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State Auditor Julie Blaha
Secretary of State Steve Simon
Attorney General Keith Ellison

Executive Director & Chief Investment Officer:
Mansco Perry III

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DATE: February 22, 2022

TO: The Honorable Tim Walz
Minnesota Legislative Reference Library

FROM: Mansco Perry III
Executive Director and Chief Investment Officer

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SUBJECT: External Money Manager Report Pursuant to Minnesota Statutes Section 11A.04, clause (12)

Minnesota Statutes, Section 11A.04, clause (12) requires the State Board of Investment (SBI) to report annually to the Governor and the Legislative Reference Library the cost and investment performance of external investment managers employed by the Board.

As of June 30, 2021, the Defined Benefit Plan assets were invested with 15 domestic equity managers, 15 international equity managers, one currency overlay manager, three global equity managers, and 13 fixed income managers. The private markets uninvested allocation has one cash overlay manager and one equity manager. Some investment managers have multiple mandates across the respective asset class.

The Non-Retirement Program utilized one equity manager, one fixed income manager, and a cash manager. The Assigned Risk Plan utilized a different fixed income manager as it has a different mandate. Lastly, the Stable Value Fund investment option for eligible participants in the Participant Directed Investment Program is managed by one external investment manager.

The fees paid to each of the external money managers that invest a separately managed portfolio is provided on **pages 5-7** of this memo. This information is also included in the SBI's Fiscal Year 2021 Annual Report.

The returns earned from each of the investment managers is provided on **pages 8-11** of this memo. It is important to note that all performance data reported by the SBI is net of fees and transactions costs associated with the various portfolios and funds. A full year of performance will be available in fiscal year 2022 for managers that invest in global equities, fixed income return seeking and laddered bond mandates, and S&P 500 overlay and physical managers in the private markets uninvested allocation.

The SBI's Fiscal Year 2021 Annual Report contains additional detail on manager performance and may be accessed online at <http://mn.gov/sbi>.

Retirement Program - Defined Benefit Plan

Domestic Equity Program

The SBI evaluates domestic equity manager returns against the performance of Russell style indices which reflect the managers' specific investment approaches. The benchmark portfolios take into account the market forces that, at times, favorably or unfavorably impact certain investment styles. Assets are allocated to managers within each of the Russell style indices. The aggregate Domestic Equity Program is designed to outperform its asset class target, the Russell 3000 Index. As a group, the Domestic Equity Program managers outperformed its asset class target by 0.7 percentage point for the 2021 fiscal year. (See **page 8.**)

International Equity Program

The SBI evaluates individual international equity managers against two market indices published by Morgan Stanley Capital International MSCI: The MSCI World ex USA Index (net) for developed international equity managers and the MSCI Emerging Markets Index (net) for emerging market equity managers. As a group, the International Equity Program outperformed its asset class target, MSCI ACWI ex U.S. Index (net), by 1.2 percentage points for the 2021 fiscal year. (See **page 9.**)

Global Equity Program

The Global Equity Program was initiated during fiscal year 2021, a full year of performance for the global equity managers will be available fiscal year 2022.

Private Markets Uninvested Allocation

The Private Markets Uninvested Allocation mandate is the S&P 500. A full year of performance will be available fiscal year 2022.

Core/Core Plus Bond Program

The Core/Core Plus Bond aggregate is measured against the Bloomberg U.S. Aggregate Bond Index. As a group, the Core/Core Plus Bond managers outperformed its asset class target by 2.3 percentage points for the 2021 fiscal year. (See **page 10.**)

Return Seeking Fixed Income Program

The Return Seeking Fixed Income Program was funded in November of 2020, a full year of performance for the return seeking fixed income managers will be available fiscal year 2022.

Treasury Portfolio

The Treasury Protection Portfolio, launched in early 2018, is used exclusively by the Combined Funds and is measured to the Bloomberg Barclays Treasury 5+ Years Index. As a group, the Treasury Program outperformed its benchmark by 0.6 percentage point for the 2021 fiscal year. (See **page 10.**)

Laddered Bond + Cash Managers

During fiscal year 2021, the SBI changed the asset allocation targets and reallocated the Cash allocation within the Total Fixed Income allocation. As part of this change, the Laddered Bond mandate was added as a sub asset group in October of 2020. A full year of performance for the laddered bond managers will be available fiscal year 2022. (See **page 10.**)

Non-Retirement Program

Non-Retirement Equity Fund

The Non-Retirement Equity Fund is passively managed by Mellon Investments Corporation to the S&P 500 Index. The Fund matched its benchmark for the 2021 fiscal year. (See **page 11.**)

Non-Retirement Bond Fund

The Non-Retirement Bond Fund is actively managed by Prudential Global Investment Management (PGIM) to the Bloomberg U.S. Aggregate Bond Index. For fiscal year 2021, the Fund outperformed its benchmark by 1.5 percentage points. (See **page 11.**)

Non-Retirement Money Market Fund

The Non-Retirement Money Market Fund is managed by State Street Global Advisors (SSGA) and is measured against the iMoneyNet All Taxable Money Fund Average. For fiscal year 2021, the Fund outperformed its benchmark by 0.1 percentage point. (See **page 11.**)

Non-Retirement/Assigned Risk Plan Fixed Income

The Non-Retirement/Assigned Risk Plan Fixed Income Manager, RBC Global Asset Management, benchmark is the Bloomberg Barclays Intermediate Government Index. For fiscal year 2021, the portfolio outperformed its benchmark by 0.3 percentage point. (See **page 11.**)

Participant Directed Investment Program (PDIP)

Stable Value Fund

The Stable Value Fund is a separately managed fund available to qualified defined contribution plans in the Supplemental Investment Fund (SIF) and in the Mutual Fund platform. This fund is managed by Galliard Capital Management and is measured against the 3-Year Constant Maturity Treasury plus 45 basis points. During fiscal year 2021, the Fund outperformed its benchmark by 1.5 percentage points. (See **page 11.**)

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Investment Manager Fees – Total Payments for Fiscal Year 2021
(As reported in the SBI 2021 Annual Report)

Investment Manager Name	
Domestic Equity Active Managers	
ArrowMark Colorado Holdings, LLC	\$ 1,581,727
Barrow, Hanley, Mewhinney & Strauss, LLC	652,390
Earnest Partners, LLC	150,777
Goldman Sachs Asset Management, L.P.	2,089,108
Hood River Capital Management, LLC	2,242,389
Hotchkis and Wiley Capital Management, LLC	1,571,487
LSV Asset Management	674,706
Martingale Asset Management, L.P.	1,027,687
Peregrine Capital Management	1,629,793
Rice Hall James & Associates, LLC	1,613,533
Sands Capital Management, LLC	1,829,711
Wellington Management Company LLP	1,875,449
Winslow Capital Management, LLC	690,280
Zevenbergen Capital Investments LLC	1,618,779
Domestic Equity Semi-Passive Managers	
BlackRock Institutional Trust Company, N.A.	1,474,003
J.P. Morgan Investment Management Inc.	1,566,992
Domestic Equity Passive Manager	
BlackRock Institutional Trust Company, N.A. (Passive R3000)	12,513
BlackRock Institutional Trust Company, N.A. (Passive R2000)	57,847
BlackRock Institutional Trust Company, N.A. (Passive R1000)	910,162
Fixed Income Core/Core Plus Managers	
Columbia Threadneedle Investments	355,558
Dodge & Cox	1,130,892
Pacific Investment Management Company LLC (PIMCO)	595,619
Western Asset Management Company	1,202,907
BlackRock Financial Management, Inc.	676,803
Goldman Sachs Asset Management	857,659
Neuberger Berman Investment Advisers LLC	851,651
Fixed Income Return Seeking Managers	
Ashmore Investment Management Limited	685,432
BlackRock Financial Management, Inc.	1,216,435
Columbia Threadneedle Investments	911,703
KKR Credit Advisors (US) LLC	461,321
Oaktree Capital Management, L.P.	471,992
Payden & Rygel	537,670
Prudential Global Investment Management, Inc. (PGIM)	477,243
Pacific Investment Management Company LLC (PIMCO)	1,469,409
TCW Asset Management Company, LLC	76,222

Investment Manager Fees – Total Payments for Fiscal Year 2021
(As reported in the SBI 2021 Annual Report)

Investment Manager Name	
Treasury Portfolio Managers	
BlackRock Financial Management, Inc.	\$ 1,136,371
Goldman Sachs Asset Management	1,224,908
Neuberger Berman Investment Advisers LLC	1,083,629
Laddered Bond Managers	
Goldman Sachs Asset Management	329,313
Neuberger Berman Investment Advisers LLC	311,821
International Equity Active Developed Markets Managers	
AQR Capital Management, LLC	1,308,951
Acadian Asset Management LLC	1,542,426
Columbia Threadneedle Investments	1,367,178
Fidelity Institutional Asset Management LLC	1,357,734
J.P. Morgan Investment Management Inc.	1,319,986
Marathon Asset Management LLP	1,298,180
McKinley Capital Management, LLC	1,062,098
International Equity Passive Manager	
State Street Global Advisors (Developed Markets)	690,159
State Street Global Advisors (Emerging Markets)	1,730,041
International Equity Active Emerging Markets Managers	
Macquarie Investment Management Advisers	2,383,581
Martin Currie Inc.	2,557,223
Morgan Stanley Investment Management Inc.	3,942,898
Neuberger Berman Investment Advisers LLC	2,945,520
Pzena Investment Management, LLC	2,466,829
The Rock Creek Group, LLC	3,178,316
International Equity Active Opportunistic Strategies	
Earnest Partners (ACWI ex-US)	608,652
Earnest Partners LLC (China A Index)	852,311
Record Currency LLC (Currency Management)	3,933,459
Global Equity Managers	
Ariel Investments, LLC	946,826
Baillie Gifford Overseas Limited	858,792
Martin Currie Inc.	606,515
Private Markets--Uninvested Allocation	
BlackRock Institutional Trust Company, N.A.	124,469
NISA Investment Advisers, LLC	436,880

Investment Manager Fees – Total Payments for Fiscal Year 2021
(As reported in the SBI 2021 Annual Report)

Investment Manager Name	
Stable Value Manager	
Galliard Capital Management, Inc. ⁽¹⁾	3,434,905
Assigned Risk Plan	
RBC Global Asset Management (U.S.) Inc.	228,581
Non-Retirement	
BNY Mellon Asset Management North America Corporation	111,111
Prudential Global Investment Management, Inc. (PGIM)	1,389,011
State Street Global Advisors	25,100
Total Investment Manager Fees Paid	\$ 82,041,627
(1) Includes Investment Contract fees of \$2,629,715 charged by wrap providers.	

Investment Manager Performance Fiscal Year Ending June 30, 2021
(As reported in the SBI's 2021 Annual Report)

RETIREMENT PROGRAM – DEFINED BENEFIT PLAN

Domestic Equity Program

Domestic Equity Program Manager Performance for Periods Ending June 30, 2021							
Manager Strategy (Benchmark)	Annualized Returns						Market Value ¹ (In Millions)
	1 Year		3 Years		5 Years		
	Actual	Bmk	Actual	Bmk	Actual	Bmk	
	%	%	%	%	%	%	
Active Management							
All Cap Growth (Russell 3000 Growth)²							
Zevenbergen Capital	49.2	49.4	38.6	27.1	37.3	24.8	\$422.5
Large Cap Growth (Russell 1000 Growth)							
Sands Capital Management	47.5	42.5	29.6	25.1	29.8	23.7	376.3
Winslow Capital Management	38.5	42.5	23.9	25.1	24.3	23.7	239.1
Large Cap Value (Russell 1000 Value)							
Barrow, Hanley	47.1	43.7	13.1	12.4	12.6	11.9	396.1
LSV Asset Management	55.5	43.7	11.6	12.4	13.4	11.9	413.8
Small Cap Growth (Russell 2000 Growth)							
ArrowMark	55.1	51.4	13.6	15.9			222.1
Hood River	81.2	51.4	27.1	15.9			278.9
Rice Hall James	44.8	51.4	10.7	15.9			227.1
Wellington	46.8	51.4	15.6	15.9			311.4
Small Cap Value (Russell 2000 Value)							
Goldman Sachs	62.6	73.3	8.8	10.3	11.8	13.6	376.8
Hotchkis & Wiley	80.4	73.3	7.7	10.3	12.6	13.6	220.6
Martingale Asset Management	67.2	73.3	7.0	10.3	11.2	13.6	223.7
Peregrine Capital Management	72.7	73.3	8.5	10.3	13.4	13.6	329.9
Semi-Passive Management (Russell 1000)							
BlackRock Institutional	42.5	43.1	19.1	19.2	18.9	18.0	1,625.3
J.P. Morgan Investment Management	44.0	43.1	19.6	19.2	18.3	18.0	1,597.0
Passive Management							
All Cap (Russell 3000)							
BlackRock Institutional	44.7	44.2	19.0	18.7	18.0	17.9	1,059.6
Large Cap (Russell 1000)							
BlackRock Institutional	43.1	43.1	19.2	19.2			21,826.3
Small Cap (Russell 2000)							
BlackRock Institutional	63.4	62.0					102.6
Total Domestic Equity Program³	45.3	44.6	18.7	18.6	18.2	17.8	\$30,249.1

¹ Market values include Supplemental Investment Fund (SIF) assets.

² As of 1/1/2021 Zevenbergen's benchmark is the Russell 3000 Growth Index, prior to that it was the Russell 1000 Growth.

³ As of 12/1/2020 the Domestic Equity Program benchmark is the Russell 3000; from 1/1/2019-11/30/2020 it was 90% Russell 1000 and 10% Russell 2000; from 10/1/2003 - 12/31/2018 it was the Russell 3000. The SBI Domestic Equity Program return includes the performance of terminated managers.

Investment Manager Performance Fiscal Year Ending June 30, 2021
(As reported in the SBI's 2021 Annual Report)

International Equity Program

International Equity Program Manager Performance for Periods Ending June 30, 2021							
Manager Strategy (Benchmark)	Annualized Returns						Market Value ¹ (In Millions)
	1 Year		3 Years		5 Years		
	Actual	Bmk	Actual	Bmk	Actual	Bmk	
	%	%	%	%	%	%	
Developed Markets (MSCI World ex U.S. net)							
Active Management							
Acadian Asset Management	37.5	33.6	8.8	8.6	13.6	10.4	\$396.7
Columbia Mgmt. Investment Advisers	37.4	33.6	11.8	8.6	13.4	10.4	411.8
Fidelity Institutional Asset Management	35.9	33.6	11.6	8.6	12.5	10.4	410.3
J.P. Morgan Investment Management	33.7	33.6	10.8	8.6	12.9	10.4	360.4
Marathon Asset Management	40.1	33.6	9.0	8.6	10.7	10.4	388.6
McKinley Capital Management	30.8	33.6	9.2	8.6	11.5	10.4	291.5
AQR Capital Management	34.1	33.6	6.6	8.6	8.9	10.4	379.1
Passive Management							
State Street Global Advisers	34.2	33.6	9.0	8.6	10.8	10.4	6,900.4
Emerging Markets (MSCI Emerging Markets net)							
Active Management							
Macquarie Investment Management Advisers	41.1	40.9	14.7	11.3			487.6
Martin Currie	47.8	40.9	15.0	11.3			534.1
Morgan Stanley Investments Management	42.2	40.9	11.5	11.3	11.7	13.0	590.2
Neuberger Berman Investment Advisers	33.0	40.9	8.6	11.3			448.8
Pzena Investment Management	55.7	40.9	10.6	11.3			391.7
Rock Creek	41.9	40.9	12.4	11.3			483.6
Passive Management							
State Street Global Advisers	40.2	40.9	11.2	11.3	12.9	13.0	1,144.1
Opportunistic Investment Strategies (benchmark)							
Active Management							
Earnest Partners (MSCI ACWI ex U.S. net)							399.1
Earnest Partners (China A Index)							207.3
Record Currency Management							6.9
Total International Equity Program²	36.8	35.6	9.8	9.3	11.3	11.1	\$14,232.3
¹ Market Value includes assets of the SIF Broad International Equity Fund.							
² The International Equity Program benchmark is the MSCI ACWI ex. U.S. Index (net) since 1/1/2020, prior to that it was 75% MSCI World ex U.S. Index (net) and 25% MSCI Emerging Markets Index (net). From 6/1/08 to 12/31/18 the target was the MSCI ACWI ex U.S. (net). The SBI International Equity Aggregate includes the performance of terminated managers.							

Investment Manager Performance Fiscal Year Ending June 30, 2021
(As reported in the SBI's 2021 Annual Report)

Core/Core Plus Bond Program

Core/Core Plus Bond Manager Performance for Periods Ending June 30, 2021							
Manager Strategy	1 Year		Annualized Returns 3 Years		5 Years		Market Value ¹ (In Millions)
	Actual %	Bmk %	Actual %	Bmk %	Actual %	Bmk %	
Core Bond							
Dodge & Cox	3.0	-0.3	6.4	5.3	4.4	3.0	\$1,064.8
BlackRock Financial Management	0.2	-0.3	5.8	5.3	3.3	3.0	944.3
Core Plus Bond							
Goldman Sachs Asset Management	0.4	-0.3	5.9	5.3	3.5	3.0	898.2
Neuberger Investment Management	2.0	-0.3	6.5	5.3	3.7	3.0	989.2
Western Asset Management	3.5	-0.3	7.3	5.3	4.9	3.0	1,139.7
Total Core/Core Plus Bond Program²	2.0	-0.3	6.4	5.3	4.0	3.0	\$5,036.3

¹ Market value includes assets of SIF Funds.

² Returns are net of investment management fees. In Oct. 2020, Core Bond allocation was re-structured from active and semi-passive portfolios to Core and Core Plus portfolios. There is no change to the benchmark, which continues to be the BBG U.S. Aggregate Bond Index (since July 1994).

Treasury Portfolio

Treasury Portfolio Manager Performance and Market Value as of June 30, 2021					
Manager	1 Yr. Return (%)		3 Yr. Return (%)		Market Value (In Millions)
	Actual	Bmk ¹	Actual	Bmk ¹	
Active Management					
BlackRock Financial Mgmt.	-6.6	-6.7	6.4	6.5	\$2,761.3
Goldman Sachs Asset Mgmt.	-6.2	-6.7	6.5	6.5	2,952.5
Neuberger Investment Mgmt.	-5.8	-6.7	6.6	6.5	2,973.5
Total Treasury Portfolio	-6.1	-6.7	6.5	6.5	\$8,687.3

¹ Treasury Portfolio benchmark is the Bloomberg Barclay 5+ Year U.S. Treasury Index.

Cash Managers

Cash Managers Performance and Market Values as of June 30, 2021					
Manager Strategy	1 Yr. Return %		3 Yr. Return %		Market Value (In Millions)
	Actual	Bmk	Actual	Bmk	
Cash²					
State Street Global Advisors	0.1	0.0	1.3	1.0	1,390.4
CD Repo¹					
SBI Internal Portfolio	0.2	0.1	1.5	1.2	28.8
Total Cash¹	0.2	0.1	1.3	1.3	\$1,419.2

¹ Benchmark is the ICE BofA 3 Mo. T-Bill

² Benchmark is the iMoneyNet All Taxable Money Fund Average

Investment Manager Performance Fiscal Year Ending June 30, 2021
(As reported in the SBI's 2021 Annual Report)

NON-RETIREMENT PROGRAM

Non-Retirement Program Manager Performance and Market Value as of June 30, 2021					
Manager	1 Year Return (%)		3 Year Return (%)		Market Value (In Millions)
	Actual	Bmk¹	Actual	Bmk¹	
Non-Retirement Equity Fund Manager					
Mellon Investments	40.8	40.8	18.7	18.7	\$3,236.4
Non-Retirement Bond Fund Manager					
Prudential	1.2	-0.3	5.9	5.3	1,564.7
Non-Retirement Money Market Fund Manager					
State Street Global Advisors	0.1	0.0	1.3	1.0	97.1
Assigned Risk Plan Fixed Income Manager					
RBC	-0.8	-1.1	4.1	3.9	240.5
Other Portfolio					
Met Council Ladder Fixed Income Portfolio	0.4	NA	3.0	NA	111.3
Total Non-Retirement Program					\$5,250.0
¹ • The Non-Retirement Equity Fund benchmark is the S&P 500 Index • The Non-Retirement Bond Fund benchmark is the Bloomberg U.S. Aggregate Bond Index • The Non-Retirement Money Market Fund benchmark is the iMoneyNet All Taxable Money Fund Average • The Non-Retirement Assigned Risk Plan benchmark is the Bloomberg Intermediate Government Index					

PARTICIPANT DIRECTED INVESTMENT PROGRAM

Stable Value Fund

Stable Value Manager Performance and Market Value as of June 30, 2021					
Manager	1 Year Return (%)		3 Year Return (%)		Market Value (In Millions)
	Actual	Bmk¹	Actual¹	Bmk¹	
Stable Value Fund Manager					
Galliard Capital Management	2.2	0.7	2.5	1.8	\$1,704.2
Total Stable Value Fund					\$1,704.2
¹ The Stable Value Fund benchmark is the 3-Year Constant Maturity Treasury plus 45 basis point.					