

February 11, 2022

Senator Howard Marklein, Co-Chair
 Joint Committee on Finance
 P.O. Box 7882
 Madison WI 53707-7882

Representative Mark Born, Co-Chair
 Joint Committee on Finance
 P.O. Box 8952
 Madison WI 53708-8952

Senator Robert Cowles, Co-Chair
 Joint Legislative Audit Committee
 P.O. Box 7882
 Madison WI 53707-7882

Representative Samantha Kerkman, Co-Chair
 Joint Legislative Audit Committee
 P.O. Box 8952
 Madison WI 53708-8952

Secretary Kathy Blumenfeld
 Department of Administration
 101 East Wilson Street
 P.O. Box 7864
 Madison, WI 53707-7864

Dear Senator Marklein, Senator Cowles, Representative Born, Representative Kerkman, and Secretary Blumenfeld:

State statutes require the State of Wisconsin Investment Board (SWIB) to report all costs and expenses charged to the trust funds under management during the prior quarter as well as the number of full-time equivalent positions created or abolished during the quarter¹. The information contained in this report is for the quarter ended December 31, 2021.

Total Cost of Management Summary	1Q2021	2Q2021	3Q2021	4Q2021	Trailing 4 Qtr Total	% of Total
Internal Operating Expenses						
Operating Budget Expenses	\$ 11,960,506	\$ 39,468,133	\$ 12,882,486	\$ 14,225,300	\$ 78,536,425	60.6%
Custodial, Investment Operations & Banking	1,597,860	1,667,094	1,712,812	1,752,273	6,730,039	5.2%
Legal	412,361	237,486	642,792	821,846	2,114,485	1.6%
Investment Research & Consulting	8,716,569	9,505,930	10,099,210	10,521,546	38,843,255	30.1%
Total Internal Operating Expenses	\$ 22,687,296	\$ 50,878,643	\$ 25,337,300	\$ 27,320,965	\$ 126,224,204	97.5%
Securities Lending Agent Expenses	906,556	884,053	706,762	784,251	3,281,622	2.5%
Total SWIB Operating Costs	\$ 23,593,852	\$ 51,762,696	\$ 26,044,062	\$ 28,105,216	\$ 129,505,826	100.0%
External Investment Management Fees						
Externally Managed Separate Account Fees						
Beta One & Other - Separately Managed	\$ 11,815,893	\$ 12,846,225	\$ 15,897,862	\$ 9,818,853	\$ 50,378,833	8.8%
Supplemental Information - External Fund Fees						
Real Estate	\$ 16,246,132	\$ 16,794,113	\$ 17,175,742	\$ 17,693,091	\$ 67,909,078	11.9%
Private Equity & Venture Capital	42,901,170	57,849,368	56,476,982	61,375,539	218,603,058	38.1%
Hedge Funds	60,313,126	43,171,220	46,910,532	42,415,360	192,810,238	33.7%
Beta One & Other - External Funds	3,971,887	15,468,903	18,697,235	4,722,875	42,860,901	7.5%
Total External Investment Management Fee	\$ 135,248,208	\$ 146,129,829	\$ 155,158,353	\$ 136,025,718	\$ 572,562,108	100.0%
Total Cost of Management	\$ 158,842,060	\$ 197,892,525	\$ 181,202,415	\$ 164,130,934	\$ 702,067,934	

¹Wisconsin Statutes Section 25.17 (13m): All investment-related costs and expenses charged to the WRS Trust Funds, State Investment Fund, State Life Insurance Fund, Historical Society Endowment Fund, Injured Patients and Families Compensation Fund and UW Trust Fund. Investment transaction expenses, such as trading commissions and interest expense, are included in investment returns, and therefore not included in this report.

SWIB operating costs are charged to the trust funds under management and externally managed fund fees are netted against the investment returns generated by SWIB's external fund holdings. It is important to consider costs in the context of value-added investment returns. For example, during the five years ended December 31, 2021, after consideration of all expenses, costs, and fees, SWIB generated more than \$2.2 billion in additional profits beyond what would have been generated by the benchmark portfolio SWIB is measured against. These profits all go directly into the Wisconsin Retirement System for the benefit of its beneficiaries.

Attachment A provides a breakdown of the amount and percentage of assets managed under each type of dedicated and commingled account or partnership, and the change in the amount and percentage from the prior calendar quarter. During the fourth quarter of 2021, SWIB's Board of Trustees approved 29 new staff positions to further support new investment strategies and management of the trust fund assets. SWIB's total authorized positions are 290 as shown in the table below.

Assets Under Management & Positions		
	9/30/2021	12/31/2021
Internal Management	55.0%	53.3%
External Management	45.0%	46.7%
Total SWIB Positions	261	290

In addition, Attachment B provides details of the services provided to SWIB and their associated quarterly costs.

As new investment strategies are implemented and markets continue to evolve, SWIB will continue evaluating the most efficient means to manage the trust fund assets. Please contact us if you have any questions or comments about this report.

For definitions of the expense categories presented in the Total Cost of Management Summary table, please refer to Attachment C

Sincerely,



Edwin Denson
Executive Director/Chief Investment Officer

Attachments

cc: Members, Joint Committee on Finance
Members, Joint Committee on Audit
Robert Lang, Legislative Fiscal Bureau
Joe Chrisman, Legislative Audit Bureau

Total Assets Under Management

Wisconsin Retirement System (WRS)	3/31/2021		6/30/2021		9/30/2021		12/31/2021	
	Amount (in millions)	Percent	Amount (in millions)	Percent	Amount (in millions)	Percent	Amount (in millions)	Percent
Internally Managed	\$68,456	51.6%	\$72,061	51.4%	\$72,136	51.2%	\$72,165	49.0%
Externally Managed Dedicated Accounts	35,943	27.1%	36,723	26.2%	35,978	25.5%	36,740	25.0%
Externally Managed Commingled Accounts	28,164	21.2%	31,351	22.4%	32,809	23.3%	38,311	26.0%
1. Passive Index Funds	2,864	2.2%	2,966	2.1%	2,894	2.1%	2,857	1.9%
2. Limited Partnerships	17,894	13.5%	19,692	14.1%	22,128	15.7%	26,574	18.1%
3. Actively Managed Commingled Accounts	7,406	5.6%	8,693	6.2%	7,787	5.5%	8,881	6.0%
TOTAL WRS Assets	\$132,563	100.0%	\$140,136	100.0%	\$140,923	100.0%	\$147,217	100.0%

State Investment Fund - Internally Managed	\$13,988		\$15,426		\$14,648		\$16,051	
Separately Managed Funds - Internally Managed	\$119		\$124		\$123		\$123	
Separately Managed Funds - Externally Managed	\$2,148		\$2,221		\$2,225		\$2,276	

Total Assets Under Management	\$148,819		\$157,906		\$157,919		\$165,666	
Total Internal Management	\$82,564	55.5%	\$87,611	55.5%	\$86,906	55.0%	\$88,338	53.3%
Total External Management	\$66,255	44.5%	\$70,295	44.5%	\$71,012	45.0%	\$77,328	46.7%

STATE OF WISCONSIN INVESTMENT BOARD
Expenses for All Funds Under Management
Quarter Ending December 31, 2021

EXPENSE CATEGORY ¹	SERVICE PROVIDED	EXPENSES
<u>Internal Operating Expenses</u>		
Staff Compensation	Staff Compensation	\$ 10,714,778
Fringe Benefits	Fringe Benefits	2,104,907
Equipment, Supplies & Services	General Supplies & Services	1,405,615
Total Internal Operating Expenses		\$ 14,225,300
<u>Custodial, Investment Operations and Banking Fees</u>		
BNY Mellon Asset Servicing - Custody	Master Custody Services	\$ 264,361
BNY Mellon Asset Servicing - Investment Operations	Investment Operating Services	1,452,448
Markit NA	Investment Operating Services	35,400
US Bank	Banking Fees	64
Total Custodial, Investment Operations and Banking Fees		\$ 1,752,273
<u>Legal Fees</u>		
Chapman & Cutler LLP	Legal Work for Investment Strategies	\$ 96,504
Cox Castle & Nicholson LLP	Legal Work for Investment Strategies	78,072
DLA Piper LLP (US)	Legal Work for Investment Strategies	173,770
Godfrey & Kahn SC	Legal Work for Investment Strategies	4,482
Purrington Moody Weill LLP	Legal Work for Investment Strategies	119,059
Quarles & Brady	Legal Work for Investment Strategies	183,426
Reinhart Boerner Van Deuren SC	Legal Work for Investment Strategies	198
Shearman & Sterling LLP	Legal Work for Investment Strategies	147,941
Vedder Price PC	Legal Work for Investment Strategies	18,396
Total Legal Fees		\$ 821,846
<u>Investment Counsel</u>		
280 First Inc	Research and Data Services	\$ 7,500
ABG Sundal Collier Inc	Investment Research	750
Adeptyx Consulting	Investment Consulting Services	73,704
Aksia LLC	Hedge Fund Investment Consulting	193,750
Alembic Global Advisors	Market Research	3,100
Alex Solutions	Research & Data Service	39,417
Ananth Seshadri	Economic Consulting Services	45,000
Aon Hewitt Investment Consulting Inc	Investment and Risk Management Research	15,000
B Riley FBR Inc	Investment Research	4,500
Bank of America Merrill Lynch	Investment Research	114,875
Barrington Research Associates Inc	Investment Research	2,000
BCA Research Inc	Global & Domestic Fixed Income Strategy Research	33,125
Berenberg	Investment Research	65,650
BITA Risk Limited	Risk Oversight Services	12,250
Blacklight Technology Partners, LLC	Research & Data Services	28,500
Blackrock Financial Management Inc	Risk Services	75,000
Bloomberg Finance LP	Market, Company, Industry & Benchmark Information	1,058,721
BMO Capital Markets Corp	Investment Research Services	27,400
BNY Mellon Asset Servicing - Eagle/Pace	Investment Consulting Services	128,000
Boenning & Scattergood Inc	Investment Research	3,400
Bridge Consulting Partners Ltd	Investment Consulting	66,000
Broad Street Consulting Group	Recruitment Consulting	100,000
BTIG, LLC	Investment Research	2,700
Business Intelligence Advisors, Inc.	Advisory Services	30,000
Callan Associates Inc	Investment Consulting & Performance Benchmarking	6,250
Canaccord Genuity	Investment Research	11,400
Carnegie Inc	Investment Research	3,500
CBOE Global Markets, Inc.	Research and Data Services	1,500
CEM Benchmarking Inc	Investment Cost Analysis	35,000
CFRA Research	Investment Research Services	23,100
Charles River System Inc	Portfolio Management Trading Software & Services	211,217
CIBC World Markets Inc	Investment Research	7,600
CL King & Associates	Investment Research	6,600
Codrington Japan	Investment Research	250
Colliers Securities LLC	Investment Research	5,500
Compass Point Research & Trading, LLC	Investment Research	1,000
Cornerstone Macro LLC	Macro Economic Research	44,950
CoStar Portfolio Strategy	Real Estate Consulting & Research Services	28,738
Council of Institutional Investors	Corporate Governance	30,000
Cowen and Company LLC	Research and Data Services	41,000
Craig-Hallum Capital Group	Investment Research	7,200
CreditSights	Credit Assessments	17,500
Cross Current Research LLC	Healthcare Sector Research	10,000
Cutter Associates	Investment Organization and Systems Consulting	17,500
DA Davidson & Co	Investment Research	16,100
Dacheng Xiu	Investment Research	37,500
Daiwa Capital Markets America	Investment Research	13,700
Davy Securities Limited	Investment Research	4,750

EXPENSE CATEGORY ¹	SERVICE PROVIDED	EXPENSES
Delphi-US LLC	Investment Information Technology Consulting Services	50,538
Deutsche Bank	Tax registration fees	81,788
Dow Jones News Service	Company and Industry News Services	31,937
DTCC – EPN	Trade Settlement Service	3,000
DTCC ITP LLC	Trade Settlement Service	1,359
EFront Financial Solutions Inc	Private Markets Portfolio Management Services	301,561
Empirical Research Partners LLC	Investment Research	137,500
Euromonitor International	Research and Data Services	18,915
Evercore Group LLC	Investment Research	84,700
eVestment Alliance LLC	Research and Data Services	74,190
Exane Inc	Investment Research	66,446
FactSet Research Systems Inc	Financial & Economic Database	997,850
FBN Securities, Inc.	Investment Research	3,000
Finiato	Research Management Solution	50,000
FIS Data Systems Inc.	Research and Data Services	22,177
FTSE Fixed Income LLC	Real Time Index Data	37,161
Furey Research Partners LLC	Small Cap Research	15,000
Gabriel Roeder Smith & Company	Actuarial Consulting	20,500
Gartner Inc	Technology Sector Research	29,285
Goodbody	Investment Research	16,750
Grandview Analytics LLC	Investment Information Technology Consulting Services	91,605
Green Street Advisor	Real Estate Analytics	16,937
Guggenheim Securities LLC	Investment Research	16,500
Handelsbanken Markets Securities Inc.	Investment Research	3,000
Haver Analytics	Global Macroeconomic Research	22,700
Hedgeye Risk Management, LLC	Research and Data Services	15,000
HSBC Securities (USA) Inc.	Investment Research	23,500
Ice Data LP	Fixed Income Indices	10,435
IHS Markit KY3P LLC	Risk Management Services	22,340
Insightia Limited	Proxy Insight Subscription	9,950
Institutional Shareholder Services Inc	Proxy Voting Analysis	58,825
International Swaps and Derivatives Assn	Derivative Industry Research	12,124
Investec Securities (US) LLC	Investment Research	1,000
IPC Systems Inc	Trading Telecommunication System	8,482
Janney Montgomery Scott	Investment Research	3,000
Jefferies Research Services LLC	Investment Research	77,800
Joyce C Knauff & Associates	Investment Consulting	41,250
JP Morgan	Research and Data Services	15,000
Keefe Bruyette & Woods (KBW)	Investment Research	45,000
Kepler Capital Markets Inc	Investment Research Services	10,700
KeyBanc Capital Markets Inc	Investment Research	31,000
Keystone Consulting Inc	Investment Information Technology Consulting Services	265,605
KPMG Limited	Tax Representation Services	6,422
Kreischer Miller LLP	Investment Consulting	1,400
Law360 Legal News and Data	Investment Research	3,125
Liberum Capital Inc	Investment Research	28,550
Longbow Securities LLC	Investment Research	1,500
Loop Capital Financial Consulting Services	Valuation Consulting Services	2,400
Mackey LLC	Research Management System	51,436
Macquarie Capital (USA) Inc	Investment Research	24,000
Markit-EDM Limited	Data Management Software	186,509
Matrix IDM, LLC	Investment Consulting	32,200
McLagan Partners Inc	Investment Compensation Data and Analysis	86,850
Meketa Investment Group	Public Markets External Manager Consultant	64,980
MKM Partners	Investment Research Services	12,250
MNI Market News	Research and Data Services	1,890
Moodys Analytics	Economic, Currency & Bond Analysis	36,613
Morningstar Inc	Industrial Sector Market Research & Analysis	6,000
MSCI Inc - Risk Metrics Solutions	Research and Data Services	275,537
MSCI, Inc	Research and Data Services	104,088
MUFG Securities America	Investment Research	10,500
My Data Outlet International, LLC	Research and Data Services	11,000
National Bank Financial Inc	Investment Research	5,600
National Conference on Public Employee Retirement Systems	Investment Research	4,400
Needham & Company LLC	Investment Research	11,000
NEPC LLC	Investment Consulting Services	50,000
Nephron Research LLC	Investment Research	5,000
New Street Research LLC	Investment Research	25,000
Northland Securities	Investment Research	3,000
Novus Partners Inc	Profit & Loss Analytics System	(9,255)
Nuware Technology Corp	Investment Information Technology Consulting Services	219,000
NYSE Market Inc	New York Stock Exchange Data	7,517
Odeon Capital Group, LLC	Research and Data Services	7,500
Oliver James	Investment Consulting	92,292
Oppenheimer & Co Inc	Investment Research	11,500
Options Price Reporting Authority	Quote System for Options Market	2,930
Pacific Pension & Investment Institute	Access to Investment Research	12,000
Pac-invest	Research and Data Services	12,156
Piper Sandler & Co	Investment Research	27,000
PremiaLab	Investment Research	12,451
RCM Technologies	Investment Consulting	(20,000)

EXPENSE CATEGORY ¹	SERVICE PROVIDED	EXPENSES
Redburn Europe Limited	Investment Research	25,850
Refinitiv	Research Pricing (Autex, Baseline, FirstCall)	84,532
Renaissance Macro Research	Macro Economic Research	37,250
Responsible Investor	Research and Data Services	581
Robert W. Baird & Co.	Investment Research	60,500
Rosenblatt Securities Inc	Investment Research	15,500
Roth Capital Partners	Investment Research	4,800
Russell Investment Group	Index Data	8,932
Rystad Energy AS	Investment Research	22,500
S&P Global Market Intelligence	Industry & Corporate Research	118,357
Sanford C Bernstein & Co LLC	Investment Research	164,113
Santander Investment Securities Inc	Investment Research	14,400
Seaport Global Securities LLC	Research and Data Services	12,480
SEB Securities Inc	Investment Research	1,000
SemiAnalysis	Investment Research	200
Sharp Decisions Inc	Investment Information Technology Consulting Services	82,576
Sidoti & Company LLC	Investment Research	8,500
Simcorp USA, Inc.	Investment System	1,632,335
SMBC Nikko Securities America Inc	Investment Research	23,750
Snowflake Inc	Research and Data Services	25,000
Solve Advisors Inc	Investment Research	9,000
Statista	Investment Research	468
Stephens Inc	Investment Research	24,746
StepStone Group	Private Equity Consulting Services	300,102
StepStone Group Real Estate	Real Estate Consulting Services	56,471
Stifel Nicolaus & Company Incorporated	Investment Research	42,000
Stuart Frankel & Co., Inc	Investment Research	5,000
SVB Leerink	Research and Data Services	18,500
SWIFT SC	Research and Data Services	574
SystemsAccountants	Investment Information Technology Consulting Services	80,640
TD Securities (USA) LLC	Investment Research	2,500
Telsey Advisory Group	Consumer Sector Research	31,250
The Benchmark Company LLC	Investment Research	3,700
The Financial Times Limited	Investment Research	372
The Leuthold Group LLC	Broad Based Market Research	10,750
The Nasdaq Stock Market, LLC	Research & Data Services	4,500
The Spaulding Group, Inc.	Audit Services	35,000
The University of Chicago Booth School of Business	Training Services	101
The Yield Book Inc	Research and Data Services	9,060
Toronto Stock Exchange	Market Data	18,219
TradeWeb	On-Line Fixed Income Trading Services	9,534
Trepp, LLC	Investment Research	47,741
Trivariate Research LP	Investment Research	15,000
Truist Securities, Inc.	Investment Research	14,146
Tudor Pickering Holt & Co	Investment Research	13,500
Unit4 Business Software Inc	Financial & Administration Services System	61,106
Unquote	Research and Data Services	3,393
Vertical Research Partners	Industrial Sector Market Research & Analysis	20,000
Verus Advisory Inc	Benchmarking Consulting Services	42,000
Virtu ITG Analytics LLC	Trading Transaction Cost Analysis	17,500
Visible Alpha LLC	Research and Data Services	36,619
V-Soft Consulting Group Inc	Investment Information Technology Consulting Services	76,800
Wall Street Journal	Investment Research & Information	50
Wedbush	Investment Research	9,000
WestPark Capital, Inc.	Investment Research	1,100
William Blair & Company LLC	Investment Research	15,500
Wolfe Trahan	Transportation and Macro Economic Research	82,571
Wolverine Execution Services LLC	Options Trading Platform	1,367
WorldBridge Partners Inc	Recruitment Consulting	58,315
Worth Charting LLC	Investment Consulting	1,250
Yipit, LLC	Research and Data Services	15,000
Total Investment Counsel		\$ 10,521,546
<u>Securities Lending Agent Fees</u>		
BNY Mellon Asset Servicing	Securities Lending Agent Fees	\$ 784,252
Total Securities Lending Agent Fees		\$ 784,252
Total Quarterly Charges to Funds		\$ 28,105,217

¹All costs reported are on an accrual basis except for internal operating costs which are on a cash basis of accounting. Negative expense amounts are due to accrual adjustments and/or other miscellaneous adjustments.

Explanation of Expenses

Internal Operating Expenses

Internal operating expenses consist primarily of staff compensation and fringe benefits. SWIB employs a staff of professional investment and support staff to manage the trust fund assets. Other internal operating expenses consist of office equipment, supplies, business travel, information technology equipment and services, and general services.

Custodial & Banking Fees

Wisconsin Certificate of Deposit Program: Under a contract with SWIB, Bankers' Bank administers the program under which the State Investment Fund (SIF) purchases certificates of deposit from Wisconsin-based banks and thrifts. Most administrative costs are paid by the participating banks. SWIB's expenses help underwrite other administrative costs, such as insurance that SWIB requires to be purchased.

BNY Mellon: Provides master custodial and administrative services (safekeeping of assets, income collection, valuations and accounting) for public and private domestic and foreign securities in the Wisconsin Retirement System (WRS), the SIF, and the other separately managed trust funds. In addition, SWIB receives performance measurement and analytical services through its contract with BNY Mellon, which serves as the official book of record for SWIB's accounting and performance measurement functions. BNY Mellon provides data and analytical tools used by SWIB for compliance and risk management. These include global collateral management, data management, and hosting services. Fees for these services are established by contract.

US Bank: The State of Wisconsin contracted with US Bank to be the state's working bank. The fees paid to US Bank by the SIF reflect bank service charges that are not directly applicable to the fund participants.

Legal Fees, Services, and Expenses

Under authority delegated by the Attorney General, pursuant to s. 25.18 (1) (a) Statutes, SWIB may employ legal counsel for any matters arising out of the scope of its investment authority. This includes legal services relating to bankruptcies, class actions, private markets transactions, fiduciary advice, securities law, investment litigation, and other similar matters. The Attorney General annually reviews and approves a list of law firms to provide investment legal services for SWIB.

Investment Counsel

Current law gives SWIB the authority to employ investment counsel in any matters arising out of the scope of its investment authority. Investment research and services provided include global market, industry, economic and company information, financial and performance analytics, news information, pricing and exchange data, credit ratings, financial modeling, economic forecasting, trading services, and a variety of Board consultations. These services enable SWIB to perform due diligence on current and future holdings and assist in monitoring investments.

Securities Lending Agent Fees

Securities lending programs generally earn income through the reinvestment of cash collateral posted by borrowers and through the collection of fees for loans where non-cash collateral is posted. SWIB's securities lending income is shared with the agent to pay the costs associated with the administration of the program. The securities lending agent fees are no longer netted with income and are reported as securities lending agent fee expenses starting on July 1, 2019.

Externally Managed Separate Account Fees

External asset managers have been delegated authority within guidelines established by SWIB to determine investment strategy and purchase securities in SWIB's name within a SWIB account. Fees are typically assessed as a percentage of the market value of assets under management and in some cases, fees are based on investment performance.

External Funds Fees

SWIB invests in separate legal entities managed by external investment managers to gain exposure to select strategies including Public Markets, Private Equity, Venture Capital, Real Estate and Hedge Funds. In exchange for their investment management services, the external managers charge a fee within the entity they manage. Fees are typically assessed as a percentage of the market value of assets under management, commitments, and in some cases are based on investment performance. While the fees charged to these external vehicles do not meet the statutory definition of a cost or expense to SWIB, they are currently included in SWIB's total cost of management. Accordingly, these fees are reported as supplemental information.