Board that staff was working with the Department of Commerce to liquidate securities held by the Unclaimed Properties Division.

The meeting adjourned at 2:30 P.M.

Respectfully submitted,

Howard Bicker

Howard J. Bicker
Executive Director

AGENDA

INVESTMENT ADVISORY COUNCIL
MEETING

Wednesday, March 20, 1985
2:30 P.M.

MEA Building - Conference Room "A"
41 Sherburne Avenue
Saint Paul

	TAB
1. Approval of Minutes of December 11, 1984 meeting	
2. Executive Director's Report:	
A. Quarterly Investment Review	A
1) Basic Retirement Funds	
2) Post Retirement Fund	
3) Other Investment Board Funds	
B. Portfolio Statistics	B
3. Legislative Auditor's Report	C
4. Report from Investment Advisory Council Committees:	
A. Administrative Committee	D
1) 1985 Legislative Update	
2) Incentive fee discussion	
B. Asset Allocation Committee	E
1) Permanent School and Post Retirement Fund	
C. Equity Manager Committee	F
1) Review of equity managers	F-1
D. Fixed Income Committee	G
1) Dedicated bond portfolio	
E. Alternative Investment Committee	H
1) Report on the progress of the implementation of the alternative investment program and request for approval to participate in one venture capital partnership	

EXECUTIVE DIRECTOR
HOWARD J. BICKER

STATE OF MINNESOTA
STATE BOARD OF INVESTMENT

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

MINUTES
INVESTMENT ADVISORY COUNCIL
DECEMBER 12, 1984

The Investment Advisory Council met on December 12, 1984 at 2:30 P.M. in the MEA Conference Room in Saint Paul.

Members Present: Judith Mares, Chair; Kenneth Gudorf, Gordon Donhowe, Allen Eldridge, Paul Groschen, Richard Hume, Malcolm McDonald, Gary Norstrem, Mike Rosen, Joseph Rukavina, Harvey Schmidt, Ray Vecellio, Deborah Veverka and Jan Yeomans.

Staff Attending: Howard Bicker, Jeff Bailey, John Griebenow, Roger Henry, Teresa Myers and Daralyn Peifer.

Others Attending: Henry Adams, James Eckmann, Elton Erdahl, Deborah Feist, Andrea Kircher, Mike Miles, Michael Norton, Mike Ousdigian, Stan Peskar, Jim Ryan, Peter Sausen, Jay Stoffel and Robert Whitaker.

Judith Mares, IAC Chair, introduced Henry Adams and James Eckmann whose appointment to the Council will be considered at the next meeting of the State Board of Investment.

IAC MINUTES

Deborah Veverka requested the minutes be amended to reflect her statement that the external managers had not experienced an up market for their styles since they were retained by the Board. The minutes were passed unanimously as amended.

Executive Director's Report

Howard Bicker, Executive Director, reviewed the quarterly report for the Basic Retirement Funds. Mr. Bicker stated that the Fund experienced a $50 Million negative cash flow resulting from retirements due to the Rule of 85. He stated that the allocation to bonds was reduced by approximately 3 1/2% as bonds were liquidated to provide cash. Mr. Bicker reported that 90% of the Basic Retirement Funds restructuring has been completed.

Mr. Bicker reported that the total rate of return for the Basic Retirement Fund was 7.9%. He noted that the aggregate of the external managers slightly underperformed the indices while outperforming the TUCS universe of aggressive managers. Mr. Bicker stated that in aggregate the bond managers underperformed the indices due to the restructuring of portfolios they received from the Board in July.

Mr. Bicker stated that continued negative contributions to the Basic Retirement Funds are expected, including an estimated $75-100 million in June of 1985 due to teachers' retirements. He stated that staff is designing the asset mix and liquidity structure to handle the negative contributions.

Mr. Bicker reviewed the portfolio statistics for the funds. There were no questions.

Council of Institutional Investors

Mr. Bicker reported on the formation of a Council of Institutional Investors to exchange information on corporate actions, such as greenmail, which affect the value of shareholders investments. Mr. Bicker stated he would recommend that the Board participate in the formation of the Council as long as no state has a majority of votes. In response to a question from Ms. Mares, Mr. Bicker stated that the Council could eventually provide a forum to discuss South Africa and other shareholder issues. In response to a question from Mr. Vecellio, Mr. Bicker stated that the services to be performed by the Council of Institutional Shareholders are not currently available to the Board. Ms. Mares requested that Mr. Bicker keep the Advisory Council informed of developments in this area.

Committee Reports

Administrative Committee

Ms. Mares reported that the Administrative Committee recommends the transfer of Minnesota Supplemental and Variable Annuity assets to State Street Bank. She stated that the move is recommended because: 1) State Street Bank could provide unit value for the Income and Growth Share accounts on a more timely basis so that participants would receive refunds without the current delays; 2) State Street could provide services on a more cost effective basis due to the income earned from the securities lending program; and 3) consolidation of assets would result in administrative efficiencies for the internal staff. Mr. Schmidt moved approval of the recommendation.

Mr. Bicker stated that some Board members are concerned whether Minnesota financial institutions have the opportunity to bid on providing the service. He noted that the Minnesota banks were considered in the initial Master Custodian search, and thus far State Street has performed very well at lower than anticipated costs. Mr. Bicker stated that the Board needs its custodian to use trade date accounting rather than settlement date accounting in order to provide unit values in more timely manner. Ms. Mares noted that unlike State Street, the local institutions do not have the necessary securities lending experience to enable them to reduce fees substantially. Ms. Mares stated that as a result of its analysis, General Mills concluded that the local institutions were not competitive with the large Master Trust banks. Mr. Rukavina moved to amend Mr. Schmidt's motion to enable local institutions to bid on providing the service. Mr. Schmidt did not accept the amendment. Mr. Donhowe stated that the committee will be reviewing the performance of the Master Custodian on a regular basis to ensure that the funds are receiving state of the art services. Mr. Schmidt's motion passed unanimously. Mr. Groschen stated that the funds in question are the sole property of the individual participants, and the State Retirement System is in an untenable position when participants must incur delays in receiving their assets with no growth during the interim period.

Ms. Mares reported that the Administrative Committee addressed the issue of accountability as requested by State Auditor Arne Carlson. She read the committee's conclusions, set forth in its report to the Board. The motion to approve the statement was unanimously approved.

Ms. Mares reviewed the Board's legislative proposal for the 1985 session. The Council unanimously approved the suggested housekeeping changes.

Ms. Mares reviewed the Annual Report, noting the substantial changes in format and graphics. The Council unanimously approved the motion to submit the report to the State Board of Investment.

Asset Allocation Committee

Mr. Donhowe reviewed the report of the Asset Allocation Committee recommending that the Board utilize a dedicated bond portfolio for the Post Retirement Investment Fund. Mr. Donhowe stated that the use of a dedicated bond portfolio for approximately one-half of the Fund assets is designed to finance fully the promised pension benefits to retirees. The remainder of the Fund investments in a mix of stocks and bonds is designed to provide permanent benefit increases. Mr Donhowe recommended that the Fixed Income Manager Committee retain a vendor to provide the computer software needed to implement a dedicated portfolio.

Mr. Schmidt stated that the Teachers Retirement Association Board is concerned about any changes in the Post Retirement Fund policies. Mr. Donhowe stated that the recommendation is not substantially different from the current practice, but it is important to institute a formal investment policy, particularly in view of the substantial increase in Fund assets as discussed by Mr. Bicker. He stated that the retirees should be comforted in knowing a relatively small percentage of the invested assets will generate the promised benefits. Mr. Bicker stated that the policy will remove added risk from the portfolio. He stated that if implemented earlier, use of a dedicated bond portfolio would not have measurably changed the pension benefit increases received by retirees since 1980. In response to a question from Mr. Schmidt, Mr. Bicker stated that if approved, the change would be implemented over the next few months.

Mr. Gudorf concurred with the use of a dedicated portfolio, and discussed the implementation strategy. The Council decided that the implementation procedures would be determined by the Fixed Income Committee.

Mr. Ryan, Evaluation Associates, supported the use of a dedicated bond portfolio for the Post Retirement Fund, and noted potential implementation problems if knowledge of the proposed trades becomes widespread. The Council unanimously approved the committee's recommendation for a dedicated bond portfolio. Mr. McDonald noted that the retirement fund representatives have participated in the committee's deliberations.

In response to a request from State Auditor Carlson, Mr. Donhowe stated that after consultation with corporate pension fund representatives on the Council, the committee recommends against the use of market timing for the funds. The Council unanimously approved the recommendation.

Equity Committee Report

Ms. Veverka reviewed the on-going monitoring of the external managers. She reported that during the upcoming months, the committee will be analyzing the biases in the current portfolio, and recommending whether the current configuration among manager styles should be changed. In response to a question from Mr. McDonald regarding the firing of managers, Ms. Veverka reported the committee would examine the managers' two year performance history in March of 1985 and determine whether underperformance has resulted from a manager's particular style or other reasons.

Mr. Ryan commented on the purchase of Alliance Capital by the Equitable Life Assurance Society. He stated that the purchase will probably not change the management of the assets. The Council unanimously approved the Equity Committee report.

Fixed Income Committee

Mr. Norstrem presented proposed guidelines for evaluating the performance of Fixed Income Managers. The Council unanimously approved the guidelines. Mr. Norstrem also reviewed the managers' performance, noting that their slight underperformance of the indices was due to portfolio restructuring.

Alternative Investments

Mr. Gudorf outlined the Alternative Investment Committee's review of potential venture capital and resource investments. Mr. Bicker reported the details of two proposed venture capital partnerships: Summit Ventures and the First Century Fund III. He noted that due to the 3-5 year takedown schedules, the actual amount of money invested in venture capital is less than the Board's commitments. Thus, even with these commitments, the Board will have additional assets available for venture capital investments while staying within the targeted range. The Council unanimously approved the committee's recommendation to invest in Summit Ventures and the First Century Fund III. Mr. Gudorf also reported that staff is reviewing proposed real estate commingled funds and recommendations would be forthcoming.

Mr. Bicker reported that the Fourth Annual Investment Conference would be held in early March.

The meeting adjourned at 4:25 P.M.

Respectfully submitted,

Howard Bicker

Howard Bicker
Executive Director

Tab A

MINNESOTA STATE BOARD OF INVESTMENT

QUARTERLY INVESTMENT REVIEW

BASIC RETIREMENT FUNDS

December 31, 1984

MINNESOTA STATE BOARD OF INVESTMENT

BASIC RETIREMENT FUNDS

FOURTH QUARTER 1984

Summary

ASSETS

The Basic Retirement Funds increased 1.6% in market value during the fourth quarter. Positive returns on the Basic Funds' investments have permitted total assets to continue to rise despite continued strong negative net contributions to the Basic Funds, due to both the "Rule of 85" and the return of public employees' 2% pension contributions. All of these withdrawals have taken place during the third and fourth quarters when net contributions to the Basic Funds totaled -$47 million and -$50 million, respectively. For the full calendar year this figure was -$78 million. End-of-period market values of the Basic Retirement Funds' assets over the past six years are displayed below.

Calendar Year		Market Value (millions)	Percent Change from Previous Period
1979		$ 1,627	+ 16.5%
1980		1,962	+ 20.6
1981		2,148	+ 9.5
1982		2,806	+ 30.6
1983		3,129	+ 11.5
1984	1Q	3,072	- 1.8
	2Q	3,024	- 1.6
	3Q	3,213	+ 6.3
	4Q	3,265	+ 1.6

ASSET MIX

During the fourth quarter, there were several minor shifts in the Basic Retirement Funds' asset mix. As a result of the strong relative performance of the bond market and the bond managers' aggregate increase in bond exposure, the Basic Funds' bond component was increased slightly. The Basic Funds' active common stock managers' equity allocation remained essentially constant. However, the common stock component decreased slightly, due to the weak relative performance of the stock market. The Basic Funds' cash equivalents allocation was reduced, as the bond managers trimmed their cash positions and alternative equity investments continued to be funded. Concomitantly, the funding of two new venture capital managers and several existing real estate and venture capital managers resulted in an increase in the Basic Funds' allocation to alternative equity investments.

ASSET MIX

	9/30/84	12/31/84
Common Stocks	58.1%	57.8%
Bonds	23.9	25.9
Cash Equivalents*	12.0	9.4
Alternative Equity Assets	6.0	6.9
	100.0%	100.0%

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

INVESTMENT RETURNS

The total rate of return on the Basic Retirement Funds' investments was 3.2% in the fourth quarter. The Basic Funds' positive performance was due largely to the strength of the bond market. Common stocks added little to total fund performance. On a relative basis, the Basic Funds underperformed the median of a universe of other tax-exempt funds in the quarter, due primarily to the Basic Funds' slightly greater common stock exposure compared to the median tax-exempt fund. On the other hand, the Basic Funds outperformed their stock/bond index composite target. Asset segment and total portfolio returns for the quarter and calendar year are displayed below.

	Total Rate of Return	
	Fourth Quarter 1984	Year Ending 12/31/84
Common Stocks	1.9%	2.7%
Bonds	6.4	14.6
Cash	2.5	10.8
Alternative Equity Assets	2.4	11.8
Total Fund	3.2	6.9

EQUITY PERFORMANCE

The stock market, as represented by the Wilshire 5000, produced a modest 1.3% return in the fourth quarter. The market proved to be a considerably easier performance target to beat than it was in the third quarter, as over 50% of all active equity managers, including the Basic Funds' active equity manager aggregate, exceeded its return. Several of the Basic Funds' active managers produced returns which outperformed that of the Wilshire 5000 by considerable margins. As designed, the index fund continued to closely track the Wilshire 5000's performance.

As a group, the Basic Fund's active equity managers remained overweighted in the Financial, Technology, and Transportation sectors and significantly underweighted in the Energy and Utilities sectors. During the quarter, the managers trimmed their Capital Goods holdings, resulting in an underweighting of this sector as well. The aggregate equity exposure and portfolio risk characteristics remained unchanged.

The recent quarter, calendar year, and since-inception returns of the Basic Funds' active managers are displayed in the following table.

Total Portfolio Returns			
	Fourth Quarter 1984	Year Ending 12/31/84	Since Inception 3/1/83
Fred Alger	0.2%	-2.9%	8.1%
Alliance Capital	1.3	-0.7	4.6
Beutel Goodman	4.9	10.8	26.8
Forstmann Leff	3.4	0.0	10.8
Hellman Jordan	4.6	9.4	9.9
IDS	3.0	5.8	14.3
Investment Advisers	5.7	8.1	17.9
Loomis Sayles	1.1	-5.3	- 6.9
Siebel Capital	4.8	2.9	10.1
Herbert R. Smith	-0.8	-5.4	-12.1
Trustee & Investors	-1.4	-6.8	- 5.1
Total - External Active Managers	2.6	1.7	7.2
Wilshire Associates (Index Fund)	1.7	3.2	NA
Wilshire 5000	1.3	3.1	18.4

BOND PERFORMANCE

The bond market's fourth quarter performance was impressive. The bond market rally, which began in the third quarter in response to declining interest rates, continued unabated through the remainder of the calendar year. Short-term rates, which had increased slightly in third quarter, dropped even more sharply than did long-term rates.

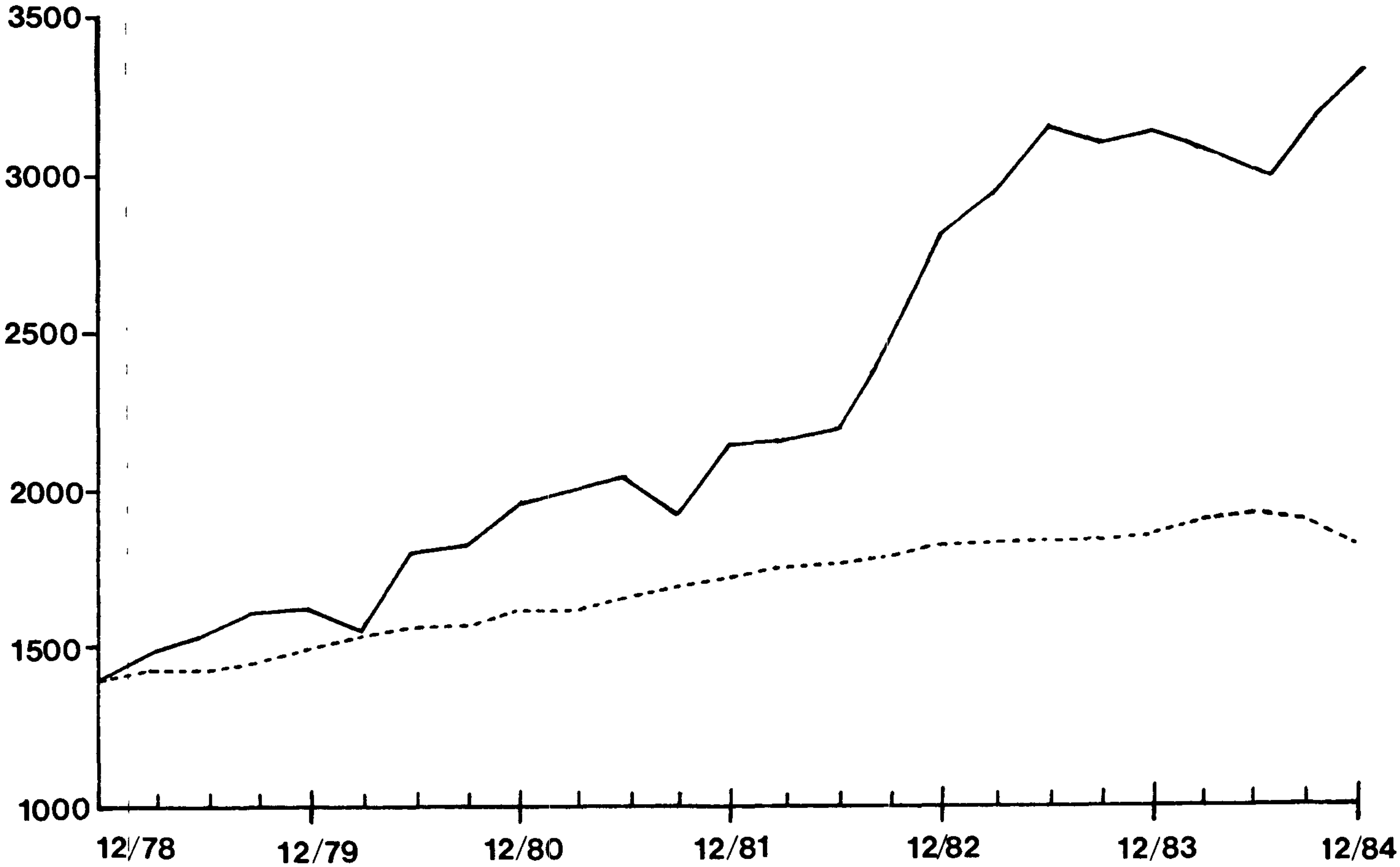
In anticipation of the continued decline in interest rates, the external bond managers as a group increased the average life of their portfolios, reversing their third-quarter actions. However, as in the previous quarter, those managers who held above-average duration portfolios benefited from the continued decline in rates to a greater extent than did the managers with below-average duration portfolios. Individual results were mixed, but in aggregate the Basic Funds' bond managers slightly underperformed the Merrill Lynch Master Bond Index in the fourth quarter.

Fourth quarter and since-inception returns for the Basic Funds' external bond managers are presented below.

	Total Portfolio Returns	
	Fourth Quarter 1984	Since Inception 6/30/84
Investment Advisers	8.8%	21.6%
Lehman Management	6.8	16.1
Miller Anderson	6.3	13.4
Morgan Stanley	7.2	13.9
Norwest Bank Minneapolis	5.6	13.0
Western Asset	6.8	18.4
Total - External Managers	6.8	15.4
Merrill Lynch Master Bond Index	7.1	16.4

FIGURE 1

BASIC RETIREMENT FUNDS
ASSET GROWTH



BEGINNING VALUE PLUS NET CONTRIBUTIONS ---

TOTAL PORTFOLIO MARKET VALUE ——

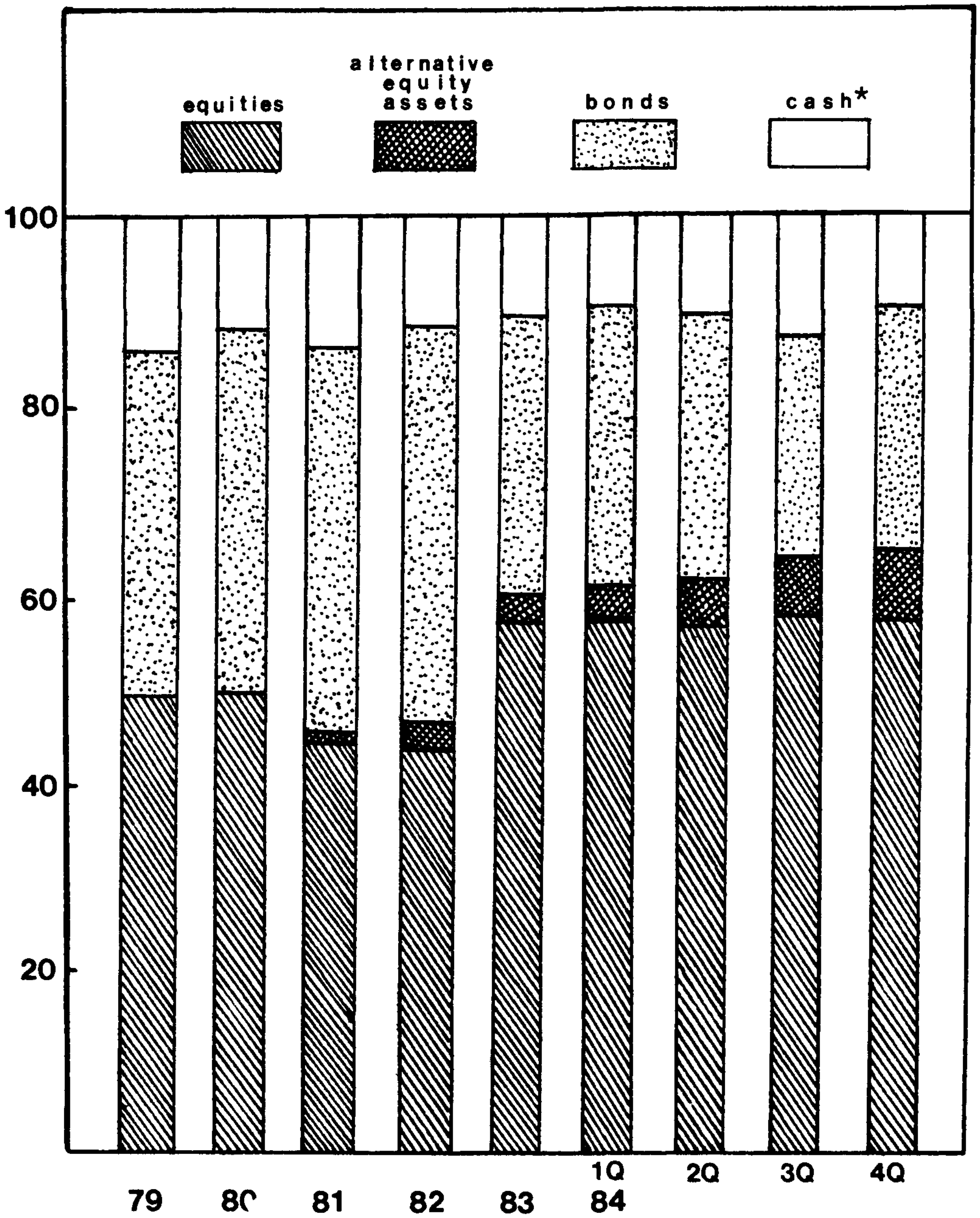
	PERIOD ENDING					
	12/79	12/80	12/81	12/82	12/83	12/84
BEGINNING VALUE	1397.0	1627.1	1962.0	2148.8	2806.2	3129.0
NET CONTRIBUTIONS	103.5	122.7	114.9	91.0	40.0	- 77.6
INVESTMENT RETURN	126.6	212.2	71.9	566.4	282.8	213.6
ENDING VALUE	1627.1	1962.0	2148.8	2806.2	3129.0	3265.0

(MILLIONS OF DOLLARS)

FIGURE 2

BASIC RETIREMENT FUNDS
ASSET MIX

PERCENT OF MARKET VALUE
(End of Period Allocations)



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

TABLE 1

BASIC RETIREMENT FUNDS

ASSET MIX
PERCENT OF MARKET VALUE

(End of Period Allocations)

		Common Stocks		Bonds		Cash*		Real Estate		Resource Funds		Venture Capital	
		$Million	Percent	$Million	Percent	$Million	Percent	$Million	Percent	$Million	Percent	$Million	Percent
1979		799	49.1	604	37.1	224	13.8	-	-	-	-	-	-
1980		964	49.1	767	39.1	231	11.8	-	-	-	-	-	-
1981		959	44.6	865	40.3	297	13.8	20	0.9	8	0.4	-	-
1982		1,212	43.2	1,165	41.5	317	11.3	93	3.3	17	0.7	-	-
1983		1,773	56.7	892	28.5	342	10.9	101	3.2	21	0.7	-	-
1984	1Q	1,745	56.8	891	29.0	305	9.9	106	3.5	21	0.7	4	0.1
	2Q	1,696	56.1	829	27.4	331	10.9	140	4.6	23	0.8	4	0.2
	3Q	1,866	58.1	770	23.9	385	12.0	157	4.9	23	0.7	12	0.4
	4Q	1,887	57.8	847	25.9	308	9.4	178	5.5	23	0.7	22	0.7

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

TABLE 2

BASIC RETIREMENT FUNDS

ASSET MIX - ACTUAL vs. POLICY

PERCENT OF MARKET VALUE
(End of Period Allocations)

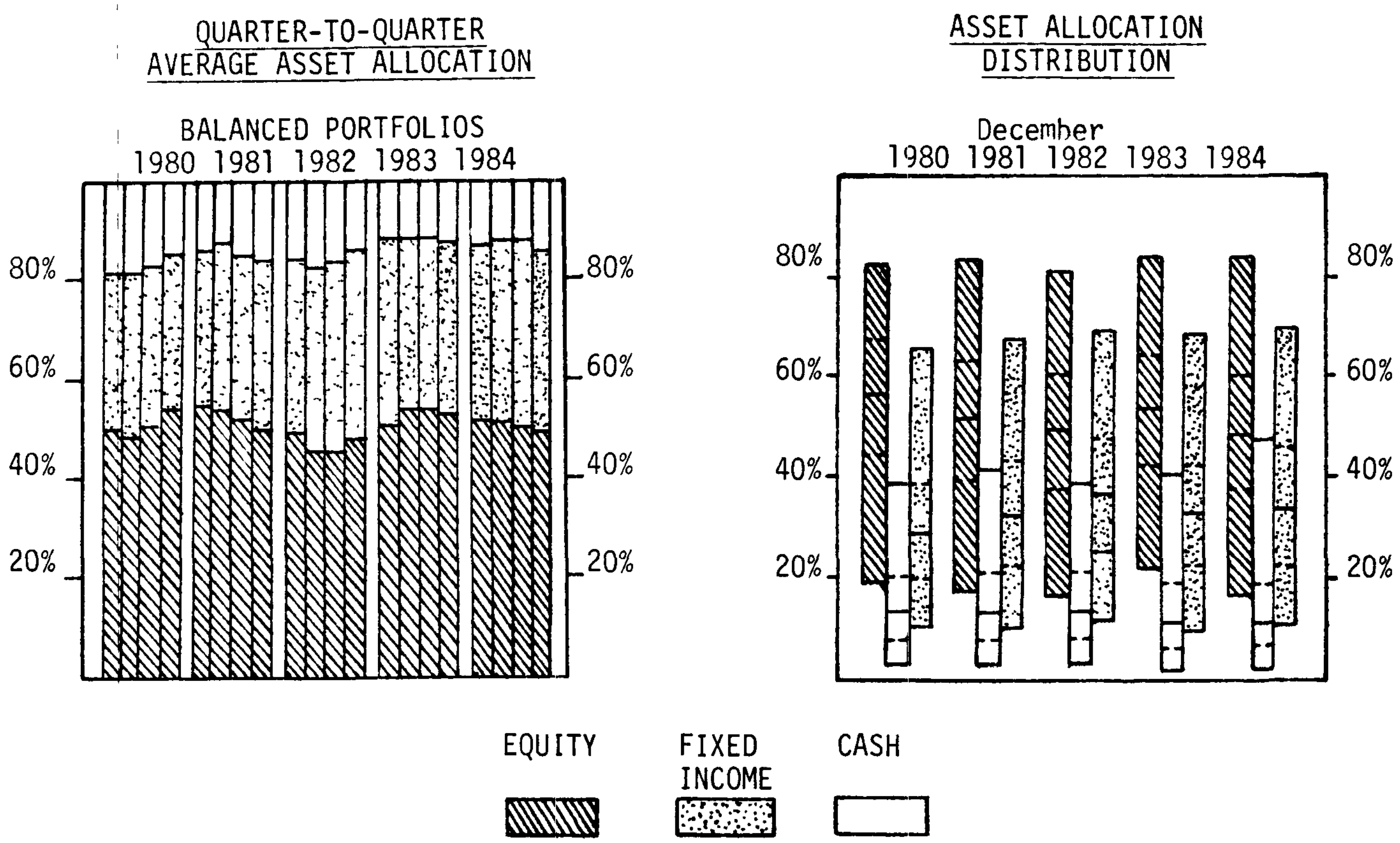
		Common Stocks*						Fixed Income**			Real Estate*			Resource Funds Venture Capital*		
		Passive Management			Active Management											
		Actual	Policy	Diff.	Actual	Policy	Diff.	Actual	Policy	Diff.	Actual	Policy	Diff.	Actual	Policy	Diff.
1983	1Q	0	40	-40	57.9	20	+37.9	38.3	25	+13.3	3.2	10	-6.8	0.6	5	-4.4
	2Q	0	40	-40	61.9	20	+41.9	34.5	25	+ 9.5	3.0	10	-7.0	0.6	5	-4.4
	3Q	0	40	-40	63.4	20	+43.4	32.8	25	+ 7.8	3.2	10	-6.8	0.6	5	-4.4
	4Q	43.5	40	+ 3.5	18.5	20	- 1.5	34.1	25	+ 9.1	3.2	10	-6.8	0.7	5	-4.3
1984	1Q	42.2	40	+ 2.2	17.8	20	- 2.2	35.7	25	+10.7	3.5	10	-6.5	0.8	5	-4.2
	2Q	41.7	40	+ 1.7	17.7	20	- 2.3	33.3	25	+ 8.3	5.5	10	-4.5	1.8	5	-3.2
	3Q	42.5	40	+ 2.5	17.9	20	- 2.1	32.6	25	+ 7.6	5.3	10	-4.7	1.7	5	-3.3
	4Q	42.1	40	+ 2.1	18.0	20	- 2.0	32.7	25	+ 7.7	5.5	10	-4.5	1.7	5	-3.3

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

FIGURE 3

ASSET ALLOCATION PERSPECTIVE

TAX EXEMPT BALANCED PORTFOLIOS



PERCENT EQUITY	DECEMBER 1980	1981	1982	1983	1984
5TH PERCENTILE	82	83	81	84	84
25TH PERCENTILE	67	63	60	64	60
MEDIAN	56	51	49	53	48
75TH PERCENTILE	44	39	37	42	37
95TH PERCENTILE	18	17	16	21	16
PERCENT CASH EQUIV					
5TH PERCENTILE	38	41	38	40	47
25TH PERCENTILE	19	20	20	18	18
MEDIAN	12	12	12	10	10
75TH PERCENTILE	7	7	7	5	6
95TH PERCENTILE	2	2	2	1	1
PERCENT FIXED INCOME					
5TH PERCENTILE	65	67	69	68	69
25TH PERCENTILE	38	43	47	42	45
MEDIAN	28	32	36	32	33
75TH PERCENTILE	19	22	25	22	22
95TH PERCENTILE	9	9	10	8	9

Source: Trust Universe Comparison Service

FIGURE 4

PERFORMANCE OF CAPITAL MARKETS
CUMULATIVE RETURNS

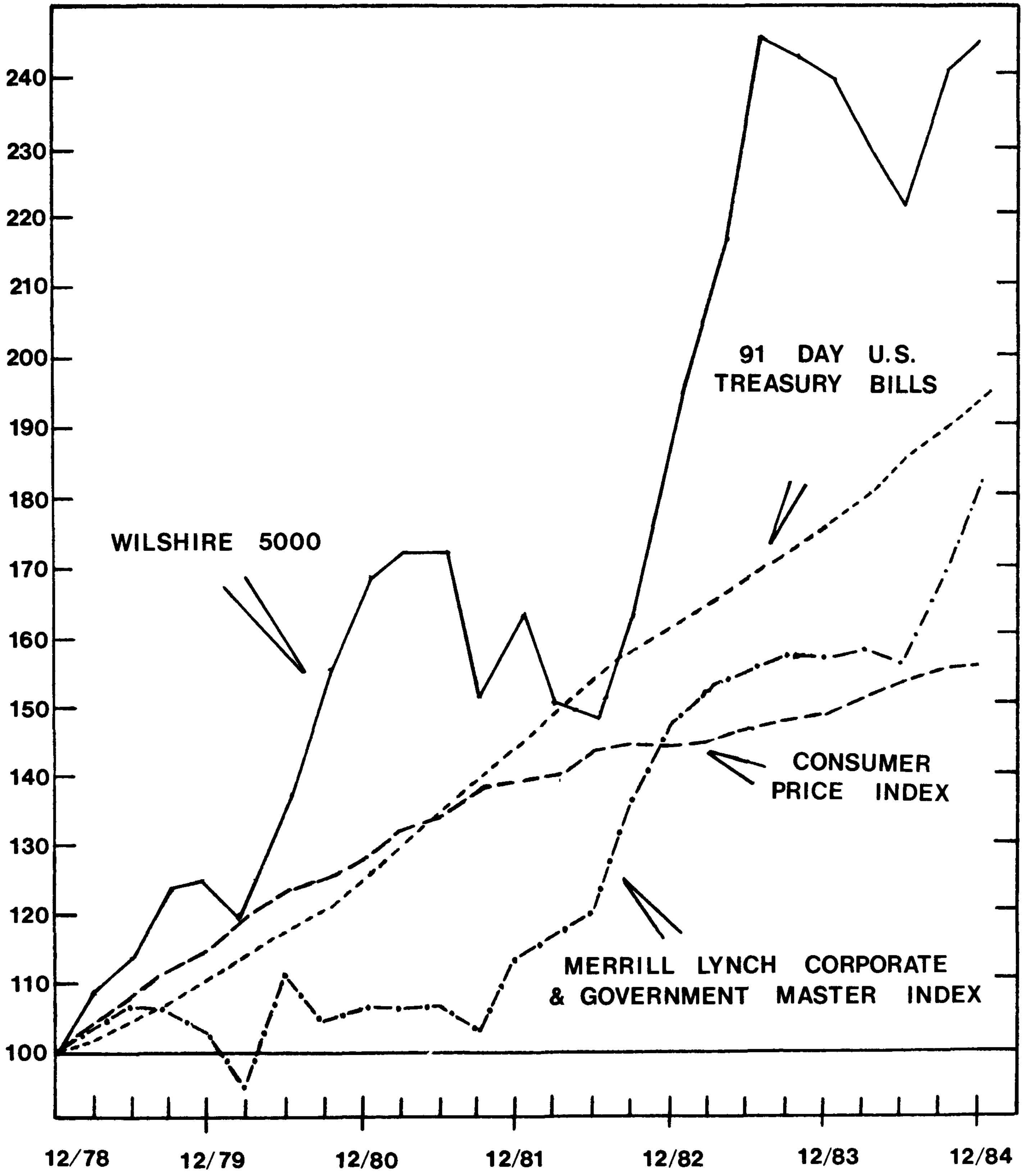


FIGURE 5

BASIC RETIREMENT FUNDS

INVESTMENT RETURNS RELATIVE TO PERFORMANCE STANDARDS

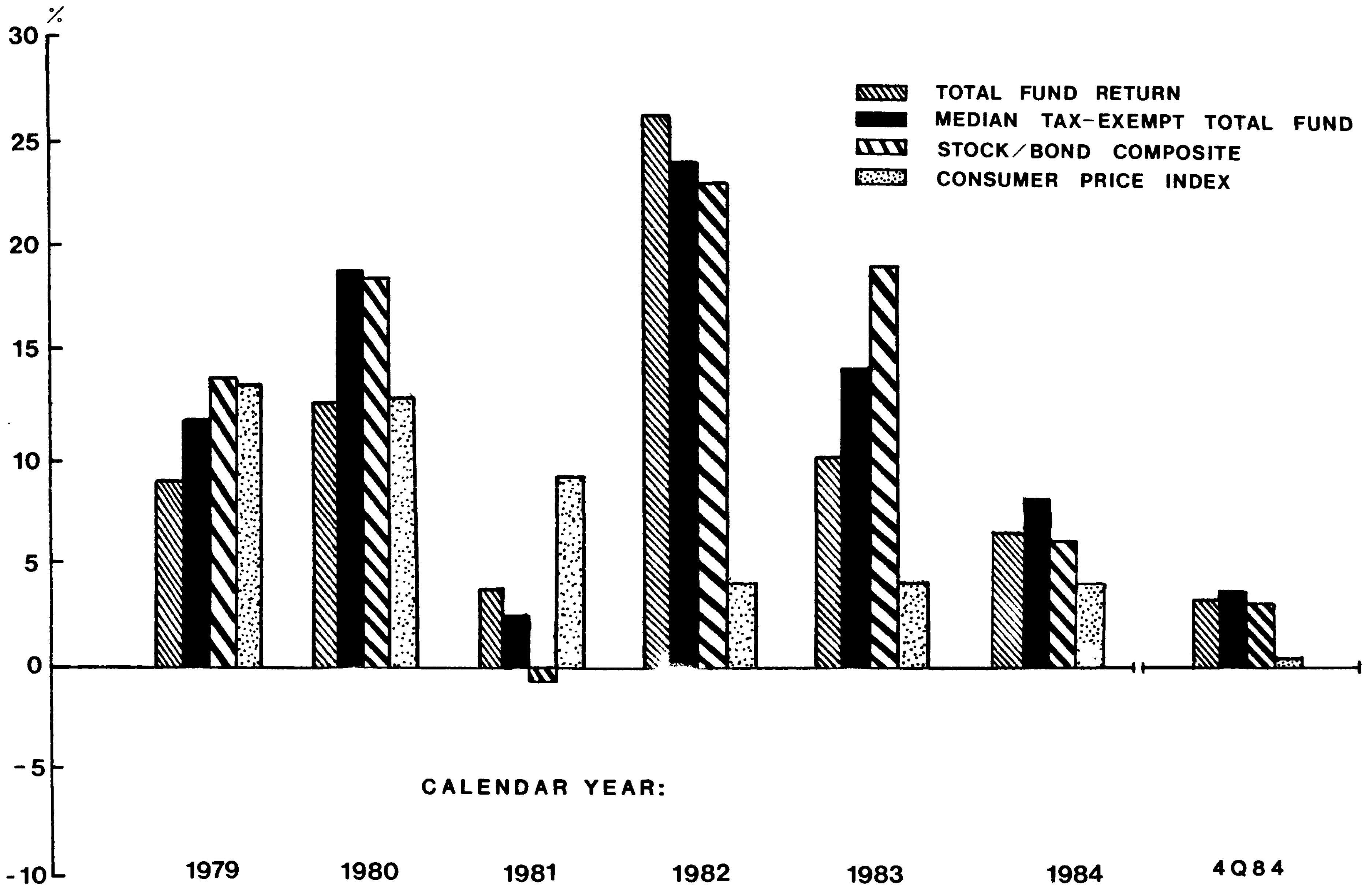


TABLE 3

BASIC RETIREMENT FUNDS

INVESTMENT RETURNS RELATIVE TO PERFORMANCE STANDARDS

Calendar Year		Total Fund Return (exc. alt. assets)	Median Tax-exempt Fund	Stock/Bond* Composite	Inflation	Total Fund Return (inc. alt. assets)
1979		8.8%	11.6%	13.5%	13.3%	8.8%
1980		12.4	18.6	18.3	12.5	12.4
1981		3.5	2.2	-0.6	8.9	3.5
1982		26.4	23.3	22.4	3.8	25.7
1983		10.3	14.1	18.8	3.8	10.1
1984	1Q	-2.5	-1.9	-2.7	1.3	-2.2
	2Q	-2.2	-1.5	-2.5	1.1	-1.8
	3Q	8.3	7.9	9.1	1.2	7.9
	4Q	3.3	3.8	3.0	0.3	3.2
1 Year Through 12-31-84		6.8	8.3	6.6	4.0	6.9
3 Years Annualized Through 12-31-84		14.2	14.8	15.7	3.9	14.0
5 Years Annualized Through 12-31-84		11.6	13.3	12.7	6.5	11.5

*50/50 Wilshire 5000/Merrill Lynch Bond Index Composite Through 6-30-81
70/30 Wilshire 5000/Merrill Lynch Bond Index Composite 7-01-81 through 12-31-84

TABLE 4

BASIC RETIREMENT FUNDS

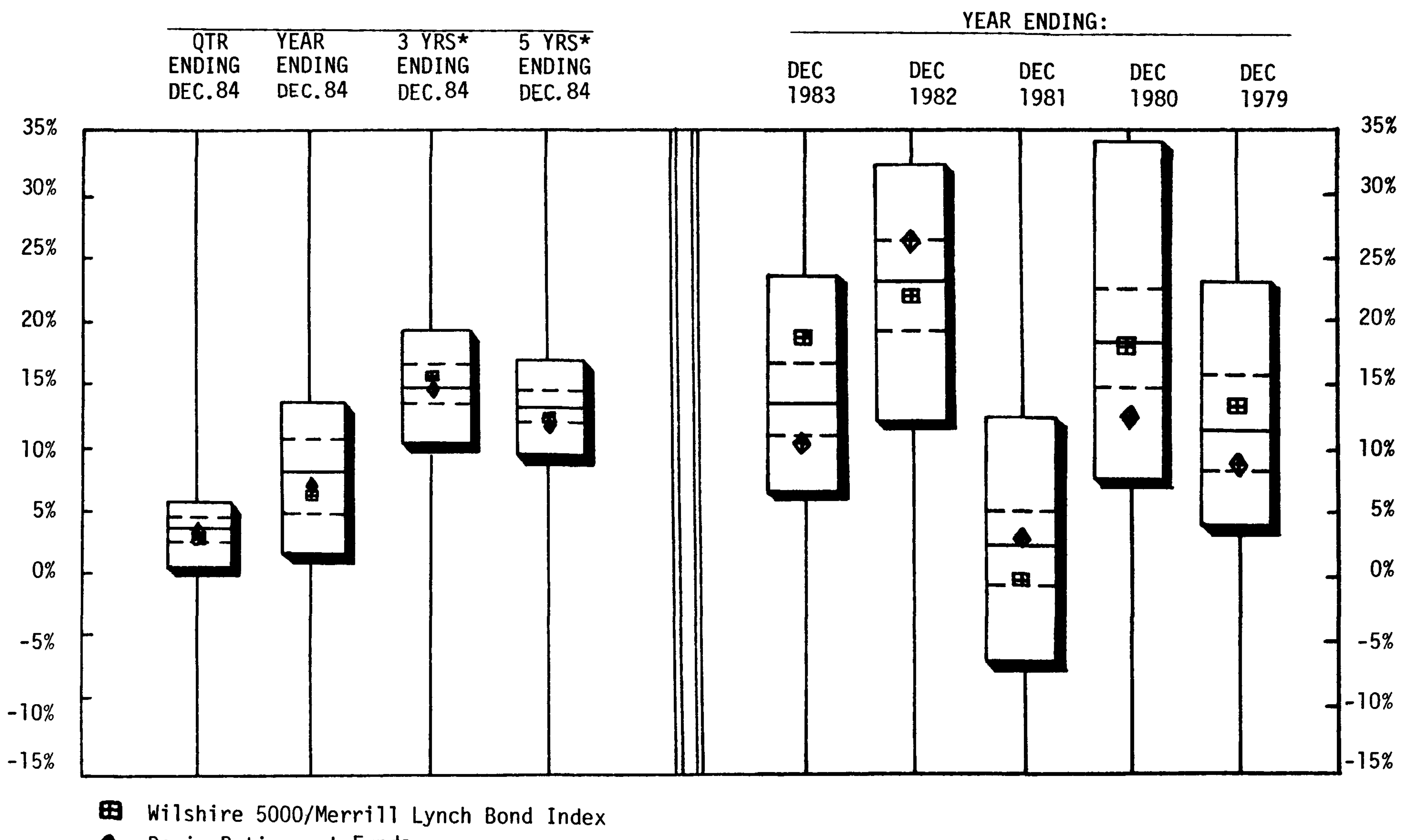
INVESTMENT RETURNS - DETAIL

Calendar Year		Total Fund Return (exc. alt. assets)	Common Stocks		Bonds		Alternative Equity Assets	Total Fund Return (inc. alt. assets)
			Basics	Wilshire 5000	Basics	ML Bond Index		
1979		8.8%	17.4%	25.6%	-1.7%	2.3%	-	8.8%
1980		12.4	26.2	33.7	-0.1	3.3	-	12.4
1981		3.5	0.0	-3.6	2.0	7.0	-	3.5
1982		26.4	21.6	18.7	38.1	29.8	11.9	25.7
1983		10.3	12.7	23.5	9.3	7.8	7.4	10.1
1984	1Q	-2.5	-5.1	-4.2	2.2	0.8	4.1	-2.2
	2Q	-2.2	-2.4	-2.7	-2.5	-1.9	2.9	-1.8
	3Q	8.3	8.8	9.2	8.1	8.7	2.0	7.9
	4Q	3.3	1.9	1.3	6.4	7.1	2.4	3.2
1 Year Through 12-31-84		6.8	2.7	3.1	14.6	15.1	11.8	6.9
3 Years Annualized Through 12-31-84		14.2	12.1	14.7	20.1	17.2	NA	14.0
5 Years Annualized Through 12-31-84		11.6	12.2	14.2	12.0	12.2	NA	11.5

FIGURE 6

DISTRIBUTION OF TOTAL PORTFOLIO RETURNS

TAX EXEMPT BALANCED PORTFOLIOS



Source: Trust Universe Comparison Service; Merrill Lynch Capital Markets

TABLE 5

DISTRIBUTION OF TOTAL PORTFOLIO RETURNS

TAX EXEMPT BALANCED PORTFOLIOS

	QTR ENDING DEC 84	YEAR ENDING DEC 84	3 YRS* ENDING DEC 84	5 YRS* ENDING DEC 84	YEAR ENDING: DEC 1983	DEC 1982	DEC 1981	DEC 1980	DEC 1979
5TH PERCENTILE	6.2%	13.7%	19.5%	16.7%	24.1%	32.8%	13.1%	34.6%	23.3%
25TH PERCENTILE	4.8	10.9	16.6	14.6	17.1	26.8	5.5	22.8	15.9
MEDIAN	3.8	8.3	14.8	13.3	14.1	23.3	2.2	18.6	11.6
75TH PERCENTILE	2.6	5.0	13.4	12.2	11.5	19.7	-0.7	15.0	8.5
95TH PERCENTILE	0.8	1.3	10.6	9.7	7.4	12.7	-6.2	8.0	4.2
WILSHIRE 5000	1.3	3.1	14.7	14.2	23.5	18.7	-3.6	33.7	25.6
MERRILL LYNCH BOND INDEX	7.1	15.1	17.2	12.2	7.8	29.8	7.0	3.3	2.3
** STOCK/BOND INDEX	3.0	6.6	15.7	12.7	18.8	22.4	-0.6	18.3	13.5
BASIC RETIREMENT FUNDS	3.3	6.8	14.2	11.6	10.3	26.4	3.5	12.4	8.8

*Annualized

**50/50 Wilshire 5000/Merrill Lynch Bond Index Composite Through 6-30-81
70/50 Wilshire 5000/Merrill Lynch Bond Index Composite 7-01-81 Through 12-31-84

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

TABLE 6

EQUITY MANAGER PERFORMANCE

TOTAL PORTFOLIO RETURNS

December 31, 1984

Managers	Last Quarter	Year Ending 12/31/84	Since Inception (3/1/83)
Fred Alger	0.2%	-2.9%	8.1%
Alliance Capital	1.3	-0.7	4.6
Beutel Goodman	4.9	10.8	26.8
Forstmann Leff	3.4	0.0	10.8
Hellman Jordan	4.6	9.4	9.9
IDS	3.0	5.8	14.3
Investment Advisers	5.7	8.1	17.9
Loomis Sayles	1.1	-5.3	-6.9
Siebel Capital	4.8	2.9	10.1
Herbert R. Smith	-0.8	-5.4	-12.1
Trustee & Investors	-1.4	-6.8	-5.1
Total - External Active Managers	2.6	1.7	7.2
Wilshire Associates (Index Fund)	1.7	3.2	NA
Performance Standards			
Wilshire 5000	1.3	3.1	18.4
TUCS Aggressive Manager Median	0.6	- 2.9	NA
Inflation	0.3	4.0	7.6

TABLE 7

BASIC RETIREMENT FUNDS
COMPOSITE EQUITY MANAGER DATA

DECEMBER 31, 1984

SECTOR WEIGHTINGS

SECTORS	WEIGHTING EXTERNAL MANAGER COMPOSITE	WEIGHTING INDEX FUND	WEIGHTING ALL BASIC MANAGERS COMPOSITE	WEIGHTING WILSHIRE 5000
Capital Goods	2.6%	5.2%	4.5%	5.4%
Consumer Durables	8.0	4.6	5.5	9.9
Consumer Nondurables	24.7	24.9	24.9	23.0
Energy	2.4	11.8	9.2	13.5
Financial	16.9	10.8	12.5	9.9
Materials & Services	12.7	11.2	11.6	10.6
Technology	21.6	15.2	17.0	13.2
Transportation	7.5	2.9	4.2	3.7
Utilities	3.6	13.4	10.6	10.8
	------	------	------	------
	100.0%	100.0%	100.0%	100.0%

QUARTER-END PORTFOLIO STATISTICS

	# OF STOCKS	EQUITY ALLOC.	YIELD	P/E	MKT VOLTY	DIVERSFN	PORTFOLIO RISK ORIENTATION Price Var.	Earn. Var.	Earn. Success	Size	Growth	Fin. Lever.
Composite External Managers	273	89	3.3%	12.0	1.22	.88	+	+	+	0	+	0
Index Fund Manager	1111	99	4.3%	NA	1.10	.94	0	0	0	0	0	0
Composite All Basic Managers	1157	96	4.1%	NA	1.13	.93	+	0	0	0	0	0

STAFF COMMENTS:

In the fourth quarter, the stock market moved in a relatively narrow trading range and ended the quarter essentially unchanged. As measured by the Wilshire 5000, the stock market produced a 1.3% total rate of return during the quarter. Due primarily to the strong third quarter performance, the Wilshire 5000 generated a 3.1% total return for the latest year.

The stock market in the fourth quarter was a far less hostile environment for active equity managers than it was in the previous three quarters. Over 50% of all equity managers outperformed the market during this period. Yet for the full calendar year 1984, the market outperformed six out of ten active equity managers.

During the fourth quarter, the industry sectors which benefited from declining interest rates, such as Financial Services and Utilities, generated excellent results. The Energy, Capital Goods, and Technology sectors, on the other hand, produced weak returns. Higher yielding, larger capitalization, lower beta, lower P/E stocks continued to outperform riskier stocks. As a result, aggressive equity managers, who tend to hold smaller capitalization, higher beta stocks, again lagged the market. This was reflected in the returns produced by the median aggressive manager, as represented by a subsample of the TUCS universe, which generated a 0.6% total return for the quarter and a -2.9% for the latest year.

In aggregate, the Basic Retirement Funds' active equity managers, with a combined return of 2.6%, outperformed not only the sample of aggressive managers but also the stock market. In fact, several of the managers outperformed the market by considerable margins. Beutel Goodman, Hellman Jordan, Investment Advisers, and Siebel Capital were the top performers during the fourth quarter, due largely to their holdings in the interest-sensitive Financial sector. Herbert R. Smith and Trustee and Investors, the poorest performing managers, underperformed both the market and the TUCS sample of aggressive managers. For the last year, the external active managers, in aggregate, produced a 1.7% total rate of return. Thus, although they underperformed the market, their performance significantly exceeded that of the median TUCS aggressive manager.

There were few changes in the active managers' aggregate equity portfolio. The managers, as a group, increased their holdings in the Financial, Materials and Services, and Transportation sectors and trimmed their positions in the Capital Goods, Energy, and Technology sectors. The risk characteristics of the aggregate portfolio remained virtually unchanged.

The Basic Retirement Funds' passive portfolio continued its close tracking of the Wilshire 5000, producing a 1.7% return for the quarter and a 3.2% return for the year, versus the Wilshire 5000's 1.3% return for the quarter and 3.1% return for the year.

MINNESOTA STATE BOARD OF INVESTMENT

QUARTERLY INVESTMENT REVIEW

POST RETIREMENT INVESTMENT FUND

December 31, 1984

MINNESOTA STATE BOARD OF INVESTMENT

POST RETIREMENT INVESTMENT FUND

FOURTH QUARTER 1984

Summary

ASSETS

The assets of the Post Retirement Investment Fund increased by 7.2% in market value during the fourth quarter. A strong performance by the bond market, in which the majority of the Fund is invested, was partially responsible for the rise in asset value. More importantly, however, sizable positive net contributions continued as a result of early retirements under the "Rule of 85". Net contributions for the quarter were $38 million. For the year net contributions totaled $201 million. The new cash flow to the Fund is expected to level off in the first half of 1985, but then surge as teacher retirements take place before the end of June. End-of-period market values of the Post Retirement Investment Fund's assets over the past six years are presented below:

Calendar Year		Market Value (millions)	Percent Change from Previous Period
1979		$ 966	+16.1%
1980		1,161	+20.2
1981		1,101	- 5.2
1982		1,523	+38.3
1983		1,803	+18.4
1984			
	1Q	1,813	+ 0.6
	2Q	1,851	+ 2.1
	3Q	2,096	+13.2
	4Q	2,246	+ 7.2

ASSET MIX

The bond component of the Post Retirement Investment Fund rose in the fourth quarter, while at the same time the common stock component declined. These changes in asset mix represented the initial phases of the dedicated bond portfolio's implementation. Additional increases in the percentage of the Fund committed to bonds is likely in early 1985 as the dedicated bond portfolio's construction is completed. Despite the sizable positive net contribution flow to the Fund, the cash allocation did not increase significantly as new cash flow was invested in the bond segment of the Fund.

ASSET MIX

	9/30/84	12/31/84
Common Stocks	35.3%	30.0%
Bonds	58.1	62.9
Cash Equivalents	6.6	7.1
	100.0%	100.0%

EQUITY PERFORMANCE

The common stock segment of the Post Retirement Investment Fund produced a 2.3% total rate of return in the fourth quarter. This result compared favorably to that of the equity market, as represented by the Wilshire 5000, which generated a 1.3% return.

The sector emphasis of the equity portfolio did not shift significantly. The portfolio remains heavily overweighted in Financial stocks. The equity portfolio remains underweighted in Consumer stocks. During the quarter positions in Capital Goods, Consumer Durables, Financial, and Utilities stocks were lowered. Holdings in Consumer Nondurables, Energy, and Technology were increased.

The recent quarter, calendar year and since March 1, 1983 (to facilitate comparability with external manager performance) returns are displayed below.

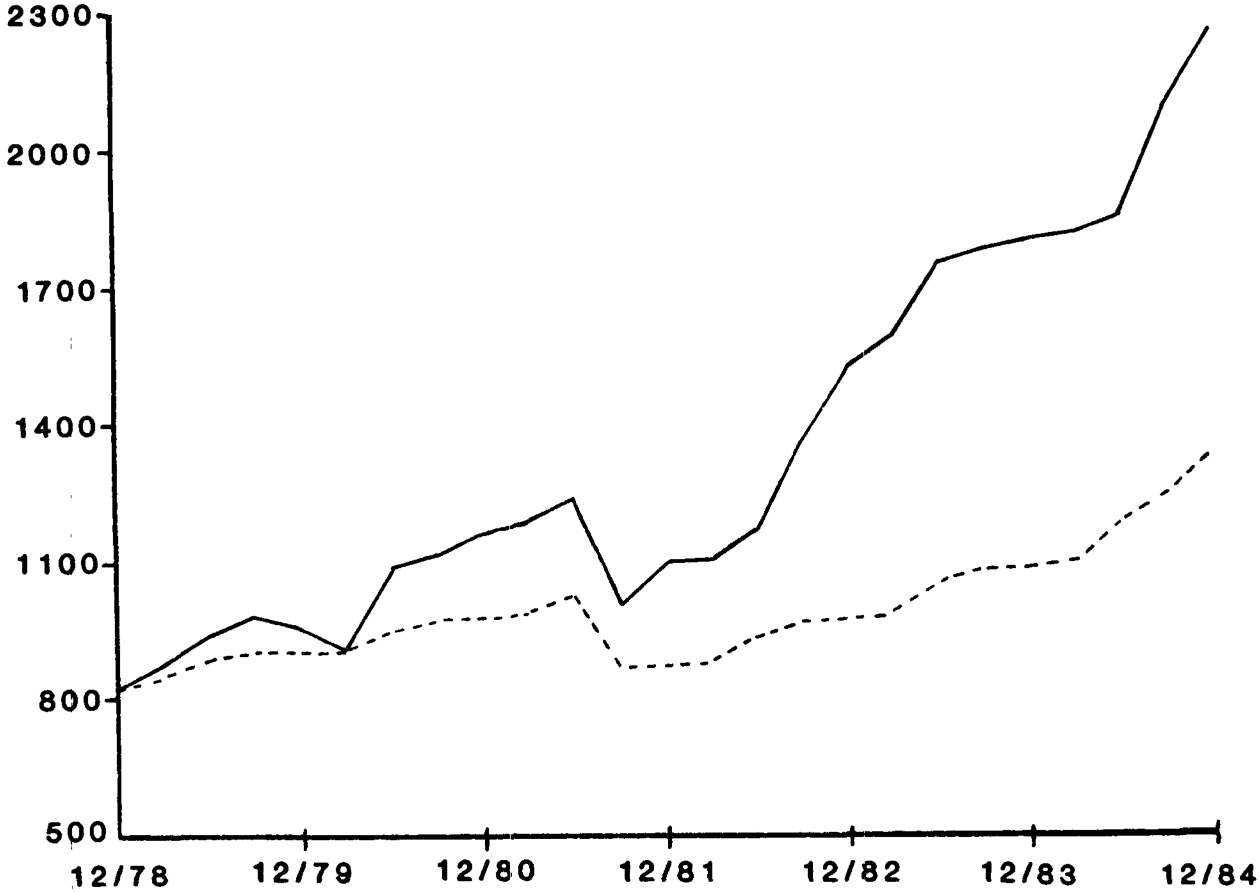
Total Portfolio Returns

	Fourth Quarter 1984	Year Ending 12/31/84	Since 3/1/83
Equity Portfolio	2.3%	5.2%	17.4%
Wilshire 5000	1.3	3.1	18.4

FIGURE 7

POST RETIREMENT INVESTMENT FUND

ASSET GROWTH



BEGINNING VALUE PLUS NET CONTRIBUTIONS ---
TOTAL PORTFOLIO MARKET VALUE ——

	YEAR ENDING 12/79	12/80	12/81	12/82	12/83	12/84
BEGINNING VALUE	832.2	965.6	1161.6	1100.9	1522.9	1802.9
NET CONTRIBUTIONS	72.3	70.1	-97.8	102.6	109.1	201.0
INVESTMENT RETURN	61.1	125.9	37.1	319.4	170.8	241.8
ENDING VALUE	965.6	1161.6	1100.9	1522.9	1802.9	2245.7

(MILLIONS OF DOLLARS)

FIGURE 8

POST RETIREMENT INVESTMENT FUND

ASSET MIX
PERCENT OF MARKET VALUE

(End of Period Allocations)

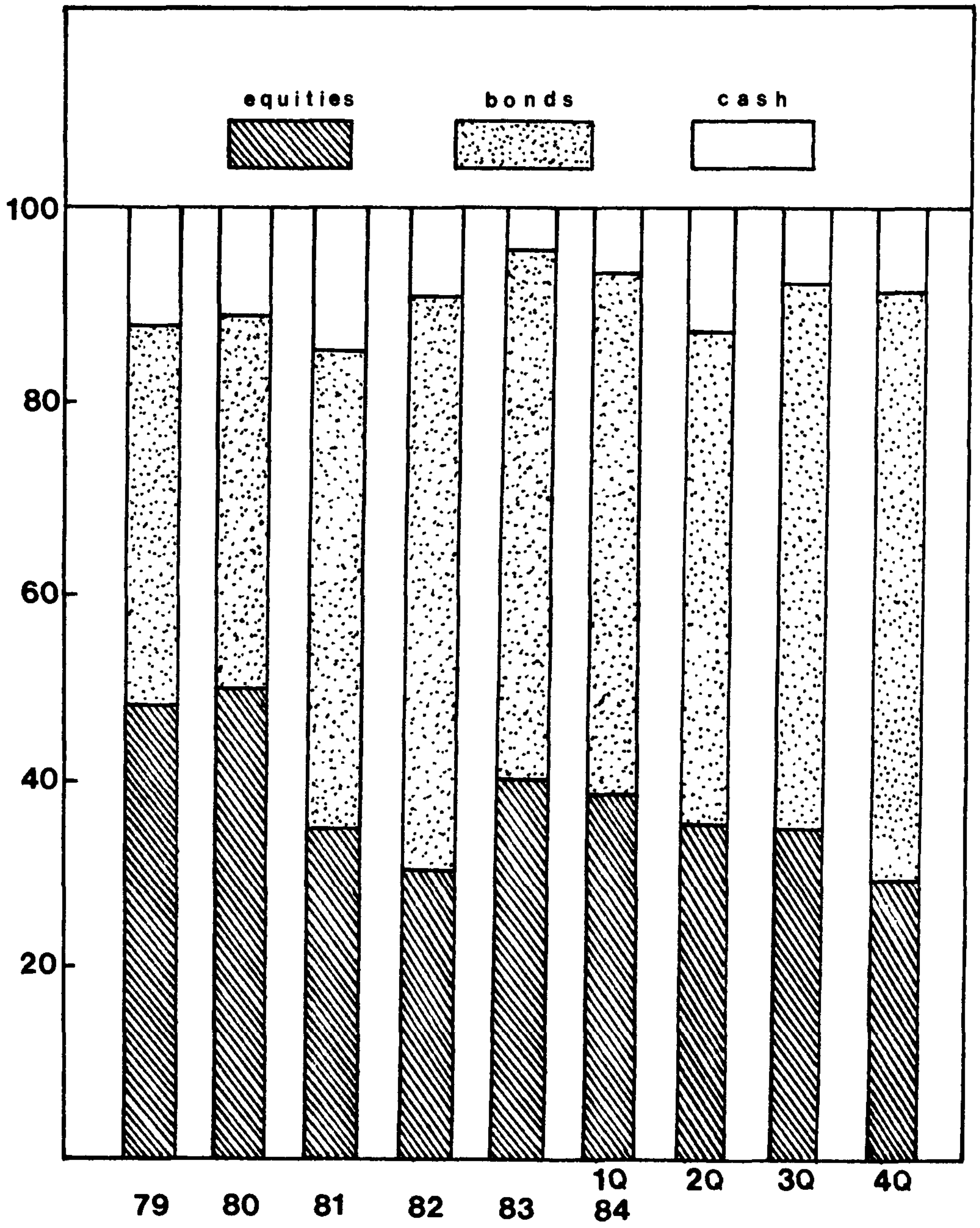


TABLE 8

POST RETIREMENT INVESTMENT FUND

ASSET MIX
PERCENT OF MARKET VALUE

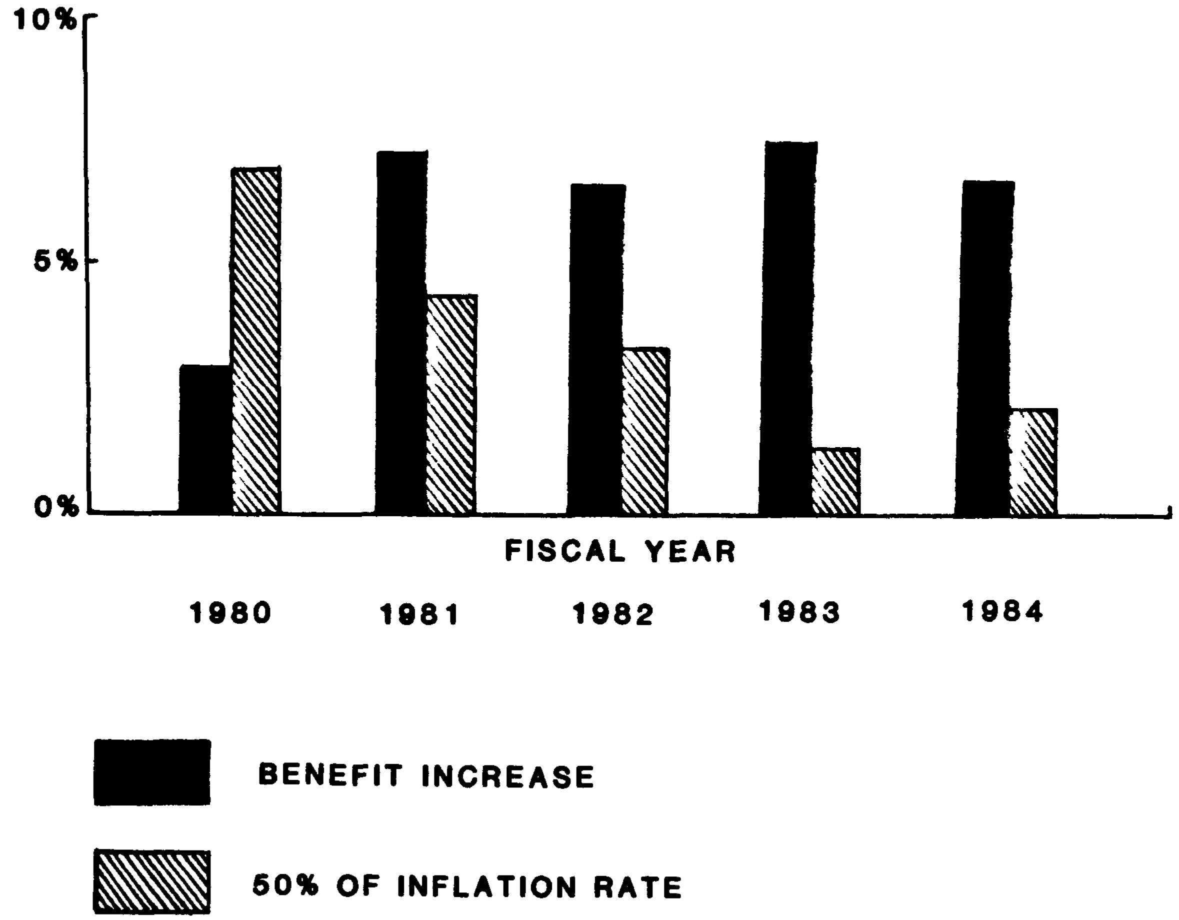
(End of Period Allocations)

Calendar Year		Common Stocks		Bonds		Cash	
		$Million	Percent	$Million	Percent	$Million	Percent
1979		457.2	47.3	391.1	40.5	117.4	12.2
1980		568.4	48.9	453.0	39.0	140.3	12.1
1981		376.0	34.2	545.5	49.5	179.4	16.3
1982		465.0	30.5	919.9	60.4	138.1	9.1
1983		730.3	40.5	1,002.1	55.6	69.8	3.9
1984	1Q	691.7	38.2	1,009.0	55.6	112.8	6.2
	2Q	657.0	35.5	951.0	51.4	242.6	13.1
	3Q	741.1	35.3	1,217.7	58.1	137.8	6.6
	4Q	674.8	30.0	1,411.4	62.9	159.5	7.1

FIGURE 9

POST RETIREMENT INVESTMENT FUND

BENEFIT INCREASES VERSUS INFLATION



	FISCAL YEAR					ANNUALIZED	
	1980	1981	1982	1983	1984	3 Yr.	5 Yr.
BENEFIT INCREASE	3.2%	7.4%	6.9%	7.5%	6.9%	7.1%	6.4%
50% OF INFLATION RATE	7.2	4.8	3.6	1.3	2.2	2.3	3.7

FIGURE 10

POST RETIREMENT INVESTMENT FUND

EQUITY SEGMENT RETURNS

INVESTMENT RETURNS RELATIVE TO PERFORMANCE STANDARDS

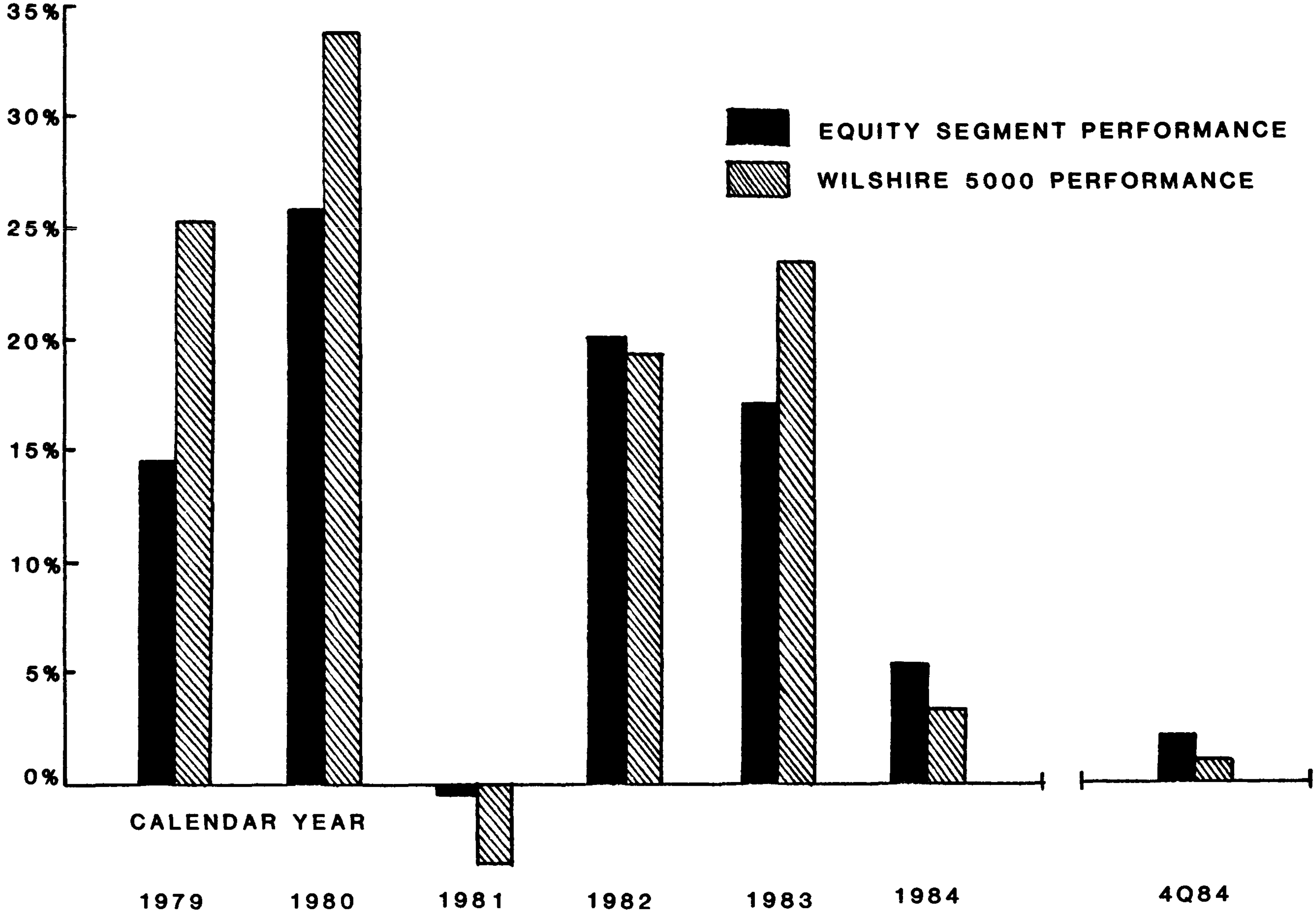


TABLE 9

POST RETIREMENT INVESTMENT FUND

EQUITY SEGMENT RETURNS

INVESTMENT RETURNS RELATIVE TO PERFORMANCE STANDARDS

		Common Stocks	
		Post	Wilshire 5000
1979		14.5	25.6
1980		25.9	33.7
1981		-0.3	-3.6
1982		20.0	18.7
1983		16.9	23.5
1984	1Q	-4.7	-4.2
	2Q	-3.3	-2.7
	3Q	11.6	9.2
	4Q	2.3	1.3
1 Year Through 12-31-84		5.2	3.1
3 Years Annualized Through 12-31-84		13.9	14.7
5 Years Annualized Through 12-31-84		13.1	14.2

TABLE 10

POST RETIREMENT INVESTMENT FUND
EQUITY MANAGER DATA

DECEMBER 31, 1984

SECTOR WEIGHTINGS

SECTORS	WEIGHTING INTERNAL MANAGER	WEIGHTING WILSHIRE 5000
Capital Goods	5.8%	5.4%
Consumer Durables	5.0	9.9
Consumer Nondurables	17.0	23.0
Energy	16.5	13.5
Financial	17.2	9.9
Materials & Services	11.2	10.6
Technology	15.3	13.2
Transportation	3.8	3.7
Utilities	8.2	10.8
	------	------
	100.0%	100.0%

QUARTER-END PORTFOLIO STATISTICS

	# OF STOCKS	EQUITY ALLOC.	YIELD	P/E	MKT VOLTY	DIVERSFN	Price Var.	PORTFOLIO RISK ORIENTATION				
								Earn. Var.	Earn. Success	Size	Growth	Fin. Lever.
Internal Manager	120	100%	4.6%	9.4	1.16	0.95	+	0	++	+	0	++

MINNESOTA STATE BOARD OF INVESTMENT

QUARTERLY INVESTMENT REVIEW

SUPPLEMENTAL RETIREMENT FUND
(Income Share Account)

SUPPLEMENTAL RETIREMENT FUND
(Growth Share Account)

MINNESOTA VARIABLE ANNUITY FUND

PERMANENT SCHOOL FUND

December 31, 1984

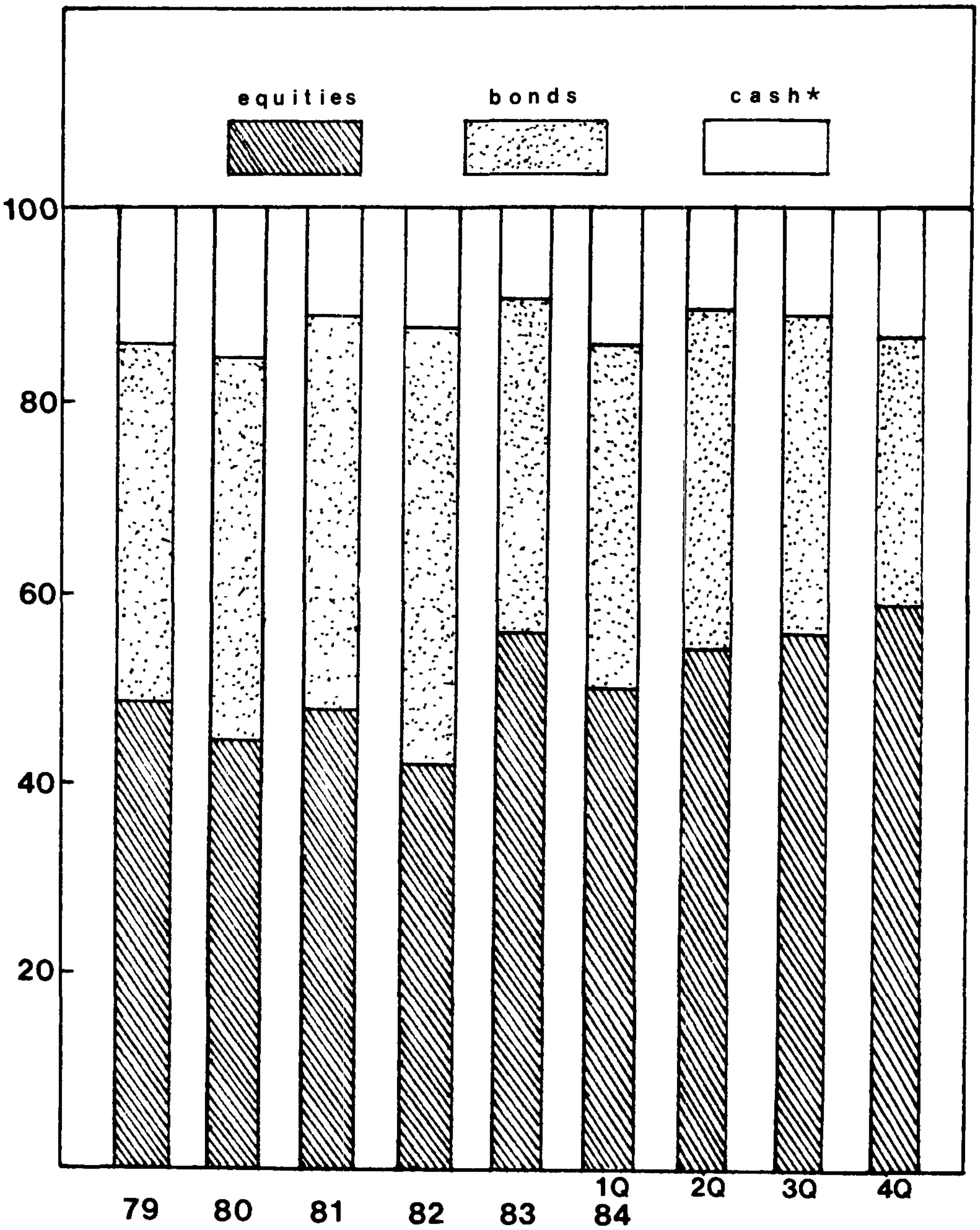
FIGURE 11

SUPPLEMENTAL RETIREMENT FUND

(Income Share Account)

ASSET MIX
PERCENT OF MARKET VALUE

(End of Period Allocations)



*Includes cash held by the external manager

TABLE 11

SUPPLEMENTAL RETIREMENT FUND

(Income Share Account)

ASSET MIX
PERCENT OF MARKET VALUE

(End of Period Allocations)

Calendar Year		Common Stocks $Million	Common Stocks Percent	Bonds $Million	Bonds Percent	Cash* $Million	Cash* Percent
1979		30.3	48.6	23.5	37.3	8.8	14.1
1980		33.5	44.5	30.5	40.4	11.3	15.1
1981		35.9	47.1	33.4	43.8	7.0	9.1
1982		42.7	42.5	46.2	46.0	11.5	11.5
1983		63.5	56.2	39.6	35.0	9.9	8.8
1984	1Q	57.2	51.1	39.6	35.4	15.1	13.5
	2Q	61.5	55.3	39.6	35.7	10.0	9.0
	3Q	68.9	56.7	40.1	33.4	12.1	9.9
	4Q	74.4	58.0	37.6	29.3	16.4	12.7

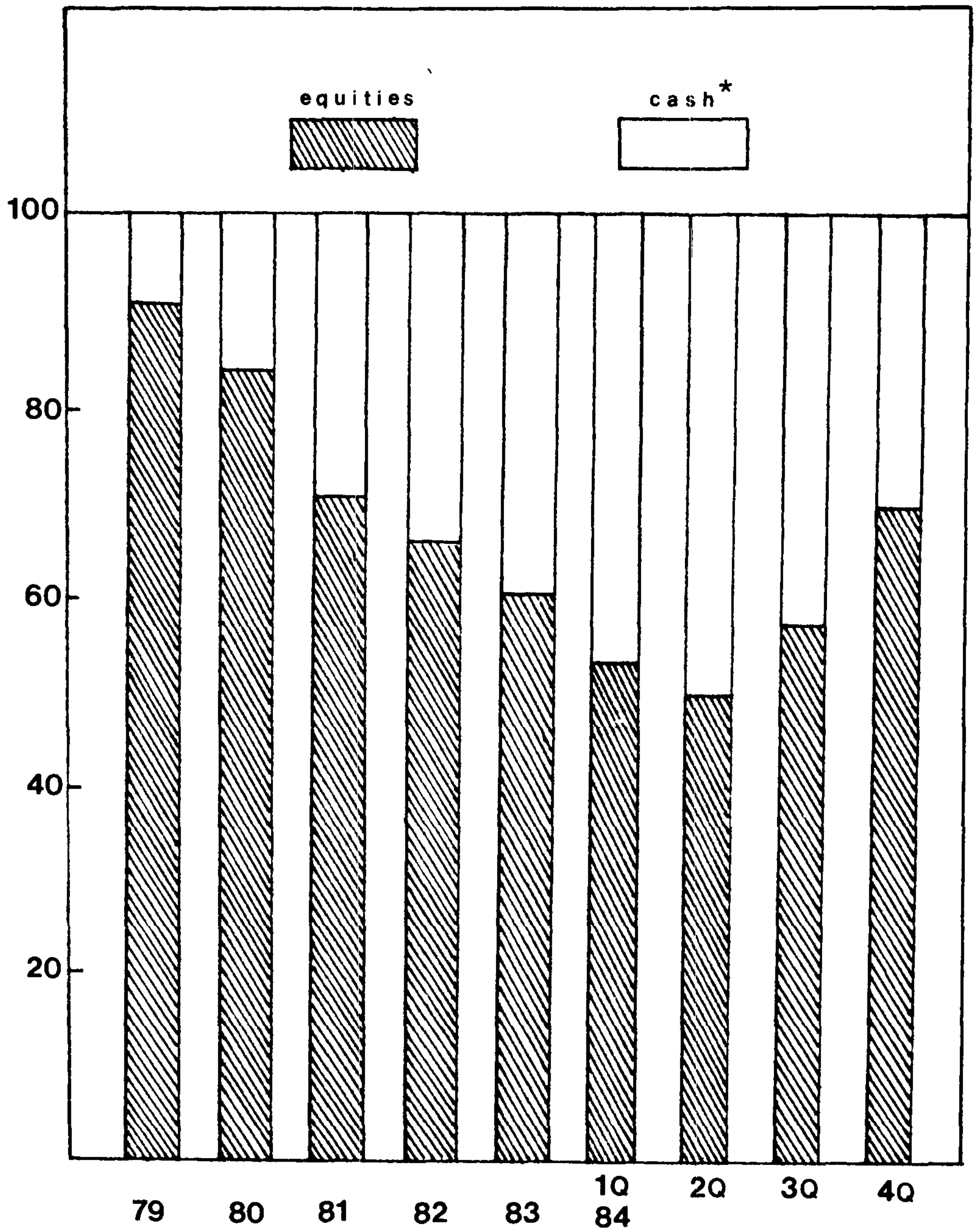
*Includes cash held by the external manager

FIGURE 12

SUPPLEMENTAL RETIREMENT FUND
(Growth Share Account)

ASSET MIX
PERCENT OF MARKET VALUE

(End of Period Allocations)



*Includes cash held by the external manager

TABLE 12

SUPPLEMENTAL RETIREMENT FUND

(Growth Share Account)

ASSET MIX
PERCENT OF MARKET VALUE

(End of Period Allocations)

Calendar Year		Common Stocks $Million	Common Stocks Percent	Bonds $Million	Bonds Percent	Cash* $Million	Cash* Percent
1979		25.3	91.1	----	----	2.5	8.9
1980		29.8	83.0	----	----	6.1	17.0
1981		28.8	71.3	0.5	1.2	11.1	27.5
1982		32.5	65.6	----	----	17.0	34.4
1983		33.7	60.3	----	----	22.2	39.7
1984	1Q	29.7	54.2	----	----	25.1	45.8
	2Q	27.3	50.1	----	----	27.2	49.9
	3Q	33.4	57.6	----	----	24.6	42.4
	4Q	41.8	70.0	----	----	17.9	30.0

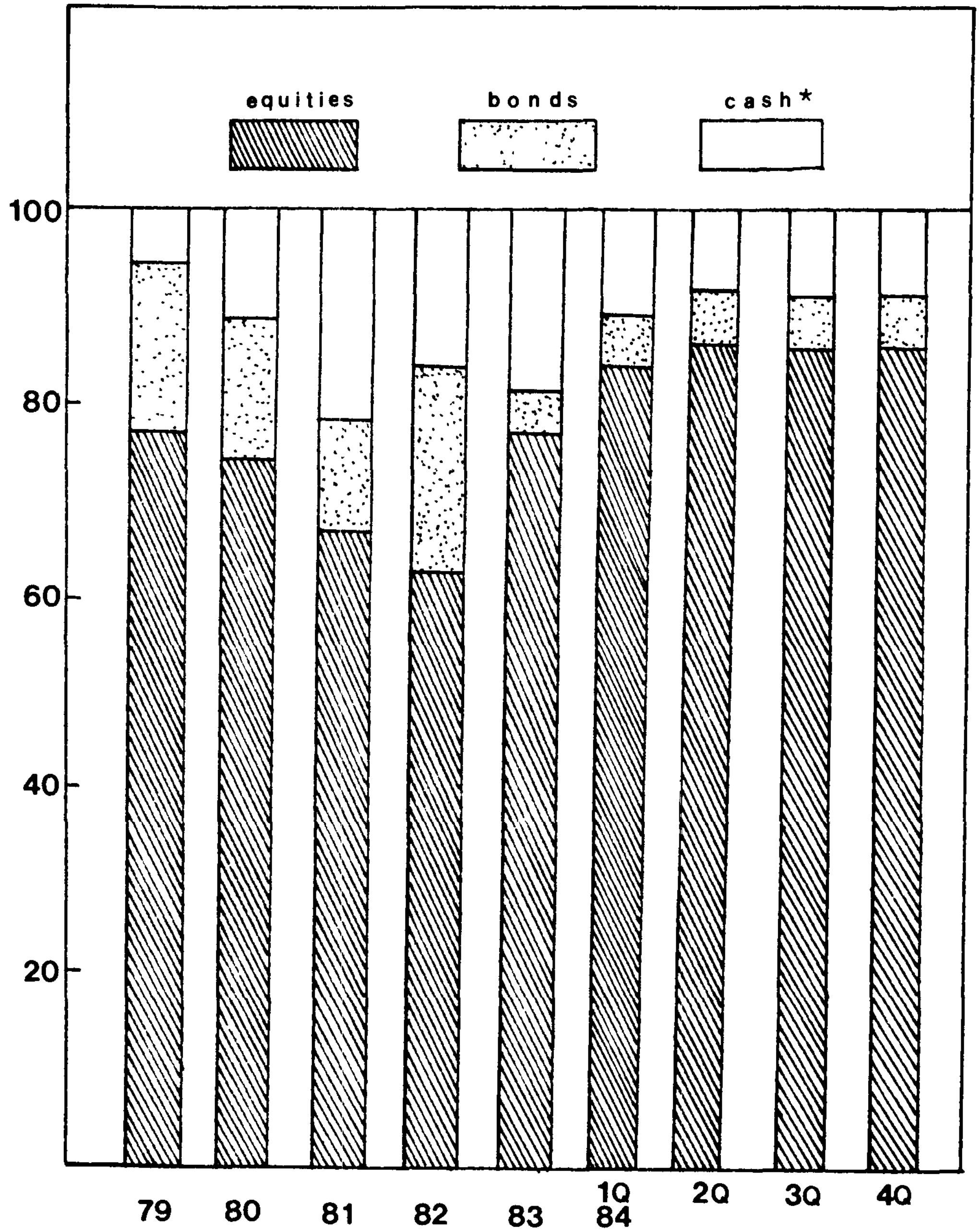
*Includes cash held by the external manager

FIGURE 13

MINNESOTA VARIABLE ANNUITY FUND

ASSET MIX
PERCENT OF MARKET VALUE

(End of Period Allocations)



*Includes cash held by the external managers

TABLE 13

MINNESOTA VARIABLE ANNUITY FUND

ASSET MIX
PERCENT OF MARKET VALUE

(End of Period Allocations)

Calendar Year		Common Stocks		Bonds		Cash*	
		$Million	Percent	$Million	Percent	$Million	Percent
1979		48.6	77.1	11.1	17.7	3.3	5.2
1980		55.2	74.1	9.8	13.2	9.4	12.7
1981		49.6	64.8	9.7	12.7	17.2	22.5
1982		56.7	62.0	19.8	21.6	15.0	16.4
1983		78.9	77.0	5.0	4.8	18.7	18.2
1984	1Q	82.0	84.2	5.1	5.2	10.3	10.6
	2Q	82.7	86.5	5.0	5.2	8.0	8.3
	3Q	88.3	85.9	5.2	5.0	9.3	9.1
	4Q	89.4	86.3	5.1	4.9	9.1	8.8

*Includes cash held by external managers

FIGURE 14

PERMANENT SCHOOL FUND

ASSET MIX
PERCENT OF MARKET VALUE

(End of Period Allocations)

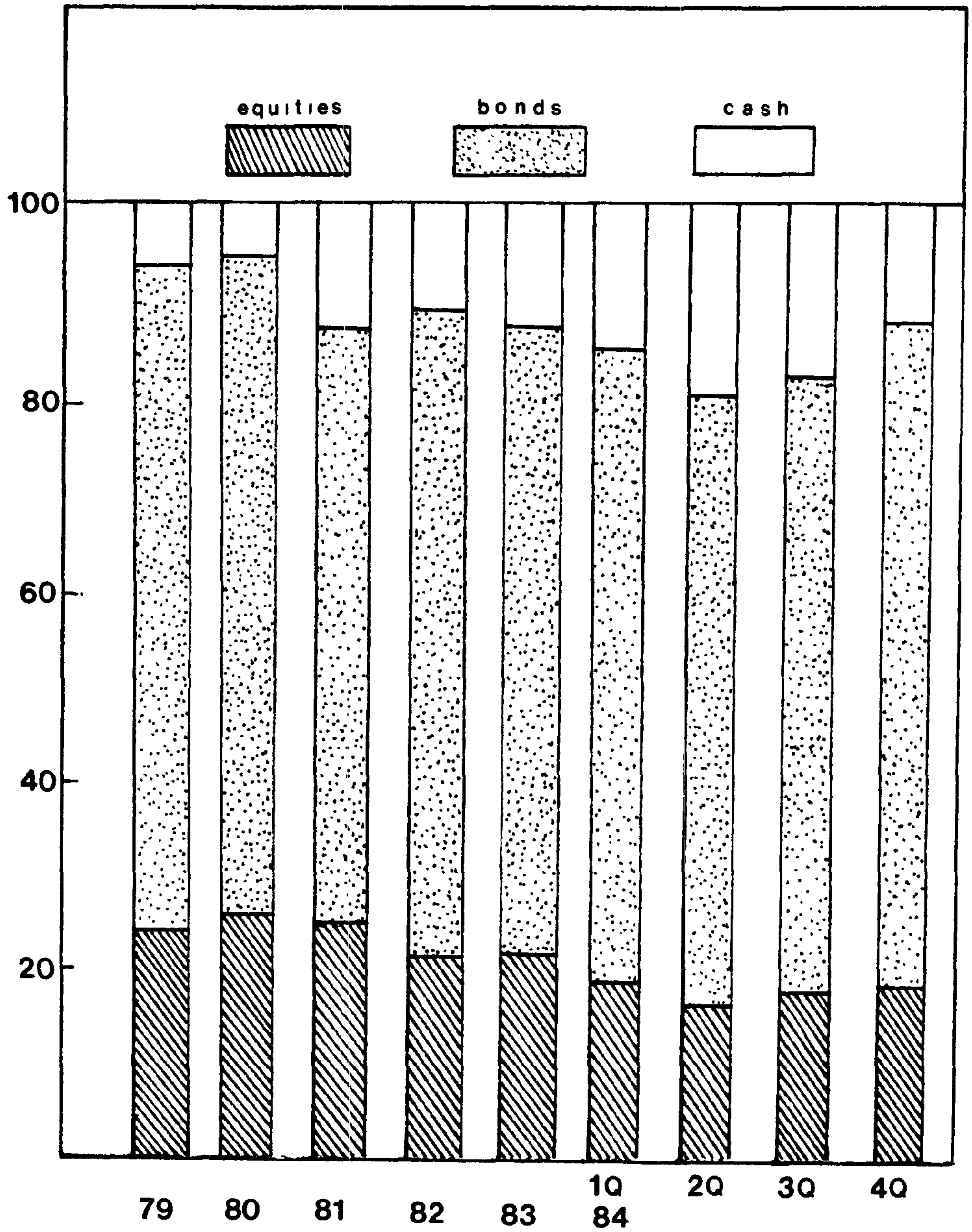


TABLE 14

PERMANENT SCHOOL FUND

ASSET MIX
PERCENT OF MARKET VALUE

(End of Period Allocations)

Calendar Year		Common Stocks $Million	Common Stocks Percent	Bonds $Million	Bonds Percent	Cash $Million	Cash Percent
1979		56.4	23.4	170.4	70.6	14.5	6.0
1980		63.9	26.1	169.3	69.2	11.6	4.7
1981		56.0	23.7	151.9	64.2	28.5	12.1
1982		59.1	20.7	197.6	69.0	29.5	10.3
1983		60.8	21.0	195.0	67.1	34.4	11.9
1984	1Q	51.0	18.1	191.9	68.1	38.9	13.8
	2Q	45.6	16.5	178.5	64.4	52.9	19.1
	3Q	52.0	17.2	197.9	65.5	52.1	17.3
	4Q	54.9	17.8	219.4	71.2	33.8	11.0

TABLE 15

MINNESOTA STATE BOARD OF INVESTMENT

RETIREMENT AND TRUST FUNDS

INVESTMENT RETURNS RELATIVE TO PERFORMANCE STANDARDS

YEAR ENDING DECEMBER 31, 1984

	Total Fund Return	Stock/Bond Composite**	Common Stocks	Wilshire 5000	Bonds	ML Bond Index
SUPPLEMENTAL RETIREMENT FUNDS						
Income Share Account*	10.7%	9.1%	5.1%	3.1%	19.2%	15.1%
Growth Share Account*	4.3	3.1	-3.3	3.1	---	15.1
VARIABLE ANNUITY FUND*	2.1	3.1	-0.4	3.1	13.2	15.1
PERMANENT SCHOOL FUND	15.9	12.6	9.6	3.1	19.1	15.1

* Includes performance of both internal and external managers.

** Wilshire 5000/Merrill Lynch Master Bond indices:

Income Account - 50% stock/50% bond
Growth Account - 100% stock/0% bond
Variable Fund - 100% stock/0% bond
Permanent School - 20% stock/80% bond

TABLE 16

EQUITY MANAGER PERFORMANCE

TOTAL PORTFOLIO RETURNS

DECEMBER 31, 1984

	Last Quarter	Year Ending 12/31/84	Since Inception (3/ 1/83)
Income Share Account			
BMI Capital	2.2	- 7.8	- 9.9
Internal Manager	2.2	7.3	17.1
Growth Share Account			
Waddell & Reed	1.5	-0.7	13.3
Internal Manager	2.3	5.2	12.9
Variable Annuity Fund			
Norwest Bank	-1.9	- 7.5	3.7
Lieber & Company	2.6	1.1	12.9
Internal Manager	2.1	4.0	12.5
Performance Standards			
Wilshire 5000	1.3	3.1	18.4
TUCS Aggressive Manager Median	0.6	- 2.9	NA
Inflation	0.3	4.0	7.6

APPENDIX

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

EQUITY MANAGER PORTFOLIO STATISTICS GLOSSARY

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

Qtr. Port. Turnover - the manager's total equity asset sales during the quarter divided by the average value of the manager's equity assets over the quarter.

# of Stocks - number of different issues held in the manager's stock portfolio.

Equity Allocation - percent of the manager's total portfolio invested in common and preferred stocks and convertible securities.

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

P/E - weighted average price per share of the managers' common stock portfolio divided by the weighted average trailing four quarter earnings per share of the manager's common stock portfolio.

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

Diversification - extent to which a manager's equity holdings statistically resemble the stock market. Low (high) diversification portfolios will experience returns which are not well (are well) correlated with those of the market. By definition, the market has a diversification measure of 1.0. The less a portfolio is diversified, the lower will be its diversification measure (referred to as

R-squared). The SBI's managers are required, over the long-term, to hold portfolios with diversification levels less than .85.

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

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

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

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

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

Growth	- risk related to the growth orientation of companies owned by the manager. The more growth-oriented are the companies, the riskier is the portfolio. Items such as dividend yield, E/P ratio, and growth in total assets make up this measure.
Financial Leverage	- risk related to the extent to which companies held in the portfolio have used debt to finance their operations. The more leveraged are the companies, the riskier is the portfolio. Items such as debt/asset ratio, current asset/current liability ratio, and uncovered fixed charges make up this ratio.
Industry Sector Overweightings	- those sectors of the economy in which the manager has invested a significantly larger percentage of the portfolio than is represented by the stock market.
Industry Sector Underweightings	- those sectors of the economy in which the manager has invested a significantly smaller percentage of the portfolio than is represented by the stock market.
TUCS Aggressive Manager Median	- the median fund within a subsample of the TUCS universe restricted to aggressive equity managers. The TUCS universe is a universe of over 4000 portfolios custodied by over 30 major banks. For purposes of the SBI's analysis out of the universe have been selected a subsample which includes only those equity managers with risk characteristics (market volatility and diversification) similar to those of the SBI's managers. This provides a group of funds against which valid performance comparisons can be made. An assumed .50% management fee has been included to facilitate performance comparisons.

TABLE A1

EXTERNAL EQUITY MANAGERS

PORTFOLIO STATISTICS HISTORICAL SUMMARY

MANAGER NAME	DATE	QTR. PORT. T/O	# OF STKS	EQUITY ALLOC.	YIELD	P/E	MKT VOLTY	DIVRSFN	PORTFOLIO RISK ORIENTATION Price Var.	Earn. Var.	Earn. Succ.	Size	Growth	Fin. Lever.
AVG. EXT. MANAGERS	12/31/84	24	42	86	3.02	13.1	1.25	0.81	+	+	0	0	+	0
AVG. EXT. MANAGERS	9/30/84	33	42	84	3.00	13.4	1.26	0.82	+	+	-	0	+	0
AVG. EXT. MANAGERS	6/30/84	27	41	81	3.21	13.5	1.29	0.81	+	+	+	+	+	0
AVG. EXT. MANAGERS	3/31/84	25	41	83	3.05	13.5	1.25	0.82	+	+	0	+	+	0
AVG. EXT. MANAGERS	12/31/83	36	34	84	2.79	16.2	1.23	0.80	+	+	0	+	0	0
AVG. EXT. MANAGERS	9/30/83	32	32	85	2.48	19.4	1.29	0.82	+	+	0	+	+	0
AVG. EXT. MANAGERS	6/30/83	27	32	85	2.44	16.7	1.29	0.81	+	0	-	0	+	+
AVG. EXT. MANAGERS	3/31/83	NA	26	67	2.78	15.0	1.26	0.83	+	+	-	0	+	0
FRED ALGER	12/31/84	16	36	95	2.63	12.8	1.19	0.86	+	+	-	--	+	0
FRED ALGER	9/30/84	20	33	94	2.57	13.8	1.22	0.86	+	++	--	0	0	-
FRED ALGER	6/30/84	16	32	93	2.92	13.1	1.22	0.86	+	+	0	0	-	0
FRED ALGER	3/31/84	19	33	91	2.82	14.8	1.19	0.86	+	+	+	0	0	0
FRED ALGER	12/31/83	23	32	95	2.64	15.9	1.18	0.88	+	++	-	0	0	0
FRED ALGER	9/30/83	27	32	91	2.63	17.5	1.24	0.88	+	++	0	0	0	0
FRED ALGER	6/30/83	8	35	94	2.10	18.7	1.33	0.88	++	++	--	+	+	++
FRED ALGER	3/31/83	NA	35	89	2.31	17.1	1.29	0.87	++	++	--	+	+	+
ALLIANCE CAPITAL	12/31/84	8	34	92	2.26	14.0	1.30	0.73	+	+	--	+	++	--
ALLIANCE CAPITAL	9/30/84	13	31	88	2.30	14.9	1.34	0.72	+	++	--	0	+	--
ALLIANCE CAPITAL	6/30/84	8	32	92	1.84	15.4	1.39	0.73	+	+	++	+	++	--
ALLIANCE CAPITAL	3/31/84	12	32	92	1.75	15.4	1.38	0.72	+	+	0	+	++	--
ALLIANCE CAPITAL	12/31/83	14	33	92	1.47	19.7	1.37	0.72	+	++	-	0	++	-
ALLIANCE CAPITAL	9/30/83	22	27	87	1.55	20.4	1.41	0.75	+	++	-	+	+	-
ALLIANCE CAPITAL	6/30/83	17	30	91	1.72	20.9	1.35	0.77	+	++	--	0	+	0
ALLIANCE CAPITAL	3/31/83	NA	30	84	1.68	20.3	1.40	0.81	++	++	--	+	++	-
BEUTEL GOODMAN	12/31/84	8	19	94	4.26	12.3	1.19	0.81	+	0	++	++	0	++
BEUTEL GOODMAN	9/30/84	10	18	93	4.15	9.3	1.21	0.81	+	+	+	++	0	++
BEUTEL GOODMAN	6/30/84	11	18	92	4.14	14.9	1.18	0.79	0	+	0	++	0	++
BEUTEL GOODMAN	3/31/84	12	20	98	3.84	11.0	1.16	0.79	+	+	+	++	0	++
BEUTEL GOODMAN	12/31/83	15	16	95	3.77	10.3	1.08	0.74	+	+	++	++	0	++
BEUTEL GOODMAN	9/30/83	6	16	99	3.47	10.5	1.14	0.75	+	+	++	++	0	++
BEUTEL GOODMAN	6/30/83	7	12	79	3.29	10.2	1.07	0.75	+	0	-	++	0	++
BEUTEL GOODMAN	3/31/83	NA	6	34	2.98	9.3	1.09	0.71	+	0	++	+	+	++

MANAGER NAME	DATE	QTR. PORT. T/O	# OF STKS	EQUITY ALLOC.	YIELD	P/E	MKT VOLTY	DIVRSFN	PORTFOLIO RISK ORIENTATION Price Var.	Earn. Var.	Earn. Succ.	Size	Growth	Fin. Lever.
BMI CAPITAL	12/31/84	13	21	87	2.19	17.6	1.33	0.74	++	++	--	++	++	--
BMI CAPITAL	9/30/84	29	20	82	2.65	15.2	1.33	0.75	++	++	--	++	+	--
BMI CAPITAL	6/30/84	6	24	99	2.73	18.5	1.33	0.79	++	++	-	++	+	--
BMI CAPITAL	3/31/84	18	24	95	2.67	17.1	1.32	0.80	++	++	0	++	+	--
BMI CAPITAL	12/31/83	14	21	98	2.23	20.4	1.29	0.81	+	++	-	++	+	0
BMI CAPITAL	9/30/83	19	19	99	2.14	19.2	1.34	0.81	+	++	-	++	+	0
BMI CAPITAL	6/30/83	0	20	96	2.26	16.6	1.31	0.80	+	0	--	++	+	0
BMI CAPITAL	3/31/83	NA	13	53	2.35	13.7	1.36	0.80	++	++	--	++	++	++
FORSTMANN-LEFF	12/31/84	11	31	87	3.58	10.9	1.22	0.84	+	0	++	-	0	++
FORSTMANN-LEFF	9/30/84	40	31	83	3.53	10.8	1.26	0.86	++	0	+	-	0	+
FORSTMANN-LEFF	6/30/84	31	31	54	3.64	11.4	1.26	0.81	+	+	++	-	0	++
FORSTMANN-LEFF	3/31/84	34	38	71	3.52	12.4	1.17	0.82	0	+	+	-	0	++
FORSTMANN-LEFF	12/31/83	41	39	81	3.23	15.7	1.10	0.70	--	0	++	--	--	--
FORSTMANN-LEFF	9/30/83	46	28	83	2.59	20.7	1.14	0.72	--	0	++	--	0	--
FORSTMANN-LEFF	6/30/83	52	33	93	2.90	15.0	1.08	0.70	--	--	0	--	--	--
FORSTMANN-LEFF	3/31/83	NA	38	85	3.23	14.8	1.09	0.82	0	0	0	-	0	--
HELLMAN JORDAN	12/31/84	38	42	82	3.94	13.4	1.21	0.86	+	++	++	--	0	++
HELLMAN JORDAN	9/30/84	10	44	80	4.01	13.7	1.22	0.84	+	++	+	--	0	++
HELLMAN JORDAN	6/30/84	34	37	61	5.09	13.5	1.25	0.87	+	++	++	-	0	++
HELLMAN JORDAN	3/31/84	30	34	58	4.94	12.9	1.16	0.87	+	++	+	--	0	+
HELLMAN JORDAN	12/31/83	43	23	51	5.31	12.5	1.23	0.74	+	++	++	-	--	++
HELLMAN JORDAN	9/30/83	57	20	47	2.89	21.2	1.34	0.77	+	++	++	0	0	++
HELLMAN JORDAN	6/30/83	38	18	56	2.37	16.1	1.30	0.77	+	++	-	--	0	++
HELLMAN JORDAN	3/31/83	NA	14	53	3.18	15.9	1.30	0.72	+	++	--	--	+	+
IDS ADVISORY	12/31/84	21	44	89	4.69	11.7	1.05	0.83	--	0	0	--	0	0
IDS ADVISORY	9/30/84	40	44	92	4.60	12.5	1.08	0.89	0	0	0	--	0	0
IDS ADVISORY	6/30/84	42	43	87	4.80	13.4	1.04	0.85	--	-	--	0	0	++
IDS ADVISORY	3/31/84	41	39	82	4.31	11.2	1.09	0.80	0	+	--	-	--	0
IDS ADVISORY	12/31/83	45	36	89	3.13	18.8	1.17	0.86	+	++	-	+	+	0
IDS ADVISORY	9/30/83	79	34	86	2.40	25.0	1.24	0.86	+	++	0	+	+	-
IDS ADVISORY	6/30/83	42	49	94	2.19	19.9	1.30	0.81	+	+	--	-	+	-
IDS ADVISORY	3/31/83	NA	48	88	3.17	15.3	1.19	0.84	+	+	-	--	+	-
INVESTMENT ADVISERS	12/31/84	9	42	97	3.76	9.8	1.19	0.88	+	+	++	--	0	0
INVESTMENT ADVISERS	9/30/84	21	39	88	3.74	9.9	1.21	0.86	+	+	+	--	0	0
INVESTMENT ADVISERS	6/30/84	8	43	98	4.19	10.0	1.21	0.89	0	0	++	-	0	++
INVESTMENT ADVISERS	3/31/84	21	40	92	3.60	11.1	1.17	0.89	0	+	++	-	0	++
INVESTMENT ADVISERS	12/31/83	16	39	89	3.11	13.5	1.13	0.86	--	+	++	--	0	0
INVESTMENT ADVISERS	9/30/83	8	41	89	2.92	15.6	1.13	0.87	--	+	++	--	0	0
INVESTMENT ADVISERS	6/30/83	7	37	78	3.19	15.9	1.08	0.89	-	0	0	--	0	0
INVESTMENT ADVISERS	3/31/83	NA	34	47	3.35	13.4	1.06	0.85	0	0	-	--	-	0

MANAGER NAME	DATE	QTR. PORT. T/O	# OF STKS	EQUITY ALLOC.	YIELD	P/E	MKT VOLTY	DIVRSFN	PORTFOLIO RISK ORIENTATION Price Var.	Earn. Var.	Earn. Succ.	Size	Growth	Fin. Lever.
LIEBER & COMPANY	12/31/84	14	103	85	2.53	12.3	1.34	0.79	++	+	-	++	++	--
LIEBER & COMPANY	9/30/84	17	108	87	2.55	11.9	1.31	0.80	++	+	0	++	+	--
LIEBER & COMPANY	6/30/84	10	117	95	2.66	12.0	1.33	0.81	++	0	0	++	++	--
LIEBER & COMPANY	3/31/84	0	115	93	2.63	12.0	1.37	0.85	+	0	--	++	+	-
LIEBER & COMPANY	12/31/83	9	60	100	2.77	12.9	1.24	0.83	+	0	-	++	+	-
LIEBER & COMPANY	9/30/83	9	56	97	2.83	11.3	1.30	0.83	+	0	-	++	+	-
LIEBER & COMPANY	6/30/83	2	49	92	2.70	14.0	1.26	0.84	+	0	--	++	+	-
LIEBER & COMPANY	3/31/83	NA	24	45	2.94	15.9	1.20	0.85	+	0	-	++	+	--
LOOMIS SAYLES	12/31/84	37	14	84	2.32	15.5	1.26	0.72	++	+	--	--	++	-
LOOMIS SAYLES	9/30/84	46	16	88	1.57	17.2	1.35	0.78	++	++	--	-	+	-
LOOMIS SAYLES	6/30/84	25	20	94	1.71	14.4	1.37	0.70	++	++	-	+	++	0
LOOMIS SAYLES	3/31/84	6	22	93	1.93	13.2	1.37	0.66	++	++	--	+	+	+
LOOMIS SAYLES	12/31/83	39	19	81	1.79	18.0	1.38	0.70	++	++	--	+	+	0
LOOMIS SAYLES	9/30/83	60	23	95	1.28	28.8	1.53	0.75	++	++	--	+	++	0
LOOMIS SAYLES	6/30/83	49	19	97	1.21	17.3	1.64	0.75	++	++	--	+	++	++
LOOMIS SAYLES	3/31/83	NA	20	98	1.62	18.2	1.44	0.85	++	++	--	0	++	-
NORWEST BANK MPLS	12/31/84	39	61	87	1.24	20.1	1.37	0.81	++	++	--	++	++	--
NORWEST BANK MPLS	9/30/84	61	62	97	1.18	26.6	1.36	0.81	++	++	--	++	+	-
NORWEST BANK MPLS	6/30/84	26	56	89	1.96	17.4	1.39	0.83	++	++	++	++	++	-
NORWEST BANK MPLS	3/31/84	66	47	87	1.65	19.2	1.28	0.82	++	++	--	++	++	-
NORWEST BANK MPLS	12/31/83	92	41	83	1.88	19.0	1.23	0.87	+	0	-	+	+	--
NORWEST BANK MPLS	9/30/83	56	53	85	2.12	21.4	1.27	0.87	+	0	-	+	+	-
NORWEST BANK MPLS	6/30/83	95	42	80	2.53	16.3	1.23	0.88	+	--	-	+	+	--
NORWEST BANK MPLS	3/31/83	NA	35	83	2.94	14.1	1.20	0.90	+	--	-	+	+	--
SIEBEL CAPITAL	12/31/84	25	54	80	2.69	12.1	1.24	0.84	+	0	--	+	+	-
SIEBEL CAPITAL	9/30/84	48	50	74	2.73	12.8	1.24	0.86	+	0	--	+	+	-
SIEBEL CAPITAL	6/30/84	47	36	63	3.22	12.3	1.27	0.88	+	--	++	++	+	0
SIEBEL CAPITAL	3/31/84	28	42	78	3.07	11.5	1.25	0.88	+	0	+	+	+	0
SIEBEL CAPITAL	12/31/83	25	37	90	3.14	12.4	1.16	0.89	0	--	0	0	-	++
SIEBEL CAPITAL	9/30/83	26	35	83	3.28	12.6	1.15	0.88	0	0	++	0	0	0
SIEBEL CAPITAL	6/30/83	27	36	91	3.24	13.5	1.17	0.86	+	0	0	0	0	++
SIEBEL CAPITAL	3/31/83	NA	26	80	3.38	13.5	1.15	0.85	+	0	-	--	0	+
HERBERT R. SMITH	12/31/84	48	45	77	2.83	10.3	1.30	0.72	++	++	--	++	+	0
HERBERT R. SMITH	9/30/84	39	52	89	2.78	12.0	1.25	0.79	++	++	--	+	+	0
HERBERT R. SMITH	6/30/84	38	67	86	3.29	12.5	1.20	0.92	+	+	-	+	+	--
HERBERT R. SMITH	3/31/84	29	68	84	3.12	13.9	1.22	0.91	+	+	0	+	+	0
HERBERT R. SMITH	12/31/83	46	60	80	2.14	18.9	1.33	0.85	++	++	-	++	+	++
HERBERT R. SMITH	9/30/83	40	46	65	2.68	19.4	1.44	0.87	+	++	-	++	+	++
HERBERT R. SMITH	6/30/83	13	48	65	2.36	18.2	1.46	0.83	++	++	--	++	++	++
HERBERT R. SMITH	3/31/83	NA	18	20	2.74	13.7	1.45	0.77	++	++	--	+	+	++

MANAGER NAME	DATE	QTR. PORT. T/O	# OF STKS	EQUITY ALLOC.	YIELD	P/E	MKT VOLTY	DIVRSFN	PORTFOLIO RISK ORIENTATION Price Var.	Earn. Var.	Earn. Succ.	Size	Growth	Fin. Lever.
TRUSTEE & INVESTORS	12/31/84	40	41	96	3.00	11.2	1.31	0.91	++	++	++	+	+	+
TRUSTEE & INVESTORS	9/30/84	24	37	94	3.52	8.3	1.28	0.91	++	0	++	--	+	0
TRUSTEE & INVESTORS	6/30/84	15	40	95	3.86	12.8	1.31	0.90	++	+	++	-	+	++
TRUSTEE & INVESTORS	3/31/84	25	41	98	3.30	14.4	1.27	0.89	++	+	++	0	+	++
TRUSTEE & INVESTORS	12/31/83	17	44	99	2.82	18.0	1.25	0.89	+	0	0	+	+	++
TRUSTEE & INVESTORS	9/30/83	9	40	98	3.04	19.8	1.26	0.92	+	0	++	+	+	++
TRUSTEE & INVESTORS	6/30/83	11	34	98	3.09	17.5	1.24	0.93	+	0	-	+	+	+
TRUSTEE & INVESTORS	3/31/83	NA	26	71	3.80	14.4	1.24	0.93	+	0	-	+	0	++
WADDELL & REED	12/31/84	32	46	52	3.34	11.8	1.29	0.75	++	++	--	+	+	++
WADDELL & REED	9/30/84	76	48	35	3.11	12.1	1.27	0.76	+	++	--	+	+	-
WADDELL & REED	6/30/84	81	13	21	2.08	10.9	1.56	0.52	++	++	++	++	+	+
WADDELL & REED	3/31/84	35	21	31	2.63	12.6	1.31	0.74	+	++	+	+	0	++
WADDELL & REED	12/31/83	103	10	31	2.45	17.2	1.36	0.72	++	+	--	++	++	--
WADDELL & REED	9/30/83	9	17	73	1.41	27.4	1.41	0.73	++	0	--	++	+	--
WADDELL & REED	6/30/83	38	16	75	1.51	21.0	1.48	0.74	++	0	--	++	++	+
WADDELL & REED	3/31/83	NA	17	79	2.04	14.9	1.50	0.81	++	+	-	++	+	++

TABLE A2

EXTERNAL EQUITY MANAGERS

SECTOR WEIGHTING HISTORICAL PROFILE

MANAGER NAME	DATE	TOTAL PORTFOLIO MARKET VALUE	EQUITY SECTOR WEIGHTS CAP GDS	CONS DUR	CONS NDUR	ENER	FINL	MAT & SERV	TECH	TRAN	UTIL
AVG. EXT. MANAGERS	12/31/84	---	2.4	8.0	26.4	2.3	15.5	11.2	23.9	6.6	4.0
AVG. EXT. MANAGERS	9/30/84	---	2.9	7.9	27.9	3.8	14.1	9.6	26.3	4.8	2.7
AVG. EXT. MANAGERS	6/30/84	---	4.0	7.6	28.6	4.2	12.5	10.9	23.4	5.4	3.4
AVG. EXT. MANAGERS	3/31/84	---	5.2	7.6	24.0	5.7	13.2	13.3	22.7	5.1	3.1
AVG. EXT. MANAGERS	12/31/83	---	6.0	6.4	23.5	3.0	12.2	15.1	24.0	6.3	3.5
AVG. EXT. MANAGERS	9/30/83	---	3.6	5.9	28.9	3.1	12.8	13.5	24.2	5.7	2.4
AVG. EXT. MANAGERS	6/30/83	---	3.7	6.1	30.2	3.6	15.1	11.7	21.2	5.8	2.5
AVG. EXT. MANAGERS	3/31/83	---	2.8	4.3	30.6	3.6	15.2	11.4	23.5	4.9	3.8
FRED ALGER	12/31/84	54,018,782	5.2	16.1	36.1	---	4.1	7.9	25.2	5.4	---
FRED ALGER	9/30/84	53,908,974	9.3	15.4	33.7	---	0.8	11.4	23.5	6.0	---
FRED ALGER	6/30/84	49,936,760	14.0	8.0	30.7	---	3.8	11.5	29.5	2.6	---
FRED ALGER	3/31/84	51,737,228	13.3	4.3	28.8	---	3.4	18.3	31.9	---	---
FRED ALGER	12/31/83	55,644,200	13.2	6.6	21.7	---	6.4	18.1	33.9	---	---
FRED ALGER	9/30/83	56,169,879	5.7	6.8	26.9	---	8.4	23.3	29.0	---	---
FRED ALGER	6/30/83	58,138,999	4.9	8.5	35.0	3.5	8.2	18.0	21.9	---	---
FRED ALGER	3/31/83	51,420,548	1.4	7.5	37.0	---	9.0	22.0	23.1	---	---
ALLIANCE CAPITAL	12/31/84	52,332,767	---	8.7	48.8	---	10.2	---	20.6	8.1	3.7
ALLIANCE CAPITAL	9/30/84	51,653,441	---	8.8	49.7	---	9.6	---	19.3	9.2	3.5
ALLIANCE CAPITAL	6/30/84	48,457,996	---	8.1	51.6	---	6.9	---	23.5	9.9	---
ALLIANCE CAPITAL	3/31/84	47,427,119	---	8.3	48.0	2.7	5.6	---	25.1	10.4	---
ALLIANCE CAPITAL	12/31/83	52,725,699	0.8	7.5	45.3	---	6.8	2.4	24.2	13.1	---
ALLIANCE CAPITAL	9/30/83	52,945,082	2.8	5.4	45.9	---	9.2	---	24.6	12.1	---
ALLIANCE CAPITAL	6/30/83	57,538,354	2.2	4.7	42.3	---	8.2	7.5	22.7	12.4	---
ALLIANCE CAPITAL	3/31/83	51,037,067	---	3.5	49.9	2.7	6.7	3.6	23.5	10.0	---
BEUTEL GOODMAN	12/31/84	63,402,269	8.8	---	13.8	---	32.2	33.8	11.4	---	---
BEUTEL GOODMAN	9/30/84	60,461,938	6.5	---	14.0	---	37.1	35.6	6.8	---	---
BEUTEL GOODMAN	6/30/84	55,295,358	9.3	---	21.1	---	30.4	32.4	6.7	---	---
BEUTEL GOODMAN	3/31/84	56,896,258	8.9	---	18.6	---	27.2	39.3	6.0	---	---
BEUTEL GOODMAN	12/31/83	57,233,781	9.8	---	20.2	---	11.2	46.2	5.4	7.2	---
BEUTEL GOODMAN	9/30/83	55,416,939	8.8	---	22.0	---	13.1	43.5	4.7	8.0	---
BEUTEL GOODMAN	6/30/83	54,835,808	11.0	---	18.5	---	17.4	42.4	---	10.6	---
BEUTEL GOODMAN	3/31/83	50,442,256	---	---	15.7	---	15.4	52.1	---	16.8	---

EQUITY SECTOR WEIGHTS

MANAGER NAME	DATE	TOTAL PORTFOLIO MARKET VALUE	CAP GDS	CONS DUR	CONS NDUR	ENER	FINL	MAT & SERV	TECH	TRAN	UTIL
BMI CAPITAL	12/31/84	9,015,974	6.5	5.8	40.0	---	---	7.4	35.9	4.4	---
BMI CAPITAL	9/30/84	8,820,740	4.6	13.4	42.6	---	---	4.1	31.3	3.9	---
BMI CAPITAL	6/30/84	8,533,642	3.2	16.4	37.4	---	---	11.5	31.5	---	---
BMI CAPITAL	3/31/84	8,366,038	4.3	12.7	39.3	---	---	17.8	25.9	---	---
BMI CAPITAL	12/31/83	9,784,767	7.4	12.1	28.4	---	6.6	19.0	26.4	---	---
BMI CAPITAL	9/30/83	10,420,827	7.6	11.2	37.1	---	6.4	18.6	19.2	---	---
BMI CAPITAL	6/30/83	11,285,353	7.9	12.7	44.2	---	9.8	15.9	9.5	---	---
BMI CAPITAL	3/31/83	10,081,983	10.6	8.1	35.3	---	12.3	22.0	11.8	---	---
FORSTMANN-LEFF	12/31/84	55,396,358	1.4	10.5	30.9	---	23.3	15.1	13.3	5.5	---
FORSTMANN-LEFF	9/30/84	53,550,733	4.5	4.6	32.5	---	21.5	14.5	18.9	3.6	---
FORSTMANN-LEFF	6/30/84	51,218,131	3.7	3.6	40.2	---	7.0	10.3	24.3	7.2	3.7
FORSTMANN-LEFF	3/31/84	52,083,507	7.6	3.0	37.0	---	6.0	14.5	23.1	6.0	2.8
FORSTMANN-LEFF	12/31/83	55,421,154	5.7	13.6	35.5	5.8	3.9	8.4	18.7	5.3	3.1
FORSTMANN-LEFF	9/30/83	55,775,736	---	14.6	52.3	3.3	4.5	5.3	15.1	4.8	---
FORSTMANN-LEFF	6/30/83	56,471,479	---	12.7	61.4	---	2.7	7.2	11.7	4.3	---
FORSTMANN-LEFF	3/31/83	51,390,160	2.1	4.7	50.7	5.9	4.7	10.3	17.4	4.2	---
HELLMAN JORDAN	12/31/84	54,923,168	1.3	6.1	19.5	1.1	19.8	17.1	20.3	9.2	5.7
HELLMAN JORDAN	9/30/84	52,497,049	1.5	10.7	11.3	0.8	14.0	15.3	29.3	12.0	5.0
HELLMAN JORDAN	6/30/84	47,929,367	1.8	12.4	13.8	1.2	16.4	21.2	12.6	11.1	9.6
HELLMAN JORDAN	3/31/84	49,895,127	---	12.4	19.5	6.4	15.7	15.7	4.3	8.8	17.2
HELLMAN JORDAN	12/31/83	50,182,761	---	14.8	30.0	6.0	16.5	10.4	2.1	3.0	17.2
HELLMAN JORDAN	9/30/83	50,713,576	---	15.0	47.4	---	19.5	3.5	3.3	4.7	6.5
HELLMAN JORDAN	6/30/83	52,402,164	---	3.8	23.3	---	35.9	---	24.8	---	12.2
HELLMAN JORDAN	3/31/83	49,541,253	---	---	15.1	---	33.4	4.6	27.2	---	19.7
INVESTMENT ADVISERS	12/31/84	58,967,426	3.3	6.4	13.6	5.9	20.5	19.2	19.9	10.8	0.6
INVESTMENT ADVISERS	9/30/84	55,807,710	3.7	7.2	21.5	6.9	21.0	13.1	20.2	5.6	0.8
INVESTMENT ADVISERS	6/30/84	50,388,386	5.5	5.9	26.3	6.2	18.8	9.1	20.6	3.7	3.9
INVESTMENT ADVISERS	3/31/84	51,864,720	5.8	5.4	30.2	8.9	21.5	7.7	15.6	3.9	1.0
INVESTMENT ADVISERS	12/31/83	54,533,402	6.3	6.3	25.0	5.8	21.9	9.7	15.7	6.1	3.2
INVESTMENT ADVISERS	9/30/83	53,819,067	5.8	6.2	30.6	6.0	13.4	9.1	18.3	7.1	3.5
INVESTMENT ADVISERS	6/30/83	54,812,985	6.5	6.6	24.7	11.7	9.7	9.8	16.9	10.3	3.9
INVESTMENT ADVISERS	3/31/83	50,748,987	6.5	9.1	26.0	10.2	7.3	15.0	17.7	5.0	3.2
IDS ADVISORY	12/31/84	57,153,006	1.8	4.6	29.5	3.7	7.6	3.7	16.9	7.2	25.0
IDS ADVISORY	9/30/84	55,468,185	3.4	6.6	25.4	7.6	7.9	5.6	19.6	4.6	19.4
IDS ADVISORY	6/30/84	50,278,968	---	5.3	27.6	8.1	6.8	7.6	19.2	4.8	20.6
IDS ADVISORY	3/31/84	50,085,955	4.8	10.1	12.4	9.6	8.7	14.3	15.2	9.5	15.4
IDS ADVISORY	12/31/83	54,006,960	4.9	7.6	18.0	---	8.8	19.0	26.1	6.0	9.6
IDS ADVISORY	9/30/83	54,334,602	---	4.1	24.3	3.4	6.0	19.7	33.8	5.4	3.4
IDS ADVISORY	6/30/83	57,561,715	4.2	12.0	30.5	4.5	4.2	6.7	33.7	4.3	---
IDS ADVISORY	3/31/83	50,689,028	5.4	9.2	30.7	5.4	9.8	6.4	26.3	---	6.6

EQUITY SECTOR WEIGHTS

MANAGER NAME	DATE	TOTAL PORTFOLIO MARKET VALUE	CAP GDS	CONS DUR	CONS NDUR	ENER	FINL	MAT & SERV	TECH	TRAN	UTIL
LIEBER & COMPANY	12/31/84	26,473,866	3.2	5.3	27.0	3.2	24.2	18.4	15.3	3.4	---
LIEBER & COMPANY	9/30/84	25,807,665	2.9	3.8	33.0	4.1	22.4	16.8	14.8	2.2	---
LIEBER & COMPANY	6/30/84	23,927,529	2.6	3.3	34.8	3.5	21.1	16.7	15.3	1.8	0.8
LIEBER & COMPANY	3/31/84	24,261,218	3.6	6.4	32.3	4.9	17.3	16.8	16.3	1.8	0.7
LIEBER & COMPANY	12/31/83	11,159,936	7.7	4.5	33.7	3.5	16.7	22.3	6.1	5.6	---
LIEBER & COMPANY	9/30/83	11,016,060	6.5	3.5	31.0	4.7	18.0	25.4	5.4	5.5	---
LIEBER & COMPANY	6/30/83	11,233,248	6.4	5.0	33.3	5.0	16.5	23.9	3.3	6.6	---
LIEBER & COMPANY	3/31/83	10,063,917	8.3	---	23.1	3.9	11.6	41.0	5.6	6.4	---
LOOMIS SAYLES	12/31/84	46,561,187	---	24.0	12.9	---	26.1	---	37.0	---	---
LOOMIS SAYLES	9/30/84	46,082,328	---	16.0	18.9	---	12.8	---	52.3	---	---
LOOMIS SAYLES	6/30/84	43,613,462	7.6	12.8	16.1	---	4.9	8.8	33.8	16.0	---
LOOMIS SAYLES	3/31/84	45,336,835	11.2	15.1	3.4	---	5.1	12.8	38.2	14.3	---
LOOMIS SAYLES	12/31/83	49,181,570	11.6	16.1	3.3	---	5.2	14.0	33.5	16.4	---
LOOMIS SAYLES	9/30/83	50,182,549	3.5	14.5	13.3	---	10.6	5.2	44.9	8.0	---
LOOMIS SAYLES	6/30/83	55,042,543	3.1	9.0	12.1	---	34.6	10.8	20.4	9.9	---
LOOMIS SAYLES	3/31/83	50,105,254	---	4.8	19.8	---	25.4	9.1	30.7	10.1	---
NORWEST BANK MPLS	12/31/84	25,188,312	---	2.3	37.5	2.7	3.9	9.8	37.7	4.1	1.9
NORWEST BANK MPLS	9/30/84	25,685,954	---	3.7	38.0	0.6	2.3	11.9	39.7	1.3	2.4
NORWEST BANK MPLS	6/30/84	24,546,941	2.8	5.5	31.2	5.8	1.0	9.3	38.9	4.3	1.3
NORWEST BANK MPLS	3/31/84	10,385,041	3.6	4.4	23.1	8.5	1.1	7.2	45.5	5.4	1.1
NORWEST BANK MPLS	12/31/83	11,215,761	2.5	1.6	25.5	1.2	3.2	6.0	51.8	1.7	6.6
NORWEST BANK MPLS	9/30/83	11,816,270	1.2	---	31.6	3.3	2.0	8.4	46.1	1.4	5.8
NORWEST BANK MPLS	6/30/83	12,126,921	4.8	---	36.4	5.2	8.9	4.8	33.0	2.9	3.3
NORWEST BANK MPLS	3/31/83	10,417,512	7.0	1.8	47.1	4.2	13.5	---	20.1	6.3	---
SIEBEL CAPITAL	12/31/84	55,043,551	3.2	6.3	35.4	---	16.1	4.1	26.3	8.5	---
SIEBEL CAPITAL	9/30/84	52,544,464	3.6	6.2	43.1	1.2	13.3	3.2	24.7	4.8	---
SIEBEL CAPITAL	6/30/84	49,523,376	4.1	4.8	38.8	---	25.9	7.4	17.6	1.4	---
SIEBEL CAPITAL	3/31/84	49,328,007	3.6	1.3	26.4	---	25.8	11.4	29.2	2.4	---
SIEBEL CAPITAL	12/31/83	53,482,144	3.6	1.7	27.9	---	24.0	11.7	24.6	2.6	3.8
SIEBEL CAPITAL	9/30/83	54,520,467	3.5	---	32.7	2.8	25.1	7.2	19.3	5.0	4.4
SIEBEL CAPITAL	6/30/83	56,381,931	2.6	---	36.4	1.7	22.6	6.2	20.1	5.4	5.0
SIEBEL CAPITAL	3/31/83	51,621,595	4.6	---	28.8	---	18.5	5.3	30.0	6.7	6.2
HERBERT R. SMITH	12/31/84	43,937,991	0.8	7.8	22.1	13.4	17.9	0.3	17.6	20.1	---
HERBERT R. SMITH	9/30/84	44,289,327	1.4	8.9	20.0	17.9	12.4	3.3	26.7	9.4	---
HERBERT R. SMITH	6/30/84	42,860,060	2.4	0.3	24.4	25.5	10.6	7.5	20.9	7.4	1.1
HERBERT R. SMITH	3/31/84	44,150,474	3.3	0.2	10.1	28.8	16.9	12.8	18.6	9.1	---
HERBERT R. SMITH	12/31/83	46,441,280	4.4	0.4	15.4	10.6	14.5	8.8	30.2	15.8	---
HERBERT R. SMITH	9/30/83	48,910,462	2.2	0.6	12.7	9.4	22.1	15.6	23.2	9.4	4.8
HERBERT R. SMITH	6/30/83	53,176,398	2.0	0.6	15.5	5.2	17.6	13.9	29.4	7.3	6.7
HERBERT R. SMITH	3/31/83	50,198,982	4.8	---	32.6	---	20.5	---	34.7	7.4	---

EQUITY SECTOR WEIGHTS

MANAGER NAME	DATE	TOTAL PORTFOLIO MARKET VALUE	CAP GDS	CONS DUR	CONS NDUR	ENER	FINL	MAT & SERV	TECH	TRAN	UTIL
TRUSTEE & INVESTORS	12/31/84	47,486,287	---	1.7	9.9	3.9	7.1	28.0	34.9	11.2	3.3
TRUSTEE & INVESTORS	9/30/84	48,156,379	---	---	6.3	15.1	21.9	8.2	36.3	8.4	3.8
TRUSTEE & INVESTORS	6/30/84	44,119,650	2.5	---	9.9	11.9	17.6	9.4	38.8	---	10.0
TRUSTEE & INVESTORS	3/31/84	47,158,224	2.5	---	10.0	16.0	17.3	10.1	35.3	---	8.7
TRUSTEE & INVESTORS	12/31/83	50,974,369	2.4	---	12.9	9.3	16.7	9.5	41.4	---	7.7
TRUSTEE & INVESTORS	9/30/83	53,062,524	2.5	---	15.6	10.5	17.1	8.8	38.4	---	7.1
TURSTEE & INVESTORS	6/30/83	57,620,180	2.9	3.2	17.0	11.5	18.9	10.3	29.7	---	6.5
TRUSTEE & INVESTORS	3/31/83	50,154,412	3.6	---	12.2	14.4	24.1	10.2	24.1	---	11.4
WADDELL & REED	12/31/84	26,234,116	---	14.0	18.7	---	18.8	2.7	25.5	1.0	19.3
WADDELL & REED	9/30/84	25,856,251	1.4	13.9	28.0	3.3	14.3	0.5	30.9	1.6	6.1
WADDELL & REED	6/30/84	25,495,564	---	29.0	25.7	---	15.7	---	17.8	11.8	---
WADDELL & REED	3/31/84	25,833,644	5.2	32.1	21.4	---	25.0	---	11.7	4.5	---
WADDELL & REED	12/31/83	11,409,742	12.8	32.4	---	---	33.9	---	20.9	---	---
WADDELL & REED	9/30/83	12,042,511	5.8	13.4	22.5	---	5.1	---	38.2	15.0	---
WADDELL & REED	6/30/83	12,464,478	5.7	13.2	29.2	3.3	5.0	---	31.1	12.5	---
WADDELL & REED	3/31/83	10,013,713	5.5	13.8	15.5	2.5	29.1	---	27.2	6.4	---
WILSHIRE 5000	12/31/84	---	5.4	9.9	23.0	13.5	9.9	10.6	13.2	3.7	10.8
WILSHIRE 5000	9/30/84	---	5.2	4.3	24.9	13.2	10.3	11.5	15.5	2.9	12.2
WILSHIRE 5000	6/30/84	---	5.3	4.0	25.7	13.5	9.6	11.7	15.6	2.9	11.7
WILSHIRE 5000	3/31/84	---	5.4	3.9	23.6	16.1	9.8	12.1	15.3	2.9	11.1
WILSHIRE 5000	12/31/83	---	5.5	4.2	24.0	14.5	9.5	12.2	16.3	2.8	11.1
WILSHIRE 5000	9/30/83	---	5.2	4.0	24.3	14.8	9.4	11.8	16.3	2.9	11.3
WILSHIRE 5000	6/30/83	---	5.3	3.9	24.9	15.0	9.3	11.6	16.3	2.9	10.9
WILSHIRE 5000	3/31/83	---	5.1	3.5	25.2	14.6	9.8	12.3	14.9	2.9	11.8

TABLE A3

EXTERNAL EQUITY MANAGERS
HISTORICAL PERFORMANCE SUMMARY

	4Q 1984	3Q 1984	2Q 1984	1Q 1984	4Q 1983	3Q 1983	2Q 1983
FRED ALGER							
Equity	0.2%	8.3%	-4.1%	-8.1%	-1.0%	-3.5%	13.9%
Total Fund	0.2	8.0	-3.5	-7.0	-0.9	-3.4	13.1
ALLIANCE CAPITAL							
Equity	1.3	7.1	2.2	-11.2	-0.6	-8.7	14.3
Total Fund	1.3	6.6	2.2	-10.1	-0.4	-8.0	12.7
BEUTEL GOODMAN							
Equity	5.1	10.1	-2.8	-0.7	3.5	3.4	13.9
Total Fund	4.9	9.3	-2.8	-0.6	3.3	1.1	8.7
BMI CAPITAL							
Equity	2.3	3.6	2.1	-14.4	-6.0	-7.8	14.4
Total Fund	2.2	3.4	2.0	-14.5	-6.1	-7.7	11.9
FORSTMANN-LEFF							
Equity	3.7	7.5	-2.8	-8.3	-1.0	-1.7	11.2
Total Fund	3.4	4.6	-1.7	-6.0	-0.6	-1.2	9.9
HELLMAN JORDAN							
Equity	4.3	8.6	-4.8	-3.1	-0.9	-9.5	10.0
Total Fund	4.6	9.5	-3.9	-0.6	-1.0	-3.2	5.8
IDS ADVISORY							
Equity	3.2	11.4	0.0	-8.4	-0.9	-6.6	14.3
Total Fund	3.0	10.3	0.4	-7.3	-0.6	-5.6	13.6
INVESTMENT ADVISERS							
Equity	5.8	11.3	-3.0	-5.8	1.5	-2.9	11.6
Total Fund	5.7	10.7	-2.8	-4.9	1.3	-1.8	8.0
LIEBER & COMPANY							
Equity	2.9	8.9	-1.3	-10.8	1.7	-2.3	16.6
Total Fund	2.6	7.9	-1.4	-7.3	1.3	-1.9	11.6
LOOMIS SAYLES							
Equity	1.5	6.0	-4.8	-8.8	-2.3	-9.3	10.2
Total Fund	1.0	5.7	-3.8	-7.8	-2.0	-8.8	9.8
NORWEST BANK MPLS							
Equity	-2.1	5.3	-6.3	-8.8	-6.0	-3.6	19.6
Total Fund	-1.9	4.7	-2.7	-7.4	-5.1	-2.6	16.4
SIEBEL CAPITAL							
Equity	5.2	7.4	0.4	-9.1	-2.4	-4.0	10.6
Total Fund	4.8	6.1	0.4	-7.8	-1.9	-3.3	9.2
HERBERT R. SMITH							
Equity	-0.9	3.4	-3.1	-6.4	-7.8	-11.0	13.4
Total Fund	-0.8	3.3	-2.9	-4.9	-5.1	-8.0	5.9
TRUSTEE & INVESTORS							
Equity	-1.4	9.3	-6.8	-7.8	-3.7	-7.9	16.4
Total Fund	-1.4	9.1	-6.4	-7.5	-3.9	-7.9	14.9
WADDELL & REED							
Equity	0.7	-1.6	-10.3	-17.2	-9.3	-4.7	29.9
Total Fund	1.5	1.4	-1.3	-2.2	-5.3	-3.0	24.0
SBI AGGREGATE							
Equity	2.4	8.0	-2.7	-7.5	-1.5	-5.3	13.2
Total Fund	2.4	7.2	-2.2	-5.9	-1.2	-4.5	10.5
MARKET INDICES							
Wilshire 5000	1.3	9.2	-2.8	-4.2	-1.0	-0.9	13.0
S&P 500	1.8	9.7	-2.5	-2.4	0.4	-0.1	11.1
91 Day T-Bills	2.3	2.7	2.6	2.4	2.3	2.4	2.2

Tab B

PORTFOLIO STATISTICS

STATE OF MINNESOTA
STATE BOARD OF INVESTMENT
COMPOSITION OF STATE INVESTMENT PORTFOLIO'S BY TYPE OF INVESTMENT
MARKET VALUE DECEMBER 31,1984

	CASH AND SHORT TERM SECURITIES	BONDS		STOCKS		ALTERNAIVE ASSETS	TOTAL
		INTERNAL	EXTERNAL	INTERNAL	EXTERNAL		
BASIC RETIREMENT FUNDS:							
TEACHERS RETIREMENT FUND	$ 71,169 5.31%	$ -0-	$371,998 27.75%	$ -0-	$ 802,020 59.83%	$ 95,352 7.11%	$1,340,539 100%
PUBLIC EMPLOYEES RETIRE. FUND	32,645 3.36%	-0-	275,226 28.32%	-0-	593,383 61.06%	70,560 7.26%	971,814 100%
STATE EMPLOYEES RETIRE. FUND	35,113 5.30%	-0-	184,129 27.76%	-0-	396,849 59.83%	47,178 7.11%	663,269 100%
PUBLIC EMP. POLICE & FIRE FUND	14,923 6.25%	-0-	66,681 27.92%	-0-	140,629 58.87%	16,630 6.96%	238,863 100%
HIGHWAY PATROL RETIRE. FUND	1,999 4.24%	-0-	13,455 28.51%	-0-	28,377 60.14%	3,356 7.11%	47,187 100%
JUDGES RETIREMENT FUND	140 4.24%	-0-	941 28.51%	-0-	1,985 60.13%	235 7.12%	3,301 100%
POST RETIREMENT FUND	312,632 14.16%	1,223,497 55.42%	-0-	671,497 30.42%	-0-	-0-	2,207,626 100%
MINNESOTA SUPPLEMENTAL FUNDS:							
INCOME SHARE ACCOUNT	15,204 11.94%	36,840 28.92%	-0-	66,306 52.06%	9,016 7.08%	-0-	127,366 100%
GROWTH SHARE ACCOUNT	5,379 9.03%	-0-	-0-	27,972 46.94%	26,234 44.03%	-0-	59,585 100%
FIXED RETURN ACCOUNT	14,077 23.34%	46,242 76.66%	-0-	-0-	-0-	-0-	60,319 100%
BOND ACCOUNT	1,377 30.51%	3,136 69.49%	-0-	-0-	-0-	-0-	4,513 100%
MINNESOTA VARIABLE ANNUITY	6,997 6.77%	-0-	-0-	44,683 43.24%	51,662 49.99%	-0-	103,342 100%
TOTAL RETIREMENT FUNDS	$ 511,655 8.78%	$1,309,715 22.47%	$912,430 15.66%	$810,458 13.91%	$2,050,155 35.18%	$233,311 4.00%	$5,827,724 100%

PERMANENT SCHOOL FUND	38,939 12.83%	210,762 69.42%	-0-	53,889 17.75%	-0-	-0-	303,590 100%
TREASURERS CASH	641,818 100%	-0-	-0-	-0-	-0-	-0-	641,818 100%
TRANSPORTATION FUNDS	382,621 100%	-0-	-0-	-0-	-0-	-0-	382,621 100%
STATE BUILDING FUNDS	151,771 100%	-0-	-0-	-0-	-0-	-0-	151,771 100%
HOUSING FINANCE AGENCY	146,032 100%	-0-	-0-	-0-	-0-	-0-	146,032 100%
MINNESOTA DEBT SERVICE FUND	262,570 100%	-0-	-0-	-0-	-0-	-0-	262,570 100%
MISCELLANEOUS ACCOUNTS	131,505 100%	-0-	-0-	-0-	-0-	-0-	131,505 100%
TACONITE AREA ENVIR. PROTECTION	7,598 100%	-0-	-0-	-0-	-0-	-0-	7,598 100%
N.E. MINNESOTA PROTECTION	43,706 100%	-0-	-0-	-0-	-0-	-0-	43,706 100%
GRAND TOTAL	$2,318,215 29.35%	$1,520,477 19.25%	$912,430 11.55%	$864,347 10.94%	$2,050,155 25.96%	$233,311 2.95%	$7,898,935 100%

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

For period of
October 1, 1984 - December 31, 1984

Teachers Retirement Fund	$ -0-
Public Employees Retirement Fund	(58,300,000)
State Employees Retirement Fund	-0-
Public Employees Police and Fire	8,000,000
Highway Patrolmans Retirement Fund	-0-
Judges Retirement Fund	-0-
Post Retirement Fund	38,162,326
Supplemental Retirement Fund - Income	883,723
Supplemental Retirement Fund - Growth	471,784
Supplemental Retirement Fund - Fixed	1,905,936
Supplemental Retirement Fund - Bond	175,008
Minnesota Variable Annuity Fund	(435,589)
Total Retirement Funds Net Cash Flow	$(9,136,812)
Permanent School Fund	467,256
Total Net Cash Flow	$(8,669,556)

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 1982	58	(10)	48	64	16.2	42.7	41.1	4088
October	124	(17)	107	48	13.6	44.9	41.5	4413
November	137	9	146	41	11.0	47.0	42.0	4537
December	(2)	6	4	45	11.7	46.6	41.7	4605
January 1983	(20)	2	(18)	41	12.8	45.0	42.2	4667
February	(76)	(502)	(578)	26	25.2	43.6	31.2	4770
March	(270)	1098	828	47	8.7	37.2	54.1	4841
April	(6)	(7)	(13)	40	9.3	36.3	54.4	5086
May	52	59	111	34	7.9	36.8	55.3	4996
June	(15)	31	16	83	9.0	34.9	56.1	5177
July	47	154	201	47	6.1	35.2	58.7	5053
August	19	7	26	39	6.3	35.4	58.3	5072
September	22	(103)	(81)	29	8.3	35.9	55.8	5202
October	2	93	95	51	7.5	35.8	56.7	5158
November	18	(20)	(2)	40	6.3	37.4	56.3	5275
December	(1)	22	21	47	5.7	37.9	56.4	5262
January 1984	3	(31)	(28)	45	6.8	38.7	54.5	5267
February	(1)	27	26	31	7.0	38.6	54.4	5170
March	5	19	24	11	5.7	39.0	55.3	5119
April	(2)	24	22	36	6.1	36.9	57.0	5145
May	4	43	47	40	6.2	37.5	56.3	4993
June	5	(38)	(33)	119	8.7	36.5	54.8	5187
July	151	29	180	34	5.8	40.5	53.7	5247
August	(6)	(16)	(22)	24	6.2	38.4	55.4	5598
September	16	(6)	10	14	6.3	39.0	54.7	5652
October	19	32	51	31	5.8	39.7	54.5	5748
November	(7)	(19)	(26)	18	6.5	40.1	53.4	5760
December	91	(71)	20	12	6.3	41.2	52.5	5864

Tab C

STATE OF MINNESOTA
OFFICE OF THE LEGISLATIVE AUDITOR
VETERANS SERVICE BUILDING, ST. PAUL, MN 55155 • 612 296-4708
JAMES R. NOBLES, LEGISLATIVE AUDITOR

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

Dear Mr. Bicker:

We have reviewed certain accounting procedures and controls for your department as part of our financial audit of the State of Minnesota's fiscal year 1984 financial statements. The scope of our work included:

- those aspects of your department which have material impact on any of the state's various funds and account groups;
- financial and compliance audit testing of the administrative expenditures of your department; and
- the status of prior audit recommendations.

The main text of this management letter contains both our recommendations developed during this audit and prior recommendations which have not yet been implemented. Prior audit recommendations repeated in this text are denoted under the caption "PRIOR RECOMMENDATION NOT IMPLEMENTED" or "PRIOR RECOMMENDATION PARTIALLY IMPLEMENTED." Attached to your management letter is a summary of the progress on all audit recommendations developed during our financial audit of Minnesota's fiscal year 1983 financial statements.

The recommendations included in this letter are presented to assist you in improving accounting procedures and controls. Progress on implementing these recommendations will be reviewed during our audit next year.

<u>PRIOR RECOMMENDATION NOT IMPLEMENTED: Documentation provided to user agencies for SBI's computerized investment accounting system is inadequate.</u>

SBI contracts with a private company to provide a computerized investment accounting system for the investments it administers. The system records investment purchase and sale transactions, maintains portfolio listings, and accounts for income earned on the investments for the various funds and investment accounts. This system also provides a daily updated general ledger for several of the funds and the external money managers. SBI prepares monthly transaction reports which are then distributed to each of the agencies that have investments on the system. In addition, during fiscal year 1984, SBI contracted with a private bank to serve as the master custodian for investments of the retirement systems of the state. The custodian also accumulates data on investment transactions for the various investment managers and prepared monthly activity and summary reports. These reports are also distributed to the retirement systems. The information included in the reports from the master custodian for retirement system assets may vary from the information in the computer system reports because of various timing and valuation differences. The agencies rely on these various reports when preparing their financial statements and updating their own investment accounting records and for other analytical purposes. During our audits this year, we found that the retirement systems used various amounts from the different types of reports which resulted in numerous inconsistencies in the financial statements.

In our management letters for fiscal years 1982 and 1983 we recommended that SBI develop and provide each user agency with a user's manual for the computerized accounting system. To date, this user's manual has not been provided. A user's manual is a form of system documentation which is necessary for any computerized system and which would serve a number of useful purposes. It would provide a starting point for developing an accurate understanding of the computer system, its objectives and capabilities, and the output available. It would be a valuable tool for new employees if there is staff turnover, either internally or in user agencies. It would also insure greater consistency and accuracy between the retirement systems' financial statements. Because of the different types of reports available from different sources, it would be helpful to the user agencies if the information available were organized and explained in one set of documents in order to provide a general understanding of the system.

RECOMMENDATION

1. SBI should develop and provide each user agency with a user's manual for the computerized accounting system. In addition, information should be provided for the retirement systems on the data included in the master custodian reports identifying any differences from the accounting system reports.

SBI does not adequately process and monitor the billings for reimbursement of their administrative expenditures.

Beginning in fiscal year 1984, SBI was given authority to apportion investment expenses incurred by the board among the various retirement funds whose assets they manage. According to Laws of 1983, Chapter 301, Sec. 14, SBI is responsible for calculating the allocation of total expenses to each of the retirement funds, and for billing each fund on a quarterly basis. Each retirement fund is then required to pay the fees to the state's General Fund as a nondedicated receipt. For fiscal year 1984, fees totalling $970,630 were billed to and paid by the retirement funds.

During our audit we found several aspects of the billing procedure that need improvement. We reviewed the amount of time it took to calculate, process and send out the billings to each of the retirement funds in fiscal year 1984. We found that the time between the end of a quarter and date billings were sent out took as long as 2 1/2 months. SBI should process the billings on a more timely basis to ensure that the retirement funds will make payment to the General Fund in a timely manner.

SBI is responsible for processing the quarterly payments to the General Fund for the expenses allocated to the Post Retirement Fund, the Supplemental Retirement Investment Fund, and the Variable Annuity Fund which they administer. We found that amounts billed to these funds were not paid on a quarterly basis. Fees for the first three quarters of fiscal year 1984 were not paid until July 1984.

We also noted that once the billings were sent out to the six basic retirement funds, SBI failed to monitor their payment. Since SBI has incurred the expenses and processed the billings, they are in the best position to monitor payment by the retirement funds. A simple accounts receivable ledger could be set up to record what has been billed and what has been paid.

RECOMMENDATIONS

2. SBI should calculate and process billings for their administrative costs by the end of the first month following each quarter.

3. SBI should establish a system to record the amounts billed and paid each quarter for all retirement funds. SBI should monitor payments for both the funds they administer and the basic retirement funds to ensure that the General Fund receives the reimbursements in a timely manner.

<u>SBI has not complied with guidelines concerning disposition of airline benefits received by state employees</u>.

Minn. Stat. Chapter 43A.38, Subd. 2, provides, in part, that:

> "Employees in the executive branch in the course of or in relation to their official duties shall not directly or indirectly receive or agree to receive any payment of expense, compensation, gift, reward...from any source, except the state for any activity related to the duties of the employee unless otherwise provided by law."

In addition, a personnel directive was issued by the Commissioner of Employee Relations to all agency heads and personnel directors in November 1982. The directive addressed questions regarding cash payments, discount coupons and free tickets provided by air carriers to state employees traveling at state expense, whether paid to passengers who have been delayed or as a reward for frequent trips with a specific airline. The memo concluded that compensation from sources of this kind is property of the state and employees are required to remit these benefits to the state.

During the course of our audit we found that SBI has no internal policy concerning the disposition of airline benefits received by the staff. This question does affect SBI somewhat more than other state agencies because SBI staff have made frequent trips in the selection and monitoring of external investment managers and a master custodian located outside of Minnesota. We found that airline benefits have been received by SBI staff while traveling at state expense, but have not been turned in to the state. SBI staff stated that they were not aware of the Commissioner of Employee Relations' directive relating to airline benefits.

RECOMMENDATIONS

4. SBI should inform staff of the state requirement concerning disposition of airline benefits received when traveling at state expense.

5. Airline benefits received by SBI staff while traveling at state expense should be returned to SBI, and used for departmental travel. Any airline tickets used for personal travel should be refunded to the state.

<u>There is inadequate documentation and control over certain fixed assets at SBI</u>.

According to directives and procedures outlined by the Department of Administration, all fixed assets owned by and donated to the state must be accounted for on the statewide fixed asset inventory system. Detail instructions are provided to state agencies concerning the procedures to follow when recording assets on the system whether the asset is purchased, transferred or received by donation. The instructions also specify that agencies possessing assets funded by other than state monies should maintain sufficient documention or adequately mark the assets in order to differentiate them from state owned property. These procedures are designed to provide uniform policies for all state agencies to follow for the purpose of establishing an effective system to record and control property in possession of the state.

During our testing of fixed assets, we found a number of fixed assets at SBI which were not on the inventory system or adequately recorded or marked as non-state owned. SBI contracts with many services that provide equipment to SBI, including personal computers and printers, computer terminals and communication equipment. Some of this equipment is provided according to terms of a contract or lease agreement. However, some equipment is provided to SBI and not specifically mentioned in any written agreements. In many cases it is unclear whether the equipment provided to SBI is only "on loan" or actually donated and the property of the state.

All fixed assets should be recorded on an inventory system and marked as state owned or non-state owned. Failure to maintain sufficient records of all fixed assets in possession of SBI could cause problems if loss or theft occurs. Also, SBI should maintain adequate records of property provided by vendors as part of contracted services in order to determine the proper disposition if and when a vendor wishes to reclaim any equipment they've provided.

RECOMMENDATION

6. SBI should formally document all agreements with outside vendors to properly identify ownership rights relating to all fixed assets in the possession of SBI. All fixed assets should either be recorded on the statewide fixed asset inventory system or maintained on other records and marked to distinguish them from state owned property.

<u>SBI has inadequate segregation of duties in the administrative disbursement area.</u>

During our audit of SBI's administrative expenditures, we found that the same individual is responsible for all aspects of disbursement processing. This individual prepares and approves purchase orders, processes and approves invoices and approves and inputs payment transactions on the statewide accounting system. This lack of separation of duties is an internal control weakness. A concentration of duties in one person increases the possibility of errors and irregularities, such as paying the wrong amount for invoices or disbursing cash for goods and services never received. To avoid such errors, invoices should be approved by someone other than the individual who processes the payments.

RECOMMENDATION

7. The functions of approving and processing payments should be segregated so that one individual does not perform both procedures.

Thank you for the cooperation extended our staff during this audit.

Sincerely,

James R. Nobles
Legislative Auditor

John Asmussen

John Asmussen, CPA
Deputy Legislative Auditor

Attachment

February 6, 1985

STATE BOARD OF INVESTMENT

Attachment

STATUS OF PRIOR AUDIT RECOMMENDATIONS
AND
PROGRESS TOWARD IMPLEMENTATION

PRIOR RECOMMENDATION NOT IMPLEMENTED: Documentation provided to user agencies for SBI's computerized investment accounting system is inadequate.

1. SBI should develop and provide each user agency with a user's manual for the computerized accounting system.

   RECOMMENDATION NOT IMPLEMENTED: See current recommendation # 1.

The State Board of Investment (SBI) needs to improve their documention and revise their accounting practices for option transactions.

2. SBI should expand their investment management system to include the recording of option transactions. A manual subsidiary ledger should be put in use for options until the investment management system can be expanded.

   Recommendation Implemented.

SBI has not recorded participant contributions in the Investment Trust Funds on the accrual basis.

3. SBI should work with the participating retirement systems to develop a method of reporting year end contribution and withdrawal accrual amounts. A practical cutoff and procedures for late adjustments should be established.

4. SBI should maintain their general ledgers on the accrual basis of accounting for all accounts to ensure all amounts are properly included on the financial statements.

   Recommendation Implemented.

EXECUTIVE DIRECTOR
HOWARD J BICKER

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

February 6, 1985

Mr. James R. Nobles
Legislative Auditor
Veterans Service Building
St. Paul, Mn. 55155

Dear Mr. Nobles

In response to your draft management letter and the recommendations contained therein we would like to make the following comments.

Recommendation number 1 deals with a user's manual for the computerized accounting system. The management letter states that this recommendation, which was a prior year's recommendation, had not been implemented. In fact, it had been partially implemented and is in the process of being completed.

1) A copy of documentation for our computerized accounting system is available and a copy will be provided to each user agency.
2) A comparison of the reports generated by our internal system to the reports prepared by the master custodian will be prepared and given to the user agencies.

Recommendations 2 and 3 concern the procedures set up to process and monitor billing of the SBI'S administrative expense.

1) The recommendation that we process billings by the end of the first month after the end of the quarter may be impossible to comply with.
   a) Much of the information on the costs during a quarter are reported to the SBI by other state agencies. In order to bill on the accrual basis we must wait until this information is received. (Example: The Dec. 1984 Watts bill was received on Feb. 5 which means we are already five days late for that quarter.)
   b) Fiscal year 1984 was the first year that this billing was required. As with any new procedure there were problems during the initial handling of this process.
2) The recommendation that we set up a procedure to monitor the payments as they are made by the retirement funds has been implemented.

Recommendations 4 and 5 relate to the use of free airline tickets earned while flying on state business.

1) A policy memo has been written and distributed to all SBI staff instructing them of the procedure for turning in tickets earned in this manner.
2) All free tickets received to date by SBI employees have been turned in.

Recommendation 6 deals with non state owned fixed assets used by the SBI staff.

1) Supplemental records will be set up to control fixed assets that are supplied to the SBI as part of lease agreements.
2) Equipment that has been donated to the SBI as part of a lease agreement will be entered on the statewide inventory system.

Recommendation 7 states that inadequate separation of duties occur in processing payments.

1) The individual that processes payments will be required to have payment batches signed by a supervisor.

The responsibility for implementing these recommendations rests with the Administrative Director.

Sincerely,

Howard Bicker

Howard Bicker
Executive Director

Tab D

EXECUTIVE DIRECTOR
HOWARD J. BICKER

STATE OF MINNESOTA
STATE BOARD OF INVESTMENT

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

March 11, 1985

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

FROM: Administrative Committee

SUBJ: Committee Report

The Committee reviewed the progress of the SBI's 1985 legislative proposals. The Board-sponsored bill, S.F. 319, has passed the Senate Governmental Operations Committee and is on the General Orders Calendar in the Senate. It will be introduced in the House of Representatives within the next two weeks.

The Committee discussed at length the suggestion that the SBI's outside managers be paid on an incentive fee basis. It is the Committee's recommendation that the staff, together with the Equity Committee and the full IAC, develop an incentive fee proposal for Board action.

The staff advised that the transfer of the Supplemental Retirement Fund assets from First National Bank of St. Paul to State Street Bank of Boston has been completed. The February unit value was made available within 3 days versus the previous practice of a 2-week delay.

Tab E

EXECUTIVE DIRECTOR
HOWARD J. BICKER

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

March 11, 1985

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

FROM: Asset Allocation Committee

SUBJ: Committee Report

The Committee considered the subject of the Permanent School Fund's asset mix needs in light of the recently passed constitutional amendment that increased the Fund's investment flexibility. The Committee plans to make a formal recommendation to the Board at its June meeting. Attached to this report is a staff position paper on the Permanent School Fund.

The issue of allocating new cash flow in the Post Retirement Investment Fund was also discussed. Because the Fund's dedicated bond portfolio is rebalanced only once a year, a strategy is needed for investing interim cash flows (i.e., contributions) until the annual rebalancing takes place. The Committee recommends that the interim cash flows be invested in a portfolio of bonds with a duration matching that of the new liabilities.

PERMANENT SCHOOL FUND

BACKGROUND

The Permanent School Fund was created in 1858 under Article XI, Section 8 of the Minnesota State Constitution. The Fund was designed to serve as a long-term source of revenue for public schools. Technically, the Fund is composed of two parts. The first consists of lands granted to the state by the federal government that have been consolidated into the Fund. These lands generate income in the form of land sales, mining royalties, timber sales and lakeshore and other leases. The income from these sources is used to purchase financial securities which make up the second part of the Permanent School Fund. It is this second part of the Fund, the principal as represented by the Fund's financial investments, that is the focus of this paper.

The Fund had a market value of $308 million ($332 million at cost) as of December 31, 1984. For the calendar year 1984 the Fund transferred $26 million to the general fund, which was used to offset state aid payments to Minnesota's public schools. During that same period, the Fund received $700,000 in revenues from the its land holdings.

RECENT CONSTITUTIONAL AMENDMENT

Prior to the recent passage of a Constitutional amendment, the investment authority for the Permanent School Fund, as specified by the Constitution, was extremely restrictive. Investments in stocks were limited to 20% (at cost) of the Fund. Further, all stocks purchased were required to have made five consecutive annual dividend payments. A maximum of 40% of the Fund could be invested in corporate bonds, but only the bonds of corporations who earnings exceeded interest requirements on outstanding bonds by three times for five consecutive years. The remainder of the Fund was required to be invested in the securities of the U.S. Treasury, U.S. agencies, states, or Minnesota municipalities.

A 1984 constitutional amendment eliminated these restrictive investment statutes. The Permanent School Fund is now permitted to be invested under the same statutes that govern the investment of all other funds under SBI management. Therefore, a major opportunity exists for restructuring the investment management of the Fund.

INVESTMENT NEEDS AND OBJECTIVES

As prescribed by the state Constitution, the principal of the Permanent School Fund must remain undiminished in perpetuity. School aids can be financed only out of the Fund's dividend and interest income. None of the Fund's principal may be reduced to finance these aids. Realized losses on fixed income securities are amortized over the remaining life of the securities. Realized losses on equity securities are amortized over a five year period. Any combined amortized realized losses on fixed income and equity securities are first offset against any realized gains on fixed income and equity securities. If the amortized realized losses are greater than realized gains, then the difference must be recovered from the Fund's interest and dividend income. On the other hand, any excess realized capital gains become part of the Fund's principal. As a result of these accounting requirements, if the Fund is to avoid sharp fluctuations in available income, it must avoid investment strategies that can generate significant realized losses in any given year and do not produce at least offsetting increases in income.

Income generated by the Fund is used to finance state school aid payments. This income is not an addition to a budgeted level of state aid payments. Rather, the income serves to reduce the general fund expenditures that the state is obligated to make to the schools. While the income from the Fund amounts to less than half of one percent of the general fund, nevertheless it is the state, and hence the taxpayers, that bear the risk of the Fund's investments, not the public schools directly.

Low variability in required expenditures has always been a high priority government goal. It would appear reasonable to assume that an investment strategy that is low risk and generates predictable income is preferable to one that is higher risk but that produces a higher but more variable income flow.

PROPOSED ASSET MIX

Given the need for predictable income flows from the Fund, a large concentration, and perhaps all, of the portfolio should be held in investment grade fixed income securities. The Fund has no need for liquidity, beyond that necessary to facilitate investment management. (Given that the principal must remain inviolate, no sales of securities for the sake of generating cash flow are ever required.) While at this time quality yield spreads are at very low levels, over the long term, income to the Fund can be enhanced by increasing the holdings of lower quality bonds.

On the other hand, a large common stock component is not advisable. The only rationale for holding common stocks in the Fund would be a desire to increase the size of the Fund's principal over the long-run. Eventually the larger principal could be invested to produce a larger level of current income (remember that positive net capital gains become part of Fund principal). However, while common stocks can be expected to outperform bonds over the long-run, the increased volatility of Fund income resulting from fluctuating stock prices is probably not acceptable. It seems more reasonable to rely on the revenues from the Fund's land holdings to generate growth in principal. The Fund's investment holdings should be used as a means of converting those revenues into a long-run steady stream of state school aids financing.

Tab F

EXECUTIVE DIRECTOR
HOWARD J. BICKER

STATE OF MINNESOTA
STATE BOARD OF INVESTMENT

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

March 11, 1985

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

FROM: Equity Manager Committee

SUBJECT: Committee Report

At its December 12, 1984 meeting, the State Board of Investment adopted a proposal for the IAC's Equity Manager Committee, together with one representative appointed by each Board member, to review the current external equity managers. The joint committee is reviewing the following areas:

- The appropriate balance of manager styles for the SBI's external equity managers;

- The styles of the current SBI's managers (Write-ups of the semi-annual interviews with current SBI managers conducted last month are attached.);

- The performance of the current SBI's managers;

- The establishment of procedures for the allocation of new cash flow to managers;

- An incentive fee proposal for equity managers; and

- The asset allocation flexibility for equity managers.

The committee will make a formal recommendation to the Board at its June meeting.

EXTERNAL EQUTIY MANAGER INFORMATION
December 31, 1984

FIRM NAME: Fred Alger Management (New York)

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

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

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

QUARTER-END PORTFOLIO STATISTICS

	QTR. PORT. T/O	# OF STOCKS	EQUITY ALLOC.	YIELD	P/E	MKT VOLTY	DIVERSFN	PORTFOLIO RISK ORIENTATION Price Var.	Earn. Var.	Earn. Success	Size	Growth	Fin. Lever.
Fred Alger Mgmt	16%	36	95%	2.6%	12.8	1.19	.86	+	+	-	--	+	0
SBI MGRS (Avg.)	24	42	86	3.0	13.1	1.25	.81	+	+	0	0	+	0
TUCS MEDIAN	NA	NA	89	NA	NA	1.28	.80	+	+	0	++	++	0

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

INDUSTRY SECTOR UNDERWEIGHTINGS: Energy, Financial, Utilities

PERFORMANCE

	LATEST QUARTER	LAST FOUR QUARTERS	SINCE INCEPTION (3/1/83)
Fred Alger Mgmt	0.2%	-2.9%	8.1%
SBI MGR AGGREGATE	2.4	1.0	6.7
TUCS MEDIAN	0.6	-2.9	NA
WILSHIRE 5000	1.3	3.1	18.4
CPI (Inflation)	0.3	4.0	7.6

EXTERNAL EQUITY MANAGER INFORMATION
December 31, 1984

FIRM NAME: Alliance Capital Management (Minneapolis)

PORTFOLIO MANAGER(S): Alfred Harrison
John Koltes

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

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

QUARTER-END PORTFOLIO STATISTICS

								PORTFOLIO RISK ORIENTATION					
	QTR. PORT. T/O	# OF STOCKS	EQUITY ALLOC.	YIELD	P/E	MKT VOLTY	DIVERSFN	Price Var.	Earn. Var.	Earn. Success	Size	Growth	Fin. Lever.
Alliance Capital (Mpls)	8%	34	92%	2.3%	14.0	1.30	.73	+	+	--	+	++	--
SBI MGRS (Avg.)	24	42	86	3.0	13.1	1.25	.81	+	+	0	0	+	0
TUCS MEDIAN	NA	NA	89	NA	NA	1.28	.80	+	+	0	++	++	0

INDUSTRY SECTOR OVERWEIGHTINGS: Consumer Nondurables, Transportation, Technology

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

PERFORMANCE

	LATEST QUARTER	LAST FOUR QUARTERS	SINCE INCEPTION (3/1/83)
Alliance Capital (Mpls)	1.3%	-0.7%	4.6%
SBI MGR AGGREGATE	2.4	1.0	6.7
TUCS MEDIAN	0.6	-2.9	NA
WILSHIRE 5000	1.3	3.1	18.4
CPI (Inflation)	0.3	4.0	7.6

EXTERNAL EQUITY MANAGER INFORMATION
December 31, 1984

FIRM NAME: Beutel Goodman Capital Management (Houston)

PORTFOLIO MANAGER(S): Robert McFarland
Richard Andrews

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

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

QUARTER-END PORTFOLIO STATISTICS

	QTR. PORT. T/O	# OF STOCKS	EQUITY ALLOC.	YIELD	P/E	MKT VOLTY	DIVERSFN	PORTFOLIO RISK ORIENTATION Price Var.	Earn. Var.	Earn. Success	Size	Growth	Fin. Lever.
Beutel Goodman	8%	19	94%	4.3%	12.3	1.19	.81	+	0	++	++	0	++
SBI MGRS (Avg.)	24	42	86	3.0	13.1	1.25	.81	+	+	0	0	+	0
TUCS MEDIAN	NA	NA	89	NA	NA	1.28	.80	+	+	0	++	++	0

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

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

PERFORMANCE

	LATEST QUARTER	LAST FOUR QUARTERS	SINCE INCEPTION (3/1/83)
Beutel Goodman	4.9%	10.8%	26.8%
SBI MGR AGGREGATE	2.4	1.0	6.7
TUCS MEDIAN	0.6	-2.9	NA
WILSHIRE 5000	1.3	3.1	18.4
CPI (Inflation)	0.3	4.0	7.6

EXTERNAL EQUITY MANAGER INFORMATION
December 31, 1984

FIRM NAME: BMI Capital (New York)

PORTFOLIO MANAGER(S): James Awad
Frank Houghton

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

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

QUARTER-END PORTFOLIO STATISTICS

	QTR. PORT. T/O	# OF STOCKS	EQUITY ALLOC.	YIELD	P/E	MKT VOLTY	DIVERSFN	PORTFOLIO RISK ORIENTATION Price Var.	Earn. Var.	Earn. Success	Size	Growth	Fin. Lever.
BMI Capital	13%	21	87%	2.2%	17.6	1.33	.74	++	++	--	++	++	--
SBI MGRS (Avg.)	24	42	86	3.0	13.1	1.25	.81	+	+	0	0	+	0
TUCS MEDIAN	NA	NA	89	NA	NA	1.28	.80	+	+	0	++	++	0

INDUSTRY SECTOR OVERWEIGHTINGS: Consumer Nondurables, Technology

INDUSTRY SECTOR UNDERWEIGHTINGS: Energy, Financial, Materials & Services, Utilities, Consumer Durables

PERFORMANCE

	LATEST QUARTER	LAST FOUR QUARTERS	SINCE INCEPTION (3/1/83)
BMI Capital	2.2%	-7.8%	-9.9%
SBI MGR AGGREGATE	2.4	1.0	6.7
TUCS MEDIAN	0.6	-2.9	NA
WILSHIRE 5000	1.3	3.1	18.4
CPI (Inflation)	0.3	4.0	7.6

EXTERNAL EQUITY MANAGER INFORMATION
December 31, 1984

FIRM NAME: Forstmann Leff (New York)

PORTFOLIO MANAGER(S): Joel Leff

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

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

QUARTER-END PORTFOLIO STATISTICS

	QTR. PORT. T/O	# OF STOCKS	EQUITY ALLOC.	YIELD	P/E	MKT VOLTY	DIVERSFN	PORTFOLIO RISK ORIENTATION Price Var.	Earn. Var.	Earn. Success	Size	Growth	Fin. Lever.
Forstmann Leff	11%	31	87%	3.6%	10.9	1.22	.84	+	0	++	-	0	++
SBI MGRS (Avg.)	24	42	86	3.0	13.1	1.25	.81	+	+	0	0	+	0
TUCS MEDIAN	NA	NA	89	NA	NA	1.28	.80	+	+	0	++	++	0

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

INDUSTRY SECTOR UNDERWEIGHTINGS: Energy, Utilities, Capital Goods

PERFORMANCE

	LATEST QUARTER	LAST FOUR QUARTERS	SINCE INCEPTION (3/1/83)
Forstmann Leff	3.4%	0.0%	10.8%
SBI MGR AGGREGATE	2.4	1.0	6.7
TUCS MEDIAN	0.6	-2.9	NA
WILSHIRE 5000	1.3	3.1	18.4
CPI (Inflation)	0.3	4.0	7.6

EXTERNAL EQUITY MANAGER INFORMATION
December 31, 1984

FIRM NAME: Hellman Jordan Management (Boston)

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

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

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

QUARTER-END PORTFOLIO STATISTICS

	QTR. PORT. T/O	# OF STOCKS	EQUITY ALLOC.	YIELD	P/E	MKT VOLTY	DIVERSFN	Price Var.	Earn. Var.	Earn. Success	Size	Growth	Fin. Lever.
								PORTFOLIO RISK ORIENTATION					
Hellman Jordan	38%	42	82%	3.9%	13.4	1.21	.86	+	++	++	--	0	++
SBI MGRS (Avg.)	24	42	86	3.0	13.1	1.25	.81	+	+	0	0	+	0
TUCS MEDIAN	NA	NA	89	NA	NA	1.28	.80	+	+	0	++	++	0

INDUSTRY SECTOR OVERWEIGHTINGS: Financial, Materials & Services, Technology, Transportation

INDUSTRY SECTOR UNDERWEIGHTINGS: Capital Goods, Energy, Utilities, Consumer Durables

PERFORMANCE

	LATEST QUARTER	LAST FOUR QUARTERS	SINCE INCEPTION (3/1/83)
Hellman Jordan	4.6%	9.4%	9.9%
SBI MGR AGGREGATE	2.4	1.0	6.7
TUCS MEDIAN	0.6	-2.9	NA
WILSHIRE 5000	1.3	3.1	18.4
CPI (Inflation)	0.3	4.0	7.6

EXTERNAL EQUITY MANAGER INFORMATION
December 31, 1984

FIRM NAME: IDS Advisory (Minneapolis)

PORTFOLIO MANAGER(S): Mitzi Malevich

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

INVESTMENT PHILOSOPHY: IDS employs a macroeconomic investment approach, focusing on industry selection and limited market timing. The firm's investment decisions are driven by its economic outlook. The firm attempts to identify industries that will be positively and negatively impacted by forecasted broad economic trends. The firm actively rotates among these affected industries. IDS's decisions are also influenced by its interpretation of broad market conditions such as liquidity, sentiment, and valuation. The firm tends to make moderate asset allocation moves gradually over a market cycle.

QUARTER-END PORTFOLIO STATISTICS

	QTR. PORT. T/O	# OF STOCKS	EQUITY ALLOC.	YIELD	P/E	MKT VOLTY	DIVERSFN	PORTFOLIO RISK ORIENTATION Price Var.	Earn. Var.	Earn. Success	Size	Growth	Fin. Lever.
IDS Advisory	21%	44	89%	4.7%	11.7	1.05	.83	--	0	0	--	0	0
SBI MGRS (Avg.)	24	42	86	3.0	13.1	1.25	.81	+	+	0	0	+	0
TUCS MEDIAN	NA	NA	89	NA	NA	1.28	.80	+	+	0	++	++	0

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

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

PERFORMANCE

	LATEST QUARTER	LAST FOUR QUARTERS	SINCE INCEPTION (3/1/83)
IDS Advisory	3.0%	5.8%	14.3%
SBI MGR AGGREGATE	2.4	1.0	6.7
TUCS MEDIAN	0.6	-2.9	NA
WILSHIRE 5000	1.3	3.1	18.4
CPI (Inflation)	0.3	4.0	7.6

EXTERNAL EQUITY MANAGER INFORMATION
December 31, 1984

FIRM NAME: Investment Advisers

PORTFOLIO MANAGER(S): Kenneth Thorsen

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

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

QUARTER-END PORTFOLIO STATISTICS

	QTR. PORT. T/O	# OF STOCKS	EQUITY ALLOC.	YIELD	P/E	MKT VOLTY	DIVERSFN	PORTFOLIO RISK ORIENTATION Price Var.	Earn. Var.	Earn. Success	Size	Growth	Fin. Lever.
Investment Advisers	9%	42	97%	3.8%	9.8	1.19	.88	+	+	++	--	0	0
SBI MGRS (Avg.)	24	42	86	3.0	13.1	1.25	.81	+	+	0	0	+	0
TUCS MEDIAN	NA	NA	89	NA	NA	1.28	.80	+	+	0	++	++	0

INDUSTRY SECTOR OVERWEIGHTINGS: Financial, Technology, Transportation, Materials & Service

INDUSTRY SECTOR UNDERWEIGHTINGS: Capital Goods, Energy, Utilities, Consumer Durables, Consumer Nondurables

PERFORMANCE

	LATEST QUARTER	LAST FOUR QUARTERS	SINCE INCEPTION (3/1/83)
Investment Advisers	5.7%	8.1%	17.9%
SBI MGR AGGREGATE	2.4	1.0	6.7
TUCS MEDIAN	0.6	-2.9	NA
WILSHIRE 5000	1.3	3.1	18.4
CPI (Inflation)	0.3	4.0	7.6

EXTERNAL EQUITY MANAGER INFORMATION
December 31, 1984

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

PORTFOLIO MANAGER(S): Nola Falcone
Stephen Lieber

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

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

QUARTER-END PORTFOLIO STATISTICS

	QTR. PORT. T/O	# OF STOCKS	EQUITY ALLOC.	YIELD	P/E	MKT VOLTY	DIVERSFN	PORTFOLIO RISK ORIENTATION Price Var.	Earn. Var.	Earn. Success	Size	Growth	Fin. Lever.
Lieber & Co.	14%	103	85%	2.5%	12.3	1.34	.79	++	+	-	++	++	--
SBI MGRS (Avg.)	24	42	86	3.0	13.1	1.25	.81	+	+	0	0	+	0
TUCS MEDIAN	NA	NA	89	NA	NA	1.28	.80	+	+	0	++	++	0

INDUSTRY SECTOR OVERWEIGHTINGS: Financial, Materials & Services

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

PERFORMANCE

	LATEST QUARTER	LAST FOUR QUARTERS	SINCE INCEPTION (3/1/83)
Lieber & Co.	2.6%	1.1%	12.9%
SBI MGR AGGREGATE	2.4	1.0	6.7
TUCS MEDIAN	0.6	-2.9	NA
WILSHIRE 5000	1.3	3.1	18.4
CPI (Inflation)	0.3	4.0	7.6

EXTERNAL EQUITY MANAGER INFORMATION
December 31, 1984

FIRM NAME: Loomis Sayles & Co. (Boston)

PORTFOLIO MANAGER(S): Kenneth Heebner

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

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

QUARTER-END PORTFOLIO STATISTICS

	QTR. PORT. T/O	# OF STOCKS	EQUITY ALLOC.	YIELD	P/E	MKT VOLTY	DIVERSFN	PORTFOLIO RISK ORIENTATION: Price Var.	Earn. Var.	Earn. Success	Size	Growth	Fin. Lever.
Loomis Sayles	37%	14	84%	2.3%	15.5	1.26	.72	++	+	--	--	++	-
SBI MGRS (Avg.)	24	42	86	3.0	13.1	1.25	.81	+	+	0	0	+	0
TUCS MEDIAN	NA	NA	89	NA	NA	1.28	.80	+	+	0	++	++	0

INDUSTRY SECTOR OVERWEIGHTINGS: Consumer Durables, Technology, Financial

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

PERFORMANCE

	LATEST QUARTER	LAST FOUR QUARTERS	SINCE INCEPTION (3/1/83)
Loomis Sayles	1.1%	-5.3%	-6.9%
SBI MGR AGGREGATE	2.4	1.0	6.7
TUCS MEDIAN	0.6	-2.9	NA
WILSHIRE 5000	1.3	3.1	18.4
CPI (Inflation)	0.3	4.0	7.6

EXTERNAL EQUITY MANAGER INFORMATION
December 31, 1984

FIRM NAME: Norwest Bank (Minneapolis)

PORTFOLIO MANAGER(S): Robert Mersky
Paul Von Kuster

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

INVESTMENT PHILOSOPHY: Norwest utilizes a modified, microeconmic investment style. The firm uses two investment management approaches. The first is to seek small, immature companies which exhibit the potential for strong earnings growth and high profitability. The second is to select larger capitalization stocks representing special situations such as turnaround companies, takeover candidates, or economic cycle plays. On average, the emerging growth approach represents about 60% of the portfolio, although this percentage may change depending upon the firm's market outlook. Norwest rarely attempts to time movements in the market. The decision to hold cash is usually a result of a lack of attractive growth opportunities.

QUARTER-END PORTFOLIO STATISTICS

	QTR. PORT. T/O	# OF STOCKS	EQUITY ALLOC.	YIELD	P/E	MKT VOLTY	DIVERSFN	PORTFOLIO RISK ORIENTATION Price Var.	Earn. Var.	Earn. Success	Size	Growth	Fin. Lever.
Norwest Bank	39%	61	87%	1.2%	20.1	1.37	.81	++	++	--	++	++	--
SBI MGRS (Avg.)	24	42	86	3.0	13.1	1.25	.81	+	+	0	0	+	0
TUCS MEDIAN	NA	NA	89	NA	NA	1.28	.80	+	+	0	++	++	0

INDUSTRY SECTOR OVERWEIGHTINGS: Consumer Nondurables, Technology

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

PERFORMANCE

	LATEST QUARTER	LAST FOUR QUARTERS	SINCE INCEPTION (3/1/83)
Norwest Bank	-1.9%	-7.5%	3.7%
SBI MGR AGGREGATE	2.4	1.0	6.7
TUCS MEDIAN	0.6	-2.9	NA
WILSHIRE 5000	1.3	3.1	18.4
CPI (Inflation)	0.3	4.0	7.6

EXTERNAL EQUITY MANAGER INFORMATION
December 31, 1984

FIRM NAME: Siebel Capital Management (San Francisco)

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

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

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

QUARTER-END PORTFOLIO STATISTICS

	QTR. PORT. T/O	# OF STOCKS	EQUITY ALLOC.	YIELD	P/E	MKT VOLTY	DIVERSFN	PORTFOLIO RISK ORIENTATION Price Var.	Earn. Var.	Earn. Success	Size	Growth	Fin. Lever.
Siebel Capital	25%	54	80%	2.7%	12.1	1.24	.84	+	0	--	+	+	-
SBI MGRS (Avg.)	24	42	86	3.0	13.1	1.25	.81	+	+	0	0	+	0
TUCS MEDIAN	NA	NA	89	NA	NA	1.28	.80	+	+	0	++	++	0

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

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

PERFORMANCE

	LATEST QUARTER	LAST FOUR QUARTERS	SINCE INCEPTION (3/1/83)
Siebel Capital	4.8%	2.9%	10.1%
SBI MGR AGGREGATE	2.4	1.0	6.7
TUCS MEDIAN	0.6	-2.9	NA
WILSHIRE 5000	1.3	3.1	18.4
CPI (Inflation)	0.3	4.0	7.6

EXTERNAL EQUITY MANAGER INFORMATION
December 31, 1984

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

PORTFOLIO MANAGER(S): Herbert Smith
David Bagbee

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

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

QUARTER-END PORTFOLIO STATISTICS

	QTR. PORT. T/O	# OF STOCKS	EQUITY ALLOC.	YIELD	P/E	MKT VOLTY	DIVERSFN	PORTFOLIO RISK ORIENTATION Price Var.	Earn. Var.	Earn. Success	Size	Growth	Fin. Lever.
Herbert R. Smith	48%	45	77%	2.8%	10.3	1.30	.72	++	++	--	++	+	0
SBI MGRS (Avg.)	24	42	86	3.0	13.1	1.25	.81	+	+	0	0	+	0
TUCS MEDIAN	NA	NA	89	NA	NA	1.28	.80	+	+	0	++	++	0

INDUSTRY SECTOR OVERWEIGHTINGS: Technology, Transportation, Financial

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

PERFORMANCE

	LATEST QUARTER	LAST FOUR QUARTERS	SINCE INCEPTION (3/1/83)
Herbert R. Smith	-0.8%	-5.4%	-12.1%
SBI MGR AGGREGATE	2.4	1.0	6.7
TUCS MEDIAN	0.6	-2.9	NA
WILSHIRE 5000	1.3	3.1	18.4
CPI (Inflation)	0.3	4.0	7.6

EXTERNAL EQUITY MANAGER INFORMATION
December 31, 1984

FIRM NAME: Trustee & Investors (Boston)

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

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

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

QUARTER-END PORTFOLIO STATISTICS

	QTR. PORT. T/O	# OF STOCKS	EQUITY ALLOC.	YIELD	P/E	MKT VOLTY	DIVERSFN	PORTFOLIO RISK ORIENTATION Price Var.	Earn. Var.	Earn. Success	Size	Growth	Fin. Lever.
Trustee & Investors	40%	41	96%	3.0%	11.2	1.31	.91	++	++	++	+	+	+
SBI MGRS (Avg.)	24	42	86	3.0	13.1	1.25	.81	+	+	0	0	+	0
TUCS MEDIAN	NA	NA	89	NA	NA	1.28	.80	+	+	0	++	++	0

INDUSTRY SECTOR OVERWEIGHTINGS: Technology, Transportation, Materials & Services

INDUSTRY SECTOR UNDERWEIGHTINGS: Capital Goods, Consumer Durables, Consumer Nondurables, Utilities, Energy, Financial

PERFORMANCE

	LATEST QUARTER	LAST FOUR QUARTERS	SINCE INCEPTION (3/1/83)
Trustee & Investors	-1.4%	-6.8%	-5.1%
SBI MGR AGGREGATE	2.4	1.0	6.7
TUCS MEDIAN	0.6	-2.9	NA
WILSHIRE 5000	1.3	3.1	18.4
CPI (Inflation)	0.3	4.0	7.6

EXTERNAL EQUITY MANAGER INFORMATION
December 31, 1984

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

PORTFOLIO MANAGER(S): Henry Herrmann

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

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

QUARTER-END PORTFOLIO STATISTICS

								PORTFOLIO RISK ORIENTATION					
	QTR. PORT. T/O	# OF STOCKS	EQUITY ALLOC.	YIELD	P/E	MKT VOLTY	DIVERSFN	Price Var.	Earn. Var.	Earn. Success	Size	Growth	Fin. Lever.
Waddell & Reed	32%	46	52%	3.3%	11.8	1.29	.75	++	++	--	+	+	++
SBI MGRS (Avg.)	24	42	86	3.0	13.1	1.25	.81	+	+	0	0	+	0
TUCS MEDIAN	NA	NA	89	NA	NA	1.28	.80	+	+	0	++	++	0

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

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

PERFORMANCE

	LATEST QUARTER	LAST FOUR QUARTERS	SINCE INCEPTION (3/1/83)
Waddell & Reed	1.5%	-0.7%	13.3%
SBI MGR AGGREGATE	2.4	1.0	6.7
TUCS MEDIAN	0.6	-2.9	NA
WILSHIRE 5000	1.3	3.1	18.4
CPI (Inflation)	0.3	4.0	7.6

STATE OF MINNESOTA

STATE BOARD OF INVESTMENT

EQUITY INVESTMENT MANAGER STATUS REPORT: 9/30/84 - 12/31/84

($ millions)

	EQUITY ASSETS UNDER MANAGEMENT				FOURTH QUARTER 1984							
	3/31/83		12/31/84		Gained		Lost					
Investment Manager	# of Accts	Asset Size	# of Accts	Asset Size	# of Accts	Asset Size	# of Accts	Asset Size	Professional Staff Turnover	Organizational Changes	Investment Style Changes	Comments
Fred Alger	59	$1,645	77	$2,093	1	$ 50.0	2	$ 10.5	-	-	-	-
Alliance Capital Management (Minneapolis)	43	$1,095	46	1,334	2	55.0	1	1.8	-	Recently announced purchase of Eberstadt Asset Mgmt and acquisition by the Equitable effective mid to late 1/85.	-	-
Beutel, Goodman	5	$ 104	16	358	1	50.0	-	-	-	-	-	Best performing equity manager for 1984 and since inception.
Capital Management												
BMI Capital Corp.	5	$ 160	17	277	-	-	-	-	Hired research analyst, Susan Sansbury.	-	-	-
FLA Asset Management	126	$4,800	102	4,074	-	-	8	308.8	-	-	-	-
Hellman Jordan Management	22	$ 440	29	664	-	-	2	18.5	-	-	-	-
IDS Advisory Group	81	$3,361	81	3,087	-	-	5	45.3	Bruce C. Lueck, President of IDS Advisory Group, resigned effective mid-January 1985. Peter J. Anderson has been appointed President IDS Advisory Group effective immediately, and will continue to maintain his responsibilities as President, IDS Equity Advisors and Chairman of Common Stock Group.	-	-	-
IDS Equity Advisors			51	2,220	-	-	3	13.4		-	-	-
Investment Advisers, Inc.	79	$1,001	89	1,403	1	5.0	1	18.0	-	-	-	-
Lieber & Co.	29	$ 389	37	581.4	-	-	1	1.5	-	-	-	-
Evergreen Total Return			20	114.1								
Evergreen Fund			16	460.5								
Evergreen Limited			1	6.8								

STATE OF MINNESOTA

STATE BOARD OF INVESTMENT

EQUITY INVESTMENT MANAGER STATUS REPORT: 9/30/84 - 12/31/84

($ millions)

	EQUITY ASSETS UNDER MANAGEMENT				FOURTH QUARTER 1984							
	3/31/83		12/31/84		Gained		Lost					
nvestment nager	# of Accts	Asset Size	# of Accts	Asset Size	# of Accts	Asset Size	# of Accts	Asset Size	Professional Staff Turnover	Organizational Changes	Investment Style Changes	Comments
oomis-Sayles & Co. Capital Growth nagement)	12	$ 540	14	$ 617.1	1	$ 9.9	-	$ -	-	-	-	
orwest Bank	3	49	3	94	-	-	-	-	-	-	-	-
iebel Capital nagement	32	412	37	589.5	-	-	2	25.8	Hired research analyst, David Guggenhime	-	-	-
erbert R. Smith, Inc.	24	152	30	200.4	1	6.2	-	-	-	-	-	-
rustee & Investors o., Inc.	15	310	26	762	1	15.0	1	20.0	-	-	-	-
addell & Reed sset Management o.	6	471	9	605	-	-	-	-	-	-	-	-

STATE OF MINNESOTA

STATE BOARD OF INVESTMENT

FIXED INCOME INVESTMENT MANAGER STATUS REPORT: 9/30/84 - 12/31/84

($ millions)

	EQUITY ASSETS UNDER MANAGEMENT				FOURTH QUARTER 1984							
	6/30/84		12/31/84		Gained		Lost					
Investment Manager	# of Accts	Asset Size	# of Accts	Asset Size	# of Accts	Asset Size	# of Accts	Asset Size	Professional Staff Turnover	Organizational Changes	Investment Style Changes	Comments
Investment Advisers, Inc.	48	$ 275	49	$ 321	1	$ 5	-	$ -	-	-	-	-
Lehman Management Co. Inc.	36	3,000	37	3,200	1	25	-	-	-	-	-	-
Miller, Anderson & Sherrerd	37	2,184	40	2,710	2	107	1	100	-	-	-	-
Morgan Stanley Asset Mgmt. Inc.	29	1,040	35	1,809	2	275	-	-	-	-	-	-
Peregrine Capital Mgmt. Inc.	5	170	6	265	-	-	-	-	-	-	-	-
Western Asset Mgt. Co.	30	1,599	30	1,790	-	-	-	-	-	-	-	-

Tab F1

STATE OF MINNESOTA

EXTERNAL EQUITY MANAGER UPDATE INTERVIEW

1. Name of manager interviewed — Fred Alger Management

2. Date interview conducted — February 22, 1985

3. Date of last interview — August 13, 1984

4. Representing Minnesota State Board of Investment

   Howard Bicker
   Jeff Bailey
   Roger Henry
   David McCulloch

5. Representing manager

   Fred Alger - Portfolio Manager
   Krista Woodall - Client Liason

STAFF COMMENTS AND RECOMMENDATIONS

1. Fred Alger is a growth manager with a bias toward medium to large capitalization stocks.

2. Staff believes that the firm has consistently implemented its stated investment approach.

3. Fred Alger's performance, particularly given the poor market environment for growth managers over the last six quarters, has not been cause for serious concern. While the firm has underperformed the market, its performance relative to other managers of similar risk has been roughly at the median.

4. Staff recommends that normal manager monitoring continue. If additional active manager funding were to take place, Fred Alger should receive new cash flow.

I. ORGANIZATION

No significant organizational changes have taken place at Fred Alger since the last update interview.

As discussed in the last update interview, Alger had made a leveraged buy-out bid for Levitz Furniture. Staff had expressed concern about this entry into essentially a new type of business venture, not directly related to the firm's common stock management. Staff raised a number of potentially troublesome issues, but felt that Alger had provided reasonable answers. Most importantly, the firm stated that the Levitz venture was highly unusual, was not likely to be repeated, and was designed primarily to coax out a competing bid that would benefit Alger's clients.

Alger's bid for Levitz was eventually rejected. As promised, the firm did not make a higher bid. The company was eventually taken private by a Levitz management group. The acquisition price was considerably higher than an original offer which had initially spurred Alger to make its own bid. Thus, Alger did accomplish its objective in producing a higher price for the Levitz stock, benefiting its management clients.

II. ASSETS UNDER MANAGEMENT

	March 31, 1983		June 30, 1984		December 31, 1984	
	Number	Market Value (Millions)	Number	Market Value (Millions)	Number	Market Value (Millions)
Tax Exempt Accounts	59	$1,645	78	$2,007	77	$2,093

As noted in the last update interview, Fred Alger is the only SBI equity manager that has set no long-run limits on its growth. The firm believes that its organization is designed in a modular fashion that can easily facilitate growth by adding analytical personnel to increase company coverage and develop additional investment opportunities. Recent growth has been basically non-existent. Since the last update interview, the firm has gained two new clients and lost three. Staff does not view Alger's current asset and client base to be a hindrance to its investment management. Staff will continue to monitor the situation.

III. STAFF

No significant staff changes have occurred at Fred Alger since the last update interview. One new analyst was hired in the third quarter 1984 and one analyst recently left the firm. This type of turnover is not unusual at Fred Alger.

IV. INVESTMENT APPROACH

a. Investment Philosophy

Fred Alger focuses upon individual stock selection. The firm attempts to identify primarily two types of companies. The first is those companies undergoing a positive life cycle change. The second is those companies whose products have high unit volume growth rates. Both types are expected to be characterized by substantially above consensus earnings gains and, hence, strong stock price performance.

b. Investment Style Classification

Staff has classified Fred Alger as a growth manager with a bias toward medium to large capitalization stocks.

c. Investment Philosophy Implementation

Staff believes that Fred Alger has consistently implemented its stated investment philosophy. Since the inception of the SBI's account, the firm has tended to concentrate its portfolio in life cycle company stocks as opposed to high unit volume growth stocks. This is somewhat of a departure from the firm's historical emphasis on consistently high growth companies. However, this emphasis represents a fundamental view of the firm that the economy has entered a period of drastic restructuring. Over the next several years the firm expects to see continued strong economic growth, lower interest rates and moderate inflation. The firm believes that the P/E multiples of cyclical companies undergoing positive life cycle changes (e.g., autos, airlines) will be revalued upwards dramatically. Thus, while the earnings of these companies are also expected to grow, the upward revaluation of the multiples of these companies is expected to provide exceptional returns on top of the returns produced by the earnings increase. Eventually the firm expects to increase its emphasis on high unit volume companies but this is only expected to occur as the market revalues the life cycle companies and moves to considerably higher levels.

d. Market Timing Approach

As a stated general policy the firm always maintains a fully invested position. A rare exception to this stated approach was the first quarter 1984 when Fred Alger raised cash to 25%.

Staff discussed the possibility of allowing SBI managers to hold no more than a 5% cash position. The firm stated that it would have no difficulty conforming to such a policy.

e. Normal Portfolio

Staff discussed with the firm the concept of a normal portfolio. The firm agreed to supply staff with historical portfolio data.

V. PERFORMANCE

Market Timing

	Rate of Return		
	Last Quarter	Last Year	Since 6/30/83
Equity Only Total Fund (Net of fees)	N.A.	N.A.	N.A.

As a general policy, the firm maintains a fully invested position and does not attempt to time the market. Thus the market timing success measure is not applicable.

Performance relative to Wilshire 5000 (Net of Fees)

	Rate of Return		
	Last Quarter	Last Year	Since 3/31/83
Total Portfolio	0.2%	-2.9%	5.2%
Wilshire 5000	1.3	3.1	13.5

Over the last year and over the last seven quarters Fred Alger has consistently trailed the market by slight amounts or roughly matched the market. The cumulative result has been a gap between the firm's performance and that of the Wilshire 5000.

Performance relative to other aggressive managers (Net of Fees)

	Rate of Return		
	Last Quarter	Last Year	Since 3/31/84
Total Portfolio	0.2%	-2.9%	5.2%
TUCS Aggressive Managers	0.6	-2.9	N.A.
SBI Manager Aggregate	2.4	1.0	5.3

Fred Alger's performance relative to other aggressive managers over the last year and over the last seven quarters has been mixed. The cumulative result has been essentially in the middle of samples of other aggressive managers. In light of the firm's growth style of investing and the poor market environment for that style, Fred Alger's results are not cause for serious concern.

STATE OF MINNESOTA

EXTERNAL EQUITY MANAGER UPDATE INTERVIEW

1. Name of manager interviewed — Alliance Capital (Mpls)

2. Date interview conducted — February 15, 1985

3. Date of last interview — August 6, 1984

4. Representing Minnesota State Board of Investment

   Howard Bicker
   Jeff Bailey
   Roger Henry
   David McCulloch

5. Representing manager

   Alfred Harrison - Portfolio Manager
   John Koltes - Portfolio Manager

STAFF COMMENTS AND RECOMMENDATIONS

1. Alliance Capital Minneapolis is a growth manager with a bias toward medium to large capitalization stocks.

2. Staff believes that the firm has consistently implemented its stated investment approach.

3. Alliance's performance has been weak like that of most growth managers over the last six quarters. However, given the firm's investment style, staff does not view the firm's performance as cause for serious concern at this point.

4. Alliance Capital was recently purchased by Equitable Life Assurance Company. The acquisition is not likely to have any significant affect on Alliance's investment operations.

5. Staff recommends that normal manager monitoring continue. Attention will be paid to the future effects of the acquisition. However, if additional active manager funding were to take place, Alliance should receive new contributions.

I. ORGANIZATION

Donaldson, Lufkin Jenrette, of which Alliance Capital is a wholly-owned subsidiary, was purchased by Equitable Life Assurance Company in late 1984. The goal of the purchase by Equitable primarily was to obtain control of Alliance, which represents a highly profitable business.

Alliance's portfolio managers expect the acquisition to have no significant impact on the firm's investment management. The success of the purchase from Equitable's viewpoint depends upon the continued profitable operation of Alliance. As a result, Equitable is unlikely to interfere in the operation of an already quite successful Alliance. Equitable claims to have no plans for any synergistic combination of Alliance's and Equitable's investment operations.

As part of the acquisition agreement, compensation levels at Alliance were raised considerably. Top personnel were tied to five year employment contracts and lower level personnel were given financial incentives to stay with the firm for several years. This arrangement will reduce the likelihood of disruptive personnel changes occurring as a result of the acquisition. The situation, however, warrants continued observation.

II. ASSETS UNDER MANAGEMENT

	March 31, 1983		June 30, 1984		December 31, 1984	
	Number	Market Value (Millions)	Number	Market Value (Millions)	Number	Market Value (Millions)
Tax Exempt Accounts	43	$1,095	45	$1,197	46	$1,134

Since the last update interview, Alliance Capital Minneapolis has added two new equity accounts and lost one small account. Alliance Capital Minneapolis continues its policy of not actively marketing its services. On the other hand, the firm is willing to accept new accounts on a selective basis.

Alliance stated that Equitable is not planning to bring any pressure to bear on the firm to expand client and asset growth. Staff will monitor this situation.

III. STAFF

No significant personnel changes have taken place at Alliance Capital Minneapolis since the last update interview.

IV. INVESTMENT APPROACH

a. Investment Philosophy

Alliance Capital Minneapolis focuses its efforts on sector weighting and stock selection with little attention paid to asset mix decisions. The firm seeks to identify companies expected to undergo significant earnings growth, either on a cyclical or secular basis. Utilizing the economic forecasts, sector recommendations, and stock recommendations of the central Alliance system, the Minneapolis office attempts to find medium to large capitalization proven growth stocks which offer attractive values, as represented by the ratio of P/E to expected earnings growth.

b. Investment Style Classification

Staff has classified Alliance Capital as a growth manager with a bias towards medium to large capitalization stocks.

c. Investment Philosophy Implementation

Staff is satisfied that Alliance has consistently implemented its stated investment philosophy. The firm has identified sectors (i.e., Consumer Technology, Transportation) which will tend to benefit under the firm's forecasted economic environment of secular disinflation and strong growth. Prominent risk characteristics include a very low R-squared, a high total portfolio and equity beta, low yield, and high growth attributes.

During 1984, Alliance's investment strategies and actions were little changed from 1983. The firm did not substantially alter its economic outlook and hence saw no reason to shift its stock selection focus. The firm continued to emphasize the traditional growth sectors of the market and avoided basic industries, energy, and utilities.

d. Market Timing Approach

Alliance Capital Minneapolis, as a stated policy, does not attempt to alter its asset mix in anticipation of near-term movements in the stock market. However, staff did discuss with the firm several minor asset mix shifts which have taken place since the SBI account's inception. Alliance occasionally appears to raise and lower cash slightly, attempting to time the market. Staff requested that the firm either be more specific as to the circumstances under which it will conduct market timing or retain a fully invested equity position at all times.

Staff discussed with Alliance the possibility of allowing SBI managers to hold no more than a 5% cash position. The firm had no serious objections to the proposal.

e. Normal Portfolio

Staff discussed the concept of a normal portfolio with Alliance. The firm had already been requested by Honeywell to construct a normal portfolio. Materials which were provided Honeywell were also given to staff. Staff intends to pursue this matter further with Alliance and Honeywell.

V. PERFORMANCE

Market Timing

	Rate of Return		
	Last Quarter	Last Year	Since 6/30/83
Equity Only			
Total Fund (Net of Fees)	N.A.	N.A.	N.A.

The firm rarely raises significant amounts of cash. Thus, the market timing success measure is not applicable.

Performance relative to Wilshire 5000 (Net of Fees)

	Rate of Return		
	Last Quarter	Last Year	Since 3/31/83
Total Portfolio	1.3%	-0.7%	2.4%
Wilshire 5000	1.3%	3.1	13.5

Over the last seven quarters and over the most recent year, Alliance has demonstrated a mixed pattern of performance versus the Wilshire 5000. However, sharp underperformance in the third quarter 1983 and first quarter 1984 has brought cumulative performance over the last seven quarters to well below that of the market.

Performance relative to other aggressive managers (Net of Fees)

	Rate of Return		
	Last Quarter	Last Year	Since 3/31/84
Total Portfolio	1.3%	-0.7%	2.4%
TUCS Aggressive Managers	0.6	-2.9	N.A.
SBI Manager Aggregate	2.4	1.0	5.3

Taking into account the adverse market conditions for growth managers over the last year and a half, Alliance's performance has not been excessively poor. Over the last year, Alliance has outperformed the TUCS median aggressive manager and slightly underperformed the SBI aggregate. Over the last seven quarters, Alliance has underperformed the SBI aggregate, again not significantly.

STATE OF MINNESOTA

EXTERNAL EQUITY MANAGER UPDATE INTERVIEW

1. Name of manager interviewed — Beutel Goodman Capital Management

2. Date interview conducted — February 25, 1985

3. Date of last interview — March 8, 1984

4. Representing Minnesota State Board of Investment

   Howard Bicker
   Jeff Bailey

5. Representing manager

   Robert McFarland
   Richard Andrews

STAFF COMMENTS AND RECOMMENDATIONS

1. Beutel Goodman is a value manager with a bias toward small to medium capitalization stocks.

2. Staff believes that the firm has consistently and effectively applied its stated investment philosophy.

3. Beutel Goodman has been the SBI's top performing manager since inception as well as in 1984. The firm has far outperformed the market and other aggressive managers. The firm's value investment style has been very successful over the last year and half.

4. In late 1983, the firm's Canadian parent sold a minority of its equity to a financial services firm. Staff does not view this action as likely to hinder the firm's investment management.

5. The firm's asset and account growth has been rapid. Staff believes that this situation should receive close observation over the next year, as the firm's continued investment success is likely to attract even more clients.

6. Staff recommends that normal manager monitoring continue. If additional active equity manager funding were planned, Beutel Goodman should receive new cash flow.

I. ORGANIZATION

Beutel Goodman Capital Management, located in Houston, is 56% owned by Beutel Goodman Ltd. located in Toronto. The American partners own the remaining shares. The Canadian firm recently sold 40% of its own equity to Crownex, a Canadian diversified financial services firm. Staff views the partial sale of the Canadian firm as unlikely to have any effect on the American firm. Crownex is a minority partner of the Canadian firm. Thus, its proportional equity interest in the American firm is even smaller. Further, Crownex has clearly stated its intentions to be a purely passive partner.

The Canadian partners agreed to sell part of their equity largely to obtain a realized return on their ownership interest. They agreed to manage assets for several Crownex mutual funds, most of which are fixed income oriented. Crownex, in turn, wished to purchase a part of the Canadian firm so as to diversify its operations and to obtain an additional manager for some of its investment funds.

The American firm's partners did not participate financially in the acquisition. As noted, Crownex's equity in the American firm is a small minority. Further, under the American firm's agreement with the Canadian firm, as new partners are added to the American firm, they will receive equity bought from the Canadian partners. Hence, Crownex's equity interest in the American firm will shrink even further over time.

II. ASSETS UNDER MANAGEMENT

	March 31, 1983		June 30, 1984		December 31, 1984	
	Number	Market Value (Millions)	Number	Market Value (Millions)	Number	Market Value (Millions)
Tax Exempt Accounts	5	$104	11	$228	16	$358

Beutel Goodman has been the SBI's most successful manager over the last year and a half. A large part of this success is due to the firm's value investing style. Nevertheless, the tendency of institutional money to flow to past successful managers is well-documented. Hence, staff is concerned that Beutel Goodman's success could lead to such rapid growth in clients and accounts that the firm's investment management would be disrupted. The firm's size has tripled since the inception of the SBI's account. Further, the firm will soon take on a $200 million account for the New York State Teachers.

Staff discussed these concerns with the firm. The firm's long-run growth targets are 40-50 accounts and roughly $1 billion under management. The firm desires to eventually hire 4-5 portfolio managers. Each would manage ten accounts averaging $20 million.

Staff believes these goals are overly ambitious and would be concerned if the firm were to grow so big as to produce such a large organization. The firm's specialty has been as a small manager with an unencumbered decision-making process. Whether Beutel Goodman could evolve into larger manager with a more formal decision-making structure is questionable.

III. STAFF

No staff changes have taken place at Beutel Goodman since the last update interview.

IV. INVESTMENT APPROACH

a. Investment Philosophy

Beutel Goodman concentrates almost exclusively on stock selection. The firm searches for companies whose stock prices are low in comparison to their tangible book value or companies whose stocks possess low relative P/E's given earnings quality and forecasted growth.

b. Investment Style Classification

Staff has classified Beutel Goodman as a value manager with a bias toward small to medium capitalization stocks.

c. Investment Philosophy Implementation

Staff believes that Beutel Goodman has consistently applied its stated investment philosophy to the management of the SBI's account. The firm's distinct value style of management is clearly evidenced by the risk characteristics of the firm's portfolio, particularly when compared to the growth oriented approach of many of the SBI's managers. Prominent risk characteristics include an above average yield, low equity beta and portfolio P/E, a strong tendency to own smaller companies with relatively low growth potential and above average financial risk. The firm has maintained an aggressive investment stance, with a portfolio R-squared well below average.

In early 1984, the firm held overweighted positions in industrial cyclical stocks, believing that the market had bid down prices of these stocks fearing a recession. When these fears did not materialize and these stocks rebounded in price, the firm began to trim positions. Further, by mid-year as interest rates were peaking, the firm moved to overweight financial stocks, which had been sharply bid down. These stocks also performed well as interest declined later in the year.

d. Market Timing Approach

As a matter of general investment policy the firm does not attempt to anticipate near-term market moves. It tends to hold a fully invested position at all points in the market cycle. Cash positions are usually a function of insufficiently low-valued investments.

Staff discussed with Beutel Goodman the possibility of limiting manager cash positions to 5%. The firm opposed this proposal believing that at times it might be forced to hold stocks which it did not find attractive.

e. Normal Portfolio

Staff discussed with the firm the concept of a normal portfolio. Beutel Goodman had already supplied staff with historical portfolio data. Staff presented results of an analysis of this data. Capitalization constraints and a price-book ratio limit were agreed upon. Staff hopes to finish constructing a normal portfolio for the firm shortly.

V. PERFORMANCE

Market Timing

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

As a general policy the firm maintains a fully invested position. Thus, the market timing success measure is not applicable.

Performance relative to Wilshire 5000 (Net of Fees)

	Rate of Return		
	Last Quarter	Last Year	Since 3/31/83
Total Portfolio	4.9%	10.8%	25.7%
Wilshire 5000	1.3	3.1	13.5

Beutel Goodman has consistently outperformed the market in every quarter since the inception of the SBI's account, often by wide margins. The only exception occurred in the initial quarter of the SBI's account, when the firm was in the process of establishing positions in its desired stocks.

Performance relative to other aggressive managers (Net of Fees)

	Rate of Return		
	Last Quarter	Last Year	Since 3/31/84
Total Portfolio	4.9%	10.8%	25.7%
TUCS Aggressive Managers	0.6	-2.9	N.A.
SBI Manager Aggregate	2.4	3.1	13.5

Again, with the exception of the initial quarter of the SBI's account, Beutel Goodman has consistently outperformed samples of other aggressive equity managers over the last seven quarters. Beutel Goodman's value management style has been very effective over the last year and a half and has been responsible for much of the firm's impressive relative performance.

STATE OF MINNESOTA

EXTERNAL EQUITY MANAGER UPDATE INTERVIEW

1. Name of manager interviewed — BMI Capital

2. Date interview conducted — February 19, 1985

3. Date of last interview — August 7, 1984

4. Representing Minnesota State Board of Investment

   Howard Bicker
   Jeff Bailey
   Roger Henry
   David McCulloch

5. Representing manager

   James Awad - Portfolio Manger
   Frank Houghton - Portfolio Manger
   Sandi Jerro - Client Liason

STAFF COMMENTS AND RECOMMENDATIONS

1. BMI is a growth manager with a bias toward small company stocks.

2. Staff believes that the firm has closely adhered to its stated investment philosophy.

3. BMI's performance has been quite weak particularly in late 1983 and early 1984. The market for small growth stocks over the last six quarters has been very poor. While BMI has underperformed several SBI performance targets, the firm's results are in part explainable due to the poor environment for its style of management.

4. The personnel and business growth problems that BMI suffered in 1983 appear to have been satisfactorily resolved.

5. Staff believes that BMI's investment approach is now being effectively implemented. If additional active equity manager funding were planned, BMI should receive new cash flow.

I. ORGANIZATION

No significant organizational changes have taken place at BMI since the last update interview.

II. ASSETS UNDER MANAGEMENT

	March 31, 1983		June 30, 1984		December 31, 1984	
	Number	Market Value (Millions)	Number	Market Value (Millions)	Number	Market Value (Millions)
Tax Exempt Accounts	5	$160	17	$250	17	$277

The firm continues a policy of not aggressively seeking new accounts. However, given its long-run growth target of 20-25 accounts and $400-500 million under management, the firm still has room to grow. BMI remains very conscious of the problems that rapid growth produced in early-1983.

III. STAFF

The firm has added two additional research analysts, one who will serve as director of research.

IV. INVESTMENT APPROACH

a. Investment Philosophy

BMI focuses almost entirely on individual stock selection. The firm seeks two types of companies: first, medium-sized misperceived companies that are in the process of undergoing positive changes that will allow them to produce materially higher earnings over the near-term, but whose prospects are as yet unrecognized by the market; and second, small to medium sized companies that exhibit the potential for rapid future earnings growth. Small growth stocks tend to dominate the BMI portfolios.

b. Investment Style Classification

Staff has classified BMI as a growth manager with a bias toward small capitalization stocks.

c. Investment Philosophy Implementation

Staff believes that BMI has closely adhered to its stated investment philosophy. Small growth stocks, as noted, have tended to be the major factor affecting portfolio risk and return. The misperceived stocks, to the extent that they do not have small capitalization, growth attributes, serve primarily to dampen the risk associated with the small growth stocks. BMI has invested the SBI's account in a highly non-diversified manner. Prominent risk characteristics of the portfolio include a low R-squared, high total and equity beta, high P/E, low yield, a small capitalization orientation, sizable growth potential, and low risk associated with company profitability and financial leverage.

During early 1984, BMI attempted to focus a larger portion of its portfolios in misperceived companies, following the poor performance of growth stocks in late 1983. This caused the portfolio to shift towards a higher market capitalization, lower P/E's and lower beta. However, in the second half of 1984, as the firm became convinced that interest rates would trend lower and economic growth would remain strong, BMI shifted the emphasis of its portfolio back toward small, rapidly growing companies.

d. Market Timing Approach

BMI does not attempt to shift its asset mix in anticipation of near-term moves in the market. Cash in the portfolio is almost always a residual as the result of a lack of attractive purchase opportunities.

Staff discussed with the firm the possibility of allowing the SBI's managers to hold no more than a 5% cash position. BMI stated that it would have no difficulty satisfying such a restriction.

e. Normal Portfolio

Staff discussed the creation of a normal portfolio for BMI. Additional discussions will take place in the near future.

V. PERFORMANCE

Market Timing

	Rate of Return		
	Last Quarter	Last Year	Since 6/30/83
Equity Only			
Total Fund (Net of Fees)	N.A.	N.A.	N.A.

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

Performance relative to Wilshire 5000 (Net of Fees)

	Rate of Return		
	Last Quarter	Last Year	Since 3/31/83
Total Portfolio	2.2%	-7.8%	-10.6%
Wilshire 5000	1.3	3.1	13.5

BMI has tended to exhibit mixed performance relative to the market over the last seven quarters. However, exceptionally poor relative performance in the last half of 1983 and first quarter 1984 has led to a sizable gap between BMI's performance and that of the market over the last year and over the last seven quarters.

Performance relative to other aggressive managers (Net of Fees)

	Rate of Return		
	Last Quarter	Last Year	Since 3/31/84
Total Portfolio	2.2%	-7.8%	-10.6%
TUCS Aggressive Managers	0.6	-2.9	N.A.
SBI Manager Aggregate	2.4	1.0	5.3

Despite a reasonably strong fourth quarter 1984, BMI still trails the performance of similar risk managers over the last year and over the last seven quarters. These periods were extremely poor periods for small growth stock managers. But except for its poor results in late 1983 and early 1984, the firm's performance has not been significantly below that of other small growth managers.

STATE OF MINNESOTA

EXTERNAL EQUITY MANAGER UPDATE INTERVIEW

1. Name of manager interviewed — Forstmann-Leff

2. Date interview conducted — February 20, 1985

3. Date of last interview — August 14, 1984

4. Representing Minnesota State Board of Investment

   Howard Bicker
   Jeff Bailey
   Roger Henry
   David McCulloch

5. Representing manager

   Joel Leff - Portfolio Manager
   Peter Lusk - Marketer
   Jill Costelloe - Client Liason

STAFF COMMENTS AND RECOMMENDATIONS

1. Forstmann-Leff is a rotational manager with a bias toward large capitalization stocks.

2. Staff believes that the firm has consistently implemented its stated investment approach. The firm appears to have concentrated on market timing significantly more than sector rotation during 1984.

3. Over the last seven quarters, the firm's performance has been below that of the market but superior to that of other aggressive managers. However, given that the firm's rotational, large capitalization style has generally been in favor over the last year and a half, the firm's performance must be viewed as lackluster.

4. Rick Walton, the SBI's portfolio manager, recently left the firm. He was replaced by Joel Leff. Walton's departure is another in a series of personnel changes at the firm. Staff does not believe that these changes will cause serious disruptions, but the subject does merit continued observation.

5. Staff recommends that normal monitoring continue. If additional active equity manager funding were planned, Forstmann-Leff should receive new cash flow.

I. ORGANIZATION

No significant organizational changes have taken place at Forstmann-Leff since the last update interview.

II. ASSETS UNDER MANAGEMENT

	March 31, 1983		June 30, 1984		December 31, 1984	
	Number	Market Value (Millions)	Number	Market Value (Millions)	Number	Market Value (Millions)
Tax Exempt Accounts	126	$4,800	115	$4,248	102	$4,074

The sizable erosion in the number of accounts at Forstmann-Leff has continued since the last update interview. The firm lost thirteen accounts over this period. The reasons appear to be due to its weak 1983 performance and the 1983-84 turnover in its portfolio manager group.

The firm indicated that it had no intention of returning to an active marketing of its services. However, the firm has remained willing to accept new accounts from plan sponsors with whom it had had contact prior to closing its doors for new business. It appears likely that Forstmann-Leff will begin to accept new accounts to offset, in part, client losses. Unless the number of new accounts should expand rapidly, staff does not view the firm's willingness to accept new business as a hindrance to effective investment management.

III. STAFF

Richard Walton, the SBI's portfolio manager, left the firm in late 1984. His departure represented the most recent in a series of portfolio manager and research analyst departures from Forstmann-Leff over the last two years. The reasons for the departures have ranged from lucrative offers elsewhere, as in the case of Walton, to a belief that the managers did not fit well within the firm.

At most organizations, these departures could be very disruptive to the investment process. This does not appear to be the case at Forstmann-Leff, where investments are conducted largely on a committee basis. Joel Leff, one of the firm's principals, has taken over management of the SBI's account, in addition to several others which he manages. His more intimate involvement in investment decision-making at the firm is likely to be a positive. Further, several groups have been formed within the firm composed of a firm principal, a portfolio manager and several research analysts. Stock selection at the firm has become more the responsibility of these small groups rather than the responsibility of a single portfolio manager. This reduces the likelihood of any one person's departure negatively affecting the firm. On the other hand, it may tend to exacerbate a consensus mentality towards investment management.

IV. INVESTMENT APPROACH

a. Investment Philosophy

Forstmann-Leff investment approach is geared almost exclusively toward asset mix and sector weighting decisions. The firm attempts to identify secular and cyclical economic factors affecting the capital markets. Funds are shifted in and out of broad asset classes, and within the stock market, are moved in and out of particular market sectors, depending upon the firm's economic and political outlook. Stock selection is not heavily emphasized.

b. Investment Style Classification

Staff has classified Forstmann-Leff as a rotational manager with a strong bias toward large capitalization stocks.

c. Investment Philosophy Implementation

Staff believes that Forstmann-Leff has generally adhered to its stated investment philosophy. As expected, the firm has been an extremely active market timer. However, the firm has been somewhat less active in terms of sector rotation than anticipated. The active nature of the firm's market timing is evident from the sizable fluctuations in cash positions that the portfolio has experienced. Rotation among sectors is also evident, but much less dramatic. Diversification levels have been well within SBI guidelines. Prominent portfolio risk statistics include a fluctuating total and equity beta, relatively high yield, low P/E, very little emphasis on small capitalization and growth stocks, and fluctuating levels of financial leverage risk.

Forstmann-Leff began 1984 positioned to take advantage of an expected upturn in the market. The equity portfolio was heavily weighted in cyclical stocks. But as interest rates rose and the stock market performed poorly, the firm increased its cash position, reduced its cyclical holdings, and turned to high unit volume growth companies. As the market rallied later in the year, although the firm missed the primary surge, it became convinced that the market has entered a long-term uptrend. As a result, cash was lowered and more aggressive cyclical stocks were once again emphasized.

d. Market Timing Approach

As noted above, Forstmann-Leff's stated investment policy is to aggressively employ market timing as an integral part of its investment management. The firm's investment decisions, to date, are consistent with this approach. Cash has been as high as 45% of the portfolio and as low as 5%.

e. Normal Portfolio

Forstmann-Leff has discussed the concept of normal portfolios at length with Honeywell. Staff hopes to work with Honeywell in developing a normal portfolio for Forstmann-Leff.

V. PERFORMANCE

Market Timing

	Rate of Return Last Quarter	Last Year	Since 6/30/83
Equity Only	3.7%	-0.6%	-3.3%
Total Fund (Net of Fees)	3.4	-0.0	-1.9

Market timing has added only marginal value to total portfolio results over the last year and over the last six quarters. The firm's defensive stance in the first half of 1984 aided performance, but also caused the firm to miss much of the August 1984 rally. For a firm which specializes to such a large extent on asset mix decisions, its market timing results have been at best mediocre.

Performance relative to Wilshire 5000 (Net of Fees)

	Rate of Return Last Quarter	Last Year	Since 3/31/83
Total Portfolio	3.4%	-0.0%	7.8%
Wilshire 5000	1.3	3.1	13.5

With the exception of the fourth quarter 1984 and first quarter 1984, Forstmann-Leff has produced market or slightly sub-market performance consistently over the last year and last seven quarters. The cumulative result, however, has been a gap between its returns and those of the market.

Performance relative to other aggressive managers (Net of Fees)

	Rate of Return Last Quarter	Last Year	Since 3/31/84
Total Portfolio	3.4%	-0.0%	7.8%
TUCS Aggressive Managers	0.6	-2.9	N.A.
SBI Manager Aggregate	2.4	1.0	5.3

Over the last seven quarters, Forstmann-Leff has performed well relative to samples of other aggressive managers. For the last year the firm outperformed the TUCS aggressive manager median, but underperformed the SBI manager aggregate. In general, however, in a period when large capitalization, rotational managers were performing well compared to growth managers, Forstmann-Leff's performance was relatively lackluster.

STATE OF MINNESOTA

EXTERNAL EQUITY MANAGER UPDATE INTERVIEW

1. Name of manager interviewed Hellman Jordan Management

2. Date interview conducted February 22, 1985

3. Date of last interview August 15, 1984

4. Representing Minnesota State Board of Investment

   Howard Bicker
   Jeff Bailey
   David McCulloch

5. Representing manager

   Martin Hale - Portfolio Manager
   Ed Heubner - Portfolio Manager

STAFF COMMENTS AND RECOMMENDATIONS

1. Hellman Jordan is a rotational manager with a bias toward medium to large capitalization stocks.

2. Staff believes that the firm has consistently implemented its stated investment approach.

3. Hellman Jordan's performance has been very strong, particularly for the full year 1984. The firm's asset mix decisions have been the driving force behind this strong performance. Hellman Jordan was the only SBI manager to make a large commitment to bonds in 1984.

4. Staff recommends that normal manager monitoring continue. If additional active equity manager funding were planned, Hellman Jordan should receive new cash flow.

I. ORGANIZATION

No significant organizational changes have taken place since the last update interview. As noted in the last update interview, Hellman Jordan was acquired in mid-1984 by United Asset Management, a money management holding company. At the time staff commented that the terms of the agreement did not seem likely to have any significant impact on the firm's investment management. The purchase was structured to give Gerald Jordan and his associates full operational control of the firm and a 50% share of the firm's revenues. United Asset Management is a completely passive partner. Thus strong incentives remain for the firm's portfolio managers to operate with the same investment approach so as to retain current clients and attract future business.

Based upon the most recent interview, staff sees no reason to change its previous conclusions. The acquisition appears to have had no impact on the firm's investment management. All principals of the firm appear satisfied that United Asset Management is holding its end of the agreement.

II. ASSETS UNDER MANAGEMENT

	March 31, 1983		June 30, 1984		December 31, 1984	
	Number	Market Value (Millions)	Number	Market Value (Millions)	Number	Market Value (Millions)
Tax Exempt Accounts	22	$440	32	$662	29	$664

Hellman Jordan continues its policy of not actively marketing its services. The firm is being selective in its choice of new clients with the long run goal of maintaining roughly 30-35 clients, but weeding out the smaller accounts. Since the last update interview the firm lost three clients. Staff views the firm as having considerable capacity for future growth in assets under management, given the firm's preference toward larger capitalization stocks.

III. STAFF

No important staff changes have occurred since the last update interview.

IV. INVESTMENT APPROACH

a. Investment Philosophy

Hellman Jordan concentrates primarily on asset mix and sector decisions. The firm attempts to identify the current position of the market within its cycle and select an asset mix and sector concentration that is most likely to benefit under the anticipated market developments.

b. Investment Style Classification

Staff has classified Hellman Jordan as a rotational manager with a bias toward medium to large capitalization stocks.

c. Investment Philosophy Implementation

Staff believes that Hellman Jordan has consistently implemented its stated investment philosophy. The changes in the firm's market outlook are quite evident in the associated changes in the firm's portfolio, both in terms of asset mix but sector selection as well. The risk characteristics of Hellman Jordan's portfolio have likewise shifted in response to the firm's changing market outlook. Prominent shifting risk characteristics include total and equity beta, yield, earnings variability, and growth attributes.

Throughout 1983 and up until mid-1984 the firm was very bearish on the stock market. Equity allocation was kept very low. A sizable commitment to bonds was maintained. Sector selection emphasized utilities and other defensive groups. In mid-1984, the firm turned near-term optimistic on the market. Equity positions were increased significantly. Sector selection turned to more aggressive late cycle stocks such as technology stocks. Later in the year as interest rates declined, the firm eliminated its bond positions. In general, the firm believes the market is in the late stages of a cycle and is expecting to eventually move back towards a more defensive position.

d. Market Timing Approach

Hellman Jordan states that it is an aggressive market willing to make sharp, sizable asset mix moves at any point in the market cycle. To date the firm has followed this approach. Cash and bond holdings at times have represented over 50% of the total portfolio.

e. Normal Portfolio

Staff discussed with the firm the concept of a normal portfolio. Capitalization and sector exclusions were agreed upon. The firm agreed to supply staff with historical portfolio data for analysis.

V. PERFORMANCE

Market Timing

	Rate of Return		
	Last Quarter	Last Year	Since 6/30/83
Equity Only	4.3%	4.4%	-6.4%
Total Fund (Net of fees)	4.6	9.4	4.8

Hellman Jordan has been one of the SBI's most active, and most successful market timers. Over the last year and over the last six quarters the firm has added considerable value to the total portfolio, not only by its movements in and out of equities, but also by its decision to hold a substantial bond position for most of 1984. The firm, on an asset mix basis, was defensive from mid-1983 through mid-1984. The firm increased its equity exposure considerably in mid-1984. Both moves were quite correct and greatly enhanced total portfolio returns.

Performance relative to Wilshire 5000 (Net of Fees)

	Rate of Return		
	Last Quarter	Last Year	Since 3/31/83
Total Portfolio	4.6%	9.4%	10.9%
Wilshire 5000	1.3	3.1	13.5

Following two quarters (i.e., second and third quarters 1983), in which both market timing, and particularly stock selection seriously hampered returns, Hellman Jordan has performed quite well relative to the market. While the firm trails the Wilshire 5000 for the cumulative seven quarter period, over the last year the firm significantly outperformed the market. Correct asset mix decisions by far have been the driving force beyond this solid performance.

Performance relative to other aggressive managers (Net of Fees)

	Rate of Return		
	Last Quarter	Last Year	Since 3/31/84
Total Portfolio	4.6%	9.4%	10.9%
TUCS Aggressive Managers	0.6	-2.9	N.A.
SBI Manager Aggregate	2.4	1.0	5.3

With the exception of only the second quarter 1983, the firm has performed quite well relative to samples of other aggressive managers over both the most recent year and over the last seven quarters. Hellman Jordan's results have been assisted by the fact that its rotational, large capitalization investment approach has been in favor. Moreover, as noted, its asset mix decisions have been extremely successful.

STATE OF MINNESOTA

EXTERNAL EQUITY MANAGER UPDATE INTERVIEW

1. Name of manager interviewed — IDS Advisory

2. Date interview conducted — February 15, 1985

3. Date of last interview — April 24, 1984

4. Representing Minnesota State Board of Investment

   Howard Bicker
   Jeff Bailey
   David McCulloch

5. Representing manager

   Peter Anderson - President
   Mitzi Malevich - Portfolio Manager

STAFF COMMENTS AND RECOMMENDATIONS

1. IDSA is a rotational manager with a bias toward medium to large capitalization stocks.

2. Staff believes that the firm has consistently and generally effectively applied its stated investment approach.

3. IDSA has performed respectably relative to the market, and quite well relative to other aggressive managers, particularly in 1984. The firm's rotational, large capitalization investment style has been very successful over the last seven quarters.

4. Considerable organizational and personnel changes have occurred at IDSA in the last couple years.

5. IDS was acquired by Shearson/American Express in 1983. Bruce Lueck, IDSA President, left in 1984 and was replaced by Peter Anderson. A number of senior IDSA personnel have left and been replaced. The firm has experienced a sizable erosion of its client base.

6. Staff recommends that the organizational and personnel situation at IDSA continue to be closely monitored. However, if additional active manager funding were to take place, IDSA should receive new cash flow.

I. ORGANIZATION

In 1983 IDS was purchased by Shearson/American Express. To date the acquisition has had little effect on the operations of IDSA. No personnel or organizational structure changes were produced by the change in ownership. There has been no pressure put on IDSA to build the number of clients or assets managed. The only significant change has been positive in that IDS has increased the compensation structure of IDSA with an eye toward attracting and retaining key personnel.

Whether this hands-off attitude on the part of Shearson/American Express toward IDSA continues is, of course, uncertain. This is particularly true in light of the significant turnover in personnel and loss of accounts that IDSA has experienced. This situation warrants continued monitoring.

Since the SBI account's inception, IDSA has reorganized itself internally, splitting into four areas of investment management. This restructuring though has had minimal impact on the management of the SBI's account.

II. ASSETS UNDER MANAGEMENT

	March 31, 1983		June 30, 1984		December 31, 1984	
	Number	Market Value (Millions)	Number	Market Value (Millions)	Number	Market Value (Millions)
Tax Exempt Accounts	87	$3,361	87	$2,871	81	$3,087

Over the last two years, there has been considerable erosion in IDSA's account base. In all, eighteen accounts were lost since the SBI account's inception. A number of these accounts represent large, well-known pension plans. To some extent these account losses were offset by new business, especially in early 1983. Nevertheless, the net outflow of accounts has been substantial.

The reason for the account losses appears two-fold. First, IDSA's performance particularly in 1983, and to some extent 1984 was poor. Many pension plans were dissatisfied with this performance. Second, the considerable organizational and personnel changes at IDSA have been disconcerting to a number of clients.

IDSA expects the net loss of accounts to continue through 1985, largely as a result of Bruce Lueck's departure.

In the longer-term, IDSA expects account growth to resume. Its targets remain roughly ten accounts per portfolio manager. Given recent personnel changes, the firm is quite near that target. Mitzi Malevich, the SBI's portfolio manager, is at her limit of accounts. A significant increase in the number of accounts would require the hiring of additional portfolio managers.

III. STAFF

There has been considerable turnover in IDSA personnel in recent years. Since the SBI account's inception, seven senior investment persons have departed and were replaced by four senior personnel.

Mitzi Malevich joined the firm in early 1983 and was assigned to the SBI's account, replacing Peter Anderson.

Quite recently, Bruce Lueck, president of IDSA left the firm, attracted by an extremely lucrative offer elsewhere. Lueck was replaced by Peter Anderson. Anderson's ascension to the IDSA presidency, after a less than three years with the firm, has generated some friction among senior IDSA personnel. Whether this will cause additional personnel changes remains to be seen.

In terms of support staff, IDSA is now utilizing four analysts dedicated to it by IDS. These analysts assist IDSA portfolio managers in individual stock research.

IV. INVESTMENT APPROACH

a. Investment Philosophy

IDSA focuses on sector decisions and limited market timing rather than individual stock selection. The firm's investment decisions are driven by its economic forecasts. The firm believes that the market reflects broad economic trends and that by analyzing these trends, as well as observing market conditions (i.e., liquidity, sentiment, and valuation), that the firm can identify those sectors that will be positively and negatively affected.

b. Investment Style Classification

Staff has classified IDSA as a rotational manager with a bias toward medium to large capitalization stocks.

c. Investment Philosophy Implementation

Staff believes that IDSA has consistently adhered to its stated investment philosophy. The rotational aspect of the firm's investment approach is clearly evident in a review of the firm's sector weightings over time. Moreover, risk parameters such as total portfolio and equity beta, yield, P/E, earnings variability and growth attributes also evidence this rotational style. The diversification of the portfolio is generally greater than staff would prefer to see, but not excessively so.

During 1984, IDSA expected a significant slowing in economic growth and continued moderate inflation. This led the firm to its most important investment decision in 1984, which was to considerably overweight utility stocks. The utility overweighting was increased gradually throughout the year, until by year-end utilities represented 25% of the equity portfolio. This same economic scenario led IDSA to underweight energy and technology stocks in 1984. These decisions combined to give the IDSA portfolios a very defensive posture through most of the year.

d. Market Timing Approach

IDSA states that it is a moderately active market timer. Despite its rotational investment style, the firm does not typically make significant moves into and out of cash based on its market outlook. This philosophy has been evident in the management of the SBI's account. Although IDSA viewed the market negatively in 1984, cash was not raised beyond 20%.

e. Normal Portfolio

Staff discussed the creation of a normal portfolio for IDSA. Capitalization constraints and excluded industries were agreed upon. IDSA has supplied staff with historical portfolio data which is being processed.

V. PERFORMANCE

Market Timing

	Rate of Return		
	Last Quarter	Last Year	Since 6/30/83
Equity Only	3.2%	5.4%	-2.3%
Total Fund (Net of Fees)	3.0	5.8	-0.8

Despite not being a particularly active asset allocator, IDSA's asset mix decisions have added value over the the last six quarters, and to a much lesser extent over the last year.

Performance relative to Wilshire 5000 (Net of Fees)

	Rate of Return		
	Last Quarter	Last Year	Since 3/31/83
Total Portfolio	3.0%	5.8%	12.7%
Wilshire 5000	1.3	3.1	13.5

Despite significant underperformance relative to the market in late 1983 and the first quarter 1984, IDSA's strong performance in the last three quarters of 1984 caused the firm to outperform the market for the full year 1984 and the trail the market over the last seven quarters only slightly.

Performance relative to other aggressive managers

	Rate of Return		
	Last Quarter	Last Year	Since 3/31/84
Total Portfolio	3.0%	5.8%	12.7%
TUCS Aggressive Managers	0.6	-2.9	N.A.
SBI Manager Aggregate	2.4	1.0	5.3

Primarily due to its strong performance in the last three quarters of 1984, IDSA has outperformed samples of other aggressive equity managers by a wide margin over the last year and over the last seven quarters. IDSA's large capitalization rotational investment style has been very effective over the last year, particularly relative to investment styles emphasizing growth stocks.

STATE OF MINNESOTA

EXTERNAL EQUITY MANAGER UPDATE INTERVIEW

1. Name of manager interviewed — Investment Advisers

2. Date interview conducted — February 18, 1985

3. Date of last interview — August 6, 1984

4. Representing Minnesota State Board of Investment

   Howard Bicker
   Jeff Bailey
   David McCulloch

5. Representing manager

   Noel Rahn - Chief Executive Officer
   Kenneth Thorsen - Portfolio Manager

STAFF COMMENTS AND RECOMMENDATIONS

1. Investment Advisers is a rotational manager with a bias toward medium to large capitalization stocks.

2. Staff believes that the firm has consistently and effectively implemented its stated investment approach. However, the firm's level of diversification has continued to run above SBI guidelines. Staff continues to press IAI for more aggressive investment management.

3. IAI has performed very well relative to the market and other aggressive managers particularly in 1984. The firm's rotational, large capitalization investment style has been very successful over the last seven quarters.

4. Staff recommends that normal manager monitoring continue. If additional manager funding were to take place, IAI should receive new cash flow.

I. ORGANIZATION

No significant organizational changes have taken place at IAI since the last update interview. The firm did make a slight adjustment in its decision-making structure. In an effort to produce less consensus and more aggressive investment decisions, the firm created three committees: asset allocation, industry selection, and stock selection. Instead of all portfolio managers making joint decisions, together, these committees, which have only several members, will make decisions for the entire firm in the areas under their pervue.

II. ASSETS UNDER MANAGEMENT

	March 31, 1983		June 30, 1984		December 31, 1984	
	Number	Market Value (Millions)	Number	Market Value (Millions)	Number	Market Value (Millions)
Tax Exempt Accounts	79	$1,001	89	$1,365	89	$1,403

There has been no net change in the number of accounts managed by IAI since the last update interview. One account was lost but this was offset by the addition of another account.

Despite the departure of one senior portfolio manager, the account load per portfolio manager at IAI has not increased. Smaller accounts have been moved into the firm's North Star commingled fund, thereby reducing administrative burdens. Staff believes, however, that IAI would have difficulty in terms of manager account loads if it expanded its business much further without hiring additional portfolio managers.

III. STAFF

One senior portfolio manager has left the firm since the last update interview. John Murphy left the firm at the mutual agreement of both IAI and Murphy. IAI has no immediate plans to replace Murphy.

IV. INVESTMENT APPROACH

a. Investment Philosophy

IAI focuses on making correct asset mix and sector weighting decisions over the course of a market cycle. The firm's asset mix and sector weighting decisions are driven by its economic and credit cycle projections. Over a market cycle and based on these projections, IAI will attempt to move in and out of sectors that it believes will be favorably and unfavorably affected. Stock selection is less heavily emphasized than either asset mix or sector weighting. The firm utilizes various fundamental valuation models to identify attractive issues.

b. Investment Style Classification

Staff has classified IAI as a rotational manager with a bias toward medium to large capitalization stocks.

c. Investment Philosphy Implementation

Staff believes that IAI has consistently implemented its stated investment philosophy, although in a more diversified fashion than ideally is desired. The firm has not been as active in moving among sectors as many other rotational managers, but that is due primarily to the fact that the firm's economic outlook has changed little since the inception of the SBI's account. IAI has tended to maintain a relatively low equity beta, a low P/E, high yield, and less emphasis on small capitalization companies compared to the SBI's average manager. As noted, the level of diversification of IAI's portfolio has been considerably higher than most of the SBI's managers.

Throughout 1984, IAI was anticipating lower interest rates, continued disinflation and slower economic growth. The firm generally was constructive on the market, but focused its investments in larger capitalization beneficiaries of lower interest rates (e.g., banks, insurance, bell operating companies), while at the same time underweighting cyclical and technology stocks. This strategy gave the equity portfolio a relatively defensive posture.

d. Market Timing Approach

IAI identifies itself as a moderately active market timer, will to make significant, but gradual moves in and out of cash. To date IAI has been largely inactive in terms of market timing, making only minor asset mix shifts, with cash never rising above 15% of the total portfolio.

e. Normal Portfolio

Staff discussed the creation of a normal portfolio for IAI. Capitalization constraints, excluded industries and a weighting scheme were agreed upon. IAI has supplied staff with historical portfolio data which is being processed.

V. PERFORMANCE

Market Timing

	Rate of Return		
	Last Quarter	Last Year	Since 6/30/83
Equity Only	5.8%	7.6%	6.1%
Total Fund (Net of fees)	5.7	8.1	7.6

Over the last six quarters and over the most recent year, IAI has been largely inactive in terms of asset mix decisions. What cash positions that the firm has held have tended to add minor value to total portfolio performance.

Performance relative to Wilshire 5000 (Net of fees)

	Rate of Return		
	Last Quarter	Last Year	Since 3/31/83
Total Portfolio	5.7%	8.1%	16.2%
Wilshire 5000	1.3	3.1	13.5

With only two minor quarterly exceptions, IAI has consistently outperformed the market over the last seven quarters. Over the most recent year the firm substantially outperformed the market.

Performance relative to other aggressive managers (Net of fees)

	Rate of Return		
	Last Quarter	Last Year	Since 3/31/84
Total Portfolio	5.7%	8.1%	16.2%
TUCS Aggressive Managers	0.6	-2.9	N.A.
SBI Manager Aggregate	2.4	1.0	5.3

IAI has consistently outperformed other aggressive managers over the last year and over the last seven quarters. The firm's large capitalization orientation and rotational style has been very effective since mid-1983, particularly relative to growth oriented investment styles.

STATE OF MINNESOTA

EXTERNAL EQUITY MANAGER UPDATE INTERVIEW

1. Name of manager interviewed — Lieber & Co.

2. Date interview conducted — February 14, 1985

3. Date of last interview — August 14, 1984

4. Representing Minnesota State Board of Investment

   Howard Bicker
   Jeff Bailey
   David McCulloch

5. Representing manager

   Stephen Lieber - Portfolio Manager
   Nola Falcone - Portfolio Manager

STAFF COMMENTS AND RECOMMENDATIONS

1. Lieber & Co. is classified as a value manager with a strong small company bias. The firm's investment style is difficult to classify due to certain earnings growth attributes in its portfolios. However, the firm's emphasis on attractively valued assets, particularly takeover candidates, makes the value classification most appropriate.

2. Staff believes that Lieber & Co. has consistently and effectively implemented its stated investment approach.

3. Despite a poor environment for small capitalization equities and a policy of maintaining a fully invested equity position, Lieber has only slightly underperformed the market and has outperformed samples of other aggressive managers.

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

I. ORGANIZATION

No significant organizational changes have taken place at Lieber & Co. since the last update interview.

II. ASSETS UNDER MANAGEMENT

	March 31, 1983		June 30, 1984		December 31, 1984	
	Number	Market Value (Millions)	Number	Market Value (Millions)	Number	Market Value (Millions)
Tax Exempt Accounts	14	$341	17	$444	17	$469

Lieber & Co. continues its policy of not actively marketing its aggressive investment management. The firm is near its target of $500 million in aggressively managed money. No changes in the number of aggressively managed accounts took place since the last update interview.

Despite the fact that Lieber specializes in buying very small, unrecognized companies, staff does not view Lieber's current number of account or assets managed as a hindrance to effective implementation of its aggressive equity management style. Further, staff believes that Lieber has the capability to absorb up to an additional $50 million in new cash flow if the Board should wish to direct new contributions to the firm.

III. STAFF

No changes in staff have occurred since the last update interview. As part of its long-run plan to expand the number of analysts at the firm, Lieber & Co. is planning to add one to two new analysts over the course of 1985.

IV. INVESTMENT APPROACH

a. Investment Philosophy

Lieber & Co. seeks to identify specific 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. Lieber & Co. tends to seek small to medium sized companies that are well managed, exhibit at least moderate earnings growth and high return-on-equity, but whose value is not yet fully recognized by the market. The firm is especially attracted to small to medium sized companies that are takeover candidates.

b. Investment Style Classification

Staff has classified Lieber & Co. as a value manager with a small capitalization bias. Assigning Lieber & Co. to a specific style class is difficult because the firm evidences characteristics of both value and growth managers. However, the firm's heavy emphasis on identifying takeover candidates makes the value classification the logical choice.

c. Investment Philosophy Implementation

Staff believes that Lieber & Co. has consistently implemented its stated investment philosophy. The risk characteristics of the firm's equity portfolio are consonant with the firm's stated investment philosophy. Risk factors which stand out are a low level of diversification, a strong small company bias, moderate growth attributes, a relatively low P/E, and a low level of earnings variability and financial leverage risk.

During 1984 Lieber & Co. held roughly one-third of its portfolio in companies which it considered to be imminent takeover candidates. Another one-half of the portfolio was invested in companies which the firm felt had a high probability of acquisition. During 1984, Lieber & Co. also continued an emphasis on companies viewed to be positively affected by financial deregulation. In addition, the firm, believing that the strongest part of the the economic recovery was past, increased its focus on "niche" companies, that is, companies who hold a strong and growing competitive position in a particular market. Also, in early 1984 the firm began to move back into technology stocks believing the worst of the sell-offs in that sector to be over.

d. Market Timing Approach

As a general investment policy, Lieber & Co. does not attempt to time moves in the stock market. Rather, the firm prefers to maintain a fully invested position. Cash did rise to modestly high levels (i.e., 15%) in the third and fourth quarters of 1984. This was a result of liquidations of specific stocks unrelated to the level of the market and desire to wait for better opportunities before the cash was recommitted.

Staff discussed with the firm the possibility of allowing SBI managers to hold no more than a 5% cash position at any time. Lieber & Co. stated that it would be comfortable with such a policy.

e. Normal Portfolio

Staff discussed the creation of a normal portfolio for Lieber & Co. Capitalization constraints, excluded industries, and a weighting scheme were agreed upon. Lieber agreed to supply historical portfolio data for further analysis.

V. PERFORMANCE

Market Timing

	Rate of Return Last Quarter	Last Year	Since 6/30/83
Equity Only	2.9%		
Total Fund (Net of Fees)	2.6	N.A.	N.A.

Lieber & Co. does not normally hold any sizable cash positions. However, during late 1984, the firm let its cash position rise to near 15% as it liquidated certain stocks and did not reinvest the proceeds. The net impact on fourth quarter 1984 performance was essentially nil.

The market timing success measure is not applicable over other time periods due to Lieber's generally fully invested posture.

Performance relative to Wilshire 5000 (Net of Fees)

	Rate of Return Last Quarter	Last Year	Since 3/31/83
Total Portfolio	2.6%	1.1%	12.2%
Wilshire 5000	1.3	3.1	13.5

Lieber & Co.'s performance relative to the market over the last year and over the last seven quarters has been mixed. Cumulatively, the firm has underperformed the market. However, this underperformance has not been significant, especially in light of the poor market conditions over these periods as well as the firm's generally fully invested investment posture.

Performance relative to other aggressive managers (Net of Fees)

	Rate of Return Last Quarter	Last Year	Since 3/31/84
Total Portfolio	2.6%	1.1%	12.9%
TUCS Aggressive Managers	0.6	-2.9	N.A.
SBI Manager Aggregate	2.4	1.0	5.3

Over the last year and over the last seven quarters, Lieber has fairly consistently outperformed samples of other aggressive equity managers. This performance is impressive in light of the poor market for small capitalization stocks which make up the vast majority of the firm's portfolio. Lieber's performance has been far superior to growth managers, and in line with rotational and value managers.

STATE OF MINNESOTA

EXTERNAL EQUITY MANAGER UPDATE INTERVIEW

1. Name of manager interviewed — Loomis, Sayles

2. Date interview conducted — February 18, 1985

3. Date of last interview — August 15, 1985

4. Representing Minnesota State Board of Investment

   Howard Bicker
   Jeff Bailey
   Roger Henry
   David McCulloch

5. Representing manager

   Kenneth Heebner - Portfolio Manger
   Karen McGrath - Client Liason

STAFF COMMENTS AND RECOMMENDATIONS

1. Loomis is a growth manager with a bias toward medium to large capitalization issues.

2. Loomis has implemented its stated investment approach consistently. The firm's approach to market timing, however, has not been fully consistent with its stated policies.

3. Loomis' performance over the last year and over the last seven quarters has been very weak. These periods were extremely difficult for growth managers, in general. However, the firm's poor performance was exacerbated by economic and market forecasts that proved to be largely incorrect and subsequently led to faulty investment decisions.

4. Staff recommends that Loomis' performance continue to be closely monitored. No new cash flow should be allocated to the firm.

I. ORGANIZATION

No significant organizational changes have occurred at Loomis, Sayles since the last update interview.

II. ASSETS UNDER MANAGEMENT

	March 31, 1983		June 30, 1984		December 31, 1984	
	Number	Market Value (Millions)	Number	Market Value (Millions)	Number	Market Value (Millions)
Tax Exempt Accounts	12	$540	13	$567	14	$617

Loomis' growth has been insignificant, with the addition of one account since the last meeting. Loomis has maintained its long-term growth target of 20 accounts and $1.5 billion. The firm is well below this target.

III. STAFF

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

IV. INVESTMENT APPROACH

a. Investment Philosophy

Loomis Sayles concentrates on stock selection and sector weighting decisions. The firm searches for industries and companies with the potential for significant cyclical or secular earnings gains unrecognized by the market. Loomis tends to focus on stocks with relatively high P/E's and low yields and companies with highly variable, but successful patterns of earnings growth.

b. Investment Style Classification

Staff has classified Loomis, Sayles as a growth manager with a bias towards medium to large capitalization stocks.

c. Investment Philosophy Implementation

Staff is satisfied that Loomis has consistently implemented its stated investment philosophy. The firm has made concentrated investments in specific sectors and stocks consistent with its secular and cyclical earnings expectations. Portfolio diversification has been quite low. Further, consistent with its emphasis on companies with high expected earnings growth, Loomis has maintained a high equity beta and accepted significant risk associated with companies with high earnings variability and growth potential.

Early in 1984, Loomis expected a continued strong economy and no rise in interest rates. Thus, the firm concentrated in pure cyclical stocks. However, as interest rates did rise, Loomis switched its economic forecast toward slower growth in the economy and began to emphasize more secular earnings growth opportunities. Loomis was forced to change its forecast once again when in the second half of 1984 interest rates declined. In response, Loomis shifted its focus to interest sensitive stocks.

d. Market Timing Approach

Loomis' stated approach is to avoid market timing, raising cash to significant levels only in expectional circumstances. Lommis' actions have not been completely consistent with this position. Cash positions have evidenced more than minor fluctuations since account inception. Most recently, in December 1984 the firm moved 10% of its portfolio into zero coupon bonds. This position was quickly reversed in January as the firm's interest rate outlook was again altered. Staff believes these types of investment decisions are contrary to the firm's stated approach. Additional clarification of the firm's market timing philosophy was requested. The response given was ambiguous.

e. Normal Portfolio

Staff discussed the concept of a normal portfolio with Loomis. Capitalization restrictions and industry exclusions were agreed upon. The firm agreed to provide staff with historical portfolio data.

V. PERFORMANCE

Market Timing

	Rate of Return		
	Last Quarter	Last Year	Since 6/30/83
Equity Only	1.5%	-6.5%	-17.2%
Total Fund	1.1	-5.3	-15.4

Loomis' move to bonds late in 4Q 1984 was not beneficial to that quarter's results. Over the last six quarters, Loomis' cash positions have benefitted total fund performance. However, over this period Loomis' equity performance has been very poor and thus its cash position has helped dampen the negative impact of its equity results on total fund returns.

Performance relative to Wilshire 5000 (Net of Fees)

	Rate of Return		
	Last Quarter	Last Year	Since 3/31/83
Total Portfolio	1.1%	-5.3%	-7.1%
Wilshire 5000	1.3	3.1	13.5

Over the last seven quarters Loomis has consistently underperformed the Wilshire 5000. As a result, cumulative performance has fallen far behind that of the market.

Performance relative to other aggressive managers (Net of Fees)

	Rate of Return		
	Last Quarter	Last Year	Since 3/31/84
Total Portfolio	1.1%	-5.3%	-7.1%
TUCS Aggressive Managers	0.6	-2.9	N.A.
SBI Manager Aggregate	2.4	1.0	5.3

Loomis has consistently underperformed samples of other aggressive equity managers, except for slightly outperforming the TUCS aggressive managers sample in the fourth quarter of 1984. Performance since account inception lags the SBI manager aggregate significantly. This period of time has been difficult for managers with with Loomis' growth style of investing. Nevertheless, the firm's results have been consistently disappointing.

STATE OF MINNESOTA

EXTERNAL EQUITY MANAGER UPDATE INTERVIEW

1. Name of manager interviewed — Norwest Bank Minneapolis (Peregrine Capital Mgmt.)

2. Date interview conducted — February 15, 1985

3. Date of last interview — April 14, 1984

4. Representing Minnesota State Board of Investment

   Jeff Bailey
   David McCulloch

5. Representing manager

   Robert Mersky - Portfolio Manager
   Paul Von Kuster - Portfolio Manager

STAFF COMMENTS AND RECOMMENDATIONS

1. Norwest is a growth manager with a strong bias toward small company stocks.

2. Staff believes that the firm has consistently implemented its stated investment approach.

3. Norwest's performance has been quite weak. The market for emerging growth stocks over the last six quarters has been very poor. While Norwest has underperformed several SBI performance targets, the firm's results given its investment style do not indicate cause for serious concern at this point.

4. In mid-1984, Norwest Bancorporation spun off as a separate subsidiary its institutional investment management, which includes the SBI's account. Over the long-run, staff views this move positively, believing that it will allow the bank to attract and retain competent investment talent.

5. Staff recommends that normal monitoring of the firm continue. If additional active manager funding were to take place, Norwest should receive new cash flow.

I. ORGANIZATION

As was discussed at the time the external bond managers were hired in mid-1984, Norwest Bank Minneapolis has spun off its institutional investment management to a separate subsidiary named Peregrine Capital Management. The SBI's equity account is managed by Peregrine.

Peregrine was designed to permit Norwest Bancorporation to compete effectively against independent investment advisory firms in the money management business. Peregrine gives 40% of its revenue to the parent and retains the remainder. Out of this sum Peregrine pays all expenses and salaries. Compensation at Peregrine is set by its chief investment officer who, through a system of salaries and performance bonuses, attempts to pay competitive salaries to key personnel.

Norwest Bancorporation initially guaranteed eighteen months of start-up funding. Because of the parent's vested interest in the success of the subsidiary, this funding is likely to be extended if necessary. Even if new accounts are not brought on, the firm's revenue flow from current accounts will allow it to remain profitable once the parent's financial support is ended. However, without generating new accounts staff compensation will suffer.

II. ASSETS UNDER MANAGEMENT

	March 31, 1983		June 30, 1984		December 31, 1984	
	Number	Market Value (Millions)	Number	Market Value (Millions)	Number	Market Value (Millions)
Tax Exempt Accounts	3	$49	3	$92	3	$94

Norwest has experienced no changes in the number of aggressively managed accounts since the inception of the SBI's account. The firm is very actively marketing its aggressive investment management, with the long-term objective of managing 15-20 accounts totalling approximately $250 million. Staff believes that Norwest has considerable capacity for business expansion.

Norwest's inability to attract new accounts to date was anticipated by the firm. Its growth plans for 1985 are ambitious, however. Whether the parent will become disappointed and insist upon changes if these targets are not met is unclear at this time. To date the parent has strongly supported the subsidiary despite the lack of new business.

III. STAFF

The firm has recently hired a trader, analyst, and a marketer. No plans for further staff expansion are foreseen for at least the next two years.

IV. INVESTMENT APPROACH

a. Investment Philosophy

Norwest concentrates largely on stock selection. Norwest utilizes two approaches to investment management. The first approach is to identify attractive emerging growth companies. The firm seeks small, immature companies which exhibit the potential to provide strong earnings growth and high profitability consistently for a number of years into the future. The second approach is to select larger capitalization stocks representing special situations such as turnaround companies, takeover candidates or economic cycle plays. On average the emerging growth approach represents about 60% of the portfolio, although this percentage may be altered depending on the firm's market outlook.

b. Investment Style Classification

Staff has classied Norwest as a growth manager with a bias toward small capitalization stocks.

c. Investment Philosophy Implementation

Staff believes that Norwest has followed closely its stated investment philosophy. While the firm's equity portfolio generally has been dominated by small, high growth issues, Norwest has utilized special situation stocks frequently and with varying emphasis. Prominent portfolio risk factors include a high equity beta, low yield, a high P/E, substantial emphasis on small capitalization and growth oriented stocks.

Entering 1984, the special situations portion of the firm's portfolio received above average emphasis as the firm had tended to deemphasize emerging growth stocks in late 1983. Within the special situations stocks, the firm concentrated early in the year on cyclical issues. Later it shifted toward interest sensitive stocks. The firm began to move to a heavier emerging growth weighting during the first quarter 1984, believing the downturn in those stocks was largely over. Medical-health care and consumer stocks received particular attention.

d. Market Timing Approach

Norwest's market timing policy is to view cash as a residual decision, rather than to actively attempt to anticipate market moves. Cash will tend to be raised only in those situations where the firm believes that it cannot find attractively valued stocks.

Staff discussed with the firm the possibility of allowing SBI managers to hold no more than a 5% cash position. Norwest viewed the proposal with some skepticism. It expressed the concern that it could be forced into buying stocks at times when it believed valuations were not adequate and then having to liquidate those same stocks at a cost when later it identified undervalued stocks. In general, however, Norwest did not find serious problems with the proposal.

e. Normal Portfolio

Staff has worked extensively with Norwest prior to the meeting to construct a normal portfolio for the firm. Norwest expressed satisfaction with the results. A comparison of Norwest's actual performance with that of its normal portfolio are presented in Section V.

V. PERFORMANCE

Market Timing

	Rate of Return		
	Last Quarter	Last Year	Since 6/30/83
Equity Only	-2.1%	-11.8%	-20.1%
Total Fund	-1.9	-7.5	-14.5

Over the last year and over the last six quarters, Norwest's asset mix decisions have tended to add value. It should be noted, however, that for almost all of this period the firm's equity performance has been negative. Thus, any consistently positive cash position would add value to the total fund relative to equity-only performance.

Performance relative to Wilshire 5000 (Net of Fees)

	Rate of Return		
	Last Quarter	Last Year	Since 3/31/83
Total Portfolio	-1.9%	-7.5%	-0.5%
Wilshire 5000	1.3	3.1	13.5

After a strong initial quarter (2Q 1983), Norwest's performance has fallen considerably behind that of the market. The firm has consistently underperformed the market in each of the last six quarters.

Performance relative to other aggressive managers (Net of Fees)

	Rate of Return		
	Last Quarter	Last Year	Since 3/31/84
Total Portfolio	-1.9%	-7.5%	-0.5%
TUCS Aggressive Managers	0.6	-2.9	N.A.
SBI Manager Aggregate	2.4	1.0	5.3

Since late 1983 the market for small, emerging growth stocks has been extremely difficult. Norwest's results have reflected this fact. With the exception of the first two quarters of the SBI's account, the firm has consistently underperformed the returns of other aggressive managers, particularly rotational and value managers.

Performance relative to normal portfolio

	Last Quarter	Year Ending 12/31/84
Total Portfolio (Net of Fees)	-1.9%	-7.5%
Normal Portfolio	-2.4	-8.7

Norwest has outperformed its normal portfolio over the last year. This indicates that much of the firm's poor performance relative to other performance standards can be explained by a poor market for the firm's investment style. Further, this result indicates that Norwest has added value relative to what could have been achieved with a passive investment in the firm's investment style.

STATE OF MINNESOTA

EXTERNAL EQUITY MANAGER UPDATE INTERVIEW

1. Name of manager interviewed Siebel Capital Management

2. Date interview conducted February 22, 1985

3. Date of last interview August 7, 1984

4. Representing Minnesota State Board of Investment

   Howard Bicker
   Jeff Bailey
   David McCulloch

5. Representing manager

   Ronald Sloan - Portfolio Manager

STAFF COMMENTS AND RECOMMENDATIONS

1. Siebel is a difficult manager to classify by investment style. The firm evidences attributes of both growth and rotational management. Staff has chosen a rotational classification.

2. Staff believes that the firm has failed to consistently implement any particular investment approach. Investment decisions seem to lack a clear long-run objective. The portfolio has maintained above average levels of diversification.

3. The negative issues associated with Siebel's purchase by Equitec do not appear to be resolved. Staff is concerned that over the long-run, the firm's investment management could be seriously hindered.

4. Notwithstanding the above comments Siebel's performance in 1984 and over the last seven quarters has been respectable. The firm has slightly underperformed the market and outperformed the median aggressive manager.

5. Staff recommends that the firm's performance continue to receive close monitoring. No new cash flow should be allocated to Siebel.

I. ORGANIZATION

As discussed in the last update interview, in mid-1984 Siebel Capital was acquired by Equitec, a financial services firm. In that time, staff questioned a number of aspects of the acquisition that had the potential to disrupt the firm's investment management over the long-term.

Staff was particularly concerned that the Equitec purchase would diminish the aggressiveness of the firm's investment management. The nature of the principals' employment contracts are not well-designed to provide incentives to continue the firm's previous investment approach. Staff was also concerned that Siebel's entry into the mutual fund business could be distracting. Staff felt that the distractions of setting up the funds, establishing an investment approach, and hiring new personnel could hinder the firm's investment management. Staff's discussions with Siebel since mid-1984 have not convinced staff that these problems have been satisfactorily resolved.

II. ASSETS UNDER MANAGEMENT

	March 31, 1983		June 30, 1984		December 31, 1984	
	Number	Market Value (Millions)	Number	Market Value (Millions)	Number	Market Value (Millions)
Tax Exempt Accounts	32	$412	39	$567	37	$590

Since the last update interview, Siebel has lost four accounts (and gained two). Three of the account losses were related to concerns over the effect of the firm's acquisition on its investment management. These concerns are similar to those expressed by SBI staff.

III. STAFF

Since the last update interview, Siebel has added two portfolio managers who will eventually run the mutual funds that Siebel has planned.

Ed Sporl, previously with Bear Stearns, was hired as a fixed income specialist. Currently, Siebel has no fixed income only accounts. Until the fixed income mutual fund is in operation, Sporl is working with accounts that have a balanced orientation. This lack of work for a senior member of the firm is of some concern to staff. Further, it appears that this situation will exist for some considerable time into the future.

David Gruggenheime, formerly of Cumberland Funds, was hired as a research analyst. It is expected that he will eventually manage the firm's planned equity mutual fund. In the interim he is assisting in analyzing common stock investment opportunities for the firm's existing accounts.

IV. INVESTMENT APPROACH

a. Investment Philosophy

Siebel's stated investment approach calls for a blend of stock selection, sector selection and asset mix decisions. The firm tends to purchase the stocks of two types of companies. First are those seasoned growth companies, usually selling at premium P/E's, which are devising new products or creating new markets for old products that are likely to significantly raise earnings growth. Second are low P/E companies undergoing a potentially profitable redeployment of assets.

b. Investment Style Classification

Staff has had great difficulty classifying Siebel. The firm's stated investment philosophy would indicate a growth style. The firm's observed tendency to make sizable asset mix shifts and rotate among sectors would call for a rotational classification. Staff believes that this latter classification is most appropriate.

c. Investment Philosophy Implementation

Staff believes that Siebel has been inconsistent in implementing any clear-cut investment approach. The firm's investment decisions seem to lack a clear focus. The amorphous nature of Siebel's investment decisions are evidenced by the ill-defined nature of the firm's portfolio risk characteristics and the high level of diversification. Discussions with Siebel regarding this situation have not provided satisfactory explanations.

d. Market Timing Approach

The firm states that it is a moderate market timer, willing to make modest asset mix moves over a market cycle. In fact, since the inception of the SBI's account the firm has been one of the SBI's most active market timers. Siebel has aggressively moved in and out of cash, at times exceeding a 35% position.

e. Normal Portfolio

Staff discussed with Siebel the concept of a normal portfolio. Honeywell has been working with Siebel to construct such a portfolio. Staff intends to coordinate its efforts with Honeywell.

V. PERFORMANCE

Market Timing

	Rate of Return		
	Last Quarter	Last Year	Since 6/30/83
Equity Only	5.2%	3.2%	-3.3%
Total Fund (Net of Fees)	4.8	2.9	-2.3

Over the last year and over the last six quarters Siebel's market timing has been moderately successful. The firm held a defensive position during much of late 1983 and throughout 1984. While this strategy dampened downside performance, it prevented the firm from fully participating in the third quarter rally of 1984.

Performance relative to Wilshire 5000 (Net of Fees)

	Rate of Return		
	Last Quarter	Last Year	Since 3/31/83
Total Portfolio	4.8%	2.9%	6.7%
Wilshire 5000	1.3	3.1	13.5

Siebel has performed respectably relative to the market over the last year. The majority of the firm's performance was derived from a strong second quarter and fourth quarter 1984. In other periods the firm's returns have trailed those of the market, and as a result cumulative relative performance over the last seven quarters has lagged.

Performance relative to other aggressive managers (Net of Fees)

	Rate of Return		
	Last Quarter	Last Year	Since 3/31/84
Total Portfolio	-1.8%	2.9%	6.7%
TUCS Aggressive Managers	0.6	-2.9	N.A.
SBI Manager Aggregate	2.4	1.0	5.3

Siebel has performed well relative to other aggressive managers over the last year and over the last seven quarters. Again, much of this strong performance was derived from second and fourth quarters of 1984. The firm's tendency to hold large cash positions in a poor period for the market aided performance. Further, the firm's stock selection also appears to have added relative value.

STATE OF MINNESOTA

EXTERNAL EQUITY MANAGER UPDATE INTERVIEW

1. Name of manager interviewed — Herbert R. Smith

2. Date interview conducted — February 25, 1985

3. Date of last interview — July 25, 1984

4. Representing Minnesota State Board of Investment

   Howard Bicker
   Jeff Bailey

5. Representing manager

Hebert Smith - Portfolio Manger
David Bagbee - Portfolio Manager

STAFF COMMENTS AND RECOMMENDATIONS

1. Herbert R. Smith is a growth manager with a bias toward small to medium capitalization stocks.

2. Staff believes that the firm has largely resolved the problems of mid-1984 when the firm apparently was caught between two investment strategies, effectively implementing neither. The firm has moved toward larger capitalization companies experiencing positive cyclical or secular earnings turnarounds. This is opposed to its more traditional emphasis on smaller, high growth companies.

3. The firm's performance has been very weak. Much of this poor performance was centered in 1983, although the firm's failure to participate fully in the August 1984 rally also hurt relative performance. Despite the poor environment for growth managers over the last six quarters, Herbert R. Smith's performance has been particularly poor.

4. Staff recommends that the firm's performance and the implementation of its investment approach continue to be closely monitored. No new cash flow should be allocated to the firm.

I. ORGANIZATION

No significant organizational changes have occurred at Herbert R. Smith since the last update interview.

II. ASSETS UNDER MANAGEMENT

	March 31, 1983		June 30, 1984		December 31, 1984	
	Number	Market Value (Millions)	Number	Market Value (Millions)	Number	Market Value (Millions)
Tax Exempt Accounts	24	$152	31	$203	30	$200

No significant account changes have taken place at Herbert R. Smith since the last update interview. One account was gained and two more were lost. Given the firm's recent poor performance, account growth is unlikely to be a problem in the near future. The firm's long-run target remains roughly $300 million under management.

III. STAFF

Herbert R. Smith's block trader left the firm in late-1984 at the mutual agreement of the two parties. The firm felt that its style of management did not warrant the use of a block trader. No replacement is likely to be hired.

IV. INVESTMENT APPROACH

a. Investment Philosophy

Herbert R. Smith's stated investment philosophy calls for a mixture of fundamental and technical analysis, both in terms of stock selection, but asset mix decisions as well. In terms of stock selection, the firm focuses on companies with high expected profitability and earnings potential that are undervalued based on relative P/E compared to historic ranges.

b. Investment Style Classification

Staff has classified Herbert R. Smith as a growth manager with a bias toward small to medium capitalization stocks.

c. Investment Philosophy Implementation

In recent quarters, staff has expressed concern that the firm is not consistently implementing its stated investment approach. As discussed in the last update interview, in mid-year 1984, the firm seemed caught between a strategy of holding its traditional smaller emerging growth issues and a strategy of holding larger capitalization companies experiencing positive cyclical and secular earnings turnarounds in a disinflationary environment. The result was an overly diversified portfolio with no particular investment direction. Herbert R. Smith has largely resolved that problem, moving out of many small, growth stocks, and reducing portfolio diversification. Certain portfolio risk characteristics have shifted in a manner consistent with this strategy including a lower P/E, and more earnings variability and earnings success risk, and a lower R-squared. Further, the firm has shifted its industry emphasis toward transportation and financial stocks and away from technology stocks, consistent with its current strategy. On the other hand, the growth orientation and smaller capitalization tendencies of the portfolio still exist.

d. Market Timing Approach

Herbert R. Smith is an active market timer. The firm states that it is willing to make significant short-run asset mix moves at any point in the market cycle, if it believes technical and fundamental market factors warrant such moves. To date the firm has been moderately active in its market timing approach, although its most significant asset mix decision was to stay out of the market in the second quarter 1983 and then begin entering in the third quarter 1983.

e. Normal Portfolio

Staff discussed the concept of a normal portfolio with the firm. Honeywell is currently working on a normal portfolio for Herbert R. Smith. Staff intends to discuss this subject further with Honeywell.

V. PERFORMANCE

Market Timing

	Rate of Return Last Quarter	Last Year	Since 6/30/83
Equity Only	-0.9%	-7.0%	-23.6%
Total Fund (Net of Fees)	-0.8	-5.4	-17.3

The firm's equity performance has been quite poor over the last six quarters. This tends to overwhelm the market timing success measure, as any cash held will aid total portfolio performance. In general, the pattern of the firm's cash holdings have not been well timed relative to market movements.

Performance relative to Wilshire 5000 (Net of Fees)

	Rate of Return Last Quarter	Last Year	Since 3/31/83
Total Portfolio	-0.9%	-5.4%	-12.5%
Wilshire 5000	1.3	3.1	13.5

Herbert R. Smith has underperformed the market in every quarter since inception. The bulk of the firm's large cumulative underperformance relative to the market was centered in 1983. The firm also missed much of the third quarter 1984 rally.

Performance relative to other aggressive managers (Net of Fees)

	Rate of Return Last Quarter	Last Year	Since 3/31/84
Total Portfolio	-0.9%	-5.4%	-12.5%
TUCS Aggressive Managers	0.6	-2.9	N.A.
SBI Manager Aggregate	2.4	1.0	5.3

Herbert R. Smith has significantly underperformed other aggressive equity managers over the last seven quarters, with much of this underperformance occurring in 1983. Since then the firm's relative performance has been poor, but not excessively so, especially in light of the firm's growth style of investing.

STATE OF MINNESOTA

EXTERNAL EQUITY MANAGER UPDATE INTERVIEW

1. Name of manager interviewed — Trustee & Investors Co.

2. Date interview conducted — February 19, 1985

3. Date of last interview — August 15, 1984

4. Representing Minnesota State Board of Investment

   Howard Bicker
   Jeff Bailey
   David McCulloch

5. Representing manager

   Mason Klinck - Portfolio Manager
   Richard Welch - Portfolio Manager

STAFF COMMENTS AND RECOMMENDATIONS

1. Trustee & Investors is a growth manager with a bias toward medium to large capitalization stocks.

2. While staff believes that the firm has generally followed its stated investment philosophy, staff is concerned that the firm has pursued strategies which have recently been in favor, rather than follow a contrarian view, as the firm claims to do.

3. Trustee & Investors' performance has been very weak. The market for growth stocks has been poor over the last six quarters, but despite this fact, the firm's performance has been disappointing.

4. Staff recommends that the firm's performance continue to be closely monitored. No new cash flow should be allocated to the firm.

I. ORGANIZATION

No significant organizational changes have taken place at Trustee & Investors since the last update interview.

II. ASSETS UNDER MANAGEMENT

	March 31, 1983		June 30, 1984		December 31, 1984	
	Number	Market Value (Millions)	Number	Market Value (Millions)	Number	Market Value (Millions)
Tax Exempt Accounts	15	$310	26	$652	26	$762

Total net accounts did not increase since our last meeting. Two clients were lost and two gained. Long-term growth targets remain at 20+ accounts and $1 billion in assets. Active marketing is no longer being conducted and the account size minimum has been raised to $25 million. However, the firm has retained a number of smaller accounts. Staff believes that Trustee & Investors has considerable room for expansion in terms of assets. However, staff would be concerned if the number of clients increased much beyond current levels.

III. STAFF

Mason Klinck, Jr. recently joined the firm as a portfolio manager. He will coordinate the firm's efforts to begin investments in foreign securities. The expansion of the firm's internal computer capacity continues.

IV. INVESTMENT APPROACH

a. Investment Philosophy

Trustee & Investors stated investment philosophy focuses almost solely on stock selection, utilizing a highly disciplined investment approach. The firm analyzes purchase and sale candidates through the use of computerized data bases which screen such fundamental valuation parameters as price, earnings, and balance sheet and income statement data. The firm searches for undervalued companies undergoing or likely to undergo, cyclical or secular earnings growth.

b. Investment Style Classification

Staff has classified Trustee & Investors as a growth manager with a medium to large capitalization bias. The firm's investment approach does have some elements of value investing, but its emphasis on earnings growth makes a growth classification the most reasonable choice.

c. Investment Philosophy Implementation

Staff believes that Trustee & Investors, while generally adhering to its stated investment philosophy, has at times experienced slippage in terms of actual execution. Rather than closely following its value oriented approach to investing in growth stocks, the firm seems to have had a tendency to follow market trends, with often disappointing results. In the first year of the SBI's account, the firm's portfolio exhibited above average P/E, beta, growth attributes and a small capitalization bias. As 1984 progressed, the firm's portfolio tended to shift toward lower P/E's, less growth, lower beta and larger capitalization names. These shifts appear to be more a following of market leadership rather than an anticipation of market leadership. On the other hand, prominent risk characteristics of the firm's portfolio which have remained relatively constant include exposure to companies with low earnings success and to companies with high financial leverage.

d. Market Timing Approach

Trustee & Investors as a matter of stated investment policy always maintains a fully invested position. The firm has adhered closely to this policy in managing the SBI's account.
Staff discussed with Trustee & Investors the possibility of allowing SBI managers to hold no more than a 5% cash position. The firm stated that it would be quite comfortable with such a policy.

e. Normal Portfolio

Trustee & Investors follows a discipline of only considering for possible investment companies with at least $150 million in sales, adequate trading volume, and which have been in existence at least ten years. Stocks passing this screen number roughly one thousand. It was agreed that this group of securities, equal weighted, would constitute the firm's normal portfolio. The firm agreed to supply staff with a list of those securities as of 12/31/84.

V. PERFORMANCE

Market Timing

	Rate of Return Last Quarter	Last Year	Since 6/30/83
Equity Only Total Fund (Net of Fees)	N.A.	N.A.	N.A.

Trustee & Investors, as a matter of investment policy, remains fully invested at all times. Thus, the market timing success measure is not applicable.

Performance relative to Wilshire 5000 (Net of Fees)

	Rate of Return Last Quarter	Last Year	Since 3/31/83
Total Portfolio	-1.4%	-7.5%	-4.7%
Wilshire 5000	1.3	3.1	13.5

With the exclusion of the second quarter 1983, Trustee & Investors has consistently underperformed the Wilshire 5000 over the last seven quarters. The cumulative result has been performance far behind that of the market. The firm's policy of maintaining a fully invested position has exacerbated its relative underperformance.

Performance relative to other aggressive managers (Net of Fees)

	Rate of Return Last Quarter	Last Year	Since 3/31/84
Total Portfolio	-1.4%	-7.5%	-4.7%
TUCS Aggressive Managers	0.6	-2.9	N.A.
SBI Manager Aggregate	2.4	1.0	5.3

Over the last year and over the last seven quarters, Trustee & Investors has fairly consistently underperformed other aggressive managers. The market has been difficult for growth managers in general. However, given the large capitalization bias and discipline of the firm's investment style, its results have been particularly disappointing.

STATE OF MINNESOTA

EXTERNAL EQUITY MANAGER UPDATE INTERVIEW

1. Name of manager interviewed — Waddell & Reed

2. Date interview conducted — March 8, 1984

3. Date of last interview — August 24, 1984

4. Representing Minnesota State Board of Investment

   Howard Bicker
   Jeff Bailey
   Roger Henry
   David McCulloch

5. Representing manager

   Henry Herrmann - Portfolio Manager

STAFF COMMENTS AND RECOMMENDATIONS

1. Waddell & Reed is a rotational manager with a bias toward small to medium capitalization stocks.

2. Staff believes that the firm has consistently implemented its stated investment approach. The firm has heavily emphasized market timing over the last five quarters.

3. Waddell & Reed has performed well relative to other aggressive mangers and has roughly matched the market over the last seven quarters. The firm's strong equity performance in mid-1983 and defensive market timing in late 1983 and early 1984 was very effective. However, the firm also missed the market rally of August 1984.

4. Staff recommends that normal manager monitoring continue. If additional manager funding were to take place, Waddell & Reed should receive new cash flow.

I. ORGANIZATION

No significant changes have taken place at Waddell & Reed since the last update interview.

II. ASSETS UNDER MANAGEMENT

	March 31, 1983		June 30, 1984		December 31, 1984	
	Number	Market Value (Millions)	Number	Market Value (Millions)	Number	Market Value (Millions)
Tax Exempt Accounts	6	$471	9	$503	9	$605

Waddell & Reed has experienced no changes in the number of accounts since the last update interview. The firm is closed to new aggressive management clients.

III. STAFF

No significant changes have occurred since the last update interview.

IV. INVESTMENT APPROACH

a. Investment Philosophy

Waddell & Reed places a heavy emphasis on market timing which it attempts to coordinate with aggressive, concentrated stock selection. Within its equity portfolio the firm normally will focus on small, high growth companies. However, given its market outlook, the firm will rotate into defensive holdings as conditions warrant.

b. Investment Style Classification

Staff has classified Waddell & Reed as a rotational manager. This classification is predicated on the firm's willingness to make active market timing decisions and shift sector emphasis depending on its economic and market outlook. The rotational classification is somewhat imprecise as the firm does normally exhibit a strong growth orientation. However, it rotational style appears to dominate portfolio results to date.

c. Investment Philosopy Implementation

Staff believes that Waddell & Reed has consistently implemented its stated investment philosophy. The firm to date has emphasized market timing to a much greater extent than stock selection. In fact, equity holdings have been utilized primarily as a hedge against the firm's large cash positions.

That is, in periods when the firm has held a high cash component, the equity holdings have been placed in aggressive, high beta stocks that would be expected to perform well if the firm's down market forecast proved wrong. The rotational aspects of the firm's investment style are apparent in such portfolio risk statistics as total and equity beta, yield, small capitalization orientation and growth attributes.

d. Market Timing Approach

Waddell & Reed identifies itself as an active market timer. To date, the firm has shown itself to be the SBI's most aggressive asset allocator. At times the firm's cash position has risen to 80% of the total portfolio's value.

e. Normal Portfolio

Staff discussed with Waddell & Reed the concept of a normal portfolio. The firm agreed to supply staff with historical portfolio data.

V. PERFORMANCE

Market Timing

	Rate of Return		
	Last Quarter	Last Year	Since 6/30/83
Equity Only	0.7%	-26.4%	-36.4%
Total Fund	1.5	-0.7	-8.7

It is abundantly clear that Waddell & Reed has added value by its market timing actions. The firm's total portfolio has far outperformed its equity portfolio over the last year and over the last six quarters.

However, this analysis ignores the extent to which the firm's stock selection was imp[illegible] by its market timing decisions. The firm claims tha[illegible] equity portfolio was very aggressively positioned fro[illegible] -1983 on as a hedge against the high cash position held. Thus, it is possible that without the firm's market timing strategies, equity performance might have been considerably different and more profitable.

Performance relative to Wilshire 5000 (Net of Fees)

	Rate of Return		
	Last Quarter	Last Year	Since 3/31/83
Total Portfolio	1.5%	-0.7%	13.2%
Wilshire 5000	1.3	3.1	13.5

Waddell & Reed's exceptionally strong second quarter 1983, combined with its late 1983, early 1984 very defensive posture has enabled the firm to roughly match the market's performance over the last seven quarters. However, the firm failed to participate at all in the third quarter 1984 market rally, hence, relative performance over the last year has lagged.

Performance relative to other aggressive managers (Net of Fees)

	Rate of Return		
	Last Quarter	Last Year	Since 3/31/84
Total Portfolio	1.5%	-0.7%	13.2%
TUCS Aggressive Managers	0.6	-2.9	N.A.
SBI Manager Aggregate	2.4	1.0	5.3

Again, Waddell & Reed's strong second quarter 1983 and late 1983, early 1984 defensive strategy has resulted in the firm's performance over the last seven quarters being far superior to most other aggressive managers. But again, its failure to participate in the third quarter 1984 market rally has hindered relative performance over the last year.

Tab G

EXECUTIVE DIRECTOR
HOWARD J. BICKER

STATE OF MINNESOTA
STATE BOARD OF INVESTMENT

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

March 11, 1985

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

FROM: Fixed Income Manager Committee

SUBJECT: Committee Report

The Committee reviewed the progress of the implementation of the Post Retirement Investment Fund's dedicated bond portfolio. Staff will make a final written report to the Committee at its next meeting.

The Committee also reviewed data on the Board's external fixed income managers. Again due to the short period since the managers were retained, the Committee believes that no recommendations are in order, beyond the comment that no significant problems have been observed.

EXTERNAL FIXED INCOME MANAGER INFORMATION
December 31, 1984

FIRM NAME: Investment Advisers, Inc. (Minneapolis)

PORTFOLIO MANAGER(S): Lawrence Hill

ACCOUNT HISTORY: START-UP: 7/2/84 $25.0 million

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 analysis consistent with the firm's interest rate forecast. Individual security selection receives very limited emphasis, focusing largely on specific bond characteristics such as call provisions.

QUARTER-END PORTFOLIO STATISTICS

	QTR. PORT. T/O	# OF ISSUES	BOND ALLOC.	COUPON	CURRENT YIELD	YIELD TO MAT.	DURATION	TERM TO MAT.
INVESTMENT ADVISERS	24%	10	99%	8.4%	9.3%	11.5%	5.6 YRS.	12.1 YRS.
SBI MANAGERS (AVG.)	36	22	93	10.3	10.9	11.8	4.5	11.3
TUCS MEDIAN	NA	NA	89	11.3	NA	NA	4.6	8.8

	QUALITY WEIGHTINGS							SECTOR WEIGHTINGS							
	GOV'T	AGCY	AAA	AA	A	BAA	OTHER	GOV'T	AGCY	IND	UTIL	FINC	TRAN	MTGS	MISC
INVESTMENT ADVISERS	52%	0%	22%	26%	0%	0%	0%	52%	0%	0%	25%	4%	0%	0%	19%
SBI MANAGERS (AVG.)	34	29	15	11	7	2	2	34	11	2	9	12	0	19	13
ML BOND INDEX	60	12	4	10	10	3	1	60	12	7	12	4	1	0	4

PERFORMANCE

	LATEST QUARTER	SINCE INCEPTION (6/30/84)
INVESTMENT ADVISERS	8.8%	21.6%
SBI MGR. AGGEGATE	6.8	15.4
TUCS MEDIAN	7.0	15.3
ML BOND INDEX	7.1	16.4
CPI (INFLATION)	0.3	1.5

EXTERNAL FIXED INCOME MANAGER INFORMATION
December 31, 1984

FIRM NAME: Lehman Management Company (New York)

PORTFOLIO MANAGER(S): Paul Hutter
Stephen Kohlhagen

ACCOUNT HISTORY: START-UP: 7/2/84 $150.0 million

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.

QUARTER-END PORTFOLIO STATISTICS

	QTR. PORT. T/O	# OF ISSUES	BOND ALLOC.	COUPON	CURRENT YIELD	YIELD TO MAT.	DURATION	TERM TO MAT.
LEHMAN MGMT.	42%	19	85%	11.7%	11.7%	10.8%	3.3 YRS.	6.0 YRS.
SBI MANAGERS (AVG.)	36	22	93	10.3	10.9	11.8	4.5	11.3
TUCS MEDIAN	NA	NA	89	11.3	NA	NA	4.6	8.8

	QUALITY WEIGHTINGS							SECTOR WEIGHTINGS							
	GOV'T	AGCY	AAA	AA	A	BAA	OTHER	GOV'T	AGCY	IND	UTIL	FINC	TRAN	MTGS	MISC
LEHMAN MGMT.	65%	18%	15%	0%	2%	0%	0%	65%	13%	2%	0%	0%	0%	5%	15%
SBI MANAGERS (AVG.)	34	29	15	11	7	2	2	34	11	2	9	12	0	19	13
ML BOND INDEX	60	12	4	10	10	3	1	60	12	7	12	4	1	0	4

PERFORMANCE

	LATEST QUARTER	SINCE INCEPTION (6/30/84)
LEHMAN MGMT.	6.8%	16.1%
SBI MGR. AGGEGATE	6.8	15.4
TUCS MEDIAN	7.0	15.3
ML BOND INDEX	7.1	16.4
CPI (INFLATION)	0.3	1.5

EXTERNAL FIXED INCOME MANAGER INFORMATION
December 31, 1984

FIRM NAME: Miller, Anderson & Sherrerd (Philadelphia)

PORTFOLIO MANAGER(S): Richard Worley
Thomas Bennett

ACCOUNT HISTORY: START-UP: 7/21/84 $150.0 million

INVESTMENT PHILOSOPHY: Miller Anderson focuses its investments in misunderstood or underresearched classes of securities. Over the years this approach has led the firm to emphasize mortgage-backed securities in its portfolios. The firm rarely purchases corporate bonds. Based on its economic and interest rate outlook, the firm establishes a desired maturity level for its portfolios. This decision is instituted primarily through the selection of specific types of mortgage securities that have prepayment expectations consistent with the portfolio's desired maturity. The firm will also move in and out of cash, but generally only gradually over an interest rate cycle and never taking extremely high cash positions. Total portfolio maturity is always kept within an intermediate three-to-seven year duration band. Unlike many 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.

QUARTER-END PORTFOLIO STATISTICS

	QTR. PORT. T/O	# OF ISSUES	BOND ALLOC.	COUPON	CURRENT YIELD	YIELD TO MAT.	DURATION	TERM TO MAT.
MILLER ANDERSON	29%	41	99%	9.1%	10.2%	12.8%	4.0 YRS.	12.6 YRS.
SBI MANAGERS (AVG.)	36	22	93	10.3	10.9	11.8	4.5	11.3
TUCS MEDIAN	NA	NA	89	11.3	NA	NA	4.6	8.8

	QUALITY WEIGHTINGS							SECTOR WEIGHTINGS							
	GOV'T	AGCY	AAA	AA	A	BAA	OTHER	GOV'T	AGCY	IND	UTIL	FINC	TRAN	MTGS	MISC
MILLER ANDERSON	0%	42%	21%	13%	18%	1%	5%	0%	5%	5%	0%	45%	0%	37%	8%
SBI MANAGERS (AVG.)	34	29	15	11	7	2	2	34	11	2	9	12	0	19	13
ML BOND INDEX	60	12	4	10	10	3	1	60	12	7	12	4	1	0	4

PERFORMANCE

	LATEST QUARTER	SINCE INCEPTION (6/30/84)
MILLER ANDERSON	6.3%	13.4%
SBI MGR. AGGEGATE	6.8	15.4
TUCS MEDIAN	7.0	15.3
ML BOND INDEX	7.1	16.4
CPI (INFLATION)	0.3	1.5

EXTERNAL FIXED INCOME MANAGER INFORMATION
December 31, 1984

FIRM NAME: Morgan Stanley Asset Management (New York)

PORTFOLIO MANAGER(S): Peter Nadosy
Geoffrey Gettman

ACCOUNT HISTORY: START-UP: 7/2/84 $150.0 million

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. Further, the firm avoids short-run trades between qualities and sectors. 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.

QUARTER-END PORTFOLIO STATISTICS

	QTR. PORT. T/O	# OF ISSUES	BOND ALLOC.	COUPON	CURRENT YIELD	YIELD TO MAT.	DURATION	TERM TO MAT.
MORGAN STANLEY	48%	12	100%	11.5%	11.5%	11.5%	5.3 YRS.	10.3 YRS.
SBI MANAGERS (AVG.)	36	22	93	10.3	10.9	11.8	4.5	11.3
TUCS MEDIAN	NA	NA	89	11.3	NA	NA	4.6	8.8

	QUALITY WEIGHTINGS							SECTOR WEIGHTINGS							
	GOV'T	AGCY	AAA	AA	A	BAA	OTHER	GOV'T	AGCY	IND	UTIL	FINC	TRAN	MTGS	MISC
MORGAN ST/NLEY	74%	26%	0%	0%	0%	0%	0%	74%	19%	0%	0%	0%	0%	7%	0%
SBI MANAGERS (AVG.)	34	29	15	11	7	2	2	34	11	2	9	12	0	19	13
ML BOND INDEX	60	12	4	10	10	3	1	60	12	7	12	4	1	0	4

PERFORMANCE

	LATEST QUARTER	SINCE INCEPTION (6/30/84)
MORGAN STANLEY	7.2%	13.9%
SBI MGR. AGGEGATE	6.8	15.4
TUCS MEDIAN	7.0	15.3
ML BOND INDEX	7.1	16.4
CPI (INFLATION)	0.3	1.5

EXTERNAL FIXED INCOME MANAGER INFORMATION
December 31, 1984

FIRM NAME: Norwest Bank Minneapolis

PORTFOLIO MANAGER(S): William Geise

ACCOUNT HISTORY: START-UP: 7/2/84 $75.0 million

INVESTMENT PHILOSOPHY: Norwest's stresses consistency of fixed income portfolio relative returns. To accomplish this goal, the firm maintains a portfolio of high quality, liquid securities and a balance of maturity levels avoiding extreme exposures on either the long or short end. Further, Norwest will make only gradual moves between maturities over an interest rate cycle. The firm's maturity, quality and sector decisions are driven by both its economic forecasts and a quantitative analysis of the sensitivity of various classes of fixed income securities to different interest rate scenarios. The firm also concentrates on exploring misperceived fixed income securities, which has led the firm to make extensive use of mortgage-backed securities and floating rate notes.

QUARTER-END PORTFOLIO STATISTICS

	QTR. PORT. T/O	# OF ISSUES	BOND ALLOC.	COUPON	CURRENT YIELD	YIELD TO MAT.	DURATION	TERM TO MAT.
NORWEST BANK	37%	25	96%	10.6%	11.0%	12.3%	3.5 YRS.	10.1 YRS.
SBI MANAGERS (AVG.)	36	22	93	10.3	10.9	11.8	4.5	11.3
TUCS MEDIAN	NA	NA	89	11.3	NA	NA	4.6	8.8

	QUALITY WEIGHTINGS							SECTOR WEIGHTINGS							
	GOV'T	AGCY	AAA	AA	A	BAA	OTHER	GOV'T	AGCY	IND	UTIL	FINC	TRAN	MTGS	MISC
NORWEST BANK	6%	45%	14%	13%	15%	4%	3%	6%	15%	0%	5%	20%	0%	30%	14%
SBI MANAGERS (AVG.)	34	29	15	11	7	2	2	34	11	2	9	12	0	19	13
ML BOND INDEX	60	12	4	10	10	3	1	60	12	7	12	4	1	0	4

PERFORMANCE

	LATEST QUARTER	SINCE INCEPTION (6/30/84)
NORWEST BANK	5.6%	13.0%
SBI MGR. AGGEGATE	6.8	15.4
TUCS MEDIAN	7.0	15.3
ML BOND INDEX	7.1	16.1
CPI (INFLATION)	0.3	1.5

EXTERNAL FIXED INCOME MANAGER INFORMATION
December 31, 1984

FIRM NAME: Western Asset Management (Los Angeles)

PORTFOLIO MANAGER(S): Kent Engel

ACCOUNT HISTORY: START-UP: 7/2/84 $150.0 million

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 its maturity decisions, are of secondary importance to the firm.

QUARTER-END PORTFOLIO STATISTICS

	QTR. PORT. T/O	# OF ISSUES	BOND ALLOC.	COUPON	CURRENT YIELD	YIELD TO MAT.	DURATION	TERM TO MAT.
WESTERN	49%	23	80%	10.6%	11.4%	11.7%	5.2 YRS.	16.4 YRS.
SBI MANAGERS (AVG.)	36	22	93	10.3	10.9	11.8	4.5	11.3
TUCS MEDIAN	NA	NA	89	11.3	NA	NA	4.6	8.8

	QUALITY WEIGHTINGS							SECTOR WEIGHTINGS							
	GOV'T	AGCY	AAA	AA	A	BAA	OTHER	GOV'T	AGCY	IND	UTIL	FINC	TRAN	MTGS	MISC
WESTERN	4%	43%	21%	15%	7%	5%	5%	4%	11%	8%	22%	2%	2%	32%	20%
SBI MANAGERS (AVG.)	34	29	15	11	7	2	2	34	11	2	9	12	0	19	13
ML BOND INDEX	60	12	4	10	10	3	1	60	12	7	12	4	1	0	4

PERFORMANCE

	LATEST QUARTER	SINCE INCEPTION (6/30/84)
WESTERN	6.8%	18.4%
SBI MGR. AGGEGATE	6.8	15.4
TUCS MEDIAN	7.0	15.3
ML BOND INDEX	7.1	16.4
CPI (INFLATION)	0.3	1.5

STATE OF MINNESOTA

STATE BOARD OF INVESTMENT

FIXED INCOME INVESTMENT MANAGER STATUS REPORT: 9/30/84 - 12/31/84

($ millions)

	EQUITY ASSETS UNDER MANAGEMENT				FOURTH QUARTER 1984							
	6/30/84		12/31/84		Gained		Lost					
Investment Manager	# of Accts	Asset Size	# of Accts	Asset Size	# of Accts	Asset Size	# of Accts	Asset Size	Professional Staff Turnover	Organizational Changes	Investment Style Changes	Comments
Investment Advisers, Inc.	48	$ 275	49	$ 321	1	$ 5	-	$ -	-	-	-	-
Lehman Management Co. Inc.	36	3,000	37	3,200	1	25	-	-	-	-	-	-
Miller, Anderson & Sherrerd	37	2,184	40	2,710	2	107	1	100	-	-	-	-
Morgan Stanley Asset Mgmt. Inc.	29	1,040	35	1,809	2	275	-	-	-	-	-	-
Peregrine Capital Mgmt. Inc.	5	170	6	265	-	-	-	-	-	-	-	-
Western Asset Mgt. Co.	30	1,599	30	1,790	-	-	-	-	-	-	-	-

Tab H

EXECUTIVE DIRECTOR
HOWARD J. BICKER

STATE OF MINNESOTA
STATE BOARD OF INVESTMENT

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

March 5, 1985

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

FROM: Alternative Investment Committee

SUBJECT: Alternative Investment Strategy Recommendations

As a strategy to increase overall portfolio diversification and provide a hedge against inflation, the Investment Advisory Council's Asset Allocation Committee has recommended that 15% or $450 million of the $3 billion Basic Retirement Fund be allocated to alternative investments. Alternative investments include real estate, venture capital and resource investments where Minnesota State Board of Investment (SBI) participation is limited to commingled funds or other pooled vehicles.

STRATEGY FOR INVESTMENTS

VENTURE CAPITAL

The venture capital investment strategy is to establish and maintain a broadly diversified venture capital portfolio comprised of participations in balanced limited partnerships whose objectives specify diversification by industry type, stage of corporate development, and location. Given the current favorable environment for venture capital investing, the Alternative Investment Committee is recommending the SBI's venture capital investment program be substantially completed within the next six months.

To complete the goal of allocating 2.5% of the Basic Retirement Funds to venture capital, approximately $20 million should be invested in two to four additional venture capital partnerships within the next six months.

The Alternative Investment Committee recommends that the Board approve DSV Partners IV for an investment of $10 million. DSV offers one of the most experienced management teams in the industry in addition to proven capabilities in successfully investing, managing and liquidating early stage venture capital investments. A detailed review of DSV is attached.

In conjunction with Venture Economics and the Alternative Investment Committee, staff has conducted an extensive review of DSV, including reference checks and a day-long interview at their place of business. In addition, staff and the Alternative Investment Committee have met with and interviewed key DSV personnel at SBI offices.

REAL ESTATE

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

In consultation with Evaluation Associates and the Alternative Investment Committee, staff is currently conducting on-site interviews of specialty real estate manager investment finalists. The on-site interviews should be completed by June 1985 at which time investment candidates will be recommended to the SBI for funding.

RESOURCE

The strategy for resource investments requires that investments be made over a three to five year period in oil and gas partnerships that focus investment in conservative, lower risk type investments, that is, proved producing properties and royalties which are diversified geographically and/or geologically. In addition, investments should be structured to "trade-off" or minimize tax benefits in order to enhance the SBI's overall rate of return. The Alternative Investment Committee and staff are currently reviewing ways to expand the Board's resource investment portfolio.

ALTERNATIVE EQUITY INVESTMENTS

DECEMBER 31, 1984

FUND	COMMITMENT	FUNDED
REAL ESTATE:		
Equitable	$ 40.0 Million	$ 40.0 Million
Aetna	40.0	40.0
Prudential	40.0	40.0
RREEF	75.0	12.0
Heitman	20.0	18.0
Total:	$215.0 Million	$150.0 Million
Target:	($300 Million or 10% of Basic Retirement Funds)	
VENTURE CAPITAL:		
Norwest	$10.0 Million	$7.0 Million
KKR	25.0	9.8
Summit	10.0	2.5
First Century	10.0	2.5
Total:	$55.0 Million	$21.8 Million
Target:	($75 Million or 2.5% of Basic Retirement Funds)	
RESOURCE:		
Amgo I	$15.0 Million	$15.0 Million
Amgo II	7.0	5.2
Apache	30.0	0.3
Total:	$52.0 Million	$20.5 Million
Target:	($75 Million or 2.5% of Basic Retirement Funds)	

DATA SCIENCE VENTURES PARTNERS IV

I. BACKGROUND DATA

NAME OF FIRM:	DSV Management, Ltd.
NAME OF FUND:	DSV Partners IV (DSV IV)
TYPE OF FUND:	Venture Capital Limited Partnership
SIZE OF FUND:	$60 Million
DATE OF ON-SITE INTERVIEW:	February 4, 1985
FIRM ATTENDEES:	Morton Collins, James Bergman, John Clarke
ADDRESS:	221 Nassau Street Princeton, NJ 08542
TELEPHONE:	(609)924-6420
CONTACT:	Morton Collins, James Bergman

II. ORGANIZATIONAL STRUCTURE

The manager and general partner of DSV Partners IV will be DSV Management, Ltd., a New Jersey Limited Partnership, whose principals are Morton Collins, James Bergman, and Robert Hillas. Venture capital investing is the sole activity conducted by DSV Management and Collins, Bergman, and Hillas will devote substantially all of their time to the management of the current fund, DSV III, and the proposed fund, DSV IV.

III. PERFORMANCE HISTORY

General Partners

Two of the general partners, Collins and Bergman, have worked together for the past fifteen years as founders and managers of the previous DSV venture capital funds: DSV I (1968-1974), DSV II (1974-1980), and DSV III (1981-1991).

Hillas joined DSV III as a general partner in 1981 after serving as a member of DSV II's Advisory Committee for nine years representing E.M. Warburg, Pincus & Co. Hillas was a Vice President and Partner of Warburg and was responsible for the analysis, negotiation, monitoring and disposition of venture capital investments, with particular concentration on technically intensive situations. Resumes of the general partners are presented in Exhibit I, p. 11.

Portfolio Performance

DSV I was formed by Collins in 1968 as a privately held venture capital corporation with $6 million in capital. Major shareholders and Board members of DSV I included representatives of the Rockefeller, Pincus, Crocker, DuPont, and Rothschild families.

The corporation was liquidated in 1974 with the formation of DSV II, a limited partnership with $4 million in contributed capital. DSV II's investor group was drawn primarily from DSV I shareholders. The partnership focused solely on young computer-related companies.

Over the 6.5 year term of DSV II (June, 1974, - December, 1980), the partnership made investments in 27 companies. Seventeen of the companies were private and 10 were publicly held. By the end of DSV II's term on December 31, 1980, thirteen of the investments had been liquidated. Eighteen of the 27 investments generated realized or unrealized gains, two of the investments returned their cost, and seven resulted in realized or unrealized losses. The most successful investment in the portfolio was Tandem Computers, which returned over 40 times its original cost. Overall, the compound annual return to DSV II's limited partners as of December, 1980, based on capital contributions and unrealized and realized capital gains, was 29.5%. The internal rate of return on invested capital was 48.5%.

By December 31, 1984, ten of the fourteen remaining DSV II investments had been liquidated. Four of the investments resulted in realized gains and five resulted in losses. The DSV II portfolio and its performance record are presented in Exhibits 2A and 2B on pp. 12-13.

DSV III, a limited partnership with $34 million in contributed capital, was formed in 1981 by Collins, Bergman, and Hillas. Although DSV continued its start-up and early stage focus, DSV III's industry focus was broadened to include other high-tech industries in addition to computer-related fields, and capital contributions were solicited from institutions rather than wealthy families.

Princeton University was the lead investor in DSV III, contributing $10 million of the partnership's capital. Currently, DSV III has invested over $19 million in 24 companies, 21 of which are privately owned. Two of the investments have generated realized gains. Of the remaining 22 investments, 12 have been valued above cost and 4 have been valued below cost. The unrealized value of the DSV III portfolio as of September 30, 1984, was estimated by the general partners to be $35 million. The compound annual return to the limited partners over the 3.5 years from DSV III's inception through September 30, 1984, was 17.6%. The IRR on invested capital was 58.6%. The DSV III portfolio is listed in Exhibit 2C, p. 14.

IV. STAFF

Staff Composition

The staff consists of three general partners, Collins, Bergman and Hillas, and one associate, John Clarke. Currently, all of the staff members are located in DSV's office in Princeton, New Jersey. The general partners anticipate that Bergman will open an office in California in 1985 and will hire an experienced associate. In addition, up to three general partners and two associates may be added to the staff over the term of the DSV IV partnership.

Staff Turnover

Since 1968, only two staff members have left the DSV organization. One staff member left to obtain corporate finance experience and the other accepted a position with Crocker National Bank.

Allocation of Responsibilities among Staff Members

The general partners and associates will be individually responsible for specific portfolio company investments from deal origination through investment liquidation. In assigning responsibility for portfolio company investments, the general partners will attempt to utilize the special skills and expertise of individual staff members. However, although one of the staff members may bear primary responsibility for a specific portfolio company investment, all of the staff will participate in the analysis, selection, and management of the investment.

Compensation and Incentive Systems

Collins, Bergman, and Hillas will receive a salary and an equal share in the general partners' 20% carried interest. Associates will receive a salary and, in addition, will be eligible to receive a performance bonus.

Associates will receive a salary and, in addition, will be eligible to receive a performance bonus.

Affiliation with Research Organizations and Consultants

The general partners will not utilize any research organizations or consultants on a formal basis. Rather, if necessary, in researching individual investments staff members will contact experts in appropriate fields or call on entrepreneurs of companies they have funded to assist in the analysis of technologies, markets, and products.

Co-investment Network

As active venture capital investors for over 15 years, the general partners have developed an extensive network of co-investors. They have co-invested in the past and will continue to co-invest with experienced venture capitalists throughout the country. Frequent co-investors have included Venrock; Warburg, Pincus; Rothschild, Inc.; Brentwood; and Kleiner, Perkins. Concord Partners, Greylock, Charles River, New Enterprise Associates, and Mayfield have also participated in DSV syndications on occasion.

V. INVESTMENT STRATEGY

Corporate Stage of Development

The general partners will continue the strategy they developed for the previous DSV funds. That is, the majority of the DSV IV investments will be in start-up and early stage firms. In addition, the general partners expect to fund a number of special "projects" or seed stage companies. However, the general partners also expect to find an unusually large number of attractive later stage opportunities emerging over the next several years and, thus, they anticipate that the DSV IV portfolio will have a substantial later stage component.

Location

Historically, over 50% of the DSV investments have been on the East Coast and over 30% have been situated along the West Coast. The remainder have been located throughout the country. For DSV IV, the geographic distribution will be similar to that of the previous DSV funds.

Industries

Traditionally, DSV has invested solely in high technology companies and the majority of the investments have been made in the data processing industry. While DSV will continue to invest only in high-tech firms and will continue to focus most of its investment activities in the areas of data communication, information processing, automation equipment, and other electronic devices, several new areas may be added to the DSV IV portfolio. The general partners anticipate that interesting investment opportunities will develop in the areas of biochemistry, genetic research, and artificial intelligence. However, these areas are expected to remain a relatively small part of the total DSV IV portfolio.

Deal Origination

The general partners have led over 75% of their previous investments. However, they will lead approximately 50% of the DSV IV investments and will co-invest with other experienced venture capitalists for the remainder of the portfolio.

Other

Both the DSV II and DSV III portfolios included a number of companies that were publicly held at the time of investment. The general partners will retain the ability to purchase public securities but intend to do so only in special situations which meet their philosophy of actively adding value over the long term.

VI. INVESTMENT MANAGEMENT

Generation of Investments

While the majority of DSV investments have been internally generated, the general partners frequently obtain investment leads through a network of deal sources which includes other venture capitalists, investment bankers, lawyers, individual investors, entrepreneurs, and other professionals.

Investment Selection

In evaluating and screening potential investments, the general partners emphasize the following selection criteria:

1. Experienced management team
2. Emerging, but viable technology
3. Proprietary product or service
4. Market with excellent growth potential
5. High potential return on investment

For each DSV IV investment under consideration, the general partners will conduct a thorough investigation, which will include management reference checks and an analysis of the technology, product, market, and company financial statements. All of the general partners will participate in the selection decisions and, most often, all will meet with company management and contribute to the company analysis. Upon the selection of an investment, the general partners will prepare a detailed investment memorandum, which will be supplied to limited partners.

Negotiation and Structuring of Investments

In most instances, DSV IV will purchase convertible preferred stock or convertible notes in order to obtain preference during the liquidation of investments. In certain cases DSV may purchase common stock.

Portfolio company purchase agreements will be structured to include standard representations and warranties, affirmative and negative covenants, information requirements, performance criteria, registration rights, Board participation rights, and anti-dilution and redemption provisions. The redemption features provide a mechanism by which DSV may exit from investments.

Allocation of Investments among Funds under Management

DSV III has invested over $19 million of its $34 million in contributed capital. The general partners anticipate that the bulk of the remaining cash will be utilized for follow-on investments in the current DSV III portfolio over the next 12 to 18 months. If the cash is not fully employed as anticipated, DSV III will invest on a 50/50 basis with DSV IV until it is fully invested. In general, it will be a policy of DSV IV not to invest in follow-on investments in DSV III companies. Special cases will be reviewed by the Valuation Committee.

Syndication of Investments

Investments will most often be syndicated to include experienced venture capitalists whose investment philosophy is consonant with that of DSV. Generally, DSV IV will include a compatible investor from the geographic area of the company being financed as a part of the investment group. The general partners will solicit co-investors who can add value to the investments and who have the capital to participate in future financing rounds.

Monitoring and Management of Investments

For the majority of DSV IV investments, the general partners will obtain representation on the Board of Directors. The general partners will typically review monthly financial statements and will meet with company management as often as is required. Generally, direct assistance to entrepreneurs will be provided on a planning rather than daily operating basis. Specific assistance may include recruiting and interviewing management, identifying major suppliers or customers, and structuring joint ventures, external financings, and acquisitions. The general partners will provide detailed quarterly reports of each investment to the limited partners.

Termination of Investments

The consideration of potential disposition alternatives will be a critical part of both the analysis and structuring of DSV IV investments. The principal methods by which the Fund will realize gains will be the sale of portfolio company securities in the public market, the acquisition of portfolio companies by larger firms, or the exercise of redemption rights.

Distribution of Returns

The active investment cycle of DSV IV is expected to be 8 to 12 years, after which a liquidation and distribution period will occur. The general partners anticipate that the majority of the distributions will be in the form of freely tradeable securities rather than cash. They have the option to re-invest the proceeds of liquidated portfolio securities but do not intend to do so.

VII. FUND ADMINISTRATION

Portfolio Valuations

An Advisory Committee will be established for DSV IV. The members of the Advisory Committee will be selected by the limited partners but will not include general partners. The general partners will consult with the Advisory Committee at least four times each year concerning all aspects of the partnership's activities.

In addition, a Valuation Committee will be established. The committee will be composed of five members, two of whom will be general partners, and three of whom will be selected by the limited partners from the membership of the Advisory Committee. The net asset value of the DSV IV portfolio will be determined quarterly by the Valuation Committee. The committee will employ the following policies:

1. Freely marketable securities will be valued at the closing price on the valuation date or, in the case of securities for which no closing price is given, the

mean between the closing bid and asked prices on the valuation date.

2. Restricted and private securities will be valued at cost until subsequent events of a significant nature indicate the need for a change in valuation. Generally, a subsequent round of financing which includes independent investors will be considered a significant event for valuation purposes.

Client Communications

DSV will provide quarterly and annual reports to its investors. Quarterly reports will include detailed reports of new investments and updates on the status of current investments. Annual reports will include the partnership's audited financial statements.

VIII. PARTNERSHIP AGREEMENT

Management Fee

DSV Management, Ltd., will receive a quarterly management fee equal to the sum of:

1. 3/4% of the initial capital contributions
2. 1/2% of the first $25 million in appreciation
3. 1/4% of the next $50 million in appreciation
4. 1/8% of the remaining appreciation.

However, for any quarter beginning on or after January 1, 1987, the management fee may not exceed 1.5% of the partnership's net assets.

Director's fees, salaries, service fees, consulting fees, or other fees received by the staff from portfolio companies will reduce the amount of the management fee paid by the limited partners.

Profit Sharing

During the life of DSV IV, 80% of the Partnership's net ordinary income and net capital gains will be allocated to the limited partners and to the general partners in proportion to their capital contributions. The remaining 20% of the net income and capital gains will be allocated to the general partner as an incentive profit allocation. With the distribution of cash proceeds, the general partners will not be entitled to receive their 20% incentive profit allocation until the limited partners' contributed capital has been returned. With in-kind distributions, the general partners will not receive their profit allocation unless the value of the Partnership's net assets equals total contributed capital.

Additional Expenses Allocated to the Limited Partners

The partnership will bear the legal, accounting, and reporting fees for partnership activities and will pay up to $75,000 in organizational expenses.

General Partners' Capital Contribution

The general partners, in aggregate, will make a capital contribution of 1% of total committed capital. The contribution will be in the form of five-year, full recourse notes rather than cash.

Term of Fund

DSV IV will have a term of twelve years and will have options to extend the term for a maximum of three years.

Drawdown of Fund Capital

Forty percent of the capital will be contributed upon closing, 30% will be paid on January 1, 1986, and the remaining 30% will be drawn down on January 1, 1987.

IX. CLIENT BASE

DSV PARTNERS III

LIMITED PARTNERS	CAPITAL CONTRIBUTION
The Trustees of Princeton University	$10 million
The Bell System Trust	10 million
AVA Partners (American Express)	3 million
ARMCO, Inc. Unit Pension Trust	2 million
Trustees of General Electric	3 million
Republic Steel Collective Investment Trust	2 million
Int'l Bank for Reconstruction & Development	2 million
Ameritrust Company Retirement Trust	1 million
Eli Lilly Retirement Plan	1 million
	$34 million

DSV PARTNERS IV-FIRST CLOSING

The Trustees of Princeton University	$15.00 million
The Bell System Trust	15.00 million
AVA Partners (American Express)	1.50 million
Int'l Bank for Reconstruction & Development	1.75 million
Ameritrust Company Retirement Trust	1.00 million
Eli Lilly Retirement Plan	1.00 million
	$35.25 million

EXHIBIT I

GENERAL PARTNERS' EXPERIENCE

JAMES R. BERGMAN, (42), earned his Bachelor of Science Degree in Electrical Engineering and his Masters of Business Administration Degree (emphasis in Finance) from the University of California at Los Angeles. During the period from September, 1965 to November, 1968, he was employed by John Barry & Associates, a management consulting firm, as Manager of East Coast Operations. Mr. Bergman joined Data Science Ventures Inc. in November, 1968, subsequently becoming a Vice President and Treasurer of the Company. He was a founder of DSV Associates (DSV II) and DSV Partners III (DSV III) and has been a General Partner of each since their formation in 1974 and 1981 respectively.

MORTON COLLINS, (48), earned his Bachelor of Science Degree in Engineering from the University of Delaware and his Masters of Arts and Doctorate degrees in Engineering from Princeton University. During the period from April, 1966 to July, 1968 he was the Founder and Chief Executive Officer of Scientific Research of Princeton, Inc., an information processing related service company. From July, 1968 to June, 1974 he was the Founder and Chief Executive Officer of Data Science Ventures, Inc. He was a founder of DSV Associates (DSV II) and DSV Partners III (DSV III) and has been a General Partner of each since their formation in 1974 and 1981 respectively.

ROBERT S. HILLAS, (36), earned his Bachelor of Arts degree from Dartmouth College and a Masters of Business Administration degree from Stanford University. From August, 1972 to September, 1981, Mr. Hillas was employed by E. M. Warburg, Pincus & Co., Inc. which he joined as an Associate, subsequently becoming a Vice President of the Company and its venture capital affiliates and a General Partner of the partnership. In September, 1981, he joined DSV Partners III (DSV III) as a General Partner after having been a member of the Advisory Board of DSV Associates (DSV II) since 1975.

JOHN K. CLARKE, (31), earned his Bachelor of Arts degree in Biology and Economics from Harvard College and a Masters of Business Administration degree from The Wharton School. From 1976 to 1980, Mr. Clarke was employed by General Electric Company which he joined as a marketing management trainee. He subsequently became a Specialist - Market Development Northeast. During 1981, he was employed by Combustion Engineering, developing strategic plans for a subsidiary company. In August, 1982, he joined DSV Management, Ltd. as an Associate.

EXHIBIT IIA

PORTFOLIO PERFORMANCE
DSV II

COMPANY	June 19, 1974-December 31, 1980					% Increase (Decrease) from
Marketable Securities	Industry	Invested	Liquidated	Cost	Fair Value	Cost
California Microwave	Communications	1975	1977	$ 88,833	$ 288,412	+225%
Data 100 Corporation	Computer Systems	1977	1978	113,125	160,000	+ 41%
Datapoint Corporation	Computer Systems	1977	1979	117,721	415,860	+253%
Dataproducts	Printers	1977	--	214,739	519,938	+142%
General Automation, Inc.	Computer Systems	1979	--	221,360	247,332	+ 12%
Intersil, Inc.	Semiconductors	1978	--	152,948	455,000	+197%
Management Assistance	Computer Systems	1979	--	225,272	203,000	- 10%
Materials Research	Materials	1975	1978	131,127	321,186	+145%
Mostek Corporation	Semiconductors	1976	1979	119,429	496,000	+315%
Pertec Computer	Computer Systems	1975	1979	169,818	471,372	+178%
				$1,554,372	$3,578,100	
Private Companies						
AII Systems	Communications	1974	1976	$ 24,506	$ -0-	-100%
Altus Corporation	Energy (Batteries)	1977	--	301,000	947,898	+215%
Bios, Inc.	Medical Electronics	1978	--	224,745	112,372	- 50%
Courtworks	Recreation	1977	--	403,520	403,520	---
Datel Systems, Inc.	Electronic Compon.	1974	1979	504,710	1,490,680	+195%
Fiber Communications	Communications	1976	1979	110,516	801,561	+625%
First Data Corporation	Time Sharing	1974	1979	325,851	1,563,750	+380%
Formation, Inc.	Computer Systems	1974	--	329,319	1,168,989	+255%
Intertel, Inc.	Communications	1976	--	213,473	2,096,800	+882%
Iomec, Inc.	EDP Peripherals	1974	1978	101,760	49,974	- 51%
K-Squared, Inc.	Computer Systems	1979	--	245,555	147,788	- 40%
Litesom Corporation	Communications	1979	--	50,000	1	-100%
Omnidata Services	EDP Services	1974	1977	1,684	1	-100%
Ontrax Corporation	EDP Peripherals	1980	--	250,767	250,767	---
System Industries, Inc.	EDP Peripherals	1974	--	284,775	1,722,863	+505%
Tandem Computers, Inc.	Computer Systems	1975	1979	250,000	11,396,768	+4,559%
Theta-J Corporation	Electronic Compon.	1978	--	470,700	799,863	+ 70%
				$4,092,881	$22,953,595	
				1,554,372	3,578,100	
				$5,647,253	$26,531,695	

EXHIBIT IIB

PORTFOLIO PERFORMANCE

DSV II

December 31, 1980 - December 31, 1984

COMPANY	Industry	Invested	Liquidated	Cost	Fair Value	% Increase (Decrease) from Cost
Marketable Securities						
Dataproducts	Printer	1977	1981	$214,739	$338,000	+157%
General Automation, Inc.	Computer Systems	1979	1981	$221,360	$111,000	- 50%
Intersil, Inc.	Semiconductors	1978	1980	$152,948	$455,000	+298%
Management Assistance	Computer Systems	1979	1981	$225,272	$175,000	- 22%
Private Companies						
Altus Corporation	Energy (batteries)	1977	---	$301,000	$709,000	+236%
Bios, Inc.	Medical Electronics	1978	1980	$224,745	$224,745	0%
Courtworks	Recreation	1977	---	$403,520	$248,000	- 39%
Formation, Inc.	Computer Systems	1974	---	$329,319	$329,319	0%
Intertel, Inc.	Communications	1976	1984	$213,473	$1,782,000	+835%
K-Squared, Inc.	Computer Systems	1979	1981	$245,555	$1	-100%
Litesom Corporation	Communications	1979	1981	$50,000	$1	-100%
Ontrax Corporation	EDP Peripherals	1980	1981	$250,767	$12,538	- 95%
System Industries	EDP Peripherals	1974	1981	$284,775	$3,114,000	+1,093%
Theta-J Corporation	Electronic Compon.	1978	---	$470,700	$1,680,000	+357%

EXHIBIT IIC

PORTFOLIO PERFORMANCE

DSV III Investment Summary
March 27, 1981 - September 30, 1984

COMPANY	Industry	Invested	Liquidated	Cost	Fair Value	% Increase (Decrease) from Cost
Marketable Securities						
AVX Corporation	Capacitors	1982	----	$371,325	$712,500	+92%
Printronix	Printers	1983	----	1,031,446	850,000	-18%
System Industries	Peripherals	1982	----	1,558,543	787,500	-49%
				$2,961,314	$2,350,000	
Private Companies						
Adaptive Data Systems	Micro Peripherals	1984	----	$825,630	$825,630	—
Applitek Corporation	Local Area Networks	1983	----	1,000,042	1,750,095	+75%
Data Recording Systems	Laser Printers	1983	----	850,625	1,381,875	+63%
Datacom Systems Corp.	Data Base Services	1982	1984	695,550	2,290,095	+229%
Dataspeed, Inc.	Hand Held Terminals	1982	----	896,574	2,296,987	+156%
Desktop Software Corp.	Micro Software	1983	----	1,225,750	1,225,750	—
Eagle Software Publish.	Micro Software	1983	----	750,000	750,000	—
ISIS, Inc.	Mainframe Software	1983	----	547,350	1	-100%
Liposome Company	Drug Delivery Systems	1982	----	675,000	6,581,400	+875%
Markwell Medical Inst.	Biotechnology	1981	----	539,845	539,845	—
Maxim Integrated Prod.	Semiconductors	1983	----	750,002	1,900,167	+153%
Megatape Corporation	Tape Storage Devices	1983	----	1,180,200	1,273,950	+8%
Personal Scientific	Automatic Test Equip.	1984	----	750,000	750,000	—
Programming Tech.	Artificial Intell.	1983	----	100,000	100,000	—
Quad Systems Corp.	Robotics	1982	----	1,075,000	1,539,799	+43%
Shared Communications	Communications	1984	----	11,000	11,000	—
Sim Computer Products	Micro Software	1982	----	70,000	35,000	-50%
Skantek Corporation	CAD/CAM Periph.	1982	----	1,250,000	2,000,000	+60%
StarTel Corporation	Communications	1981	----	250,001	632,365	+153%
Thomas National Corp.	Mainframe Software	1982	1984	1,350,072	5,439,000	+303%
White Hat Systems	Computer Systems	1983	----	1,410,331	1,410,331	
				$16,202,972	$32,733,290	
				2,961,314	2,350,000	
				$19,164,286	$35,083,290	

ALTERNATIVE INVESTMENT MANAGER INFORMATION
December 31, 1984

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

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

RESA CURRENT PORTFOLIO COMPOSITION

PROPERTY MARKET VALUE	# OF PROPERTIES	LOCATION	%	PROPERTY TYPE	%
$1.1 Billion	115	East	16%	Office	45%
		Midwest	12	Retail	23
		South	22	Industrial	27
		West	50	Hotel	4
				Residential	1
				Other	0

INVESTMENT ACTIVITY-LAST QUARTER

ACQUISITIONS $	#	DISPOSITIONS $	#
$59.5 M	2	$54.7 M	8

UNIT VALUE RETURNS

	LAST QUARTER	LAST FOUR QUARTERS	FIVE YEAR AVERAGE
RESA	2.6%	13.1%	14.1%
EAI Composite Median	3.4	13.5	14.1
CPI (Inflation)	0.3	4.0	6.5

STAFF COMMENTS: For the year ending December 31, 1984, Aetna's 13.1% total rate of return was composed of 9.0% income and 4.1% appreciation. This return outperformed the inflation rate and underperformed the EAI Real Estate Composite Fund Median. During the quarter, the fund acquired two medium-sized office buildings and sold eight properties with an average sales proceed of $6.8 million. Several of the properties were sold at a loss, in keeping with the strategy of selling underperforming holdings from the portfolio. The fund maintained a relatively high cash position (14.9%) which is expected to decrease to the 0-5% range by the end of the first quarter.

ALTERNATIVE INVESTMENT MANAGER INFORMATION
December 31, 1984

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

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

SEPARATE ACCOUNT #8 CURRENT PORTFOLIO COMPOSITION

PROPERTY MARKET VALUE	# OF PROPERTIES	LOCATION %		PROPERTY TYPE %	
$2.3 Billion	253	East	26%	Office	42%
		Midwest	19	Retail	35
		South	34	Industrial	12
		West	21	Hotel	10
				Residential	0
				Other	1

INVESTMENT ACTIVITY-LAST QUARTER

ACQUISITIONS $	ACQUISITIONS #	DISPOSITIONS $	DISPOSITIONS #
$9 M	1	$74.6 M	4

UNIT VALUE RETURNS

	LAST QUARTER	LAST FOUR QUARTERS	FIVE YEAR AVERAGE
Separate Account #8	4.7%	14.1%	14.1%
EAI Composite Median	3.4	13.5	14.1
CPI (Inflation)	0.3	4.0	6.5

STAFF COMMENTS: For the year ending December 31, 1984, Equitable's 14.1% total rate of return was composed of 7.5% income and 6.6% appreciation. The 14.1% return outperformed the inflation rate and the EAI Real Estate Composite Fund Median. Similar to the last two quarters, the volume of acquisitions during the recent quarter is low, with the purchase of one $9 million office R&D property in Maryland. Four properties were sold, including a $40 million office complex which had been developed in part by the fund. The remaining three dispositions were underperforming holdings, including a $30 million hotel which had been held for four years with no gain.

ALTERNATIVE INVESTMENT MANAGER INFORMATION
December 31, 1984

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

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

PRISA CURRENT PORTFOLIO COMPOSITION

PROPERTY MARKET VALUE	# OF PROPERTIES	LOCATION	%	PROPERTY TYPE	%
$4.8 Billion	458	East	24%	Office	52%
		Midwest	14	Retail	18
		South	21	Industrial	16
		West	41	Hotel	8
				Residential	4
				Other	2

INVESTMENT ACTIVITY-LAST QUARTER

ACQUISITIONS $	#	DISPOSITIONS $	#
$394 M	2	$31.4 M	9

UNIT VALUE RETURNS

	LAST QUARTER	LAST FOUR QUARTERS	FIVE YEAR AVERAGE
PRISA	2.7%	14.4%	14.1%
EAI Composite Median	3.4	13.5	14.1
CPI (Inflation)	0.3	4.0	6.5

STAFF COMMENTS: For the year ending December 31, 1984, PRISA's 14.4% total rate of return was composed of 8.2% income and 6.2% appreciation. This return outperformed the inflation rate and the EAI Real Estate Composite Fund Median. During the quarter, PRISA acquired the Crocker Bank Building in San Francisco for $358 million. The fund also acquired a $36 million commercial facility in Oregon. PRISA sold 9 industrial and commercial properties with an average sales proceed of $3.3 million. The dispositions reflect the fund strategy to sell smaller and/or underperforming holdings. With the Crocker purchase, PRISA's cash component declined from 13.6% to 8.9%. PRISA has stated that the large cash component is designed to enable property purchases larger than $200 million.

ALTERNATIVE INVESTMENT MANAGER INFORMATION
December 31, 1984

FIRM NAME:	Heitman Advisory Corporation
FUND NAME:	HAC Group Trust I
CONTACT:	David Glickman
ACCOUNT INCEPTION:	6/14/84
SBI COMMITMENT:	$20.0 Million
SBI CURRENT INVESTMENT:	$18.0 Million

INVESTMENT DESCRIPTION: HAC Group Trust is a $113.0 million real estate Group Trust formed in May 1984. Term of the Fund is fifteen years with optional extensions. The Fund is investing primarily in equity real estate diversified by location and property type. Centre Properties, Ltd., an affiliate of Heitman, manages all 100% owned properties.

HAC GROUP TRUST I INVESTMENTS (AT COST)				CASH RETURNS TO SBI		
CURRENT TOTAL		LATEST QUARTER				
#	$	#	$	LATEST QUARTER	LAST FOUR QUARTERS	CUMULATIVE SINCE INCEPTION
2	$46.6 Million	2	$46.6 Million	$68,143	$68,143	$68,143

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

LOCATION	%	STAGE OF DEVELOPMENT	%	INDUSTRY GROUPS	%
East	0.0%	Fully Developed	100.0%	Office	49.0%
Midwest	49.0	Partially Developed	0.0	Retail	0.0
South	51.0			Industrial	51.0
West	0.0			Hotel/Motel	0.0
				Apartments	0.0
				Other	0.0

STAFF COMMENTS: During the quarter ended December 31, 1984, Heitman closed on two properties for the Fund. The two properties include the First Bank Place West office building in Minneapolis, Minnesota and a package of industrial properties located in Orlando, Florida. Together these properties represent 41.2% of total Fund capital. Two additional properties, which together could represent another 14.2% of total Fund capital, are committed to but not yet closed on. The two commitments include a regional shopping center in Enid, Oklahoma and an industrial facility in Cincinnati, Ohio. Heitman is currently examining further investments which could bring the Fund to a 90% invested position by March of 1985. Heitman Group Trust II, a proposed $200 million successor Fund to Group Trust I, will be offering subscriptions during the first half of 1985.

ALTERNATIVE INVESTMENT MANAGER INFORMATION
December 31, 1984

FIRM NAME:	Rosenberg Real Estate Equity Funds (RREEF)
FUND NAME:	RREEF USA III
CONTACT:	Paul Sack
ACCOUNT INCEPTION:	4/25/84
SBI COMMITMENT:	$75 Million
SBI CURRENT INVESTMENT:	$12.0 Million

INVESTMENT DESCRIPTION: RREEF USA III is a $793 million commingled real estate Group Trust. Term of the Fund is twelve years with optional extensions. The Fund is investing primarily in unleveraged, wholly-owned, equity real estate diversified by location and property type. On-site property management will be conducted by RREEF employees.

RREEF USA III INVESTMENTS (AT COST)				CASH RETURNS TO SBI		
CURRENT TOTAL		LATEST QUARTER				
#	$	#	$	LATEST QUARTER	LAST FOUR QUARTERS	CUMULATIVE SINCE INCEPTION
3	$112.9 Million	2	$83.1 Million	$0	$0	$0

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

LOCATION	%	STAGE OF DEVELOPMENT	%	INDUSTRY GROUPS	%
East	0.0%	Fully Developed	100.0%	Office	53.0%
Midwest	0.0	Partially Developed	0.0	Retail	26.0
South	0.0			Industrial	21.0
West	100.0			Hotel/Motel	0.0
				Apartments	0.0
				Other	0.0

STAFF COMMENTS: At the final closing date for Fund subscriptions (December 31, 1984), RREEF USA II had total capital commitments of $793 million. As of December 31, 1984 the Fund had investments in three properties which together represent 14.2% of total Fund capital. Two of these three properties, an industrial facility in Santa Clara, California and a office building in downtown San Francisco, California, were acquired in the fourth quarter of 1984. Additional properties under study for possible investment include an Atlanta office park, a San Mateo industrial park and a Chicago office building. These additional properties, if acquired, could represent another 14% of Fund capital.

ALTERNATIVE INVESTMENT MANAGER INFORMATION
December 31, 1984

FIRM NAME:	Kohlberg, Kravis, Roberts and Co. (KKR)
FUND NAME:	1984 Investment Partnership (KKR III)
CONTACT:	George Roberts
ACCOUNT INCEPTION:	March 21, 1984
SBI COMMITMENT:	$25 Million
SBI CURRENT INVESTMENT:	$9.8 Million

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

KKR III INVESTMENTS (AT COST)				CASH RETURNS TO SBI		
CURRENT TOTAL		LATEST QUARTER				
#	$	#	$	LATEST QUARTER	LAST FOUR QUARTERS	CUMULATIVE SINCE INCEPTION
3	$392.0 Million	1	$188.0 Million	$0	$30,223	$30,223

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

LOCATION	%	STAGE OF DEVELOPMENT	%	INDUSTRY GROUPS	%
East	23.0%	Leveraged Buyouts	100.0%	Conglomerates	100.0%
Midwest	47.0	Other	0.0	Other	0.0
South	30.0				
West	0.0				

STAFF COMMENTS: During the latest quarter ended December 31, 1984, KKR acquired the Manufacturing Group of City Investing which includes Rheem Manufacturing (air conditioners, water heaters), Uarco Inc. (business forms) and World Color Press (commercial printing). This acquisition represented approximately 19% of total Fund capital. At December 31, 1984 approximately 40% of total Fund capital was invested in three separate leveraged buyout companies. Currently, KKR had bids outstanding to acquire an additional subsidiary of City Investing (Motel 6 discount motels) and a family owned company with interests in California real estate, construction and construction materials, equity securities and agricultural properties, production and processing. The two outstanding bids, if successful, could represent an additional 18% of total Fund capital.

ALTERNATIVE INVESTMENT MANAGER INFORMATION
December 31, 1984

FIRM NAME:	Norwest Venture Capital Management, Inc.
FUND NAME:	Norwest Venture Partners I (NVPI)
CONTACT:	Dan Haggerty
ACCOUNT INCEPTION:	1/12/84
SBI COMMITMENT:	$10 Million
SBI CURRENT INVESTMENT:	$7 Million

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

NVPI I INVESTMENTS				CASH RETURNS TO SBI		
CURRENT TOTAL #	CURRENT TOTAL $	LATEST QUARTER #	LATEST QUARTER $	LATEST QUARTER	LAST FOUR QUARTERS	CUMULATIVE SINCE INCEPTION
22	$11.6 Million	3	$1.7 Million	$0	$0	$0

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

LOCATION	%	STAGE OF DEVELOPMENT	%	INDUSTRY GROUPS	%
East	9.0%	Early Stage Financing	86.0%	Computer Related	64.0%
Midwest	35.0	Expansion Financing	14.0	Machinery/Equipment	0.0
South	7.0	Bridge Financing	0.0	Industrial/Manufacturing	1.0
West	49.0	Leveraged Buyouts	0.0	Consumer Products/Services	0.0
				Communications	9.0
				Energy Related	8.0
				Medical Related	15.0
				Other	3.0

STAFF COMMENTS: Norwest Venture Partners I has completed its first full year of operations. During the fourth quarter 1984, Norwest made no new investments. However, the firm invested a total of $1.7 million in the follow-on financings of three of its current portfolio companies and committed $1 million to two additional follow-on investments, which will be completed in first quarter 1985. The five follow-on investments include one early stage medical/health care firm and four early stage computer-related firms. Norwest continues to exhibit a strong early stage orientation, with nineteen of the fund's 22 portfolio companies in the seed, start-up, and early stages of development. To date, Norwest has invested approximately 20% of total Fund capital.

ALTERNATIVE INVESTMENT MANAGER INFORMATION
December 31, 1984

FIRM NAME:	Smith Barney Venture Corp. (SBVC)
FUND NAME:	First Century III (FCIII)
CONTACT:	Mike Myers
ACCOUNT INCEPTION:	12/14/84
SBI COMMITMENT:	$10 Million
SBI CURRENT INVESTMENT:	$2.5 Million

INVESTMENT DESCRIPTION: FCIII is a New York based $100 million venture capital limited partnership formed in December 1984. Term of the Fund is 10 years with optional extensions. Investment focus of FCIII will be on high technology private companies in the early stages of development. FCIII is the third venture fund formed by SBVC since 1972.

FCIII INVESTMENTS				CASH RETURNS TO SBI		
CURRENT TOTAL		LATEST QUARTER		LATEST QUARTER	LAST FOUR QUARTERS	CUMULATIVE SINCE INCEPTION
#	$	#	$			
4	$2.0 Million	4	$2.0 Million	$0	$0	$0

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

LOCATION	%	STAGE OF DEVELOPMENT	%	INDUSTRY GROUPS	%
East	12.0%	Early Stage Financing	100.0%	Computer Related	64.0%
Midwest	0.0	Expansion Financing	0.0	Machinery/Equipment	0.0
South	0.0	Bridge Financing	0.0	Industrial/Manufacturing	0.0
West	88.0	Leveraged Buyouts	0.0	Consumer Products/Services	0.0
				Communications	0.0
				Energy Related	0.0
				Medical Related	36.0
				Other	0.0

STAFF COMMENTS: In the latest quarter ended December 31, 1984, Smith Barney invested $2.0 million or approximately 2% of Partnership capital into four venture capital investments. The four investments include three early stage computer-related companies and one early stage medical services company. The four investments were the Fund's first investments since the Fund was formed in the fourth quarter of 1984. For the first quarter of 1985, Smith Barney is considering several new investments including a semiconductor-related company investment and a medical company investment.

ALTERNATIVE INVESTMENT MANAGER INFORMATION
December 31, 1984

FIRM NAME:	Summit Partners, L.P.
FUND NAME:	Summit Ventures, L.P.
CONTACT:	Roe Stamps, Steve Woodsum
ACCOUNT INCEPTION:	12/20/84
SBI COMMITMENT:	$10 Million
SBI CURRENT INVESTMENT:	$2.5 Million

INVESTMENT DESCRIPTION: Summit Ventures is a $93 million venture capital limited partnership. The term of the partnership is ten years plus optional extensions. The partnership was formed in December 1984 by Stamps, Woodsum & Co. of Boston, Mass., the managing general partners of the fund, and Shearson/American Express. Stamps and Woodsum focus on actively generating investment opportunities, targeting portfolio companies that are already profitable yet have not received any venture backing. The fund's investment emphasis will be on high-tech, expansion stage companies. However, the Summit portfolio may include early stage firms and, in addition, will be diversified by industry type and location.

SUMMIT INVESTMENTS				CASH RETURNS TO SBI		
CURRENT TOTAL #	$	LATEST QUARTER #	$	LATEST QUARTER	LAST FOUR QUARTERS	CUMULATIVE SINCE INCEPTION
3	$2.1 Million	2	$1.9 Million	$0	$0	$0

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

LOCATION	%	STAGE OF DEVELOPMENT	%	INDUSTRY GROUPS	%
East	39.0%	Early Stage Financing	0.0%	Computer Related	100.0%
Midwest	0.0	Expansion Financing	100.0	Machinery/Equipment	0.0
South	0.0	Bridge Financing	0.0	Industrial/Manufacturing	0.0
West	61.0	Leveraged Buyouts	0.0	Consumer Products/Services	0.0
				Communications	0.0
				Energy Related	0.0
				Medical Related	0.0
				Other	0.0

STAFF COMMENTS: Since the firm's inception in April, 1984, Stamps, Woodsum & Co. has established contact with over 1,000 young companies and has reviewed 300 business plans. To date, Summit Ventures has invested a total of $2.1 million in three companies. Each of the portfolio companies is a profitable, later stage, computer-related firm. Two of the companies are located on the East Coast and the third is situated in California. Summit is continuing to actively generate and review business opportunities and has several investments under consideration for first quarter 1985.

ALTERNATIVE INVESTMENT MANAGER INFORMATION
December 31, 1984

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

INVESTMENT DESCRIPTION: The Apache Corp. 10% Equipment Financing Notes are a $200 million private placement to finance Apache's portion of production facility expenditures under the terms of a series of offshore joint ventures in the Gulf of Mexico organized by Shell Oil Company. In addition to fixed interest payments of 10% per annum, noteholders will receive additional interest of 2% of Apache's share of gross revenues from the joint ventures. Principal and interest on the notes are estimated to be repaid by 1992. The 2% additional interest will be paid to noteholders throughout the life of producing properties.

10% EQUIPMENT FINANCING NOTE INVESTMENTS (AT COST)				CASH RETURNS TO SBI		
CURRENT TOTAL		LATEST QUARTER				
#	$	#	$	LATEST QUARTER	LAST FOUR QUARTERS	CUMULATIVE SINCE INCEPTION
1	$1.7 Million	0	$0.0 Million	$18,302	$30,630	$30,630

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

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

STAFF COMMENTS: So far, seven prospects are indicated to be productive in the Apache/Shell joint venture. Development is in progress at one of these (High Island Block A-6) where a platform is on location and is being equipped for production. This prospect is expected to commence production during the first quarter of 1985. Apaches share of equipment expenditures have totalled $1.7 million for this development project. In the next quarter, no additional equipment expenditures are anticipated. Development work has been delayed recently due to poor market conditions for gas and a concentration by Shell on exploration. Longer term, however, equipment expenditures will accelerate as the Shell/Apache joint venture makes the transition from an exploration to a development mode. Already, new development work is expected to commence on at least three additional prospects during 1985.

ALTERNATIVE INVESTMENT MANAGER INFORMATION
December 31, 1984

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

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

AMGO I INVESTMENTS (AT COST)				CASH RETURNS TO SBI		
CURRENT TOTAL		LATEST QUARTER				
#	$	#	$	LATEST QUARTER	LAST FOUR QUARTERS	CUMULATIVE SINCE INCEPTION
24	$128.5 Million	1	$5.0 Million	$144,000	$596,600	$2,051,000

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

LOCATION	%	SECURITY INTEREST	%	INDUSTRY GROUPS	%
Texas	24.0%	Proved Developed Reserves	51.0%	Acreage	7.0%
Oklahoma	20.7	Probable Reserves	0.0	Drilling	11.1
Louisiana	18.5	Possible Reserves	4.0	Equity	5.5
Rocky Mtns.	12.8	General Recourse	45.0	Production	23.5
Mississippi	7.7			Royalty	26.4
California	7.6			Surface Facilities	0.0
Gulf Coast	5.7			Conv. Note and Preferred	26.0
New Mexico	1.5			Other	0.5
Other	1.5				

STAFF COMMENTS: First Reserve had five new investments in the final stages of due diligence and negotiation for approval by the Amgo Board at its December 18, 1984 meeting, but decided at the last minute to place four of the investments on hold pending the resolution of the current uncertainty in world petroleum markets. The one transaction that was approved was a $5.0 million additional financing for ITR Petroleum for reserve purchases in 1985. This follow-on investment did not have to wait for the price outlook to clarify since First Reserve has the right to review acquisitions made by ITR for Amgo I's account. As of December 31, 1984 Amgo I had committed to 24 oil and gas investments for a $128.5 million total investment out of its original capitalization of $144 million.

ALTERNATIVE INVESTMENT MANAGER INFORMATION
December 31, 1984

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

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

AMGO II FUND INVESTMENTS (AT COST)				CASH RETURNS TO SBI		
CURRENT TOTAL		LATEST QUARTER				
#	$	#	$	LATEST QUARTER	LAST FOUR QUARTERS	CUMULATIVE SINCE INCEPTION
9	$21.5 Million	0	$0.0 Million	$85,800	$229,700	$290,100

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

LOCATION	%
Texas	27.5%
Oklahoma	13.4
Louisiana	18.2
Rocky Mtns.	14.4
Gulf Coast	20.0
New Mexico	4.2
Other	2.3

SECURITY INTEREST	%
Proved Developed Reserves	35.0%
Probable Reserves	0.0
Possible Reserves	0.0
General Recourse	65.0

INDUSTRY GROUPS	%
Acreage	0.0%
Drilling	0.0
Equity	9.5
Production	13.0
Royalty	19.5
Surface Facilities	0.0
Conv. Note and Preferred	58.0
Other	0.0

STAFF COMMENTS: Amgo II did not coinvest with Amgo I in the only transaction approved by Amgo's Board (ITR Petroleum) on December 18, 1984. The reason was that Amgo II is already at its limit with ITR for the amount that can be invested in or with any single company. As of December 31, 1984, Amgo II had committed to nine investments representing $21.5 million of the original committed capital of $36 million. Upon commitment of remaining Amgo I and II funds, First Reserve is planning on forming Amgo III.