

AN EVALUATION

*State of Wisconsin
Investment Board*

99-16

October 1999

1999-2000 Joint Legislative Audit Committee Members

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State of Wisconsin \ LEGISLATIVE AUDIT BUREAU

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October 4, 1999

Senator Gary R. George and
Representative Carol Kelso, Co-chairpersons
Joint Legislative Audit Committee
State Capitol
Madison, Wisconsin 53702

Dear Senator George and Representative Kelso:

We have completed an evaluation of the State of Wisconsin Investment Board, as directed by s. 25.17 (51m), Wis. Stats. This is our first evaluation under new statutory requirements that were implemented in 1996, in response to a loss of \$95 million in the State Investment Fund. That loss, which was disclosed in March 1995, was the result of improper use of investment instruments known as derivatives.

The Investment Board has taken several steps to improve its operations since the 1995 derivatives loss, including increasing its reporting to the Legislature, improving senior management's oversight of investing strategies, increasing the Board of Trustee's involvement in investment activities, and improving communication with State Investment Fund participants. Further, even with the loss, the State Investment Fund's returns have exceeded performance goals, or benchmarks.

In contrast, the Fixed Retirement Trust Fund, which accounted for approximately 80 percent of the Investment Board's \$60.6 billion in assets on December 31, 1998, has experienced an erosion of its investment performance. Although the Fixed Retirement Trust Fund has been able to exceed the returns assumed for actuarial projections, it has not consistently met its one-year benchmarks, which recently has affected its longer-term performance returns. For example, both one-year and five-year returns for the period ending December 31, 1998 were not met.

We also compared the Fixed Retirement Trust Fund's performance to that of other large public pension funds and found that its five-year investment return was 1⁰ among 12 funds surveyed. To address performance that is lagging both established benchmarks and that of other large public pension funds, we have recommended the Board reassess its investment strategy and report to the Joint Legislative Audit Committee on steps it plans to take to improve investment performance.

We appreciate the courtesy and cooperation extended to us by the Investment Board. A response from the Board's Executive Director is Appendix IV.

Respectfully submitted,

Janice Mueller
State Auditor

JM/DA/ao

SUMMARY

The State of Wisconsin Investment Board manages the assets of both the Wisconsin Retirement System—which is the ninth-largest public pension fund in the United States—and the State Investment Fund, which provides short-term investment and cash management for all state funds, the Wisconsin Retirement System, and several local governments. In addition, the Investment Board manages the assets of five smaller state insurance and trust funds. As of December 31, 1998, it managed a total of \$60.6 billion in investments.

The Legislative Audit Bureau performs an annual financial audit of the Investment Board's investment activities to fulfill statutory audit requirements and to provide the audit opinions included in the Investment Board's annual report. In addition, statutes now require the Bureau to perform a biennial management audit of the Investment Board. This audit requirement was implemented in response to a March 1995 disclosure of a \$95 million loss in the State Investment Fund, which resulted from the Investment Board's improper use of investment instruments known as derivatives.

The Investment Board has responded to the 1995 derivatives loss and the enactment of subsequent legislation. For example, it has taken steps to increase its reporting to the Legislature; to improve management oversight of investing strategies, including the establishment of an internal risk management committee; to increase the Board of Trustees' involvement in investment activities; and to improve communication with State Investment Fund participants. Further, even with the derivatives loss, the State Investment Fund returns have continued to exceed its investment goals, or benchmarks, and they rank favorably in comparison to those of similar investment funds. Therefore, concerns related to that loss appear to have been addressed. However, questions about the Board's overall investment performance remain, including questions about whether sound investment strategies have been developed and implemented for Wisconsin Retirement System assets. Consequently, we assessed the Board's investment performance, particularly for the Fixed Retirement Trust Fund, which represents approximately 80 percent of the assets the Board manages.

Strong financial markets have created a period of sustained growth in Wisconsin Retirement System assets, which increased by 175 percent in the past ten years, from \$20.2 billion at the end of 1989 to \$55.6 billion at the end of 1998. Assets of the Fixed Retirement Trust Fund are allocated among a wide variety of investment classes to ensure that exposure to the risk of any particular investment is limited. As of

December 31, 1998, domestic equities (stocks) accounted for approximately 40 percent of the Fixed Retirement Trust Fund's assets, and domestic fixed-income securities (bonds) accounted for approximately 31 percent. Approximately 25 percent of the Fund was invested in other investments, including real estate and international investments, and 4 percent was in cash holdings.

To assess the effectiveness of the Investment Board's overall investment strategy, we measured its performance in two ways: 1) we compared the Board's investment returns to the investment benchmarks it established; and 2) we compared the Fixed Retirement Trust Fund's performance to that of other large public pension funds.

We found that the Fixed Retirement Trust Fund has consistently met the minimum 8 percent annual rate of return that is assumed for actuarial projections, and had met its five-year and ten-year benchmarks in all but one year between 1994 and 1997. However, since 1994, it has met its December 31 one-year benchmark only once. As a result, longer-term performance returns have been affected. For example, as of December 31, 1998, the Fixed Retirement Trust Fund as a whole did not meet its one-year and five-year performance benchmarks. The ten-year benchmark, however, was met. The Investment Board indicates that it is primarily concerned with longer-term performance and that staff strategies and performance can best be measured based on five-year performance.

Within the Fixed Retirement Trust Fund, performance among various classes of investments was mixed. For example, the largest investment class-domestic equities-met its one-year performance benchmark but did not meet its five-year and ten-year benchmarks. The five-year domestic equities return for the period ending December 31, 1998, was 18.6 percent, compared to the investment benchmark of 20.5 percent.

A principal reason for lagging performance in domestic equities has been the Investment Board's emphasis on small cap stocks, which represent investments in companies that have a capitalization level of approximately \$1 billion or less. The \$2.7 billion small cap portfolio, which the Investment Board indicates is more than three times larger than the average small cap portfolio of \$880 million, has fallen short of its one-year, five-year, and ten-year benchmarks both because of its size and because of individual investment decisions. In response, the Board has recently taken steps to reduce its emphasis on small cap domestic stocks. Investments in large cap stocks that are actively managed also have not met the Board's one-year, five-year, or ten-year performance benchmarks, primarily because in the past several years, active managers have found it difficult to add value to returns posted by market indices.

Four categories of investments have generally exceeded the Investment Board's performance benchmarks: domestic fixed-income securities, which consist of debt issued by companies and governments; real estate investments, which include real estate that is owned directly by the Investment Board (such as shopping malls and office buildings) and investments in real estate funds that are managed by others; international equity investments in established countries; and cash. The Board attributes its success to staff experience and expertise in these areas. In contrast, non-traditional investments and international fixed-income investments have not met their performance benchmarks. The Board may not be receiving sufficient returns to justify the risk of these investments, and it has had difficulty in ensuring it has experienced staff and sufficient expertise in these areas.

Comparison with other public pension funds shows that the Investment Board's performance ranked low when compared with others. For example, the Investment Board's five-year return of 14.2 percent for the Fixed Retirement Trust Fund was 10th among 12 funds surveyed; the median return for all funds was 15.0 percent. In evaluating why the Board's performance was lower than that of other public pension funds, we found that the Board is more heavily invested in international investments than other funds are, and it is less invested in domestic equities. The Board's lower domestic equity allocation had the largest effect on overall returns, because domestic equities have been the highest performers among all investment classes for all states surveyed. In addition, the Investment Board's returns on domestic equities were consistently lower than the average of other funds surveyed, primarily because of its small cap stock emphasis.

While the Investment Board acknowledges concerns about its investment performance, it believes the erosion in performance is due, in part, to staff turnover, inadequate funding, and the need for greater flexibility in managing its resources. However, we note that in the last several years, the Legislature has made a number of changes to increase the Board's administrative funding and management flexibility, including allowing it to bypass the normal budgeting process, and to charge expenditures for purchasing, maintaining, and protecting investments directly to current investment income; removing its professional staff from the classified service; implementing a bonus plan for all professional staff; providing \$5.4 million in additional funding for systems improvements; and allowing the Board to delegate the management of up to 15 percent of the retirement fund assets to external fund managers.

Without regard to whether additional administrative flexibility or funding is provided, a reassessment of the Board's investment strategy appears to be needed. The Board currently invests a large portion of the assets it manages in areas that, by their nature, tend to be staff-intensive, high-risk, and administratively costly. While higher levels of returns

could be expected to justify the costs and risks associated with these investments, returns have generally not exceeded the returns of more traditional domestic equity and fixed-income portfolios. Consequently, we recommend the State of Wisconsin Investment Board reassess the effectiveness of its overall investment strategies and asset allocations, and that in its annual report on investment goals and long-term strategies, it report to the Joint Legislative Audit Committee and the Legislature on the steps it intends to take to improve its investment performance.

INTRODUCTION

The Investment Board managed \$60.6 billion in assets as of December 31, 1998.

The State of Wisconsin Investment Board is responsible for investing funds for the State, several local governments, and the public employee retirement system. As shown in Table 1, the Investment Board managed a total of \$60.6 billion in assets as of December 31, 1998, including:

- \$55.6 billion in the Wisconsin Retirement System, which is the ninth-largest public pension fund in the United States and represents the pension funds of over 450,000 current and former employees of the State, school districts, and local governments. Its investments are managed in two funds: the Fixed Retirement Trust Fund, which represents approximately 80 percent of the Investment Board's assets and provides guaranteed retirement benefits for participants; and the Variable Retirement Trust Fund, which is an equities (stock) option that has been closed to new membership since April 1980;
- \$4.4 billion in the State Investment Fund, which provides short-term investment and cash management for state funds, the Wisconsin Retirement System, and over 1,000 local units of government that choose to participate in the Local Government Investment Pool; and
- \$0.6 billion in five other state insurance and trust funds that have long-term investment needs.

Table 1

Funds Managed by the Investment Board

<u>Description of Fund</u>	<u>Value as of December 31, 1998</u>	<u>Types of Investments</u>
Fixed Retirement Trust Diversified portion of the Wisconsin Retirement System investments, which funds guaranteed benefits	\$48,761,000,000	Equities, fixed income, real estate, limited partnerships
Variable Retirement Trust Wisconsin Retirement System option invested only in equities	6,804,000,000	Equities
State Investment Fund Pool of state agency and local government cash balances	4,436,000,000*	U.S. Treasury securities, certificates of deposit, repurchase agreements, commercial paper
Patients Compensation Fund Provides medical malpractice insurance for Wisconsin's health care providers	472,000,000	Fixed-income
Life Insurance Fund Offers life insurance policies up to \$10,000 for Wisconsin residents who choose coverage	63,000,000	Fixed-income
Property Insurance Fund Provides property insurance coverage to participating local units of government	22,000,000	Fixed-income
Historical Society Trust Fund Includes gifts and grants made to the State Historical Society	11,000,000	Fixed-income, equities
Tuition Trust Fund Funding for EdVest Wisconsin, a savings program for college expenses	3,000,000	Fixed-income
Total	\$60,572,000,000	

* Excludes retirement funds invested in the State Investment Fund.

The Investment Board is governed by a nine-member board of trustees.

The Investment Board is governed by a nine-member board of trustees that establishes long-term investment strategies and policies; sets investment guidelines for groups of investments, or portfolios; and monitors investment performance. Two of the trustees are participants in the Wisconsin Retirement System, and one is the Secretary of the Department of Administration or his or her designee. The remaining six trustees are appointed by the Governor with consent of the Senate. One is required to be employed by a local government participating in the Local Government Investment Pool, and four are required to have at least ten years of investment experience. Appointed trustees serve six-year terms. The trustees have delegated many day-to-day investment decisions to the Investment Board's staff, which consist of the Executive Director, 95 professional staff in the unclassified civil service system, and 7 support staff in the classified service. Appendix 1 illustrates the organizational structure of the Investment Board as of December 31, 1998.

The Legislative Audit Bureau performs an annual financial audit of the Investment Board's investment activities to fulfill audit requirements under s. 25.17(51), Wis. Stats., and to provide the audit opinions included in the Investment Board's annual report. In addition, s. 25.17(51m), Wis. Stats., requires the Audit Bureau to perform a biennial management audit of the Investment Board. This audit requirement was implemented in response to the March 1995 disclosure of a loss of \$95 million in the State Investment Fund as a result of the improper use of investment instruments known as derivatives.

As part of our first management audit under the new statutory requirement, we reviewed the Investment Board's progress in implementing recommendations related to investment practices, which we made in July 1995 (report 95-16). In addition, we assessed the Board's investment performance, particularly for the Fixed Retirement Trust Fund. The Fixed Retirement Trust Fund's assets are invested in a broadly diversified mix of stocks, bonds, privately negotiated debt instruments, real estate, and other holdings.

In conducting our evaluation, we interviewed Investment Board staff and trustees; compared the Investment Board's performance to its investment goals, or benchmarks, and to the performance of other public pension funds; surveyed the managers of other public pension funds; and reviewed investment literature and periodicals.

1995 Derivatives Loss

In March 1995, the State Investment Fund reported a \$95 million loss due to investments in derivatives.

In March of 1995, the Investment Board disclosed that the State Investment Fund, whose primary objectives are safety of principal, liquidity, and ensuring a reasonable rate of return, had incurred a \$95 million loss as a result of investments in 12 financial instruments whose values were derived from foreign interest and currency rates. While such investments can be used to limit risk, the derivatives involved in the \$95 million State Investment Fund loss were intended to increase yields when the interest and currency rates included in their formulas moved in predicted directions.

Over one-third of the \$95 million loss was attributable to a single interest rate swap agreement involving the difference between certain Mexican and U.S. interest rates. This investment included a leverage factor that Investment Board staff had overlooked when initiating the transaction.

Without the approval of senior management, an Investment Board staff person attempted to restructure the agreement, which magnified the potential loss. When senior management became aware of the loss, the Investment Board negotiated agreements with investment dealers to protect against additional losses and agreed to pay \$95 million in losses, with interest, in installments over a ten-year period that will end in fiscal year (FY) 2004-05.

The funds invested by local governments participating in the State Investment Fund have not returned to 1994 pre-loss levels.

Disclosure of the \$95 million loss raised concern about the future of local participation in the State Investment Fund and resulted in local governments withdrawing \$1.4 billion from the Fund. However, the number of local governments participating in the Fund has increased from 1,062 just prior to the 1995 loss to 1,128 as of December 31, 1998. In contrast, as shown in Table 2, funds invested by local governments have not returned to 1994 pre-loss levels.

Table 2

State Investment Fund Participation
(in billions)

<u>As of December 31</u>	<u>Local Governments</u>	<u>Percentage</u>	<u>State Agencies</u>	<u>Percentage</u>	<u>Total</u>
1994	\$2.90	56.9%	\$2.20	43.1%	\$5.10
1995	2.25	51.3	2.14	48.7	4.39
1996	2.40	52.2	2.20	47.8	4.60
1997	2.38	51.6	2.23	48.4	4.61
1998	2.66	44.0	3.39	56.0	6.05

The 1995 derivatives loss was caused by excessive risk-taking and a decentralized organizational structure.

The audit we conducted in 1995 in response to the derivatives loss concluded that the State Investment Fund's \$95 million loss was caused by excessive risk-taking; limited staff understanding of derivative instruments; and the Investment Board's decentralized organizational structure, which at the time had limited reporting requirements and inadequate management controls to prevent or detect problems in a timely manner. We recommended several organizational changes, as well as the establishment of oversight mechanisms to prevent future losses.

Using the audit's findings as a framework, the Joint Legislative Audit Committee introduced legislation to provide additional investment oversight by the Legislature and the Investment Board's management and trustees. Key components of the legislation, which was enacted in May 1996 as 1995 Wisconsin Act 274, included:

- the addition of a chief investment officer and establishment of an internal audit unit to increase internal oversight of investment and risk operations;
- restrictions on allowable investments, including limiting the use of derivatives in the State Investment Fund to risk-reducing transactions;
- distribution of additional information about the State Investment Fund's policies and procedures, and investment strategy, holdings, risks, and performance to local government participants;

- the addition of a local government representative to the Board of Trustees; and
- expansion of the Investment Board's requirements for reporting to the Legislature about investment holdings, strategies, and performance.

Investment Board Changes

The Investment Board has taken steps to improve operations since the 1995 derivatives loss.

In response to the requirements of 1995 Wisconsin Act 274, the Investment Board increased its reporting to the Legislature and implemented changes to improve senior management's oversight of investing strategies, to increase the Board of Trustees' involvement in investment activities, and to improve communication with State Investment Fund participants. The Investment Board has established a fully staffed internal audit unit as directed by Act 274, although it has had more difficulty in establishing and incorporating the chief investment officer position into its organizational structure. A chief investment officer was hired in 1996 but retired in July 1999. Subsequently, the Investment Board has been re-evaluating the role of the chief investment officer, and it currently believes that two chief investment officer positions—equities and fixed-income—will better serve the organization.

In addition to staffing changes, the Investment Board has established a risk management committee to provide ongoing direction and oversight of investment activities and decisions, as well as to promote internal communication among staff, which had been a problem in 1995. To prevent unauthorized derivative transactions, counterparties to those transactions are also now required to notify personnel in the Investment Board's legal and operations departments when the transactions have been initiated by investment staff.

The Board of Trustees currently receives concise and timely reports on investment performance and risks.

The Investment Board also has taken steps to provide improved information to the Board of Trustees, which had not understood or been fully aware of the riskiness of the derivative investments being made by staff in 1995. For example, the Investment Board now obtains independent pricing of derivative transactions, where available, and compiles a monthly derivatives report that details market value information for each derivative holding. Other investment reporting to the Board of Trustees is now more concise and is designed to provide risk and performance information more quickly and directly.

In response to concerns that investment guidelines did not provide sufficient guidance to staff, especially with respect to the use of derivatives, the Board of Trustees formed an investment policy committee that reviewed and revised the investment guidelines so

that they more clearly defined acceptable risks and investments for the various portfolios. The committee currently oversees the revision and establishment of investment guidelines as new portfolios are created or changes to current portfolios are proposed.

The Investment Board now provides improved and more timely information to participants in the State Investment Fund.

To address concerns of local governments that participate in the State Investment Fund, the Investment Board has taken steps to provide additional information on performance and risks; it provides earnings information in 4 to 5 business days rather than the 17 days that it had previously taken; and it obtained better insurance coverage of investment losses at a lower cost.

Finally, the Investment Board is in the process of implementing a comprehensive system for reporting information to enhance its monitoring and investment analysis. 1997 Wisconsin Act 27 (the 1997-1999 biennial budget) authorized funding of \$5.4 million for a four-year project to develop and implement a comprehensive strategic information system to integrate trading, accounting, risk management, compliance, and portfolio analysis systems. At the end of its first two years, the four-year project is proceeding as planned, and expenditures are within the authorized budget amounts. The Investment Board has requested continued funding of \$2.6 million annually in FY 1999-2000 and FY 2000-01 to support the final two years of project development. The Joint Finance Committee has approved this request.

Status of the Derivatives Loss

Remaining payments on the agreements to eliminate the derivatives loss total \$41.7 million.

As a result of the 1995 derivatives loss, the State Investment Fund's annual earnings were reduced in each year since FY 1994-95. For example, FY 1997-98 earnings of \$318.0 million would have been approximately \$334.8 million if the derivatives loss had not occurred. However, even with the derivatives loss, the State Investment Fund's returns have continued to exceed benchmarks, and they compare favorably in comparison to those of similar funds. Remaining payments to the investment dealers, including interest, associated with the State Investment Fund derivatives loss total \$41.7 million as of June 30, 1999.

The Investment Board has substantially implemented the provisions of 1995 Wisconsin Act 274, and it has strengthened management oversight and reporting. Therefore, this evaluation focused on the Investment Board's performance. We concentrated on the management of the Fixed Retirement Trust Fund which, as noted, comprises 80 percent of the total assets under the control of the Investment Board.

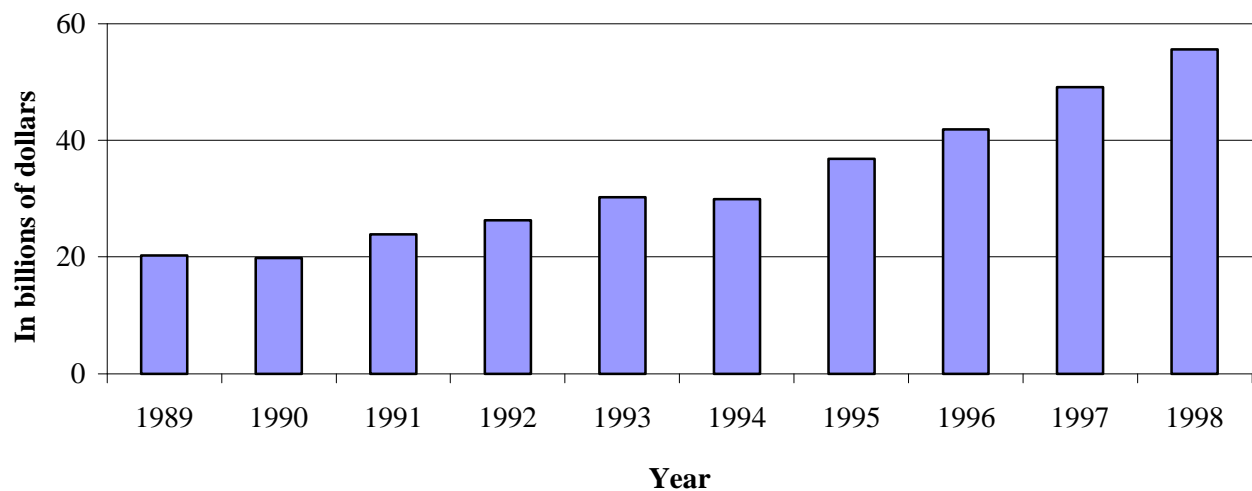
FIXED RETIREMENT TRUST FUND STRATEGY AND PERFORMANCE

Wisconsin Retirement System assets have increased by \$35 billion since 1989.

For the past ten years, strong financial markets in the United States, combined with low interest rates, have enabled both public and private investment entities to share in a sustained period of growth. As shown in Figure 1, total Wisconsin Retirement System assets, including those of both the fixed and the variable trust funds, increased from \$20.2 billion at the end of 1989 to \$55.6 billion at the end of 1998, an increase of 175 percent. In the past three years the increase was over 50 percent.

Figure 1

Wisconsin Retirement System Assets
As of December 31



However, growth in assets is not necessarily an indication of how well investments are being managed and whether a sound investment strategy has been developed and implemented. Instead, the effectiveness of the Investment Board's investment strategy can be assessed by comparing investment performance with internally established investment goals or benchmarks, as well as by comparing performance to that of other public pension funds.

Establishing Long-Term Investment Strategies

Within general investment policies and restrictions set forth in s. 25.15, Wis. Stats., the Investment Board establishes long-term investment strategies for the Fixed Retirement Trust Fund. As trustees of public funds, Investment Board trustees and staff are held by statute to the “prudent person” standard of responsibility in developing and implementing investment strategies that appropriately balance risk and return. This means they must manage investment assets with the care, skill, and diligence that a prudent person would exhibit acting in a similar capacity, with similar resources, and for similar types of funds.

Asset allocation is one of the most critical decisions in establishing an investment strategy.

Annually, the Investment Board establishes and refines long-term investment strategies for the Fixed Retirement Trust Fund. As part of this process, the Investment Board trustees and staff make several key decisions. One of the most critical is determining the portion of funds to be allocated and invested in different classes of investments. Some pension experts believe that up to 90 percent of the variation in investment performance that an entity may experience is the result of overall investment or asset allocation decisions, not the selection of individual investments.

Determining an appropriate asset allocation for a pension fund includes balancing the expected rate of return on an investment with the level of risk assumed. Certain classes or types of investments, such as international investments, entail higher degrees of risk and, therefore, have higher expected rates of return. Other classes of investments, such as government bonds, entail less risk and have lower expected returns. Therefore, an important principle of successful asset allocation is diversification, which limits exposure to the risk associated with any particular investment class. Because the various investment classes may react differently to different conditions, such as business cycles, inflation rates, and foreign exchange rates, diversifying a fund across several investment classes can add value by minimizing risk and providing a stable return.

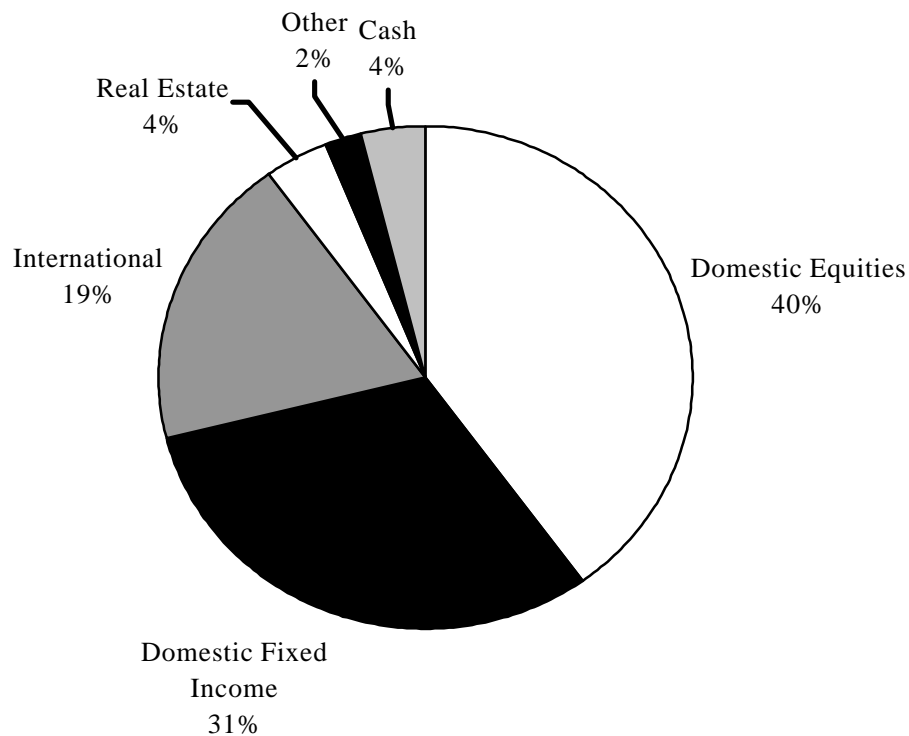
In establishing the asset allocation plan for the Fixed Retirement Trust Fund, the Executive Director, with advice from senior investment staff and professional consultants, analyzes the risks and returns of individual investment classes, as well as potential fund mixes under various economic scenarios. The Executive Director submits this plan to the Board of Trustees each January for its review and approval. The Investment Board also includes the asset allocation plan in its annual report to the Legislature on investment goals and long-term strategies.

The Investment Board invests retirement funds in several different investment classes.

As shown in Figure 2, the Fixed Retirement Trust Fund's assets are allocated among a wide variety of investment classes, including stocks and other equity investments, bonds and other fixed-income securities, international investments, real estate, non-traditional investment vehicles, and cash.

Figure 2

Fixed Retirement Trust Fund Investment Allocation
As of December 31, 1998



A second key investment management decision is whether to actively or passively manage investments. Active investment management includes selecting investments on a company-by-company basis, without regard to the mix represented in the market as a whole, in an attempt to outperform the market. In passive management, investment selection

mimics a specific market and is typically accomplished through the use of index funds. The benefits of a passively managed portfolio are that it likely will perform as well as the index it is designed to mimic, and it will cost less to administer because little company-specific investment research is needed. Actively managed portfolios, on the other hand, may provide additional value by outperforming the market, but they also carry the risk of potentially not earning as much as would have been earned in a passively managed portfolio.

The Investment Board has increased its use of index funds.

Before 1991, most Fixed Retirement Trust Fund investments were actively managed. However, in 1991, the Investment Board began using a passively managed index fund that holds investments identical to those of the Standard and Poor's (S&P) Index of 500 widely held common stocks. Subsequently, the Investment Board has increased its use of passively managed funds to mimic several other market indices.

A third key investment management decision is whether to use Investment Board staff to make investment decisions and execute security trades, or to hire external managers to perform these functions. External managers can provide expertise not available from internal staff or can supplement internal staff resources. However, costs for external investment management typically exceed those for internally managed funds. Also, external management decreases control and oversight over investment decisions. Wisconsin Statutes require the Investment Board to manage investments primarily internally; only 15 percent of pension fund investments may be managed externally.

To assess the effectiveness of the Investment Board's overall investment strategy, as well as key investment decisions, we measured performance for the Fixed Retirement Trust Fund in two ways. First, we compared investment returns to goals established internally by the Investment Board for different investment classes. This comparison illustrates how well the Investment Board has performed in relation to the market for specific investment classes; however, it provides limited insight into the effectiveness of the Investment Board's overall strategy or its decisions regarding the portion of assets it allocates to the different investment classes. Therefore, we also compared the Fixed Retirement Trust Fund's performance to that of other large public pension funds, in order to provide another measure of the relative effectiveness of the Investment Board's overall investment strategy and decisions.

Comparison to Established Performance Goals

Fixed Retirement Trust Fund investments meet the rate of return required to pay retirement benefits.

The minimum investment goal of the Fixed Retirement Trust Fund is an 8.0 percent rate of return over the long term, which represents the return the Fund's actuary assumes will be generated for operating purposes. It is important for the Fund to achieve at least the actuarially assumed rate of return because its basic investment objective is to provide earnings that, along with contributions from system employers and participants, will accumulate sufficient funds for the retirement system to pay pension benefits. The Fixed Retirement Trust Fund has met the actuarially assumed rate of return during the last ten years. However, because the Investment Board is expected to exceed the actuarial rate of return when the economy is strong, performance is better assessed by comparing actual investment returns to performance goals established by the Investment Board.

The Investment Board establishes performance goals, or benchmarks, for each of its investment portfolios, as well as for the Fixed Retirement Trust Fund overall. Both market indices and the returns of other actively managed portfolios are used to establish these benchmarks. To justify additional administrative costs related to active management and to compensate the Fund for the additional risk of not guaranteeing market rates, active management is expected to earn higher rates of return than passive management. A common assessment of active management is to compare actual returns to market rates of returns, as represented by broad market indices. For example, the S&P 500 Index is used to measure stock performance of larger domestic companies.

The Investment Board also uses returns of "peer groups," or other actively managed portfolios that have similar risk and style parameters to assess performance. Market indices and peer group benchmarks are combined in establishing portfolio benchmarks. The Investment Board works with a consultant to establish performance benchmarks, which require approval of the full Board of Trustees. The overall benchmark for the Fixed Retirement Trust Fund is a composite of underlying portfolio benchmarks.

The Investment Board indicates that it is primarily concerned with longer-term performance, with a focus on five-year performance, to provide assessments of the effectiveness of the strategies and performance of investment staff. Furthermore, the Investment Board uses five-year returns in determining performance bonuses for investment staff. However, one-year performance figures also can provide useful information for fine-tuning investment decisions.

The Investment Board did not meet one-year and five-year benchmarks for the Fixed Retirement Trust Fund as of December 31, 1998.

Between 1994 and 1997, the Fixed Retirement Trust Fund met its five-year and ten-year benchmarks at the end of all but one year. However, since 1994, it met its December 31 one-year benchmark only once. As a result, longer-term performance returns have recently been affected. As shown in Table 3, the overall one-year and five-year benchmarks for the Fixed Retirement Trust Fund were not met for the period that ended December 31, 1998, although the ten-year benchmark was exceeded.

Table 3

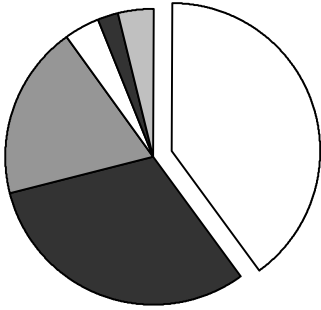
Fixed Retirement Trust Fund Performance

<u>Period Ending December 31, 1998</u>	<u>Actual Performance</u>	<u>Investment Benchmark</u>
1 year	14.6%	15.5%
5 year	13.4	13.7
10 year	12.9	12.6

To better understand why the Fixed Retirement Trust Fund's overall performance is declining, we reviewed and discussed with staff the investment performance of each of the broad investment classes that make up the Fund. Appendix II includes a description and performance information for each of the portfolios of the Fixed Retirement Trust Fund. A comparison of actual returns to the benchmarks shows some benchmarks have been met and surpassed, while performance has fallen short for others.

Domestic Equities

Domestic Equities 40%



Domestic stocks and other equities constitute the largest class of Fixed Retirement Trust Fund investments. These investments made up \$19.6 billion, or 40 percent, of the Fund as of December 31, 1998. Most are managed by the Domestic Equities Division, which classifies them as large, mid, and small cap stocks: large cap stocks represent investments in companies that have a capitalization level exceeding \$5 billion; mid-cap stocks generally represent a capitalization level of between \$1 billion and \$5 billion; and small cap stocks generally represent a capitalization level of less than \$1 billion. The Fixed Retirement Trust Fund's domestic equities allocation includes \$11.7 billion in large cap stocks, \$4.2 billion in mid cap stocks, and \$2.7 billion in small cap stocks; the remaining \$1.0 billion consists of direct equity ownership interests in privately or closely held companies that are either developing or being restructured.

As shown in Table 4, the Investment Board met its one-year investment benchmark for domestic equities as of December 31, 1998, but did not meet its five-year and ten-year performance benchmarks. We found that the principal reasons for lagging performance in domestic equities are the Investment Board's emphasis on small cap stocks and its limited effectiveness in exceeding market returns through active investment management in the large cap stock market.

Table 4

Domestic Equities Performance

<u>Period Ending December 31, 1998</u>	<u>Actual Performance</u>	<u>Investment Benchmark</u>
1 year	18.7%	18.1%
5 year	18.6	20.5
10 year	15.5	16.9

The Investment Board has one of the largest small cap stock portfolios in the country.

Small Cap Stocks - Over the years, the Investment Board has invested a larger portion of its equities in small cap stocks than have other diversified investors. For example, in 1995, the Investment Board had invested 35 percent of the Fixed Retirement Trust Fund's domestic equities in small cap stocks; that was almost three times the weight of small cap stocks in the Wilshire 5000, a broad-based market indicator of

domestic equities. Furthermore, according to the Investment Board, its current \$2.7 billion small cap portfolio, which is internally managed and contains approximately 400 companies, is more than three times larger than the average small cap portfolio of approximately \$880 million.

The small cap stock portfolio has fallen short of its one-year, five-year, and ten-year investment benchmarks.

Such an emphasis on small cap stocks appears to have affected performance. In fact, the small cap stock portfolio has fallen short of its one-year, five-year, and ten-year benchmarks for the period ending December 31, 1998. For example, the five-year return was 9.8 percent, compared to a benchmark of 14.4 percent. Portfolio size appears to contribute to poor performance because in a small cap market, increasing the size of a portfolio typically involves expanding the number of companies held, rather than an across-the-board increase in each holding. As a result, there is likely to be an increased number of transaction costs associated with trading. In addition, because small cap stocks are not as marketable as large cap stocks, the execution of trades can be more complex, which adds costs.

More significant to performance, however, is the difficulty of effectively researching and managing the large number of holdings the large small-cap stock portfolio requires. For example, approximately 200 new companies are added to the small cap market index each year, as poorly performing companies or growing companies that no longer fit the definition of a small company are dropped from the index. Investment staff must monitor and analyze these continual changes in the market. However, they are unable to rely on other analysts' research for small cap stocks because these companies, unlike large cap stock companies, typically are not widely followed.

Investment decisions have affected performance in the small cap stock portfolio.

Investment Board staff noted two specific investment decisions that affected its small cap stock portfolio's performance. First, the investment benchmark by which the portfolio is evaluated included many Internet stocks that appreciated considerably, but in which the Investment Board had decided not to invest because of their risk. In addition, the Investment Board's portfolio had a higher concentration than its benchmark in biotechnology companies, some of which performed poorly. For example, the Investment Board lost approximately \$6 million during FY 1997-98 on a biotechnology company that failed to receive approval from the Federal Food and Drug Administration for its leading product.

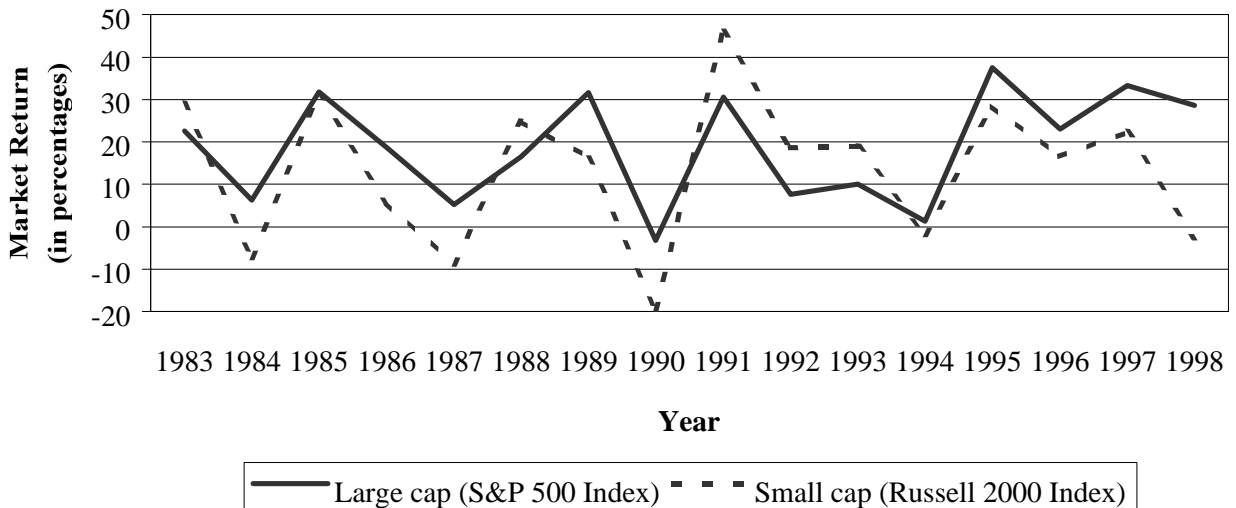
In addition to the difficulty of managing a large portfolio of small cap stocks, the Investment Board has not realized the relatively higher level of performance it was expecting from the small cap stock market. The Investment Board began investing in small cap stocks in 1983, in part because their average annual returns were outperforming the S&P 500 Index of large cap stocks in the 1970s. The Investment Board assumed

that in the long run, small cap stocks would continue to outperform large cap stocks and would provide diversification across its domestic equity portfolios.

However, as shown in Figure 3, when we compared the large cap stock market returns (as measured by the S&P 500 Index) and the small cap stock market returns (as measured by the Russell 2000 Index), we found that the large cap stock market outperformed the small cap stock market in all but 5 of the last 16 years. The most notable exception was 1991. The gap between the small cap market and the large cap market was relatively narrow until 1996; however, the performance of large cap stocks significantly exceeded small cap stock performance in 1998. The Investment Board has also concluded that its rate of return in small cap stocks has not been commensurate with the level of risk assumed.

Figure 3

Large Cap versus Small Cap Market Returns
1983 - 1998



In response to the poor performance of its small cap stock portfolio and the relative returns of the overall small cap stock market, the Investment Board has taken steps to reduce its emphasis on small cap stocks and to allocate funds to other markets. For example after representing 35 percent of the domestic equities in the Fixed Retirement Trust Fund

in 1995, the small cap stock portfolio was reduced to 14 percent by the end of 1998. However, according to Investment Board staff, this still represents two times the weight of small cap stocks in the Wilshire 5000.

In addition, as part of its effort to increase the manageability of its small cap stock portfolio, the Investment Board is establishing an index fund to invest 25 percent of its small cap stocks. Although investment professionals suggest that active management of small cap stocks remains optimal, indexing a portion of small cap stocks is becoming more common among them. An index fund is expected to help the Investment Board earn at least the market rate for small cap stocks and to allow it to better manage a smaller internal small cap stock portfolio.

It is important for the Investment Board to continually reassess its commitment to the small cap stock market.

However, it is important that the Investment Board continuously reassess the extent of its commitment to a segment that has lagged behind the gains posted by the large cap stock sector. Although small cap stocks provide diversification in the Fixed Retirement Trust Fund, and some investment professionals believe they may be undervalued and poised for higher returns in the future, we believe their correspondingly higher risks, staffing needs, and costs warrant prudence in determining their appropriate emphasis in the domestic stock allocation. It is unclear as to when, or whether, this segment of the domestic equity market will earn long-term returns that are commensurate with the higher risks and costs of the small cap market.

Large Cap Stocks - In contrast to the staff-intensive small cap stocks, large cap stocks are widely followed by investment analysts, and information is readily available to large cap stock investors. Furthermore, the number of analysts and the level of research reduce the availability of any additional information that would significantly affect stock price movements to an individual investor. Thus, in the last several years, the Investment Board, as well as other active investment managers, have found it difficult to exceed returns posted by market indices in the relatively efficient large cap stock market.

The Investment Board has shifted from active to predominantly passive management of large cap stocks.

In response to efficient markets and performance concerns and as suggested by our 1991 audit, the Investment Board began using a passive investment strategy for large cap stocks during 1991. By 1995, the Investment Board had 10.7 percent of the total Fixed Retirement Trust Fund's large cap stock investments in an S&P 500 index fund. Three years later, it had increased its investment in large cap stock index funds to 83.6 percent of total large cap stock investments.

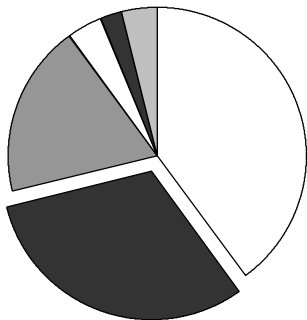
The Investment Board has not met one-year, five-year, or ten-year investment benchmarks for internally managed large cap stocks.

As expected, investment performance for funds invested in the S&P 500 index fund has matched the fund's benchmark, the S&P 500 Index. In contrast, however, returns on internally managed large cap stocks have not met the one-year, five-year, or ten-year performance benchmarks for the period ending December 31, 1998; the five-year return for internal large cap stocks was 20.3 percent, compared to a benchmark of 23.0 percent. The lag in longer-term performance is likely attributable to the performance of earlier internal large cap stock portfolios that have subsequently been replaced by the S&P 500 index fund. While the Investment Board has addressed long-term performance concerns by moving into passive management of large cap stocks, the performance of its current internally-managed large cap stock portfolio continues to fall short of market returns.

The internally managed large cap stock portfolio, which had a balance of \$1.1 billion as of December 31, 1998, was established in March 1997 to identify undervalued large cap stocks and to complement the performance of the S&P 500 Index fund. However, this portfolio has not yet met either the returns of the S&P 500 Index or its lower benchmark, which factors in returns of peer groups. More recently, in June 1998, the Investment Board established two large cap stock portfolios that are actively managed by external managers using strategies that loosely track, but allow for variances from, the S&P 500 Index, in an attempt to exceed the returns of the S&P 500 Index. Because the Investment Board's current actively managed portfolios are fairly new, it is too early to fully assess their success. However, if these newer portfolios are unable to meet longer-term goals, which ultimately should include exceeding the S&P 500 Index, the Investment Board may need to reassess its ability to outperform indexed large cap stock portfolios through active management.

Domestic Fixed Income

**Domestic Fixed Income
31%**



Bonds and other domestic fixed-income securities, which consist of debt issued by companies and governmental units, made up \$15.2 billion, or over 31 percent, of the Fixed Retirement Trust Fund as of December 31, 1998. Two divisions manage the domestic fixed-income investments: the Public Fixed Income Division actively manages publicly traded bonds, and the Private Placements Division actively manages direct, long-term loans to both national and Wisconsin companies. With \$3.1 billion in privately negotiated loans, which includes \$372.8 million in a program to target investments in Wisconsin companies, the Investment Board has one of the largest private placement portfolios among all pension funds in the country. In addition, the Investment Board invests a portion of its domestic fixed-income allocation in a passively managed index fund and an actively managed global bond portfolio, which holds predominantly domestic fixed-income securities.

Returns on domestic fixed-income investments have exceeded performance benchmarks.

As shown in Table 5, returns on domestic fixed-income investments exceeded the Investment Board's one-year, five-year, and ten-year benchmarks for the period ending December 31, 1998. Investment Board staff attribute their success to the experienced staff responsible for the domestic fixed-income investments. Each of the three investment directors responsible for public bonds has nearly 30 years of investment experience, and the private placements investment director has over 35 years of experience.

Table 5

Domestic Fixed Income Performance

<u>Period Ending December 31, 1998</u>	<u>Actual Performance</u>	<u>Investment Benchmark</u>
1 year	9.9%	9.4%
5 year	8.0	7.7
10 year	10.7	9.9

However, some may question whether the Investment Board is realizing higher returns from maintaining a large private placements portfolio, which represents higher risk and typically requires more staff to manage than do publicly traded bonds. Because privately placed loans are not actively traded on investment markets, they cannot easily be sold and converted into cash, and the Investment Board can require borrowers to pay slightly higher interest rates as compensation for its long-term investment commitment. A premium over public bonds is also expected to be generated because the loans are negotiated directly and require more staff analysis than do public bonds. However, the magnitude of this premium fluctuates with market conditions. When cash is readily available in the market, premium rates are not significantly higher for private placements than for public fixed income securities. When the availability of investment cash declines, the rate differential widens.

Private placements have not earned higher returns than public bonds.

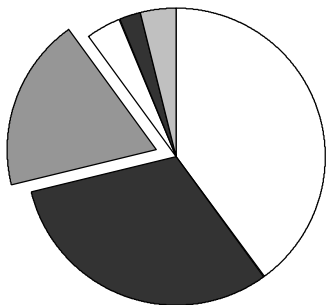
The Investment Board's private placement returns exceeded all of its benchmarks as of December 31, 1998; the five-year return for private placements was 7.8 percent, compared to a benchmark of 7.7 percent. However, when we compared the returns of private placements with the public bond portfolio that Investment Board staff believe is the most comparable, we found that returns were similar. Therefore, the Investment Board's private placements are not providing a premium

over public bonds to compensate for the added risk and illiquidity of private placements. Further, private placements typically are more staff-intensive than public bonds, which increases the vulnerability of the portfolio to staff turnover. For example, the Investment Board's Public Fixed Income Division has 1 staff person for every \$1 billion of investments managed, whereas the Private Placements Division has 1.7 staff for every \$1 billion managed. With staffing shortages in other divisions, the opportunity cost of dedicating staff to complex, illiquid investments that have not provided a premium may need to be considered in the future.

Investment Board staff note that private placements are needed because alternative investment vehicles for funds currently invested in private placements may be limited. In addition, in periods of rising interest rates, private placements may present a small premium over public bonds, at least until the public bond portfolios are adjusted for changing market conditions. We agree that a private placement portfolio can be an important component in the Investment Board's domestic fixed-income strategy because it provides an option for the fixed-income allocation and can provide opportunities for added returns during certain economic periods. However, given that private placement investments can be more staff intensive and have not earned higher returns overall than public bonds, the Investment Board should regularly evaluate whether these benefits justify maintaining one of the largest private placement portfolios among public pension funds.

International Investments

International Investments
19%



International investments, which consisted of 73 percent international equities and 27 percent international fixed-income securities as of December 31, 1998, made up \$9.2 billion, or 19 percent, of the Fixed Retirement Trust Fund. The Investment Board's international investments include stock and bond investments in both established countries and emerging markets, such as Brazil, Thailand, and Russia.

The Investment Board first began investing in international equities and fixed income markets in FY 1989-90, with the goals of diversifying and achieving higher returns than could be earned in domestic markets. Staff manage approximately 28 percent of the international securities, with the remaining 72 percent managed externally or invested in an index fund. As shown in Table 6, returns on international equities have exceeded the Investment Board's one-year, five-year, and since inception benchmarks, but returns on international fixed-income investments have fallen short of both the five-year and since inception benchmarks.

Table 6

International Investments Performance

Equities

<u>Period Ending December 31, 1998</u>	<u>Actual Performance</u>	<u>Investment Benchmark</u>
1 year	16.0%	15.9%
5 year	12.8	10.6
Since Inception (1989)	11.8	8.8

Fixed Income

<u>Period Ending December 31, 1998</u>	<u>Actual Performance</u>	<u>Investment Benchmark</u>
1 year	9.8%	9.7%
5 year	8.2	9.3
Since Inception (1989)	9.0	9.2

International investment performance has varied.

Investment Board staff attribute its success in international equities to the successful selection of securities across countries. For example, the Investment Board's limited exposure in Japan, where the 1998 market was weak, strengthened international equity returns. Problems with derivative investments in an internally managed portfolio, which resulted in turnover in staff and the restructuring of the portfolio, likely contributed to the international fixed-income portfolios' under-performance in the five-year and since inception periods.

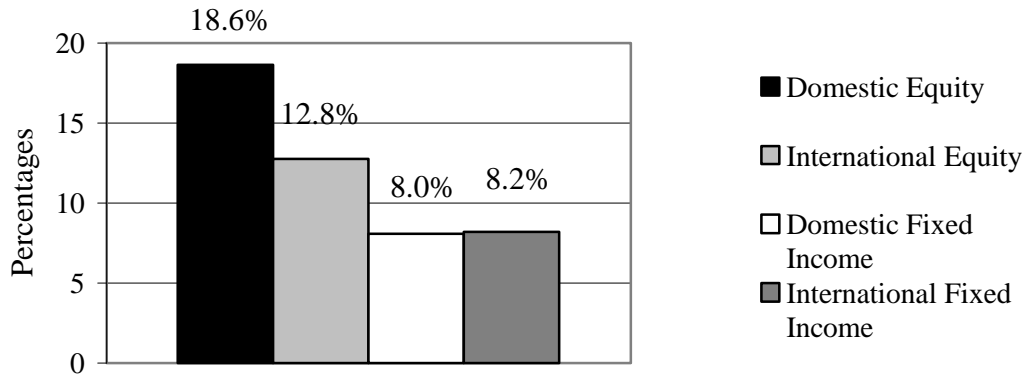
The Investment Board's domestic equities investments have significantly outperformed its international equities.

International investments typically represent higher risks than similar domestic investments because of changes in foreign governments, world markets, and foreign currency exchange rates. As a result, the Investment Board expects its international investments, especially equities, to earn higher returns than domestic investments. However, as shown in Figure 4, returns on the higher-risk international equities fell significantly short of returns on domestic equities for the five-year period ending December 31, 1998. Fixed-income returns were more comparable for international and domestic portfolios, as anticipated by

the Investment Board. Since ten-year investment returns are not available for some of the portfolios, only five-year returns were analyzed.

Figure 4

Domestic and International Investment Performance
Five Year Returns for Period Ending December 31, 1998



Investments in emerging markets, which is a category of international investments that focuses on developing countries, represent even higher risk and volatility because of less stability in their governments and financial markets. Emerging market investments were first made during 1992 for equities, and 1994 for fixed income. As of December 31, 1998, they accounted for \$503.0 million, or about 1 percent of the Fixed Retirement Trust Fund's assets.

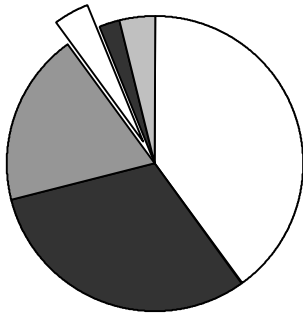
Emerging market investments represent significant risk and volatility.

Even though the Investment Board has largely met its emerging market investment return benchmarks, the risk and volatility of these markets are evident in its benchmark returns for 1998. Overall market returns for emerging market investments in 1998 assumed a loss of 25.7 percent for equities and a loss of 14.4 percent for fixed-income. These negative market returns reflect poor performance in emerging markets as a whole. Since most emerging market investments performed poorly, the market return, or the standard by which investment managers evaluate the performance of emerging market investments, correspondingly is negative for the period. It is not uncommon for short-term benchmarks to exhibit negative returns. However, it is anticipated that short-term declines will be offset by periods of higher returns in the long term, which is evidenced by positive earnings for emerging markets since inception of the Investment Board's portfolios.

International investments can be an important component of a pension fund's investment strategy. However, the higher risk associated with international investments, especially those in emerging markets, requires continued analysis to determine whether these investments are providing a return that is commensurate with their risk.

Real Estate

Real Estate
4%



Real estate investments made up about \$1.9 billion, or 4 percent, of the Fixed Retirement Trust Fund as of December 31, 1998. These investments include real estate owned directly by the Investment Board, such as shopping malls and office buildings, and investments in real estate funds that acquire and manage real estate investments. The Investment Board's real estate investments include domestic and international holdings; however, all international holdings are purchased through real estate funds rather than as direct investments.

As shown in Table 7, real estate investments exceeded the Investment Board's five-year and ten-year investment benchmarks but fell short of the one-year goal for the period ending December 31, 1998. Investment Board staff attribute their success over the long term to experience in real estate. Further, the rate of return on the Investment Board's real estate portfolio has improved steadily over the past ten years because of a general recovery in the real estate industry and because of the variety and type of investments in the portfolio. Staff believe that they did not meet their one-year benchmark because of the large number of new investments in real estate funds that may not return a profit for several years. Although the real estate portfolio has been relatively successful, staff believe that they have been unable to fully invest the allocation to real estate because of limited investment opportunities and staff to pursue these opportunities.

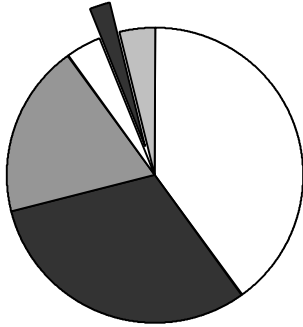
Table 7

Real Estate Performance

<u>Period Ending</u> <u>December 31, 1998</u>	<u>Actual</u> <u>Performance</u>	<u>Investment</u> <u>Benchmark</u>
1 year	15.3%	16.6%
5 year	10.4	8.9
10 year	7.1	3.9

Non-Traditional Investments

Non-Traditional 2%



In January 1995, the Investment Board established a portfolio, funded at \$1 billion, that was intended to be global in nature, to place an emphasis on equities but allow investing across investment types, and to focus on unconventional investment instruments that have been undervalued because of complex or unique structuring, indeterminate risk exposures, or other factors creating market inefficiencies. The ultimate goal of this “non-traditional” portfolio is to invest in those areas not covered by other portfolios. In return for increased risks associated with this portfolio, the Investment Board hoped to attain higher returns than in its more traditional portfolios. The non-traditional portfolio, which is managed internally, has been invested as intended in all investment types, including derivatives. The portfolio held investments of \$746 million, or 2 percent of the Fixed Retirement Trust Fund, and cash of \$587 million as of December 31, 1998.

Returns in the non-traditional portfolio dropped significantly in 1998.

The non-traditional portfolio exceeded its performance goals from inception in 1995 through December 1997, with returns ranging from 17 to 27 percent, compared to benchmarks of 14.7 to 18 percent. These favorable returns appear to have been driven by the portfolio’s large domestic equity holdings. Until December 1997, over half of the assets in the portfolio were, on average, domestic equities, which enjoyed strong returns during the period. However, as shown in Table 8, the non-traditional portfolio did not meet its performance goals in 1998, and overall returns since inception have fallen below the benchmark. Major factors contributing to the recent underperformance in the portfolio include staff turnover and the decline in emerging market investments.

Table 8

Non-Traditional Portfolio Performance

<u>Period Ending December 31, 1998</u>	<u>Actual Performance</u>	<u>Investment Benchmark</u>
1 year	5.0%	21.7%
Since Inception (1995)	16.2	17.0

In the spring of 1998, the investment director of the non-traditional portfolio announced his retirement from the Investment Board. Soon after, the portfolio manager, who was the only other investment staff

member familiar with the portfolio, announced that he was resigning. The unusual nature of the investments and related strategies made it difficult for other investment staff to readily assume responsibility for the portfolio, even temporarily.

The Investment Board began to liquidate portions of the non-traditional portfolio in 1998.

With the future of the portfolio uncertain, the Investment Board began, in the summer of 1998, to liquidate portions of it, including the large holdings in domestic equities and some of the emerging market equity investments. The goal was to liquidate the portfolio until all that remained were investments in which the Investment Board had long-term commitments that could not be readily sold, such as private equity investments. The contingency plan was that these investments would be monitored by a consultant or by other Investment Board staff in the event a replacement could not be found for the portfolio.

The timing of liquidation increased losses in the non-traditional portfolio.

However, the Investment Board's liquidation of the portfolio assets came at a time that the domestic stock market experienced a short-term decline, and emerging markets were continuing a decline that had begun in 1997 and was already significantly affecting returns on this portfolio. Attempting to sell during these market declines further increased losses. During the period July 1, 1998 through December 31, 1998, when a large portion of the liquidation took place, the portfolio realized losses of \$54.9 million. For example:

- Union Pacific Resources, which was purchased for \$24.9 million and had a market value of \$24.3 million at January 1, 1998, was sold for \$16.1 million over the months of July, August, and September 1998;
- Malaysian Assurance Alliance, which was purchased for \$3.0 million and had a market value of \$2.6 million at January 1, 1998, was sold for \$1.6 million during the months of June and July 1998; and
- Morgan Stanley Asian Pacific Fund, which was purchased for \$11.0 million and had a market value of \$7.8 million on January 1, 1998, was sold for \$6.9 million during the months of June and July 1998.

On December 31, 1998, 44 percent of the non-traditional portfolio was held in cash.

The holdings in the portfolio changed significantly throughout this liquidation period. Domestic equities, which represented about \$630.3 million, or over 50 percent of investments as of January 1, 1998, declined to less than 10 percent of the portfolio by December 31, 1998. In addition, the cash balance grew to 44 percent of total assets, or \$587 million, which had a substantial effect on returns. Because of the

uncertainty of the portfolio's future, the Investment Board chose to continue investing the cash balance in the State Investment Fund, earning a return of approximately 5 percent annually, rather than to attempt to invest the excess cash in higher-yielding investments.

In January 1999, the Investment Board rehired the former portfolio manager of the non-traditional portfolio to take the position of investment director, and it recently hired an entry-level analyst for this portfolio. It is expecting to staff the portfolio with an assistant portfolio manager in the future.

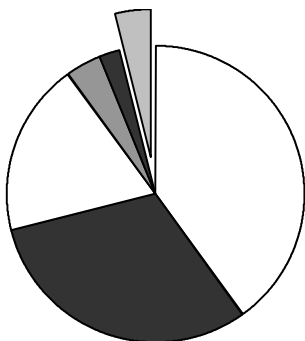
Based on past success in this portfolio, there appears to be potential for higher returns in the future. However, to achieve this goal, the Investment Board believes it needs to focus on private equity emerging market investments, which require both additional resources and frequent travel to developing countries in order to evaluate investment opportunities and monitor investments once they are made.

Some question whether the Investment Board should continue investing in the non-traditional portfolio.

Although some question whether the Investment Board should continue investing in the non-traditional portfolio, especially if staffing continues to be an issue, Investment Board staff remain committed to this portfolio. They believe continuing investments in the non-traditional area will provide the opportunity to earn significantly higher returns and that the portfolio's small size limits overall risk exposure in the Fixed Retirement Trust Fund. However, the Investment Board will need to regularly assess whether this higher-risk portfolio receives sufficient returns to justify the risk and the difficulty of ensuring that sufficient staff resources and expertise are available to manage this portfolio adequately.

Cash

Cash
4%



Generally some level of cash is necessary for settling pending trades, responding to investment opportunities, and paying liabilities. Cash balances, which made up approximately \$2 billion, or 4 percent, of the Fixed Retirement Trust Fund as of December 31, 1998, are deposited with the State Investment Fund or a short-term money market account at the Investment Board's custodial bank.

As shown in Table 9, the State Investment Fund's performance has exceeded all of its benchmarks. Combining all the cash balances of the State and many local governments into one fund increases the Investment Board's flexibility to take advantage of longer-term maturities, which typically have higher interest rates.

Table 9

State Investment Fund Performance

<u>Period Ending December 31, 1998</u>	<u>Actual Performance</u>	<u>Investment Benchmark</u>
1 year	5.3%	5.1%
5 year	5.2	5.1
10 year	6.0	5.4

While State Investment Fund returns have been meeting benchmarks, there is an opportunity cost to holding cash in the Fixed Retirement Trust Fund. For example, the short-term earnings rate of the State Investment Fund is well below the rate of return the Investment Board earned on its public bonds or the rate of return on stocks. Therefore, care needs to be taken to ensure that the Fixed Retirement Trust Fund is as fully invested as prudently possible.

The Investment Board believes that, generally, cash balances representing between 2 to 3 percent of the Fixed Retirement Trust Fund are sufficient to meet the needs of the Fund. As shown in Figure 5, the Investment Board significantly reduced its cash balances since the early 1990s to place them in the 2 to 3 percent range; however the cash balance increased again in 1998.

At least one reason for an increase in cash during 1998 was the liquidation of the non-traditional portfolio, as discussed previously. In addition, cash had been accumulating in a private equity portfolio because of the limited availability of investment opportunities, although recently the Investment Board invested a portion of this portfolio's excess cash in equity index funds until investment opportunities could be identified.

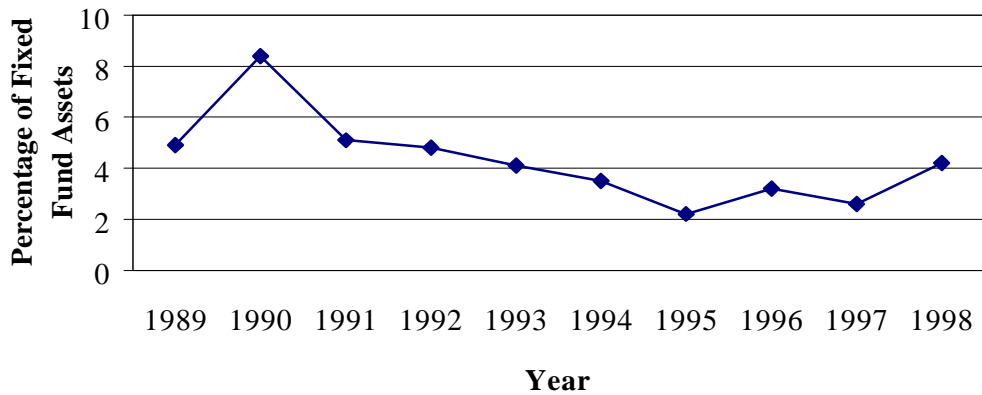
The Investment Board may need to consider other alternatives for investing cash balances.

However, approximately half of the cash balance at the end of 1998 was related to commitments to limited partnership investments, in which the Investment Board participates with other investors. When a limited partnership agreement is originated, funds are pledged but not forwarded until needed by the partnership. Currently, the Investment Board holds these commitments in cash because of the uncertainty of when the funds will be requested. Cash reserved for commitments to limited partnerships have doubled during the past two years. If the

amount of limited partnership commitments continues to increase, the Investment Board may wish to consider strategies to estimate annual cash needs to fund these commitments and invest the remaining cash balances in higher yielding investments, such as index funds.

Figure 5

Cash Balances in the Fixed Retirement Trust Fund
As of December 31



Comparison to Other Public Pension Funds

Like other public pension funds, the Investment Board generally does not compare its overall returns directly to those of other pension funds, believing that different asset mixes, investment styles, tolerable risk levels, and restrictions on allowable investments reduce the comparability of investment performance between funds. However, comparing the overall returns and investment strategies of several large public pension funds provides a general assessment of the Investment Board's overall investment performance and the relative effectiveness of its investment strategy and allocation decisions.

Investment Board returns ranked 10th among 12 public pension funds surveyed.

Table 10 presents one-year, five-year, and ten-year investment returns for Wisconsin's Fixed Retirement Trust Fund and 11 other public pension funds as of June 30, 1998. The Investment Board's five-year return, which it and the other funds indicated are the best measure of performance, is 10th among the 12 funds surveyed; its five-year return was 14.2 percent, compared to a median of 15.0 percent for the other funds surveyed. The Investment Board did only slightly better in the short-term, where it was 9th among 12 funds. Several funds were unable

to provide ten-year return information; however the Investment Board ranked 7th out of 8 among those that did. Appendix III includes a summary of our survey results.

Table 10

Comparison of Pension Funds' Overall Rates of Return
For Periods Ending June 30, 1998

<u>Pension Fund</u>	<u>Five-year</u>		<u>One-year</u>		<u>Ten-year</u>	
	<u>Return</u>	<u>(Rank)</u>	<u>Return</u>	<u>(Rank)</u>	<u>Return</u>	<u>(Rank)</u>
Wisconsin Investment Board Fixed Retirement Trust Fund¹	14.2%	10	17.6%	9	12.9%	7
New York State Teachers Retirement System	16.4	1	21.5	4	14.5	1
New Jersey Division of Investment	15.6	2	22.7	1	14.1	2
Florida Division of Retirement	15.6	3	22.0	2	NA	
Minnesota Combined Funds	15.4	4	20.9	5	13.9	4
Oregon Public Employees Retirement System	15.3	5	18.0	8	NA	
Teachers Retirement System of Texas	15.2	6	21.9	3	14.1	3
New York State Combined Funds	14.8	7	20.3	6	13.8	5
Washington State Investment Board	14.5	8	16.6	11	NA	
California Public Employees Retirement System	14.4	9	19.5	7	13.3	6
California State Teachers Retirement System	12.8	11	17.1	10	12.6	8
Ohio Public Employees Retirement System ²	11.0	12	14.3	12	NA	

(Sorted in descending order by five-year returns)
NA = Not available

¹ These returns differ from those shown in Table 3 because the period of analysis was changed to allow comparisons with the other public pension funds we surveyed.

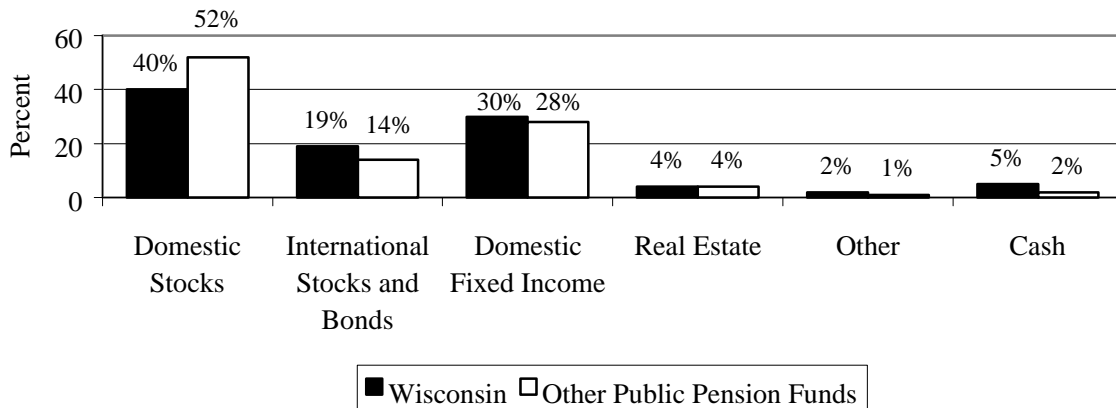
² Returns are for the period that ended December 31, 1998.

The Board's allocation decisions have affected returns.

To better understand why the Investment Board's performance lags that of the other large public pension funds surveyed, we compared its asset allocation and performance in each broad investment class to those of the other public pension funds. Overall, the biggest difference has been in the Investment Board's decision to allocate more funds to international investments and less to domestic equities. As shown in Figure 6, the Investment Board's 40 percent allocation of Fixed Retirement Trust Fund assets to domestic equities was less than the average 52 percent allocation in other public pension funds surveyed. In addition, the Investment Board allocated 19 percent of its assets to international investments, compared to the average 14 percent for the public pension funds surveyed.

Figure 6

Investment Board and Other Public Pension Fund Investment Allocations
As of June 30, 1998*



*The asset allocation for the Investment Board differs from that shown in Figure 2 because the period of analysis was changed to allow comparisons.

The Investment Board's lower domestic equity allocation had the largest effect on overall returns for the Fixed Retirement Trust Fund because domestic equities were the highest performers among all asset classes for all states. In addition, the Investment Board's returns on domestic equities were consistently lower than the average for other funds surveyed in the one-year, five-year, and ten-year periods ending June 30, 1998. The Investment Board's relatively large small-cap holdings, which overall have performed poorly over the past ten years, contributed to its lower returns in domestic equities.

The Investment Board's international equities allocation of 15 percent was relatively consistent with the average of 13 percent by the public pension funds surveyed; however the Investment Board allocated 4 percent of its total assets to international fixed-income securities, compared to an average of 1 percent for the other public pension funds surveyed. In addition, because international investments overall did not perform as well as their domestic counterparts, and international fixed-income returns were lower than those of most asset classes, the Investment Board's decision to allocate assets in those categories contributed to lower returns overall.

Another contributing factor to the Investment Board's lower rank in comparison to other public pension funds is its large cash holdings. As noted, a long-term fund such as the Fixed Retirement Trust Fund should maintain minimal cash balances to meet liquidity needs. The public pension funds we surveyed held under 2 percent of their assets, on average, in cash. The Investment Board's relatively high percentage of cash contributed to its relatively lower returns.

FUTURE CONSIDERATIONS

Investment Board trustees and staff believe problems with the Fixed Retirement Trust Fund's investment performance are related, in part, to issues of staff turnover and administrative resources. In addition, the Investment Board believes that it should be granted more flexibility in managing its resources, both internally and through the use of external investment managers, to accommodate growth in assets and better meet its fiduciary responsibilities. The Legislature has already made a number of changes to increase the Investment Board's administrative funding and management flexibility, and it is currently considering legislation to address staff turnover and other concerns. However, we believe the Investment Board also needs to consider fundamental changes in its investment strategy to better use its staff resources and potentially improve future returns.

Legislative Action

Over the years, the Investment Board has repeatedly asked for additional funding and greater flexibility in managing its resources. The Legislature has agreed to several changes. Most significantly, since 1983 it has allowed the Investment Board to bypass the normal budgeting process for some of its expenditures. For example, the Investment Board is allowed to charge certain costs directly to the current investment income of the funds, rather than to its program revenue appropriation, which authorizes staff salaries and fringe benefits, supplies, and permanent property expenditures to be funded in amounts established by the Legislature. The 1983 statutory change increased the Investment Board's flexibility in hiring consultants, investment advisors, and external managers. As shown in Table 11, expenditures directly charged to current investment income in calendar year 1998 were over \$57.0 million, or 81 percent of the Investment Board's overall expenditures.

Table 11

Investment Board Operating Costs
Calendar Year 1998

<u>Chapter 20 Appropriation:</u>	<u>Total Expenditures</u>
Salaries & Fringe Benefits	\$ 7,875,845
Supplies	3,923,577
Permanent Property	<u>579,260</u>
Subtotal	\$12,378,682
 <u>Charged to Current Investment Income:</u>	
International and Emerging Market	
External Managers Fees	\$23,182,388
Other Investment Management Fees	15,363,161
Real Estate Advisory Fees	13,246,360
Custodial Bank Fees	3,584,848
Consultant Fees	1,286,107
Legal Fees	365,151
Fidelity Bond Insurance	<u>21,697</u>
Subtotal	\$57,049,712
Soft Dollars*	<u>\$ 1,002,097</u>
Total	\$70,430,491

* Includes credits received for performing trades with certain brokers. The Investment Board uses these credits to purchase electronic data services, investment publications, institutional memberships, and other miscellaneous items.

In addition to this significant change in the flexibility the Investment Board was granted to manage its investments, the Legislature has agreed to several other changes. For example:

- In 1988, professional staff were removed from the classified service and made unclassified employees in order to provide more flexibility in hiring, retaining, and competitively compensating investment professionals.
- The Investment Board has been granted flexibility in determining individual salary amounts, within amounts appropriated by the Legislature.
- A plan was implemented in FY 1988-89 to provide bonuses to staff if certain investment performance levels are met. Since the program's inception, almost \$3.2 million in bonuses have been awarded. In FY 1998-99, for example, 27 of 44 eligible investment staff received bonuses ranging from a low of \$3,400 to a high of \$23,043.
- In 1996, \$532,900 in additional funding and seven staff positions were provided in response to the derivatives loss.
- An additional \$5.4 million in funding has been provided for systems improvements to allow the Investment Board to better manage and monitor its investments.
- Several Investment Board employees now qualify for a higher retirement multiplier factor and increased paid leave benefits as a result of being reclassified in the executive service classification.

In addition, two issues are currently receiving legislative attention in the ongoing budget deliberations: changes to the bonus compensation plan for the Investment Board's professional staff, and adjustments to the percentage of assets that may be managed and controlled by external investment managers.

Staffing and Compensation Issues

Investment Board members and staff are concerned about investment staff turnover.

The strong markets that have allowed growth in the Retirement Fund's assets have intensified the competition for investment professionals within the industry. Several of the trustees we interviewed, as well as management staff, expressed increasing concern about the difficulty in recruiting and retaining qualified investment staff.

The Investment Board has experienced an annual turnover rate of between 8 and 10 percent in the past four years.

In a discussion paper written during deliberations on the 1999-2001 biennial budget, the Legislative Fiscal Bureau noted that annual turnover among the Board's investment staff was approximately 8 to 10 percent for each of the last four years. Of 11 investment staff who resigned in the past two years, 9 left for private sector positions and 2 retired. The Investment Board notes that its staff are frequently and aggressively recruited by financial and investment firms in the private sector.

Staffing levels and experience may be affecting the quality of the Board's internal management and the performance of at least some of its portfolios. As noted, some portfolios, including domestic fixed-income and real estate, are managed by experienced staff and have met or exceeded their benchmarks. The Board credits the favorable returns to staff experience.

Staff turnover appears to have affected performance in some portfolios.

In contrast, it appears that staff turnover contributed to poor performance in at least one portfolio in 1998. As noted, the non-traditional portfolio, which is especially vulnerable to effects of staff turnover because of its unique and complex nature, lost both its investment director and its portfolio manager in the same year. In addition, the domestic equities division, which fell short of its five-year and ten-year benchmarks, lost four staff in the past two years; three of the replacements had no prior investment experience.

In order to assess the adequacy of its staff compensation, each year the Investment Board provides information for and analyzes results from various studies and surveys conducted for both private investment entities and public pension funds. According to recent surveys, salaries of the Investment Board's investment staff compare favorably to salaries in other public pension funds but have fallen below salaries in the private sector. The Legislative Fiscal Bureau's discussion paper notes that when the Investment Board calculated the salaries of the Investment Board's investment professionals, they found that average salaries of counterparts in the private sector were, in total, \$2 million higher, based on a survey of 1997 investment salaries.

Investment staff salary increases and a new bonus program have been proposed.

Current biennial budget deliberations have considered a number of salary proposals, including providing \$600,000 in increased funding to narrow the gap between Investment Board staff salaries and those in the private sector, and creating a new bonus program that would be available only for investment staff. The new plan would allow bonuses of up to 50 percent of an individual's salary, rather than the 25 percent limit under current law.

However, in June 1999, the Legislature's Joint Finance Committee approved a measure to eliminate the Investment Board's current bonus program after FY 1999-2000 and, instead, to use the savings from the

elimination of the bonus programs and an additional \$480,000 in funding to fund a \$2.1 million increase in investment staff salaries in FY 2000-2001. This proposal is currently pending before the Legislature.

Use of External Managers

Currently, the Investment Board may delegate up to 15 percent of the retirement funds to external managers.

In response to the Investment Board's need for expertise when it first entered the real estate and international investment markets, the Legislature in 1987 first authorized the Board to retain external managers to invest a portion of retirement funds for certain assets that include real estate, mortgages, stock, and the debt of foreign corporations and governments. When this authority was provided, the Investment Board was authorized to delegate the management of up to 10 percent of the retirement funds to external managers. As the Investment Board approached this limit, the Legislature increased it to 15 percent in 1995.

In addition to its traditional use of external managers, the Investment Board recently began using external managers to augment its internal staff resources. To help manage the growing assets under management, the Investment Board requested, as part of its 1999-2001 biennial budget request, authority to invest up to 50 percent of retirement fund assets with external managers; the Governor subsequently reduced the request to 25 percent. The proposal currently pending in the Legislature would increase the external management limit to 20 percent of the retirement funds assets.

In considering future requests for increased authority to use external managers, it is important to note that a limit on the use of external managers does not necessarily result in internal investment management of the remaining assets. In determining compliance with its statutory limit, the Investment Board considers only the portfolios that are actively managed by external managers with whom the Investment Board has contracted and to whom it has delegated authority to determine the appropriate investment strategy and to purchase individual securities in the Investment Board's name, within broad guidelines established by the Investment Board. As shown in Table 12, external investments meeting this definition were 13.5 percent of total retirement fund assets as of December 31, 1998.

The Investment Board's definition of external management does not include funds that are passively invested.

However, Table 12 also shows that an additional 32.9 percent of retirement fund assets were managed by external investment managers in passive index funds, such as the S&P 500 index fund, and in commingled funds. The Investment Board does not include these funds in its calculation of the external manager limit because it makes the decision to invest in these funds based on its knowledge and acceptance of the investment strategy.

Table 12

External Investments
As of December 31, 1998

<u>Type of External Investment</u>	<u>Total Assets</u>	<u>Percentage of Total Retirement Fund Assets</u>
External Active Managers		
International Active Equities	\$3,852,000,000	6.9%
International Active Fixed Income	2,553,000,000	4.6
Quantitative Domestic Equities	<u>1,125,000,000</u>	<u>2.0</u>
Total	\$ 7,530,000,000	13.5%
External Passive & Commingled Funds		
Stock Index Funds	\$12,953,000,000	23.3%
Fixed Income Index Funds	3,870,000,000	7.0
International Stock Index Fund	980,000,000	1.7
Emerging Market Equity Commingled Funds	<u>493,000,000</u>	<u>0.9</u>
Total	\$18,296,000,000	32.9%
Total External Investments	\$25,826,000,000	46.4%

External management of retirement funds has increased from 7.5 percent to 46.4 percent of assets.

The 46.4 percent of retirement fund assets not actively managed by Investment Board staff represents a significant change in the investment strategy over the decade. In the early 1990s, only 7.5 percent of retirement fund assets were invested externally. Although the Investment Board has significantly increased its use of external managers, it still actively invests a greater portion of its investments internally than do 8 of the 11 other public pension funds we surveyed.

Another consideration in the use of external managers is the ability to adequately control and monitor their investment activities. The Investment Board has instituted several operational controls to manage and monitor its internal investments and staff; however, the controls over external investments are not as comprehensive as those that exist for internal investments. Without adequate controls, external investments may represent a higher risk of exposure to financial loss or inappropriate investment of public funds.

In several of our past financial audits, we identified concerns regarding monitoring external managers' controls and compliance with investment guidelines. Furthermore, the Investment Board's own internal audit unit recently identified several areas in which controls over external managers need to be improved. In response, the Investment Board is considering improvements to its oversight of external managers, which we will review as part of our annual financial statement audits.

Finally, it is important to note that external investment management is generally more expensive than internal management. For example, the Investment Board paid its external international and emerging market managers a total of \$23.2 million in management fees during 1998, which represented approximately 0.47 percent of the average assets they managed during the year. In comparison, the estimated 1998 costs of \$1.2 million for the internally managed international portfolio is approximately 0.04 percent of the average assets managed. Higher costs and the need for additional controls suggest the importance of the Investment Board proceeding carefully in significantly expanding its use of external managers and investments.

Future Investment Strategies

The Investment Board has many investments that are staff intensive.

The Investment Board strives to be a leader in undertaking new investment opportunities, and it aggressively seeks to outperform the market. For example, most recently, it has moved to use a quantitative model to assess risk and potential portfolio return. It is also considering future investments in high-yield, or non-investment grade, bonds. This strategy to be an innovator can, however, be costly and staff intensive, and it can create higher risk. The Investment Board currently has a large portion of its investments allocated to areas that, by their nature, tend to be more staff intensive, such as small cap stocks, international investments, private placements, and the non-traditional portfolio. While higher levels of returns could be expected to justify the costs and risks associated with these investments, returns have been mixed and seldom exceed the returns of more traditional domestic equity and fixed-income portfolios. For example:

- performance in small cap stocks, in which the Investment Board has two times the average allocation of a broad market index of all domestic publicly traded common stocks, has failed to meet its performance benchmarks;

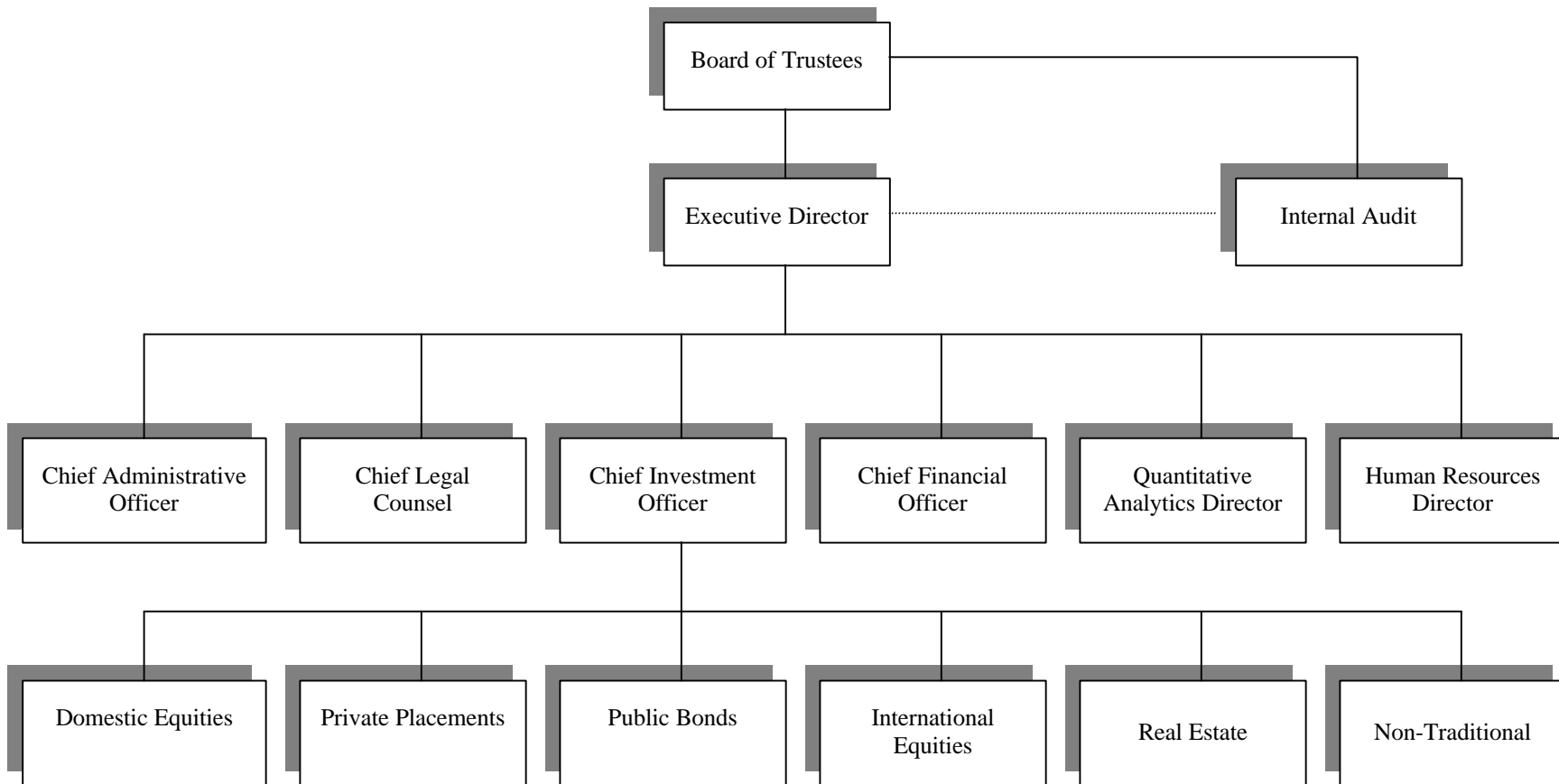
- international equities, while meeting their benchmarks, are not exceeding the returns of the domestic equity market, a goal established by the Investment Board to justify the risk taken with international investments;
- private placements have not provided the premium over public bonds that might be expected from these more staff-intensive investments that cannot be readily sold; and
- performance goals in the non-traditional portfolio have not been met because of staffing issues and a decline in the emerging markets.

We recognize that the performance of these portfolios may be a function of current market conditions, which include strong performance in the large cap stock market, and we acknowledge that many investment professionals believe the Investment Board's investment strategies will eventually be successful in future markets. Further, allocation of funds to these investment classes may be needed to provide diversification and investment alternatives as the Retirement Fund's assets continue to increase. However, we also believe that the Investment Board must reassess whether the investment returns of the staff-intensive and higher-risk investments warrant the level of assets and resources it has committed to them, especially given overall performance that does not achieve benchmarks or the returns of other public pension funds we surveyed. Therefore, in order to help determine whether current strategies appropriately balance risk, costs, and returns in the Fixed Retirement Trust Fund, *we recommend the State of Wisconsin Investment Board reassess the effectiveness of its overall investment strategies and asset allocations, and that in its annual report on investment goals and long-term strategies, it report to the Joint Legislative Audit Committee and the Legislature on the steps it intends to take to improve its investment performance.*

Appendix I

Investment Board Organizational Chart

As of December 31, 1998



APPENDIX II

Fixed Retirement Trust Fund Portfolio Descriptions, Balances, and Performance As of December 31, 1998

Domestic Equity Portfolios

Large Caps

Large Cap Issue Selection Portfolio

Created	March 31, 1997
Description	Holds undervalued large cap stocks (with market capitalization over \$5 billion) to complement the S&P 500 index fund.
Managed	Internal
Balance	\$1.078 billion
Benchmark	75% S&P 500, 25% peer group

Performance		<u>Portfolio</u>	<u>Benchmark</u>
	1 year	23.4%	26.5%
	Since inception	28.3	32.3

S&P 500 Index Fund

Created	October 31, 1991
Description	Tracks the S&P 500 market return.
Managed	External
Balance	\$9.798 billion
Benchmark	S&P 500

Performance		<u>Portfolio</u>	<u>Benchmark</u>
	1 year	28.6%	28.6%
	5 year	24.0	24.1
	Since inception	20.1	20.1

Quantitative Portfolio

Created	June 30, 1998
Description	Risk-controlled strategy that attempts to loosely track the S&P 500 Index, yet earn excess returns by variations from the Index.
Managed	External
Balance	\$386 million
Benchmark	S&P 500

Performance		<u>Portfolio</u>	<u>Benchmark</u>
	Since inception	8.6%	9.2%

Enhanced Portfolio

Created	June 30, 1998		
Description	Similar to the Quantitative Portfolio, yet retains more restrictions on variations from the S&P 500 Index.		
Managed	External		
Balance	\$451 million		
Benchmark	S&P 500		
Performance		<u>Portfolio</u>	<u>Benchmark</u>
	Since inception	10.5%	9.2%

Mid Caps

Mid Cap Portfolio

Created	July 31, 1990; modified July 1996		
Description	Focuses on domestic companies with a market capitalization between \$1 and \$5 billion.		
Managed	Internal		
Balance	\$3.551 billion		
Benchmark	75% Russell Mid-Cap, 25% peer group		
Performance		<u>Portfolio</u>	<u>Benchmark</u>
	1 year	10.6%	8.8%
	5 year	18.2	18.0
	Since inception	15.9	15.8

Target Portfolio

Created	February 28, 1998		
Description	Focuses on the intermediary range of companies between the small cap and mid cap distinctions.		
Managed	Internal		
Balance	\$233 million		
Benchmark	75% Wilshire 750 Index, 25% peer group		
Performance		<u>Portfolio</u>	<u>Benchmark</u>
	Since inception	-1.2%	-2.3%

Mid Cap Index Fund

Created	September 30, 1997		
Description	Track the mid cap market return.		
Managed	External		
Balance	\$387 million		
Benchmark	Russell Mid-Cap		
Performance		<u>Portfolio</u>	<u>Benchmark</u>
	1 year	16.1%	16.1%
	Since inception	14.2	14.2

Small Caps

Small Cap Portfolio

Created	December 31, 1982; modified July 1996
Description	Focuses on domestic companies with a market capitalization under \$1 billion.
Managed	Internal
Balance	\$2.695 billion
Benchmark	75% Russell 2000, 25% peer group

Performance		<u>Portfolio</u>	<u>Benchmark</u>
	1 year	-3.7%	-2.3%
	5 year	9.8	14.4
	10 year	10.7	12.8

Private Equity

Leveraged Buy-out

Created	July 31, 1985
Description	Private placement equity designed to produce superior earnings from closely held and leveraged companies. Each transaction receives prior Board of Trustees approval.
Managed	Internal
Balance	\$959 million
Benchmark	None, domestic equity benchmark used for comparison.

Performance		<u>Portfolio</u>	<u>Benchmark</u>
	1 year	20.2%	18.0%
	5 year	15.1	20.5
	10 year	13.8	17.0

Venture Capital

Created	August 31, 1985
Description	Private placement equity designed to produce superior earnings from investment in companies in early stages of development. Limited to 2% of assets. Each transaction receives prior Board of Trustees approval.
Managed	Internal
Balance	\$100 million
Benchmark	None, domestic equity benchmark used for comparison.

Performance		<u>Portfolio</u>	<u>Benchmark</u>
	1 year	5.8%	18.0%
	5 year	14.0	20.5
	10 year	10.4	17.0

Domestic Fixed Income Portfolios

Public Fixed Income

Core Portfolio

Created June 30, 1977
 Description Holds highly diversified portfolio of fixed income securities. Longest duration of all fixed-income portfolios.
 Managed Internal
 Balance \$4.038 billion
 Benchmark 75% Merrill Lynch Public Bond Hybrid Index and Lehman Brothers Public Bond Index, 25% peer group

Performance	<u>Portfolio</u>	<u>Benchmark</u>
1 year	11.1%	10.0%
5 year	9.1	8.2
10 year	11.4	10.3

Market Evaluation Portfolio

Created December 31, 1988
 Description Hold highly diversified portfolio of fixed-income securities. Focus is corporate issues.
 Managed Internal
 Balance \$1.919 billion
 Benchmark Merrill Lynch Government/Corporate Hybrid Index

Performance	<u>Portfolio</u>	<u>Benchmark</u>
1 year	9.0%	9.7%
5 year	7.8	8.2
10 year	10.2	10.0

Intermediate Duration Portfolio

Created December 31, 1983; modified November 1994
 Description Primarily focused on U.S. Treasury securities with a maturities range of 3 to 7 years and a duration of approximately 5 years.
 Managed Internal
 Balance \$1.314 billion
 Benchmark Merrill Lynch 5-year Government Index

Performance	<u>Portfolio</u>	<u>Benchmark</u>
1 year	10.3%	9.8%
5 year	8.7	6.7
10 year	9.4	8.2

Lehman Aggregate Index Fund

Created	September 30, 1996
Description	Track the Lehman Aggregate market return.
Managed	External
Balance	\$3.870 billion
Benchmark	Lehman Aggregate Index

Performance		<u>Portfolio</u>	<u>Benchmark</u>
	1 year	8.8%	8.7%
	Since inception	9.6	9.5

Private Placements

Private Placements Portfolio

Created	June 30, 1977
Description	Privately negotiated fixed-rate intermediate-term corporate debt instruments. Illiquid nature of securities expected to provide additional return.
Managed	Internal
Balance	\$3.105 billion
Benchmark	60% sector-weighted Lehman Intermediate Corporate Bond Index plus 10 basis points, 40% sector-weighted Lehman Corporate Bond Index plus 10 basis points.

Performance		<u>Portfolio</u>	<u>Benchmark</u>
	1 year	9.5%	8.6%
	5 year	7.8	7.7
	Since inception	10.1	9.7

Global Portfolio*

Global Bond Portfolio

Created	November 30, 1989; modified December 1996
Description	Authority to invest in U.S. and non-U.S. fixed-income securities. Non-U.S. fixed income limited to "free" and "partially free," as determined by the Freedom House Index.
Managed	Internal
Balance	\$978 million
Benchmark	Merrill Lynch Treasury Index

Performance		<u>Portfolio</u>	<u>Benchmark</u>
	1 year	10.3%	10.0%
	Since inception	9.5	9.8

* Because of its predominant holdings in domestic fixed income securities, this portfolio's assets and returns are reflected in the domestic fixed-income statistics.

International Portfolios

International Equities

Internal International Portfolio

Created	September 30, 1989
Description	Non-U.S. securities in “free” or “partially-free” countries, as rated by Freedom House Index.
Managed	Internal
Balance	\$2.621 billion
Benchmark	75% MSCI World ex. U.S. with ½ Japan and 25% peer group

Performance		<u>Portfolio</u>	<u>Benchmark</u>
	1 year	19.1%	19.1%
	5 year	14.2	12.1
	Since inception	14.6	9.7

External International Portfolios

Created	September 30, 1989 and June 30, 1993
Description	Non-U.S. securities in “free” or “partially-free” countries, as rated by Freedom House Index.
Managed	External (3)
Balance	\$2.974 billion
Benchmark	75% MSCI World ex. U.S. with ½ Japan and 25% peer group

Performance		<u>Mgr.1</u>	<u>Mgr.2</u>	<u>Mgr.3</u>	<u>Benchmark</u>
	1 year	19.2%	16.8%	24.5%	19.1%
	5 year	16.6	11.6	13.5	12.1
	Since Inception	14.6	10.3	15.9	9.7*
	*13.9% for Mgr. 3				

EAFE Index Fund

Created	November 30, 1996
Description	Tracks the Europe, Asia, Far East (EAFE) market return.
Managed	External
Balance	\$721 million
Benchmark	MSCI World ex. U.S. with ½ Japan

Performance		<u>Portfolio</u>	<u>Benchmark</u>
	1 year	20.9%	20.8%
	Since inception	13.1	13.2

Equity Emerging Markets

External Manager 1

Created	April 30, 1992
Description	Investments limited to developing countries.
Managed	External
Balance	\$202 million
Benchmark	75% Morgan Stanley Emerging Market Free Index, 25% peer group

Performance		<u>Portfolio</u>	<u>Benchmark</u>
	1 year	-24.9%	-25.7%
	5 year	-2.6	-8.5
	Since inception	5.4	0.8

External Manager 2

Created	April 30, 1992
Description	Investments limited to developing countries.
Managed	External
Balance	\$192 million
Benchmark	75% Morgan Stanley Emerging Market Free Index, 25% peer group

Performance		<u>Portfolio</u>	<u>Benchmark</u>
	1 year	-25.7%	-25.7%
	5 year	-3.8	-8.5
	Since inception	4.1	0.8

International Fixed Income

External International Portfolios

Created	September 30, 1989 and June 30, 1993
Description	Non-U.S. securities in "free" or "partially-free" countries, as rated by Freedom House Index.
Managed	External (4)
Balance	\$2.393 billion
Benchmark	75% Salomon Brothers Currency-Hedged non-U.S. Dollar Government Bond Index, 25% peer group

Performance		<u>Mgr.1</u>	<u>Mgr.2</u>	<u>Mgr.3</u>	<u>Mgr.4</u>	<u>Benchmark</u>
	1 year	10.3%	11.6%	14.3%	11.4%	11.5%
	5 year	8.2	9.2	10.2	9.7	9.2
	Since Inception	9.2	10.2	9.1	9.2	8.9

Fixed Income Emerging Markets

External Manager 1

Created	December 31, 1994
Description	Investments limited to developing countries.
Managed	External
Balance	\$55.4 million
Benchmark	J.P. Morgan Emerging Market Bond Index

Performance		<u>Portfolio</u>	<u>Benchmark</u>
	1 year	-17.9%	-14.4%
	Since inception	17.1	14.0

External Manager 2

Created	December 31, 1994
Description	Investments limited to developing countries.
Managed	External
Balance	\$53 million
Benchmark	J.P. Morgan Emerging Market Bond Index

Performance		<u>Portfolio</u>	<u>Benchmark</u>
	1 year	-17.2%	-14.4%
	Since inception	16.2	14.0

Real Estate

Real Estate Portfolio

Created	June 30, 1977
Description	Commercial real estate investments through direct ownership and participating mortgages, which serve to hedge inflation.
Managed	Internal
Balance	\$1.869 billion
Benchmark	75% IDP Index and NCREIF Index Adjusted, 25% peer group

Performance		<u>Portfolio</u>	<u>Benchmark</u>
	1 year	15.3%	16.6%
	5 year	10.4	8.9
	10 year	7.1	3.9

Non-Traditional

Non-Traditional Portfolio

Created	January 1995
Description	Cross-border, cross-asset investments. Take advantage of market inefficiencies created by complexity of securities.
Managed	Internal
Balance	\$746 million
Benchmark	Morgan Stanley Capital International (MSCI) All Country Index

Performance	<u>Portfolio</u>	<u>Benchmark</u>
1 year	5.0%	21.7%
Since Inception	16.2	17.0

APPENDIX III

Comparison With Other Public Pension Funds

As of June 30, 1998

Retirement System	Total Assets	Percentage Internal	Percentage External	Percentage Active	Percentage Passive	Asset Class	Actual Asset Allocation	5 year Returns by Asset Class
CALIFORNIA PUBLIC EMPLOYEES RETIREMENT SYSTEM	\$ 143.4 Billion	62 %	38 %	48 %	52 %	Equities		
						Domestic	47.1 %	21.8 %
						International	18.7 %	11.6 %
						Fixed Income		
						Domestic	22.7 %	8.5 %
						International	3.6 %	8.4 %
						Real Estate	4.3 %	9.3 %
						Other	2.6 %	16.9 %
						Cash equivalents	1.0 %	5.4 %
CALIFORNIA STATE TEACHERS RETIREMENT SYSTEM	\$ 88.2 Billion	32 %	68 %	49 %	51 %	Equities		
						Domestic	41.0 %	20.6 %
						International	21.0 %	10.6 %
						Fixed Income		
						Domestic	29.0 %	8.2 %
						International	0.0 %	NA
						Real Estate	(in Other)	10.3 %
						Other	7.5 %	25.3 %
						Cash equivalents	1.0 %	5.6 %
FLORIDA RETIREMENT SYSTEM TRUST FUND	\$ 83.4 Billion	47 %	53 %	53 %	47 %	Equities		
						Domestic	62.2 %	21.7 %
						International	7.6 %	9.8 %
						Fixed Income		
						Domestic	25.1 %	7.7 %
						International	0.0 %	NA
						Real Estate	3.8 %	7.8 %
						Other	0.0 %	NA
						Cash equivalents	1.3 %	5.9 %

NA = Not Available or Not Applicable

Retirement System	Total Assets	Percentage Internal	Percentage External	Percentage Active	Percentage Passive	Asset Class	Actual Asset Allocation	5 year Returns by Asset Class
MINNESOTA COMBINED FUNDS	\$ 36.0 Billion	0 %	100 %	47 %	53 %	Equities		
						Domestic	52.2 %	21.5 %
						International	14.7 %	11.0 %
						Fixed Income		
						Domestic	25.6 %	7.3 %
						International	0.0 %	NA
						Real Estate	(in Other)	NA
						Other	5.5 %	18.5 %
						Cash equivalents	1.6 %	(included above)
NEW JERSEY DIVISION OF INVESTMENTS	\$ 67.3 Billion	100 %	0 %	100 %	0 %	Equities		
						Domestic	52.0 %	21.9 %
						International	13.0 %	14.5 %
						Fixed Income		
						Domestic	25.0 %	7.1 %
						International	5.0 %	7.1 %
						Real Estate	0.0 %	NA
						Other	0.0 %	NA
						Cash equivalents	4.0 %	5.3 %
NEW YORK STATE & LOCAL RETIREMENT SYSTEMS COMMON RETIREMENT FUND	\$ 106.1 Billion	66 %	34 %	30 %	70 %	Equities		
						Domestic	50.7 %	21.9 %
						International	9.9 %	11.4 %
						Fixed Income		
						Domestic	34.0 %	7.8 %
						International	0.0 %	NA
						Real Estate	2.6 %	2.7 %
						Other	2.8 %	25.9 %
						Cash equivalents		(included above)
NEW YORK STATE TEACHERS RETIREMENT SYSTEM	\$ 77.0 Billion	80 %	20 %	39 %	61 %	Equities		
						Domestic	64.6 %	21.8 %
						International	8.6 %	11.8 %
						Fixed Income		
						Domestic	15.4 %	7.5 %
						International	2.5 %	NA
						Real Estate*	7.6 %	(see note)
						Other	0.5 %	24.6 %
						Cash equivalents	0.8 %	5.1 %

* Real Estate returns were 9.6 % for debt investments and 10.1 % for equity investments

NA = Not Available or Not Applicable

Retirement System	Total Assets	Percentage Internal	Percentage External	Percentage Active	Percentage Passive	Asset Class	Actual Asset Allocation	5 year Returns by Asset Class
OHIO PUBLIC EMPLOYEES RETIREMENT SYSTEM*	\$ 51.2 Billion	88 %	12 %	84 %	16 %	Equities		
						Domestic	38.0 %	18.1 %
						International	5.0 %	NA
						Fixed Income		
						Domestic	43.0 %	7.8 %
						International	0.0 %	NA
						Real Estate	9.0 %	10.1 %
						Other	0.0%	NA
						Cash equivalents	5.0 %	5.4 %
* Information as of December 31, 1998								
OREGON PUBLIC EMPLOYEES RETIREMENT SYSTEM	\$ 30.1 Billion	20 %	80 %	84 %	16 %	Equities		
						Domestic	37.6 %	20.4 %
						International	19.8 %	10.8 %
						Fixed Income		
						Domestic	24.5 %	7.4 %
						International	(in domestic)	(in domestic)
						Real Estate	7.4 %	NA
						Other	10.5 %	NA
						Cash equivalents	0.0%	NA
STATE OF WISCONSIN INVESTMENT BOARD - FIXED RETIREMENT TRUST FUND	\$ 47.4 Billion	57 %	43 %	70 %	30 %	Equities		
						Domestic	40.0 %	19.5 %
						International	15.0 %	18.2 %
						Fixed Income		
						Domestic	30.0%	7.8 %
						International	4.0 %	9.3 %
						Real Estate	4.0 %	10.3 %
						Other	2.0 %	NA
						Cash equivalents	5.0 %	5.1 %
TEACHERS RETIREMENT SYSTEM OF TEXAS	\$ 73.3 Billion	100 %	0 %	91 %	9 %	Equities		
						Domestic	55.5 %	22.1 %
						International	7.8 %	15.6 %
						Fixed Income		
						Domestic	33.3 %	8.0 %
						International	0.0 %	NA
						Real Estate	1.3 %	9.1 %
						Other	2.1 %	NA
						Cash equivalents	(in Other)	NA

NA = Not Available or Not Applicable

Retirement System	Total Assets	Percentage Internal	Percentage External	Percentage Active	Percentage Passive	Asset Class	Actual Asset Allocation	5 year Returns by Asset Class
WASHINGTON STATE INVESTMENT BOARD	\$ 37.4 Billion	31 %	69 %	49 %	51 %	Equities		
						Domestic	42.0 %	21.1 %
						International	15.0 %	7.2 %
						Fixed Income		
						Domestic	29.3 %	7.2 %
						International	0.0 %	NA
						Real Estate	4.3 %	19.4 %
						Other	8.6 %	26.7 %
						Cash equivalents	0.8 %	5.2 %

NA = Not Available or Not Applicable

State of Wisconsin Investment Board



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September 27, 1999

Ms. Janice Mueller
State Auditor
Legislative Audit Bureau
131 West Wilson, Suite 402
Madison, WI 53702

Dear Ms. Mueller:

Thank you for the opportunity to review and respond to the management audit of the Investment Board. Our regular reports to the Legislature have discussed performance data, strategy and management matters that are covered in the audit. The following comments represent our staff response to your report.

Summary Comments

We believe that the audit supports the following conclusions about our operations and performance:

- Our management controls, oversight and reporting practices are appropriate and in compliance with legislation developed by the Joint Committee on Audit in 1995.
- The State Investment Fund is providing a superior rate of return, ranking 5th out of 217 government money market funds at the end of 1998. The number of local government participants is even higher now than it was before the 1995 derivatives loss.
- Investment returns for the Fixed Retirement Fund have been well in excess of its 8% long-term benefit-funding goal. (*Accumulated market gains reached a record \$14.4 billion at the end of 1998, prompting legislation to improve retirement benefits. Favorable investment returns helped reduce taxpayer costs for the Wisconsin Retirement System for the fourth consecutive year in 1999.*)
- In four out of every five measurement periods since 1990, the Fixed Fund has surpassed five-year and ten-year investment performance benchmarks As we reported to the Legislature and participants in March, the Fund experienced some fall-off in performance and trailed its five-year benchmark by 0.3% (three-tenths of one percent) as of December 31, 1998. As we have also reported to the Legislature, the loss of experienced staff to much higher paying positions in the private sector has affected our performance.
- The 14.2% five-year return for the Fixed Fund was 0.8% (eight-tenths of one percent) below the 15.0% median return for 12 public funds surveyed by LAB. Our more conservative weighting in large company stocks, which had strong but volatile returns, accounted for much of the difference.
- We have trimmed, but continue to maintain, an over-weighting in small company stocks (*Our current small company stock holdings have gained over 18% since the end of 1998 and over 57% in the last 12 months.*)

- Our process for allocating assets among different markets is disciplined and balances risk and return objectives. We believe that our investment strategy has positioned the Fixed Fund to perform well over the long-term, including periods in which stock market returns and interest rates are not as favorable as they are today. However, our ability to successfully execute investment strategy requires the necessary resources and a compensation structure that can attract and retain experienced staff. We are seeking the Legislature's assistance in addressing this issue.

We continually review our investment process for ways to enhance performance. We recently changed consultants and have begun a fresh look at our asset allocation process. We have also split the duties of the Chief Investment Officer to give greater focus to each investment area. We are currently recruiting for a position whose sole responsibility will be the oversight of our stock portfolios. These steps should further strengthen performance.

On an annual basis, we report to Legislature regarding our strategies and performance. In our next report, we agree with your recommendation that it would be useful to revisit the strategy matters covered in the audit and to provide an update on initiatives that we have already undertaken. In addition, we would be happy to discuss any questions or concerns at any time.

With these overall comments in mind, SWIB staff have the following specific observations about each of the four major areas of the audit: (1) the management and oversight of SWIB operations; (2) the performance of the State Investment Fund; (3) the performance of the Fixed Retirement Fund; and (4) the need for additional flexibility in managing our resources.

Management and Oversight of SWIB Operations

- *Controls are appropriate and meet the objectives of legislation enacted in 1996*

Your report is the first management audit conducted by LAB under statutory provisions enacted in 1996. We are pleased that the audit concluded that SWIB has appropriate controls and that we have "substantially implemented" provisions of law regarding the oversight and reporting of our activities. For our customers and us, this is an important finding.

Over the last three years, we have given particular attention to ensuring that our investments are appropriate and that we are effectively managing risk. In today's investment world, this is no small undertaking. The constant development of new investment products and changing business practices present management challenges that are unusual for a state agency. With respect to items that relate directly to legislation developed by the Joint Committee on Audit (1995 Wisconsin Act 274), SWIB has:

- Reviewed and updated investment guidelines to ensure that appropriate risk is taken;
- Completed a strategic plan defining business goals and resource needs for the next five years;
- Installed systems to integrate accounting, trading, portfolio management and compliance monitoring;
- Implemented internal audit and chief investment officer functions; and
- Increased reporting to the Legislature regarding our strategies, performance and policies.

Your report confirms that we have addressed the areas that prompted the Legislature to enact the management audit statute. These activities will continue to receive a significant amount of our attention.

State Investment Fund (SIF) Performance

- *Very competitive returns and improved services have brought more local governments into SIF*

The State Investment Fund (SIF) is a short-term cash management fund that includes deposits of more than 1,000 local units of government, state agencies and the Wisconsin Retirement System. We are pleased that your audit confirms that we have strengthened the operations of this fund. We have limited risk in SIF investments as intended by the Legislature and our policy guidelines.

Local government participation in SIF was a major focus of your last audit. We have worked hard to provide a safe, liquid investment option that meets their needs. Because of improvements in services and an attractive rate of return, the number of local government participants in SIF has increased from 1,062 just prior to March 1995 to 1,128 at the end of 1998.

The total dollar amount deposited by local governments in SIF has, on average, tended to be somewhat less than it was before March 1995. However, we believe this is primarily because a few larger local governments are now making greater use of higher-yielding, longer-term investment options for cash balances that do not require the liquidity provided by SIF. This is not a cause for concern about the manner in which SIF is being managed.

A major objective for SIF is to serve small local governments that may have limited financial staff or expertise. Our typical local government investor has a population of less than 2,500 and makes fewer than four transactions per month. We have: (1) worked with the State Treasurer and Department of Administration to speed up the distribution of earnings information; (2) put in place less expensive and improved credit insurance coverage; and (3) increased direct communication with investors through a new policies and procedures manual, monthly newsletter and meetings around the state. Other steps taken by the State Treasurer's Office have given local governments more options to access and manage their accounts.

The audit confirms that SIF has consistently beaten its investment performance benchmarks. In addition, it compares favorably with other short-term investment options. For the year ending December 31, 1998, the 5.3% return for SIF ranked 5th out of 217 government funds in the IBC/Donoghue Government Index.

The impact of the 1995 derivatives loss on all participants has been less than expected and will diminish further next year when the first portion of the loss has been fully amortized. This should make the rate of return that participants receive even more competitive.

Fixed Retirement Fund Performance

- *Could investment returns have been even better?*

The Fixed (or balanced) Retirement Fund is the largest trust under SWIB's management. Most participants in the Wisconsin Retirement System have all of their pension account invested in this fund. The Fixed Fund invests in a broadly diversified mix of assets, including stocks, bonds, business loans, real estate and other assets.

- The exceptional markets of recent years and the strong performance of a number of our portfolios have helped the Fixed Fund achieve significant gains. The Fixed Fund has earned double-digit returns for four consecutive years. As of December 31, 1998, accumulated market gains in the transaction

amortization account reached \$14.4 billion, a record both in dollar amount and as a percentage of Fixed Fund assets.

- Contribution rates paid by the state and local governments were reduced in 1999 for the fourth consecutive year, again lowering the amount that would otherwise be paid by taxpayers to finance WRS benefits for government employees. It is estimated that favorable investment performance has reduced taxpayer costs by a cumulative \$125 million since 1997.
- Over 80% of the cost of the benefits retirees receive is paid from investment earnings.

Essentially, the question raised by the audit is whether investment returns for the Fixed Fund could have been even better. This is a reasonable question that requires a closer look at the investment objectives and strategy for the Fund.

Actuarial Goal

The overriding objective for the Fixed Retirement Fund is to earn an 8% annual rate of return over the long-term. The independent actuary for the Wisconsin Retirement System develops this benchmark. In some years, this is a very difficult number to beat. We have chosen a mix of assets to best ensure that the Fund will meet or exceed this expected actuarial rate of return through changing business cycles and different interest rate environments, including economic conditions less favorable than they are today. Our annual strategy report to the Legislature describes our asset allocation process and strategic targets in more detail.

In 1998, the actuary updated a cash flow projection for the Wisconsin Retirement System over the next 50 years. This study confirmed that there is a high probability that the current asset mix and risk composition for the Fixed Fund will enable the Fund to meet its long-term actuarial objectives

In measuring our performance, it is easy to lose sight of this fundamental actuarial goal and to judge the long-term strategy for the fund against the best performing assets of recent years. For example, our international equities and private placements portfolios have beaten their benchmarks and earned solid returns. These portfolios play an important role in a diversified long-term strategy, even though some other assets may currently be generating higher rates of return.

We do consider more near-term market trends in our asset allocation process. With the assistance of outside experts, in 1998 we examined the potential performance of our Fixed Fund asset allocation targets under four different economic scenarios for the next five-year period. This exercise showed that SWIB's target asset mix was the most consistent performer across the different economic scenarios.

Investment Benchmarks

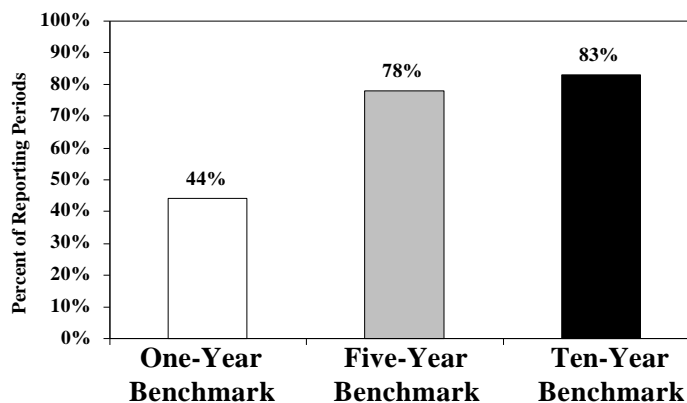
SWIB compares the performance of the Fixed Fund to a benchmark that blends: (1) indices for the broader markets for stocks, bonds and other assets; and (2) the performance of privately managed funds with characteristics similar to SWIB's portfolios. In its 1995 audit, LAB examined the construction of these benchmarks and confirmed that they are appropriate measures of our performance, being neither too easy to beat, nor so difficult to reach that they encourage excessive risk taking.

For calendar and fiscal years 1990 through 1998, the returns for the Fixed Fund exceeded the five-year and ten-year investment benchmarks approximately 80% of the time. (Since 1994, this record has been 90%). In about half of these reporting periods, SWIB exceeded the one-year benchmark.

Our strategy has a long-term focus, and the effect of investment returns on the WRS is smoothed by the transaction amortization account. Therefore, we believe that the major focus should be on whether our strategies succeed over longer periods of time.

As we reported to the Legislature and fund participants, the Fixed Fund has experienced some fall-off in performance that is reflected in 1998 returns.

How Often Has SWIB Beaten Its Performance Benchmarks? 1990-1998



The investment return for the Fixed Fund was below its five-year benchmark as of December 31, 1998. Our report in March described the major factors that contributed to our performance. Within our allocation to domestic stocks we have maintained an over-weighting in the stocks of smaller companies. Small company stocks have been out of favor in the market, and the technology stock emphasis in our portfolio has not performed as well as the small company sector as a whole.

We have trimmed our over-weighting in small company stocks, and further diversified our strategy by shifting a portion of our holdings to a small company index fund. We continue to maintain an emphasis in this area because many observers believe that this sector of the market remains significantly under-priced relative to stocks of larger companies. It is interesting to note that prior to the unprecedented rally in large company stocks that began in late 1994, small company stocks historically outperformed both large and mid-size companies. The following 20-year comparison takes into account the generally sluggish stock markets of the 1970s and the robust markets of the ensuing years:

Annualized Rate of Return U.S. Equity Markets: 1974 through 1993

Large Company Stocks	11.0%
Mid-Size Company Stocks	14.3%
Small Company Stocks	15.4%

More recently, our small company stock portfolio has gained over 18% since December 31, 1998 and over 57% for the last 12 months. These returns have substantially exceeded large company stock returns, as well as the small company portfolio benchmark.

Our overall performance has been affected by the loss of experienced portfolio managers and analysts to much higher paying positions in the private sector. We have had four manager changes in our large company stock portfolio since 1994. Seven of nine domestic stock analysts had less than two years experience when they were hired. Our non-traditional portfolio lost both of its staff at one point in 1998.

In contrast, in public bonds and real estate, where there has been little turnover in staff, we have had consistently solid returns over the five- and ten-year time periods.

Other Public Pension Funds

Comparisons to other public funds provide a useful perspective. However, some caution should be used in interpreting the results achieved by other pension funds because: (1) The funding status and actuarial objectives may vary; (2) The amount of investment risk taken by each fund is difficult to fully determine and compare; and (3) Wisconsin appears to be the only state in the survey that offers two retirement fund options (the Fixed Fund and the Variable Fund) to some of its members.

The LAB survey shows that the 14.2% five-year return for the Fixed Fund was 0.8% (eight-tenths of one per cent) below the median return of 15.0% for 12 large public pension funds as of June 30, 1998:

Five-Year Investment Returns LAB Survey of 12 Public Funds

Highest	16.4%
Median	15.0%
SWIB (Fixed Fund)	14.2%
Lowest	11.0%

Except for the two funds with the lowest and highest rates of return, performance tended to cluster in the 14% to 15% range. In considering the rankings of fund performance, the magnitude of the difference in returns should also be kept in mind.

Pension funds with the highest five-year rate of return in 1998 had greater (in several cases much greater) exposure to the domestic stock market, the highest performing but most volatile major asset class for the last several years. The Fixed Fund has a large holding in an S&P 500 Index Fund and additional exposure to large company stocks through actively managed portfolios. While some pension funds appear to have let their stock exposure continue to “run up” with the market, we have followed a more conservative discipline by moving funds out of the stock market when the value of our holdings grew much beyond 40% of the value of Fixed Fund assets. This was done to maintain diversification and manage risk.

While SWIB took a more conservative strategy than some funds may have followed, we believe that it was the right approach. Returns from domestic stocks have been especially volatile. The extraordinary gains have actually come from a small number of large company stocks. For example, in 1998, only 15 stocks accounted for half of the entire gain in the S&P 500. In the first quarter of 1999, 18 stocks accounted for all of the gain in the index.

It is interesting to remember that at this same time last year, the market was in the midst of a major downturn. Some concerns were being expressed about whether the Fixed Fund had too much exposure to large company stocks. Then, as now, we believe that a disciplined asset allocation strategy is best.

Resources and Management Flexibility

- *Performance affected by the loss of experienced staff and asset growth that has exceeded resources*

Our performance is affected by the mix of assets in which we invest and by the resources we have to execute investment strategies. Assets under management are now over \$60 billion, placing SWIB among

the world's largest investment organizations. Quite simply, our portfolios have grown much faster than our resources. Assets have nearly doubled in the last five years and are expected to increase by another \$25 billion in the next five years. Over the last decade, assets have increased at nearly seven times the rate of increase in investment staff. The total staff has increased at a greater rate, reflecting the development of information technology services and the expansion of audit and other oversight activities.

**Growth in Assets under Management and SWIB Resources
1989 to 1999**

	Average Assets (in billions)	Investment Staff	Total Staff
1989	\$19.7	38.0	63.0
1994	33.9	44.0	78.5
1999	61.5	50.0	101.5
Percent Increase (1989-99)	212%	32%	61%

We lost 11 investment staff to the private sector in just 2½ years. Several staff received compensation packages that were more than double what SWIB can offer. Adding to our concern is that our two most senior investment directors retired and several others are eligible to retire in the next few years.

All of our expenses are funded from investment earnings. Because we can pay competitive rates to outside vendors with experienced professionals, there is increasing pressure to "hire out." However, that approach is far more costly than it is to pay competitive salaries and provide the needed support services for our own staff. If our internal portfolios had to be managed outside, annual costs would increase by over \$70 million annually

Our objective is an investment strategy to succeed in markets of the next five to ten years with the resources to successfully execute this strategy. One of our major goals is to position the Fixed Fund to take greater advantage of private equity and other non-traditional markets. Investments in these markets are more labor intensive to manage but have great potential to add value after expenses.

We have taken a number of steps to stretch our resources, including greater use of passive management strategies. We have also partnered with other financial services firms in our private placements, certificate of deposit and real estate programs to gain broader access to these markets without adding staff.

The budget support and flexibility we have received from the Governor and the Legislature have made a real difference and we are appreciative. However, to continue to have a viable and cost-effective investment program, we believe that new approaches to our budget should be considered.

This issue has been recognized in model legislation recently developed by the National Conference of Commissioners on Uniform State Laws. A fundamental principle of the model law is that because pension fund trustees have full fiduciary responsibility for the results of investment decisions, they should also have flexibility to determine the resources that are used to implement those decisions. Our goal is to work with the Governor and Legislature on ways to enhance effective management while ensuring accountability.

Ms. Janice Mueller
Page 8

Thank you for the opportunity to respond to your report. During the course of the audit, your staff made every effort to understand our objectives and operations. Their work has been professional and considerate.

Sincerely,

Patricia Lipton
Executive Director

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