

December 19, 2018

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). SWIB's investment strategy and the State of Wisconsin's strong support has built one of the only fully-funded public pensions in the United States. SWIB's investment strategy is intended to help both protect and grow the Wisconsin Retirement System (WRS) assets that are relied upon by more than 632,000 participants for a more secure retirement.

The Legislative Audit Bureau's (LAB) report covers a broad range of topics, including some that are very complex in nature. SWIB is pleased that no significant concerns were identified during the audit. In addition, SWIB is already in nearly full compliance with three of the six recommendations. Rather than address every topic and recommendation, this response instead focuses on the four themes below where we disagree with LAB's conclusions or recommendations or where more information is necessary to put the report in the proper context:

- **Strong Performance:** SWIB's investment returns rank second among its peers when accounting for the WRS's goals and its fully funded status. On a long-term basis, SWIB is meeting or exceeding the WRS's investment target and beating its benchmarks on the 1-, 3-, 5-, and 10-year basis.
- **Informed and Balanced Approach to Risk:** SWIB has conducted robust investment stress testing for years to evaluate and strengthen its investment strategy. Since 2013, SWIB has worked with the Employee Trust Fund's (ETF) actuaries to conduct stress testing every two years. SWIB has incorporated stress testing results into its asset allocation and has tested multiple scenarios with different asset mixes over long periods of time.
- **Cost Optimization:** SWIB optimizes its costs, invests in its infrastructure, and spends less than its peers. Over the past 10 years, SWIB has spent \$1.3 billion less than its peers. Because SWIB has made investments in its technology systems, it now diligently tracks and regularly reports its costs and performance relative to expectations at a more granular level.
- **Recruiting Top Talent:** SWIB actively recruits top talent to hire the best qualified candidates to work on behalf of the WRS. In a tight labor market, SWIB has been proactive in quickly and efficiently recruiting talented individuals.

**Strong Performance: SWIB's investment returns rank second among its peers when accounting for the WRS's goals and its fully funded status.**

Given the WRS's fully funded status and unique risk-sharing design, SWIB invests differently than its peers, who are underfunded, generally have higher investment targets, and need to have greater risk tolerances. Investment earnings account for about 75% of all WRS revenue, and returns over the long term have been strong. As LAB recognizes, the 30-year average annual investment return for the Core Fund was 8.9% as of December 2017, ahead of its 7.2% target.

LAB notes that there are numerous differences in plan structure that should be considered when reviewing a peer comparison, including: “asset allocation, cash flow needs, investment styles, funding levels, return assumptions, risk tolerance levels, and statutory or other restrictions on allowable investments.” In short, differences in plan structure often result in different goals, which result in different asset allocations that then drive overall returns.

When a plan is not fully funded, its effective rate of return will decrease because a portion of the assets are not available to earn investment returns.

| Funding Level |   | Investment Return |   | Effective Rate of Return on Assets |
|---------------|---|-------------------|---|------------------------------------|
| 100%          | x | 7.2%              | = | 7.2%                               |
| 70%           | x | 7.2%              | = | 5.0%                               |

The table below further illustrates this point. The report focused heavily on the net five-year returns. However, when comparing the effective rate to the target rate, SWIB returned 1.34% more than its investment goal and ranked second among its peers. Conversely, five seemingly high-performing funds underperformed their targets, and the overall return average for the group was under target.

| Public Pension Plan                                     | Funded Ratio  | Net 5-year Returns (12/31/17) | 5-year Effective Rate | Target Rate | Effective Rate vs. Target | Rank     |
|---|---------------|-------------------------------|-----------------------|-------------|---------------------------|----------|
| <b>Wisconsin Retirement System—Core Fund</b>            | <b>102.9%</b> | <b>8.30%</b>                  | <b>8.54%</b>          | <b>7.2%</b> | <b>1.34%</b>              | <b>2</b> |
| Washington State Investment Board                       | 89.5%         | 10.12%                        | 9.06%                 | 7.7%        | 1.36%                     | 1        |
| Ohio Public Employees Retirement System                 | 84.9%         | 9.20%                         | 7.81%                 | 7.5%        | 0.31%                     | 5        |
| Florida State Board                                     | 84.3%         | 9.40%                         | 7.92%                 | 7.5%        | 0.42%                     | 3        |
| Teachers Retirement System of Texas                     | 80.5%         | 9.10%                         | 7.33%                 | 8.0%        | -0.67%                    | 6        |
| Virginia Retirement System                              | 77.4%         | 9.10%                         | 7.04%                 | 7.0%        | 0.04%                     | 7        |
| Minnesota State Board                                   | 73.8%         | 10.70%                        | 7.90%                 | 8.5%        | -0.60%                    | 4        |
| California Public Employees Retirement System           | 67.8%         | 9.00%                         | 6.10%                 | 7.4%        | -1.30%                    | 8        |
| New Jersey Division of Investments                      | 55.8%         | 8.74%                         | 4.88%                 | 7.5%        | -2.62%                    | 9        |
| Pennsylvania Public School Employees' Retirement System | 51.8%         | 7.62%                         | 3.95%                 | 7.3%        | -3.35%                    | 10       |
| <b>Weighted Averages for 9 Peers (excluding SWIB)</b>   | <b>73.5%</b>  |                               | <b>6.87%</b>          | <b>7.6%</b> | <b>-0.67%</b>             |          |

As shown above and in Appendix 7 of the report, all but one of the peers have higher target rates and no other plan is fully funded. Thus, SWIB can achieve its goals with less risk, which helps protect the WRS. A thoughtful consideration of returns should adjust for funding levels to provide a more complete picture. As shown, eight funds have lower effective rates than SWIB. So, even though they may have earned a higher return than SWIB, half did not meet their necessary investment targets, and many have taken on large amounts of equity-like risks in their allocation.

SWIB has designed and built the Core Trust Fund to strike the best possible balance between protecting the WRS and growing its assets. LAB notes multiple times that SWIB’s asset allocation is intended to help protect the Core Fund from significant downturns. Every year, as part of the process in developing the Core Fund’s asset allocation, SWIB and its asset allocation consultant discuss what is referred to as a “Goldilocks Zone.” This is an allocation in which the asset mix targeted is not “too hot” or “too cold” in

terms of risk and expected returns but is appropriate for the Core Fund. SWIB does not believe it is prudent to invest in an asset mix outside of this zone.

The Core Fund's 20-year return at the end of 2017 was 6.9%, which is slightly below the ETF-determined target rate of 7.2%. This target consists of two amounts: a 4.0% real rate of return plus 3.2% that is assumed for wage growth. It is important to note that actual wage growth over the past 20 years has only been 2.5%, which shifts the actual target needed to fully fund the WRS closer to 6.5%. So, while the actual performance for the 20-year period has been slightly below the stated target rate, a meaningful conversation comparing returns with the target should also include this data.

As LAB notes, *both the Core Fund and Variable Fund exceeded their 1-, 3-, 5-, and 10-year benchmarks at the end of 2016 and 2017.* SWIB is proud of this consistent performance, which means that its investment strategy is working.

LAB has asked SWIB to more clearly identify when reported returns are net versus gross. While SWIB currently footnotes which asset classes are reported on a net basis in SWIB's official performance reports, SWIB will look for additional ways to clarify its reporting. LAB also recommended that SWIB report net of all costs investment return information at a detailed level to the Board of Trustees. SWIB already reports net of all fees investment return information on an annual basis to the Board but will look for ways to enhance that reporting.

**Informed and Balanced Approach to Risk: SWIB has conducted robust investment stress testing since 2013 to evaluate and strengthen its investment strategy and make it more risk aware.**

LAB makes two recommendations regarding stress testing, both based on its review of a 2018 Pew Charitable Trust study: 1) conduct additional stress tests that focus on sustained market downturns and 2) conduct additional stress tests that consider potential changes to state laws that could affect the investment strategy of the WRS.

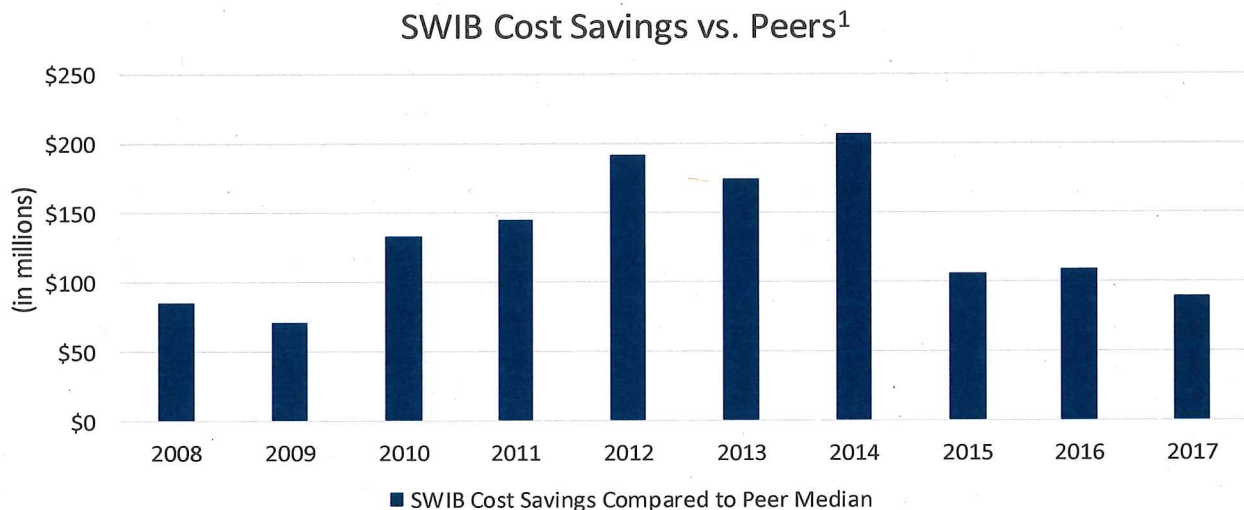
First, *SWIB already conducts comprehensive stress testing based on sustained market downturns that is substantially more robust than the Pew study model, according to ETF's actuaries.* The stress testing that SWIB conducts with ETF on a biennial basis reviews the effects of sustained low returns of 5.0% on the funded ratio, contribution rates, dividend rates, and retiree pool funding status. Pew's model covered only 50% of potential outcomes while the joint SWIB-ETF model covers more than 90% of potential outcomes, including more extreme outcomes for multiple asset allocations over multiple time periods. The Pew Study found Wisconsin to be the most robust plan it tested, remarking that "Wisconsin — by designing its pension plan with significant risk-sharing elements in addition to a strong funding policy — serves as an exemplar for managing cost volatility under virtually any scenario." Moreover, LAB incorrectly claims that SWIB's stress testing focused on only short-term changes to market conditions. In fact, SWIB's current stress testing covers 10-, 20-, and 50-year time horizons. All of SWIB's stress testing is available to the public, was provided to LAB, and will be conducted again in 2019.

Second, *SWIB does not find it practical to invent and then test the results of potential legislative changes that have neither been proposed nor suggested by the Legislature.* This would not be efficient, effective, or informative. SWIB and ETF already work with legislators when proposed legislative changes are suggested so that legislators can understand the potential effects on the WRS. SWIB will continue to address any specific changes introduced or under consideration and welcomes a continued partnership with the Legislature. Speculating about potential legislative changes is not SWIB's role or function.

**Cost Optimization:** SWIB optimizes its costs, invests in its infrastructure, and spends less than its peers. SWIB diligently tracks and reports its costs.

LAB notes that SWIB's expenses increased by 21.7% from 2013 to 2017. We expected this increase in costs given the 15.5% increase in assets under management over this same period and heavy investment in infrastructure and leading technology systems to help position us for the future. SWIB will continue to invest in its people, processes, and technology because those investments provide the greatest edge in achieving its long-term goals and delivering added returns.

While SWIB's total costs have increased since 2013, they have remained consistently and materially lower than its peers. For example, compared to its peers, SWIB saved approximately \$90 million in 2017 and \$1.3 billion from 2008 to 2017, which is more than it spent in FY 2016, FY 2017, and FY 2018 combined. The savings are driven by SWIB having fewer high cost assets and more internal management. In 2007, SWIB managed 21% of its assets internally. This has nearly tripled, and SWIB now manages approximately 60% internally. This has been one of the key contributors to SWIB's cost advantage that is summarized in the table below.



<sup>1</sup>This analysis compares SWIB's savings vs. the peer group median costs for every \$100 under management and multiplies that average savings by SWIB's median assets under management.

Because SWIB manages so many assets internally, SWIB must also invest in its people. Until 2017, much of the needed staffing increases were postponed because of the significant changes that were occurring as SWIB implemented new systems and processes. In 2016, one of SWIB's independent consultants, CEM, recommended a staffing ratio of 1.7 to 1 between investment services (support) staff and investment management staff. At the time of their recommendation, SWIB operated at a 1 to 1 ratio.

As a short-term fix, SWIB used highly qualified contractors to help meet temporary needs during this transition period. As long-term needs have become clearer, SWIB is appropriately shifting from contractors to full-time staff with industry experience to fill these roles, which will also generate substantial additional savings to SWIB over time. Costs for contractors and staff are all included in the Board-approved Total Cost of Management Plan (the Plan), and the Board also receives quarterly spending updates.

LAB makes several recommendations around how SWIB manages and reports on costs it incurs and project investments it makes to generate value to the WRS. As important as it is to have a strong investment strategy, it is equally important to optimize costs. Every dollar saved is as good as a dollar earned through investment

returns. SWIB focuses both on savings and returns because when we spend, we spend to make money and add value for the beneficiaries.

In connection with the ARIES project in 2017, *SWIB enhanced its tracking and reporting of project costs and, as reported to LAB, is already performing the actions recommended by LAB since 2017.* In 2016, SWIB implemented a new enterprise resource planning (ERP) system that allows all project costs (including technology costs) to be tracked at the most granular level and to allocate those costs directly to specific projects, business divisions, or to specific investment portfolios. Starting in 2017, the initiation of any project requires the creation of an expected budget to be tracked through the ERP system and analyzed by SWIB's Finance team. Detailed project costs and variances to the Plan are reviewed on a monthly basis by management with quarterly reporting around the total project budget and variance to the Board through Total Cost of Management reporting.

LAB also recommends that SWIB provide the budgets for each technology project for fiscal year (FY) 2020 by June 28, 2019. SWIB will know its overall technology budget as of that date, however it may not have a project-by-project budget. SWIB will provide all reporting that it provides to its Board to the Joint Legislative Audit Committee and will update the Committee on a periodic basis in FY 2020 as projects are initiated.

Annually, SWIB's Board approves the Plan for the FY, which includes both external and internal investment management costs along with the internal operating budget. *The Board currently approves all projected expenses that exceed the approved budget* and reviews expenses forecasted to exceed the Plan. SWIB reports to the Board its year-to-date actual costs, as well as full FY forecasted costs compared to the Plan on a quarterly basis, including forecasts of the internal operating budget through its Total Cost of Management reporting.

The bulk of SWIB's Total Cost of Management is comprised of management fees which are contractual and include a) base fees on assets under the control of an external manager and b) performance fees based on a share of the profits generated. *These management fees are contractual obligations that positively align incentives between SWIB and its external managers and that can vary based on investment performance.* SWIB aggressively negotiates with its external managers and has some of the most competitively priced fees in comparison to peers, according to SWIB's independent hedge fund consultant. When management fees exceed the Plan forecast, it means that there was strong investment performance, and that benefits the WRS.

**Recruiting Top Talent: SWIB actively recruits top talent to hire the best qualified candidates to work on behalf of the WRS.**

In 2018, SWIB hired 43 employees and 13 interns (through December 1<sup>st</sup>). A total of 3,958 people applied for those jobs, and SWIB interviewed 488 candidates by phone or in person, which is 12% of applicants. SWIB hires for very specialized positions and the necessary skills often require significant investment industry experience. *Finding the best qualified candidates is the chief objective in SWIB's hiring process.* SWIB successfully recruited top talent from premier investment management firms in 2018 including BlackRock, J.P. Morgan, Russell Investments, William Blair, Artisan Partners, Nuveen, and Heartland Advisors, as well as from top-rated pension plans like the Canada Pension Plan Investment Board.

To find the best qualified candidates, SWIB actively recruits for both open positions and positions that it anticipates in the future. SWIB encourages its employees to use their networks to bring people into the talent pool. SWIB became more proactive in 2018 to fill numerous vacancies and better address the need for deeply skilled candidates with industry experience. In discussions with SWIB, LAB agreed that talking with candidates before they applied or before the job was posted was an appropriate recruiting practice and not problematic.

However, in its report, LAB has characterized sourcing potential candidates in one's network as potentially limiting SWIB's review of other candidates. This is simply not the case. Sourcing candidates from the networks of existing employees is industry standard in both the public and private sector and a key avenue for generating a high-quality applicant pool.

Candidates are vetted against the entire applicant pool, whether they are sourced through public postings on SWIB's website and job sites, LinkedIn, or employees' networks. SWIB posts each open position on its website, LinkedIn, and other sites to cast a wide net for possible applicants. Selected candidates are then interviewed by a panel of employees to further help the hiring manager decide who is the most qualified and best fit for the role. LAB's suggestion that hiring managers should not be able to select whom to interview if they also sourced the candidate is inefficient and unworkable and would make it harder to hire the best candidates. Further, LAB fails to discuss numerous recruitments in 2018 where candidates who were sourced by hiring managers or other employees either were not selected or were not interviewed. LAB takes information out of context and mischaracterizes facts to come to its conclusions.

LAB states that SWIB only interviewed one candidate in person for each of the five positions it reviewed. SWIB interviews candidates it deems to be highly qualified and viable candidates for the position. As noted, only 12% of all applicants are interviewed. However, in two of the five 2018 recruitments that LAB reviewed, SWIB interviewed more than one candidate. In the first instance, LAB has dismissed the phone interviews that SWIB conducted, which provide a low-cost method to evaluate candidates outside of Wisconsin. In the second instance, LAB has ignored interviews conducted in an earlier recruitment for substantially the same position. If an applicant pool is particularly strong, then multiple candidates may be interviewed. However, SWIB only interviews candidates who are serious contenders.

LAB also highlights the speed with which some candidates were hired. Qualified candidates often have many opportunities and may be considering multiple job offers. A delay in the hiring process can result in losing a strong candidate to a competitor. By consistently building a talent pool from its employees' networks, SWIB can speed up the hiring process. Long recruitments are sometimes necessary but there is also a cost because they can be draining on the organization in terms of time and effort and require other employees to work double duty until the position is filled. An efficient recruitment of a great candidate is positive for SWIB and the WRS.

Although SWIB's records may not have fully documented its vetting process for each of its recruitments in 2018, SWIB in fact undertook a careful and thorough review and hired only the most highly qualified candidates. LAB concludes incorrectly that SWIB did not equally consider all qualified applicants in the five out of 43 recruitments that it reviewed in 2018. SWIB is planning, and has already taken steps, to increase its documentation so that its recruiting records better reflect the careful and thorough review that has been conducted and continues to be conducted for each recruitment in the pursuit of the most qualified candidates.

We appreciate the work of the LAB audit team in covering so many important topics in this report.

Sincerely,



David Villa  
Executive Director/Chief Investment Officer