12a

State of Wisconsin
Legislative Audit Bureau

Suite 402
131 West Wilson Street
Madison, Wisconsin 53703
(608) 266-2818
FAX (608) 267-0410

11/10

Dear Gary & Carol -

Enclosed are some suggested questions for SWIB for the hearing tomorrow.

See you then!

Jan

Questions for SWIB

1. One of the themes in the audit is that lagging performance on a short-term basis has begun affecting longer-term returns, as evidenced by the Fixed Fund not meeting its five-year benchmark at the end of 1998.

   - Did you meet your one-year and five-year returns for the Fixed Fund as of June 30, 1999?

2. The auditors have noted that your performance ranks poorly in comparison to other large public pension funds. In your response, you state that this is because Wisconsin "took a more conservative approach than other funds." However, SWIB also has an active management philosophy, in which you seek to outperform the market and you invest in fairly risky international and other types of investments.

   - How do you reconcile your seemingly contradictory position of whether SWIB is a conservative or aggressive investor?

3. The audit raised several questions about your small cap stock portfolio, including concerns about your inability to effectively manage a relatively large portfolio and questions about whether your emphasis on these stocks will generate the higher premiums that would be expected for this relatively higher risk class of investments. We recognize that 1999 has been more favorable for small cap stocks than in the last few years.

   - However, how confident are you that small cap stocks are going to provide added value over the long term?

4. The report notes that the Investment Board strives to be a leader in undertaking new investment opportunities and aggressively seeks to outperform the market. As a result, the Investment Board has a large portion of its investments allocated to areas that tend to be higher risk, as well as staff intensive – such as small cap stocks, a large portfolio of private placements, and your nontraditional portfolio. However, it does not appear that these areas are consistently providing the higher returns that may be expected.

   - Do you plan to reassess your level of commitment to higher-risk investment areas?

5. In your response, you attribute your lagging performance to difficulties you have experienced with loss of experienced staff. While we recognize that there is a relationship between staffing issues and performance, we do not totally accept that all the lagging performance is attributable to staffing difficulties. Some level of accountability needs to be taken by the Investment Board for its performance.

    - What do you believe has contributed to your recent poor performance?
    - What changes do you anticipate in your strategy to improve performance?

6. We are concerned about the statutory limit of 15% on funds that can be managed by outside managers.

    - What is your position on the 15% limit?
    - How will the additional resource flexibility that the Legislature recently provided affect you?

7. We found it surprising that the Investment Board only managed just a little over half of its investments in-house and that almost 1/3 of the Retirement System funds were invested in index funds.

    - Do you anticipate that with more resource flexibility that more investments will be managed internally?

JOINT COMMITTEE ON AUDIT

Remarks by Patricia Lipton, Executive Director
State of Wisconsin Investment Board
November 11, 1999

Thank you for the opportunity to comment on the Legislative Audit Bureau's report on the operations of the Investment Board. This is the first such audit conducted under provisions developed by the Joint Committee on Audit in 1995.

Management of SWIB Operations

The audit found that SWIB has "substantially implemented" provisions of the law regarding the oversight and reporting of our activities. Over the last four years, we established new systems and procedures to monitor and manage investment risk. Investment guidelines have been strengthened. Internal audit and chief investment officer functions have been implemented. We have increased our reporting to our customers and the Legislature regarding our investment strategies and performance.

State Investment Fund Performance

We are pleased that the audit confirms that the State Investment Fund (SIF) is providing a superior rate of return and improved services to our customers. The rate of return provided by SIF ranked 5th out of 217 government funds at the end of 1998. Because of competitive returns, improved insurance coverage and quicker distribution of earnings information, there are even more local government investors in SIF now than there were before the March 1995 derivatives loss.

Fixed Retirement Fund Performance

The exceptional markets of the last several years and strong performance by a number of our portfolio managers helped to produce record-setting investment gains for the Fixed Retirement Fund. This led to recent legislation to improve retirement benefits and to reductions in taxpayer contribution rates for the fourth consecutive year.

- Fundamentally, our goal is to position the Fixed Fund to earn at least 8% a year over the long-term. The Fixed Fund has been well ahead of this benchmark.

- Our second goal is to exceed a benchmark that includes market indices and the performance of funds with similar investment objectives. Our focus is long-term. **From 1990 through 1998, the Fixed Fund outperformed the five-year benchmark 14 of 18 times at the end of the fiscal year and calendar year. The Fixed Fund surpassed the ten-year benchmark in 15 of 18 these periods *(Chart 1).***

As we reported to you last March, as of December 31, 1998, the 13.4% five-year return for the Fixed Fund was below 0.3% below the 13.7% benchmark return. The ten-year return of 12.9% remained ahead of its benchmark ***(Chart 2)***. Three factors most affected our recent performance relative to the benchmarks ***(Chart 3)***:

- Our small company stock portfolio has not performed as well as the small company sector as a whole. We have reduced and further diversified our small company holdings. Over the last 12 months, the performance of our portfolio has substantially improved—returning 42%. We are carefully monitoring the progress of our small company investments.

- The loss of experienced staff to better paying positions in the private sector affected our performance, particularly in domestic stocks and our non-traditional portfolio. One-third of our investment positions are filled by staff who were not in those same positions three years ago.

- With assets over $63 billion, funds under management have grown seven times as fast as our staff over the last ten years. We have taken a number of steps to stretch our resources, including greater use of passive management strategies and outside managers. We have also partnered with other financial services firms in a number of areas. However, resources for several portfolios need to be strengthened.

The budget recently signed into law shifts our funding from a fixed appropriation to an amount indexed to the level of assets under management. This will be of great help in doing the best possible job for the funds we manage. We are very appreciative of the Legislature's support for this initiative.

The LAB report also compares the performance of the Fixed Fund to 11 other public pension funds. The 14.2% five-year return for the Fixed Fund was below the 15.0% median return for the survey group as of June 30, 1998.

- SWIB follows a disciplined process to select the asset mix for the Fixed Fund based on the fund's liabilities and expected long-term returns for different assets across changing economic cycles ***(Chart 4).*** The average allocation to U.S. stocks was higher among funds LAB surveyed than it is for the Fixed Fund ***(Chart 5)***. Four of the five best performing funds also had four of the five the highest allocations to U.S. stocks. Several of these funds chose to let their U.S. stock holdings rise well above their own asset allocation targets.

- As the market value of our domestic stock portfolio has moved much above 40% of the total assets of the Fixed Fund, we have sold U.S. stocks and bought other assets to maintain the desired long-term asset mix. Had we let U.S. stock exposure rise to the average of other funds in the LAB survey, the five-year return for the Fixed Fund would have matched the 15.0% median five-year return for the survey group.

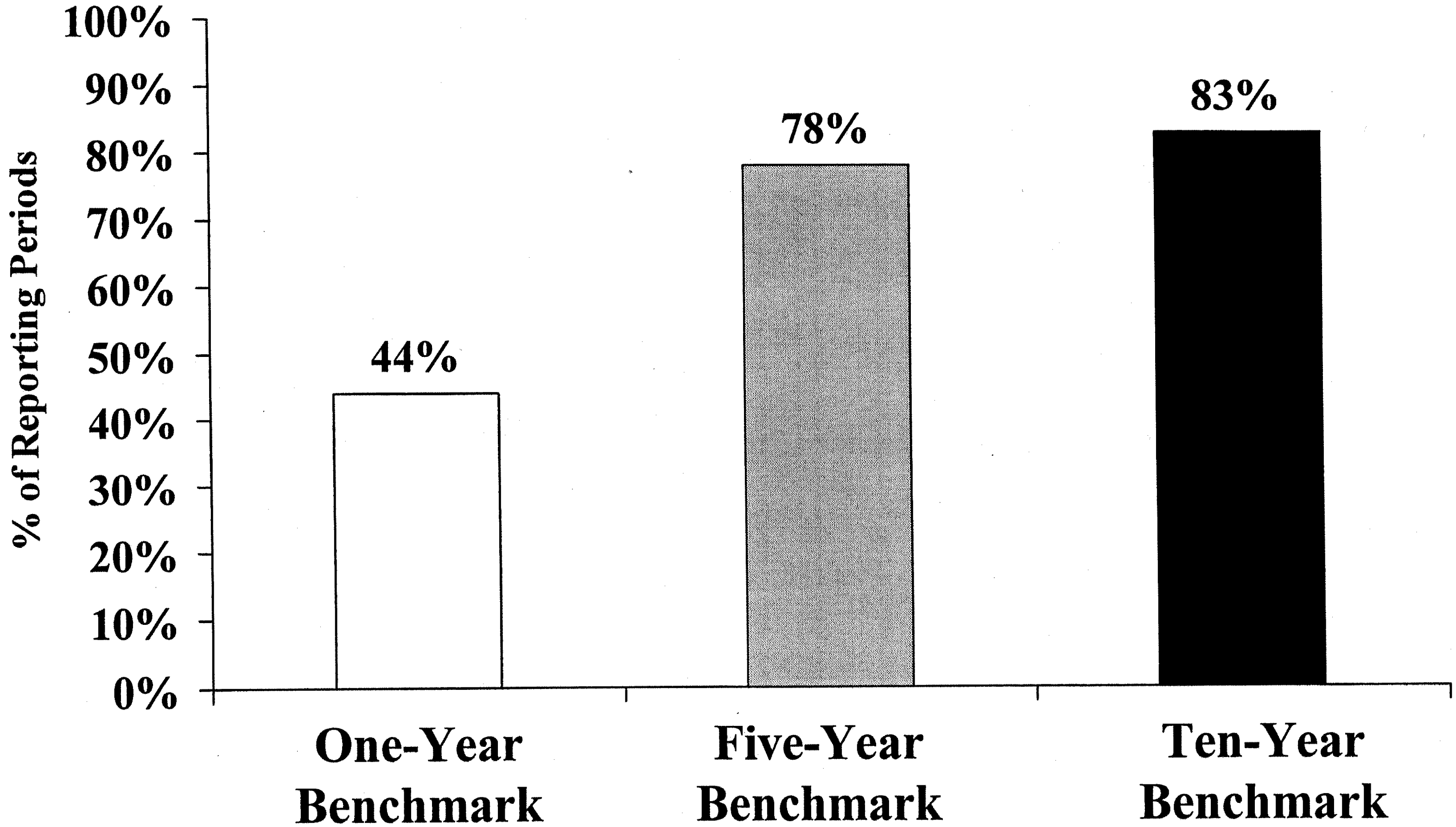
- Because of the markets of the last several years, it is tempting to regard U.S. stocks as a low risk investment that will produce a constant double-digit return. In fact, most of the recent gain in the market has come from a handful of large company stocks, particularly information technology companies whose stock price has, in some cases, been heavily driven by market momentum. We believe that a more diversified and disciplined investment strategy is prudent to meet the long-term goals of the Fixed Fund ***(Chart 6).***

We continually seek to improve our processes. We are currently reviewing our asset allocation and strategy with the assistance of outside experts. In addition, we have taken several other steps to strengthen performance ***(Chart 7).***

We agree with LAB's recommendation that it would be useful to provide an update on this work and other matters covered in the audit in our next strategy report in January. I would also welcome the opportunity to discuss our reports with you on a regular basis.

What Percent of the Time Has the Fixed Fund Beaten Its Investment Benchmarks?*

1990-1998



SWIB STATE OF WISCONSIN INVESTMENT BOARD

*At fiscal year-end and calendar year-end

Chart 1

Performance: December 31, 1998

	One Year	Five Years	Ten Years
Fixed Fund	**14.6%**	**13.4%**	**12.9%**
Investment Benchmark	15.5	13.7	12.6
Actuarial Benchmark	8.0	8.0	8.0

SWIB
STATE OF WISCONSIN INVESTMENT BOARD

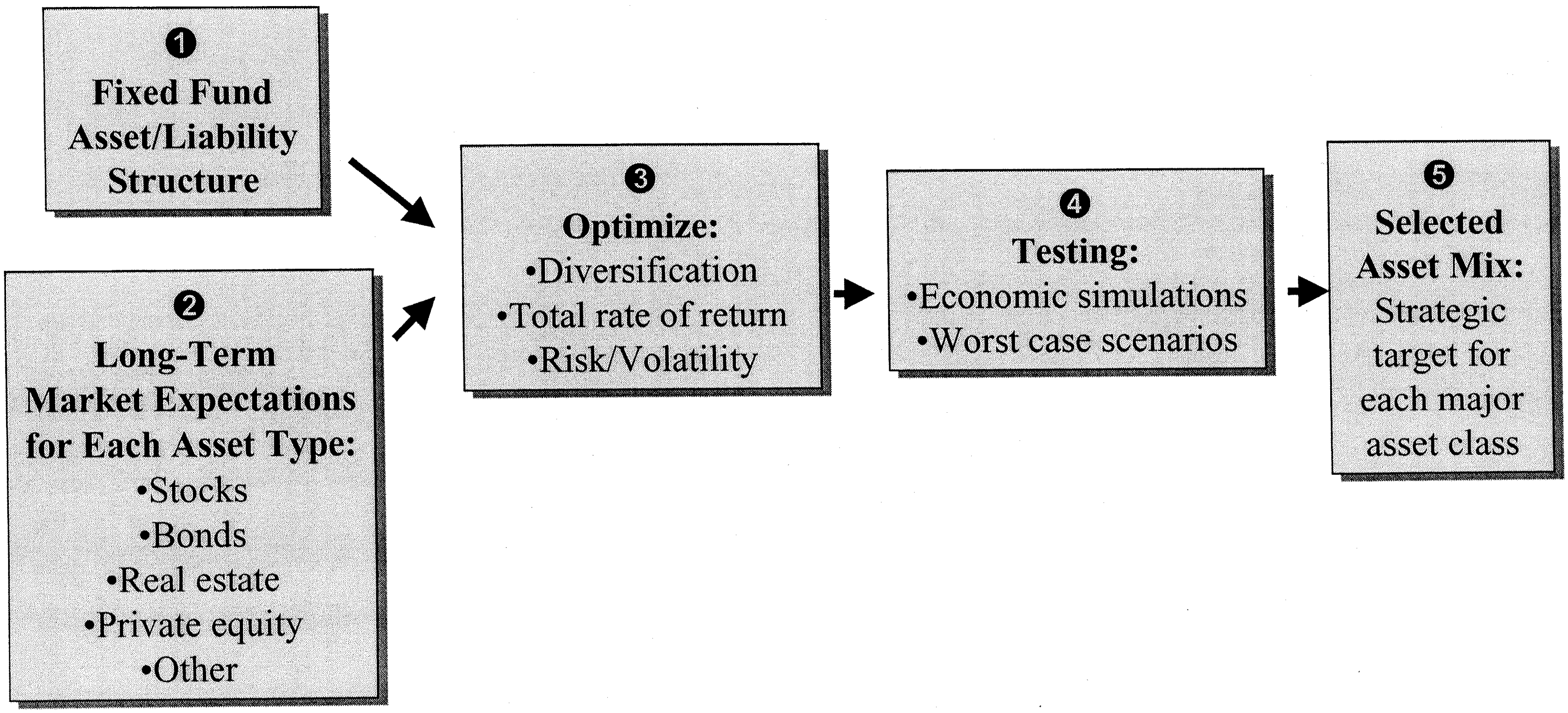
Factors Affecting Performance

- **Small company stocks have been out of favor in the market**

- **Loss of experienced staff**
  - 1/3 of investment positions filled by staff not in those positions 3 years ago
  - Four manager changes in large company stocks since 1994
  - 7 of 9 domestic stock analysts hired with less than 2 years experience
  - Loss of both staff for non traditional assets led to large cash holding in 1998
  - Two most senior investment directors retired

- **Assets have grown seven times as fast as investment staff**
  - Over the last 10 years, assets up 212% while investment staff grew 32%

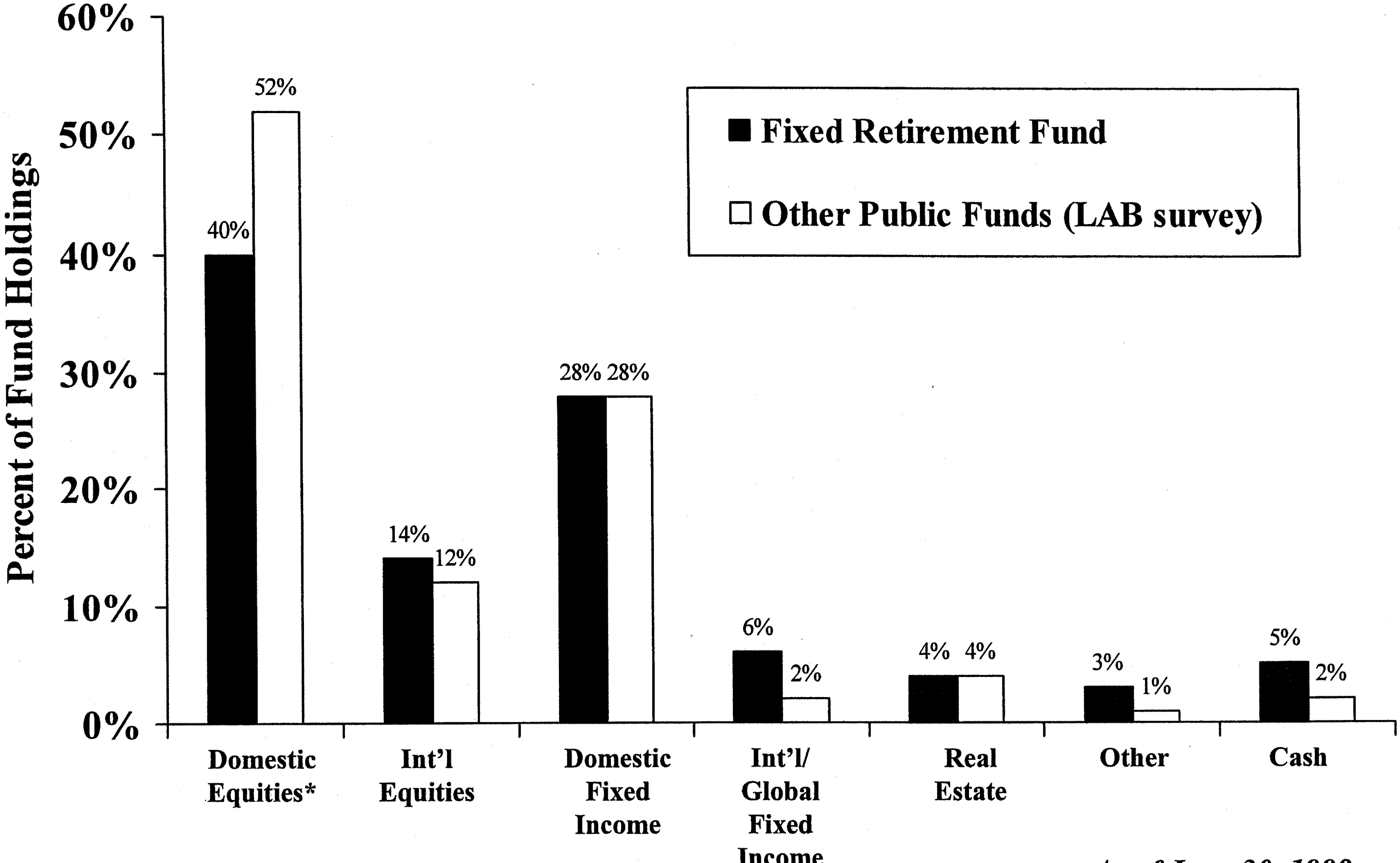
Fixed Fund Asset Allocation Process



SWIB
STATE OF WISCONSIN INVESTMENT BOARD

Chart 4

Fixed Fund Compared to Other Public Funds



*Stocks and private equity

As of June 30, 1998

SWIB STATE OF WISCONSIN INVESTMENT BOARD

Chart 5

Fixed Fund Compared to Other Public Funds

❶ More conservative allocation to domestic stocks

- SWIB stayed close to strategic target (40% of assets) and sold stocks as markets ran up
- Concerns about volatility and narrowness of stock market

❷ Within domestic stocks, greater allocation to small companies

- SWIB has reduced, but maintains, an over weighting in small company market
- Small companies are 15% of Fixed Fund domestic stock portfolio
- Potential for greater returns based on price and growth potential
- Narrowness of large company returns (15 stocks provided half the S&P 500 gain in 1998)

❸ Greater holdings in international/global bonds

- Economic growth potential of overseas economies
- SWIB managers can choose US bonds when they offer better value

❹ Larger cash holdings

- Reflected turnover in managers; slower calls for capital in private equity portfolio

Steps Taken to Strengthen Performance

- **Small company stocks**
  - Performance has improved; 42% return over last 12 months
  - Further diversified our holdings
- **Split the duties of the Chief Investment Officer**
  - Will give greater focus to each investment area
- **Reviewing all aspects of asset allocation**
  - Update in next strategy report to the Legislature
- **New budget flexibility--resources now indexed to asset level**
  - Improves ability to make cost-effective strategy choices

SWIB
STATE OF WISCONSIN INVESTMENT BOARD

State of Wisconsin Investment Board

Report 99-16
Wisconsin Legislative Audit Bureau
November 11, 1999

LAB 1

1995 $95 Million Loss in State Investment Fund

- 1995 Wisconsin Act 27 enacted
- SWIB has taken several steps to improve its operations
- Even with reduced earnings, returns compare favorably with similar funds

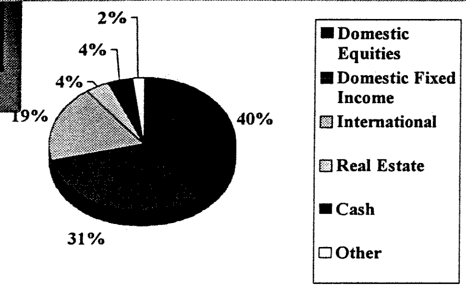
LAB 2

Wisconsin Retirement System

- Over $55 billion in assets
- 9th largest public pension fund
- 450,000 participants
- Fixed Retirement Trust Fund -- provides guaranteed retirement benefits
- Variable Retirement Trust Fund -- equities option that is now closed

LAB 3

Fixed Retirement Trust Fund Investment Allocation - 12/31/98



LAB 4

e.g. S&P 500

Review of Investment Strategy and Performance

- Comparison to established performance goals or benchmarks as of 12/31/98
- Comparison to other large public pension funds

LAB 5

(LAB used SWIB's own benchmarks, but did own comparison w/ other pension funds re: asset allocation & performance)

compared to 11 other benchmark (pension funds)

fixed fund performance has eroded

Comparison to Benchmarks

- Since 1994, has not consistently met one-year benchmark.
- More recently, lagging short-term returns are affecting longer-term returns.
- Did not meet its one-year and five-year benchmarks as of 12/31/98.

LAB 6

only once did fixed fund meet one-yr. benchmark

performance mixed among ben

domestic equities & small cap stocks haven't met benchmarks

9% vs 14%

3x larger than typical small cap portfolio

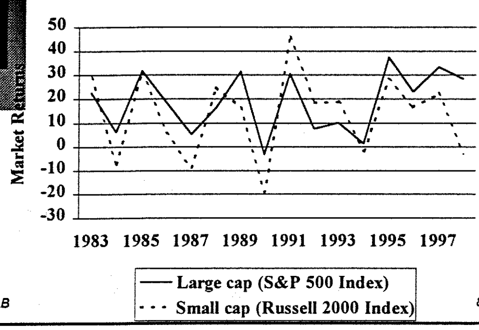
larger % of equity in small cap stocks

Small Cap Stocks

- Fell short of all benchmarks
- Portfolio size is 3X larger than average small cap stock portfolio
- Invested larger position in small cap stocks than other investors

LAB 7

Large Cap versus Small Cap Market Returns



LAB 8

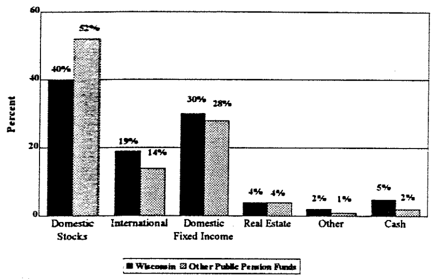
Comparison to Other Large Public Pension Funds

- Five-year returns ranked 10th among 12 funds
- Five-year return: 14.2 % compared to a median of 15%
- Estimated effect over five years is reduced earnings of over $1 billion

LAB 9

14.2% vs. 15%

Comparison of Investment Allocations



LAB 10

WI invests less in domestic stocks; more in international stocks

close to 15% limit on external managers

Legislative Issues

- Staffing and compensation issues
- Use of external managers
- Increased flexibility and resources provided by 1999-2001 budget
- Reassessment of investment strategies

LAB 11

Act 9 (Budget) Δ fixed \$ → % of assets

\$4.8 M ↑ in operating budget

give high marks for improved control over investments

internal audit implemented

but verdict still not complete

middle mgmt. structure does

salaries compare well to other public pension systems but not at all well to private

unfilled positions — chief Investment Officer vacant due to retirement

SWIB would perhaps prefer to have more than 1 chief Investment officer

State of Wisconsin Investment Board

Report 99-16
Wisconsin Legislative Audit Bureau
November 11, 1999

LAB 12

loss of a portfolio mgr. in one fund caused liquidation ⇒ higher cash balances

Returns are good in areas w/ senior personnel / senior mgrs. areas that didn't retain senior mgrs.

AN EVALUATION

State of Wisconsin Investment Board

99-16

October 1999

LEGISLATIVE AUDIT BUREAU

AN EVALUATION

State of Wisconsin Investment Board

99-16

October 1999

1999-2000 Joint Legislative Audit Committee Members

Senate Members:	Assembly Members:
Gary R. George, Co-chairperson	Carol Kelso, Co-chairperson
Judith Robson	Stephen Nass
Brian Burke	John Gard
Peggy Rosenzweig	Robert Ziegelbauer
Mary Lazich	David Cullen

LEGISLATIVE AUDIT BUREAU

The Bureau is a nonpartisan legislative service agency responsible for conducting financial and program evaluation audits of state agencies. The Bureau's purpose is to provide assurance to the Legislature that financial transactions and management decisions are made effectively, efficiently, and in compliance with state law and that state agencies carry out the policies of the Legislature and the Governor. Audit Bureau reports typically contain reviews of financial transactions, analyses of agency performance or public policy issues, conclusions regarding the causes of problems found, and recommendations for improvement.

Reports are submitted to the Joint Legislative Audit Committee and made available to other committees of the Legislature and to the public. The Audit Committee may arrange public hearings on the issues identified in a report and may introduce legislation in response to the audit recommendations. However, the findings, conclusions, and recommendations in the report are those of the Legislative Audit Bureau. For more information, write the Bureau at 131 W. Wilson Street, Suite 402, Madison, WI 53703, call (608) 266-2818, or send e-mail to Leg.Audit.Info@legis.state.wi.us. Electronic copies of current reports are available on line at www.legis.state.wi.us/lab/windex.htm.

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TABLE OF CONTENTS

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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 10th 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

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 Trustee's 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*.

****

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 employe 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 employes 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

Description of Fund	Value as of December 31, 1998	Types of Investments
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.

both because of its size and because of individual investment decisions. The five-year return, for example, was 9.8 percent, compared to a benchmark of 14.4 percent. Investments in large cap stocks that are actively managed have also not met the Board's one-year, five-year, or ten-year investment benchmarks.

The Investment Board's Returns Lag Those of Other Public Pension Funds

We surveyed other large public pension funds and found that the Investment Board's Fixed Retirement Trust Fund's five-year return ranked 10th among the 12 funds surveyed. Its five-year return was 14.2 percent, compared to a median return for all 12 funds of 15.0 percent. The Investment Board's decision to allocate more funds to international investments and less to domestic equities contributed to the Board's lower overall returns. The Investment Board's allocation of 40 percent of Fixed Retirement Trust Fund assets to domestic equities is less than the average allocation of 52 percent in other public pension funds surveyed. In addition, the Investment Board allocated 19 percent of its assets to international investments, compared to an average of 14 percent for the public pension funds we surveyed.

Changes in The Board's Investment Strategies May Be Needed

The Investment Board currently invests a large portion of the assets it manages in areas that, by their nature, tend to be more staff intensive and have higher risk, such as small cap stocks, international investments, private placements, and a 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 have generally not exceeded the returns of more traditional domestic equity and fixed-income portfolios. To address performance that is lagging both established benchmarks and that of other large public pension funds, we recommend the Investment Board reassess its investment strategy and report to the Joint Legislative Audit Committee on steps it plans to take to improve investment performance.

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WISCONSIN LEGISLATIVE AUDIT BUREAU
AUDIT SUMMARY

Report 99-16

October 1999

STATE OF WISCONSIN INVESTMENT BOARD

The State of Wisconsin Investment Board manages $60.6 billion in assets, including $55.6 billion for the Wisconsin Retirement System, $4.4 billion for the State Investment Fund, and $0.6 billion for five other state insurance and trust funds that have long-term investment needs. The Investment Board is governed by a nine-member board of trustees. They have delegated day-to-day investment decisions to the Investment Board's staff, which consist of the Executive Director, 95 professional staff in the unclassified service system, and 7 support staff in the classified service.

The Investment Board Has Responded to a 1995 Derivatives Loss

In March 1995, the Investment Board disclosed that the State Investment Fund, which provides short-term investment and cash management for all state funds, the Wisconsin Retirement System, and several local governments, had incurred a $95 million loss as a result of investments in derivative instruments. Subsequent to this disclosure, the Investment Board has taken a number of steps to improve its operations, including increasing its reporting to the Legislature; improving management oversight of investing strategies; increasing the board of trustees' involvement in investment activities; and improving communication with State Investment Fund participants.

Remaining payments, including interest, associated with the State Investment Fund derivatives loss total $41.7 million as of June 30, 1999. However, even with the loss, the State Investment Fund's returns have exceeded its investment performance goals, or benchmarks, and they compare favorably to those of similar funds.

The Fixed Retirement Trust Fund Has Not Consistently Met Its Performance Benchmarks

The Fixed Retirement Trust Fund, which accounts for approximately 80 percent of the Investment Board's $60.6 billion in assets, did not meet its one-year and five-year benchmarks as of December 31, 1998. In addition, since 1994, it has met its December 31 one-year benchmark only once.

One reason for the Fund's lagging performance 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

-over-

Table 2

State Investment Fund Participation
(in billions)

As of December 31	Local Governments	Percentage	State Agencies	Percentage	Total
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.

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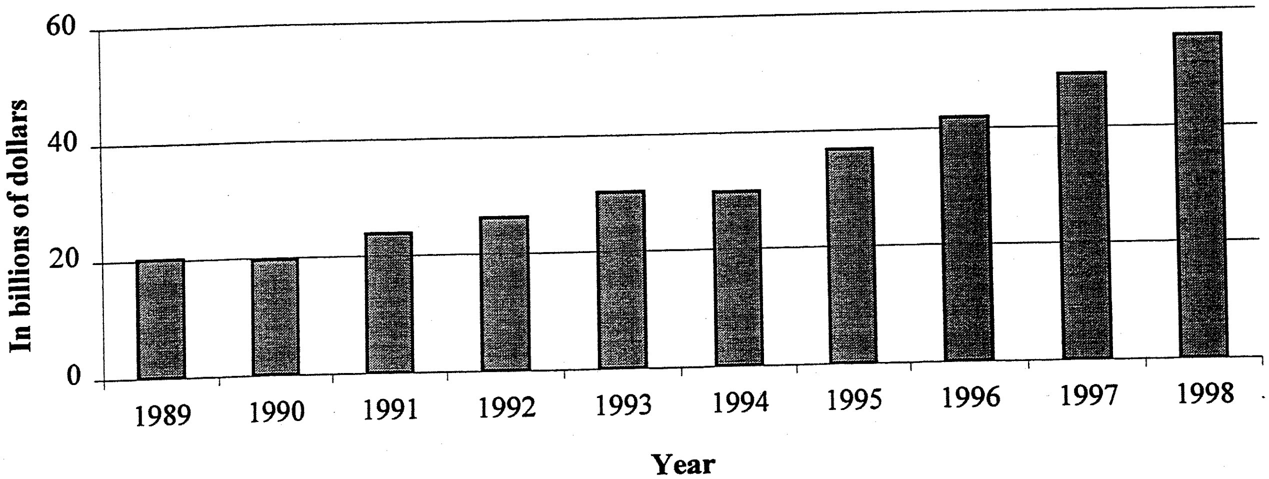
FIXED RETIREMENT TRUST FUND STRATEGY AND PERFORMANCE

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.

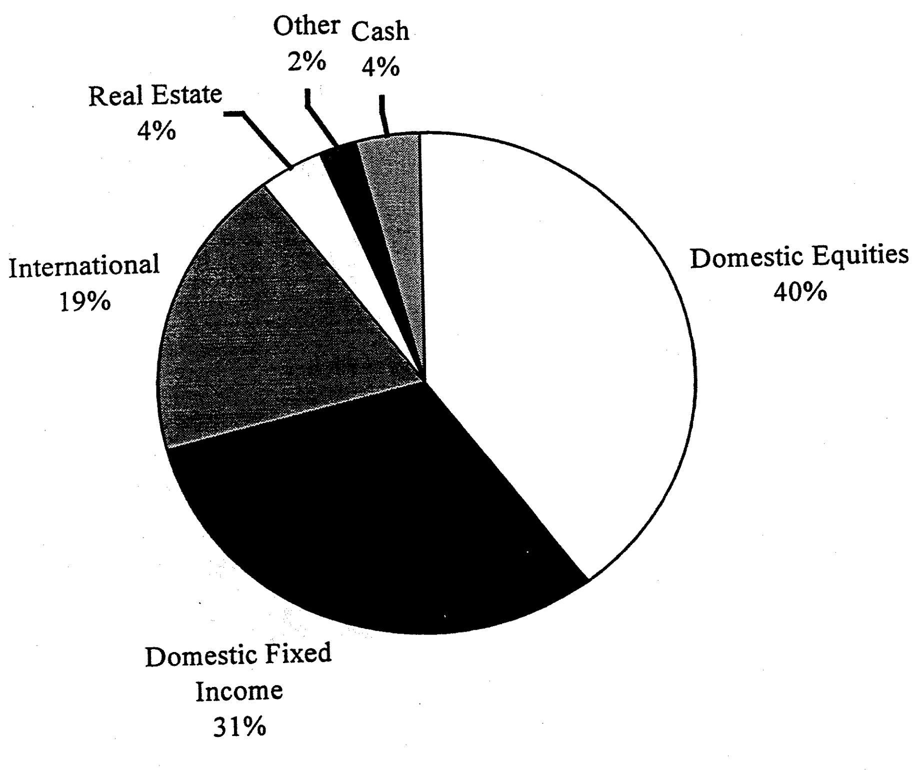
In establishing the asset allocation plan for the Fixed Retirement Trust Fund, the Executive Director, with advice from senior investment staff and professional consultants, analyzes the risks and returns of individual investment classes, as well as potential fund mixes under various economic scenarios. 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.

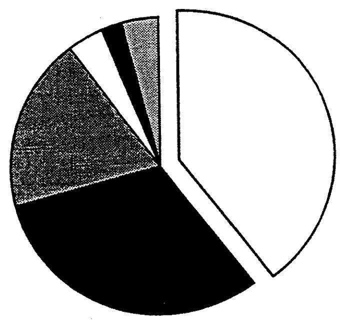
Table 3

Fixed Retirement Trust Fund Performance

Period Ending December 31, 1998	Actual Performance	Investment Benchmark
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
40%



Domestic Equities

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

Period Ending December 31, 1998	Actual Performance	Investment Benchmark
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.

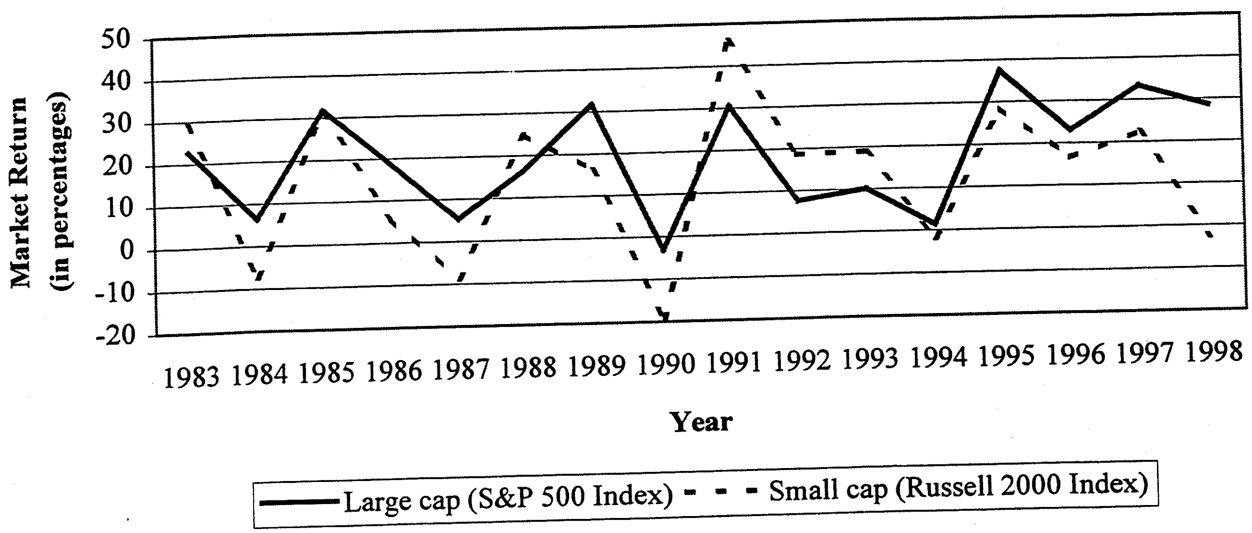
Investment Board staff noted two specific investment decisions that affected its small cap stock portfolio's performance. First, the investment benchmark by which the portfolio is evaluated included many Internet stocks that appreciated considerably, but in which the Investment Board had decided not 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.

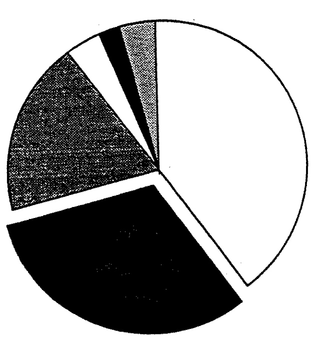
The Investment Board has not met one-year, five-year, or ten-year investment benchmarks for internally managed large cap stocks.

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

Period Ending December 31, 1998	Actual Performance	Investment Benchmark
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.

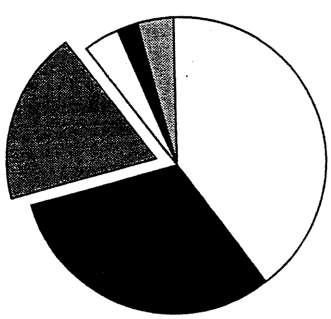
Private placements have not earned higher returns than public bonds.

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

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

Fixed Income

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

International investment performance has varied.

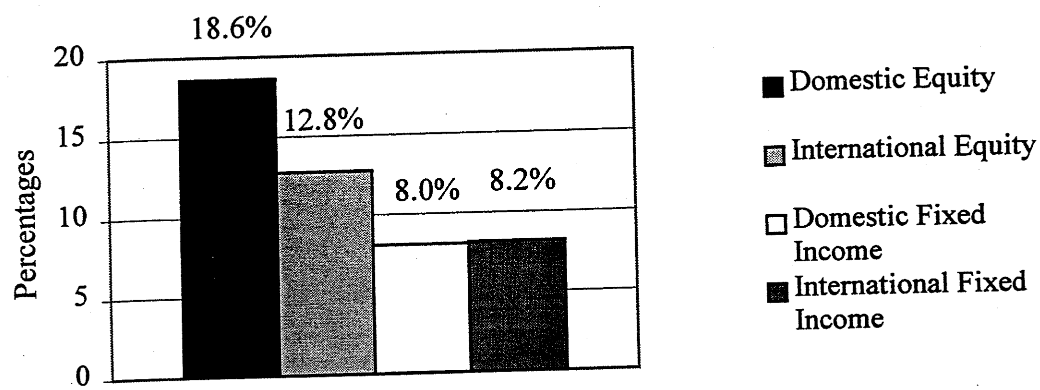
Investment Board staff attribute its success in international equities to the successful selection of securities across countries. For example, the Investment Board's limited exposure in Japan, where the 1998 market was weak, strengthened international equity returns. Problems with derivative investments 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.

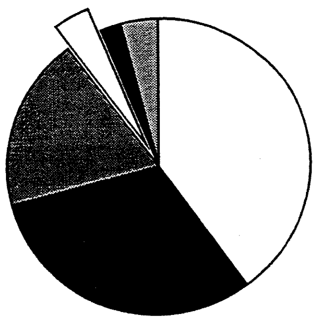
Emerging market investments represent significant risk and volatility.

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

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