

August 15, 2022

Senator Howard Marklein, Co-Chair	Representative Mark Born, Co-Chair
Joint Committee on Finance	Joint Committee on Finance
P.O. Box 7882	P.O. Box 8952
Madison WI 53707-7882	Madison WI 53708-8952
Senator Robert Cowles, Co-Chair Joint Legislative Audit Committee P.O. Box 7882 Madison WI 53707-7882	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, 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 June 30, 2022.

				Trailing 4 Qtr				
Total Cost of Management Summary	3Q2021	4Q2021	1Q2022		2Q2022		Total	% of Total
Internal Operating Expenses								
Operating Budget Expenses	\$ 12,882,486	\$ 14,225,300	\$ 14,062,637	\$	42,801,859	\$	83,972,282	61.0%
Custodial, Investment Operations & Banking	1,712,812	1,752,273	1,803,372		1,692,456		6,960,913	5.1%
Legal	642,792	821,846	625,000		625,000		2,714,638	2.0%
Investment Research & Consulting	 10,099,210	10,521,546	10,007,468		9,150,155		39,778,379	29.0%
Total Internal Operating Expenses	\$ 25,337,300	\$ 27,320,965	\$ 26,498,477	\$	54,269,470	\$	133,426,212	97.0%
Securities Lending Agent Expenses	706,762	784,251	1,282,912		1,412,138		4,186,063	3.0%
Total SWIB Operating Costs	\$ 26,044,062	\$ 28,105,216	\$ 27,781,389	\$	55,681,608	\$	137,612,275	100.0%
External Investment Management Fees								
Externally Managed Separate Account Fees								
Beta One & Other - Separately Managed	\$ 15,897,862	\$ 9,818,853	\$ 12,730,351	\$	6,621,385		45,068,451	6.9%
Supplemental Information - External Fund Fees								
Real Estate	\$ 17,175,742	\$ 17,693,091	\$ 19,209,516	\$	19,257,344		73,335,693	11.2%
Private Equity & Venture Capital	56,476,982	61,375,539	56,999,361		72,498,709		247,350,590	37.6%
Hedge Funds	46,910,532	42,415,360	72,033,779		60,862,749		222,222,421	33.9%
Beta One & Other - External Funds	 18,697,235	4,722,875	18,411,505		26,091,654		67,923,270	10.4%
Total External Investment Management Fees	\$ 155,158,353	\$ 136,025,718	\$ 179,384,512	\$	185,331,841	\$	655,900,425	100.0%
Total Cost of Management	\$ 181,202,415	\$ 164,130,934	\$ 207,165,901	\$	241,013,449	\$	793,512,700	

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

¹Wisconsin Statutes Section 25.17 (13m): 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. 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. As of June 30, 2022, SWIB's total authorized positions are 290 as shown in the table below.

Assets Under Management & Positions				
	3/31/2022	6/30/2022		
Internal Management	50.7%	48.4%		
External Management	49.3%	51.6%		
Total SWIB Positions	290	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 Dens.

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)	9/30/	9/30/2021 12/31/2021		3/31/2	2022	6/30/2022		
	Amount (in millions)	Percent	Amount (in millions)	Percent	Amount (in millions)	Percent	Amount (in millions)	Percent
Internally Managed	\$72,136	51.2%	\$72,165	49.0%	\$64,161	45.5%	\$52,094	41.7%
Externally Managed Dedicated Accounts	35,978	25.5%	36,740	25.0%	36,289	25.8%	27,907	22.4%
Externally Managed Commingled Accounts	32,809	23.3%	38,311	26.0%	40,434	28.7%	44,852	35.9%
1. Passive Index Funds	2,894	2.1%	2,857	1.9%	2,283	1.6%	1,689	1.4%
2. Limited Partnerships	22,128	15.7%	26,574	18.1%	28,548	20.3%	30,212	24.2%
3. Actively Managed Commingled Accounts	7,787	5.5%	8,881	6.0%	9,603	6.8%	12,950	10.4%
TOTAL WRS Assets	\$140,923	100.0%	\$147,217	100.0%	\$140,884	100.0%	\$124,853	100.0%

State Investment Fund - Internally Managed	\$14,648		\$16,051		\$16,930		\$18,401	
Separately Managed Funds - Internally Managed	\$123		\$123		\$111		\$101	
Separately Managed Funds - Externally Managed	\$2,225		\$2,276		\$2,095		\$2,409	
Total Assets Under Management	\$157,919		\$165,666		\$160,020		\$145,764	
Total Internal Management	\$86,906	55.0%	\$88,338	53.3%	\$81,202	50.7%	\$70,596	48.4%
Total External Management	\$71,012	45.0%	\$77,328	46.7%	\$78,818	49.3%	\$75,168	51.6%

STATE OF WISCONSIN INVESTMENT BOARD Expenses for All Funds Under Management Quarter Ending June 30, 2022

EXPENSE CATEGORY ¹	SERVICE PROVIDED	E	XPENSES
Internal Operating Expenses			
Staff Compensation	Staff Compensation	\$	35,222,915
Fringe Benefits	Fringe Benefits		5,633,291
Equipment, Supplies & Services	General Supplies & Services		1,945,653
Total Internal Operating Expenses		\$	42,801,859
Custodial, Investment Operations and Banking Fees			
BNY Mellon Asset Servicing - Custody	Master Custody Services	\$	308,898
BNY Mellon Asset Servicing - Investment Operations	Investment Operating Services		1,378,501
Markit NA	Investment Data Management Software		5,019
US Bank	Banking Fees	-	38
Total Custodial, Investment Operations and Banking Fees		\$	1,692,456
Legal Fees			
Chapman & Cutler LLP	Legal Work for Investment Strategies	\$	15,000
Cox Castle & Nicholson LLP	Legal Work for Investment Strategies		3,354
DLA Piper LLP (US)	Legal Work for Investment Strategies		100,211
Godfrey & Kahn SC	Legal Work for Investment Strategies		1,704
Husch Blackwell	Legal Work for Investment Strategies		2,438
Latham & Watkins LLP	Legal Work for Investment Strategies		25,823
Legal Services Expense Accrual	Legal Work for Investment Strategies		506,219
Purrington Moody Weill LLP Quarles & Brady	Legal Work for Investment Strategies		68,503 74,040
Shearman & Sterling LLP	Legal Work for Investment Strategies		161,099
Vedder Price PC	Legal Work for Investment Strategies Legal Work for Investment Strategies		11,875
Legal Services Expense Accrual Reversal	Legal Work for Investment Strategies		(345,265)
Total Legal Fees	Legal work for investment of alegies	\$	625,000
Investment Councel			
Investment Counsel ABG Sundal Collier Inc	Investment Research	\$	750
Adeptyx Consulting	Investment Consulting Services	Ψ	28,116
Aksia LLC	Hedge Fund Investment Consulting		193,750
Alembic Global Advisors	Market Research		3,000
Alex Solutions	Research and Data Services		39,750
Aon Hewitt Investment Consulting Inc	Investment and Risk Management Research		15,000
Apex Systems	Investment Consulting		50,289
Arthur Selender	Investment Consulting		2,000
B Riley FBR Inc	Investment Research		5,000
Backstop Solutions Group	Investment Software		12,400
Bank of America Merrill Lynch	Investment Research		93,950
Barrington Research Associates Inc	Investment Research		3,100
BCA Research Inc	Global & Domestic Fixed Income Strategy Research		33,458
Berenberg	Investment Research		48,350
Blackrock Financial Management Inc	Risk Services		75,000
Bloomberg Finance LP	Market, Company, Industry & Benchmark Information		994,409
BMO Capital Markets Corp□	Investment Research Services		22,050
BNY Mellon Asset Servicing - Custody	Master Custody Services		48,000
BNY Mellon Asset Servicing - Eagle/Pace	Investment Consulting Services		188,360
Bridge Consulting Partners Ltd	Investment Consulting		84,480
Broad Street Consulting Group	Recruitment Consulting Investment Research		19,500 1,000
BTIG, LLC Canaccord Genuity	Investment Research		5,250
Carnegie Inc	Investment Research		5,250
CBJL Incorporated	Investment Consulting		95,940
CBOE Global Markets, Inc.	Research and Data Services		1,500
CFRA Research	Investment Research Services		17,325
Charles River System Inc	Portfolio Management Trading Software & Services		357,082
CIBC World Markets Inc	Investment Research		4,750
CL King & Associates	Investment Research		5,500
Codrington Japan	Investment Research		1,000
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EXPENSE CATEGORY¹

Colliers Securities LLC Compass Point Research & Trading, LLC Consensus Economics Inc Copp Clark CoStar Portfolio Strategy Cowen and Company LLC Craig-Hallum Capital Group Crane Data LLC Cross Current Research LLC **CUSIP** Global Services DA Davidson & Co Dacheng Xiu Daiwa Capital Markets America Datacamp Inc Davy Securities Limited Deutsche Bank **DNB Bank ASA** Dow Jones News Service DTCC - EPN DTCC ITP LLC **EFront Financial Solutions Inc** Elevation LLC **Empirical Research Partners LLC** Ernst & Young LLP Euromonitor International Evercore Group LLC Exane Inc FactSet Research Systems Inc FBN Securities, Inc. FIS Data Systems Inc. Fitch Solutions Inc FocusEconomics S.L.U Furey Research Partners LLC Gallagher Gartner Inc **Global Peer Financing Association** Goodbody Grandview Analytics LLC Green Street Advisor **Guggenheim Securities LLC** Hammerstone Markets Inc Haver Analytics HSBC Securities (USA) Inc. Ice Data LP Informa Business Intelligence Inc (Sagient Research Systems) Institutional Investor Institutional Shareholder Services Inc Intelligent Automation Consulting Investec Securities (US) LLC IT-Venture LTD Janney Montgomery Scott Jefferies Research Services LLC Keefe Bruyette & Woods (KBW) Kepler Capital Markets Inc KeyBanc Capital Markets Inc Keystone Consulting Inc KPMG Limited Kreischer Miller LLP Kroll Bond Rating Agency, Inc. (KBRA) Liberum Capital Inc Longbow Securities LLC Loop Capital Financial Consulting Services Mackey LLC Macquarie Capital (USA) Inc Markit Group Limited

Markit NA

SERVICE PROVIDED

EXPENSES

Investment Research	1,500
Investment Research	500
Investment Research Services	34,800
Research and Data Services	3,713
Real Estate Consulting & Research Services	28,738
Research and Data Services Investment Research	33,100
Research and Data Services	5,200 3,000
Healthcare Sector Research	5,000
Research and Data Services	10,833
Investment Research	20,200
Investment Research	37,500
Investment Research	9,100
Research and Data Services	4,587
Investment Research	4,750
Tax registration fees	57,395
Investment Research	10,000
Company and Industry News Services	924
Trade Settlement Service	3,001
Trade Settlement Service	3,366
Private Markets Portfolio Management Services	154,390
Research and Data	10,000
Investment Research	137,500
Tax Compliance Services & Investment Consulting	19,000
Research and Data Services	19,482
Investment Research Investment Research	72,350
Financial & Economic Database	64,935 969,680
Investment Research	5,000
Research and Data Services	21,230
Credit Rating Services	17,500
Investment Consulting	34,980
Small Cap Research	11,000
Insurance and Risk Management Services	15,533
Technology Sector Research	29,285
Investment Consulting	1,000
Investment Research	6,750
Investment Information Technology Consulting Services	48,462
Real Estate Analytics	16,937
Investment Research	17,050
Investment Research	300
Global Macroeconomic Research	22,700
Investment Research	2,250
Fixed Income Indices Investment Research	28,035
Investment Research Services	5,250
Proxy Voting Analysis	19,500 41,914
Automation Consulting Services	7,050
Investment Research	5,000
Investment Consulting	127,600
Investment Research	2,000
Investment Research	73,150
Investment Research	31,250
Investment Research Services	4,400
Investment Research	25,000
Investment Information Technology Consulting Services	281,075
Tax Representation Services	9,778
Investment Consulting	(29,800)
Investment Research and Data Services	15,000
Investment Research	16,000
Investment Research	1,500
Valuation Consulting Services	2,300
Research Management System	52,079
Investment Research	22,850
Investment Consulting	1,250 20 167
Investment Data Management Software	20,167

EXPENSE CATEGORY¹

Markit-EDM Limited Matrix IDM. LLC McLagan Partners Inc Meketa Investment Group MKM Partners MNI Market News Money-Media Inc Moodys Analytics Morningstar Inc MSCI - Barra MSCI Inc - Risk Metrics Solutions MSCI, Inc **MUFG Securities America** My Data Outlet International, LLC National Bank Financial Inc Needham & Company LLC Nephron Research LLC New Street Research LLC Northland Securities Novus Partners Inc Nuware Technology Corp NYSE Market Inc Oliver James Oppenheimer & Co Inc Options Price Reporting Authority Pac-invest Phil Erlanger Research Co Inc Piper Sandler & Co PremiaLab Preyer Raymond James Redburn Europe Limited RedLine Associates, Inc Refinitiv Renaissance Macro Research Robert W. Baird & Co. Rosenblatt Securities Inc **Roth Capital Partners** Russell Investment Group Rystad Energy AS S&P Global Market Intelligence SailPoint Technologies, Inc. Sanford C Bernstein & Co LLC Santander Investment Securities Inc Seaport Global Securities LLC SEB Securities Inc Sharp Decisions Inc Sidoti & Company LLC Simcorp USA, Inc. SMBC Nikko Securities America Inc Snowflake Inc Solve Advisors Inc SPACInsider State Street Stephens Inc StepStone Group StepStone Group Real Estate Stifel Nicolaus & Company Incorporated Stuart Frankel & Co., Inc Susquehanna Financial Group LLP SVB Leerink SWIFT SC SystemsAccountants Taranis, Inc. TD Securities (USA) LLC Telsey Advisory Group

SERVICE PROVIDED

EXPENSES

Investment Consulting	187,884
Investment Consulting	28,000
Investment Compensation Data and Analysis	46,813
Public Markets External Manager Consultant	66,930
Investment Research Services	8,250
Research and Data Services	2,835
Research and Data Services	5,030
Economic, Currency & Bond Analysis	80,237
Industrial Sector Market Research & Analysis	12,500
Research and Data Services	46,350
Research and Data Services	340,245
Research and Data Services	27,807
Investment Research	10,500
Research and Data Services	23,833
Investment Research	3,200
Investment Research	15,000
Investment Research	2,500
Investment Research	25,000
Investment Research	3,000
Profit & Loss Analytics System	18,885
Investment Information Technology Consulting Services	196,126
New York Stock Exchange Data	6,098
Investment Consulting	86,280
Investment Research	7,500
Quote System for Options Market	2,394
Research and Data Services	12,276
Investment Research	4,000
Investment Research	51,300
Investment Research	12,451
Investment Consulting	16,667
Research and Data Services	17,200
Investment Research	19,650
Recruitment Consulting	34,000
Research Pricing (Autex, Baseline, FirstCall)	94,845
Macro Economic Research	29,500
Investment Research	56,350
Investment Research	13,600
Investment Research	3,600
Index Data	8,932
Investment Research	22,500
Industry & Corporate Research	122,523
Information Security Software	18,750
Investment Research	86,355
Investment Research	12,900
Research and Data Services	19,630
Investment Research	5,500
Investment Information Technology Consulting Services	86,772
Investment Research	7,750
Investment System	1,537,646
Investment Research	8,000
Research and Data Services	25,000
Investment Research	9,000
Research and Data	2,999
Investment Consulting	20,000
Investment Research	19,760
Private Equity Consulting Services	218,986
Real Estate Consulting Services	57,883
Investment Research	40,300
Investment Research	9,000
Investment Research	1,500
Research and Data Services	9,000
Research and Data Services	892
Investment Information Technology Consulting Services	78,080
Investment Information Technology Consulting Services	32,340
Investment Research	4,500
Consumer Sector Research	31,250
	0.,200

EXPENSE CATEGORY ¹	SERVICE PROVIDED	E	(PENSES
The Benchmark Company LLC	Investment Research		4,000
The Financial Times Limited	Investment Research		6,459
The Leuthold Group LLC	Broad Based Market Research		10,000
The Nasdaq Stock Market, LLC	Research & Data Services		4,500
Toronto Stock Exchange	Market Data		14,226
TradeWeb	On-Line Fixed Income Trading Services		9,534
Trahan Macro Research LLC	Research and Data Services		2,000
Trivariate Research LP	Investment Research		15,000
Truist Securities, Inc.	Investment Research		9,120
Tudor Pickering Holt & Co	Investment Research		7,900
Unit4 Business Software Inc	Financial & Administration Services System		69,827
Urban Land Institute	Investment Consulting Services		1,150
Vadim Moroz	Investment Consulting		53,100
Investment Research Accrual Reversal	Investment Research		(850,000)
Vertical Research Partners	Industrial Sector Market Research & Analysis		10,375
Verus Advisory Inc	Benchmarking Consulting Services		42,000
Virtu ITG Analytics LLC	Trading Transaction Cost Analysis		20,500
Visible Alpha LLC	Research and Data Services		32,957
V-Soft Consulting Group Inc	Investment Information Technology Consulting Services		50,400
WallachBeth Capital LLC	Investment Consulting Services		3,000
Washington Speakers Bureau	Investment Consulting Services		10,000
Wedbush	Investment Research		11,500
WestPark Capital, Inc.	Investment Research		1,000
William Blair & Company LLC	Investment Research		11,000
With Intelligence LLC	Investment Data and Research		4,500
Wolfe Trahan	Transportation and Macro Economic Research		47,585
Wolters Kluwer Law & Business	GDP Forecasting Services		11,535
Wolverine Execution Services LLC	Options Trading Platform		1,367
WorldBridge Partners Inc	Recruitment Consulting		210,310
Worth Charting LLC	Investment Consulting		6,500
Yipit, LLC	Research and Data Services		15,000
Total Investment Counsel		\$	9,150,155
Securities Lending Agent Fees		¢	4 440 400
BNY Mellon Asset Servicing	Securities Lending Agent Fees	\$ \$	1,412,138
Total Securities Lending Agent Fees		\$	1,412,138
Total Quarterly Charges to Funds		\$	55,681,608

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.

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.

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. Securities lending agent fees are reported as expenses.

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.