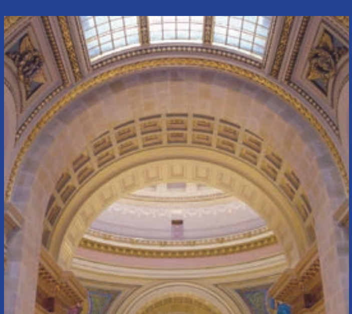
Report 14-9
July 2014

State of Wisconsin Investment Board

State of Wisconsin


Legislative Audit Bureau

Report 14-9
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State of Wisconsin Investment Board

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Response

From the Executive Director of the State of Wisconsin Investment Board

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Joe Chrisman
State Auditor

July 31, 2014

Senator Robert Cowles and
Representative Samantha Kerkman, Co-chairpersons
Joint Legislative Audit Committee
State Capitol
Madison, Wisconsin 53702

Dear Senator Cowles and Representative Kerkman:

We have completed an evaluation of the State of Wisconsin Investment Board (SWIB), under s. 25.17(51m), Wis. Stats. Assets under management by SWIB in December 2013 totaled $101.3 billion and included investments of the Wisconsin Retirement System (WRS), the State Investment Fund, and five other insurance and trust funds.

We assessed the performance of SWIB by comparing investment returns to benchmarks established by the Board of Trustees. As of December 2013, the two funds of the WRS—the Core Fund and the Variable Fund—had exceeded five-year benchmarks with average annual investment returns of 12.5 percent and 17.7 percent respectively. The Core Fund investment return ranked fourth among nine other large pension plans.

In 2010, SWIB established a new asset allocation plan for the Core Fund. Although several additional years may be needed to fully evaluate the plan, the initial results are mixed. SWIB invests in Wisconsin companies, such as those with headquarters or a significant presence in Wisconsin. This includes $58.5 million in venture capital investments made in Wisconsin companies through 2013.

2011 Wisconsin Act 32 granted SWIB the authority to establish its own operating budget and to create or abolish staff positions. From 2009 through 2013, SWIB's expenses increased 55.7 percent due to increases in assets under management, external investment fees, and compensation for additional positions. Of the increase in SWIB's operating budget in FY 2013-14, 59.5 percent is attributable to increased bonuses budgeted for staff. Based on 2012 compensation data, the bonuses paid to investment staff for 2013 performance resulted in overall compensation on average that was greater than the target established in SWIB's compensation plan.

We include recommendations for SWIB to report to the Legislature on its new investment strategies, its new enterprise investment management system, and the status of its venture capital investments in Wisconsin. In addition, we recommend that the Board of Trustees clarify the established target for overall compensation in SWIB's compensation plan.

We appreciate the courtesy and cooperation extended to us by SWIB staff. A response from SWIB's Executive Director follows the appendices.

Respectfully submitted,

Joe Chrisman
State Auditor

JC/SH/ss

Report Highlights ▪

As of December 2013, SWIB had $101.3 billion in assets under management.

The investment performance of the Core Fund and Variable Fund has frequently met or exceeded benchmarks.

In 2010, the Board of Trustees approved a new asset allocation plan for the Core Fund.

2011 Wisconsin Act 32 authorized SWIB to establish its own operating budget and to create or abolish staff positions.

The State of Wisconsin Investment Board (SWIB) invests assets for the Wisconsin Retirement System (WRS), the State Investment Fund, and five other state insurance and trust funds. As of December 2013, assets under management by SWIB totaled $101.3 billion, of which the WRS Core Fund and Variable Fund accounted for 92.5 percent. SWIB's nine-member Board of Trustees establishes policies to guide the investment of these assets and approves an asset allocation plan. SWIB's expenses totaled $351.2 million in 2013, and it had 148.1 full-time equivalent (FTE) positions as of December 2013.

In completing this statutorily required evaluation of SWIB, we:

- compared investment returns to performance benchmarks established by SWIB, investment returns of other large public pension plans, and the actuarial investment return assumption;
- analyzed SWIB's 2010 Core Fund asset allocation plan, including its investment strategies and the initial results of those strategies;
- examined SWIB's approach to investing assets in Wisconsin companies and the recent changes it has made to increase its venture capital investments; and
- reviewed changes SWIB has made that have increased its operating budget, overall investment costs, and compensation.

The Wisconsin Retirement System

The WRS provides retirement benefits to 594,600 state public employees and employees of participating local governments. The WRS is the ninth-largest public pension plan in the United States. The Department of Employee Trust Funds (ETF) is responsible for managing the operations of the WRS, and SWIB is responsible for managing WRS investments, which totaled $93.7 billion as of December 2013. The WRS remains a well-funded public pension plan. The plan's funded status on an actuarial basis, or the ratio of assets to liabilities, has been 99.9 percent from 2011 through 2013.

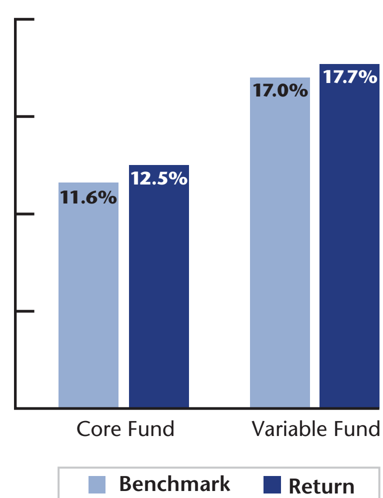
Total benefit payments paid to retired participants increased from nearly $2.7 billion in 2003 to $4.2 billion in 2012. Investment income represented 77.5 percent of the total funding for the WRS from 2003 through 2012. As anticipated for a mature pension plan, investment income is increasingly important in funding benefit payments for retired participants.

Investment Performance

SWIB uses industry benchmarks to measure its success in managing investments of the WRS. As shown in Figure 1, and as of December 2013, the five-year average annual investment return was 12.5 percent for the Core Fund and 17.7 percent for the Variable Fund. The Core Fund has met or exceeded its one-year benchmark since 2009, and the Variable Fund has met or exceeded its one-year benchmark since 2008.

Figure 1

Five-Year Average Annual Investment Returns
As of December 2013



The five-year average annual investment return for the Core Fund ranked fourth compared to the investment returns earned by nine other public pension plans. However, the one- and three-year investment returns ranked seventh among the nine other public pension plans.

The WRS actuary uses the investment return assumption to develop retirement contribution rates. As of December 2013, the average annual investment returns of the WRS since inception and over a 10-year period exceeded the investment return assumption, although the 15-year investment returns did not.

Core Fund Investment Strategies

2007 Wisconsin Act 212 increased SWIB's authority to invest assets of the Core Fund. In 2010, the Board of Trustees adopted a new Core Fund asset allocation plan that was expected to be implemented over three years. The objective of the plan was to reduce volatility of Core Fund investment returns. Although SWIB has not yet fully implemented the asset allocation plan, it has begun decreasing Core Fund investments in more volatile public equity securities, increasing investments in asset classes that are expected to be less volatile, and enhancing the diversification of the Core Fund.

Because the 2010 Core Fund asset allocation plan has not yet been fully implemented, it is too soon to definitively determine whether the plan has achieved its objective. However, performance of some of its new investment strategies have been mixed, including its use of overall leverage, investments in hedge funds, and risk parity portfolios. During 2013, the leverage component resulted in estimated losses of $65.0 million, in part, because of rising interest rates.

In recent years, SWIB has taken steps to improve its ability to monitor the asset allocation plan of the Core Fund and new investment strategies. SWIB has made organizational changes, has added additional staff, and is implementing a new information system.

Wisconsin Investments

SWIB regularly makes investments in Wisconsin through the asset classes it manages. As of June 2013, it invested $682.6 million in companies headquartered or with a significant presence in Wisconsin.

SWIB's Wisconsin private equity portfolio invests primarily in venture capital funds in Wisconsin and the midwest. Through 2013, SWIB has committed $319.8 million to nine venture capital firms. Of that amount, $190.7 million has been invested, including $58.5 million, or 30.7 percent of the portfolio, in Wisconsin companies.

SWIB initiated new investments in two funds in recent years because of SWIB's assessment that they offered unique investment opportunities in Wisconsin. SWIB committed $80.0 million to a venture capital firm and committed $15.0 million to an equal partnership it established with the Wisconsin Alumni Research Foundation. As of December 2013, neither of these two funds made an investment in a Wisconsin company.

Investment Expenses

No general purpose revenue (GPR) directly supports SWIB's operations. SWIB charges certain investment expenses directly against investment earnings and operating expenses to the funds it manages. SWIB's expenses increased from $225.5 million in 2009 to $351.2 million in 2013, or by 55.7 percent. The increase in expenses can be attributed to several factors, including growth in investment assets, changes in internal and external management, and the increased authority granted by 2011 Wisconsin Act 32, the 2011-13 Biennial Budget Act, for SWIB to establish its own operating budget and to create and abolish staff positions.

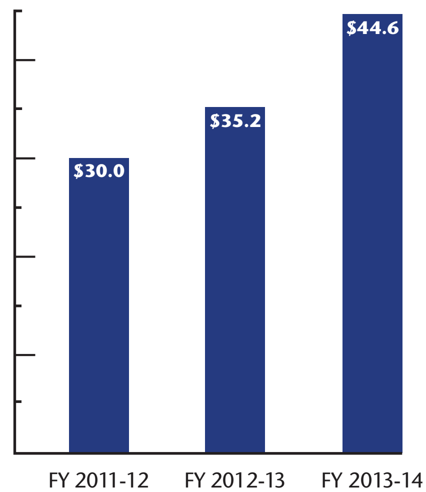
In July 2011, when SWIB received the authority to establish its own operating budget, the average cost of investment for each $100 of assets managed was $0.29. The average cost subsequently increased to $0.36 per $100 of assets managed as of December 2013. According to a 2012 benchmarking study, investment expenses of the Core Fund were less than peers of similar size and asset mix by $0.05 per $100 of assets managed.

External investment expenses increased 55.2 percent from 2009 through 2013 largely because of management fees paid to external managers SWIB hired to implement portions of the 2010 Core Fund asset allocation plan. For example, management fees paid to external hedge fund managers accounted for 56.4 percent of the 2013 increase in public market investment expenses.

As shown in Figure 2, operating budgets established by the Board of Trustees under authority granted by Act 32 increased by 17.3 percent to $35.2 million in fiscal year (FY) 2012-13 and by 26.7 percent to $44.6 million in FY 2013-14. Increases were primarily used to fund staff compensation because of an additional 22.85 FTE authorized positions and an increased pool of bonuses available for staff. For example, 59.5 percent of the increase in the FY 2013-14 operating budget is attributable to increased bonuses budgeted for staff.

Figure 2

Operating Budgets
(in millions)



In SWIB's compensation plan, the Board of Trustees establishes a target for overall compensation for investment staff to approximate 100 percent of the median compensation of its peer group. However, based on 2012 compensation data, the bonuses paid to investment staff for 2013 performance resulted in overall compensation on average that was at 114 percent of the peer group median.

Recommendations

We recommend:

☑ SWIB report on its progress towards full implementation of the 2010 Core Fund asset allocation plan, including any changes to the plan's target percentages for each asset class and overall leverage; report on specific investment results of overall leverage, hedge funds, and risk parity components of the 2010 Core Fund asset allocation plan; report on the status, costs, and implementation timeline for its new enterprise investment management system; and include this information in its next annual report to the Legislature by March 31, 2015 *(p. 37)*;

☑ SWIB report on the status of its partnership with the Wisconsin Alumni Research Foundation; report on the aggregate amount of the Wisconsin private equity portfolio invested in Wisconsin companies; and include this information in its biennial plan for making investments in Wisconsin by December 31, 2014 *(p. 46)*; and

☑ the Board of Trustees clarify the target for overall compensation for investment staff established in SWIB's compensation plan; evaluate overall compensation in comparison to the established target in SWIB's compensation plan prior to approving proposed bonuses; revise, when necessary, the method for determining investment staff bonuses; and report on the status of its efforts to the Joint Legislative Audit Committee by December 31, 2014 (*p. 56*).

▪ ▪ ▪ ▪

Introduction ▪

As of December 2013, 92.5 percent of the $101.3 billion in assets under SWIB's management were included to fund WRS benefits.

As specified by statute, the State of Wisconsin Investment Board (SWIB) is to provide prudent and cost-effective management of the assets it holds in trust by investing them consistent with their intended purpose. As shown in Figure 3, 92.5 percent of the $101.3 billion in assets under its management as of December 2013 were intended to fund retirement benefits for more than 594,600 current and former state and local government employees who participate in the Wisconsin Retirement System (WRS).

SWIB manages the investments of the WRS in two funds:

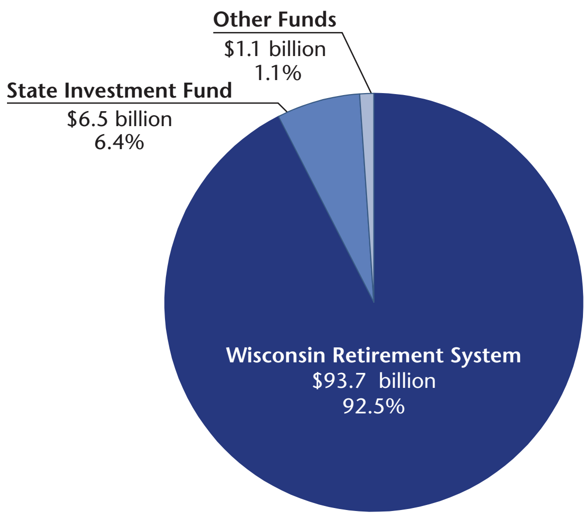
- The Core Retirement Investment Trust Fund (Core Fund) is a fully diversified fund, or balanced fund, which provides less volatile investment returns and is invested for the long term in several types of investments. The investments in the Core Fund totaled $86.5 billion as of December 2013 and included the investments of several other employee benefit programs, which together totaled approximately $3.5 billion. The largest of these other programs is the Accumulated Sick Leave Conversion Credit program.

- The Variable Retirement Investment Trust Fund (Variable Fund) is an equity fund, or stock fund, which provides returns that are typically more volatile than the Core Fund. WRS participants have the option to have 50 percent of their retirement contributions deposited into the

Variable Fund. Investments in the Variable Fund totaled nearly $7.2 billion as of December 2013 when 40,317 retired participants and 62,675 active or inactive participants had invested in the Variable Fund.

Figure 3

Assets Under Management
December 31, 2013



SWIB also manages assets of the State Investment Fund, which provides short-term investment and cash management for state funds, the WRS, and more than 1,000 local units of government that choose to participate in the Local Government Investment Pool. In addition, SWIB manages the investments of five other state funds: the Injured Patients and Families Compensation Fund, the State Life Insurance Fund, the Local Government Property Insurance Fund, the Historical Society Trust Fund, and the EdVest Tuition Trust Fund.

Organizational Structure

SWIB is governed by a nine-member Board of Trustees.

SWIB's nine-member Board of Trustees is responsible for establishing investment policies, approving investment guidelines, and monitoring investment performance. The Board of Trustees includes two participants in the WRS, the Secretary of the Department of Administration or a designee, and six individuals who are appointed by the Governor and confirmed by the Senate to serve six-year terms. Four of the appointed trustees are required to have at least ten years of investment experience, and one must have at least ten years of local government financial experience. The trustees appoint the executive director and the internal audit director and delegate day-to-day investment management decisions to SWIB's staff.

SWIB has experienced changes in its board membership and in its senior management in recent years. Of the nine current trustees, six have been appointed and confirmed since 2010. The current executive director was appointed in February 2012, the current internal audit director was appointed in February 2013, and the chief human resources officer was hired in January 2014. SWIB's organization chart as of December 2013 is Appendix 1.

In December 2013, SWIB had 148.1 FTE positions, including 69 FTE investment positions and 79.1 FTE administrative positions.

As of December 2013, SWIB had an authorized staffing level of 148.1 full-time equivalent (FTE) positions, which included:

- 69 FTE investment positions responsible for researching, selecting, buying, and selling investments according to policies established by the Board of Trustees; and

- 79.1 FTE administrative positions responsible for financial, information technology, legal, human resources, compliance, and internal audit activities.

SWIB also hires external managers to invest and manage certain assets in order to supplement staff resources or provide expertise that would otherwise not be available. In addition, SWIB contracts with multiple consultants to assist with certain functions such as asset allocation and benchmarking decisions, implementing investment strategies, oversight of external managers, and compensation.

No GPR directly supports SWIB's operations.

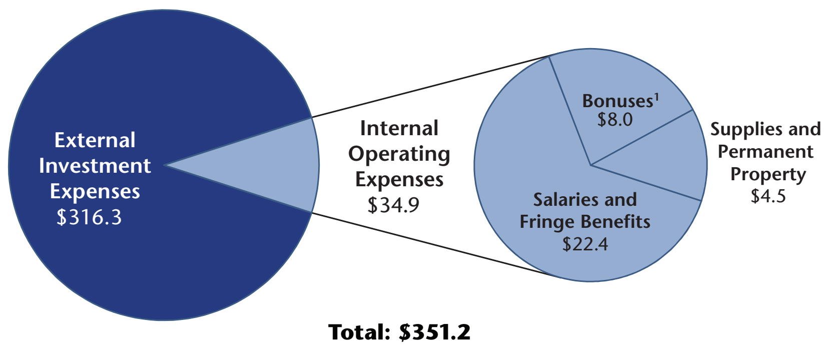
No general purpose revenue (GPR) directly supports SWIB's operations. SWIB charges its operating expenses—including salaries and fringe benefits—to the funds it manages, as authorized by s. 20.536(1)(k), Wis. Stats. However, certain costs that relate to SWIB's investing activities, such as the fees for external investment managers, are charged directly against investment earnings, as authorized by s. 25.18(2)(e), Wis. Stats. When SWIB pays more in fees, less investment income is available to distribute to WRS participants.

SWIB's expenses totaled $351.2 million in calendar year 2013.

SWIB's expenses totaled $351.2 million in calendar year 2013. As shown in Figure 4, this includes $34.9 million in operating expenses charged to the funds it manages and $316.3 million in expenses directly charged to investment earnings.

Figure 4

SWIB's Expenses for Calendar Year 2013
(in millions)



[1] Excludes fringe benefits.

In addition to salaries, SWIB pays bonuses to its staff based on a variety of factors, primarily related to the investment performance of assets under management. Prior to fiscal year (FY) 1998-99, bonuses available to investment staff were limited by statute to 10.0 percent of staff salaries, and no individual could receive a bonus greater than 25.0 percent of his or her annual salary. However, 1999 Wisconsin Act 9, the 1999-2000 Biennial Budget Act, removed these statutory limitations. In November 2000, the Board of Trustees instituted its first bonus program with this added authority.

Investment Process

Members of the Board of Trustees and staff are required by s. 25.15(2)(a), Wis. Stats., to manage investment assets with the care, skill, prudence, and diligence that a prudent person would exhibit acting in a similar capacity, with similar resources, and for similar types of funds. Each year, SWIB refines its investment strategy for both the Core Fund and the Variable Fund within the general investment policies and restrictions set forth in ch. 25, Wis. Stats. Consultants under contract with SWIB work with SWIB staff to develop and propose to the Board of Trustees asset allocation plans that diversify WRS assets, particularly those of the Core Fund, among broad asset classes, such as stocks, bonds, real estate, private equity, and other types of investments.

The Board of Trustees, the executive director, and senior investment staff, with guidance from a contracted consultant, make decisions that balance the costs and risks of various portfolio management strategies. For example, as shown in Figure 5, these decisions include whether internal investment staff will manage certain assets and whether international investments will be permitted. In addition, SWIB staff determine whether the allocated funding to the portfolio will attempt to mirror market investment returns (passive management) or rely on research and judgment in an attempt to outperform market investment returns (active management). The Board of Trustees approves an asset allocation plan and investment guidelines that provide parameters for the implementation of the approved asset allocation plan, with the exception of investment guidelines for multi-asset strategies, which the Board of Trustees delegated to a staff committee in April 2009.

Figure 5

Investment Concepts

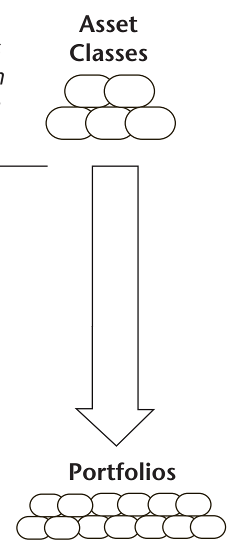
Asset Allocation
Asset allocation is an overall strategy to apportion investment assets to balance risk and potential returns. Through this process, an amount of assets is determined for each asset class.

Asset Classes
An asset class is a group of securities that exhibit similar characteristics that are expected to reflect different risk and return potential. Common asset classes include equities (stocks), fixed income (bonds), real estate (real property), and cash equivalents (money market instruments).

Key Investment Decisions
Key investment decisions in developing investment guidelines for each portfolio include whether investments are:

- *internally or externally managed;*
- *actively or passively managed; and*
- *in domestic or international companies.*

Portfolios
A portfolio is a grouping of financial assets, such as stocks, that is directly managed by investment professionals within parameters established for that portfolio's investment guidelines.



WRS assets internally managed by SWIB staff increased from 20.5 percent as of December 2006 to 56.8 percent as of December 2013.

Since 2006, SWIB has taken steps to increase its internal management of WRS assets and decrease its reliance on external managers. The amount of WRS assets managed by SWIB staff increased from 20.5 percent as of December 2006 to 56.8 percent as of December 2013.

■ ■ ■ ■

The Wisconsin Retirement System ■

ETF manages the operations of the WRS.

The WRS provides retirement benefits to state public employees and employees of participating local governments. The WRS is managed by two agencies. SWIB is responsible for managing WRS investments, and ETF is responsible for managing the operations of the WRS that interact with employers and participants, including collecting contributions from and paying retirement benefits to WRS participants. The WRS is the ninth-largest public pension plan in the United States.

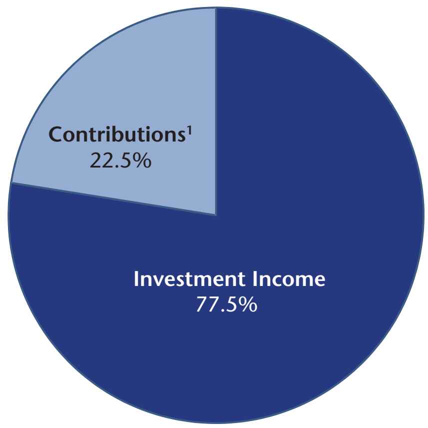
Like most public pension plans, the WRS is largely a defined benefit plan that provides participants with lifelong monthly retirement benefits that are determined by a formula based on each participant's years of service and final average salary. This is in contrast to a defined contribution plan, such as a 401(k) plan, in which benefits are primarily based on the amounts contributed to the participants' accounts and investment gains or losses on those funds. The WRS also offers a money purchase benefit, which is based on a participant's contributions, an employer's matching contributions, and investment income, if that benefit is higher than the formula benefit.

Investment income represented 77.5 percent of total funding for the WRS from 2003 through 2012.

The WRS is funded primarily by employer contributions, contributions from participants who are currently working, and investment income. As shown in Figure 6, investment income represented 77.5 percent of total funding for the WRS from 2003 through 2012. ETF and SWIB work closely together to ensure the solvency and long-term future of the WRS.

Figure 6

WRS Funding Sources
2003 through 2012



[1] Contributions include those paid by employers and participants.

The National Conference of State Legislatures reported that 45 states, including Wisconsin, enacted reforms to their state pension plans between 2009 and 2012.

Following the economic recession that occurred between December 2007 and June 2009, public pension plans have experienced reforms. According to the National Conference of State Legislatures, 45 states, including Wisconsin, enacted reforms in their state pension plans between 2009 and 2012 to address long-term funding issues. These reforms have affected changes in contributions, benefits, and eligibility. For example, in Wisconsin, changes were made to the WRS by 2011 Wisconsin Act 10 and 2011 Wisconsin Act 32, the 2011-13 Biennial Budget Act, and included:

- prohibiting most employers from paying the participant's share of retirement contributions;
- reducing future retirement benefits for certain elected and executive officials;
- increasing the minimum eligibility level for participation in the WRS; and
- establishing a five-year vesting period for participants hired on or after July 1, 2011.

Funded Status

The WRS remains a well-funded public pension plan.

The funded status of a public pension plan represents the amount of assets the system has accumulated relative to the estimated liabilities for the retirement benefits earned by its participants. The WRS reports its funded status based on two measures. One measure is the ratio of the fair value of its assets to its liabilities, which was reported as 93.4 percent funded as of December 2011. This measure improved to 102.9 percent funded as of December 2012 and 105.3 percent as of December 2013. Because of the fluctuations inherent in the use of fair value of assets, a second measure of funded status is based on the actuarial value of assets, which spreads the effects of investment returns over a five-year period. This funding value ratio was consistently 99.9 percent from 2011 through 2013. According to these measures, the WRS remains a well-funded plan, particularly in comparison to other state public pension plans.

In 2003, the State issued appropriation bonds to eliminate the State's $705.1 million WRS unfunded liability balance.

Some employers have unfunded liability balances stemming from when the employer joined the WRS or from benefit improvements that applied due to changes in laws. Some employers, including the State, have taken on separate pension-related debt to pay off their unfunded liability balances because the debt carried a lower interest rate than that charged by the WRS. For example, in December 2003, the State issued General Fund appropriation bonds to eliminate its WRS unfunded liability balance of $705.1 million.

Mature Public Pension Plan

The WRS, which was created more than 30 years ago, is considered a mature public pension plan and is experiencing an expected increase in the number of retired participants. The number of retired participants increased by 42.7 percent and the number of active participants declined by 3.0 percent from 2004 to 2013, as shown in Table 1.

Table 1

WRS Participants

Type of Participant	December 2004	December 2013	Percentage Change
Active	264,600	256,788	(3.0)%
Retired	126,211	180,056	42.7
Inactive[1]	129,955	157,761	21.4
Total	**520,766**	**594,605**	14.2

[1] An inactive participant is a former active participant who has not yet taken a benefit from his or her retirement account.

As a result of an increase in retired participants, total benefit payments paid to retired participants increased from nearly $2.7 billion in 2003 to $4.2 billion in 2012, or by 55.6 percent. As anticipated for a mature pension plan, investment income is increasingly needed to fund benefit payments for retired participants. We note that the WRS's investment returns have been sufficient to continue the overall growth in WRS assets as well as meet cash flow needs. SWIB's performance and effectiveness in managing WRS assets is important to the solvency and long-term future of the WRS.

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Investment Performance of the Wisconsin Retirement System ■

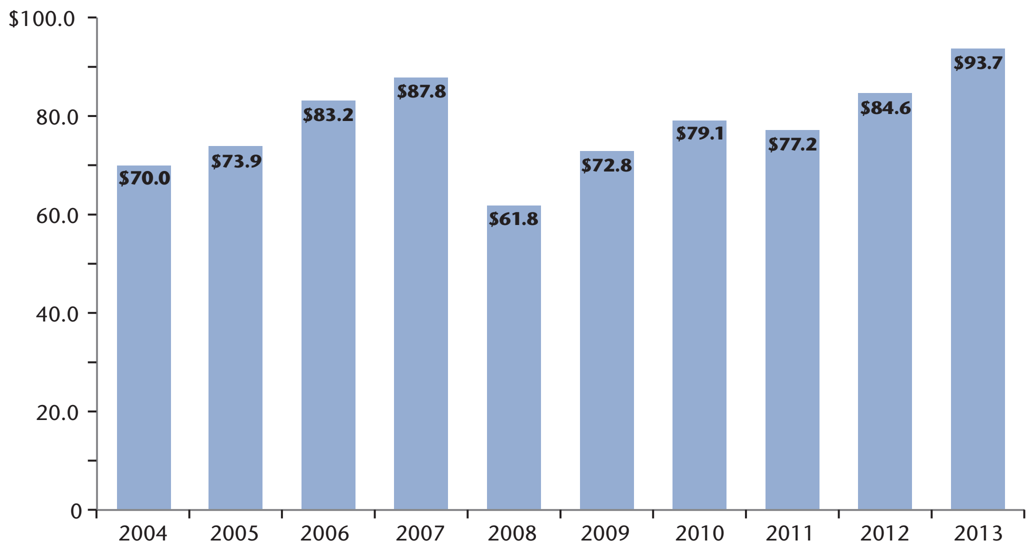
The basic investment objective of the WRS is to invest contributions paid by employers and participants so that the investment income will be sufficient to pay projected future benefits. In addition, investment income affects contribution rates paid by employers and participants. As a result, SWIB and ETF regularly work with an actuary to assess the expected rate of return on investments, known as the investment return assumption, in consideration of changes to investment strategies and actual investment returns.

As of December 2013, the WRS investments were $93.7 billion.

WRS investments, which totaled $70.0 billion as of December 2004, increased to $93.7 billion as of December 2013, or by 33.9 percent. However, overall growth does not necessarily indicate how well investments are being managed or whether an effective investment strategy has been developed and implemented. Market volatility and external events can affect investment income and the rate at which assets grow. For example, investment markets were greatly affected by the economic recession that occurred between December 2007 and June 2009. As shown in Figure 7, WRS investments have increased steadily since 2011 and exceeded pre-recession investments as of December 2013.

Figure 7

WRS Investments
As of December
(in billions)



Aside from overall asset growth, factors such as liquidity, the cash flow needs of a mature public pension plan, risk tolerance, and reliance on external investment advisors each affect the development of an investment strategy. Therefore, to evaluate SWIB's performance, we compared the one-, three-, five-, and ten-year investment returns of the WRS to benchmarks established by the Board of Trustees and to the investment returns of other large public pension plans.

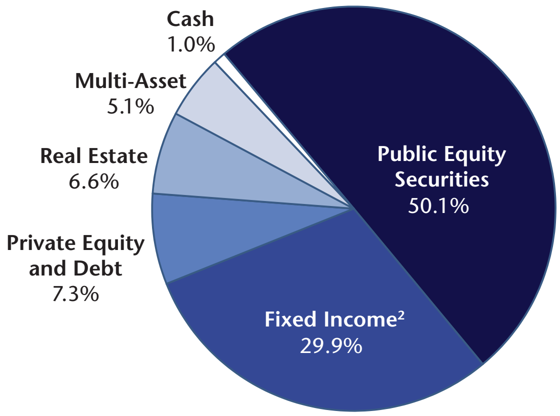
Fund Composition

The assets of the Core Fund are allocated and diversified among a number of types of investments, and the Variable Fund is invested primarily in public equity securities.

As of December 2013, the assets of the Core Fund were allocated among a number of types of investments. As shown in Figure 8, just over one-half of investments in the Core Fund were in public equity securities, which include stock that provides an ownership interest. Public equity securities include investment in both domestic and international companies. To enhance diversification of the Core Fund, the remaining assets were invested among other investments, such as fixed income, private market, and real estate. As statutorily required, the Variable Fund was invested primarily in public equity securities.

Figure 8

Asset Allocation for the Core Fund[1]
December 2013



[1] Excludes overall leverage of the Core Fund, which is described in the Core Fund Investment Strategies chapter.

[2] Includes inflation protection securities totaling 6.1 percent of the Core Fund.

Performance Relative to Benchmarks

SWIB measures the performance of its investment returns against industry benchmarks.

SWIB uses benchmarks to measure the performance of WRS investments. It establishes benchmarks each year for the Core Fund and Variable Fund, as well as for each asset class and investment portfolio. Whenever possible, SWIB's benchmarks are based on industry-recognized indices and SWIB attempts to exceed these benchmarks annually and for three-, five-, and ten-year periods. For example, one such benchmark is the Russell 1000, which tracks the performance of the 1,000 largest U.S. equity securities and represents approximately 90 percent of the U.S. equity market. Each benchmark is approved by the Board of Trustees with the guidance of its benchmarking consultant. SWIB focuses primarily on the five-year investment return to assess the success of its management strategies for the Core Fund and to determine staff bonuses.

The investment performance of the Core Fund and Variable Fund has frequently met or exceeded benchmarks.

As shown in Table 2, the investment performance of the Core Fund met or exceeded each benchmark from 2010 to 2013. With the exception of the ten-year return through 2011, which was slightly lower than the investment benchmark, the investment performance of the Variable Fund also met or exceeded each benchmark from 2010 to 2013.

Table 2

Investment Performance Relative to Benchmarks[1]
For Periods Ending in December

Period	Core Fund Investment Benchmark	Core Fund Average Annual Investment Return	Variable Fund Investment Benchmark	Variable Fund Average Annual Investment Return
One-Year				
2010	12.2%	12.4%	15.3%	15.6%
2011	0.9	1.4	(3.6)	(3.0)
2012	12.8	13.7	16.7	16.9
2013	12.9	13.6	28.0	29.0
Three-Year				
2010	0.4%	0.5%	(2.4)%	(2.0)%
2011	10.7	11.7	13.6	14.4
2012	8.5	9.0	9.1	9.4
2013	8.7	9.4	12.9	13.5
Five-Year				
2010	4.9%	5.0%	3.2%	3.2%
2011	2.3	2.3	(0.8)	(0.7)
2012	2.8	3.2	0.9	1.3
2013	11.6	12.5	17.0	17.7
Ten-Year				
2010	5.3%	5.6%	2.8%	3.1%
2011	5.9	6.0	3.9	**3.7**
2012	8.1	8.4	7.9	8.0
2013	7.1	7.4	7.5	7.6

[1] Investment returns that did not meet benchmarks are in **bold.**

Because losses from 2008, which were 26.2 percent for the Core Fund and 39.0 percent for the Variable Fund, are no longer reflected in the five-year period, the investment returns for both the Core Fund and Variable Fund increased significantly in 2013. The average annual five-year investment returns as of December 2013 were 12.5 percent for the Core Fund and 17.7 percent for the Variable Fund.

The one-year investment return was 13.6 percent for the Core Fund and 29.0 percent for the Variable Fund for 2013. Appendix 2 includes one-year investment returns for the Core Fund and Variable Fund since 1982. The investment performance of the Core Fund has met or exceeded each one-year benchmark since 2009, and investment performance of the Variable Fund has met or exceeded each one-year benchmark since 2008.

With the exception of the private equity class in 2012 and the multi-asset class in 2013, one-year investment returns for all asset classes met or exceeded benchmarks during 2012 and 2013.

Appendix 3 compares the investment performance of each Core Fund asset class, or group of similar investments, to benchmarks for each one-, three-, five-, and ten-year period from 2010 through 2013. Five of the six asset classes met or exceeded their respective one-year benchmarks during 2012 and 2013. In 2012, the one-year investment return for the private equity asset class did not meet its benchmark, which SWIB attributed to losses sustained from its decision to concurrently liquidate several large private equity investments to enable it to focus on smaller private equity investments. In 2013, the multi-asset class one-year investment return did not meet its benchmark. We further review the recent investment performance of the multi-asset class in the Core Fund Investment Strategies chapter.

As of December 2013, all asset classes met the three-year benchmark returns and, with the exception of real estate, all asset classes met the five-year and ten-year benchmarks. SWIB staff attributed lower investment returns for the real estate asset class relative to the benchmark to losses in two investment strategies when these strategies had not been comparatively reflected in the benchmark.

Comparison to Other Public Pension Plans

To assess the relative performance of SWIB's investment strategies and asset allocation decisions, we have compared the investment performance of the Core Fund to other large public pension plans since 2001. We note that comparisons among these other large public pension plans are affected by differences in cash flow needs, asset mixes, investment styles, risk tolerance levels, and statutory or other restrictions on allowable investments. Comparisons are also affected by the option offered to WRS participants through the Variable Fund, which is unique among public pension plans.

The five-year investment return for the Core Fund ranked fourth among the ten public pension plans we compared.

Table 3 shows average annual investment returns for the Core Fund and nine other public pension plans for the one-, three-, five-, and ten-year periods ended in December 2013. The five-year investment return for the Core Fund, which is SWIB's primary performance measure used to assess the success of its management strategies, ranked fourth among the ten public pension plans. With an average annual investment return of 7.4 percent, the Core Fund ranked fifth in the ten-year investment returns, which ranged from 6.9 percent to 8.5 percent among the ten public pension plans we compared.

Table 3

Comparison of Average Annual Investment Returns Among Selected Public Pension Plans
For Periods Ending in December 2013

	One-Year		Three-Year		Five-Year		Ten-Year	
Public Pension Plan	Return	Rank	Return	Rank	Return	Rank	Return	Rank
Wisconsin Retirement System—Core Fund	**13.6%**	**7**	**9.4%**	**7**	**12.5%**	**4**	**7.4%**	**5**
Minnesota State Board[1]	20.6	1	11.9	1	14.2	1	8.5	1
Florida State Board	16.9	2	9.9	4	12.7	2	7.2	7
Ohio Public Employees Retirement System[1,2]	14.7	4	9.9	4	12.6	3	7.5	3
Teachers Retirement System of Texas	12.1	8	9.1	9	12.4	5	6.9	10
Virginia Retirement System[1]	14.3	6	9.3	8	11.9	6	7.5	3
New Jersey Division of Investments	14.6	5	9.7	6	11.6	7	7.1	9
California Public Employees Retirement System[1]	11.0	9	10.4	3	11.3	8	7.2	7
Pennsylvania Public School Employees' Retirement System[1]	9.1	10	8.5	10	10.5	9	7.3	6
Washington State Investment Board[1]	15.0	3	10.5	2	10.3	10	8.5	1

[1] Returns originally provided are net of costs because gross returns were not available. To better compare these net returns with the gross returns provided by the other pension plans, the net returns have been increased by 0.35 percent for each period to account for an approximation of the annual costs paid by these funds.

[2] The Ohio Public Employees Retirement System replaces the New York State Teachers Retirement System, which had been included in prior comparisons.

Both the one- and three-year investment returns for the Core Fund ranked seventh among the ten public pension plans we compared.

The relative performance of the Core Fund for the one- and three-year returns ranked seventh in 2013. One reason that the one-year investment return of the Core Fund ranked lower than other plans was that it had allocated fewer assets to public equity securities, which performed well in 2013. The Minnesota State Board and Florida State Board had the highest one-year investment returns and the highest allocation to public equity securities.

We further compared the 2013 ranking for the Core Fund to a similar comparison of large public pension funds that we completed in 2009. As shown in Table 4, the five-year investment return for the Core Fund was ranked fourth among the ten public pension plans we compared in 2009 and in 2013. However, the rankings of Core Fund investment returns for all other periods in 2013 were lower than the ranking of the Core Fund investment returns in 2009.

Table 4

Investment Return Ranking of the Core Fund[1]
2009 and 2013

Period	2009 Comparison	2013 Comparison[2]
One-Year	1	7
Three-Year	2	7
Five-Year	4	4
Ten-Year	2	5

[1] Rank among ten large public pension plans.

[2] The Ohio Public Employees Retirement System replaces the New York State Teachers Retirement System for the 2013 comparison, which had been included in the comparison we performed in 2009.

Recent Performance Relative to Actuarial Expectations

The WRS actuary bases retirement contribution rates on the investment return assumption.

In addition to the industry-recognized benchmarks, SWIB is also concerned with meeting the long-term investment return assumption for the Core Fund established by the WRS's consulting actuary in conjunction with SWIB and ETF. The WRS actuary bases retirement contribution rates for employers and participants on the investment return assumption. A higher investment return assumption will generally result in lower contribution rates, although if the assumption is established too high, the assets accumulated may be insufficient to meet benefit payments when current participants retire, often several decades in the future. As a result, the investment return assumption typically involves a longer time period, such as 20 to 30 years, compared to the periods SWIB uses to monitor and evaluate investment performance.

From 1992 through 2003, the investment return assumption for the Core Fund was 8.0 percent, which was expected to be the average annual return over a participant's years of service, which could be from 20 to 30 years. As of December 2003, the actuary recommended a reduction in the investment assumption to 7.8 percent. In report 10-14, we questioned whether SWIB's 10-year return of 4.3 percent in 2009 continued to support a 7.8 percent investment return assumption. Based on an October 2010 recommendation from SWIB that ETF consider reducing the investment return assumption, and a recommendation from the WRS actuary, the ETF Board approved a reduction in the investment return assumption to 7.2 percent in March 2011. Other large pension plans have also reduced investment return assumptions.

From the inception of the WRS in 1982 and through 2013, the average annual investment return was 10.5 percent for the Core Fund and 10.7 percent for the Variable Fund, both of which exceeded the current investment return assumption of 7.2 percent. Similarly, the average annual ten-year investment returns of the Core Fund and the Variable Fund, which were 7.4 percent and 7.6 percent respectively, also exceeded the investment return assumption as of December 2013. Despite meeting the investment return assumption over these time periods, the Core Fund and Variable Fund did not meet the investment return assumption over a 15-year investment period.

WRS contribution rates for general participants increased from 11.0 percent in 2010 to 14.0 percent in 2014.

The investment losses from the recession have resulted in higher retirement contribution rates for employers and participants and lower benefit payments for most retired participants in the last several years. For example, total WRS contribution rates for general participants have increased in each of the past five years, from 11.0 percent in 2010 to 14.0 percent in 2014. We note that WRS contribution rates approved for general participants will decline in 2015.

In addition, most retired participants invested in the Core Fund received reductions in benefit payments from 2009 through 2013, with annual reductions ranging from 1.2 percent to 9.6 percent. Retired participants invested in the Variable Fund have also received reductions in two of the past six years, including reductions of up to 42.0 percent in 2009. Appendix 4 includes investment returns and benefit payment adjustments since 1999. We note that not all retired participants received maximum reductions. The portion of retired participant benefit payments from the Core Fund cannot be reduced below the base benefit payment they received upon retirement because subsequent reductions apply only to increases received in prior years.

As SWIB develops its investment strategy, investment objectives that result both in high investment returns and the consistency of those returns will be important to minimizing contribution rate increases for employers and participants and reductions in benefit payments for retired participants.

■ ■ ■ ■

Changes in the Core Fund Asset Allocation Plan
Core Fund Leverage
Multi-Asset Investments
Monitoring the 2010 Core Fund Asset Allocation Plan

Core Fund Investment Strategies ■

The Board of Trustees adopted a new Core Fund asset allocation plan in 2010 with the objective of reducing the volatility of Core Fund investment returns. SWIB has begun decreasing Core Fund investments in more volatile public equity securities, increasing investments in asset classes that are expected to be less volatile, and enhancing the diversification of the Core Fund. Because the 2010 Core Fund asset allocation plan has not yet been fully implemented, it is too soon to definitively determine whether the plan has achieved its objective. Once fully implemented, it will be important for SWIB to carefully monitor the results of the 2010 asset allocation plan under various market conditions in future years.

Changes in the Core Fund Asset Allocation Plan

From the inception of the WRS, the Board of Trustees has made changes in the types of investments based on changing market conditions. For example, SWIB began investments in international equities and international fixed income in the 1990s. In the early 2000s, investments in Wisconsin private equity and private debt were first established. However, because statutes generally enumerated permitted investments, SWIB was restricted from adopting certain investment strategies. SWIB's authority to invest WRS assets was significantly increased by 2007 Wisconsin Act 212, which authorized SWIB to manage the WRS assets "in any manner" that does not violate its fiduciary responsibilities and meets the statutory requirement that the Variable Fund invest primarily in equity securities.

In response to both 2007 Wisconsin Act 212 and the economic recession that occurred between December 2007 and June 2009, SWIB considered strategies to reduce volatility in Core Fund investment returns. According to SWIB and its consultants, approximately 90 percent of the volatility in Core Fund returns at that time was attributed to investments in public equity securities, which could result in large swings in Core Fund investment returns.

SWIB developed a new Core Fund asset allocation plan in 2010 to reduce volatility in investment returns.

In January 2010, the Board of Trustees adopted a new Core Fund asset allocation plan that was expected to be implemented over three years. The objective of the plan was to reduce Core Fund volatility while generating sufficient investment income to meet the investment return assumption established for the WRS. The 2010 asset allocation plan included reductions in investments in public equity securities, and the use of leverage to increase diversification and assets allocated to investments with less volatility. With this objective, the leverage component of the asset allocation plan of the Core Fund involves using certain financial securities to essentially "borrow" funds to be able to purchase more investments with the borrowed funds.

Multi-asset investments commingle investments in multiple asset classes with the objective of diversifying Core Fund assets.

The 2010 asset allocation plan also called for increased investments in multi-asset strategies, such as hedge funds and other investments in which investment returns may differ from those of equity securities. Multi-asset strategies are those that may commingle investments in multiple asset classes within the same portfolio with the objective of diversifying the Core Fund assets and generating investment returns that are less volatile because of this unique mix of investments. For example, multi-asset strategies include hedge funds, which are investment allocations overseen by an external fund manager who seeks to maximize investment returns through specialized active management strategies. Hedge funds often hold a variety of investments, such as equity securities, fixed income securities, and derivative investments, depending on the strategy used by the external fund manager.

SWIB acknowledges that there are risks to the 2010 asset allocation plan for the Core Fund, such as the potential to underperform in periods of rising interest rates, increased complexity, and potentially higher costs. One way in which SWIB is addressing these risks is to implement the plan more slowly than the three years that was initially expected. In addition, portions of the plan remain subject to modification and periodic approval by the Board of Trustees. Because SWIB continues to implement portions of the 2010 asset allocation plan for the Core Fund, and because other portions are still under consideration, several more years of performance may be necessary to fully assess the success of the plan.

Core Fund investments in public equity securities have declined in recent years.

SWIB has begun reducing Core Fund investments in public equity securities. Although SWIB allocated two-thirds of Core Fund assets to public equity securities in 2003, approximately one-half of assets were allocated to these securities in 2013. SWIB's decision to decrease investments in public equity securities in recent years was similar to decisions made by other public pension plans. For example, an investment consultant's review of the asset allocations for state public pension plans found that these plans have, on average, decreased investments in domestic public equity securities by 10.0 percent from 2008 through 2013.

During this same period, SWIB increased Core Fund assets allocated to fixed income, treasury inflation protection securities (TIPS), and multi-asset investments. TIPS are indexed to inflation to protect investors from the negative effects of inflation and are considered low-risk because they are backed by the federal government. The Core Fund has held investments in TIPS for many years. However, prior to 2010 these investments were included as part of the fixed income asset allocation. SWIB established a specific asset allocation target for TIPS beginning in 2010.

The actual Core Fund asset allocation has not yet reached the targets established in 2010.

Table 5 shows SWIB's expected target allocations for the Core Fund under the 2010 asset allocation plan and recent changes in the actual asset allocation of the Core Fund. Beginning in 2012, the allocation totals have exceeded 100 percent because the plan includes a leverage component for overall Core Fund assets. However, SWIB has moved more slowly so that its current use of leverage during 2013 fell short of the 20.0 percent targeted for the asset allocation plan for the Core Fund.

Table 5

Asset Allocation of the Core Fund
As of December

Asset Class	Actual 2009	2010[1]	2011	2012	2013	2010 Target
Public Equity Securities	57.1%	55.1%	50.0%	49.3%	50.5%	44.0%
Fixed Income	25.3	26.5	26.3	25.6	26.3	36.0
Inflation Protection[2]	3.2	3.1	4.6	7.0	7.1	20.0
Private Equity and Debt	6.7	7.5	8.3	7.6	7.3	7.0
Real Estate	4.0	4.5	6.2	6.8	6.6	7.0
Multi-Asset	3.3	2.6	3.9	4.5	5.1	6.0
Cash	0.4	0.7	0.7	1.0	1.0	0.0
Allocation Totals[3]	**100.0%**	**100.0%**	**100.0%**	**101.8%**	**103.9%**	**120.0%**

[1] Year in which asset allocation plan was first approved.

[2] Includes primarily treasury inflation protection securities (TIPS).

[3] Beginning in 2012, totals exceed 100 percent due to SWIB's overall leverage of Core Fund assets.

Core Fund Leverage

The asset allocation methodology SWIB adopted uses leverage to reduce volatility in Core Fund investment returns and includes borrowing funds to increase the allocation to less volatile investments. When the plan was approved in 2010, it was criticized by some because it may under perform other asset classes when interest rates are increasing. However, leverage has been used by both SWIB and other public pension plans in securities lending programs and investments in private equity and real estate. To address such concerns, the Board of Trustees hired a consultant in 2010 to further analyze alternatives for reducing investment risks while maintaining investment returns. The consultant concluded that a strategy involving a moderate use of leverage could help SWIB achieve its objective.

Although leverage is risky, SWIB believes its use of leverage is fairly modest and that the benefits outweigh the risks.

SWIB began implementing leverage in April 2012 after contracting with an external manager to help execute this strategy. As of December 2013, the total value of Core Fund assets that were leveraged was 3.9 percent, for an overall leverage ratio of 1.039-to-1. Although leverage is risky because it can increase the magnitude of investment losses, SWIB believes its use of leverage is fairly modest and that the benefits outweigh the risks. For purposes of comparison, a typical home mortgage with a 20 percent cash payment at the time of purchase is leveraged at a ratio of 5-to-1.

Rising interest rates resulted in estimated losses of $65.0 million in SWIB's use of leverage during 2013 and has slowed implementation of this strategy.

Rising interest rates in 2013 resulted in losses for the assets in which SWIB used borrowed funds to invest as part of its leverage strategy. As a result, the leverage component of the 2010 asset allocation plan for the Core Fund lost an estimated $65.0 million, or 10.8 percent, during 2013. SWIB staff indicated that rising interest rates were a decisive factor in slowing implementation of the leverage component of the asset allocation plan. However, SWIB continues to implement the leverage component so that the leverage target of the Core Fund will be in place when market conditions become more favorable to the strategy. SWIB currently projects that Core Fund leverage will increase to 6.0 percent of assets during 2014 and may reach 20.0 percent in 2016. SWIB staff plan to review market conditions and revisit the strategy with the Board of Trustees prior to increasing leverage higher than 10.0 percent of assets. Based on WRS investments as of December 2013, SWIB estimates that its target of 20.0 percent leverage would require an allocation of $4.9 billion in assets to this strategy. Although SWIB is proceeding slowly and believes its use of leverage is fairly modest, as more assets are dedicated to this strategy there is a potential risk for larger investment losses under certain market conditions.

Multi-Asset Investments

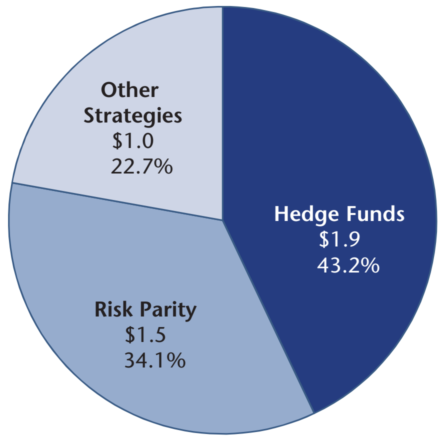
Multi-asset class investments are expected to diversify Core Fund assets.

Since 2005, SWIB has invested a portion of Core Fund assets within a broad category of "multi-asset" investments, which are expected to increase diversification of the overall fund by distributing assets to a variety of investments. Multi-asset portfolios typically involve commingling investments from across various asset classes with the objective of earning more consistent investment returns over time. Although the multi-asset investments could generate comparatively lower investment returns than investments in public equity securities, they are also anticipated to safeguard against large negative investment returns. As was shown in Table 5, increases in multi-asset investments in the Core Fund since 2011 reflect changes resulting from SWIB's implementation of the 2010 Core Fund asset allocation plan.

As of December 2013, investment in the multi-asset classification totaled $4.4 billion, or 5.1 percent of Core Fund assets. These investments increased 72.1 percent in the past five years, largely from SWIB's new investments in hedge funds. As of December 2013, hedge fund assets totaled nearly $1.9 billion and accounted for 43.2 percent of the multi-asset investments of the Core Fund, as shown in Figure 9.

Figure 9

Core Fund Multi-Asset Investments
As of December 2013
(in billions)



SWIB also implemented two externally managed portfolios that directly invest using a risk parity strategy, which involves investing in a "basket" of securities by targeting a proportionate share of securities in various asset classes based on their volatility in producing investment returns. As of December 2013, these portfolios included investments totaling $1.5 billion and accounted for 34.1 percent of the multi-asset investments of the Core Fund. In addition, $1.0 billion was invested in various portfolios, each with specific diversification objectives, which accounted for 22.7 percent of the multi-asset investments of the Core Fund.

Hedge Fund Investments

External managers of hedge funds seek to maximize investment returns through specialized active management strategies.

As noted, a hedge fund is an investment allocation provided to an external fund manager who seeks to maximize investment returns through specialized active management strategies. An external fund manager oversees and is responsible for investment decisions. SWIB anticipated that establishing hedge fund investments would further diversify the assets of the Core Fund and could result in increased consistency of Core Fund investment returns over time.

Prior to 2007 Wisconsin Act 212, statutes limited SWIB's ability to invest in certain investments typically used by hedge funds. Hedge fund investments may have higher management costs because they can include both a base fee of up to 2.0 percent of assets managed and a performance fee of up to 20.0 percent. Hedge funds may include risk because some funds pursue aggressive investment strategies that are less regulated than many other types of investments. SWIB contracts with a consultant to attempt to identify high-quality hedge fund managers and evaluate each manager's performance. We note that other large public pension plans also invest in hedge funds. For example, seven of the other nine public pension plans in the Core Fund's peer group shown in Table 3 reported investments in hedge funds.

As of December 2013, hedge fund investments totaled $1.9 billion, or 2.2 percent of Core Fund assets.

SWIB invested in its first hedge fund in early 2011 and, as of December 2013, was invested in 14 hedge funds, totaling $1.9 billion, or 2.2 percent of Core Fund assets. In February 2014, SWIB added an additional hedge fund investment, and it is anticipated that SWIB may continue to increase both the number of hedge funds and Core Fund assets invested in hedge funds in future years. In selecting hedge funds, SWIB has focused on investing in a well-diversified mix of hedge funds that employ a variety of strategies intended to earn returns without being highly correlated to traditional asset classes.

As of December 2013, the three-year hedge fund average annual investment return of the Core Fund was 3.1 percent, which was above the established benchmark of 2.7 percent.

As shown in Table 6, the aggregated one-year investment returns for hedge funds in the Core Fund were mixed, lagged the benchmark in 2012, and exceeded it in 2013. In 2013, individual hedge fund investment returns ranged from negative 11.2 percent to positive 15.8 percent. As of December 2013, the three-year average annual investment return for hedge funds was 3.1 percent relative to a benchmark of 2.7 percent.

Table 6

Hedge Fund Investment Returns[1]
As of December

One-Year	Investment Benchmark	Investment Return
2011	(4.3)%	(1.6)%
2012	6.5	**4.1**
2013	6.3	6.6

[1] Returns may represent less than one year depending on when investments were made to specific hedge fund managers. Investment returns are reported net of fees. Investment returns that did not meet benchmarks are in **bold.**

SWIB expects investment returns of hedge funds to move with little correlation to those of public equity securities. SWIB further expects that hedge fund investment returns over the long-term would likely outperform the fixed income asset class but may underperform the public equity asset class. As a result, SWIB established a long-term objective target for hedge funds that focuses on more than only industry benchmarks. SWIB's target for hedge fund investment returns is 3.5 percent over the standard rate lenders can earn on cash when lending to other banks. As of December 2013, SWIB's established target was 3.7 percent, which is consistent with the three-year investment return for hedge fund investments of 3.1 percent. We note that this investment return was lower than both the three-year investment returns of public fixed income and public equity asset classes based on the short-term results of SWIB's investment in hedge funds.

Risk Parity Portfolios

Risk parity investment strategies also use leverage in an attempt to produce investment returns that are balanced across different asset classes.

In January 2011, SWIB established two externally managed risk parity portfolios that are expected to provide a "fund-like" return with less volatility from year to year. As of December 2013, the risk parity portfolios totaled $1.5 billion, or 1.7 percent of Core Fund assets and the portfolios largely held public equity and fixed income securities. These portfolios also use leverage in an attempt to produce investment returns that are balanced across different asset classes to further diversify the Core Fund.

When the Board of Trustees established risk parity portfolios in 2011, such strategies were not widely utilized by large public pension plans. In recent years, the number of large public pension plans establishing risk parity portfolios has increased. Of the public pension plans in the Core Fund's peer group shown in Table 3, three have established risk parity portfolios since 2011. For example, in 2013 the Ohio Public Employees Retirement System established an allocation of 2.0 percent of its defined benefit pension plan to risk parity investments, and it increased the allocation to 5.0 percent in 2014.

SWIB's benchmark for the risk parity portfolios in the Core Fund includes a combination of the public markets asset class benchmarks. However, because SWIB has held its risk parity portfolios for only three years, it is difficult to fully assess the success of this strategy. As shown in Table 7, the initial performance of the portfolios is mixed. For example, the risk parity portfolios in the Core Fund significantly exceeded the benchmark in 2011 when investment returns of the public markets asset class were not strong, and the risk parity investment performance also exceeded that of the public markets asset class investment returns in 2012 when those returns were strong.

Table 7

Risk Parity Investment Returns[1]
As of December

One-Year	Investment Benchmark	Investment Return
2011	(1.4)%	12.2%
2012	13.0	15.4
2013	14.6	**(2.3)**

[1] Investment returns that did not meet benchmarks are in **bold.**

As of December 2013, the three-year combined risk parity investment return of the Core Fund was 8.2 percent relative to an investment benchmark of 8.5 percent.

However, the combination of SWIB's risk parity portfolios holding fewer securities in the public equity asset class that performed well and holding more investments in asset classes that performed poorly contributed to 2013 performance that significantly lagged the benchmark for the public markets asset classes. The combined three-year return for the risk parity portfolios was 8.2 percent, relative to the benchmark of 8.5 percent. Although SWIB did not expect that the performance of the risk parity portfolios would mirror investment returns of the Core Fund, the experience of the portfolios over the first three years indicates that continued scrutiny of the strategy is warranted.

Monitoring the 2010 Core Fund Asset Allocation Plan

Because the 2010 Core Fund asset allocation plan has not been fully implemented and has not been in place long enough to be evaluated over a variety of market scenarios, it is too soon to definitively determine whether the plan has achieved its objective of reducing Core Fund volatility while generating sufficient investment income to meet the investment return assumption. SWIB remains committed to implementing the plan because it believes the plan will be well suited to a variety of future market conditions once it is fully implemented.

It will be important for SWIB to carefully monitor the results of the 2010 asset allocation plan under various market conditions in future years. SWIB will need to determine whether investment returns are sufficient to meet the long-term investment return assumption and whether the consistency of those investment returns have the desired effect of stabilizing contribution rates and benefit payment adjustments for retired participants.

In recent years, SWIB has taken steps to improve its ability to monitor the asset allocation plan of the Core Fund, including the leverage component. In 2009, SWIB contracted with a consultant to review its current operations and processes and the adequacy of SWIB's existing information systems. The results of the review recommended improvements to continue to support, modernize, and monitor its investment capabilities. As SWIB implemented new components of the 2010 asset allocation plan, it has also made organizational changes, added additional staffing, and is implementing a new information system.

SWIB is planning to implement a new information system in the next several years at an estimated cost of $48 million.

SWIB's new enterprise investment management system is expected to be implemented in several phases over the next three to four years at an estimated cost of $48 million. The project is expected to enhance SWIB's performance and analytical capabilities through the integration of investment data with operations, accounting, and compliance activities. According to SWIB, an additional $5 billion in assets may be internally managed in future years as a result of the system's capabilities.

Because of its plans to implement this new system, SWIB will not implement the financial systems currently under development by the Department of Administration (DOA). DOA's State Transforming Agency Resources (STAR) project is expected to implement applications that would be needed to integrate the State's budget preparation, accounting, cash management, procurement, human resources, and payroll systems for all state agencies. However, it is anticipated that SWIB's financial information will be interfaced with the STAR project systems, once implemented.

SWIB is required to report on its investment goals, long-term investment strategies, and risks as part of an annual report to the Legislature and to submit changes it has adopted in its investment policies and guidelines to specified legislative committees. Including additional information in that report on key components of the asset allocation plan for the Core Fund and SWIB's progress in implementing a new information system will be important as changes are made in these areas.

☑ Recommendation

We recommend the State of Wisconsin Investment Board:

- *report on its progress towards full implementation of the 2010 Core Fund asset allocation plan and any changes to the plan's target percentages for each asset class and overall leverage;*

- *report on specific investment results of the overall leverage, hedge funds, and risk parity components of the 2010 Core Fund asset allocation plan;*

- *report on the status, costs, and implementation timeline for its new enterprise investment management system; and*

- *include this information in its next annual report, which is required by s. 25.17(14m), Wis. Stats., to be submitted to the Legislature by March 31, 2015.*

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Wisconsin Investments ■

SWIB invests in Wisconsin through investments in stock and bonds issued by publicly traded companies; private equity and private debt portfolios; the State Investment Fund, which purchases certificates of deposit (CDs) issued by Wisconsin banks and thrift institutions; and real estate investments. The Wisconsin private equity portfolio makes venture capital investments in companies primarily in Wisconsin and the midwest, and SWIB has increased funding available to such investments in recent years.

Overview of Wisconsin Investments

As of June 2013, SWIB reported investments totaling $682.6 million in companies with headquarters or a significant presence in Wisconsin.

As of June 2013, and as shown in Table 8, SWIB reported investments totaling $682.6 million in companies with headquarters or a significant presence in Wisconsin, which SWIB defines as companies with at least 30 percent of their operations in Wisconsin. SWIB reported investing an additional $14.9 billion in companies with headquarters outside of Wisconsin but with 20 or more Wisconsin employees.

Table 8

Investments in Companies with Headquarters or a Significant Presence in Wisconsin[1]
As of June 2013
(in millions)

Asset Class	Amount
Public Equities and Fixed Income	$391.8
Private Debt and Equity	253.6
State Investment Fund (CDs)	25.8
Real Estate	11.4
Total	**$682.6**

[1] SWIB defines significant presence as a company with at least 30 percent of its operations in Wisconsin.

Source: SWIB's *2014 Goals, Strategies and Performance Report*

As of June 2013, SWIB held most of its investments in Wisconsin within various public equity and fixed income portfolios. Two private market portfolios with a Wisconsin emphasis—the Wisconsin private debt portfolio and the Wisconsin private equity portfolio—held investments in companies with headquarters or a significant presence in Wisconsin that were valued at $253.6 million as of June 2013. The Wisconsin private debt portfolio provides long-term, fixed-rate, and subordinated loans to companies that are headquartered, operate, or intend to invest proceeds in Wisconsin and that can demonstrate the ability to repay their debt. The Wisconsin private equity portfolio invests in venture capital funds and companies primarily in Wisconsin and the midwest.

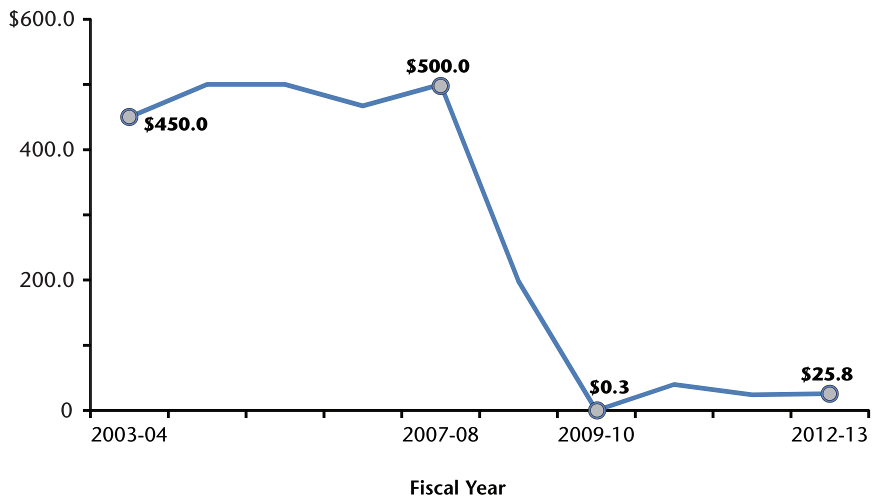
The State Investment Fund held $25.8 million in CDs issued by Wisconsin banks and thrift institutions. All of the CDs have been issued through SWIB's Wisconsin Program, which was implemented in 1987 and was designed to allow SWIB to earn a competitive rate of return while providing local financial institutions with access to capital. More than 140 state banks and thrift institutions have participated in the program.

State Investment Fund CDs purchased through the Wisconsin Program have declined significantly.

In 2008, SWIB eliminated the State Investment Fund investments in commercial paper because of solvency concerns. Subsequently, SWIB also reduced the amount of CDs purchased through the State Investment Fund's Wisconsin Program. For example, as shown in Figure 10, the value of CDs in the State Investment Fund was approximately $500.0 million from FY 2003-04 through FY 2007-08, but declined to $290,000 in FY 2009-10.

Figure 10

Certificates of Deposits Purchased through the Wisconsin Program
(in millions)



SWIB also invested $11.4 million in Wisconsin real estate as of June 2013. These investments include its own office building in downtown Madison, which was purchased in 2003, and investments in three small commercial lots located on the west side of Madison.

Wisconsin Private Debt Portfolio

As noted, the Wisconsin private debt portfolio provides long-term, fixed-rate, and subordinated loans to certain types of companies. The objective of the portfolio is to provide loans to companies that contribute to Wisconsin's economy and provide investment returns consistent with SWIB's fiduciary responsibility. Consequently, the companies must meet the same criteria used by SWIB to evaluate companies outside of Wisconsin. Further, SWIB policies require that the interest rate and other loan terms negotiated with the companies reflect current market rates. These loans, which individually vary in dollar amount up to $22.0 million, are typically used by the companies to replace existing debt, make capital improvements, purchase facilities, or perform other expansion activities.

According to SWIB policies, up to 15 percent of the portfolio may be loans to companies headquartered in, or doing a significant amount of business in, Illinois, Iowa, Minnesota or Michigan. As of December 2013, 6.5 percent of the portfolio's outstanding loans were with three companies headquartered or with a significant presence in Illinois and Michigan.

The Wisconsin private debt portfolio exceeded all of its investment benchmarks in 2013.

As of December 2013, the Wisconsin private debt portfolio was valued at nearly $406.7 million and included 61 loans with 45 different companies. The top ten borrowers had outstanding loans ranging from $13.0 million to $27.0 million that represented 46.0 percent of the portfolio as of December 2013. As shown in Table 9, the portfolio had relatively strong performance, exceeding all of its benchmarks as of December 2013. The portfolio's ten-year return was 8.1 percent relative to a 2013 investment benchmark of 5.9 percent. The portfolio experienced four loan defaults during the past five years. However, SWIB took steps to restructure the repayment schedules and the loans were subsequently repaid.

Table 9

Performance of the Wisconsin Private Debt Portfolio
As of December 2013

Period	Investment Benchmark	Average Annual Investment Return
One-Year	0.5%	1.9%
Three-Year	5.8	7.5
Five-Year	10.8	12.5
Ten-Year	5.9	8.1

Wisconsin Private Equity Portfolio

As noted, the Wisconsin private equity portfolio makes venture capital investments in companies primarily in Wisconsin and the midwest. The portfolio was established in 2000, largely as an initiative of the Board of Trustees. SWIB staff indicated that significant research and development occurring in Wisconsin and comparatively low levels of venture capital presents increasing opportunities for potentially profitable investments in Wisconsin companies. During the past five years, the Board of Trustees has increased funding for Wisconsin venture capital to take advantage of opportunities that exist within Wisconsin or the midwest as well as to attract interest by national venture capital firms in such opportunities.

Of the $190.7 million invested in the Wisconsin private equity portfolio, $58.5 million was invested in Wisconsin companies.

SWIB's commitments to Wisconsin venture capital investments increased from $200.0 million as of December 2009 to $319.8 million as of December 2013. Of SWIB's total commitments, $190.7 million was invested as of December 2013. Of these invested funds, nearly $58.5 million, or 30.7 percent, was invested in Wisconsin companies. Although additional funding has been committed to the Wisconsin private equity portfolio in recent years, the relative percentage invested in Wisconsin companies has declined compared to our review of Wisconsin investments in report 07-10, when 41.8 percent of the portfolio's invested funds were invested in Wisconsin companies.

As shown in Table 10, SWIB's commitments to venture capital funds totaled $279.8 million. These funds focused largely on start-up or early-stage companies. Two of these funds were established in recent years because of SWIB's assessment that they offered unique investment opportunities in Wisconsin.

Table 10

Venture Capital Investments in the Wisconsin Private Equity Portfolio
December 2013
(in millions)

Venture Capital Fund (Year Established)	Commitment To Fund	Additional Commitments[1]
Mason Wells Biomedical Fund I (2000)	$ 20.0	$ 5.0
Venture Investors Fund III (2000)	15.0	5.0
Baird Venture Partners Fund IB (2003)	25.0	5.0
Frazier Technology Venture Fund II (2004)	50.0	0.0
Venture Investors Fund IV (2006)	25.0	5.0
Baird Venture Partners Fund III (2008)	25.0	0.0
Northgate Capital Fund (2011)	80.0	0.0
Venture Investors Fund V (2012)	24.8	0.0
4490 Ventures Fund I (2014)	15.0	0.0
Subtotal	279.8	20.0
SWIB Discretionary Fund	–	20.0
Total Commitments	**$279.8**	**$40.0**

[1] These "side-by-side" investments represent additional funding SWIB has made available for companies beyond each fund. Each fund with an additional commitment may use these amounts at its discretion to increase its investment in a company. SWIB may also use the Discretionary Fund to make further investments in companies at its discretion.

The largest fund commitment in the Wisconsin private equity portfolio has made no investments in Wisconsin.

First, SWIB's $80.0 million commitment to the California-based Northgate Capital in 2011 focuses on investing and building relationships with high-quality venture capital funds. As of December 2013, SWIB's commitment to the Northgate Capital Fund was the largest investment in the Wisconsin private equity portfolio. Although none of the fund's investments were in companies located in Wisconsin, SWIB staff indicated this investment is attracting interest by national venture capital firms in midwest venture capital opportunities.

In 2013, the Board of Trustees committed $15.0 million to a venture capital investment partnership with the Wisconsin Alumni Research Foundation.

Second, in March 2013, SWIB established a partnership with the Wisconsin Alumni Research Foundation (WARF), which is the private, nonprofit patent and licensing organization for the University of Wisconsin-Madison. The Board of Trustees has made an initial commitment of $15.0 million, which represents half of the fund's available funding. In early 2014, the partnership established the 4490 Ventures Fund I, which is expected to focus on early-stage information technology investments primarily in Wisconsin. In February 2014, the partnership hired a venture capital general partner to manage the fund's investments. Although the 4490 Ventures Fund I has not yet made investments, the partnership expects it to invest in up to 16 Wisconsin or midwest companies.

As was shown in Table 10, SWIB made additional commitments of $20.0 million as "side-by-side" investments, which are direct investments that parallel those of the funds. Each fund with a side-by-side commitment may use these amounts at its discretion to increase an investment in a company. In addition, the Board of Trustees authorized a $5.0 million pool of discretionary funding in 2004, which was increased to $20.0 million in 2008, to be used for direct investments in companies that have been funded or will be funded by a current fund relationship. In contrast to the side-by-side commitments, these additional investments are at SWIB's discretion rather than at the discretion of the funds.

Through December 2013, 21 direct investments, totaling $25.9 million were made from side-by-side and discretionary fund commitments. These investments have focused on companies in the medical technology or biotechnology sectors, which account for 14 of the 21 direct investments. The remaining 7 investments were made in companies in other emerging technologies and services. Of the 21 companies, 16 are located in either the Madison or Milwaukee areas and five are located in Illinois or Massachusetts.

Wisconsin Private Equity Portfolio Performance

The Wisconsin private equity portfolio's ten-year investment return was 3.4 percent relative to a benchmark of 6.7 percent as of December 2013.

As shown in Table 11, the Wisconsin private equity portfolio lagged its investment benchmarks for all periods as of December 2013. The portfolio's ten-year return was 3.4 percent relative to a benchmark of 6.7 percent. However, one-year investment returns for 2011 and 2012 exceeded the portfolio's investment benchmark.

Table 11

Performance of the Wisconsin Private Equity Portfolio[1]

Period	Investment Benchmark	Average Annual Investment Return
December 2013		
One-Year	8.3%	**(0.4)%**
Three-Year	7.1	**6.2**
Five-Year	3.7	**(0.7)**
Ten-Year	6.7	**3.4**
December 2012		
One-Year	2.2%	7.6%
Three-Year	6.4	6.9
Five-Year	1.3	**(1.1)**
Ten-Year	8.8	**3.7**
December 2011		
One-Year	10.7%	11.7%
Three-Year	2.7	**(3.5)**
Five-Year	5.0	7.2
Ten-Year	6.4	**0.9**

[1] Returns that did not meet benchmarks are in **bold.**

SWIB attributes the Wisconsin private equity portfolio's underperformance to an underlying volatility inherent in venture capital investments. For example, venture capital investments have a long investment horizon, and many of SWIB's venture capital investments are still considered at an early stage. For example, the strong one-year investment return for the portfolio in 2012 was largely based on the successful liquidation of one company in which

SWIB realized a 378.1 percent return on investment. SWIB anticipates that as its venture capital investments mature, the Wisconsin private equity portfolio investment returns will improve.

In addition, the type of companies in which venture capital investments are made can affect the performance of SWIB's portfolio. For example, as noted, SWIB has largely focused on medical technology or biotechnology companies for the Wisconsin private equity portfolio at a time when information technology venture capital investment performance was stronger.

SWIB is required to report biennially to the Legislature on its plans for making investments in Wisconsin. SWIB can make more comprehensive information available to the Legislature on Wisconsin investments by including additional information in that report on SWIB's investment in venture capital in Wisconsin.

☑ Recommendation

We recommend the State of Wisconsin Investment Board:

- *report on the status of its partnership with the Wisconsin Alumni Research Foundation;*

- *report on the aggregate amount of the Wisconsin private equity portfolio invested in Wisconsin companies;*

- *include this information in its biennial plan for making investments in Wisconsin, which is required by s. 25.17(70), Wis. Stats. to be submitted to the Legislature by December 31, 2014; and*

- *report this information to the Joint Legislative Audit Committee by December 31, 2014.*

■ ■ ■ ■

Investment and Operating Expenses ■

SWIB charges certain investment expenses directly against investment earnings and operating expenses to the funds it manages. In part because of an increase in assets under management, SWIB's investment expenses have increased in recent years. In addition, management fees paid to external managers and compensation paid to SWIB employees also increased. 2011 Wisconsin Act 32 gave SWIB the authority to establish its own operating budget and to create and abolish staff positions. Since it received this authority, SWIB's operating budgets have increased both due to increases in the number of staff positions SWIB created and changes SWIB made to its compensation plan.

SWIB's expenses increased 55.7 percent from 2009 to 2013.

As shown in Table 12, SWIB's expenses increased from $225.5 million in 2009 to $351.2 million in 2013, or by 55.7 percent. External investment fees increased $112.5 million, or by 55.2 percent, and operating expenses increased $13.2 million, or by 60.8 percent.

Table 12

SWIB Expenses 2009 through 2013
(in millions)

	2009	2010	2011	2012	2013	Change (2009-2013)	Percentage Change (2009-2013)
External Investment Expenses[1]							
Public Market Management Fees	$ 76.0	$ 81.2	$ 86.2	$ 96.4	$156.0	$ 80.0	105.3%
Private Equity Management Fees	84.4	89.2	92.3	103.2	98.3	13.9	16.5
Real Estate Advisory Fees	34.3	36.4	42.3	47.1	49.2	14.9	43.4
External Support Services	9.1	9.9	11.0	11.7	12.8	3.7	40.7
Subtotal	203.8	216.7	231.8	258.4	316.3	112.5	55.2
Internal Operating Expenses							
Salaries and Fringe Benefits	16.9	19.1	19.7	20.5	22.4	5.5	32.5
Bonuses[2]	1.7	4.3	3.5	4.3	8.0	6.3	370.6
Supplies and Permanent Property[3]	3.1	3.5	3.7	4.1	4.5	1.4	45.2
Subtotal	21.7	26.9	26.9	28.9	34.9	13.2	60.8
Total	**$225.5**	**$243.6**	**$258.7**	**$287.3**	**$351.2**	**$125.7**	55.7

[1] Includes fees for external management of investments, performance-based fees, legal fees, and investment consulting and research services.

[2] Bonus payments made within the calendar year are shown prior to any withholding on these amounts. Typically bonus payments on performance are paid in the following calendar year. Because the Core Fund investment return was negative in 2008, the $1.7 million in bonus payments approved were deferred largely until 2011, although some payments were made in 2009 and 2010.

[3] Includes expenses for internal technology, research, supplies, and travel.

The increase in expenses can be attributed to several factors, including:

- growth in investment assets;
- changes in internal and external management of assets, such as its new investment strategies; and
- the increased authority granted by 2011 Wisconsin Act 32, the 2011-13 Biennial Budget Act, for SWIB to establish its own internal operating budget and to create and abolish staff positions.

The average cost of investment for each $100 of assets managed increased from $0.29 in July 2011 to $0.36 in December 2013.

Because certain costs are calculated as a percentage of the amount of assets under management, such as fees paid to certain external managers, the increases in expenses is attributed, in part, to a 29.7 percent increase in assets under management over the past five years. However, the average cost to manage assets also increased during this period. For example, in July 2011 when SWIB received the authority to establish its own operating budget, the average cost of investment for each $100 of assets was $0.29. This subsequently increased to $0.36 per $100 of assets managed in December 2013. The 24.1 percent increase resulted, in part, from SWIB contracting with external managers and consultants to support new investment strategies for the Core Fund and hiring additional internal staff. SWIB annually benchmarks its investment expenses to other large public pension plans. According to the most recent study conducted in 2012, investment expenses of the Core Fund were less than peers of similar size and asset mix by $0.05 per $100 of assets managed.

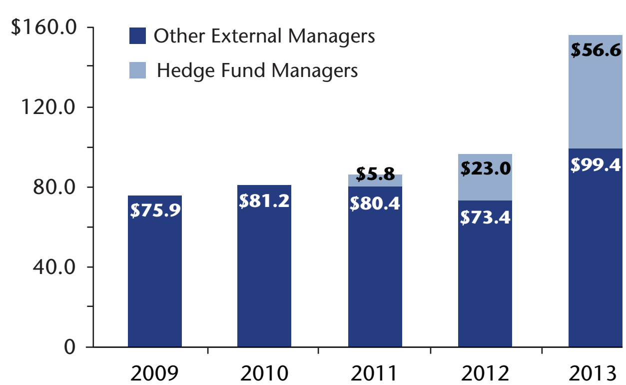
External Investment Expenses

From 2009 through 2013, management fees for the public market investments increased by $80.0 million.

The largest increase in external investment expenses were management fees paid for the public market investments. This includes costs for external management of publicly traded securities such as stocks and bonds as well as costs for hedge fund managers and other external managers that have performance-based fee structures. As shown in Figure 11, from 2009 through 2013, these management fees increased by $80.0 million. The largest increase in management fees occurred in 2013 as SWIB was allocating additional assets to externally managed active strategies as it implemented the 2010 asset allocation plan for the Core Fund, including investments in hedge funds.

Figure 11

Public Market Management Fees
(in millions)



Management fees paid to external hedge fund managers accounted for 56.4 percent of the 2013 increase in public market investment expenses. As noted, hedge funds typically charge a base fee of up to 2.0 percent of assets managed and a performance fee of up to 20.0 percent. As of December 2013, SWIB had investments totaling $1.9 billion in hedge funds for which it paid $56.6 million in fees, including $27.1 million in base fees and $29.5 million in performance fees. These fees averaged $2.98 per $100 in assets managed, which are higher than other externally managed investments. SWIB staff acknowledge that investments in hedge funds may be more expensive than other active management strategies. Because hedge funds report investment returns net of fees, SWIB can assess the investment performance relative to benchmarks considering the fees paid. In addition to costs, SWIB's decision to invest in hedge funds is also weighed against how these investments contribute to the overall investment performance and diversification of the Core Fund.

Operating Budget

2011 Wisconsin Act 32 authorized SWIB to establish its own operating budget and to create and abolish staff positions.

From FY 1999-2000 through FY 2010-11, SWIB's internal operating budget for staff and overall administrative expenses was statutorily limited to the greater of a percentage of the average market value of assets from the previous fiscal year or an amount determined in the prior biennium. As noted, Act 32 authorized SWIB to establish its own operating budget and to create and abolish staff positions. Under Act 32, SWIB was required to expand quarterly reports on its expenditures and positions. In addition, SWIB is required to make an annual appearance before the Joint Committee on Finance to provide an update on its operating budget and authorized positions, and to provide an assessment of its assets under management and the performance of investments for the current and subsequent fiscal year.

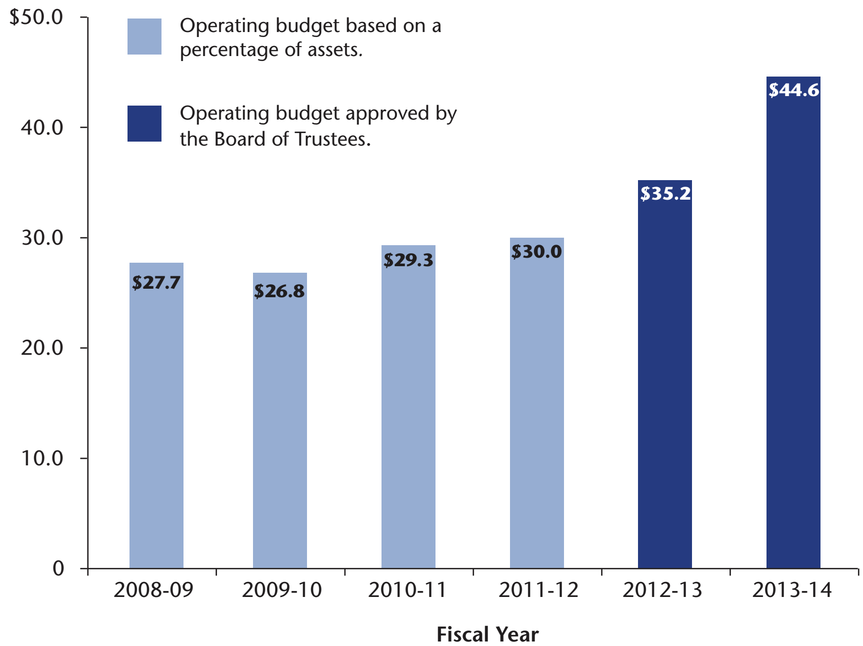
The number of FTE positions authorized by the Board of Trustees increased from 125.25 FTE positions in July 2011 to 148.1 FTE positions as of December 2013, or by 18.2 percent. According to SWIB, the majority of these 22.85 FTE positions were created to manage the additional workload associated with an increase in WRS assets managed internally and its new investment strategies.

The Board of Trustees increased SWIB's operating budget by 17.3 percent for FY 2012-13 and by 26.7 percent for FY 2013-14.

Because the operating budget for FY 2011-12 had already been established when Act 32 was enacted, the first year in which the Board of Trustees approved an operating budget under the new authority was FY 2012-13. As shown in Figure 12, the Board of Trustees approved an operating budget of $35.2 million for FY 2012-13, which was an increase of 17.3 percent compared to the previous year. The Board of Trustees subsequently increased the operating budget to $44.6 million for FY 2013-14, or by 26.7 percent.

Figure 12

SWIB Operating Budgets, by Fiscal Year
(in millions)



These increases were primarily used to fund increases in staff compensation because of additional staff positions and an increased pool of bonuses available for staff. For example, 59.5 percent of the increase in the FY 2013-14 operating budget is attributable to increased bonuses budgeted for staff. According to SWIB staff, compensation changes have assisted SWIB in recruiting and retaining high quality staff to manage more assets internally, establish new investment strategies, and oversee these strategies.

Compensation

SWIB is authorized by s. 25.16(7), Wis. Stats., to compensate employees through salary and bonuses. With the exception of the internal audit director and his or her staff, SWIB's executive director is authorized to set SWIB staff salaries. Bonuses are based on both quantitative and qualitative measures of performance and are intended to help attract and retain qualified staff.

No across-the-board salary increases have been awarded to investment staff since 2009.

SWIB staff may receive salary increases through promotion, merit increases, or across-the-board salary adjustments. The Board of Trustees, however, has the ultimate authority to approve salary increases through the annual budget process. Although the annual operating budgets approved by the Board of Trustees in June for the following calendar year have historically included an amount for across-the-board salary increases, no across-the-board salary increases have been awarded to investment staff since 2009. However, administrative staff received salary increases of 1.0 percent in 2011 and 1.8 percent in 2012.

In establishing its compensation amounts for staff, SWIB uses a compensation consultant to make comparisons to a peer group. The peer group was approved by the Board of Trustees and includes banks, insurance companies, and in-house managed pension plans, excluding east and west coast financial centers. As part of its process, SWIB relies on prior-year peer group compensation data because of the time lag in obtaining this data.

To earn a bonus, investment staff are assigned a "maximum incentive opportunity," which varies by position and is based on both quantitative and qualitative measures of performance. The maximum incentive opportunity is set at the amount of bonuses similar positions earn in SWIB's peer group. Quantitative measures are based on the five-year and one-year investment returns for those portfolios directly managed by individual staff, asset classes, and the Core Fund compared with benchmarks. Qualitative measures are not based on investment results, but rather on an individual staff member's contributions to SWIB.

The $13.3 million paid in total bonuses for 2013 performance is SWIB's largest total annual bonus payout since 1987.

Table 13 shows bonus amounts paid to investment and administrative staff from 2009 through 2013. The $13.3 million in total bonuses paid for 2013 performance is SWIB's largest total annual bonus payout since it was first authorized to offer a bonus program in 1987. Individual bonuses, which were awarded and paid in 2014, ranged from $1,800 to $660,400 for staff who were employed at SWIB during the entire year.

Table 13

Staff Bonuses, by Performance Year

Performance Year[1]	Total Bonuses (in millions)	Staff Receiving Bonuses: Investment Staff	Administrative Staff	Total	Percentage of Eligible Staff
2009	$ 4.3	64	51	115	100.0%
2010	3.5	67	0 [2]	67	54.9
2011	4.3	64	63	127	99.2
2012	8.0	64	75	139	98.6
2013	13.3	67	76	143	99.3

[1] Bonuses are paid to staff in the following calendar year.

[2] The Core Fund did not meet its five- or one-year benchmarks on a net-of-cost basis for this year.

Prior to 2012, administrative staff could only receive bonuses if the Core Fund exceeded its five-year and one-year benchmarks on a net-of-cost basis. In 2010, the Core Fund did not meet either of its benchmarks when considering costs and, as a result, administrative staff received no bonuses. Under the current compensation plan, which incorporates changes approved by the Board of Trustees in August 2011, administrative staff are eligible for bonuses from a pool of up to 10 percent of their salaries based on qualitative measures and of up to 25 percent of their salaries based on the five-year and one-year performance of the Core Fund. However, if the Core Fund investment return on a net-of-cost basis does not meet its benchmarks, no bonuses will be awarded to administrative staff based on that quantitative measure, although bonuses for the qualitative measure may still be available.

All investment staff may earn bonuses based on qualitative measures and the five-year and one-year investment returns of the Core Fund compared with its benchmarks.

All investment staff may earn bonuses based on qualitative measures and the five-year and one-year investment returns of the Core Fund compared with its benchmarks. However, the allocation of the measures used to determine bonuses vary by position and not all quantitative measures are used in the bonus calculation. For example, the quantitative portion of the chief investment officer's bonus is determined only by the investment returns of the Core Fund compared with its benchmarks. The quantitative portion of portfolio managers' bonuses is determined by the respective portfolio returns and Core Fund returns compared with its benchmarks. Investment staff receive bonuses related to quantitative measures only if they meet or exceed the corresponding benchmarks on a net-of-cost basis. As a result, bonuses related to quantitative measures can range from $0 up to the maximum incentive opportunity for each position.

In August 2011, the Board of Trustees also made changes to how bonuses are calculated for investment staff. The maximum incentive opportunity was increased to approximate the amounts paid by its peer group for top-quartile performance, which is defined as pay at the 75th percentile. Prior to the change, the maximum incentive opportunity for investment staff approximated pay at the 50th percentile. In addition, the Board of Trustees also made it more difficult for investment staff to receive the maximum incentive opportunity by increasing the amount by which benchmarks must be exceeded for quantitative measures. The change in bonus compensation was phased in over two years and was fully implemented when bonuses were paid in 2014 for 2013 performance.

As shown in Table 14, the available pool of bonuses, which is the sum of the maximum incentive opportunities for investment staff, more than doubled between 2011 and 2013. Investment staff earned a higher percentage of this pool compared with previous years because they met or exceeded a higher percentage of their benchmarks. Of the available bonus pool of $13.9 million for 2013 performance, investment staff earned bonuses totaling $10.9 million, or 78.4 percent.

Table 14

Bonuses Earned for Investment Staff, by Performance Year

Performance Year[1]	Bonuses Available (in millions)	Bonuses Earned (in millions)	Percentage
2009	$ 6.2	$ 3.5	56.5%
2010	6.7	3.2	47.8
2011	6.8	4.0	58.8
2012	8.9	6.3	70.8
2013	13.9	10.9	78.4

[1] Bonuses are paid to staff in the following calendar year.

From 2009 through 2013, investment staff on average exceeded 67.5 percent of their benchmarks.

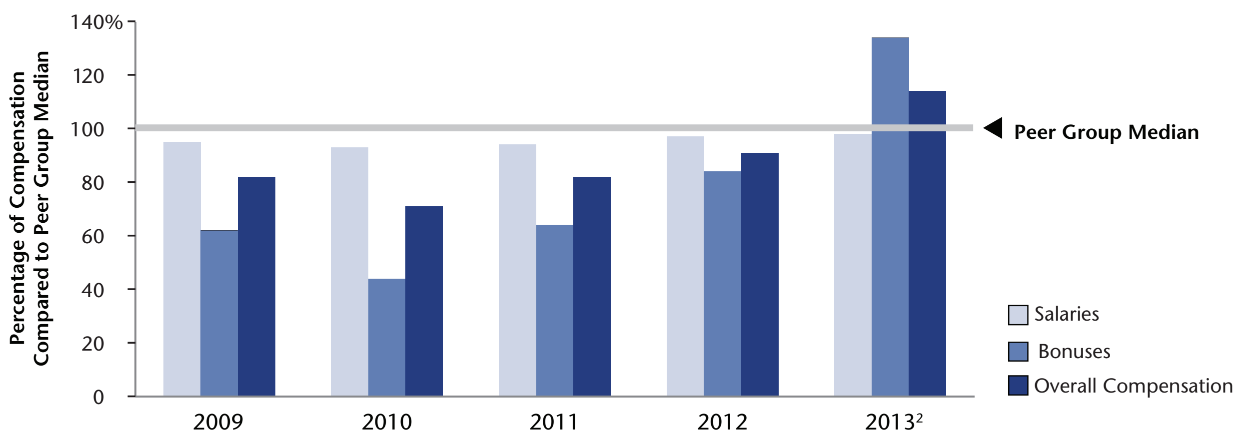
For most investment staff, at least two-thirds of the bonuses are based on five-year investment performance on a net-of-cost basis compared with benchmarks. Therefore, higher five-year investment returns for portfolios, asset classes, and the Core Fund resulted in larger bonuses for 2013 performance. From 2009 through 2013, investment staff on average exceeded 67.5 percent of their benchmarks. In addition, as shown in Appendix 3, five of six asset classes exceeded their respective five-year benchmarks during 2013.

As a result of larger bonuses paid, investment staff on average received overall compensation at 114 percent of the peer group 2012 median compensation.

In the compensation plan, the Board of Trustees establishes a target for overall compensation for investment staff to approximate 100 percent of the median compensation of its peer group. From 2009 through 2012, investment staff salaries approximated the peer group's median salary levels, but bonuses paid to investment staff were less than the peer group median. However, investment staff on average received bonuses at 134 percent of SWIB's peer group 2012 median bonus level for 2013 performance. As noted, SWIB attributed the larger bonuses for 2013 performance to investment staff on average exceeding 67.5 percent of their benchmarks from 2009 through 2013. As a result of the larger bonuses paid, investment staff on average received overall compensation at 114 percent of the SWIB's peer group 2012 median compensation. As shown in Figure 13, this was the first time that overall compensation was greater than the established target in SWIB's compensation plan.

Figure 13

SWIB Investment Staff Compensation Compared with Peer Group Median[1]



[1] Determined by SWIB's compensation consultant.

[2] 2012 peer group median compensation used for comparison to SWIB's 2013 compensation levels. The percentages relative to the peer group may be revised when 2013 compensation data become available.

SWIB staff indicate that the changes made in August 2011 to the maximum incentive opportunity were intended to reward the equivalent of top-quartile performance by investment staff with bonuses that approximate the 75th percentile, which results in bonuses at 150 percent of the peer group median. However, the established target in SWIB's compensation plan is for overall compensation to approximate 100 percent the peer group median. Given that overall compensation was greater than the target established in SWIB's compensation plan, and given that this was the first year the August 2011 changes to the maximum incentive opportunity were fully implemented, additional clarification by the Board of Trustees is necessary to ensure overall compensation paid to investment staff conforms to any target it establishes in its compensation plan.

☑ Recommendation

We recommend that SWIB's Board of Trustees:

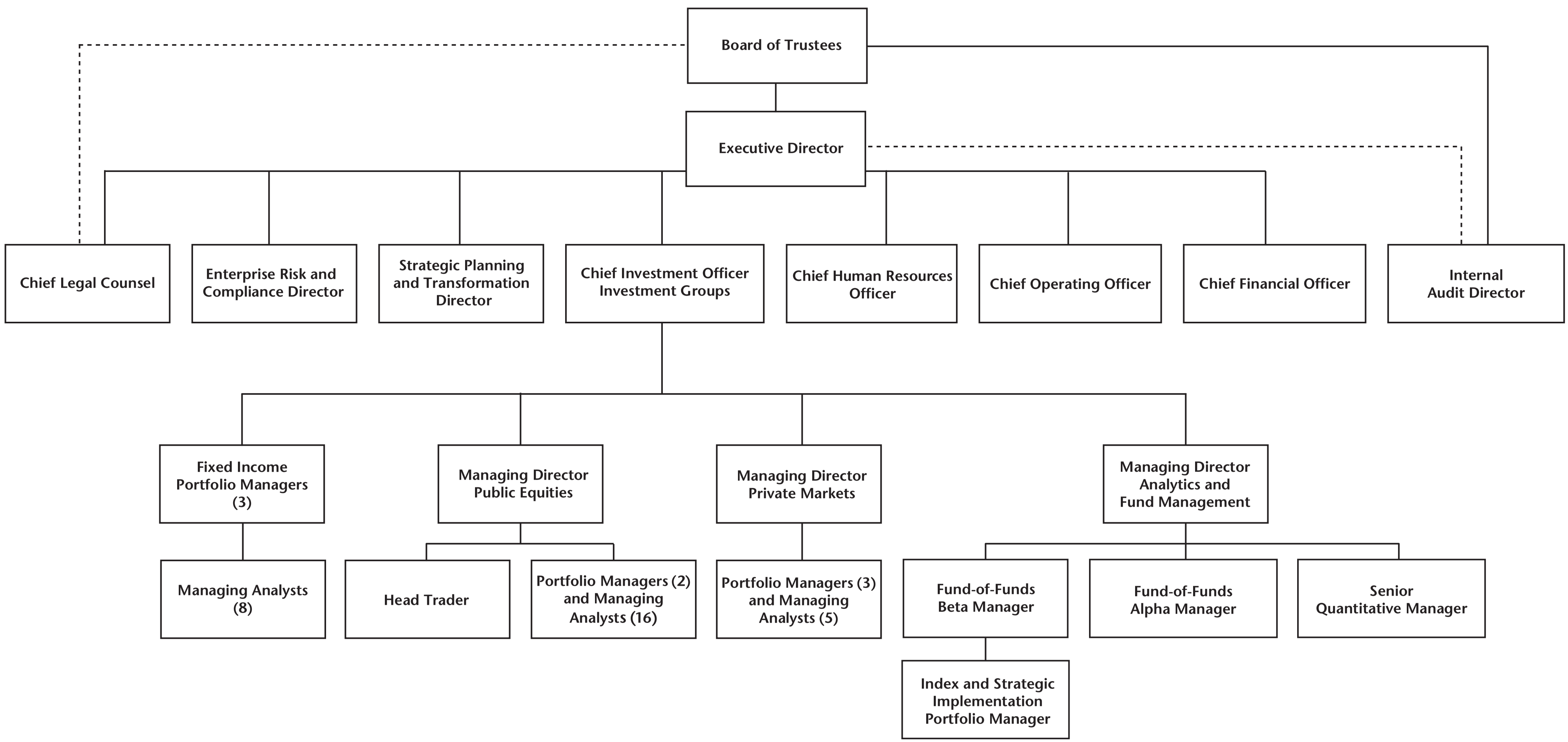
- *clarify the target for overall compensation for investment staff established in SWIB's compensation plan relative to the August 2011 changes to the maximum incentive opportunity that reward investment staff based on top-quartile performance;*
- *evaluate overall compensation in comparison to the established target in SWIB's compensation plan prior to approving proposed bonuses;*
- *revise, when necessary, the method for determining the maximum incentive opportunity for investment staff to achieve alignment with the established target for overall compensation in SWIB's compensation plan; and*
- *report to the Joint Legislative Audit Committee by December 31, 2014, on the status of its efforts to implement these recommendations.*

▪ ▪ ▪ ▪

Appendix 1

State of Wisconsin Investment Board Organization Chart

As of December 2013



Appendix 2

Wisconsin Retirement System Performance[1]

Year	Core Fund Investment Benchmark	Core Fund Investment Return	Variable Fund Investment Benchmark	Variable Fund Investment Return
1982	27.7%	**27.3%**	N/A[2]	22.2%
1983	13.3	**12.5**	23.1%	24.7
1984	12.3	12.8	6.3	**5.8**
1985	23.8	27.5	30.9	32.7
1986	14.0	14.5	17.1	**11.5**
1987	3.0	**2.2**	3.0	**(1.1)**
1988	13.6	14.4	18.4	21.7
1989	19.9	**19.2**	27.0	**22.6**
1990	(1.7)	(1.5)	(8.6)	**(11.3)**
1991	22.8	**20.5**	31.9	**27.1**
1992	5.9	9.7	7.1	10.7
1993	12.2	15.0	14.7	16.5
1994	(0.1)	**(0.6)**	1.7	**0.8**
1995	24.4	**23.1**	29.2	**25.6**
1996	12.7	14.4	18.6	19.8
1997	17.4	**17.2**	22.8	**21.6**
1998	15.5	**14.6**	17.4	17.5
1999	13.9	15.7	23.2	27.8
2000	(1.4)	(0.8)	(8.8)	(7.2)
2001	(4.5)	(2.3)	(12.9)	(8.3)
2002	(8.2)	**(8.8)**	(19.9)	**(21.9)**
2003	24.0	24.2	32.1	32.7
2004	12.1	12.8	13.4	**12.7**
2005	8.0	8.6	8.0	8.3
2006	14.6	15.8	17.6	17.6
2007	9.6	**8.7**	7.3	**5.6**
2008	(24.8)	**(26.2)**	(39.0)	(39.0)
2009	19.9	22.4	32.0	33.7
2010	12.2	12.4	15.3	15.6
2011	0.9	1.4	(3.6)	(3.0)
2012	12.8	13.7	16.7	16.9
2013	12.9	13.6	28.0	29.0

[1] The Wisconsin Retirement System was established in its current form, effective January 1, 1982. Returns that did not meet benchmarks are in **bold.**

[2] Benchmark returns are unavailable for the first quarter of 1982.

Appendix 3

Performance of Individual Asset Classes[1]

Period Ending in December 2013

Asset Class	Investment Benchmark	Average Annual Investment Return
Equities		
One-Year	24.9%	26.2%
Three-Year	11.2	12.0
Five-Year	16.0	16.9
Ten-Year	7.4	7.6
Fixed Income		
One-Year	(2.3)%	(2.1)%
Three-Year	3.6	4.0
Five-Year	5.1	6.1
Ten-Year	4.9	5.5
TIPS		
One-Year	(8.6)%	(8.6)%
Three-Year	3.5	4.2
Five-Year	5.6	6.3
Ten-Year	4.8	5.5
Real Estate		
One-Year	13.0%	16.9%
Three-Year	13.9	17.8
Five-Year	4.1	**2.5**
Ten-Year	9.1	**9.0**
Private Equity		
One-Year	15.9%	17.1%
Three-Year	13.5	14.4
Five-Year	8.7	10.4
Ten-Year	12.2	15.2
Multi-Asset		
One-Year	11.3%	**5.8%**
Three-Year	7.3	7.7
Five-Year	10.8	13.9
Ten-Year	6.6	7.6

[1] Returns that did not meet benchmarks are in **bold.**

Period Ending in December 2012

Asset Class	Investment Benchmark	Average Annual Investment Return
Equities		
One-Year	16.8%	17.4%
Three-Year	8.0	8.4
Five-Year	0.0	0.5
Ten-Year	8.1	8.2
Fixed-Income		
One-Year	5.3%	6.8%
Three-Year	6.8	7.5
Five-Year	6.3	7.1
Ten-Year	5.9	6.7
TIPS		
One-Year	7.0%	7.2%
Three-Year	8.9	10.1
Five-Year	7.0	8.1
Since Inception (December 2003)	6.5	7.1
Real Estate		
One-Year	11.5%	15.2%
Three-Year	11.6	11.7
Five-Year	2.7	**(2.8)**
Ten-Year	8.6	**8.4**
Private Equity		
One-Year	14.1%	**14.0%**
Three-Year	12.6	14.2
Five-Year	3.5	4.4
Ten-Year	13.9	14.5
Multi-Asset		
One-Year	12.0%	12.2%
Three-Year	7.6	9.7
Five-Year	2.1	5.6
Since Inception (March 2003)	8.1	10.2

[1] Returns that did not meet benchmarks are in **bold.**

Period Ending in December 2011

Asset Class	Investment Benchmark	Average Annual Investment Return
Equities		
One-Year	(5.8)%	(5.2)%
Three-Year	13.0	13.8
Five-Year	(1.4)	(1.3)
Ten-Year	4.1	4.1
Fixed-Income		
One-Year	8.0%	**7.6%**
Three-Year	7.6	8.7
Five-Year	6.9	7.4
Ten-Year	6.7	7.2
TIPS		
One-Year	13.6%	15.3%
Three-Year	10.4	11.4
Five-Year	8.0	9.0
Since Inception (December 2003)	6.4	7.1
Real Estate		
One-Year	17.4%	21.4%
Three-Year	(0.9)	**(5.7)**
Five-Year	3.7	**(2.5)**
Ten-Year	8.0	**7.7**
Private Equity		
One-Year	9.8%	12.2%
Three-Year	4.4	7.1
Five-Year	4.8	6.3
Ten-Year	10.0	13.2
Multi-Asset		
One-Year	(1.0)%	4.4%
Three-Year	10.2	17.0
Five-Year	1.7	4.6
Since Inception (March 2003)	7.7	9.9

[1] Returns that did not meet benchmarks are in **bold.**

Period Ending in December 2010

Asset Class	Investment Benchmark	Average Annual Investment Return
Equities		
One-Year	14.5%	14.7%
Three-Year	(3.2)	(2.6)
Five-Year	3.4	3.4
Ten-Year	3.1	3.6
Fixed-Income		
One-Year	7.0%	8.0%
Three-Year	6.1	6.9
Five-Year	6.2	6.9
Ten-Year	6.5	7.1
TIPS		
One-Year	6.3%	7.9%
Three-Year	5.0	6.1
Five-Year	5.3	6.2
Since Inception (December 2003)	5.4	6.0
Real Estate		
One-Year	6.3%	**(0.4)%**
Three-Year	(4.5)	**(14.7)**
Five-Year	3.8	**(1.1)**
Ten-Year	7.3	**6.5**
Private Equity		
One-Year	14.1%	16.3%
Three-Year	(1.8)	(1.0)
Five-Year	7.3	9.3
Ten-Year	10.5	11.2
Multi-Asset		
One-Year	12.5%	**11.9%**
Three-Year	0.1	3.6
Five-Year	4.8	6.5
Since Inception (March 2003)	8.9	10.7

[1] Returns that did not meet benchmarks are in **bold.**

Appendix 4

Wisconsin Retirement System Effective Rates and Retired Participants' Benefit Payment Adjustments[1]

	Core Fund			Variable Fund		
Performance Year	Investment Return	Effective Rate	Retired Benefit Payment Adjustment[2]	Investment Return	Effective Rate	Retired Benefit Payment Adjustment
1999	15.7%	24.1%	17.1%	27.8%	28.0%	21.0%
2000	(0.8)	10.9	5.7	(7.2)	(7.0)	(11.0)
2001	(2.3)	8.4	3.3	(8.3)	(9.0)	(14.0)
2002	(8.8)	5.0	0.0	(21.9)	(23.0)	(27.0)
2003	24.2	7.4	1.4	32.7	34.0	25.0
2004	12.8	8.5	2.6	12.7	12.0	7.0
2005	8.6	6.5	0.8	8.3	9.0	3.0
2006	15.8	9.8	3.0	17.6	18.0	10.0
2007	8.7	13.1	6.6	5.6	6.0	0.0
2008	(26.2)	3.3	(2.1)	(39.0)	(40.0)	(42.0)
2009	22.4	4.2	(1.3)	33.7	33.0	22.0
2010	12.3	4.8	(1.2)	15.6	16.0	11.0
2011	1.4	1.5	(7.0)	(3.0)	(3.0)	(7.0)
2012	13.7	2.2	(9.6)	16.9	17.0	9.0
2013	13.6	10.9	4.7	29.0	31.0	25.0
10-Year Compounded Average	7.4%	6.4%	(0.5)%	7.7%	7.7%	1.9%
15-Year Compounded Average	6.6%	7.9%	1.4%	5.9%	5.9%	0.1%

[1] Retired participants' benefit payment adjustments take effect with the April annuities that are paid on May 1 based on the previous year's performance. Adjustments only occur if the amount changes the benefit payment at least 0.5 percent for the Core Fund or at least 2.0 percent for the Variable Fund.

Retired participants' benefit payment adjustments are generally 4.0 to 6.0 percent less than effective rate adjustments to account for the 5.0 percent investment return assumption factored into the benefit payments and other actuarial adjustments. Larger adjustments have been necessary in recent years because of a number of factors, including the large number of retired participants who have reached base benefit payment amount, carry over and timing adjustments, and other actuarial factors.

[2] Maximum adjustment that may be applied to a retired participant's benefit payment. Adjustments that would reduce a benefit payment are limited to increases a retired participant received in prior years because post-retirement adjustments may not result in benefit payments that are lower than the base benefit payment at the time of retirement. Consequently, not all retired participants experienced the full amount of reductions determined for 2008 through 2012.

Source: Employee Trust Funds

SWIB State of Wisconsin Investment Board

July 28, 2014

Mr. Joe Chrisman
State Auditor
Legislative Audit Bureau
22 East Mifflin, Suite 500
Madison, WI 53703

Dear Mr. Chrisman,

Thank you for the opportunity to review and comment on the management audit of the State of Wisconsin Investment Board (SWIB). As your report shows, despite sometimes challenging and turbulent financial markets that investors have experienced over the past decade, SWIB has remained prudent in its management of the funds entrusted to it, as is evident by the strong performance of the trust funds. In fact, SWIB's fund management, specifically related to the Wisconsin Retirement System (WRS), is recognized by many to be among the best in the country, in large part, due to the investment strategy put in place and the returns generated.

As noted in your report, SWIB's investment strategy has been successful in achieving its long-term goal and has helped keep the Core Fund and the Variable Fund in a strong financial position. SWIB has beaten the one-, three-, five- and ten-year benchmarks for the Core Fund as of Dec. 31, 2013. The 20-year annualized return of the Core Fund, as of Dec. 31, 2013, was 8.26 percent, in excess of both the 7.2 percent assumed rate of return and the 7.91 percent benchmark. The Variable Fund also beat its one-, three-, five- and ten-year benchmarks as of Dec. 31, 2013. Over the past five years, SWIB has added over $2.65 billion in additional value to the WRS funds in excess of market returns after accounting for costs.

Your report also shows that we remain committed to maintaining our success as a trusted and skilled global investment organization that is contributing to the strong financial futures of the beneficiaries of the funds entrusted to us. We are implementing investment strategies designed to better position us to continue to provide solid returns and limit risk, introducing new technology that will allow for better access to investment data, and strengthening our staff so that we remain at the forefront of institutional investment practices and a model for others to follow rather than simply keeping pace with the market.

Cost

SWIB has been able to achieve its goal of providing consistent performance over time and increasing WRS funds by earning returns in excess of the markets while keeping costs low – less than the peer average – mainly because it uses professional staff to manage funds internally. As noted in a previous audit, SWIB has been taking steps to increase assets managed internally by SWIB professionals and decreasing reliance on external managers. As a result, we have become more cost effective.

SWIB's investment authority was significantly increased with investment modernization legislation enacted in 2007 Wisconsin Act 212. The Governor and Legislature also provided SWIB's Board of Trustees with additional authority in 2011 Wisconsin Act 32 that has allowed SWIB to optimize its use

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of resources and the operating budget. As a result of this flexibility, SWIB is implementing new opportunistic investment strategies and building a stronger internal management program that emphasizes the use of professional SWIB staff to manage assets whenever it is cost effective to do so. Accordingly, the percentage of WRS assets managed internally has increased from 21 percent in 2007 to 57 percent in 2013. SWIB has nearly tripled the internal assets under management while only increasing its staff by about 50 percent. Because of these changes and SWIB's focus on cost savings where appropriate, SWIB staff manages assets at about one-fourth of the cost charged by outside investment managers for similar services. The net annual savings from SWIB's internal management approach is about $50 million, based on what it would cost to hire outside money managers to invest SWIB's public market portfolios. This savings benefits the WRS beneficiaries, employers, and Wisconsin taxpayers.

The report noted that SWIB uses hedge funds as a strategy for reducing risk to the trust funds and that industry fees associated with hedge fund management may have higher fees than more traditional stock and bond investment strategies. To limit hedge fund costs, SWIB uses its own professional staff to select and oversee a pool of external hedge fund managers, thereby saving approximately $.90 per $100 in assets managed, according to an outside investment-benchmarking consultant. Based on December 2013 hedge fund assets, this translates to an annual savings of $17 million by using internal staff. This savings will increase as SWIB increases its allocation to hedge funds over time.

Incentive Compensation

Incentive compensation is a critical component in being able to attract and retain investment professionals and maintain a qualified internal staff. Based on the advice of an independent external compensation consultant, SWIB's Board of Trustees determined in 2011 that SWIB's compensation plan should pay investment staff at market median when performance exceeds the benchmarks and above the median when performance significantly exceeds benchmarks. Conversely, if investment returns are below benchmarks, incentive compensation would not be earned and therefore compensation would be below the median. SWIB's market median is based upon a conservatively defined group of professionals that excludes highly paid investors on the East and West coasts. Trustees are involved in SWIB's compensation plan design and in determining and approving incentive compensation maximums, incentive compensation parameters, payment of total incentive compensation amounts, and payment amounts for senior managers and portfolio managers. Annually, the Trustees evaluate the program and make changes as needed with the help of the independent compensation consultant mentioned above.

In 2013, SWIB Trustees requested an in-depth external review of the administration of SWIB's compensation plan. That analysis confirmed that SWIB's approach is reasonable for determining competitive market pay, setting market-based salary and incentive levels, and calculating incentive payouts in accordance with the terms of SWIB's approved compensation plan. In 2014, the Trustees hired a different independent compensation consultant to perform an additional review of SWIB's incentive compensation plan to determine if it was consistent with the market and if it was fully accomplishing its purpose. This review also confirmed that the plan was reasonable and achieving its goals.

In 2013, SWIB's internal investment performance was significantly higher than benchmarks as staff exceeded 72.5 percent of the benchmarks established by the Trustees. As noted in the report, the 2013 incentive compensation payments were compared to the 2012 market data because the market data lags by one year. Generally, the market compensation increases each year causing the median to increase each year. As the median increases, SWIB's comparison to that median will decrease. SWIB will receive the 2013 market information in the fall of 2014 and once same-year numbers are available SWIB expects the comparison to median to decrease. In addition, SWIB's ability to approximate median compensation is measured over a longer time period than just one year. While compensation may move above or below the median in a single year, depending on performance, it is expected to approximate the median over the long term. SWIB's strong five-year performance at the end of 2013 earned $2.65 billion more than the market returned for the trust funds after costs. Because SWIB's incentive compensation program is based on paying for performance, this resulted in incentive compensation payments that were higher than the market median. Even after SWIB's strong five-year returns at the end of 2013, overall cash compensation for investment staff averaged 88 percent of the median for that same period.

Experience shows that paying for performance has been a success at SWIB, especially with its focus on lower cost internal management. Since implementing the plan, SWIB's ability to recruit and retain qualified staff has improved significantly and, as previously mentioned, SWIB remains a low-cost manager because it can rely much more on qualified staff and less on more costly external money managers.

Investment Strategies
SWIB has been, and continues to be, a long-term investor. Historically, markets tend to be cyclical and decline after a few years of strong performance. However, in the past few years, massive market moves over brief periods reflect a different financial landscape. SWIB's current investment strategy for the Core Fund is a long-term strategy and was developed, discussed, and implemented over several years to address the significant risk exposure to the volatile stock markets and needs diverse strategies to lessen that risk. Those strategies in particular consider lessons learned from the market collapse of 2008, the worst downturn since the 1930s. SWIB has reduced risk through decreased exposure to stocks and improved diversification with an increased allocation to lower-return and lower-risk assets, all while continuing to exceed the actuarial expected rate of return of 7.2 percent over the long term.

SWIB is slowly reducing the unpredictability of Core Fund returns by investing a modest allocation of assets in volatility-reducing strategies. These strategies help to smooth returns year over year to limit impacts of significant market downturns and include the use of hedge funds, modest leverage, and risk parity portfolios, which are designed to distribute volatility more evenly over asset classes. Measured alone, these strategies may underperform the market during periods of strong stock market performance but outperform in less favorable times. Measured within the context of the entire trust fund, however, this strategy allows the overall plan to be well suited to a variety of future market conditions and should protect the Core Fund against severe market downturns.

Because SWIB is a long-term investor, it can be more patient and flexible than many other investors. It must also be responsible and committed to a well thought-out plan that provides the best value to all WRS participants in the long run. The report notes mixed investment results for some of SWIB's newer strategies at one point in time, the end of 2013, and appropriately notes that it is too soon to definitively determine whether specific strategies have achieved their objectives. We note that, as of June 30, 2014, SWIB's aforementioned volatility-reducing strategies are beating all of their benchmarks since inception, based on preliminary results. The Core Fund leverage program also has added value in 2014, and the five-year results are equivalent to projected unlevered Core Fund results.

Wisconsin Investments
SWIB is involved with Wisconsin businesses ranging from small, family-owned companies to multi-billion dollar companies shipping worldwide. While SWIB welcomes opportunities to invest in businesses that will broaden the Wisconsin economy and provide employment opportunities, each Wisconsin investment is subject to the same extensive review and analysis as other SWIB investments. SWIB has substantial investments in companies either residing in, with significant

operations in, or with more than 20 employees in Wisconsin. As of June 30, 2013, these holdings totaled more than $15.6 billion.

SWIB's Wisconsin Private Loan program had outstanding loans totaling $382 million to 43 companies as of June 30, 2014. SWIB's Wisconsin Private Equity Portfolio, which is primarily focused on venture capital partnerships active in Wisconsin and the Midwest, is now beating its one-, three- and five-year benchmarks and only trails its ten-year benchmark by 20 basis points, based on preliminary results for June 30, 2014. Venture capital investments in this portfolio have a long time horizon of typically 8-12 years and SWIB recently experienced strong gains as the result of investments made years ago. The report notes a recent decline in Wisconsin companies within this portfolio compared to 2006. This dynamic is also the result of realized exits and liquidations that SWIB has experienced with some of its Wisconsin investments in its older venture capital funds. SWIB expects that some of its newer investments, which deploy capital over a period of multiple years, will slowly build back up the Wisconsin allocation in this portfolio. SWIB is also using its relationship with top-tier venture capital funds in the Catalyst Portfolio with Northgate Capital to introduce coastal managers to investment opportunities in the State. This, in turn, should make more funding available to Wisconsin companies seeking venture funds.

We appreciate the work of the audit team to clearly present these complex topics and we agree with the report's constructive recommendations.

Sincerely,

Michael Williamson
Executive Director