

May 15, 2020

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

Representative John Nygren, Co-Chair  
 Joint Committee on Finance  
 P.O. Box 8953  
 Madison WI 53708-8953

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 Joel Brennan  
 Department of Administration  
 101 East Wilson Street  
 P.O. Box 7864  
 Madison, WI 53707-7864

Dear Senator Darling, Senator Cowles, Representative Nygren, Representative Kerkman, and Secretary Brennan:

State statutes require the State of Wisconsin Investment Board (SWIB) to report all 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 quarter<sup>1</sup>. The information contained in this report is for the quarter ending March 31, 2020.

### Total Cost of Management – 1st Quarter 2020

SWIB Cost of Management Summary	2nd Quarter 2019 Cost	3rd Quarter 2019 Cost	4th Quarter 2019 Cost	1st Quarter 2020 Cost	One-year Ending 3/31/2020	% of Total Cost
<b>Internal Operating Costs</b>						
Agency Operating Expenses	\$ 10,992,488	\$ 9,064,132	\$ 9,413,515	\$ 11,532,252	\$ 41,002,387	8.6%
Custodial, Investment Operations & Banking Fees	1,449,204	1,523,536	1,567,121	1,659,192	6,199,053	1.3%
Legal Fees	366,805	411,955	845,239	79,653	1,703,652	0.4%
Investment Research & Consulting Fees	9,806,277	8,180,737	9,378,626	8,034,732	35,400,372	7.4%
<b>Total Internal Operating Costs</b>	<b>\$ 22,614,774</b>	<b>\$ 19,180,360</b>	<b>\$ 21,204,501</b>	<b>\$ 21,305,829</b>	<b>\$ 84,305,464</b>	<b>17.6%</b>
<b>External Management Fees</b>						
Real Estate Advisory/Asset Management	\$ 13,036,219	\$ 13,118,881	\$ 11,604,346	\$ 23,441,247	\$ 61,200,693	12.8%
Private Equity Management	42,510,463	40,390,972	37,309,760	42,876,509	163,087,704	34.0%
Public Market Separate Accounts	14,021,583	8,090,740	5,751,839	8,102,113	35,966,275	7.5%
Public Market Commingled Accounts	39,988,829	31,649,108	36,560,546	24,465,935	132,664,418	27.7%
<b>Total External Management Fees</b>	<b>\$ 109,557,094</b>	<b>\$ 93,249,701</b>	<b>\$ 91,226,491</b>	<b>\$ 98,885,804</b>	<b>\$ 392,919,090</b>	<b>82.0%</b>
<b>Securities Lending Agent Fees</b>		<b>\$ 544,279</b>	<b>\$ 520,958</b>	<b>\$ 769,532</b>	<b>\$ 1,834,769</b>	<b>0.4%</b>
<b>Total Cost of Management</b>	<b>\$ 132,171,868</b>	<b>\$ 112,974,340</b>	<b>\$ 112,951,950</b>	<b>\$ 120,961,165</b>	<b>\$ 479,059,323</b>	
Average Assets Under Management (in billions)	\$ 122.2	\$ 122.8	\$ 128.8	\$ 114.0	\$ 122.0	
<b>Cost in Basis Points (all trust funds)</b>					<b>39.3</b>	

<sup>1</sup>Wisconsin Statutes Section 25.17 (13m): All investment-related expenses for 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 gross investment returns, and therefore not included in this report.

SWIB's total costs, including both internal operating and external management costs, are charged to the trust funds under management. Over the one-year period ending March 31, 2020, SWIB's total cost of management approximated 39 basis points (0.39%), or 39 cents for every \$100 managed. It is important to consider this cost in the context of value-added investment returns. For example, over the five years ending 12/31/2019, SWIB earned \$560.4 million for the Wisconsin Retirement System over investment benchmarks after consideration of these costs.

To reduce external asset management costs and increase net investment returns, SWIB continues to build internal resources to manage assets internally when it makes sense to do so. For example, as shown in the table below, the cost of external asset management is multiples higher than internal management for the same asset classes.

### Internal vs External Investment Management

Portfolio	Cost of External Over Internal Management
<b>Active Management</b>	
Global Large Cap Equity	4.0x
US Small Cap Equity	3.8x
US Fixed Income	1.9x
Global Fixed Income	4.6x
<b>Passive Management</b>	
US Large Cap Equity	1.3x
International (EAFE) Equity	2.8x
Fixed Income - Inflation Indexed	2.8x

External management costs are 1.3 – 4.6 times the cost to manage these portfolios internally. Source: CEM Benchmarking, Inc.

For the year ending March 31, 2020, external investment management fees, including securities lending agent fees, represented 82.4% of SWIB's total costs of management and 47.0% of assets under management, while SWIB's internal operating expenses represented 17.6% of costs and 53.0% of assets (see Attachment A). During the first quarter, the Board of Trustees approved one new managing analyst position.

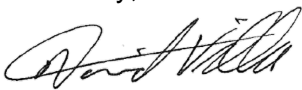
Assets Under Management & FTE		
	12/31/2019	3/31/2020
Internal Management	53.5%	53.0%
External Management	46.5%	47.0%
SWIB Positions – FTE	235	236
Total SWIB Positions	<b>235</b>	<b>236</b>

Attachments B and C provide details of services and related quarterly costs.

Internal operating costs include salary and fringe benefits for internal staff, technology, research and market data services, asset custody fees, legal services, and investment consulting. External management fees make up the largest component of the trust funds' costs. This category includes fees paid to asset managers for securities lending services, public market, private market, and real estate asset management.

As new investment strategies are implemented and markets continue to change, SWIB will continue to evaluate the most efficient means to manage the trust fund assets. We hope this report provides a comprehensive representation of the costs SWIB incurs to manage the assets of the trust funds including the Wisconsin Retirement System. Please contact me if you have any questions or comments about this report.

Sincerely,

A handwritten signature in black ink, appearing to read "David Villa", written in a cursive style.

David Villa  
Executive Director/CIO

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)	6/30/2019		9/30/2019		12/31/2019		3/31/2020	
	Amount (in millions)	% of WRS Assets	Amount (in millions)	% of WRS Assets	Amount (in millions)	% of WRS Assets	Amount (in millions)	% of WRS Assets
Internally Managed	\$ 58,582	52.7%	\$ 57,145	51.3%	\$ 58,597	50.3%	\$ 49,704	49.0%
Externally Managed Dedicated Accounts	25,816	23.2%	26,290	23.6%	34,514	29.6%	29,624	29.2%
Externally Managed Commingled Accounts	26,818	24.1%	28,049	25.2%	23,351	20.1%	22,072	21.8%
1. Passive Index Funds	7,410	6.7%	8,126	7.3%	2,498	2.1%	1,922	1.9%
2. Enhanced Index Commingled Funds	-	0.0%	-	0.0%	-	0.0%	-	0.0%
3. Limited Partnerships	13,720	12.3%	14,247	12.8%	14,717	12.6%	15,308	15.1%
4. Actively Managed Commingled Accounts	5,688	5.1%	5,676	5.1%	6,137	5.3%	4,842	4.8%
<b>TOTAL WRS Assets</b>	<b>\$ 111,217</b>	<b>100.0%</b>	<b>\$ 111,485</b>	<b>100.0%</b>	<b>\$ 116,463</b>	<b>100.0%</b>	<b>\$ 101,401</b>	<b>100.0%</b>

State Investment Fund - Internally Managed	\$ 8,894		\$ 9,313		\$ 10,217		\$ 10,531	
Various Funds Internally Managed	125		121		120		123	
Various Funds Externally Managed	\$ 1,926		\$ 1,962		\$ 2,004		\$ 1,920	

<b>Total Assets Under Management</b>	<b>\$ 122,162</b>		<b>\$ 122,881</b>		<b>\$ 128,803</b>		<b>\$ 113,975</b>	
<b>Total Internal Management</b>	<b>\$ 67,601</b>	<b>55.3%</b>	<b>\$ 66,580</b>	<b>54.2%</b>	<b>\$ 68,934</b>	<b>53.5%</b>	<b>\$ 60,359</b>	<b>53.0%</b>
<b>Total External Management</b>	<b>\$ 54,561</b>	<b>44.7%</b>	<b>\$ 56,301</b>	<b>45.8%</b>	<b>\$ 59,869</b>	<b>46.5%</b>	<b>\$ 53,617</b>	<b>47.0%</b>

**STATE OF WISCONSIN INVESTMENT BOARD**  
**Expenses for All Funds Under Management**  
**Quarter Ending March 31, 2020**

EXPENSE CATEGORY	SERVICE PROVIDED	EXPENSES
<b><u>Internal Operating Expenses</u></b>		
Staff Compensation	Staff Compensation	\$ 7,907,895
Fringe Benefits	Fringe Benefits	2,275,385
Equipment, Supplies & Services	General Supplies & Services	1,348,972
<b>Total Internal Operating Expenses<sup>1</sup></b>		<b>\$ 11,532,252</b>
<b><u>Custodial, Investment Operations and Banking Fees</u></b>		
Bankers Bank	Custodial and Banking Fees	\$ 5,000
BNY Mellon Asset Servicing - Custody	Master Custody Services	532,114
BNY Mellon Asset Servicing - Investment Operations	Investment Operating Services	1,122,101
US Bank	Banking Fees	(23)
<b>Total Custodial, Investment Operations and Banking Fees</b>		<b>\$ 1,659,192</b>
<b><u>Legal Fees</u></b>		
Chapman & Cutler LLP	Legal Work for Investment Strategies	\$ 14,495
DLA Piper LLP (US)	Legal Work for Investment Strategies	2,990
Godfrey & Kahn SC	Legal Work for Investment Strategies	2,659
Mayer Brown LLP	Legal Work for Investment Strategies	29,640
Purrington Moody Weill LLP	Legal Work for Investment Strategies	7,802
Quarles & Brady	Legal Work for Investment Strategies	20,255
Reinhart Boerner Van Deuren SC	Legal Work for Investment Strategies	972
Sidley Austin (Domestic)	Legal Work for Investment Strategies	840
<b>Total Legal Fees</b>		<b>\$ 79,653</b>
<b><u>Investment Counsel</u></b>		
Adeptyx Consulting	Investment Consulting Services	\$ 388,648
Advent Software Inc	Research Management System	19,445
Aksia LLC	Hedge Fund Investment Consulting	193,750
Aon Risk Services Central Inc	Fidelity Bond	59,841
BCA Research Inc	Global & Domestic Fixed Income Strategy Research	26,250
Bloomberg Finance LP	Market, Company, Industry & Benchmark Information	690,818
BNY Mellon Asset Servicing - Eagle/Pace	Investment Consulting Services	98,203
Bonfire Interactive LTD	Stragic Sourcing, Contact and Vendor Management	20,000
Bright Young Ideas LLC	Investment Consulting Services	188,720
CFRA Research	Investment Research Services	21,667
Charles River System Inc	Portfolio Management Trading Software & Services	567,733
Citisoft Inc	Investment Consulting Services	95,798
CoStar Portfolio Strategy	Real Estate Consulting & Research Services	28,738
CreditSights	Credit Assessments	65,000
Cutter Associates	Investment Organization and Systems Consulting	187,379
Daiwa Capital Markets America	Investment Research	32,050
Depository Trust and Clearing Corp	Research and Data Services	3,000
Digitimes Inc	Investment Research	425
Dow Jones News Service	Company and Industry News Services	28,101
DTCC ITP LLC	Trade Settlement Service	9,509
EFront Financial Solutions Inc	Private Markets Portfolio Management Services	502,243
Ernst & Young LLP	Tax Compliance Services & Investment Consulting	304,946
Euromonitor International	Research and Data Services	17,179
FactSet Research Systems Inc	Financial & Economic Database	843,186
Grandview Analytics LLC	Investment Information Technology Consulting Services	101,561
Green Street Advisor	Real Estate Analytics	76,833
Haver Analytics	Global Macroeconomic Research	19,100
Ice Data LP	Fixed Income Indices	6,250
IDC Financial Publishing Inc	Financial Institution Data	4,305
Institutional Investor	Investment Data and Research Services	53,000
Institutional Limited Partners Association ILPA	Private Equity Research	5,000
Institutional Shareholder Services Inc	Proxy Voting Analysis	66,149
Kepler Capital Markets Inc	Investment Research Services	15,200
Keystone Consulting Inc	Investment Information Technology Consulting Services	385,216
LionPoint Group	Investment Consulting Services	8,275

EXPENSE CATEGORY	SERVICE PROVIDED	EXPENSES
London Stock Exchange	London Stock Exchange Data	37,131
Mackey LLC	Research Management System	12,500
Markit NA	Investment Data Management Software	167,017
Matrix IDM, LLC	Investment Consulting	21,380
McLagan Partners Inc	Investment Compensation Data and Analysis	9,250
Meketa Investment Group	Public Markets External Manager Consultant	62,831
Moodys Analytics	Economic, Currency & Bond Analysis	92,572
MSCI Inc - Risk Metrics Solutions	Research and Data Services	454,412
NAIOP Commercial Real Estate Development Association	Investment Consulting Services	375
National Conference on Public Employee Retirement Systems	Investment Research	4,100
National Council of Real Estate Investment Fiduciaries	Real Estate Performance Research	2,500
Novus Partners Inc	Profit & Loss Analytics System	47,025
Nuware Technology Corp	Investment Information Technology Consulting Services	305,044
NYSE Market Inc	New York Stock Exchange Data	6,169
OptionMetrics	Investment Data Service	33,075
Options Price Reporting Authority	Quote System for Options Market	2,016
Pac-invest	Research and Data Services	11,025
Pension Real Estate Association	Real Estate Investment Research	330
Pitchbook Data Inc	Investment Research & Technology Data	45,000
RCM Technologies	Investment Consulting	18,000
RedLine Associates, Inc	Recruitment Consulting	52,500
Refinitiv	Research Pricing (Autex, Baseline, FirstCall)	11,711
S&P Global Market Intelligence	Investment Research and Data	56,250
Seaport Global Securities LLC	Research and Data Services	2,430
Sharp Decisions Inc	Investment Information Technology Consulting Services	490,668
SMBC Nikko Securities America, Inc.	Investment Research	1,000
Standard & Poors	Industry & Corporate Research	33,823
StepStone Group	Private Equity Consulting Services	450,945
StepStone Group Real Estate	Real Estate Consulting Services	53,750
STOXX Limited	Research and Data Services	15,229
SystemsAccountants	Investment Information Technology Consulting Services	97,600
Telsey Advisory Group	Consumer Sector Research	30,000
The Bachrach Group	Investment Consulting Services	6,396
The Benchmark Company LLC	Investment Research	2,700
The Finlay Group	Investment Consulting Services	55,958
The Nisi Report	Investment Research	300
Toronto Stock Exchange	Market Data	12,717
Trade Alert LLC	Market Data	900
TradeWeb	On-Line Fixed Income Trading Services	9,000
Trepp, LLC	Investment Research	45,000
Unit4 Business Software Inc	Financial & Administration Services System	71,906
Virtu ITG Analytics LLC	Trading Transaction Cost Analysis	7,500
Wall Street Journal	Investment Research & Information	167
WIPFLi LLP	Income Tax Preparation Services	870
Wisconsin Technology Council	Investment Research Sponsorship	7,500
Wolters Kluwer Law & Business	GDP Forecasting Services	2,024
Wolverine Execution Services LLC	Options Trading Platform	618
WorldBridge Partners Inc	Recruitment Consulting	50,000
<b>Total Investment Counsel</b>		<b>\$ 8,034,732</b>
<b><u>Real Estate Management Fees</u></b>		
Alcion Ventures	Real Estate Management Fees	\$ 126,863
AmCap Inc	Real Estate Management Fees	325,109
Beacon Capital Partners	Real Estate Management Fees	635,321
Blackrock	Real Estate Management Fees	2,105
Blackstone Real Estate Advisors	Real Estate Management Fees	3,615,951
Blue Moon Capital Partners	Real Estate Management Fees	261,976
Blue Vista Capital Management	Real Estate Management Fees	185,930
Bristol Group	Real Estate Management Fees	694,672
Buchanan Street Capital Partners	Real Estate Management Fees	152,007
Callahan Capital Partners	Real Estate Management Fees	334,604
Carson Companies	Real Estate Management Fees	34,454
Casa Partners	Real Estate Management Fees	237,866
CBRE	Real Estate Management Fees	111,060
C-III Capital Partners	Real Estate Management Fees	498
Cornerstone Real Estate Advisers	Real Estate Management Fees	166,564

EXPENSE CATEGORY	SERVICE PROVIDED	EXPENSES
Crossings at Danada	Real Estate Management Fees	194,213
Essex Property Trust	Real Estate Management Fees	836,190
Four Seasons	Real Estate Management Fees	(64,719)
FPA Multifamily Core Plus	Real Estate Management Fees	528,392
Harbor Beach Capital, LLC	Real Estate Management Fees	223,882
Hawkeye Partners	Real Estate Management Fees	287,043
Heitman	Real Estate Management Fees	862,296
Henderson Global Investors	Real Estate Management Fees	622,984
High Street Realty Company LLC	Real Estate Management Fees	787,980
Hudson Advisors	Real Estate Management Fees	199,351
J.P. Morgan Asset Management	Real Estate Management Fees	331,054
Lone Star	Real Estate Management Fees	3,857,400
Lowe Enterprises Investors	Real Estate Management Fees	26,296
Morgan Stanley	Real Estate Management Fees	34,527
Normandy Real Estate Partners	Real Estate Management Fees	194,375
O'Connor Capital Partners	Real Estate Management Fees	231,103
Penwood	Real Estate Management Fees	818,487
Prologis	Real Estate Management Fees	219,596
Prudential Global Investment Management (PGIM)	Real Estate Management Fees	2,125,748
Realterm Global Asset Management	Real Estate Management Fees	781,714
Rockpoint Group	Real Estate Management Fees	28,240
RREEF	Real Estate Management Fees	107,115
Security Capital	Real Estate Management Fees	583,001
Teachers Insurance and Annuity Association of America	Real Estate Management Fees	623,462
Torchlight Investors	Real Estate Management Fees	623,376
UBS Realty Investors	Real Estate Management Fees	460,891
Wesco	Real Estate Management Fees	697,892
Westbrook Partners	Real Estate Management Fees	334,378
<b>Total Real Estate Management<sup>2</sup></b>		<b>\$ 23,441,247</b>

#### Private Equity

Abor Group	Private Equity Management Fees	\$ 300,121
Advent International	Private Equity Management Fees	907,629
Alchemy Partners	Private Equity Management Fees	86,634
Altaris Capital Partners	Private Equity Management Fees	357,539
American Securities	Private Equity Management Fees	473,000
Andreessen Horowitz	Private Equity Management Fees	52,581
Apollo Management	Private Equity Management Fees	208,402
Arbor Investments	Private Equity Management Fees	87,417
Ares Management	Private Equity Management Fees	419,762
Ascribe Capital LLC	Private Equity Management Fees	105,873
Atlas Holdings	Private Equity Management Fees	377,174
Baird Venture Partners	Private Equity Management Fees	75,000
Benefit Street Partners	Private Equity Management Fees	260,827
Berkshire Property Advisors	Private Equity Management Fees	488,201
Blackstone Real Estate Advisors	Private Equity Management Fees	438,945
Bookend Capital Partners	Private Equity Management Fees	250,001
Bridgepoint Capital	Private Equity Management Fees	630,503
Caltius Mezzanine	Private Equity Management Fees	118,446
CapVest Private Equity	Private Equity Management Fees	155,837
Centerbridge Partners	Private Equity Management Fees	824,525
Charlesbank Capital Partners	Private Equity Management Fees	1,032,250
Chequers Capital	Private Equity Management Fees	322,705
Clearlake Capital Group	Private Equity Management Fees	1,028,031
Clearview Capital LLC	Private Equity Management Fees	379,172
Coller Capital	Private Equity Management Fees	209,948
Cortec Group	Private Equity Management Fees	510,470
Craft Ventures LP	Private Equity Management Fees	156,250
Cressey & Company	Private Equity Management Fees	500,001
CVC Capital Partners	Private Equity Management Fees	638,216
ECM Equity Capital Management Gmbh	Private Equity Management Fees	70,743
EnCap Investments	Private Equity Management Fees	384,054
EQT Partners	Private Equity Management Fees	496,555
Excellere Capital Management	Private Equity Management Fees	442,937
Flagship Pioneering	Private Equity Management Fees	75,000
Flexpoint Ford	Private Equity Management Fees	299,207

EXPENSE CATEGORY	SERVICE PROVIDED	EXPENSES
Fortissimo Capital	Private Equity Management Fees	(176,439)
FountainVest Partners	Private Equity Management Fees	343,372
German Equity Partners	Private Equity Management Fees	221,953
Gilde	Private Equity Management Fees	391,135
Glendon Capital Management	Private Equity Management Fees	212,781
Gores Group	Private Equity Management Fees	47,727
Graphite Capital Management	Private Equity Management Fees	(7,305)
GSO Capital Partners	Private Equity Management Fees	769,525
GTCR	Private Equity Management Fees	880,458
Harvest Partners	Private Equity Management Fees	970,599
Hellman & Friedman Investors	Private Equity Management Fees	847,812
HgCapital	Private Equity Management Fees	316,834
Hudson Advisors	Private Equity Management Fees	33,814
Inflexion Private Equity Partners LLP	Private Equity Management Fees	1,953,197
Insight Equity	Private Equity Management Fees	98,376
InvestIndustrial	Private Equity Management Fees	226,862
JMI Equity	Private Equity Management Fees	354,398
KLH Capital	Private Equity Management Fees	184,555
Kohlberg Kravis Roberts & Co	Private Equity Management Fees	247,773
KPS Capital Partners	Private Equity Management Fees	125,000
Lake Pacific Partners	Private Equity Management Fees	237,500
Leonard Green & Partners	Private Equity Management Fees	524,233
Lightbay Capital	Private Equity Management Fees	250,000
Lindsay, Goldberg & Bessemer	Private Equity Management Fees	281,250
Merit Capital Partners	Private Equity Management Fees	302,165
Montefiore Investment	Private Equity Management Fees	155,614
Morgan Stanley	Private Equity Management Fees	105,972
New Capital Partners	Private Equity Management Fees	125,000
Oaktree Capital Management	Private Equity Management Fees	186,112
Old Lane	Private Equity Management Fees	3,410
ParkerGale Capital	Private Equity Management Fees	157,500
Patria Investimentos	Private Equity Management Fees	241,095
Peninsula Capital Partners LLC	Private Equity Management Fees	350,223
Platte River Equity	Private Equity Management Fees	182,499
Private Equity Solutions	Private Equity Management Fees	356,250
Providence Equity Partners, Inc.	Private Equity Management Fees	1,744,512
Quantum Energy Partners	Private Equity Management Fees	218,750
Resource Capital Funds	Private Equity Management Fees	112,718
Ridgemont Partners	Private Equity Management Fees	682,318
Riverstone Holdings	Private Equity Management Fees	466,096
SAIF Partners	Private Equity Management Fees	126,566
Segulah	Private Equity Management Fees	(9,631)
Sentinel Real Estate Corporation	Private Equity Management Fees	375,000
Shamrock Capital Advisors	Private Equity Management Fees	687,500
Sheridan Production Partners	Private Equity Management Fees	182,374
StepStone Group	Private Equity Management Fees	35,113
Sterling Group	Private Equity Management Fees	541,124
Stone Point Capital LLC	Private Equity Management Fees	677,710
The Jordan Company LP	Private Equity Management Fees	463,797
Thomas Bravo Fund	Private Equity Management Fees	281,250
Tower Arch Capital	Private Equity Management Fees	150,000
TowerBrook Investors	Private Equity Management Fees	348,035
TPG Capital	Private Equity Management Fees	1,308,243
Triton	Private Equity Management Fees	229,545
TSG Capital Partners	Private Equity Management Fees	750,000
TSG Consumer Partners LLC	Private Equity Management Fees	1,183,779
Udata Partners	Private Equity Management Fees	480,573
Varsity Healthcare Partners	Private Equity Management Fees	167,125
Venture Capital <sup>3</sup>	Private Equity Management Fees	3,135,774
Vinci Partners	Private Equity Management Fees	101,452
Vista Equity Partners	Private Equity Management Fees	1,539,035
Warburg Pincus	Private Equity Management Fees	1,136,846
Warwick Partners	Private Equity Management Fees	250,000
Waterland Private Equity	Private Equity Management Fees	481,821
Wayzata Investment Partners	Private Equity Management Fees	72,084
Wind Point Partners	Private Equity Management Fees	250,000



EXPENSE CATEGORY	SERVICE PROVIDED	EXPENSES
WP Global Partners Inc	Private Equity Management Fees	41,794
<b>Total Private Equity Management<sup>4</sup></b>		<b>\$ 42,876,509</b>
<b><u>Commingled Account Public Market Management Fees</u></b>		
Arrowgrass Capital	Public Market Management Fees	\$ 27,160
Avenue Capital Group	Public Market Management Fees	239,640
BFAM Asian Opportunities Fund	Public Market Management Fees	663,862
Blackrock	Public Market Management Fees	378,440
Blue Mountain Capital Management	Public Market Management Fees	329,893
Bridgewater Associates	Public Market Management Fees	385,046
Capula Investment Management	Public Market Management Fees	3,055,376
Davidson Kempner Capital Management	Public Market Management Fees	927,199
DE Shaw & Co	Public Market Management Fees	5,706,137
Dorsal Capital Partners	Public Market Management Fees	4,650,319
Dyal Capital Partners	Public Market Management Fees	523,562
Elliott Management Corporation	Public Market Management Fees	157,987
Exoduspoint Capital Management	Public Market Management Fees	339,013
Graham Capital Management	Public Market Management Fees	892,295
Graticule Asset Management Asia	Public Market Management Fees	902,001
Holocene Advisors Fund LP	Public Market Management Fees	4,314,615
Hudson Structured Capital Management	Public Market Management Fees	535,823
King Street Capital Management	Public Market Management Fees	1,008,335
LibreMax Capital, LLC	Public Market Management Fees	881,038
Marshall Wace	Public Market Management Fees	(3,799,191)
Nephilia Capital Ltd	Public Market Management Fees	402,662
Pharo	Public Market Management Fees	(2,142,509)
PIMCO	Public Market Management Fees	654,821
PSquared Asset Management	Public Market Management Fees	1,576,477
Silver Point Capital, L.P.	Public Market Management Fees	70,215
Standish Mellon	Cash Management	98,146
TCW	Public Market Management Fees	474,058
Two Sigma	Public Market Management Fees	479,676
Voleon Capital Management	Public Market Management Fees	733,839
<b>Total Commingled Account Public Market Management Fees</b>		<b>\$ 24,465,935</b>
<b><u>Separate Account Public Market Management Fees</u></b>		
Acadian Asset Management	Public Market Management Fees	\$ 971,208
Alliance Bernstein	Public Market Management Fees	717,783
Blackrock	Public Market Management Fees	1,378,224
Dodge and Cox	Public Market Management Fees	511,228
Fidelity Investments	Public Market Management Fees	1,004,109
Longview Partners	Public Market Management Fees	229,629
Loomis Sayles & Co	Public Market Management Fees	574,251
Parametric	Public Market Management Fees	287,356
Prudential Global Investment Management (PGIM)	Public Market Management Fees	(2,737)
Wellington Trust Company	Public Market Management Fees	2,431,062
<b>Total Separate Account Public Market Management Fees</b>		<b>\$ 8,102,113</b>
<b><u>Securities Lending Agent Fees</u></b>		
BNY Mellon Asset Servicing	Securities Lending Agent Fees	\$ 769,532
<b>Total Securities Lending Agent Fees</b>		<b>\$ 769,532</b>
<b>Total Quarterly Charges to Funds</b>		<b>\$ 120,961,165</b>

#### Notes

<sup>1</sup> All costs are reported 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.

<sup>2</sup> Fees paid to fund managers are established as percentage of the capital committed. As assets in a fund are sold, the management fees paid are typically paid from a portion of the sales proceeds.

<sup>3</sup> Pursuant to Wisconsin Statute Section 25.184, Venture Capital investments are recorded in aggregate.

<sup>4</sup> Private equity management fees are estimated and adjusted annually based upon the terms governing each private equity investment. All capital contributions to the limited partnership must first be returned to the limited partners before any incentive fees are paid to the general partner.

## Explanations 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. These fees are distributed to the fund participants through the monthly SIF earnings process.

### **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.

### **Private Equity & Real Estate Investment Management Services**

SWIB hires private equity and real estate advisors to assist with sourcing analysis, due diligence, and management of investments. SWIB also invests in funds, typically limited partnerships. Each fund either has a general partner or, for real estate, engages a fund manager with delegated authority to make real estate investments for the fund. Fees paid to fund managers are typically established as a percentage of the capital committed or assets under management. As assets in a fund are sold, the management fees paid typically are reimbursed from the profits of the fund.

### **Separate Account Public Market Management Fees**

External asset managers have been delegated authority within guidelines established by SWIB to determine investment strategy and purchase securities in SWIB's name under a separate and distinct 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. Standish Mellon invests cash in international and global portfolios that has yet to be invested in stocks or bonds. Due to settlement times around the globe, these funds cannot be effectively managed in the State Investment Fund. The fees are negotiated as part of the custodial contract.

### **Commingled Account Public Market Management Fees**

SWIB has investments in a number of externally-managed funds which seek to replicate the returns of a particular public market index or seek to enhance the return from a particular public market index through the use of quantitative models or other strategies. SWIB's investments are commingled with other investors' and the underlying securities are owned in the name of the fund manager. Fees are typically based on a percentage of assets under management and may include other factors, such as performance. Hedge funds are included in this category as the invested assets are also commingled. Costs incurred from hedge fund investments consist of base fees and performance fees.

### **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.