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# **MINNESOTA STATE BOARD OF INVESTMENT**

**MINNESOTA STATE BOARD  
OF INVESTMENT  
MEETING  
September 8, 2017**



**Governor Mark Dayton  
State Auditor Rebecca Otto  
Secretary of State Steve Simon  
Attorney General Lori Swanson**

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**STATE BOARD OF INVESTMENT**

**AGENDA AND MINUTES**

**September 8, 2017**

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**AGENDA**  
**STATE BOARD OF INVESTMENT MEETING**  
**Friday, September 8, 2017**  
**10:00 A.M.**  
**G23 Senate Committee Room**  
**State Capitol**  
**75 Rev. Dr. Martin Luther King Jr. Boulevard**  
**St. Paul, MN**

**TAB**

**1. Approval of Minutes of May 31, 2017**

**2. Report from the Executive Director (M. Perry)**

A. Quarterly Performance Summary **A**  
(April 1, 2017 – June 30, 2017)

B. Administrative Report **B**

Information Updates

1. Reports on Budget and Travel
2. Sudan Update
3. Iran Update
4. Litigation Update

C. Investment Manager Update **C**

**INVESTMENT ADVISORY COUNCIL REPORT**

**3. Private Markets Report and New Commitment Proposals (G. Martin) **D****

- A. Review of current strategy
- B. Market Review
- C. Status of SBI Current Private Markets Commitments
- D. Consideration of Investment Commitments

**4. Executive Director's Response to the Consultant Combined Fund Portfolio Review (G. Martin and M. Perry) **E****

**5. Proposed Statement of Investment Beliefs for the SBI (M. Perry and N. Rue) **F****

**6. Public Markets Report **G****

**7. Comprehensive Performance Report **H****

**8. Other Items**

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**Minutes  
State Board of Investment  
May 31, 2017**

The State Board of Investment (SBI) met at 10:08 A.M. Wednesday, May 31, 2017 in G23 Senate Committee Room of the State Capitol, St. Paul, Minnesota. Governor Mark Dayton, State Auditor Rebecca Otto, Secretary of State Steve Simon, and Attorney General Lori Swanson were present. The minutes of the February 23, 2017 meeting were approved.

**Executive Director's Report**

Executive Director Mansco Perry introduced Gary Martin, the new Investment Advisory Council (IAC) Chair, to the Board members and then announced to the Board that Kim Faust, had been elected the new IAC Vice Chair. He also announced that Malcolm McDonald, previously IAC Vice Chair, had been elected Chair of the SBI's Administrative Committee. Mr. Perry went on to introduce Steve Cummings, President, of the newly-retained general consultant, Aon Hewitt Investment Consulting Inc. (AON), and Allan Emkin, Founder and Managing Director, of Pension Consulting Alliance (PCA) with whom the SBI has had a long relationship. Mr. Perry stated that Kristen Doyle, Head of Public Funds, and Chris Tucek, Senior Consultant, from AON were also present at the meeting as were Neil Rue and John Burns from PCA.

Mr. Perry referred members to Tab A of the meeting materials, and he reported that the Combined Funds had outperformed its Composite Index over the ten-year period ending December 31, 2016 (Combined Funds 6.1% vs. Composite 5.9%) and had provided a real rate of return of 5.5% above inflation over the latest 20 year period (Combined Funds 7.6% vs. CPI 2.1%).

Mr. Perry stated that assets increased by almost 4% over the quarter (Combined Funds ending value of \$62.4 versus a beginning value of \$59.9 billion) and that they were on target in terms of the new asset allocation. The Combined Funds matched the benchmark for the quarter (Combined Funds 5.0% vs. Composite 5.0%) and were slightly ahead of the benchmark for the year (Combined Funds 12.5% vs. Composite 12.4%). The Combined Funds underperformed over the three-year period but outperformed in all other time periods reported.

Mr. Perry reported that the combined public equity performance matched the benchmark during the quarter (Public Equity 6.4% vs. Composite 6.4%). Breaking it down between domestic and international equities, Mr. Perry said that the domestic stock manager group outperformed its benchmark for the quarter (Domestic Stocks 5.9% vs. Domestic Equity Asset Class Target 5.7%) and matched the benchmark for the year (Domestic Stocks 18.1% vs. Domestic Equity Asset Class Target 18.1%). He stated that the international stock manager group underperformed its target for the quarter (International Stocks 7.5% vs. International Equity Asset Class Target 7.9%) and for the year (International Stocks 11.9% vs. International Equity Asset Class Target 13.1%). Mr. Perry indicated that the bond segment outperformed its benchmark for the quarter (Bonds 1.0% vs. Fixed Income Asset Class Target 0.8%) and the year (Bonds 1.6% vs. Fixed Income Asset Class Target 0.4%), and in all other time periods reported. He stated that the alternative investments contributed to performance for the quarter and the year (total return of 5.3% and

13.8%, respectively). Mr. Perry concluded his report noting that, as of March 31, 2017, the SBI was responsible for managing over \$85.3 billion of assets.

Mr. Perry referred members to Tab B of the meeting materials for the administrative report. He reported that, inclusive of travel, he expects the SBI to come in under budget for the fiscal year. Mr. Perry briefly listed a variety of legislative initiatives which the SBI was following but were unclear if they would be passed. These initiatives included having the SBI invest equities for qualifying cities and counties, establishing an outdoor heritage trust account, creating an investment account for the Center for Rural Policy and Development, bills from the pension funds seeking sustainability measures, a proposal to have the SBI study the possibility of fossil fuel divestment, and a bill to create Secure Choice, a government-sponsored retirement plan for individuals working in small companies without retirement plans. Finally, Mr. Perry mentioned legislation which had been passed to prohibit entities, including the SBI, from contracting with vendors that discriminate against the State of Israel. He said that staff was working with the Minnesota Department of Administration to determine the language that will need to be included in future contracts.

In Tab C, Mr. Perry provided members with an update on the transition of the fund to the asset allocation policy approved last year. He stated that as of the beginning of the third quarter of the fiscal year, the SBI completed the transition to the new asset allocation targets as well as the transition to the new two-thirds (67%), one-third (33%) allocation between U.S. and Non-U.S. public equities from the previous 75% and 25% allocation, respectively. Mr. Perry added that the fund has also continued to increase its exposure to passive investment management with 75% of U.S. equities and 55% of Non-U.S. equities currently begin passively managed. As part of this transition, several large cap growth, large cap value, and semi-passive investment managers were defunded. Mr. Perry asked the Board members to authorize the termination of INTECH Investment Management (U.S. equity large cap growth and U.S. equity semi-passive mandates), Systematic Financial Management (U.S. equity large cap value), Next Century Growth Investors (U.S. equity small cap growth), and Jacobs Levy Equity Management (U.S. equity large cap growth). He also requested that the Board give him the authority to terminate the contracts of any defunded manager in order, primarily, to be able to promptly settle all final matters, such as performance-based fees.

Attorney General Swanson moved approval of the recommendation in Tab C which reads: **“The Investment Advisory Council endorses the Executive Director’s recommendation to the Board to terminate the contracts of the following managers:**

- **INTECH Investment Management, LLC (Domestic Large Cap Growth)**
- **INTECH Investment Management, LLC (Domestic Semi-Passive)**
- **Systematic Financial Management, L.P. (Domestic Large Cap Value)**
- **Next Century Growth Investors, LLC (Domestic Small Cap Growth)**
- **Jacobs Levy Equity Management, Inc. (Domestic Large Cap Growth)**

**and also authorize the Executive Director to terminate the contract of any manager that is defunded and to report any such termination to the Board and the IAC.”** The motion passed unanimously.



Mr. Perry referred members to Tab D of the meeting materials, a recommendation to transfer the internally-managed S&P 500 equity index fund and the internal bond fund to external investment managers. These funds have been used to invest non-retirement assets such as the Permanent School Fund, the Environmental Trust Fund and various OPEBs under the SBI's control. Mr. Perry indicated that for risk control reasons, including potential future staff turnover, as well as the fact that internal asset management is not a core business of the SBI staff, he recommends the assets be managed externally. Mr. Perry recommended the S&P 500 equity index fund be managed by Mellon Capital Management and the bond fund be managed by Prudential Global Investment Management. Mr. Perry also requested that the Board authorize him to develop a balanced fund to be made available for the non-retirement entities.

State Auditor Otto moved approval of the recommendation in Tab D which reads: **"The Investment Advisory Council endorses the Executive Director to recommend to the Board:**

- **to authorize the Executive Director to assign the SBI internally managed Non-Retirement S&P 500 equity index and core fixed income portfolios to external managers, and, with assistance from SBI's legal counsel, to negotiate fees and execute a contract with Prudential Global Investment Management to manage the fixed income portfolio and Mellon Capital to manage the S&P 500 equity index portfolio; and**
- **to authorize the Staff to develop a Balanced Fund to be made available for the Non-Retirement entities."** The motion passed unanimously.

Mr. Perry referred members to Tab E of the meeting materials, for an additional work plan item. Mr. Perry stated that he has asked Pension Consulting Alliance (PCA), special projects consultant, to work with the SBI in developing a Statement of Investment Beliefs and principles held by the organization to help inform its investment decision making. A general presentation from PCA on the topic was referenced.

Mr. Perry referred members to Tab F of the meeting materials, a review of the local custodian Request for Proposal (RFP) process. Wells Fargo Bank is the current custodian for the state's operating cash and their contract expires December 31, 2017. Mr. Perry stated that an RFP was sent to twelve banks listed in the report. The local Custody Review Committee reviewed the responses received from Wells Fargo Bank and State Street Bank and, based on past support and a lower fee proposal, recommended that Wells Fargo Bank be retained.

State Auditor Otto moved approval of the recommendation in Tab F which reads: **"The Committee concurs with Staff's recommendation that the Board authorize the Executive Director, with assistance from the SBI's legal counsel, to negotiate and execute a contract with Wells Fargo for Local Custody Services for a five year period ending December 31, 2022."** The motion passed unanimously.

Mr. Perry referred members to Tab G of the meeting materials, a review of the accounting system vendor Request for Proposal (RFP). QED, now called Broadridge Financial Solutions, is the SBI's current investment accounting provider and their contract expires December 31, 2017. Mr. Perry stated that an RFP was sent to twenty-four service providers listed in the report. The Accounting System Review Committee reviewed nine responses received and recommended retaining the

existing vendor, Broadridge Financial Solutions, Inc., based on the low fee proposal and the strong support provided in the past.

State Auditor Otto moved approval of the recommendation in Tab G which reads: **“The Committee concurs with Staff’s recommendation that the Board authorize the Executive Director, with assistance from SBI’s legal counsel, to negotiate and execute a contract with Broadridge Financial Solutions, Inc. for the Investment Accounting System services for a five year period ending no later than December 31, 2022.”** The motion passed unanimously.

Mr. Perry referred members to Tab H to review the SBI’s Administrative Committee Report of the meeting held on April 28, 2017. He stated that the committee met to review the SBI Executive Director’s Proposed Work Plan for FY18, the Budget Plan for FY18 and FY19, the Executive Director’s Evaluation Process, and the Continuing Fiduciary Education Plan.

Secretary of State Simon moved approval of the work plan, the budget and the performance evaluation recommendations as stated in Tab H which reads:

FY18 Executive Director’s Work Plan

**“The Committee recommends that the SBI approve the FY18 Executive Director’s Work Plan. Further, the Committee recommends that the Work Plan serve as the basis for the Executive Director’s performance evaluation for FY18.”**

FY18 and FY19 Administrative Budget Plan

**“The Committee recommends that the SBI approve the FY18, and FY19 Administrative Budget Plan, as presented to the Committee, and that the Executive Director have the flexibility to reallocate funds between budget categories if the Executive Director deems necessary.”**

Executive Director’s Performance Evaluation

**“The Committee recommends that the SBI adopt the following performance evaluation and salary process for the SBI Executive Director:**

- **The evaluation will be completed by October 1.**
- **The evaluation will be based on the results of the Executive Director’s work plan for the fiscal year ending the previous June 30.**
- **The SBI deputies/designees will develop an appropriate evaluation form for use by each member.**
- **As Chair of the Board, the Governor (or his representative) will coordinate distribution of the evaluation forms. Board members will forward completed evaluations to the Executive Director with a copy of the cover sheet sent to the Governor or the Governor’s designee and are encouraged to meet individually with the Executive Director to review their own evaluation.**
- **Upon satisfactory performance evaluations from a majority of responding Board Members, the Executive Director’s annual salary adjustment will be any Cost-of-Living Adjustment (COLA)/Across the Board (ATB)/General Salary Increase contained in the**

**Managerial Plan for a Fiscal Year as approved by the Legislature to the extent that it is within the Executive Director's salary range. The adjustment shall be effective January 1 of the next calendar year." The motion passed unanimously.**

Attorney General Swanson moved approval of the following recommendation in Tab H which reads: **"The Committee recommends that the SBI adopt the Continuing Fiduciary Education Plan."** The motion passed unanimously.

Gary Martin, Chair of the Investment Advisory Council referred members to Tab I and reviewed the seven alternative investment proposals, the first four of which are with existing investment managers, brought to the IAC: Lexington Partners CIP IV (Private Equity), KKR Lending Partners KKRLP III (Private Credit), Avenue Energy Opportunities Fund II (Private Credit), Nordic Capital Fund IX (Private Equity), Asia Alternatives AACP V (Private Equity), BlackRock GRP II (Resource), and Lubert-Adler Fund VII-B (Real Estate).

State Auditor Otto moved approval of all seven recommendations in Tab I of the meeting materials, which read: **"The Investment Advisory Council concurs with Staff's recommendation that the SBI authorize the Executive Director, with assistance from the SBI's legal counsel, to negotiate and execute a commitment of up to \$200 million, or 20% of Lexington Co-Investment Partners IV, whichever is less. Approval of this potential commitment is not intended to be, and does not constitute in any way, a binding or legal agreement or impose any legal obligations on the State Board of Investment and neither the State of Minnesota, the Investment Advisory Council, the State Board of Investment nor its Executive Director have any liability for reliance by Lexington Partners upon this approval. Until the Executive Director on behalf of the SBI executes a formal agreement, further due diligence and negotiations may result in the imposition of additional terms and conditions on Lexington Partners or reduction or termination of the commitment.**

**The Investment Advisory Council concurs with Staff's recommendation that the SBI authorize the Executive Director, with assistance from the SBI's legal counsel, to negotiate and execute a commitment of up to \$200 million, or 20% of KKR Lending Partners III, whichever is less. Approval of this potential commitment is not intended to be, and does not constitute in any way, a binding or legal agreement or impose any legal obligations on the State Board of Investment and neither the State of Minnesota, the Investment Advisory Council, the State Board of Investment nor its Executive Director have any liability for reliance by Kohlberg Kravis Roberts & Co. upon this approval. Until the Executive Director on behalf of the SBI executes a formal agreement, further due diligence and negotiations may result in the imposition of additional terms and conditions on KKR or reduction or termination of the commitment.**

**The Investment Advisory Council concurs with Staff's recommendation that the SBI authorize the Executive Director, with assistance from the SBI's legal counsel, to negotiate and execute a commitment of up to \$100 million, or 20% of Avenue Energy Opportunities Fund II, whichever is less. Approval of this potential commitment is not intended to be, and does not constitute in any way, a binding or legal agreement or impose any legal obligations on the State Board of Investment and neither the State of Minnesota, the Investment**

**Advisory Council, the State Board of Investment nor its Executive Director have any liability for reliance by Avenue Capital Group upon this approval. Until the Executive Director on behalf of the SBI executes a formal agreement, further due diligence and negotiations may result in the imposition of additional terms and conditions on Avenue or reduction or termination of the commitment.**

**The Investment Advisory Council concurs with Staff's recommendation that the SBI authorize the Executive Director, with assistance from the SBI's legal counsel, to negotiate and execute a commitment of up to €150 million, or 20% of Nordic Capital Fund IX, whichever is less. Approval of this potential commitment is not intended to be, and does not constitute in any way, a binding or legal agreement or impose any legal obligations on the State Board of Investment and neither the State of Minnesota, the Investment Advisory Council, the State Board of Investment nor its Executive Director have any liability for reliance by Nordic Capital upon this approval. Until the Executive Director on behalf of the SBI executes a formal agreement, further due diligence and negotiations may result in the imposition of additional terms and conditions on Nordic Capital or reduction or termination of the commitment.**

**The Investment Advisory Council concurs with Staff's recommendation that the SBI authorize the Executive Director, with assistance from the SBI's legal counsel, to negotiate and execute a commitment of up to \$100 million, or 20% of Asia Alternatives Capital Partners V, whichever is less. Approval of this potential commitment is not intended to be, and does not constitute in any way, a binding or legal agreement or impose any legal obligations on the State Board of Investment and neither the State of Minnesota, the Investment Advisory Council, the State Board of Investment nor its Executive Director have any liability for reliance by Asia Alternatives Management upon this approval. Until the Executive Director on behalf of the SBI executes a formal agreement, further due diligence and negotiations may result in the imposition of additional terms and conditions on Asia Alternatives or reduction or termination of the commitment.**

**The Investment Advisory Council concurs with Staff's recommendation that the SBI authorize the Executive Director, with assistance from the SBI's legal counsel, to negotiate and execute a commitment of up to \$100 million, or 20% of Global Renewable Power Fund II, whichever is less. Approval of this potential commitment is not intended to be, and does not constitute in any way, a binding or legal agreement or impose any legal obligations on the State Board of Investment and neither the State of Minnesota, the Investment Advisory Council, the State Board of Investment nor its Executive Director have any liability for reliance by BlackRock Financial Management upon this approval. Until the Executive Director on behalf of the SBI executes a formal agreement, further due diligence and negotiations may result in the imposition of additional terms and conditions on BlackRock or reduction or termination of the commitment.**

**The Investment Advisory Council concurs with Staff's recommendation that the SBI authorize the Executive Director, with assistance from the SBI's legal counsel, to negotiate and execute a commitment of up to \$75 million, or 20% of Lubert-Adler Real Estate Fund VII-B, whichever is less. Approval of this potential commitment is not intended to be,**

**and does not constitute in any way, a binding or legal agreement or impose any legal obligations on the State Board of Investment and neither the State of Minnesota, the Investment Advisory Council, the State Board of Investment nor its Executive Director have any liability for reliance by Lubert-Adler Partners upon this approval. Until the Executive Director on behalf of the SBI executes a formal agreement, further due diligence and negotiations may result in the imposition of additional terms and conditions on Lubert-Adler or reduction or termination of the commitment.”** The motion passed unanimously.

The meeting adjourned at 10:41 a.m.

Respectfully submitted,

A handwritten signature in blue ink, appearing to read "Mansco Perry III", with a stylized flourish at the end.

Mansco Perry III  
Executive Director and Chief Investment Officer

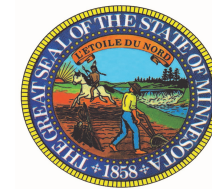
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TAB

A

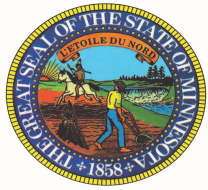
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# Performance Summary

## June 30, 2017



## Combined Funds Long Term Objectives

		<u>Comparison to Objective</u>
		<u>10 Year</u>
<b>Match or Exceed Composite Index (10 yr.)</b>	<b>COMBINED FUNDS</b>	<b>6.2%</b>
Outperform a composite market index weighted in a manner that reflects the long-term asset allocation of the Combined Funds over the latest 10 year period.	COMBINED FUNDS - COMPOSITE INDEX	6.0
	Excess	0.2
		<u>20 Year</u>
<b>Provide Real Return (20 yr.)</b>	<b>COMBINED FUNDS</b>	<b>7.2%</b>
Provide returns that are 3-5 percentage points greater than inflation over the latest 20 year period.	CPI-U	2.1
	Excess	5.1

Note:

Throughout this report performance is calculated net of investment management fees, differentials within column amounts may occur due to rounding, and returns for all periods greater than one year are annualized.



## Combined Funds Summary

### Combined Funds Change in Market Value (\$Millions)

	One Quarter
<b>COMBINED FUNDS</b>	
Beginning Market Value	\$62,351
Net Contributions	-561
Investment Return	2,326
Ending Market Value	64,116

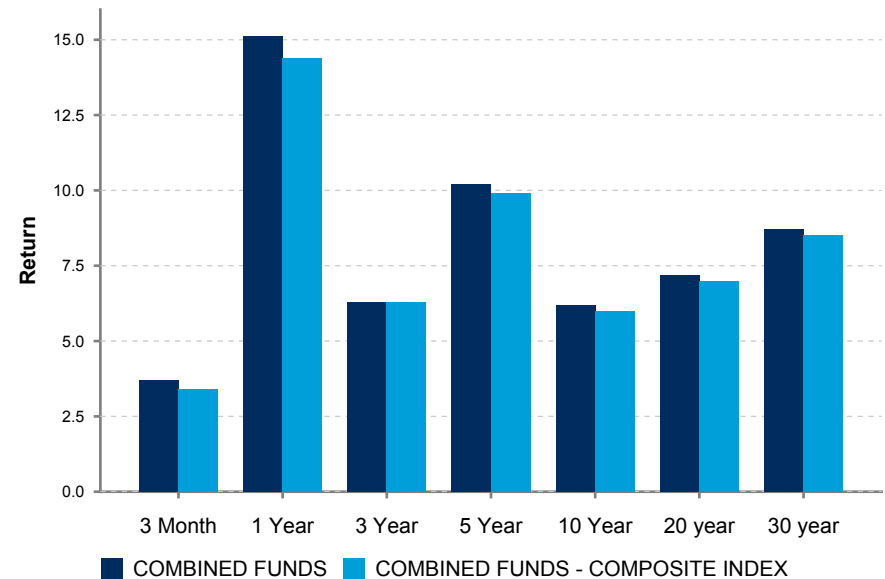
The change in market value of the Combined Funds since the end of last quarter is due to net contributions and investment returns.

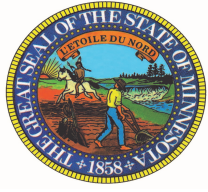
### Performance (Net of Fees)

The Combined Funds' performance is evaluated relative to a composite of public market index and private market investment returns. The Composite performance is calculated by multiplying the beginning of month Composite weights and the monthly returns of the asset class benchmarks.

	Qtr	FYTD	1 Yr	3 Yr	5 Yr	10 Yr	20 Yr	30 Yr
<b>COMBINED FUNDS</b>	<b>3.7%</b>	<b>15.1%</b>	<b>15.1%</b>	<b>6.3%</b>	<b>10.2%</b>	<b>6.2%</b>	<b>7.2%</b>	<b>8.7%</b>
COMBINED FUNDS - COMPOSITE INDEX	3.4	14.4	14.4	6.3	9.9	6.0	7.0	8.5
Excess	0.3	0.8	0.8	-0.1	0.3	0.2	0.2	0.2

### Asset Growth



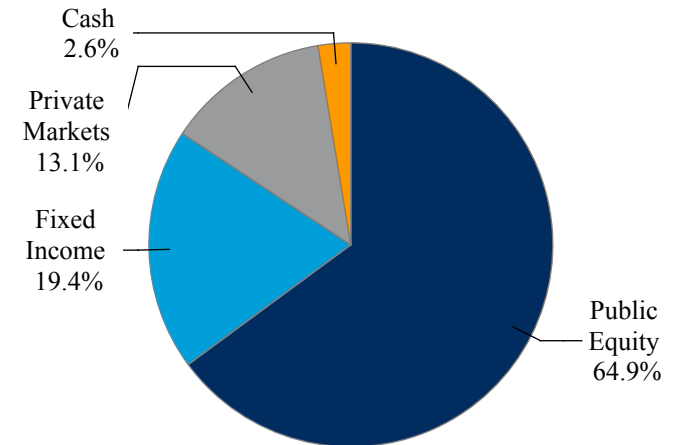


## Combined Funds Summary

### Asset Mix

The Combined Funds actual asset mix relative to the Strategic Asset Allocation Policy Target is shown below. Any uninvested portion of the Private Markets allocation is held in Public Equity. The current Strategic Asset Allocation Policy Target became effective on 7/1/2016.

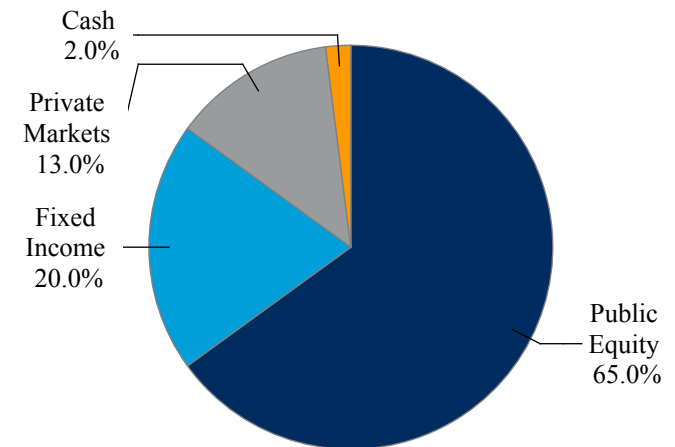
	<u>(Millions)</u>	<u>Actual Mix</u>	<u>Policy Target</u>
Public Equity	\$41,607	64.9%	58.0%
Fixed Income	12,425	19.4	20.0
Private Markets	8,409	13.1	20.0
Cash	1,675	2.6	2.0
<b>TOTAL</b>	<b>64,116</b>	<b>100.0</b>	



### Composite Index Comparison

The Combined Funds Composite is set as the Strategic Asset Allocation Policy Target with the uninvested portion of Private Markets allocated to Public Equity. Asset class weights for Public Equity and Private Markets are reset at the start of each month. The Combined Funds Composite weighting shown below is as of the first day of the quarter.

	<u>Target Weight</u>	<u>Market Index</u>
Public Equity	65.0%	69% Russell 3000/31% MSCI ACWI ex US
Fixed Income	20.0	BB Barclays U.S. Aggregate
Private Markets	13.0	Private Markets
Cash	2.0	3 Month T-Bills





## Combined Funds Asset Class Performance Summary

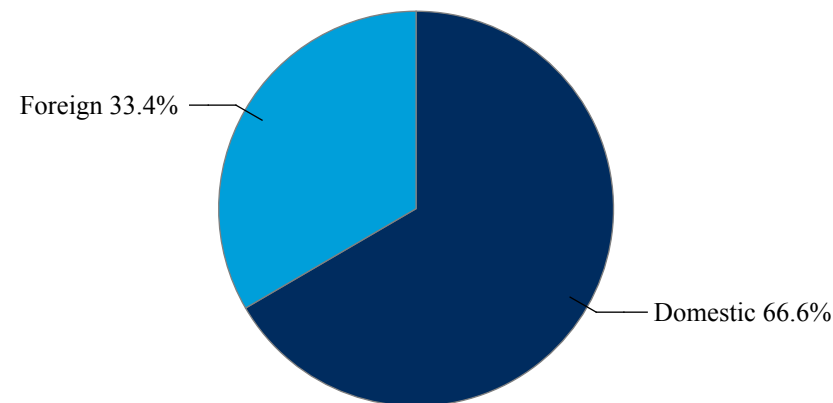
### Public Equity

The Combined Funds Public Equity includes Domestic Equity and International Equity.

The Public Equity benchmark is 67% Russell 3000 and 33% MSCI ACWI ex USA.

The Russell 3000 measures the performance of the 3000 largest U.S. companies based on total market capitalization.

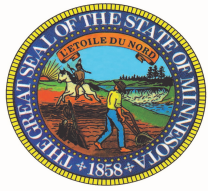
The Morgan Stanley Capital International All Country World Index ex U.S. (net) is a free float-adjusted market capitalization index that is designed to measure equity market performance in developed and emerging markets other than the United States.



	<u>Last Qtr</u>	<u>FYTD</u>	<u>1 Year</u>	<u>3 Year</u>	<u>5 Year</u>	<u>10 Year</u>	<u>20 Year</u>
Public Equity	4.2%	19.9%	19.9%	7.0%	13.0%	5.9%	6.7%
Public Equity Benchmark	3.9	19.2	19.2				
Excess	0.4	0.6	0.6				
Domestic Equity	3.1	19.4	19.4	8.7	14.5	7.1	7.1
Domestic Equity Benchmark	3.0	18.5	18.5	9.1	14.6	7.3	7.2
Excess	0.1	0.9	0.9	-0.4	-0.0	-0.1	-0.1
International Equity	6.6	20.2	20.2	1.5	8.0	1.6	4.9
International Equity Benchmark	5.8	20.5	20.5	0.8	7.2	1.2	4.5
Excess	0.8	-0.2	-0.2	0.7	0.8	0.4	0.4

Note:

Prior to 6/30/16 the returns of Domestic and International Equity were not reported as a total Public Equity return. For additional information regarding historical asset class performance and benchmarks, please refer to the Combined Funds Performance Report.



## Combined Funds Asset Class Performance Summary

### Fixed Income

The Combined Funds Fixed Income performance is shown here.

The Fixed Income benchmark is the Bloomberg Barclays U.S. Aggregate Index. This index reflects the performance of the broad bond market for investment grade (Baa or higher) bonds, U.S. Treasury and agency securities, and mortgage obligations with maturities greater than one year.

	<u>Last Qtr</u>	<u>FYTD</u>	<u>1 Year</u>	<u>3 Year</u>	<u>5 Year</u>	<u>10 Year</u>	<u>20 Year</u>
Fixed Income	1.6%	0.9%	0.9%	2.9%	2.9%	4.9%	5.6%
BBG BARC Agg Bd	1.4	-0.3	-0.3	2.5	2.2	4.5	5.2
Excess	0.2	1.2	1.2	0.5	0.7	0.4	0.3

### Cash

The Combined Funds Cash performance is shown here. Cash is held by the Combined Funds to meet the liquidity needs of the retirement systems to pay benefits.

The Combined Funds Cash benchmark is the 90-Day U.S. Treasury Bill.

	<u>Last Qtr</u>	<u>FYTD</u>	<u>1 Year</u>	<u>3 Year</u>	<u>5 Year</u>	<u>10 Year</u>	<u>20 Year</u>
Cash	0.3%	0.8%	0.8%	0.5%	0.4%	1.0%	2.7%
90 DAY T-BILL	0.2	0.5	0.5	0.2	0.2	0.6	2.2
Excess	0.1	0.3	0.3	0.2	0.2	0.4	0.5

Note:

For additional information regarding historical asset class performance and benchmarks, please refer to the Combined Funds Performance Report.



## Combined Funds Asset Class Performance Summary

### Private Markets

	<u>Last Qtr</u>	<u>FYTD</u>	<u>1 Year</u>	<u>3 Year</u>	<u>5 Year</u>	<u>10 Year</u>	<u>20 Year</u>
Total Private Markets	4.9%	19.7%	19.7%	8.9%	11.3%	9.0%	13.3%
Private Equity	5.4	18.7	18.7	12.6	14.1	10.9	14.0
Private Credit	5.2	20.0	20.0	14.4	14.6	11.1	13.2
Resources	3.9	27.3	27.3	-4.7	1.7	6.9	15.1
Real Estate	3.5	7.8	7.8	11.8	12.3	4.7	10.0

### Private Markets

The time-weighted rates of return for the Private Markets portfolio are shown here. Private Markets included Private Equity, Private Credit, Resources, and Real Estate. Some of the existing investments are relatively immature and returns may not be indicative of future results.

### **Private Equity Investments**

The objectives of the Private Equity portfolio, which may include leveraged buyouts, growth equity, venture capital and special situations, are to achieve attractive returns and to provide overall portfolio diversification to the total plan.

### **Private Credit Investments**

The objectives of the Private Credit portfolio, which may include mezzanine debt, direct lending, and other forms of non-investment grade fixed income instruments, are to achieve a high total return over a full market cycle and to provide some degree of downside protection and typically provide current income in the form of a coupon. In certain situations, investments in the Private Credit portfolio also provide an equity component of return in the form of warrants or re-organized equity.

### **Resource Investments**

The objectives of the Resources portfolio, which may include energy, infrastructure, and other hard assets, are to provide protection against the risks associated with inflation and to provide overall portfolio diversification to the total plan.

### **Real Estate Investments**

The objectives of the Real Estate portfolio, which may include core and non-core real estate investments, are to achieve attractive returns, preserve capital, provide protection against risks associated with inflation, and provide overall portfolio diversification to the total plan.

The SBI also monitors Private Markets performance using money-weighted return metrics such as Internal Rate of Return and Multiple of Invested Capital. For money-weighted return metrics please refer to the Combined Funds Performance Report.



## Combined Funds Summary

### Performance Compared to Other Pension Funds

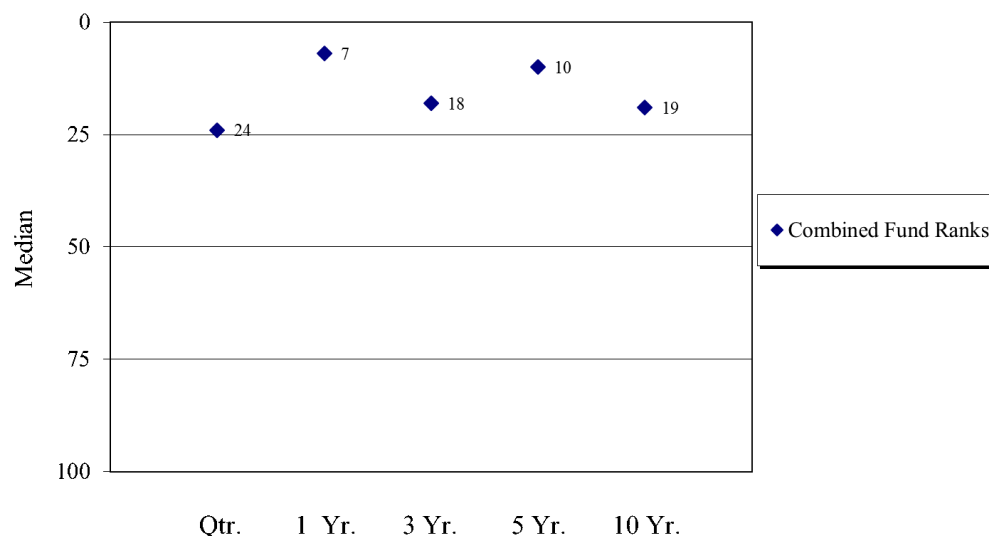
While the SBI is concerned with how its returns compare to other pension investors, universe comparisons should be used with great care. There are several reasons why such comparisons will provide an "apples to oranges" look at performance:

- Differing Allocations. Asset allocation will have a dominant effect on return. The allocation to stocks among the funds in TUCS typically ranges from 20-90%, a very wide range for meaningful comparison. In addition, it appears that many funds do not include alternative asset holdings in their reports to TUCS. This further distorts comparisons among funds.

- Differing Goals/Liabilities. Each pension fund structures its portfolio to meet its own liabilities and risk tolerance. This will result in different asset mix choices. Since asset mix will largely determine investment results, a universe ranking is not relevant to a discussion of how well a plan sponsor is meeting its long-term liabilities.

With these considerations in mind, the performance of the Combined Funds compared to other public and corporate pension funds in Trust Universe Comparison Service (TUCS) are shown below.

The SBI's returns are ranked against public and corporate plans with over \$1 billion in assets. All funds in TUCS report their returns gross of fees.



	Periods Ended 6/30/17				
	<u>Quarter</u>	<u>1 Year</u>	<u>3 Years</u>	<u>5 Years</u>	<u>10 Years</u>
Combined Funds	24th	7th	18th	10th	19th
Percentile Rank in TUCS					





## Combined Funds Summary

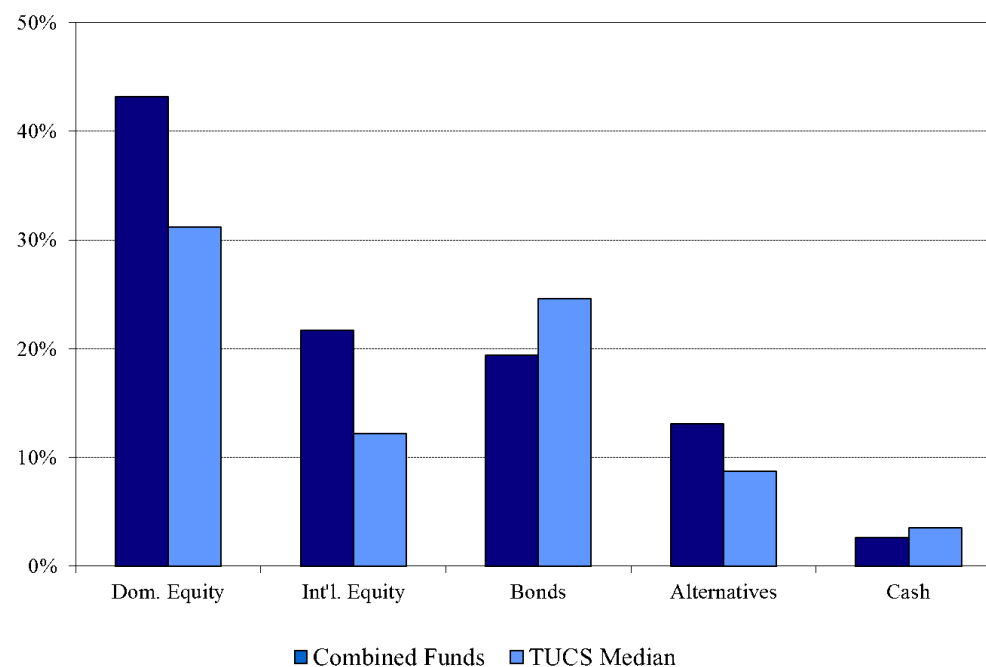
### Asset Mix Compared to Other Pension Funds

The comparison universe used by the SBI is the Trust Universe Comparison Service (TUCS). Only funds with assets over \$1 billion are included in the comparisons shown in this section.

Comparisons of the Combined Funds' asset mix to the median allocation to stocks, bonds and other assets of the public and corporate funds in TUCS over \$1 billion are shown below:

#### Combined Funds Asset Mix

	<u>(\$Millions)</u>	<u>Actual Mix</u>
Public Equity	41,607	64.9
Fixed Income	12,425	19.4
Private Markets	8,409	13.1
Cash	1,675	2.6
TOTAL	64,116	100.0



	<u>Domestic Equity</u>	<u>International Equity</u>	<u>Bonds</u>	<u>Alternatives</u>	<u>Cash</u>
Combined Funds	43.2%	21.7%	19.4%	13.1%	2.6%
Median in TUCS	31.2%	12.2%	24.6%	8.7%	3.5%



## Description of SBI Investment Programs

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The Minnesota State Board of Investment is responsible for the investment management of various retirement funds, trust funds and cash accounts.

### Combined Funds

The Combined Funds represent the assets for both the active and retired public employees in the statewide retirement systems, the biggest of which are the Public Employees Retirement Association (PERA), the Teachers Retirement Association (TRA), and the Minnesota State Retirement System (MSRS). The SBI commingles the assets of these plans into the Combined Funds to capture investment efficiencies. All assets in the Combined Funds are managed externally by investment management firms retained by contract.

### Participant Directed Investment Program

The Participant Directed Investment Program (PDIP) provides investment vehicles for a variety of retirement or other tax-advantaged savings plans. Investment goals among the PDIP's many participants are varied. In order to meet the variety of goals, participants may allocate their investments among one or more accounts that are appropriate for their needs within statutory requirements and rules established by the participating organizations. At this time, the assets of various retirement programs, including local firefighter groups, are included here.

### Non-Retirement

The Non-Retirement Funds are funds established by the State of Minnesota and other government entities for various purposes which include the benefit of public schools, the environment, other post-employment benefits, workers compensation insurance, and other purposes.

### State Cash

The State Cash accounts are cash balances of state government funds including the State General Fund. Most accounts are invested by SBI staff through a short-term pooled fund referred to as the Treasurer's Cash Pool. It contains the cash balances of special or dedicated accounts necessary for the operation of certain State agencies and non-dedicated cash in the State Treasury. Because of special legal restrictions, a small number of cash accounts cannot be commingled.



## Funds Under Management

\$ Billions

### COMBINED FUNDS

Combined Funds \$64.1

### PARTICIPANT DIRECTED INVESTMENT PROGRAMS

Supplemental Investment Fund*	2.1
State Deferred Compensation Plan	6.4
Minnesota College Savings Plan	1.3
Achieve a Better Life Experience	0.0

### NON-RETIREMENT FUNDS

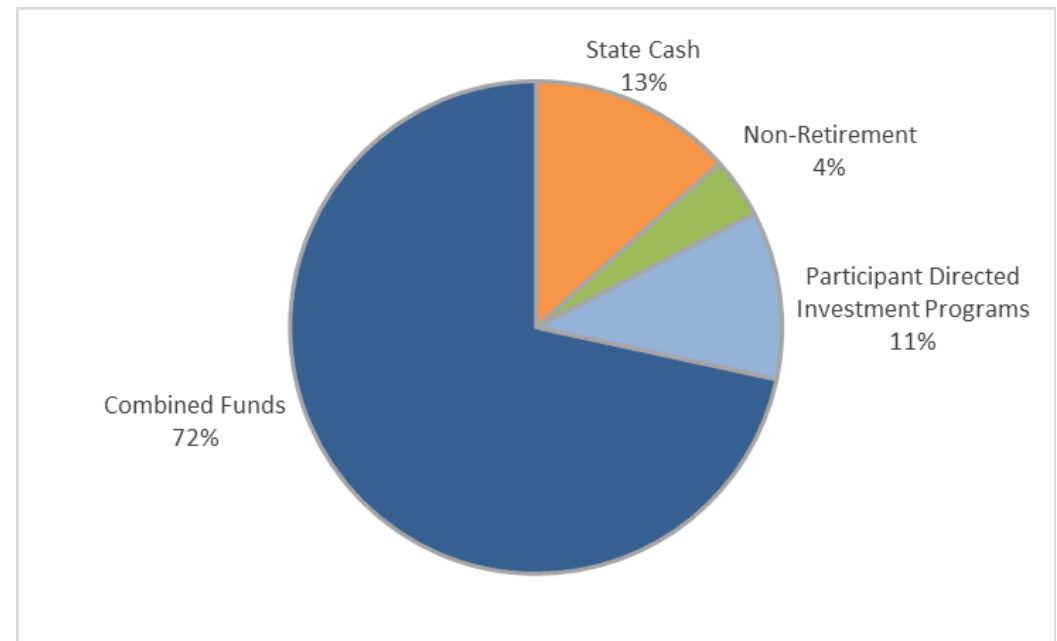
Assigned Risk Plan	0.3
Permanent School Fund	1.3
Environmental Trust Fund	1.0
Closed Landfill Investment Fund	0.1
Miscellaneous Trust Accounts	0.2
Other Post Employment Benefits Accounts	0.6

### STATE CASH ACCOUNTS

Invested Treasurer's Cash	11.8
Other State Cash Accounts	0.1

### TOTAL

89.5



\* Includes assets of smaller retirement funds which are invested with the SBI but are not included in the Combined Funds

Note: Differentials within column amounts may occur due to rounding

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## **EXECUTIVE DIRECTOR'S ADMINISTRATIVE REPORT**

---

DATE: September 1, 2017

TO: Members, State Board of Investment

FROM: **Mansco Perry III**

### **1. Reports on Budget and Travel**

A report on the SBI's administrative budget for the fiscal year to date through June 30, 2017 is included as **Attachment A**.

A report on travel for the period from April 1, 2017 – June 30, 2017 is included as **Attachment B**.

### **2. Sudan Update**

Each quarter, staff provides a report to the Board on steps taken to implement *Minnesota Statutes*, section 11A.243 that requires SBI actions concerning companies with operations in Sudan. Staff receives periodic reports from the Empowering Responsible Investment EIRIS Conflict Risk Network (CRN) about the status of companies with operations in Sudan.

The SBI is restricted from purchasing stock in the companies designated as highest offenders by the CRN. Accordingly, staff updates the list of restricted stocks and notifies investment managers that they may not purchase shares in companies on the restricted list. Staff receives monthly reports from the SBI's custodian bank concerning SBI holdings of companies on the CRN list and writes letters as required by law.

According to the law, if after 90 days following the SBI's communication, a company continues to have active business operations in Sudan, the SBI must divest holdings of the company according to the following schedule:

- at least 50% shall be sold within nine months after the company appeared on the Task Force list; and
- 100% shall be sold within fifteen months after the company appeared on the list.

In the second quarter, SBI managers sold 230,683 shares in one company on the divestment list.

**Attachment C** is a copy of the June 29, 2017 letter sent to each international equity manager and domestic equity manager containing the most recent restricted list and the list of stocks to be divested.

### **3. Iran Update**

Each quarter, staff provides a report to the Board on steps taken to implement *Minnesota Statutes*, section 11A.244 that requires SBI actions concerning companies with operations in Iran.

SBI receives information on companies with Iran operations from IW Financial, through Glass Lewis. Staff receives monthly reports from the SBI's custodian bank concerning SBI holdings of companies on the restricted list and writes letters as required by the law.

According to the law, if after 90 days following the SBI's communication a company continues to have scrutinized business operations, the SBI must divest all publicly traded securities of the company according to the following schedule:

- at least 50% shall be sold within nine months after the company appeared on the scrutinized list; and
- 100% within fifteen months after the company appeared on the scrutinized list.

In the second quarter, SBI managers sold 325,655 shares in two companies on the divestment list.

**Attachment D** is a copy of the June 29, 2017 letter sent to each international equity manager and domestic equity manager and fixed income manager containing the end of quarter restricted list and the list of companies to be divested.

### **4. Litigation Update**

SBI legal counsel will give a verbal update on the status of any litigation at the meeting.



**ATTACHMENT A**

**STATE BOARD OF INVESTMENT  
FISCAL YEAR 2017 ADMINISTRATIVE BUDGET REPORT  
FISCAL YEAR TO DATE THROUGH JUNE 30, 2017**

<b>ITEM</b>	<b>FISCAL YEAR 2017 BUDGET</b>	<b>FISCAL YEAR 2017 6/30/2017</b>
<b>PERSONNEL SERVICES</b>		
FULL TIME EMPLOYEES	\$ 4,838,700	\$ 3,864,632
PART TIME EMPLOYEES	0	0
MISCELLANEOUS PAYROLL	100,000	10,993
<b>SUBTOTAL</b>	<b>\$ 4,938,700</b>	<b>\$ 3,875,624</b>
<b>STATE OPERATIONS</b>		
RENTS & LEASES	300,000	279,946
REPAIRS/ALTERATIONS/MAINTENANCE	15,000	19,749
PRINTING & BINDING	8,000	6,174
PROFESSIONAL/TECHNICAL SERVICES	150,000	45,165
COMPUTER SYSTEMS SERVICES	20,000	21,951
COMMUNICATIONS	36,000	29,736
TRAVEL, IN-STATE	1,000	218
TRAVEL, OUT-STATE	119,000	69,650
SUPPLIES	27,000	26,397
EQUIPMENT	25,000	29,206
EMPLOYEE DEVELOPMENT	35,000	53,467
OTHER OPERATING COSTS	140,000	111,826
INDIRECT COSTS	250,000	152,555
<b>SUBTOTAL</b>	<b>\$ 1,126,000</b>	<b>\$ 846,039</b>
<b>TOTAL ADMINISTRATIVE BUDGET</b>	<b>\$ 6,064,700</b>	<b>\$ 4,721,663</b>

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## ATTACHMENT B

### STATE BOARD OF INVESTMENT

#### Travel Summary by Date SBI Travel April 1, 2017 - June 30, 2017

Purpose	Name(s)	Destination and Date	Total Cost
<b>Manager Monitoring Alternative Investment Managers:</b> Lexington Partners; Nordic Capital; Oaktree Capital	A. Krech	New York, NY 4/4-4/6	\$ 1,488.37
<b>Manager Monitoring Alternative Investment Manager:</b> Lexington Partners <b>Manager Search Alternative Investment Managers:</b> Bridgepoint; Dune Real Estate Partners	J. Stacy	New York, NY 4/4-4/6	1,526.70
<b>Manager Monitoring Alternative Investment Manager:</b> Merit Energy Annual Partner Meeting	C. Boll	Dallas, TX 4/18-4/19	902.44
<b>Manager Monitoring Consultant:</b> Pension Consulting Alliance (PCA)	M. Perry	Portland, OR 4/18-4/19	1,009.48
<b>Manager Monitoring Alternative Investment Managers:</b> Brookfield; Warburg Pincus; Welsh, Carson & Anderson; Paine & Partners Annual Meeting	P. Ammann	New York, NY 4/24-4/26	1,342.90

## STATE BOARD OF INVESTMENT

### Travel Summary by Date SBI Travel April 1, 2017 - June 30, 2017

Purpose	Name(s)	Destination and Date	Total Cost
<b>Conference:</b> National Association of State Investment Professionals (NASIP)	M. Menssen	Columbus, OH 4/24-4/27	\$ 1,816.06
<b>Conference:</b> National Association of State Investment Professionals (NASIP)	A. Krech	Columbus, OH 4/24-4/26	1,970.30
<b>Manager Monitoring Alternative Investment Managers:</b> GTCR; Merit Capital Partners; Madison Dearborn Partners	J. Stacy	Chicago, IL 4/25-4/26	656.81
<b>Conference:</b> Institutional Investors Services (IIS) Client Advisory Council Meeting sponsored by State Street	L. Staggs	Boston, MA 4/25-4/27	908.85
<b>Manager Monitoring Domestic Equity Manager:</b> LSV Asset Management	T. Brusehaver	Chicago, IL 5/2	371.04
<b>Manager Monitoring Alternative Investment Managers:</b> Rockpoint; Summit Partners; Thomas H. Lee Partners	J. Stacy	Boston, MA 5/16-5/18	1,497.93
<b>Conference:</b> Government Finance Officers Association (GFOA)	I. Shafir	Denver, CO 5/20-5/24	2,655.94

# STATE BOARD OF INVESTMENT

## Travel Summary by Date SBI Travel April 1, 2017 - June 30, 2017

Purpose	Name(s)	Destination and Date	Total Cost
<b>Conference:</b> Institutional Limited Partners Association (ILPA)	J. Stacy	Boston, MA 5/31-6/2	\$ 1,956.44
<b>Conference:</b> Institutional Limited Partners Association (ILPA)	A. Krech	Boston, MA 5/31-6/2	1,865.50
<b>Manager Monitoring</b> <b>Domestic Equity Manager:</b> Goldman Sachs; Martingale; Sands; Wellington	T. Brusehaver	Arlington, VA New York, NY Boston, MA 6/4-6/7	1,905.81
<b>Conference:</b> KKR's 2017 Americas Investors' Meeting	A. Krech	Los Angeles, CA 6/26-6/28	1,420.21
<b>Conference:</b> National Association of Public Pension Attorneys (NAPPA)	J. Mulé	Monterey, CA 6/27-6/30	2,522.53
<b>Conference:</b> National Association of Public Pension Attorneys (NAPPA)	J. Weber	Monterey, CA 6/27-6/30	1,741.89

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## ATTACHMENT C

### Letter to SBI Domestic and International Equity Managers

June 29, 2017

#### Regarding: Sudan Companies

Dear Manager:

The Minnesota State Board of Investment (SBI) sent you prior communication concerning holdings in companies doing business in Sudan. **This new communication applies to all SBI equity portfolios managed by your organization and replaces all prior communications. This communication also applies to all depository receipts or ADR's of any of the listed companies.**

*Minnesota Statutes*, section 11A.243 requires the SBI to implement a Sudan restriction.

**Attachment 1** is the List of Restricted Sudan Stocks. These securities **may not be purchased** for the SBI portfolio that your organization manages. If you own securities of companies on the Restricted List **and** the companies are **not** on the divestment list, then you do not need to sell your holdings. Please note that the attached list makes changes to the List of Restricted Sudan Companies that was attached to the March 28, 2017 letter you received. **This new list is effective June 30, 2017.**

#### Changes to Attachment 1:

The following companies have been **added** to the Restricted List:

- |                                   |                |
|-----------------------------------|----------------|
| • <b>Siemens AG</b>               | <b>Germany</b> |
| • <b>China Petrochemical Corp</b> | <b>China</b>   |

**Attachment 2** is the List of Sudan Stocks Requiring Divestment. If you own securities of companies on this list then you must **divest** those holdings according to the schedule provided in the attachment:

- At least 50 percent of a company's holdings must be sold by the date indicated, and
- At least 100 percent of a company's holdings must be sold by the date indicated.

#### Changes to Attachment 2:

- No recent addition(s) to the Divestment list.

**Attachment 3** is a list of security identifiers for the companies on the List of Restricted Sudan Stocks (Attachment 1) that your organization may use. The SBI does not represent that this is a complete list of identifiers. The manager is responsible for identifying all listings. Please note that the list of security identifiers may have information on companies not on the restricted list.

If you have any questions about this matter, please contact your assigned SBI Investment Officer.

Sincerely,

LeaAnn M. Stagg  
Assistant Executive Director/COO

Enclosures

cc: Michael J. Menssen, Director, Debt Management  
Tammy Brusehaver, Investment Officer, Public Equity  
Stephanie Gleeson, Investment Officer, Public Equity



## ATTACHMENT 1

### Restricted Sudan Stocks

Company Name	Country
Andritz AG	Austria
Orca Gold Inc.	Canada
China Gezhouba Group Company Limited	China
China North Industries Group Corporation AKA CNGC/NORINCO	China
China Petroleum and Chemical Corporation AKA Sinopec Corp.	China
China Poly Group Corporation	China
China Petrochemical Corporation	China
Daqing Huake Group Company Limited	China
Dongfeng Motor Group Company Limited	China
Harbin Electric Company Ltd.	China
Jiangxi Hongdu Aviation	China
NORINCO International Cooperation Ltd	China
North Huajin Chemical Industries Co.	China
North Navigation Control Technology Co. Ltd	China
Petrochina Co. Ltd AKA China National Petroleum Corporation (CNPC)	China
Poly Property Group Co. Ltd.	China
Power Construction Corporation of China Ltd.	China
Power Construction Corporation of China (PowerChina)	China
Shanghai Electric Group Co. Ltd.	China
Sinopec Engineering Group Co. Ltd.	China
Sinopec Shanghai Petrochemicals Ltd	China
Sinopec Oilfield Service Corp	China
Egypt Kuwait Holding Company	Egypt
ENGIE	France
Parisienne Chauffage Urbain	France
MAN SE	Germany
Renk AG	Germany
Volkswagen AG	Germany
Siemens AG	Germany
Kunlun Energy Co. Ltd	Hong Kong
Sinopec Kanton Holdings Limited	Hong Kong
Bharat Electronics Limited	India
Bharat Heavy Electricals Limited	India
Chennai Petroleum Corporation Ltd. AKA CPCL	India
Indian Oil Corporation Ltd.	India
Lanka IOC Limited	India
Mangalore Refinery and Petrochemicals Limited	India
Oil & Natural Gas Corp. Ltd.	India
Oil India Limited	India
Energy House Holding Co KSCC, The	Kuwait
Kuwait Finance House	Kuwait
Engen Botswana Ltd. AKA Engen	Malaysia
KLCCP Stapled Group AKA KLCC Property Holdings	Malaysia

### Restricted Sudan Stocks

Company Name	Country
Malaysia International Shipping Company AKA MISC Berhad	Malaysia
Malaysia Marine and Heavy Engineering Holdings Bhd	Malaysia
Petroliam Nasional Berhad AKA Petronas	Malaysia
Petronas Chemicals Group Berhad	Malaysia
Petronas Dagangan Berhad	Malaysia
Petronas Gas Berhad	Malaysia
Managem	Morocco
Societe Metallurgique D'imiter	Morocco
GAZ Group	Russia
GAZ PJSC	Russia
Kamaz PJSC	Russia
Neftekamsky Avtozavod (aka NEFAZ)	Russia
Pavlovo Bus PJSC	Russia
LS Industrial Systems	South Korea
Atlas Copco AB	Sweden

Note: List contains parent companies and subsidiaries publicly traded.  
AKA means “Also Known As”

Source: EIRIS Conflict Risk Network

Effective Date: June 30, 2017

## ATTACHMENT 2

### SUDAN STOCKS REQUIRING DIVESTMENT

<b>Company Name</b>	<b>Country of Origin</b>	<b>Divest 50 Percent By this Date</b>	<b>Divest 100 Percent By this date</b>
ENGIE	France	June 30, 2017	December 31, 2017
Atlas Copco AB	Sweden	September 30, 2017	March 31, 2018

Effective Date: June 30, 2017

## ATTACHMENT 3

### Security Identifiers for "Scrutinized" Stocks

The following security identifiers correlate with the Second Quarter 2017 Sudan Company Report and are current as of May 10, 2017.

ALL DATA IS FROM BLOOMBERG LP UNLESS OTHERWISE NOTED.

STOCKS ADDED SINCE LAST REPORT ARE HIGHLIGHTED

Company	Primary Company (Affiliate/Parent)	Exchange	Security Type	Security Name	Ticker	WPK Number	SEDOL	CUSIP	Sicovam	ISIN	COMMON	CINS
ANDRITZ AG	ANDRITZ GROUP	Vienna (WBAH)	Common Stock	ANDRITZ AG	ANDR EB	632305	B1WVF68 AT			AT0000730007	13042748	
ANDRITZ AG	ANDRITZ GROUP	BATS Europe (BATE)	Common Stock	ANDRITZ AG	ANDR EB	632305	B1WVF68 AT			AT0000730007	13042748	
ANDRITZ AG	ANDRITZ GROUP	Chi-X Europe (CHIX)	Common Stock	ANDRITZ AG	ANDR IX	632305	B1WVF68 AT			AT0000730007	13042748	
ANDRITZ AG	ANDRITZ GROUP	Turquoise (TROX)	Common Stock	ANDRITZ AG	ANDR TQ	632305	B1WVF68 AT			AT0000730007	13042748	
ANDRITZ AG	ANDRITZ GROUP	Xetra (XETR)	Common Stock	ANDRITZ AG	AZZ GB	632305	B1X9FH2 DE			AT0000730007	13042748	
ANDRITZ AG	ANDRITZ GROUP	Xetra (XETR)	Common Stock	ANDRITZ AG	AZZ GD	632305	B1X9FH2 DE			AT0000730007	13042748	
ANDRITZ AG	ANDRITZ GROUP	Xetra (XETR)	Common Stock	ANDRITZ AG	AZZ GF	632305	B1X9FH2 DE			AT0000730007	13042748	
ANDRITZ AG	ANDRITZ GROUP	Xetra (XETR)	Common Stock	ANDRITZ AG	AZZ GH	632305	B1X9FH2 DE			AT0000730007	13042748	
ANDRITZ AG	ANDRITZ GROUP	Xetra (XETR)	Common Stock	ANDRITZ AG	AZZ GM	632305	B1X9FH2 DE			AT0000730007	13042748	
ANDRITZ AG	ANDRITZ GROUP	Xetra (XETR)	Common Stock	ANDRITZ AG	AZZ GR	632305	B1X9FH2 DE			AT0000730007	13042748	
ANDRITZ AG	ANDRITZ GROUP	Xetra (XETR)	Common Stock	ANDRITZ AG	AZZ GS	632305	B1X9FH2 DE			AT0000730007	13042748	
ANDRITZ AG	ANDRITZ GROUP	Xetra (XETR)	Common Stock	ANDRITZ AG	AZZ GY	632305	B1X9FH2 DE			AT0000730007	13042748	
ANDRITZ AG	ANDRITZ GROUP	Gettex (MUND)	Common Stock	ANDRITZ AG	AZZ GZ	632305	B1X9FH2 DE			AT0000730007	13042748	
ANDRITZ AG	ANDRITZ GROUP	Quotrix Exch (XQTX)	Common Stock	ANDRITZ AG	AZZ QT	632305	B1X9FH2 DE			AT0000730007	13042748	
ANDRITZ AG	ANDRITZ GROUP	Tradegate (XGAT)	Common Stock	ANDRITZ AG	AZZ TH	632305	B1X9FH2 DE			AT0000730007	13042748	
ANDRITZ AG	ANDRITZ GROUP	OTC US (OOTC)	Common Stock	ANDRITZ AG	ADRZF US	632305	B1XBL36			AT0000730007	13042748	A11213105
ANDRITZ AG	ANDRITZ GROUP	OTC US (OOTC)	Common Stock	ANDRITZ AG	ADRZF UV	632305	B1XBL36			AT0000730007	13042748	A11213105
ANDRITZ AG	ANDRITZ GROUP	Euro Comp (XLON)	Common Stock	ANDRITZ AG	ANDR EU	632305	B28F3FE GB			AT0000730007	13042748	
ANDRITZ AG	ANDRITZ GROUP	LSE EuropeQS (XLON)	Common Stock	ANDRITZ AG	ANDR L3	632305	B28F3FE GB			AT0000730007	13042748	
ANDRITZ AG	ANDRITZ GROUP	LSE EuropeQS (XLON)	Common Stock	ANDRITZ AG	ANDR LO	632305	B28F3FE GB			AT0000730007	13042748	
ANDRITZ AG	ANDRITZ GROUP	Euro OTC (XLON)	Common Stock	ANDRITZ AG	ANDR YA	632305	B28F3FE GB			AT0000730007	13042748	
ANDRITZ AG	ANDRITZ GROUP	Euro OTC (XLON)	Common Stock	ANDRITZ AG	ANDR XB	632305	B28F3FE GB			AT0000730007	13042748	
ANDRITZ AG	ANDRITZ GROUP	Euro OTC (XLON)	Common Stock	ANDRITZ AG	ANDR XD	632305	B28F3FE GB			AT0000730007	13042748	
ANDRITZ AG	ANDRITZ GROUP	Euro OTC (XLON)	Common Stock	ANDRITZ AG	ANDR XE	632305	B28F3FE GB			AT0000730007	13042748	
ANDRITZ AG	ANDRITZ GROUP	Euro OTC (XLON)	Common Stock	ANDRITZ AG	ANDR XL	632305	B28F3FE GB			AT0000730007	13042748	
ANDRITZ AG	ANDRITZ GROUP	Euro OTC (XLON)	Common Stock	ANDRITZ AG	ANDR XV	632305	B28F3FE GB			AT0000730007	13042748	
ANDRITZ AG	ANDRITZ GROUP	BX Worldcaps (XBRN)	Common Stock	ANDRITZ AG	ANDR BW	632305	BH2L8M4 CH			AT0000730007	13042748	
ANDRITZ AG	ANDRITZ GROUP	SIX Swiss Ex (XSWX)	Common Stock	ANDRITZ AG	ANDR SE	632305	BH2L8M4 CH			AT0000730007	13042748	
ANDRITZ AG	ANDRITZ GROUP	BX Worldcaps (XBRN)	Common Stock	ANDRITZ AG	ANDR SW	632305	BH2L8M4 CH			AT0000730007	13042748	
ANDRITZ AG	ANDRITZ GROUP	Euro OTC (XLON)	Common Stock	ANDRITZ AG	ANDR XS	632305	BH2L8M4 CH			AT0000730007	13042748	
ANDRITZ AG	ANDRITZ GROUP	Euro OTC (XLON)	Common Stock	ANDRITZ AG	ANDR XO	632305	BH2L8M4 CH			AT0000730007	13042748	
ANDRITZ AG	ANDRITZ GROUP	Euro Comp (XLON)	Common Stock	ANDRITZ AG	ANDRCH EU	632305	BH2L8M4 CH			AT0000730007	13042748	A11123105
ANDRITZ AG	ANDRITZ GROUP	Blockmatch (BLOX)	Common Stock	ANDRITZ AG	ANDR RV B3	632305	BH2L8M4 CH			AT0000730007	13042748	A11123105
ANDRITZ AG	ANDRITZ GROUP	Liquidnet (LIQU)	Common Stock	ANDRITZ AG	ANDR RV L3	632305	BH2L8M4 CH			AT0000730007	13042748	A11123105
ANDRITZ AG	ANDRITZ GROUP	ITG Posit (XPOS)	Common Stock	ANDRITZ AG	ANDR RV PO	632305	BH2L8M4 CH			AT0000730007	13042748	A11123105
ANDRITZ AG	ANDRITZ GROUP	UBS MTF (XUBS)	Common Stock	ANDRITZ AG	ANDR RV S2	632305	BH2L8M4 CH			AT0000730007	13042748	A11123105
ANDRITZ AG	ANDRITZ GROUP	OTC US (OOTC)	ADR	ANDRITZ AG-UNSPON ADR	ADRZY PQ		B3DY4P2 US	034522102		US0345221024		
ANDRITZ AG	ANDRITZ GROUP	OTC US (OOTC)	ADR	ANDRITZ AG-UNSPON ADR	ADRZY US		B3DY4P2 US	034522102		US0345221024		
ANDRITZ AG	ANDRITZ GROUP	OTC US (OOTC)	ADR	ANDRITZ AG-UNSPON ADR	ADRZY UV		B3DY4P2 US	034522102		US0345221024		
ATLAS COPCO AB	ATLAS COPCO AB	BATS Europe (BATE)	Common Stock	ATLAS COPCO AB-A SHS	ATCOA EB	A14S17	BXC8BS7		907483	SE0006886750		
ATLAS COPCO AB	ATLAS COPCO AB	Aquis Exchng (AQXE)	Common Stock	ATLAS COPCO AB-A SHS	ATCOA QX	A14S17	BXC8BS7		907483	SE0006886750		
ATLAS COPCO AB	ATLAS COPCO AB	Stockholm (XSTO)	Common Stock	ATLAS COPCO AB-A SHS	ATCOA SS	A14S17	BXC8BS7		907483	SE0006886750		
ATLAS COPCO AB	ATLAS COPCO AB	Euro OTC (XLON)	Common Stock	ATLAS COPCO AB-A SHS	ATCOA XL	A14S17	BXC8BS7		907483	SE0006886750	123361946	
ATLAS COPCO AB	ATLAS COPCO AB	Euro OTC (XLON)	Common Stock	ATLAS COPCO AB-A SHS	ATCOA XS	A14S17	BXC8BS7		907483	SE0006886750	123361946	
ATLAS COPCO AB	ATLAS COPCO AB	Equiduct (XEQT)	Common Stock	ATLAS COPCO AB-A SHS	ATCOAS BQ	A14S17	BXC8BS7		907483	SE0006886750		
ATLAS COPCO AB	ATLAS COPCO AB	Chi-X Europe (CHIX)	Common Stock	ATLAS COPCO AB-A SHS	ATCOAS IX	A14S17	BXC8BS7		907483	SE0006886750		
ATLAS COPCO AB	ATLAS COPCO AB	Liquidnet (LIQU)	Common Stock	ATLAS COPCO AB-A SHS	ATCOAS L3	A14S17	BXC8BS7		907483	SE0006886750	123361946	
ATLAS COPCO AB	ATLAS COPCO AB	Turquoise (TROX)	Common Stock	ATLAS COPCO AB-A SHS	ATCOAS TQ	A14S17	BXC8BS7		907483	SE0006886750		
ATLAS COPCO AB	ATLAS COPCO AB	OTC US (OOTC)	Common Stock	ATLAS COPCO AB-A SHS	ATLKF PQ	A14S17	BXDZJP0		907483	SE0006886750		
ATLAS COPCO AB	ATLAS COPCO AB	OTC US (OOTC)	Common Stock	ATLAS COPCO AB-A SHS	ATLKF US	A14S17	BXDZJP0		907483	SE0006886750		
ATLAS COPCO AB	ATLAS COPCO AB	OTC US (OOTC)	Common Stock	ATLAS COPCO AB-A SHS	ATLKF UV	A14S17	BXDZJP0		907483	SE0006886750		
ATLAS COPCO AB	ATLAS COPCO AB	BX Worldcaps (XBRN)	Common Stock	ATLAS COPCO AB-A SHS	ATCOA BW	A14S17	BXV1GV5		907483	SE0006886750		
ATLAS COPCO AB	ATLAS COPCO AB	Frankfurt (XFRA)	Common Stock	ATLAS COPCO AB-A SHS	ATCOA SW	A14S17	BXV1GV5		907483	SE0006886750		
ATLAS COPCO AB	ATLAS COPCO AB	Frankfurt (XFRA)	Common Stock	ATLAS COPCO AB-A SHS	ACOF GB	A14S17	BXV1GX7		907483	SE0006886750		
ATLAS COPCO AB	ATLAS COPCO AB	Frankfurt (XFRA)	Common Stock	ATLAS COPCO AB-A SHS	ACOF GF	A14S17	BXV1GX7		907483	SE0006886750		
ATLAS COPCO AB	ATLAS COPCO AB	Frankfurt (XFRA)	Common Stock	ATLAS COPCO AB-A SHS	ACOF GI	A14S17	BXV1GX7		907483	SE0006886750		
ATLAS COPCO AB	ATLAS COPCO AB	Frankfurt (XFRA)	Common Stock	ATLAS COPCO AB-A SHS	ACOF GR	A14S17	BXV1GX7		907483	SE0006886750		
ATLAS COPCO AB	ATLAS COPCO AB	Frankfurt (XFRA)	Common Stock	ATLAS COPCO AB-A SHS	ACOF GS	A14S17	BXV1GX7		907483	SE0006886750		
ATLAS COPCO AB	ATLAS COPCO AB	Gettex (MUND)	Common Stock	ATLAS COPCO AB-A SHS	ACOF GZ	A14S17	BXV1GX7		907483	SE0006886750	123361946	
ATLAS COPCO AB	ATLAS COPCO AB	Quotrix Exch (XQTX)	Common Stock	ATLAS COPCO AB-A SHS	ACOF QT	A14S17	BXV1GX7		907483	SE0006886750	123361946	
ATLAS COPCO AB	ATLAS COPCO AB	Tradegate (XGAT)	Common Stock	ATLAS COPCO AB-A SHS	ACOF TH	A14S17	BXV1GX7		907483	SE0006886750		
ATLAS COPCO AB	ATLAS COPCO AB	Mexico (XMEX)	Common Stock	ATLAS COPCO AB-A SHS	ACOF MM	A14S17	BXVKS49		907483	SE0006886750		
ATLAS COPCO AB	ATLAS COPCO AB	LSE Europe QS (XLON)	Common Stock	ATLAS COPCO AB-A SHS	ATCOA LI	A14S17	BXVMB02		907483	SE0006886750		
ATLAS COPCO AB	ATLAS COPCO AB	LSE Europe QS (XLON)	Common Stock	ATLAS COPCO AB-A SHS	ATCOA LO	A14S17	BXVMB02		907483	SE0006886750		
ATLAS COPCO AB	ATLAS COPCO AB	Euro Comp (XLON)	Common Stock	ATLAS COPCO AB-A SHS	ATCOA EU	A14S17	BXVMB02		907483	SE0006886750		
ATLAS COPCO AB	ATLAS COPCO AB	Euro OTC (XLON)	Common Stock	ATLAS COPCO AB-A SHS	ATCOA XB	A14S17	BXVMB02		907483	SE0006886750		
ATLAS COPCO AB	ATLAS COPCO AB	Euro OTC (XLON)	Common Stock	ATLAS COPCO AB-A SHS	ATCOA XE	A14S17	BXVMB02		907483	SE0006886750		
ATLAS COPCO AB	ATLAS COPCO AB	Euro OTC (XLON)	Common Stock	ATLAS COPCO AB-A SHS	ATCOA XG	A14S17	BXVMB02		907483	SE0006886750		
ATLAS COPCO AB	ATLAS COPCO AB	Euro OTC (XLON)	Common Stock	ATLAS COPCO AB-A SHS	ATCOA XV	A14S17	BXVMB02		907483	SE0006886750		
ATLAS COPCO AB	ATLAS COPCO AB	Euro Comp (XLON)	Common Stock	ATLAS COPCO AB-A SHS	ATCOA EUR EU	A14S17	BXVMB02		907483	SE0006886750		
ATLAS COPCO AB	ATLAS COPCO AB	Euro OTC (XLON)	Common Stock	ATLAS COPCO AB-A SHS	ATCOA EUR XS	A14S17	BXVMB02		907483	SE0006886750	123361946	
ATLAS COPCO AB	ATLAS COPCO AB	Blockmatch (BLOX)	Common Stock	ATLAS COPCO AB-A SHS	ATCOAS B3	A14S17	BXVMB02		907483	SE0006886750		
ATLAS COPCO AB	ATLAS COPCO AB	ITG Posit (XPOS)	Common Stock	ATLAS COPCO AB-A SHS	ATCOAS PO	A14S17	BXVMB02		907483	SE0006886750		
ATLAS COPCO AB	ATLAS COPCO AB	UBS MTF (XUBS)	Common Stock	ATLAS COPCO AB-A SHS	ATCOAS S2	A14S17	BXVMB02		907483	SE0006886750		
ATLAS COPCO AB	ATLAS COPCO AB	Quotrix Exch (XQTX)	Common Stock	ATLAS COPCO AB-B SHS	ACOB QT	A14S18	B1XHM19		907485	SE0006886768		
ATLAS COPCO AB	ATLAS COPCO AB	Berlin (XBER)	Common Stock	ATLAS COPCO AB-B SHS	ACOG GB	A14S18	BWV45D0		907485	SE0006886768		
ATLAS COPCO AB	ATLAS COPCO AB	Berlin (XBER)	Common Stock	ATLAS COPCO AB-B SHS	ACOG GD	A14S18	BWV45D0		907485	SE0006886768		
ATLAS COPCO AB	ATLAS COPCO AB	Berlin (XBER)	Common Stock	ATLAS COPCO AB-B SHS	ACOG GF	A14S18	BWV45D0		907485	SE0006886768		
ATLAS COPCO AB	ATLAS COPCO AB	Berlin (XBER)	Common Stock	ATLAS COPCO AB-B SHS	ACOG GI	A14S18	BWV45D0		907485	SE0006886768		
ATLAS COPCO AB	ATLAS COPCO AB	Berlin (XBER)	Common Stock	ATLAS COPCO AB-B SHS	ACOG GR	A14S18	BWV45D0		907485	SE0006886768		
ATLAS COPCO AB	ATLAS COPCO AB	Berlin (XBER)	Common Stock	ATLAS COPCO AB-B SHS	ACOG GS	A14S18	BWV45D0		907485	SE0006886768		
ATLAS COPCO AB	ATLAS COPCO AB	Chi-X Europe (CHIX)	Common Stock	ATLAS COPCO AB-B SHS	ATCB IX	A14S18	BXC8BW1		907485	SE0006886768		
ATLAS COPCO AB	ATLAS COPCO AB	BATS Europe (BATE)	Common Stock	ATLAS COPCO AB-B SHS	ATCB EB	A14S18	BXC8BW1		907485	SE0006886768		
ATLAS COPCO AB	ATLAS COPCO AB	Aquis Exchng (AQXE)	Common Stock	ATLAS COPCO AB-B SHS	ATCOB QX	A14S18	BXC8BW1		907485	SE0006886768		
ATLAS COPCO AB	ATLAS COPCO AB	Stockholm (XSTO)	Common Stock	ATLAS COPCO AB-B SHS	ATCOB SS	A14S18	BXC8BW1		907485	SE0006886768		
ATLAS COPCO AB	ATLAS COPCO AB	Equiduct (XEQT)	Common Stock	ATLAS COPCO AB-B SHS	ATCOBS BQ	A14S18	BXC8BW1		907485	SE0006886768		
ATLAS COPCO AB	ATLAS COPCO AB	Turquoise (TROX)	Common Stock	ATLAS COPCO AB-B SHS	ATCOBS TQ	A14S18	BXC8BW1		907485	SE0006886768		
ATLAS COPCO AB	ATLAS COPCO AB	BX Worldcaps (XBRN)	Common Stock	ATLAS COPCO AB-B SHS	ATCOB BW	A14S18	BXV1FG3		907485	SE0006886768		
ATLAS COPCO AB	ATLAS COPCO AB	BX Worldcaps (XBRN)	Common Stock	ATLAS COPCO AB-B SHS	ATCOB SW	A14S18	BXV1FG3		907485	SE0006886768		
ATLAS COPCO AB	ATLAS COPCO AB	LSE EuropeQS (XLON)	Common Stock	ATLAS COPCO AB-B SHS	ATCOB LI	A14S18	BXV1MGX		907485	SE0006886768		
ATLAS COPCO AB	ATLAS COPCO AB	LSE EuropeQS (XLON)	Common Stock	ATLAS COPCO AB-B SHS	ATCOB LO	A14S18	BXV1MGX		907485	SE0006886768		
ATLAS COPCO AB	ATLAS COPCO AB	Euro Comp (XLON)	Common Stock	ATLAS COPCO AB-B SHS	ATCOB EU	A14S18	BXV1MGX		907485	SE0006886768		





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DONGFENG MOTOR GROUP COMPANY LIMITED	DONGFENG MOTOR GROUP COMPANY LIMITED	OTC US (OOTC)	ADR	DONGFENG MOTOR GRP-H:UNS ADR	DNFGY US	A1W2SX	B3SOPT4 US	257738203	US2577382037	
DONGFENG MOTOR GROUP COMPANY LIMITED	DONGFENG MOTOR GROUP COMPANY LIMITED	OTC US (OOTC)	ADR	DONGFENG MOTOR GRP-H:UNS ADR	DNFGY UV	A1W2SX	B3SOPT4 US	257738203	US2577382037	
EGYPT KUWAIT HOLDING CO	EGYPT KUWAIT HOLDING CO	Kuwait (XKUW)	Common Stock	EGYPT KUWAIT HOLDING CO SAE	EKHLDM KK	A0H1G7	B058H15 KW		EG69082C013	
EGYPT KUWAIT HOLDING CO	EGYPT KUWAIT HOLDING CO	EGX (XCAI)	Common Stock	EGYPT KUWAIT HOLDING CO SAE	EKHO EC	A0H1G7	B00MD00 EG		EG69082C013	
EGYPT KUWAIT HOLDING CO	EGYPT KUWAIT HOLDING CO	EGX (XCAI)	Common Stock	EGYPT KUWAIT HOLDING CO SAE	EKHO EY	A0H1G7	B00MD00 EG		EG69082C013	
ENERGY HOUSE HOLDING CO KSCC/THE	ENERGY HOUSE HOLDING CO KSCC/THE	Kuwait (XKUW)	Common Stock	ENERGY HOLDING CO KSCC/THE	ENERGYHK KK	A0K04C	B13BW99 KW		KW0E0Q001901	
KUWAIT FINANCE HOUSE	ENERGY HOUSE HOLDING CO KSCC/THE	Kuwait (XKUW)	Common Stock	KUWAIT FINANCE HOUSE	KFIN KK	A0JC70	6503138 KW		KW0E0Q010005	
ENGIE	ENGIE	EN Paris (XPAP)	Common Stock	Engie SA	ENGIP FI	A0ER6Q	B0C2C03		FR0010208488	22341499 F42768105
ENGIE	ENGIE	Equiduct (XEQT)	Common Stock	Engie SA	ENGIP BQ	A0ER6Q	B0C2C03		FR0010208488	22341499 F42768105
ENGIE	ENGIE	BATS Europe (BATE)	Common Stock	Engie SA	ENGIP EB	A0ER6Q	B0C2C03		FR0010208488	22341499 F42768105
ENGIE	ENGIE	Ch-X Europe (CHIX)	Common Stock	Engie SA	ENGIP IX	A0ER6Q	B0C2C03		FR0010208488	22341499 F42768105
ENGIE	ENGIE	Aquis Excha (AQXE)	Common Stock	Enoie SA	ENGIP QX	A0ER6Q	B0C2C03		FR0010208488	22341499 F42768105
ENGIE	ENGIE	Turquoise (TRQX)	Common Stock	Engie SA	ENGIP TQ	A0ER6Q	B0C2C03		FR0010208488	22341499 F42768105
ENGIE	ENGIE	Xira EU Strs (XETR)	Common Stock	Engie SA	GZF GB	A0ER6Q	B0CYN33		FR0010208488	22341499
ENGIE	ENGIE	Xira EU Strs (XETR)	Common Stock	Engie SA	GZF GD	A0ER6Q	B0CYN33		FR0010208488	22341499
ENGIE	ENGIE	Xira EU Strs (XETR)	Common Stock	Engie SA	GZF GE	A0ER6Q	B0CYN33		FR0010208488	22341499
ENGIE	ENGIE	Xira EU Strs (XETR)	Common Stock	Enoie SA	GZF GF	A0ER6Q	B0CYN33		FR0010208488	22341499
ENGIE	ENGIE	Xira EU Strs (XETR)	Common Stock	Engie SA	GZF GH	A0ER6Q	B0CYN33		FR0010208488	22341499
ENGIE	ENGIE	Xira EU Strs (XETR)	Common Stock	Engie SA	GZF GI	A0ER6Q	B0CYN33		FR0010208488	22341499
ENGIE	ENGIE	Xira EU Strs (XETR)	Common Stock	Engie SA	GZF GM	A0ER6Q	B0CYN33		FR0010208488	22341499
ENGIE	ENGIE	Xira EU Strs (XETR)	Common Stock	Engie SA	GZF GN	A0ER6Q	B0CYN33		FR0010208488	22341499
ENGIE	ENGIE	Xira EU Strs (XETR)	Common Stock	Enoie SA	GZF GR	A0ER6Q	B0CYN33		FR0010208488	22341499
ENGIE	ENGIE	Xira EU Strs (XETR)	Common Stock	Enoie SA	GZF GS	A0ER6Q	B0CYN33		FR0010208488	22341499
ENGIE	ENGIE	Xira EU Strs (XETR)	Common Stock	Engie SA	GZF GT	A0ER6Q	B0CYN33		FR0010208488	22341499
ENGIE	ENGIE	Gettex (MJND)	Common Stock	Engie SA	GZF GZ	A0ER6Q	B0CYN33		FR0010208488	22341499
ENGIE	ENGIE	Quotix Exch (XQTX)	Common Stock	Engie SA	GZF OT	A0ER6Q	B0CYN33		FR0010208488	22341499
ENGIE	ENGIE	Tradegate (XGAT)	Common Stock	Engie SA	GZF TT	A0ER6Q	B0CYN33		FR0010208488	22341499
ENGIE	ENGIE	OTC US (OOTC)	Common Stock	Enoie SA	ENGOFQ PO	A0ER6Q	B0211C6		FR0010208488	22341499 F7629A107
ENGIE	ENGIE	OTC US (OOTC)	Common Stock	Engie SA	ENGOFQ US	A0ER6Q	B0211C6		FR0010208488	22341499 F7629A107
ENGIE	ENGIE	OTC US (OOTC)	Common Stock	Engie SA	ENGOFQ UV	A0ER6Q	B0211C6		FR0010208488	22341499 F7629A107
ENGIE	ENGIE	LSE Europe OS (XLON)	Common Stock	Engie SA	GSZ LI	A0ER6Q	B28HB14		FR0010208488	22341499
ENGIE	ENGIE	LSE Europe OS (XLON)	Common Stock	Engie SA	GSZ LO	A0ER6Q	B28HB14		FR0010208488	22341499
ENGIE	ENGIE	Brsaltalana (MTAA)	Common Stock	Enoie SA	ENGI IF	A0ER6Q	B3BQVC6		FR0010208488	22341499 F42768105
ENGIE	ENGIE	Brsaltalana (MTAA)	Common Stock	Engie SA	ENGI IM	A0ER6Q	B3BQVC6		FR0010208488	22341499 F42768105
ENGIE	ENGIE	Euro TLX (ETLX)	Common Stock	Engie SA	GSZ TE	A0ER6Q	B3BQVC6		FR0010208488	22341499
ENGIE	ENGIE	Nieubourg (XLUX)	Common Stock	Engie SA	GSZ LI	A0ER6Q	B3BQVC6		FR0010208488	22341499
ENGIE	ENGIE	SIX Swiss Ex (XSWX)	Common Stock	Engie SA	ENGI SE	A0ER6Q	B3BQVC6		FR0010208488	22341499
ENGIE	ENGIE	SIX Swiss Ex (XSWX)	Common Stock	Enoie SA	ENGI SW	A0ER6Q	BRTMTD7		FR0010208488	22341499 F42768105
ENGIE	ENGIE	Euro Comp (XLON)	Common Stock	Engie SA	ENGIEUR EU	A0ER6Q	BRTMTD7		FR0010208488	22341499 F42768105
ENGIE	ENGIE	EURO OTC (XLON)	Common Stock	Engie SA	ENGIEUR XB	A0ER6Q	BRTMTD7		FR0010208488	22341499 F42768105
ENGIE	ENGIE	EURO OTC (XLON)	Common Stock	Engie SA	ENGIEUR XD	A0ER6Q	BRTMTD7		FR0010208488	22341499 F42768105
ENGIE	ENGIE	EURO OTC (XLON)	Common Stock	Engie SA	ENGIEUR XE	A0ER6Q	BRTMTD7		FR0010208488	22341499 F42768105
ENGIE	ENGIE	EURO OTC (XLON)	Common Stock	Enoie SA	ENGIEUR XL	A0ER6Q	BRTMTD7		FR0010208488	22341499 F42768105
ENGIE	ENGIE	EURO OTC (XLON)	Common Stock	Engie SA	ENGIEUR XO	A0ER6Q	BRTMTD7		FR0010208488	22341499 F42768105
ENGIE	ENGIE	EURO OTC (XLON)	Common Stock	Engie SA	ENGIEUR XS	A0ER6Q	BRTMTD7		FR0010208488	22341499 F42768105
ENGIE	ENGIE	EURO OTC (XLON)	Common Stock	Engie SA	ENGIEUR XY	A0ER6Q	BRTMTD7		FR0010208488	22341499 F42768105
ENGIE	ENGIE	Euro Comp (XLON)	Common Stock	Engie SA	ENGICHF EU	A0ER6Q	BRTMTD7		FR0010208488	22341499 F42768105
ENGIE	ENGIE	ITG Posit (XPOS)	Common Stock	Enoie SA	ENGIP PO	A0ER6Q	BRTMTD7		FR0010208488	22341499
ENGIE	ENGIE	Liquidnet (LIQU)	Common Stock	Engie SA	ENGIP L3	A0ER6Q	BRTMTD7		FR0010208488	22341499
ENGIE	ENGIE	Sigma X MTF (SGMX)	Common Stock	Engie SA	GSZ S1	A0ER6Q	BRTMTD7		FR0010208488	22341499
ENGIE	ENGIE	EURO OTC (XLON)	Common Stock	Engie SA	ENGIEUR YA	A0ER6Q	BRTMTD7		FR0010208488	22341499
ENGIE	ENGIE	UBS MTF (XUBS)	Common Stock	Engie SA	ENGIP S2	A0ER6Q	BRTMTD7		FR0010208488	22341499
ENGIE	ENGIE	EURO OTC (XLON)	Common Stock	Enoie SA	ENGICHF XW	A0ER6Q	BRTMTD7		FR0010208488	22341499
ENGIE	ENGIE	Berlin (XBER)	ADR	Engie SA	GZFB BF	A14XKC	BYX0167		US29286D1054	126845286
ENGIE	ENGIE	Berlin (XBER)	ADR	Engie SA	GZFB GF	A14XKC	BYX0167		US29286D1054	126845286
ENGIE	ENGIE	Berlin (XBER)	ADR	Engie SA	GZFB GR	A14XKC	BYX0167		US29286D1054	126845286
ENGIE	ENGIE	Berlin (XBER)	ADR	Engie SA	GZFB GS	A14XKC	BYX0167		US29286D1054	126845286
ENGIE	ENGIE	OTC US (OOTC)	ADR	Enoie SA	ENGIP PO	A14XKC	BYY9W15		US29286D1054	126845286
ENGIE	ENGIE	OTC US (OOTC)	ADR	Engie SA	ENGIP US	A14XKC	BYY9W15		US29286D1054	126845286
ENGIE	ENGIE	OTC US (OOTC)	ADR	Engie SA	ENGIP UV	A14XKC	BYY9W15		US29286D1054	126845286
PARISIENNE CHAUFFAGE URBAIN	PARISIENNE CHAUFFAGE URBAIN	BATS Europe (BATE)	Common Stock	PARISIENNE CHAUFFAGE URBAIN	CHAU EB	919453	4189165		FR0000052896	11389066
PARISIENNE CHAUFFAGE URBAIN	PARISIENNE CHAUFFAGE URBAIN	EN Paris (XPAP)	Common Stock	PARISIENNE CHAUFFAGE URBAIN	CHAU FI	919453	4189165		FR0000052896	11389066
PARISIENNE CHAUFFAGE URBAIN	PARISIENNE CHAUFFAGE URBAIN	Ch-X Europe (CHIX)	Common Stock	PARISIENNE CHAUFFAGE URBAIN	CHAU IX	919453	4189165		FR0000052896	11389066
PARISIENNE CHAUFFAGE URBAIN	PARISIENNE CHAUFFAGE URBAIN	Euro Comp (XLON)	Common Stock	PARISIENNE CHAUFFAGE URBAIN	CHAU EU	919453	4189165		FR0000052896	11389066
GAZ PJSC	GAZ GROUP	MICEX Main (MISX)	Common Stock	GAZ PJSC	GAZA RM	903426	58BKBJ9 RU	950579	RU0009034268	34991693
GAZ PJSC	GAZ GROUP	MICEX Main (MISX)	Common Stock	GAZ PJSC	GAZA RX	903426	58BKBJ9 RU	950579	RU0009034268	34991693
GAZ PJSC	GAZ GROUP	MICEX Main (MISX)	Preference	GAZ OJSC	GAZAP RM	910283	58BKC29 RU		RU0009102834	
GAZ PJSC	GAZ GROUP	MICEX Main (MISX)	Preference	GAZ OJSC	GAZAP RX	910283	58BKC29 RU		RU0009102834	
PAVLOVO BUS PJSC	GAZ GROUP	MICEX Main (MISX)	Common Stock	PAVLOVO BUS PJSC	PAZAR RM	908324	587MPG4 RU		RU0009083240	
PAVLOVO BUS PJSC	GAZ GROUP	MICEX Main (MISX)	Common Stock	PAVLOVO BUS PJSC	PAZAR RX	908324	587MPG4 RU		RU0009083240	
HARBIN ELECTRIC CO LTD	HARBIN ELECTRIC CO LTD	Hong Kong (XHKG)	Common Stock	HARBIN ELECTRIC CO LTD-H	A123 HK	930709	CNE1000003C0		11043780	
HARBIN ELECTRIC CO LTD	HARBIN ELECTRIC CO LTD	Frankfurt (XFXA)	Common Stock	HARBIN ELECTRIC CO LTD-H	HPBH BK	930709	CNE1000003C0		11043780	
HARBIN ELECTRIC CO LTD	HARBIN ELECTRIC CO LTD	Frankfurt (XFXA)	Common Stock	HARBIN ELECTRIC CO LTD-H	HPBH BF	930709	CNE1000003C0		11043780	
HARBIN ELECTRIC CO LTD	HARBIN ELECTRIC CO LTD	Frankfurt (XFXA)	Common Stock	HARBIN ELECTRIC CO LTD-H	HPBH GR	930709	CNE1000003C0		11043780	
CHENNAI PETROLEUM CORPORATION LIMITED	INDIAN OIL CORP LTD aka IOCL	Mumbai (XBOM)	Common Stock	CHENNAI PETROLEUM CORP LTD	MRL IB	A0B968	6121563 IN		INE178A01016	
CHENNAI PETROLEUM CORPORATION LIMITED	INDIAN OIL CORP LTD aka IOCL	Mumbai (XBOM)	Common Stock	CHENNAI PETROLEUM CORP LTD	MRL IN	A0B968	6121563 IN		INE178A01016	
CHENNAI PETROLEUM CORPORATION LIMITED	INDIAN OIL CORP LTD aka IOCL	Mumbai (XBOM)	Common Stock	CHENNAI PETROLEUM CORP LTD	MRL IS	A0B968	6121563 IN		INE178A01016	
INDIAN OIL CORP LTD	INDIAN OIL CORP LTD aka IOCL	Natl India (XNSE)	Common Stock	INDIAN OIL CORPORATION LTD	IOCL IB	A0B9FM	6253767 IN		INE242A01010	
INDIAN OIL CORP LTD	INDIAN OIL CORP LTD aka IOCL	Natl India (XNSE)	Common Stock	INDIAN OIL CORPORATION LTD	IOCL IN	A0B9FM	6253767 IN		INE242A01010	
INDIAN OIL CORP LTD	INDIAN OIL CORP LTD aka IOCL	Natl India (XNSE)	Common Stock	INDIAN OIL CORPORATION LTD	IOCL IS	A0B9FM	6253767 IN		INE242A01010	
INDIAN OIL CORP LTD	INDIAN OIL CORP LTD aka IOCL	Natl India (XNSE)	Sec Lending	INDIAN OIL CORP LTD-SLB	IOCLUS IB					
INDIAN OIL CORP LTD	INDIAN OIL CORP LTD aka IOCL	Natl India (XNSE)	Sec Lending	INDIAN OIL CORP LTD-SLB	IOCLUS IS					
LANKA IOC PLC	INDIAN OIL CORP LTD aka IOCL	Colombo (XCOL)	Common Stock	LANKA IOC PLC	LOCL SL	A0D83L	B0591G4 LK		LK0345N00005	
JIANGXI HONGDU AVIATION INDUSTRY CO LTD	JIANGXI HONGDU AVIATION INDUSTRY CO LTD	Shanghai (XSHG)	Common Stock	JIANGXI HONGDU AVIATION-A	600316 CH	A0M4EK	6304375 CN		CNE0000015N3	
JIANGXI HONGDU AVIATION INDUSTRY CO LTD	JIANGXI HONGDU AVIATION INDUSTRY CO LTD	Shanghai (XSHG)	Common Stock	JIANGXI HONGDU AVIATION-A	600316 CH	A0M4EK	6304375 CN		CNE0000015N3	
JIANGXI HONGDU AVIATION INDUSTRY CO LTD	JIANGXI HONGDU AVIATION INDUSTRY CO LTD	Nh SSE-SEHK (XSSC)	Common Stock	JIANGXI HONGDU AVIATION-A	600316 CH	A0M4EK	6304375 CN		CNE0000015N3	
KAMAZ PJSC	KAMAZ PJSC	MICEX Main (XMIC)	Common Stock	KAMAZ PJSC	KMAZ RM	895958	895958		RU0008959580	6692125
KAMAZ PJSC	KAMAZ PJSC	MICEX Main (XMIC)	Common Stock	KAMAZ PJSC	KMAZ RX	895958	895958		RU0008959580	6692125
KAMAZ PJSC	KAMAZ PJSC	MICEX Main (XMIC)	Common Stock	KAMAZ PJSC	KMAZ RX	895958	895958		RU0008959580	6692125
NETTEKAMSKY AVTOZAVOD aka NEFAZ	KAMAZ PJSC	MICEX Main (XMIC)	Common Stock	NETTEKAMSKY AVTOZAVOD aka NEFAZ	NEFAZ RM	895958	895958		RU000915604	
NETTEKAMSKY AVTOZAVOD aka NEFAZ	KAMAZ PJSC	MICEX Main (XMIC)	Common Stock	NETTEKAMSKY AVTOZAVOD aka NEFAZ	NEFAZ RX	895958	895958		RU000915604	
LS INDUSTRIAL SYSTEMS CO. LTD	LS INDUSTRIAL SYSTEMS CO. LTD	Korea (XKRX)	Common Stock	LS INDUSTRIAL SYSTEMS	010120 KP	895497	6378217 KR		KR7010120004	
LS INDUSTRIAL SYSTEMS CO. LTD	LS INDUSTRIAL SYSTEMS CO. LTD	Korea (XKRX)	Common Stock	LS INDUSTRIAL SYSTEMS	010120 KS	895497	6378217 KR		KR7010120004	
MAN SE	MAN SE	Equiduct (XEQT)	Common Stock	MAN SE	MAN BQ	593700	5563520 DE	944020	DE0005937007	1117254
MAN SE	MAN SE	BX Worldcaps (XBWN)	Common Stock	MAN SE	MAN BW	593700	5563520 DE	944020	DE0005937007	1117254
MAN SE	MAN SE	BATS Europe (BATE)	Common Stock	MAN SE	MAN EB	593700	5563520 DE	944020	DE0005937007	1117254
MAN SE	MAN SE	Xetra (XETR)	Common Stock	MAN SE	MAN GB	593700	5563520 DE	944020	DE0005937007	1117254
MAN SE	MAN SE	Xetra (XETR)	Common Stock	MAN SE	MAN GD	593700	5563520 DE	944020	DE0005937007	1117254
MAN SE	MAN SE	Xetra (XETR)	Common Stock	MAN SE	MAN GE	593700	5563520 DE	944020	DE0005937007	1117254
MAN SE	MAN SE	Xetra (XETR)	Common Stock	MAN SE	MAN GF	593700	5563520 DE	944020	DE0005937007	1117254
MAN SE	MAN SE	Xetra (XETR)	Common Stock	MAN SE	MAN GH	593700	5563520 DE	944020	DE0005937007	1117254
MAN SE	MAN SE	Xetra (XETR)	Common Stock	MAN SE	MAN GI	593700	5563520 DE	944020	DE0005937007	1117254
MAN SE	MAN SE	Xetra (XETR)	Common Stock	MAN SE	MAN GM	593700	5563520 DE	944020	DE0005937007	1117254
MAN SE	MAN SE	Xetra (XETR)	Common Stock	MAN SE	MAN GR	593700	5563520 DE	944020	DE0005937007	1117254
MAN SE	MAN SE	Xetra (XETR)	Common Stock	MAN SE	MAN GS	593700	5563520 DE	944020	DE0005937007	1117254
MAN SE	MAN SE	Xetra (XETR)	Common Stock	MAN SE	MAN GY	593700	5563520 DE	944020	DE0005937007	1117254
MAN SE	MAN SE	Gettex (MJND)	Common Stock	MAN SE	MAN GZ	593700	5563520 DE	944020	DE0005937007	1117254
MAN SE	MAN SE	Quotix Exch (XQTX)	Common Stock	MAN SE	MAN QT	593700	5563520 DE	944020	DE0005937007	1117254

MAN SE	MAN SE	Turquise (TRQX)	Common Stock	MAN SE	MAN TQ	593700	5563520 DE	944020	DE0005937007	1117254	
MAN SE	MAN SE	Euro OTC (XLON)	Common Stock	MAN SE	MAN XA	593700			DE0005937007	1117254	
MAN SE	MAN SE	Euro OTC (XLON)	Common Stock	MAN SE	MAN XW	593700			DE0005937007	1117254	
MAN SE	MAN SE	Euro OTC (XLON)	Common Stock	MAN SE	MAN XD	593700			DE0005937007	1117254	
MAN SE	MAN SE	Aquis Exchg (AQXE)	Common Stock	MAN SE	MAND QX	593700	5563520 DE	944020	DE0005937007	1117254	
MAN SE	MAN SE	Chi-X Europe (CHIX)	Common Stock	MAN SE	MANG IX	593700	5563520 DE	944020	DE0005937007	1117254	
MAN SE	MAN SE	SIX Swiss Ex (XSXW)	Common Stock	MAN SE	MAN SE	593700	5628883 CH	944020	DE0005937007	1117254	
MAN SE	MAN SE	Euro Comp (XLON)	Common Stock	MAN SE	MAN EU	593700	B10LRX1 GB		DE0005937007	1117254	
MAN SE	MAN SE	LSE EuropeQS (XLON)	Common Stock	MAN SE	MAN LI	593700	B10LRX1 GB	944020	DE0005937007	1117254	
MAN SE	MAN SE	LSE EuropeQS (XLON)	Common Stock	MAN SE	MAN LO	593700	B10LRX1 GB	944020	DE0005937007	1117254	
MAN SE	MAN SE	Euro OTC (XLON)	Common Stock	MAN SE	MAN XB	593700	B10LRX1 GB		DE0005937007	1117254	
MAN SE	MAN SE	Euro OTC (XLON)	Common Stock	MAN SE	MAN XE	593700	B10LRX1 GB		DE0005937007	1117254	
MAN SE	MAN SE	Euro OTC (XLON)	Common Stock	MAN SE	MAN XS	593700	B10LRX1 GB		DE0005937007	1117254	
MAN SE	MAN SE	Euro OTC (XLON)	Common Stock	MAN SE	MAN XV	593700	B10LRX1 GB		DE0005937007	1117254	
MAN SE	MAN SE	Euro TLX (ETLX)	Common Stock	MAN SE	MAN TE	593700	B88FOL3 IT	944020	DE0005937007	1117254	
MAN SE	MAN SE	Euro Comp (XLON)	Common Stock	MAN SE	MANCH EU	593700			DE0005937007	1117254	D51716104
MAN SE	MAN SE	Blockmatch (BLOX)	Common Stock	MAN SE	MAND B3	593700			DE0005937007	1117254	
MAN SE	MAN SE	ITG Posit (XPOS)	Common Stock	MAN SE	MAND PO	593700			DE0005937007	1117254	D51716104
MAN SE	MAN SE	UBS MTF (XUBS)	Common Stock	MAN SE	MAND S2	593700			DE0005937007	1117254	
MAN SE	MAN SE	Euro OTC (XLON)	Common Stock	MAN SE	MAN XL	593700			DE0005937007	1117254	
MAN SE	MAN SE	BATS Europe (BATE)	Preference	MAN SE-PFD	MAN3D BE	593703	5563531		DE0005937031	1114816	D51716112
MAN SE	MAN SE	Blockmatch (BLOX)	Preference	MAN SE-PFD	MAN3D B3	593703			DE0005937031		
MAN SE	MAN SE	Xetra (XETR)	Preference	MAN SE-PFD	MAN3 GB	593703	5563531 DE	944021	DE0005937031	1114816	
MAN SE	MAN SE	Xetra (XETR)	Preference	MAN SE-PFD	MAN3 GD	593703	5563531 DE	944021	DE0005937031	1114816	
MAN SE	MAN SE	Xetra (XETR)	Preference	MAN SE-PFD	MAN3 GF	593703	5563531 DE	944021	DE0005937031	1114816	
MAN SE	MAN SE	Xetra (XETR)	Preference	MAN SE-PFD	MAN3 GH	593703	5563531 DE	944021	DE0005937031	1114816	
MAN SE	MAN SE	Xetra (XETR)	Preference	MAN SE-PFD	MAN3 GI	593703	5563531 DE	944021	DE0005937031	1114816	
MAN SE	MAN SE	Xetra (XETR)	Preference	MAN SE-PFD	MAN3 GJ	593703	5563531 DE	944021	DE0005937031	1114816	
MAN SE	MAN SE	Xetra (XETR)	Preference	MAN SE-PFD	MAN3 GR	593703	5563531 DE	944021	DE0005937031	1114816	
MAN SE	MAN SE	Xetra (XETR)	Preference	MAN SE-PFD	MAN3 GS	593703	5563531 DE	944021	DE0005937031	1114816	
MAN SE	MAN SE	Xetra (XETR)	Preference	MAN SE-PFD	MAN3 GY	593703	5563531 DE	944021	DE0005937031	1114816	
MAN SE	MAN SE	Quotix Exch (XQTX)	Preference	MAN SE-PFD	MAN3 QT	593703	5563531 DE	944021	DE0005937031	1114816	
MAN SE	MAN SE	Chi-X Europe (CHIX)	Preference	MAN SE-PFD	MAN3D IX	593703	5563531 DE	944021	DE0005937031	1114816	
MAN SE	MAN SE	Euro Comp (XLON)	Preference	MAN SE-PFD	MAN3 EU	593703	5563531 DE		DE0005937031	1114816	
MAN SE	MAN SE	Euro OTC (XLON)	Preference	MAN SE-PFD	MAN3 XS	593703	B28K2R6 GB		DE0005937031	1114816	
MAN SE	MAN SE	Tradegate (XGAT)	Preference	MAN SE-PFD	MAN3 TH	593703	B28K2R6 GB	944021	DE0005937031	1114816	
MAN SE	MAN SE	OTC US (OOTC)	ADR	MAN SE-ADR	MAGOY US	593703	B3DY656 US	561641101	US5616411014	54361637	
MAN SE	MAN SE	OTC US (OOTC)	ADR	MAN SE-ADR	MAGOY US	593703	B3DY656 US	561641101	US5616411014	54361637	
MAN SE	MAN SE	OTC US (OOTC)	ADR	MAN SE-ADR	MAGOY US	593703	B3DY656 US	561641101	US5616411014	54361637	
MAN SE	MAN SE	Frankfurt (XFRA)	ADR	MAN SE-ADR	MANC GF	593703	B5900PO DE	561641101	US5616411014	54361637	
MAN SE	MAN SE	Frankfurt (XFRA)	ADR	MAN SE-ADR	MANC GR	593703	B5900PO DE	561641101	US5616411014	54361637	
MAN SE	MAN SE	Frankfurt (XFRA)	ADR	MAN SE-ADR	MANC GS	593703	B5900PO DE	561641101	US5616411014	54361637	
MAN SE	MAN SE	Frankfurt (XFRA)	ADR	MAN SE-ADR	MANC GY	593703	B5900PO DE	561641101	US5616411014	54361637	
RENK AG	MAN SE	Frankfurt (XFRA)	Common Stock	RENK AG	ZAR GB	785000	5555969 DE	916291	DE0007850000	1121936	
RENK AG	MAN SE	Frankfurt (XFRA)	Common Stock	RENK AG	ZAR GF	785000	5555969 DE	916291	DE0007850000	1121936	
RENK AG	MAN SE	Frankfurt (XFRA)	Common Stock	RENK AG	ZAR GM	785000	5555969 DE	916291	DE0007850000	1121936	
RENK AG	MAN SE	Frankfurt (XFRA)	Common Stock	RENK AG	ZAR GR	785000	5555969 DE	916291	DE0007850000	1121936	
RENK AG	MAN SE	Frankfurt (XFRA)	Common Stock	RENK AG	ZAR GS	785000	5555969 DE	916291	DE0007850000	1121936	
RENK AG	MAN SE	Gettex (MUND)	Common Stock	RENK AG	ZAR GZ	785000		916291	DE0007850000	1121936	
RENK AG	MAN SE	Euro Comp (XLON)	Common Stock	RENK AG	ZAR EU	785000	B28LX31 GB		DE0007850000	1121936	
VOLKSWAGEN AG	MAN SE	Chi-X Europe (CHIX)	Common Stock	VOLKSWAGEN AG	VW ID	766400	5469694		DE0007664005	1115308	D94523145
VOLKSWAGEN AG	MAN SE	LSE EuropeQS (XLON)	Common Stock	VOLKSWAGEN AG	VOW LI	766400	0308908 DE		DE0007664005	1115308	
VOLKSWAGEN AG	MAN SE	LSE EuropeQS (XLON)	Common Stock	VOLKSWAGEN AG	VOW LO	766400	0308908 DE		DE0007664005	1115308	
VOLKSWAGEN AG	MAN SE	EURO OTC (XLON)	Common Stock	VOLKSWAGEN AG	VOW XE	766400	0308908 GB		DE0007664005	1115308	
VOLKSWAGEN AG	MAN SE	EURO OTC (XLON)	Common Stock	VOLKSWAGEN AG	VOW XG	766400	0308908 GB		DE0007664005	1115308	
VOLKSWAGEN AG	MAN SE	EURO OTC (XLON)	Common Stock	VOLKSWAGEN AG	VOW XS	766400	0308908 GB		DE0007664005	1115308	
VOLKSWAGEN AG	MAN SE	EURO OTC (XLON)	Common Stock	VOLKSWAGEN AG	VOW XV	766400	0308908 GB		DE0007664005	1115308	
VOLKSWAGEN AG	MAN SE	SIX Swiss Ex (XSXW)	Common Stock	VOLKSWAGEN AG	VOW BW	766400	5469694 CH		DE0007664005	1115308	
VOLKSWAGEN AG	MAN SE	SIX Swiss Ex (XSXW)	Common Stock	VOLKSWAGEN AG	VOW SE	766400	5469694 CH		DE0007664005	1115308	
VOLKSWAGEN AG	MAN SE	SIX Swiss Ex (XSXW)	Common Stock	VOLKSWAGEN AG	VOW SW	766400	5469694 CH		DE0007664005	1115308	
VOLKSWAGEN AG	MAN SE	BATS Europe (BATE)	Common Stock	VOLKSWAGEN AG	VW EB	766400	5469694 CH	996800	DE0007664005	1115308	
VOLKSWAGEN AG	MAN SE	EN Amsterdam (XAMS)	Common Stock	VOLKSWAGEN AG	VWA NA	766400	5497016 NL		DE0007664005	1115308	
VOLKSWAGEN AG	MAN SE	Luxembourg (XLUX)	Common Stock	VOLKSWAGEN AG	VOW LX	766400	5497061 LU		DE0007664005	1115308	
VOLKSWAGEN AG	MAN SE	Equiduct (XEOT)	Common Stock	VOLKSWAGEN AG	VOW BQ	766400	5497102 DE		DE0007664005	1115308	
VOLKSWAGEN AG	MAN SE	BATS Europe (BATE)	Common Stock	VOLKSWAGEN AG	VOW EB	766400	5497102 DE		DE0007664005	1115308	
VOLKSWAGEN AG	MAN SE	Xetra (XETR)	Common Stock	VOLKSWAGEN AG	VOW GB	766400	5497102 DE		DE0007664005	1115308	
VOLKSWAGEN AG	MAN SE	Xetra (XETR)	Common Stock	VOLKSWAGEN AG	VOW GD	766400	5497102 DE		DE0007664005	1115308	
VOLKSWAGEN AG	MAN SE	Xetra (XETR)	Common Stock	VOLKSWAGEN AG	VOW GF	766400	5497102 DE		DE0007664005	1115308	
VOLKSWAGEN AG	MAN SE	Xetra (XETR)	Common Stock	VOLKSWAGEN AG	VOW GH	766400	5497102 DE		DE0007664005	1115308	
VOLKSWAGEN AG	MAN SE	Xetra (XETR)	Common Stock	VOLKSWAGEN AG	VOW GI	766400	5497102 DE		DE0007664005	1115308	
VOLKSWAGEN AG	MAN SE	Xetra (XETR)	Common Stock	VOLKSWAGEN AG	VOW GM	766400	5497102 DE		DE0007664005	1115308	
VOLKSWAGEN AG	MAN SE	Xetra (XETR)	Common Stock	VOLKSWAGEN AG	VOW GR	766400	5497102 DE		DE0007664005	1115308	
VOLKSWAGEN AG	MAN SE	Xetra (XETR)	Common Stock	VOLKSWAGEN AG	VOW GS	766400	5497102 DE		DE0007664005	1115308	
VOLKSWAGEN AG	MAN SE	Xetra (XETR)	Common Stock	VOLKSWAGEN AG	VOW GY	766400	5497102 DE		DE0007664005	1115308	
VOLKSWAGEN AG	MAN SE	Gettex (MUND)	Common Stock	VOLKSWAGEN AG	VOW GZ	766400		996800	DE0007664005	1115308	
VOLKSWAGEN AG	MAN SE	Quotix Exch (XQTX)	Common Stock	VOLKSWAGEN AG	VOW GT	766400	5497102 DE		DE0007664005	1115308	
VOLKSWAGEN AG	MAN SE	Tradegate (XGAT)	Common Stock	VOLKSWAGEN AG	VOW TH	766400	5497102 DE		DE0007664005	1115308	
VOLKSWAGEN AG	MAN SE	Turquise (TRQX)	Common Stock	VOLKSWAGEN AG	VOW TQ	766400	5497102 DE		DE0007664005	1115308	
VOLKSWAGEN AG	MAN SE	Chi-X Europe (CHIX)	Common Stock	VOLKSWAGEN AG	VOWG IX	766400	5497102 DE		DE0007664005	1115308	
VOLKSWAGEN AG	MAN SE	Sigma X MTF (SGMX)	Common Stock	VOLKSWAGEN AG	VOW S1	766400	5497102 DE	996800	DE0007664005	1115308	
VOLKSWAGEN AG	MAN SE	OTC US (OOTC)	Common Stock	VOLKSWAGEN AG	VLKAF PO	766400	B01DRL7 US		DE0007664005	1115308	
VOLKSWAGEN AG	MAN SE	OTC US (OOTC)	Common Stock	VOLKSWAGEN AG	VLKAF US	766400	B01DRL7 US		DE0007664005	1115308	
VOLKSWAGEN AG	MAN SE	OTC US (OOTC)	Common Stock	VOLKSWAGEN AG	VLKAF UV	766400	B01DRL7 US		DE0007664005	1115308	
VOLKSWAGEN AG	MAN SE	EuroTLX (ETLX)	Common Stock	VOLKSWAGEN AG	VOW TE	766400	B7N7B69 IT		DE0007664005	1115308	
VOLKSWAGEN AG	MAN SE	Euro Comp (XLON)	Common Stock	VOLKSWAGEN AG	VOW EU	766400			DE0007664005	1115308	
VOLKSWAGEN AG	MAN SE	Euro OTC (XLON)	Common Stock	VOLKSWAGEN AG	VOW XB	766400			DE0007664005	1115308	
VOLKSWAGEN AG	MAN SE	Euro Comp (XLON)	Common Stock	VOLKSWAGEN AG	VOWCH EU	766400			DE0007664005	1115308	
VOLKSWAGEN AG	MAN SE	Blockmatch (BLOX)	Common Stock	VOLKSWAGEN AG	VOWD B3	766400			DE0007664005	1115308	
VOLKSWAGEN AG	MAN SE	ITG Posit (XPOS)	Common Stock	VOLKSWAGEN AG	VOWD PO	766400			DE0007664005	1115308	D94523145
VOLKSWAGEN AG	MAN SE	Aquis Exchg (AQXE)	Common Stock	VOLKSWAGEN AG	VOWD QX	766400			DE0007664005	1115308	
VOLKSWAGEN AG	MAN SE	UBS MTF (XUBS)	Common Stock	VOLKSWAGEN AG	VOWD S2	766400			DE0007664005	1115308	
VOLKSWAGEN AG	MAN SE	Gettex (MUND)	Preference	VOLKSWAGEN AG-PREF	VOW3 GZ	766403		909007	DE0007664039	1117432	
VOLKSWAGEN AG	MAN SE	EURO OTC (XLON)	Preference	VOLKSWAGEN AG-PREF	VOW3 XA	766403			DE0007664039	1117432	
VOLKSWAGEN AG	MAN SE	EURO OTC (XLON)	Preference	VOLKSWAGEN AG-PREF	VOW3 XI	766403			DE0007664039	1117432	
VOLKSWAGEN AG	MAN SE	LSE EuropeQS (XLON)	Preference	VOLKSWAGEN AG-PREF	S01 LI	766403	0309291 GB		DE0007664039	1117432	
VOLKSWAGEN AG	MAN SE	LSE EuropeQS (XLON)	Preference	VOLKSWAGEN AG-PREF	S01 LO	766403	0309291 GB		DE0007664039	1117432	
VOLKSWAGEN AG	MAN SE	EURO OTC (XLON)	Preference	VOLKSWAGEN AG-PREF	VOW3 XB	766403	0309291 GB		DE0007664039	1117432	
VOLKSWAGEN AG	MAN SE	EURO OTC (XLON)	Preference	VOLKSWAGEN AG-PREF	VOW3 XD	766403	0309291 GB		DE0007664039	1117432	
VOLKSWAGEN AG	MAN SE	EURO OTC (XLON)	Preference	VOLKSWAGEN AG-PREF	VOW3 XE	766403	0309291 GB		DE0007664039	1117432	
VOLKSWAGEN AG	MAN SE	EURO OTC (XLON)	Preference	VOLKSWAGEN AG-PREF	VOW3 XL	766403	0309291 GB		DE0007664039	1117432	
VOLKSWAGEN AG	MAN SE	EURO OTC (XLON)	Preference	VOLKSWAGEN AG-PREF	VOW3 YO	766403	0309291 GB		DE0007664039	1117432	
VOLKSWAGEN AG	MAN SE	EURO OTC (XLON)	Preference	VOLKSWAGEN AG-PREF	VOW3 YS	766403	0309291 GB		DE0007664039	1117432	
VOLKSWAGEN AG	MAN SE	EURO OTC (XLON)	Preference	VOLKSWAGEN AG-PREF	VOW3 XV	766403	0309291 GB		DE0007664039	1117432	
VOLKSWAGEN AG	MAN SE	SIX Swiss Ex (XSXW)	Preference	VOLKSWAGEN AG-PREF	VWV BW	766403	5497146 CH		DE0007664039	1117432	
VOLKSWAGEN AG	MAN SE	SIX Swiss Ex (XSXW)	Preference	VOLKSWAGEN AG-PREF	VWV SE	766403	5497146 CH		DE0007664039	1117432	
VOLKSWAGEN AG	MAN SE	SIX Swiss Ex (XSXW)</									







## ATTACHMENT D

### Letter to SBI Domestic and International Equity Managers

June 29, 2017

#### Regarding: Iran Companies

Dear Manager:

The Minnesota State Board of Investment (SBI) sent you prior communication concerning holdings in companies doing business in Iran. **This new communication applies to all SBI equity portfolios managed by your organization and replaces all prior communications. This communication also applies to all depository receipts or ADR's of any of the listed companies.**

*Minnesota Statutes*, section 11A.244, requires the Minnesota State Board of Investment (SBI) to implement an Iran restriction.

**Attachment 1** is the List of Restricted Iran Companies. **These securities may not be purchased for the SBI portfolio that your organization manages.** If you own securities of companies on the Restricted List **and** the companies are **not** on the divestment list, then you do not need to sell your holdings. Please note that the attached list may differ from the List of Restricted Iran Companies that was attached to the March 28, 2017 letter you received. **This new list is effective June 30, 2017.**

**Attachment 2** is the List of Iran Companies Requiring Divestment. If you own securities of companies on this list then you must **divest** those holdings according to the schedule provided in the attachment:

- At least 50 percent of a company's holdings must be sold by the date indicated, and
- At least 100 percent of a company's holdings must be sold by the date indicated.

The following company has been **added** to the Divestment List:

- **Daewoo Engineering & Construction**                      **South Korea**

**Attachment 3** is a list of security identifiers for the companies on the List of Restricted Iran Companies (Attachment 1) that your organization may use. The SBI does not represent that this is a complete list of identifiers. The manager is responsible for identifying all listings.

If you have any questions about this matter, please contact your assigned SBI Investment Officer.

Sincerely,

LeaAnn M. Stagg  
Assistant Executive Director/COO

Enclosures

cc:     Michael J. Menssen, Director, Debt Management  
         Tammy Brusehaver, Investment Officer, Public Equity  
         Stephanie Gleeson, Investment Officer, Public Equity  
         Aaron Griga, Investment Officer, Fixed Income

## **ATTACHMENT 1**

### **RESTRICTED IRAN COMPANIES SECURITIES OF COMPANIES MAY NOT BE PURCHASED FOR PORTFOLIO**

<b>COMPANY NAME</b>	<b>COUNTRY</b>
Bharat Petroleum Corporation Ltd.	India
China Petroleum & Chemical Corp	China
Daelim Industrial	South Korea
Daewoo Engineering & Construction	South Korea
Eni Spa	Italy
Gazprom OAO	Russia
GS Engineering & Construction Corp	South Korea
Gubre Fabrikalari T.A.S.	Turkey
Indian Oil Corporation Ltd.	India
L G International	South Korea
Linde AG	Germany
Maire Tecnimont S.p.A.	Italy
Mitsui & Co. Ltd	Japan
Oil & Natural Gas Corporation Ltd.	India
PetroChina Co. Ltd.	China
PJSC Lukoil	Russia
Toyo Engineering Corporation	Japan
Toyota Tsusho Corporation	Japan

Effective Date: June 30, 2017

## ATTACHMENT 2

### LIST OF IRAN COMPANIES REQUIRING DIVESTMENT

<b>Company Name</b>	<b>Country of Origin</b>	<b>Divest 50 Percent By this Date</b>	<b>Divest 100 Percent By this Date</b>
Daelim Industrial	South Korea	December 31, 2016	June 30, 2017
Linde AG	Germany	March 31, 2017	September 30, 2017
Eni Spa	Italy	June 30, 2017	December 31, 2017
Daewoo Engineering & Construction	South Korea	December 31, 2017	June 30, 2018

Effective Date: June 30, 2017

### ATTACHMENT 3

#### IRAN RESTRICTED COMPANIES Security Identifiers

ISIN	COMPANY NAME	SYMBOL	COUNTRY	CUSIP
INE029A01011	Bharat Petroleum Corporation Ltd.	500547	India	
US16941R1086	China Petroleum & Chemical Corp	386	China	16941R108
CNE1000002Q2	China Petroleum & Chemical Corp	386	China	16941R108
CNE0000018G1	China Petroleum & Chemical Corp	386	China	16941R108
ARDEUT114071	China Petroleum & Chemical Corp	386	China	16941R108
KR7000211003	Daelim Industrial	210	Korea South	
KR7000210005	Daelim Industrial	210	Korea South	
KR7047040001	Daewoo Engineering & Construction	A047040	Korea South	
US26874R1086	Eni Spa	ENI	Italy	26874R108
IT0003132476	Eni Spa	ENI	Italy	26874R108
ARDEUT112612	Eni Spa	ENI	Italy	26874R108
US3682872078	Gazprom OAO	GAZP	Russia	368287207
US3682871088	Gazprom OAO	GAZP	Russia	368287207
RU0007661625	Gazprom OAO	GAZP	Russia	368287207
ARDEUT114261	Gazprom OAO	GAZP	Russia	368287207
KR7006360002	GS Engineering & Construction Corp	6360	Korea South	
TRAGUBRF91E2	Gubre Fabrikalari T.A.S.	GUBRF	Turkey	
INE242A01010	Indian Oil Corporation Ltd.	530965	India	
KR7001120005	L G International	1120	Korea South	
US5352232004	Linde AG	LIN	Germany	535223200
DE0006483001	Linde AG	LIN	Germany	535223200
US56064T1016	Maire Tecnimont S.p.A.	MT	Italy	56064T101
IT0004931058	Maire Tecnimont S.p.A.	MT	Italy	56064T101
US6068272029	Mitsui & Co. Ltd	8031	Japan	606827202
JP3893600001	Mitsui & Co. Ltd	8031	Japan	606827202
INE213A01029	Oil & Natural Gas Corporation Ltd.	500312	India	
US71646E1001	PetroChina Co. Ltd.	857	China	71646E100
CNE1000007Q1	PetroChina Co. Ltd.	857	China	71646E100
CNE1000003W8	PetroChina Co. Ltd.	857	China	71646E100
ARDEUT113958	PetroChina Co. Ltd.	857	China	71646E100
US69343P2048	PJSC Lukoil	LKOH	Russia	677862104
US69343P1057	PJSC Lukoil	LKOH	Russia	677862104
US5498741058	PJSC Lukoil	LKOH	Russia	677862104
RU0009024277	PJSC Lukoil	LKOH	Russia	677862104
ARDEUT114253	PJSC Lukoil	LKOH	Russia	677862104
JP3607800004	Toyo Engineering Corporation	6330	Japan	
JP3635000007	Toyota Tsusho Corporation	8015	Japan	

Please note that the SBI does not represent that this is a complete list of identifiers. The manager is responsible for identifying all listings.

Source: IW Financial

Effective Date: June 30, 2017

## Letter to SBI Fixed Income Managers

June 29, 2017

### Regarding: Iran Companies

Dear Manager:

The Minnesota State Board of Investment (SBI) has sent you prior communication concerning holdings in companies doing business in Iran. **This communication applies to the SBI fixed income portfolio managed by your organization.**

*Minnesota Statutes*, section 11A.244, requires the Minnesota State Board of Investment (SBI) to implement an Iran restriction.

**Attachment 1** is the List of Restricted Iran Companies. **These securities may not be purchased for the SBI portfolio that your organization manages.** If you own securities of companies on the Restricted List **and** the companies are **not** on the divestment list, then you do not need to sell your holdings. Please note that the attached list could differ from List of Restricted Iran Companies that was attached to the March 28, 2017 letter you received. **This new list is effective June 30, 2017.**

**Attachment 2** is the List of Iran Companies Requiring Divestment. If you own securities of companies on this list then you must **divest** those holdings according to the schedule provided in the attachment:

- At least 50 percent of a company's holdings must be sold by the date indicated, and
- At least 100 percent of a company's holdings must be sold by the date indicated.



The following company has been **added** to the Divestment List:

- **Daewoo Engineering & Construction      South Korea**

If you have any questions about this matter, please contact your assigned SBI Investment Officer.

Sincerely,

LeaAnn M. Stagg  
Assistant Executive Director and Chief Operating Officer

Enclosures

cc:     Michael J. Menssen, Director, Debt Management  
         Aaron Griga, Investment Officer, Fixed Income  
         Cassandra Boll, Investment Officer, Private Markets  
         Steve Kuettel, Investment Officer, Cash Mgmt. Services  
         Patricia Ammann, Investment Office, DC & Private Markets

## **ATTACHMENT 1**

### **RESTRICTED IRAN COMPANIES SECURITIES OF COMPANIES MAY NOT BE PURCHASED FOR PORTFOLIO**

<b>COMPANY NAME</b>	<b>COUNTRY</b>
Bharat Petroleum Corporation Ltd.	India
China Petroleum & Chemical Corp	China
Daelim Industrial	South Korea
Daewoo Engineering & Construction	South Korea
Eni Spa	Italy
Gazprom OAO	Russia
GS Engineering & Construction Corp	South Korea
Gubre Fabrikalari T.A.S.	Turkey
Indian Oil Corporation Ltd.	India
L G International	South Korea
Linde AG	Germany
Maire Tecnimont S.p.A.	Italy
Mitsui & Co. Ltd	Japan
Oil & Natural Gas Corporation Ltd.	India
PetroChina Co. Ltd.	China
PJSC Lukoil	Russia
Toyo Engineering Corporation	Japan
Toyota Tsusho Corporation	Japan

Effective Date: June 30, 2017

## ATTACHMENT 2

### LIST OF IRAN COMPANIES REQUIRING DIVESTMENT

Company Name	Country of Origin	Divest 50 Percent By this Date	Divest 100 Percent By this Date
Daelim Industrial	South Korea	December 31, 2016	June 30, 2017
Linde AG	Germany	March 31, 2017	September 30, 2017
Eni Spa	Italy	June 30, 2017	December 31, 2017
Daewoo Engineering & Construction	South Korea	December 31, 2017	June 30, 2018

Effective Date: June 30, 2017

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## **EXECUTIVE DIRECTOR'S REPORT**

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DATE: September 1, 2017

TO: Members, State Board of Investment

FROM: Mansco Perry III

**SUBJECT: Investment Manager Update**

### **Combined Funds – Domestic Equity**

The domestic equity semi-passive mandate managed by Mellon Capital Management Corporation was defunded and terminated in June 2017. Approximately \$770 million was transitioned to BlackRock Financial Management to be passively managed in the Russell 1000 index fund.

### **Combined Funds – Private Markets**

Contracts for all outstanding private market commitments have been negotiated and executed except for Asia Alternatives V. Asia Alternatives V is being negotiated and we expect to close in September 2017.

### **Non-Retirement**

The SBI Executive Director has been authorized to negotiate and execute contracts and assign the assets of the internally managed S&P 500 equity index and internal fixed income portfolios to external managers. Contracts with Mellon Capital Management to manage the equity portfolio and Prudential Global Investment Management to manage the fixed income portfolio are pending.

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## INVESTMENT ADVISORY COUNCIL REPORT

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DATE: September 1, 2017

TO: Members, State Board of Investment

FROM: Members, Investment Advisory Council and SBI Staff

**SUBJECT: Private Markets Report**

Staff has reviewed the following information and action agenda items:

- Review of current strategy
- Market Review
- Status of SBI Current Private Markets Commitments
- Consideration of new commitments

**Existing Managers:**

Private Real Estate	Blackstone Partners	BREP Asia II	\$75 Million
Private Real Estate	Angelo, Gordon & Co.	AG Europe Realty Fund II	\$75 Million

**New Managers:**

Private Real Estate	Carlyle Realty Partners	Realty Fund VIII	\$150 Million
Private Real Estate	Landmark Partners	LREF VIII	\$150 Million
Private Equity	Wellspring Capital	WCP VI	\$125 Million

**IAC action is required on the fourth item.**

**INFORMATION ITEM:**

**A. Review of Current Strategy**

To increase overall portfolio diversification, 20% of the Combined Funds is allocated to Private Markets investments. Private Markets investments include real estate, private equity, resource, and private credit investments in which Minnesota State Board of Investment (SBI) participation is limited to commingled funds or other pooled vehicles.

- a. The real estate investment strategy is to establish and maintain a broadly diversified real estate portfolio comprised of investments that provide overall diversification by property type and location. The main component of this portfolio consists of investments in diversified Real Estate Investment Trusts (REITs) and closed-end commingled funds. The remaining portion of the portfolio can include investments in less diversified, more focused (specialty) commingled funds and REITs.
- b. The private equity investment strategy, which includes leveraged buyouts and venture capital, is to establish and maintain a broadly diversified private equity portfolio comprised of

investments that provide diversification by industry type, stage of corporate development and location.

- c. The strategy for resource investments is to establish and maintain a portfolio of resource investment vehicles that provide an inflation hedge and additional diversification. Resource investments will include oil and gas investments, energy service industry investments and other investments that are diversified geographically and by type.
- d. The strategy for private credit investments is to target funds that typically provide a current return and may have an equity component such as subordinated debt or mezzanine investments. Private credit investments will provide diversification to the private markets portfolio.

## **B. Market Review**

### **Real Estate**

During the second quarter of 2017, private real estate achieved its 30<sup>th</sup> consecutive quarter of positive returns with the NCREIF Property Index posting a return of 1.75%. Second quarter real estate data provided a mixed view. The amount of capital raised in private real estate funds increased by 33% since last quarter to \$29bn. However, the number of funds that closed declined for the second consecutive quarter, implying that large players are increasingly dominating the marketplace. Europe-focused funds represented 53% of the real estate market capital raised during the second quarter at \$15.6bn across 16 funds. The increase in capital raised for Europe-focused funds is primarily from the €7.8bn Blackstone Real Estate Partners Europe V that was secured during the second quarter. (Sources: NCREIF, Preqin)

### **Private Equity**

Private equity General Partners raised \$121bn across 206 funds in the second quarter. This marks the third consecutive quarter of raising over \$100bn in capital commitments. Globally, buyout deals continue to top the list at \$88.5bn in aggregate capital raised across 61 funds. More than half of these funds targeted investment opportunities in North America. Going into 3Q17 there is a record 1,998 private equity funds currently in the market and a new industry record in dry powder available as capital for investment have increased to \$906bn. (Source: Preqin)

Private equity firms continue to deploy capital despite high multiples and aggressive pricing of assets. M&A transaction multiples (Valuation/ EBITDA) has regressed a little to 10.5x for the first half of 2017 from the post-crisis high of 10.7x in 2016. Private equity exits continue its downward trend that began in 2015. Fundraising in the U.S. continues to trend towards the private equity middle market. (Sources: Preqin, PitchBook)

### **Resource**

During the second quarter of 2017, crude oil traded between a range of \$42/bbl and \$53/bbl. The average price for the quarter was \$48/bbl, which was \$4 below the average price from the first quarter. Oil prices declined after news of a renewed agreement between OPEC and 10 other crude-oil producing nations to keep production at about 1.8 million barrels a day lower than late 2016's levels. According to the Wall Street Journal, investors had been expecting deeper cuts. (Sources: Bloomberg, The Wall Street Journal)

## C. Status of SBI Current Private Markets Commitments

### Minnesota State Board of Investment

#### *Combined Funds*

*June 30, 2017*

Combined Funds Market Value \$64,115,868,805

Amount Available for Investment **\$4,464,632,346**

	<b>Current Level</b>	<b>Target Level</b>	<b>Difference</b>
Market Value (MV)	\$8,358,541,415	\$12,823,173,761	\$4,464,632,346
MV +Unfunded	\$14,332,805,976	\$22,440,554,081.89	\$8,107,748,106

<b>Asset Class</b>	<b>Market Value</b>	<b>Unfunded Commitment</b>	<b>Total</b>
Private Equity	\$5,099,876,179	\$4,019,961,425	\$9,119,837,604
Real Estate	\$575,688,618	\$484,054,389	\$1,059,743,007
Resource	\$1,948,382,782	\$720,509,262	\$2,668,892,044
Private Credit	\$734,593,836	\$749,739,485	\$1,484,333,321
<b>Total</b>	<b>\$8,358,541,415</b>	<b>\$5,974,264,561</b>	<b>\$14,332,805,976</b>

#### *Cash Flows*

*June 30, 2017*

<b>Calendar Year</b>	<b>Capital Calls</b>	<b>Distributions</b>	<b>Net Invested</b>
2017 (thru 6/30)	823,129,720	(1,022,734,686)	(199,604,966)
2016	\$1,874,320,138	(\$1,728,367,357)	\$145,952,781
2015	\$1,541,161,769	(\$2,128,301,645)	(\$587,139,876)
2014	\$1,378,984,263	(\$2,133,698,037)	(\$754,713,774)

The status report detailing individual fund performance appears in the Comprehensive Performance Report in Tab H.

## **ACTION ITEMS:**

### **D. Consideration of New Investment Commitments**

- 1) Investment with an existing private real estate manager, Blackstone Partners (“Blackstone”), in Blackstone Real Estate Partners Asia II (“BREP Asia II”).**

Blackstone is seeking investors for a new \$6 billion real estate fund that will focus solely on Asia Pacific real estate investments, Blackstone Real Estate Partners Asia II. BREP Asia II will invest in distressed and/or undermanaged properties at below market prices, improve the properties through hands-on management and targeted investments, and thereby create assets that can be sold to core and other real estate owners at higher values. BREP Asia II will invest alongside the flagship BREP funds in transactions in Asia. The SBI has invested in the four most recent BREP funds.

In addition to reviewing the attractiveness of the BREP Asia II investment offering, staff has conducted on-site due diligence, reference checks, a literature database search and reviewed the potential investor base for the fund.

More information on BREP Asia II is included as **Attachment A**.

### **RECOMMENDATION:**

**The Investment Advisory Council concurs with Staff’s recommendation that the SBI authorize the Executive Director, with assistance from the SBI’s legal counsel, to negotiate and execute a commitment of up to \$75 million, or 20% of Blackstone Real Estate Partners Asia II, whichever is less. Approval of this potential commitment is not intended to be, and does not constitute in any way, a binding or legal agreement or impose any legal obligations on the State Board of Investment and neither the State of Minnesota, the Investment Advisory Council, the State Board of Investment nor its Executive Director have any liability for reliance by Blackstone upon this approval. Until the Executive Director on behalf of the SBI executes a formal agreement, further due diligence and negotiations may result in the imposition of additional terms and conditions on Blackstone or reduction or termination of the commitment.**

- 2) Investment with an existing private equity real estate manager, Angelo, Gordon & Co. (“Angelo, Gordon”), in Angelo, Gordon Europe Realty Fund II, L.P. (“AG Europe Realty Fund II”).**

Angelo, Gordon & Co. is seeking investors for a new \$750 million private European real estate fund, AG Europe Realty Fund II. The Fund will invest alongside Angelo, Gordon’s flagship AG Realty funds in European transactions. The SBI is an investor in AG Realty IX and AG Asia Realty Fund III.

The Fund's strategy emphasizes the purchase of sub-performing and troubled real estate assets and non-performing loans from owners who lack the capital, patience, or expertise to improve cash flow and value. The assets are often attractively priced due to an inefficiency of the sale process, unique attributes of the asset, or the seller's need for near-term liquidity.

In addition to reviewing the attractiveness of the AG Europe Realty Fund II investment offering, staff conducted on-site due diligence, reference checks, a literature database search, and reviewed the potential investor base for the fund.

More information on AG Europe Realty Fund II, L.P. is included as **Attachment B**.

#### **RECOMMENDATION:**

**The Investment Advisory Council concurs with Staff's recommendation that the SBI authorize the Executive Director, with assistance from the SBI's legal counsel, to negotiate and execute a commitment of up to \$75 million, or 20% of Angelo, Gordon Europe Realty Fund II, whichever is less. Approval of this potential commitment is not intended to be, and does not constitute in any way, a binding or legal agreement or impose any legal obligations on the State Board of Investment and neither the State of Minnesota, the Investment Advisory Council, the State Board of Investment nor its Executive Director have any liability for reliance by Angelo, Gordon upon this approval. Until the Executive Director on behalf of the SBI executes a formal agreement, further due diligence and negotiations may result in the imposition of additional terms and conditions on Angelo, Gordon or reduction or termination of the commitment.**

#### **3) Investment with a new private real estate manager, Carlyle Group ("Carlyle"), in Carlyle Realty Partners VIII, L.P. ("Realty Fund VIII").**

Carlyle is seeking investors for a \$5 billion private equity real estate fund, Carlyle Realty Partners VIII. The Partnership seeks to provide investors attractive risk-adjusted returns from significant capital appreciation and current cash yields.

Carlyle Realty's investment philosophy is focused on evaluating the underlying supply and demand fundamentals of targeted sectors and geographies. The team focuses primarily on real estate demand drivers categorized as Demographic-Driven Sectors and GDP-Driven Sectors to identify the areas that will offer investment opportunities whose fundamentals are underpriced.

In addition to reviewing the attractiveness of the Carlyle Realty Fund VIII investment offering, staff conducted on-site due diligence, reference checks, a literature database search, and reviewed the potential investor base for the fund.

More information on Carlyle Realty Partners VIII is included as **Attachment C**.

## **RECOMMENDATION:**

**The Investment Advisory Council concurs with Staff's recommendation that the SBI authorize the Executive Director, with assistance from the SBI's legal counsel, to negotiate and execute a commitment of up to \$150 million, or 20% of Carlyle Realty Partners VIII, L.P. whichever is less. Approval of this potential commitment is not intended to be, and does not constitute in any way, a binding or legal agreement or impose any legal obligations on the State Board of Investment and neither the State of Minnesota, the Investment Advisory Council, the State Board of Investment nor its Executive Director have any liability for reliance by Carlyle Group upon this approval. Until the Executive Director on behalf of the SBI executes a formal agreement, further due diligence and negotiations may result in the imposition of additional terms and conditions on Carlyle Group or reduction or termination of the commitment.**

### **4) Investment with a new private equity real estate manager, Landmark Partners ("Landmark"), in Landmark Real Estate Partners VIII, L.P. ("LREF VIII").**

Landmark Partners is seeking investors for a new \$2 billion real estate secondary fund, Landmark Real Estate Partners VIII. This fund is established to provide investors access to a diversified private equity portfolio of real estate related investments, primarily through secondary market transactions.

In addition to reviewing the attractiveness of the Landmark Real Estate Partners VIII investment offering, staff conducted on-site due diligence, reference checks, a literature database search, and reviewed the potential investor base for the fund. Since 1996, Landmark has established itself as a leading supplier of liquidity to institutional real estate investors, having participated in over 100 transactions, establishing relationships as an investor with over 125 different managers and acquiring over 350 partnership interests. Landmark has established a record of efficient negotiation and execution of purchase and sale contracts, while maintaining strict confidentiality throughout the process.

More information on Landmark Real Estate Partners VIII is included as **Attachment D**.

## **RECOMMENDATION:**

**The Investment Advisory Council concurs with Staff's recommendation that the SBI authorize the Executive Director, with assistance from the SBI's legal counsel, to negotiate and execute a commitment of up to \$150 million, or 20% of Landmark Real Estate Partners Fund VIII, whichever is less. Approval of this potential commitment is not intended to be, and does not constitute in any way, a binding or legal agreement or impose any legal obligations on the State Board of Investment and neither the State of Minnesota, the Investment Advisory Council, the State Board of Investment nor its Executive Director have any liability for reliance by Landmark upon this approval. Until the Executive Director on behalf of the SBI executes a formal agreement,**



**further due diligence and negotiations may result in the imposition of additional terms and conditions on Landmark or reduction or termination of the commitment.**

**5) Investment with a new private equity manager, Wellspring Capital Partners (“Wellspring”), in Wellspring Capital Partners VI (“WCP VI”).**

Wellspring is seeking capital commitments of \$1.2 billion for a private equity fund, Wellspring Capital Partners VI. WCP VI will focus on value-oriented, control investments in middle-market companies based primarily in North America. The Fund will target attractive risk-adjusted returns through a disciplined and value-added investment approach that has proven successful over Wellspring’s 21 year history.

In addition to reviewing the attractiveness of the Wellspring Capital Partners VI investment offering, staff conducted on-site due diligence, reference checks, a literature database search, and reviewed the potential investor base for the fund.

More information on Wellspring Capital Partners VI is included as **Attachment E**.

**RECOMMENDATION:**

**The Investment Advisory Council concurs with Staff’s recommendation that the SBI authorize the Executive Director, with assistance from the SBI’s legal counsel, to negotiate and execute a commitment of up to \$125 million, or 20% of Wellspring Capital Partners VI, whichever is less. Approval of this potential commitment is not intended to be, and does not constitute in any way, a binding or legal agreement or impose any legal obligations on the State Board of Investment and neither the State of Minnesota, the Investment Advisory Council, the State Board of Investment nor its Executive Director have any liability for reliance by Wellspring upon this approval. Until the Executive Director on behalf of the SBI executes a formal agreement, further due diligence and negotiations may result in the imposition of additional terms and conditions on Wellspring or reduction or termination of the commitment.**

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## ATTACHMENT A

### REAL ESTATE MANAGER SUMMARY PROFILE

#### *I. Background Data*

<b><i>Name of Fund:</i></b>	Blackstone Real Estate Partners Asia II (“BREP Asia II”)
<b><i>Type of Fund:</i></b>	Real Estate Limited Partnership
<b><i>Total Fund Size:</i></b>	\$6 billion target
<b><i>Fund Manager:</i></b>	Blackstone Real Estate Advisors, L.P.
<b><i>Manager Contact:</i></b>	Allie Sweeney 345 Park Avenue New York, NY 10154 Phone (212) 583-5081

#### *II. Organization and Staff*

The Blackstone Group L.P. was founded in 1985 and became a public company in 2007. Within Blackstone Group, Blackstone’s Real Estate Group was established in 1991 and is the largest private equity real estate investment manager in the world with \$104 billion assets under management across three strategies: opportunistic, core-plus and debt. BREP Asia II is Blackstone Real Estate Group’s second global real estate fund pursuing an opportunistic strategy in Asia, and will invest alongside Blackstone’s flagship BREP funds in transactions in Asia. The SBI has invested in the four most recent BREP funds.

Jon Gray is the Global Head of Real Estate for Blackstone. Ken Caplan is the Global Chief Investment Officer, Chris Heady is Head of Asia, Kathleen McCarthy is the Global Chief Operating Officer and Bill Stein and Gio Cutaia are Global Co-Heads of Asset Management. As of June 30, 2017 Blackstone had 451 professionals in the Real Estate Group (277 located in the Americas, 92 located in Europe and 82 located in Asia).

Blackstone Real Estate opened its first office in Asia in 2006 and has grown to a platform of 82 professionals located across six regional offices – Hong Kong, Singapore, Mumbai, Tokyo, Sydney and Shanghai. The team has deployed over \$7 billion of capital across the region to date.

All significant investment and disposition decisions of BREP Asia II will be reviewed and approved by the Investment Committee utilizing a consensus-based approach. Discussions are led by Jon Gray and Ken Caplan. The committee includes all Senior Managing Directors in the Real Estate group, Stephen Schwarzman, Chairman, CEO and Co-Founder of Blackstone and Hamilton (“Tony”) James, President and COO of Blackstone.

### III. **Investment Strategy**

Blackstone Real Estate believes that the Asia Pacific Region presents an opportunity to obtain attractive risk-adjusted returns by taking advantage of macroeconomic and demographic tailwinds coupled with capital markets inefficiencies. The Asia Pacific market comprises some of the world's highest GDP growth rates for the past few years and has grown to become the second largest contributor to global GDP growth. For example, the GDP of India and China have each grown at approximately 7% per year since 2014.<sup>1</sup>

Blackstone's Real Estate believes its competitive advantages of speed, scale, flexible investment mandate, and ability to navigate complexity are more pronounced in Asia than anywhere in the world. Blackstone is the only manager of its scale with a dedicated Asia Pacific real estate fund that actively invests across all major real estate sectors and geographies in Asia today.

- **Seasoned regional team.** Blackstone Real Estate's platform in Asia totals 82 professionals located across six regional offices. Blackstone believes the team's knowledge of local markets and relationships, languages, legal and regulatory frameworks, and business approaches provides a distinct competitive edge in sourcing, executing, managing, and ultimately exiting investments.
- **Large fund size with flexible mandate to navigate complexity.** BREP Asia I is the only large, dedicated Asia Pacific real estate fund actively investing across all major real estate sectors and geographies in Asia today. With \$5.0 billion of capital commitments, BREP Asia I is over two times as large as its nearest pan-Asian competitor.<sup>2</sup> Blackstone Real Estate has extensive experience acquiring debt and equity in non-traditional, complex situations, including acquisitions of real estate through public companies, corporate restructurings and joint venture partnerships. Its portfolios include hotels, office, retail, industrial, and residential investments.
- **Strong operational partnerships.** Over the past decade, Blackstone Real Estate has formed relationships with best-in-class developers and operators throughout the Asia Pacific region. BREP Asia I has strategically partnered up with sizeable, well-established and sophisticated partners that are well-versed in the regulatory, legal and cultural nuances of the given country and have contributed to the success of many of BREP Asia I's investments.
- **Aggressive asset management.** Blackstone Real Estate's experienced asset management team seeks to unlock value through aggressive asset management. Blackstone hires experienced professionals to control costs, execute capital projects and maximize performance of assets.

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Note: **Past performance is not necessarily indicative of future results.** There can be no assurance that any Blackstone fund or investment will achieve its objectives or avoid substantial losses. See "Important Disclosure Information."

<sup>1</sup> IHS, March 2, 2017.

<sup>2</sup> Preqin February 2017. Competitor set includes pan-Asian, multi-sector, non-core, currently investing real estate funds.

- **Proven ability to exit in scale.** BREP Asia I has returned 66% of invested equity. For example, BREP Asia I has already sold the majority of its 29 asset China retail portfolio resulting in \$300 million of profit.

#### **IV. Investment Performance**

The historical investment performance of Blackstone Real Estate (BREP) Asia I as of June 30, 2017 is presented below:

<b>Fund</b>	<b>Vintage Year</b>	<b>Total Committed Capital</b>	<b>SBI Investment</b>	<b>Net IRR*</b>	<b>Net MOIC*</b>
BREP Asia I	2013	\$3.3 billion	\$0	17%	1.4x
BREP V	2006	\$5.8 billion	\$100	11%	2.1
BREP VI	2007	\$11 billion	\$100	13%	2.2
BREP VII	2011	\$14.8 billion	\$100	18%	1.8
BREP VIII	2015	\$15.8 billion	\$150	15%	1.2

\* Previous Fund investments may be relatively immature and, therefore, returns may not be indicative of future results. Net IRR and Multiple of Invested Capital (MOIC) for BREP Asia I were provided by BREP. Net IRR and MOIC for BREP V-VIII were provided by State Street.

#### **V. General Partner's Investment**

Blackstone's investment will be at least \$50 million, plus up to an additional 10% in each Investment on a side-by-side basis (based on an annual election).

#### **VI. Fees**

BREP Asia II management fees are 1.5% per annum if such Limited Partner has aggregate Capital Commitments of less than \$300 million, 1.25% per annum if such Limited Partner has aggregate Capital Commitments equal to or greater than \$300 million.

Management Fees will be generally reduced by an amount equal to the sum of 80% of any Additional Fees and 100% of acquisition fees.

## **VII. Distributions**

Upon disposition of an Investment (calculated separately for each Limited Partner with respect to its *pro rata* share):

- (a) First, 100% to the Limited Partner until it receives a return of contributions for the Investment that has been disposed of, Allocated Fees and Expenses that have not been recouped on all Investments that have been disposed of, unrecouped losses on Investments previously disposed of, aggregate net losses on writedowns from Investments not disposed of, and an 8% compound annual return on (i) contributions with respect to all Investments that have been disposed of, plus (ii) Allocated Fees and Expenses thereto;
- (b) Second, 80% to the General Partner and 20% to the Limited Partner until the General Partner receives its 20% carried interest with respect to Investments that have been disposed of; and
- (c) Thereafter, 80% to the Limited Partner and 20% to the General Partner.

Current Income is generally distributed as described above, except that distributions are made on an Investment-by-Investment basis and will not take into account a return of capital contributions or any aggregate net losses on writedowns, but will take into account actual unrecouped losses from prior dispositions.

## **VIII. Key Persons**

If both (a) Jonathan Gray ceases to devote the required involvement and (b) there is not at least three out of five people (Kenneth Caplan, Christopher Heady, Tuhin Parikh, Alan Miyasaki and Daisuke Kitta) devoting the required involvement, then the General Partner will give each Limited Partner written notice of the Key Person Event within five business days thereof. Within sixty days of the Key Person Event, a majority in interest of combined limited partners may vote to cause a termination of the investment period.

## **IX. Investment Period and Term**

The Investment Period will be five years from the Last Equalization Date (as defined in the Limited Partnership Agreement). The Term will end on the sixth anniversary of the last day of the Investment Period, with an option of the General Partner to extend the term of the Partnership for up to two additional one-year periods.

*\* This document is a summary of more detailed information provided in the Confidential Private Placement Memorandum (the "PPM"). It is qualified in its entirety by the more detailed information provided in the PPM.*

## ATTACHMENT B

### REAL ESTATE MANAGER SUMMARY PROFILE

#### ***I. Background Data***

<b><i>Name of Fund:</i></b>	AG Europe Realty Fund II, L.P.
<b><i>Type of Fund:</i></b>	Private Real Estate
<b><i>Target Fund Size:</i></b>	\$750 million
<b><i>Fund Manager:</i></b>	Angelo, Gordon & Co., L.P.
<b><i>Manager Contact:</i></b>	Brigid Flanagan 245 Park Avenue New York, NY, 10167 (212) 692-8240

#### ***II. Organization and Staff***

Angelo, Gordon & Co., L.P. (“Angelo, Gordon” or the “Firm”) formed AG Europe Realty Fund II, L.P. (“Fund II” or the “Fund”) to make investments in commercial real estate in Europe. Angelo, Gordon has been actively investing in European real estate since 2009 and currently has offices and staff in London, Amsterdam, Frankfurt and Milan. Additionally, the Firm has had a significant presence in Europe since 2000 as an active investor in distressed debt. The Fund will invest alongside Angelo, Gordon’s flagship AG Realty funds in European transactions. The SBI is invested in AG Realty Fund IX and AG Asia Realty Fund III.

Angelo, Gordon was founded in 1988 by John Angelo and Michael Gordon. Headquartered in New York City, the Firm is 100% owned by its founders, their related parties and certain senior employees, and has roughly 400 employees working across its three core disciplines – credit, real estate, and private equity. There are 12 investment professionals on the Europe Real Estate team led by Adam Schwartz and co-portfolio manager Anuj Mittal. As of July 2017, the Firm manages approximately \$28 billion in assets.

Over the past 23 years, Angelo, Gordon has acquired over \$24 billion of real estate assets in over 460 transactions, representing over \$10 billion of equity in a series of opportunistic, core plus and value-added real estate funds. Angelo, Gordon began making opportunistic investments in 1993 and has been an active investor in distressed real estate debt since 1990.

#### ***III. Investment Strategy***

The Fund’s strategy will emphasize the purchase of sub-performing real estate assets across a range of geographies and product types, including office buildings, hotels, retail properties, industrial properties and apartment buildings. The Fund will focus on major western European markets, including the United Kingdom, Germany, France, Spain, Italy, Benelux and other western European countries. Angelo, Gordon believes that the Fund will benefit

from a value-added strategy in a region that has experienced significant price declines and a shortage of liquidity, with prices well below peak prices as it lags the recovery seen in the United States.

Angelo, Gordon's approach to opportunistic real estate investing centers on value creation and capital preservation. The Firm typically purchases assets from owners who lack the capital, patience, or expertise to improve cash flow and value. The assets are often attractively priced due to the lack of current cash flow, difficulty in obtaining debt financing, complexity of analysis, or inefficiency of the sale process.

The Fund will seek to invest in a portfolio of assets that, after stabilization, will be highly sought after by traditional institutional real estate investors and will continue to appreciate even after underperformance has been corrected. Angelo, Gordon will, therefore, seek opportunities to purchase assets with all or some of the following fundamental strengths:

- Clearly identifiable reasons for underperformance and a well-defined and achievable plan for turnaround,
- Purchase price and forecasted stabilized value that are at discounts to replacement costs,
- Favorable long-term demand growth in the local market, and
- Barriers to new supply in the local market due to restrictions on land availability, zoning, or entitlement.

The Angelo, Gordon real estate team has particular experience and expertise in purchasing and repositioning sub-performing properties representing virtually every product type and most geographical regions of Europe. Over the past 15 years, Angelo, Gordon has established an excellent network of both deal sources and operating partner relationships in Europe. Since 2009, Angelo, Gordon has purchased approximately \$1.7 billion of real estate in Europe, realized eight transactions and exchanged binding sales contracts on two assets in the United Kingdom, Ireland and Germany. Rather than employing a large internal property management group, Angelo, Gordon actively manages a network of third-party operating partners that it believes significantly improves its alignment with other investors. The real estate team will seek to leverage its internal capabilities through the Firm's extensive and well-developed network of external alliances and has created a broad network of deal sources with local real estate firms, brokers, direct sellers and distressed debt players. The Firm has approximately 40 real estate operating partners in Europe and is often shown transactions on an exclusive basis.



#### **IV. Investment Performance**

Previous fund performance as of March 31, 2017 for Angelo, Gordon Europe Value-Add Portfolio is shown below:

<b>Fund</b>	<b>Vintage Year</b>	<b>Total Committed Capital</b>	<b>SBI Investment</b>	<b>Net IRR*</b>	<b>Net MOIC*</b>
AG Europe Realty Fund	2014	\$570.2 million	---	17%	1.2
AG Realty Fund IX	2015	\$1,328.6 million	\$100 million	11%	1.1
AG Asia Realty Fund III	2015	\$847 million	\$50 million	19%	1.2

\* Previous Fund investments may be relatively immature and therefore, returns may not be indicative of future results. Net IRR and MOIC based on liquidation at NAV as of March 31 2017 and provided by Angelo, Gordon & Co.

#### **V. General Partner's Investment**

Angelo, Gordon or its affiliates (including the Firm's employees), will make a capital commitment equal to at least 3% of total capital commitments, up to a maximum of \$15 million.

#### **VI. Takedown Schedule**

Capital will be called as needed with a minimum of ten days' prior written notice.

#### **VII. Fees**

Management fees will be payable quarterly in advance based on the following:

During the investment period, the annual management fee, payable quarterly in advance, is equal to 1.50% of aggregate commitments. For each Limited Partner with a capital commitment equal to or greater than \$75 million, the portion of the management fee based on undrawn capital commitments will be reduced to an annual rate of 1.25%.

#### **VIII. Distributions**

Amounts apportioned to each Limited Partner will be divided between and distributed to each Limited Partner and the General Partner in the following amounts and order of priority:

- (a) First, 100% to such Limited Partner to the extent of such Limited Partner's Unrecovered Capital Balance;

- (b) Second, 100% to such Limited Partner to the extent of such Limited Partner's Undistributed Preferred Balance;
- (c) Third, (a) 50% to such Limited Partner and (b) 50% to the General Partner, until the General Partner has received 20% of the aggregate distributions made pursuant to clause (2) and this clause (3); and
- (d) Thereafter, (a) 80% to such Limited Partner, and (b) 20% to the General Partner.

## **IX. Key Persons**

If at any time during the Commitment Period both of Adam Schwartz and Anuj Mittal (or any replacement to either of their positions approved by the Advisory Committee) cease to be actively involved with the General Partner or Angelo, Gordon in the management of the Partnership, the Commitment Period will be automatically suspended.

## **X. Investment Period and Term**

The term of the Partnership shall continue until the close of Partnership business on the eight anniversary of the Final Admission Date, unless extended at the discretion of the General Partner for up to two additional one-year periods.

*\* This document is a summary of more detailed information provided in the Confidential Private Placement Memorandum (the "PPM"). It is qualified in its entirety by the more detailed information provided in the PPM.*

## ATTACHMENT C

### REAL ESTATE MANAGER SUMMARY PROFILE

#### ***I. Background Data***

<b><i>Name of Fund:</i></b>	Carlyle Realty Partners VIII, L.P.
<b><i>Type of Fund:</i></b>	Real Estate – Opportunistic
<b><i>Target Fund Size:</i></b>	\$5 billion
<b><i>Fund Manager:</i></b>	The Carlyle Group
<b><i>Manager Contact:</i></b>	Chip Lippman The Carlyle Group 1001 Pennsylvania Ave. N.W. Washington, DC 20004 202-729-5626

#### ***II. Organization and Staff***

Carlyle Realty (the “Firm” or “Carlyle”) is forming Carlyle Realty Partners VIII, L.P. (the “Fund” or “CRP VIII”) to continue Carlyle’s history over seven predecessor funds of making opportunistic real estate investments in the United States. The Partnership seeks to provide investors attractive risk-adjusted returns from significant capital appreciation and current cash yields.

Carlyle Realty is the dedicated real estate investment team within The Carlyle Group, and is led by Robert S. Stuckey (Head of U.S. Real Estate). The team is made up of approximately 90 Investment Professionals in Washington, DC; New York; San Francisco; and Los Angeles. These Professionals work in the various areas of sourcing, transactions, and asset management for Carlyle’s U.S. focused real estate funds. The nucleus of Carlyle Realty’s senior management has been in place since 1998 and the group has experienced little turnover during that period of time. Carlyle Realty’s senior investment professionals consist of 14 Managing Directors who have an average tenure at Carlyle of 15 years. The Firm expects the core group of investment professionals who were responsible for investing Carlyle Realty’s seven prior opportunistic funds to be primarily responsible for sourcing, investing and managing CRP VIII.

#### ***III. Investment Strategy***

##### **Sector Selection**

Carlyle Realty’s investment philosophy is focused on evaluating the underlying supply and demand fundamentals of its targeted sectors and geographies. Furthermore, the Firm seeks to dynamically identify the areas that will offer investment opportunities whose fundamentals are underpriced. To this end, the team focuses primarily on real estate demand drivers, which are segmented between two primary factors: those more correlated with and driven, in part, by

the economic cycle (“GDP-Driven Sectors”), and those less correlated with the economic cycle and driven, in part, by shifts in demographic cohorts (“Demographic-Driven Sectors”).

Demographic-Driven Sectors include:

- Senior Living
- Active Adult Rental
- Multifamily Residential
- Self-Storage
- Manufactured Housing
- Life Sciences
- Student Housing
- For-Sale Residential

GDP-driven sectors would include:

- Office
- Industrial
- Retail
- Hotel

The team believes that Demographic-Driven sectors have demonstrated superior returns with substantially less volatility than GDP-driven sectors. Accordingly, Fund VIII is expected to be substantially weighted towards Demographic-Driven Sectors. This approach is consistent with Fund VII, of which over 80% was invested in these sectors.

### **Concentration/Diversification**

Carlyle Realty seeks to reduce concentration risk by diversifying its investment position and investing primarily in single-asset transactions. This approach moderates the impact that any single investment has on the overall portfolio’s performance. In Fund VII, no single investment comprises more than 2% of that fund’s commitments. The Firm also generally seeks to diversify across demand drivers, sectors and geographies as well as by capital structure and business plan.

As a consequence of this strategy, the Fund will hold a large number of investment positions. The Firm believes this produces a variety of options for exiting investments, and increases the chance for follow-on investments which often exhibit attractive marginal returns with relatively low risk. Carlyle believes that the flexibility on exit strategy that stems from a larger pool of investments adds value to the Fund. The ability to sell single assets, portfolios of assets, or to form operating companies, creates optionality that allows the team to target the highest possible exit valuation possible in a particular market environment.

### **Leverage**

Carlyle Realty seeks to insulate investments from capital markets fluctuations by using a moderate degree of leverage. In recent funds aggregate property level leverage has generally ranged between 45% and 55%. Additionally, different capital structures are established for each investment, which should enhance the ability to manage concentration risk. Carlyle focuses on opportunities that are capable of producing high profit margins, which allows the Firm to structure investments to produce attractive equity multiples regardless of the level of leverage applied. For example, an investment with a 50% profit margin, the application of

50% leverage could produce a 2.0x multiple on invested capital, while an investment with 10-20% profit margins would require 80%-90% leverage to achieve the same multiple. By focusing primarily on high profit margins, and secondarily on leverage levels, the Firm believes they will be better positioned to produce attractive risk adjusted returns.

#### **IV. Investment Performance**

Previous fund performance as of March 31, 2017 is shown below:

<b>Fund</b>	<b>Vintage Year</b>	<b>Total Committed Capital</b>	<b>SBI Investment</b>	<b>Net IRR*</b>	<b>Net MOIC*</b>
CRP I	1997	\$296 million	---	18%	1.6
CRP II	1999	\$252 million	---	10%	1.4
CRP III	2000	\$571 million	---	34%	2.9
CRP IV	2005	\$950 million	---	5%	1.4
CRP V	2006	\$3 billion	---	11%	1.5
CRP VI	2011	\$2.3 billion	---	24%	1.7
CRP VII	2014	\$4.1 billion	---	17%	1.6

\* Previous Fund investments may be relatively immature and, therefore, returns may not be indicative of future results. Net IRR and Net MOIC provided by the manager.

#### **V. General Partner's Investment**

Carlyle will commit at least 3% of capital commitments to the Fund, not to exceed \$150 million (subject to increase by Carlyle in its sole discretion).

#### **VI. Fees**

Management fees for a commitment of \$150 million will be 1.1% per annum of invested capital and 1.0% of undrawn commitments during the investment period. Thereafter, the fees are 1.1% per annum of invested capital.

#### **VII. Distributions**

Distributions will be apportioned as follows:

- (a) First, 100% to Limited Partners until they have received their realized capital and costs;
- (b) Second, 100% to Limited Partners until a 9% cumulative, compounded annual return has been earned;
- (c) Third, 80% to the General Partner and 20% to the Limited Partners until the General Partner receives a 20% carried interest; and
- (d) Thereafter, 80% to Limited Partners and 20% to the General Partner.

## **VIII. Key Persons**

A Key Person Event will have occurred if at any time prior to the end of the investment period either (i) Robert G. Stuckey and Christopher S. Lippman or (ii) Robert G. Stuckey and any two of Paul B. Brady, David B. Daniel, Mark J. Schoenfeld and Barbara A. Murphy, cease to devote substantially all of his or her business time to the activities of the Fund and its related entities.

## **IX. Investment Period and Term**

The investment period is five years from the initial closing date, and the term of the fund extends 10 years from the initial closing date.

*\* This document is a summary of more detailed information provided in the Confidential Private Placement Memorandum (the "PPM"). It is qualified in its entirety by the more detailed information provided in the PPM.*

## ATTACHMENT D

### REAL ESTATE MANAGER SUMMARY PROFILE

#### ***I. Background Data***

<b><i>Name of Fund:</i></b>	Landmark Real Estate Partners VIII, L.P.
<b><i>Type of Fund:</i></b>	Real Estate – Secondaries
<b><i>Target Fund Size:</i></b>	\$2 billion
<b><i>Fund Manager:</i></b>	Landmark Partners
<b><i>Manager Contact:</i></b>	Geoff Mullen Landmark Partners 681 Fifth Avenue – 14 <sup>th</sup> Floor New York, NY 10022 (212) 468-5660

#### ***II. Organization and Staff***

Landmark Partners (the “Firm” or “Landmark”) is forming Landmark Real Estate Partners VIII, L.P. (the “Partnership” or LREF VIII”) to continue Landmark’s history of making secondary investments in various types of real estate and real estate related entities. The Partnership seeks to provide investors attractive returns with lower levels of risk compared with direct primary investments in real estate vehicles.

Since 1996, Landmark has established itself as a leading supplier of liquidity to institutional real estate investors, having participated in over 100 transactions, establishing relationships as an investor with over 125 different managers and acquiring over 350 partnership interests. Landmark has established a record of efficient negotiation and execution of purchase and sale contracts, while maintaining strict confidentiality throughout the process. Landmark’s secondary funds have aggregate committed capital of \$13.2 billion, of which \$9.5 billion has been invested as of March 31, 2016. The Partnership will be Landmark’s seventh fund dedicated to real estate secondary investments. Landmark believes that, as this market continues to evolve, the growth and maturation of private real estate investments, including real estate private equity funds, will provide particularly attractive sources of secondary investment opportunities.

Landmark employs a total of 97 professionals, of which 65 professionals support the Firm’s secondary real estate investing activities. LREF VIII will be led by Francisco Borges, Timothy Haviland, Chad Alfeld, Paul Mehlman, Robert Dombi, and James Sunday. Landmark is headquartered in Simsbury, Connecticut, with offices in Boston, New York City, and London.

### **III. *Investment Strategy***

Since 1990, increasing levels of investor capital have flowed into real estate, much of it in passive ownership forms that allow investors to own partial interests in real estate managed by professional operating partners or investment sponsors. Landmark's experience indicates that some investors will decide to liquidate their interests through secondary transactions rather than continuing to hold their interests through full investment maturity. Recent annual turnover of private equity real estate portfolios has been in the range of 1.0% to 1.7%, which implies a potential range of \$15 to \$25 billion in secondary market buying opportunities from real estate funds over the next three years. Seller motivations range from portfolio management reasons (asset allocation, liquidity planning, sponsor concentrations, etc.) to administrative efficiencies (manager reduction, change in investment staff, consolidation of core strategies, etc.)

Landmark typically generates deal flow through an extensive network in the investment and real estate communities and its experience in completing customized transactions. Landmark believes it is known within the industry as a reliable source for secondary market liquidity. Landmark endeavors to leverage relationships with investors, advisors, consultants, and other parties to identify assets that may be for sale. Landmark has utilized numerous proactive tactics to access investment opportunities, including ongoing contact with pension funds, endowments, investment bankers, other general partner sponsors, and other owners of private real estate interests to discuss their real estate holdings.

Landmark's due diligence process is designed to independently review and assess a fund manager's business plan by constructing property level valuations through a combination of desktop analysis and leveraging Landmark's network of local market resources. In order to value diversified global property portfolios, Landmark has assembled an underwriting team comprised of investment professionals with prior real estate investment and capital markets expertise. Landmark typically prepares a cash flow model that projects the IRR to the relevant fund's limited partners over the life of the investment being acquired. Upon completion of the due diligence process, the Investment Committee, which is comprised of six Landmark partners and generally has been closely involved in the review process since the deal was brought to the attention of the Real Estate Investment Team, votes to approve or reject the deal.

As with previous Landmark funds, LREF VIII is expected to provide its limited partners with diversification across vintage years, properties, geographies, managers, and investment strategies. The fund may also acquire secondary investments in special situations that involve interests in vehicles not commonly labeled as "funds." An example is the privatization of real estate investments owned by publicly traded REIT, or the acquisition or interests in real estate operating companies dedicated to niche products or strategies. The majority of the fund, however, will be in diversified investment portfolios where Landmark had the advantaged opportunity to analyze an identifiable portfolio of assets and to underwrite the portfolio and price it based upon the value and return potential uncovered.



#### **IV. Investment Performance**

Previous fund performance as of December 31, 2016 is shown below\*\*:

<b>Fund</b>	<b>Vintage Year</b>	<b>Total Committed Capital</b>	<b>SBI Investment</b>	<b>Net IRR*</b>	<b>Net MOIC*</b>
LREF I	1996	\$210 million	---	45.0%	2.1x
LREF II	1997	\$335 million	---	16.6%	1.5x
LREF IV	2001	\$119 million	---	19.4%	1.6x
LREF V	2005	\$368 million	---	-4.9%	0.8x
LREF VI	2010	\$718 million	---	21.0%	1.5x
LREF VII	2014	\$1,616 million	---	28.6%	1.2x

\* Previous Fund investments may be relatively immature and, therefore, returns may not be indicative of future results. Net IRR and Net MOIC provided by the manager.

\*\* LREF III was formed with \$21.3m of equity to acquire direct interests in value-added real estate investments and was not involved in making secondary investments, and consequently is excluded from this table.

#### **V. General Partner's Investment**

The General Partner and its affiliates will commit an amount equal to 1% of aggregate commitments.

#### **VI. Fees**

Management fees are 1% per annum for the period from the initial closing through the fourth anniversary of the final close. Thereafter, the fees are 1% per annum of the reported value of all underlying investments of the Partnership.

#### **VII. Distributions**

Distributions will be apportioned as follows:

- (a) First, 100% to Limited Partners until funded commitment has been received;
- (b) Second, 100% to Limited Partners until an 8% cumulative, non-compounded annual return has been earned;
- (c) Third, 60% to the General Partner and 40% to the Limited Partners until the General Partner receives a 12% carried interest; and
- (d) Thereafter, 88% to Limited Partners and 12% to the General Partner.

## **VIII. Key Persons**

If at any time there are two key persons who fail to devote substantially all of his or her business time and attention to the Partnership, a key person event has occurred. The key persons for the Partnership are Francisco Borges, Timothy Haviland, R. Paul Mehlman, James Sunday, and Robert Dombi.

## **IX. Investment Period and Term**

The investment period is four years from the final close and the term is the later of (i) ten years from the final close and (ii) one year after the date by which all of the Fund's investments have been liquidated and its obligations have been terminated.

*\* This document is a summary of more detailed information provided in the Confidential Private Placement Memorandum (the "PPM") and the Limited Partnership Agreement (the "LPA"). It is qualified in its entirety by the more detailed information provided in the PPM and LPA.*

## ATTACHMENT E

### PRIVATE EQUITY MANAGER SUMMARY PROFILE

#### ***I. Background Data***

<b><i>Name of Fund:</i></b>	Wellspring Capital Partners VI, L.P.
<b><i>Type of Fund:</i></b>	Private Equity - Buyout
<b><i>Target Fund Size:</i></b>	\$1.2 billion
<b><i>Fund Manager:</i></b>	Wellspring Capital Management LLC
<b><i>Manager Contact:</i></b>	Taylor Lawrence Wellspring Capital Management 390 Park Avenue New York, NY 10022 (212) 318-9811

#### ***II. Organization and Staff***

Wellspring Capital Management (the “Firm” or “Wellspring”) is forming Wellspring Capital Partners VI, L.P. (the “Partnership” or “Fund VI”) to focus on value-oriented, control investments in middle-market companies based principally in North America. The Firm will employ its expertise in revitalizing undermanaged companies that have not reached their full potential.

The Firm was founded in 1995, and raised its first institutional fund in 1998. Over four prior funds, Wellspring has invested \$2.8 billion in 38 portfolio companies. From the beginning Wellspring has followed a proven value-oriented investment strategy which encompasses (a) a disciplined screening of deal opportunities to identify fundamentally sound companies with defined opportunities for improvement, and (b) a detailed post-investment strategy to create value through transformational change. The Firm has historically paid below-market purchase multiples and used leverage conservatively relative to industry averages in order to mitigate risk.

Wellspring employs 14 investment professionals and 22 total employees in its New York office. Wellspring Capital Partners VI will be led by Greg S. Feldman, William F. Dawson, Jr., Alexander E. Carles, Joshua C. Cascade, John E. Morningstar, Matthew G. Harrison and Seth R. Pearson. The Partners have been working together as a team, on average for 14 years and have invested approximately \$2.6 billion in 32 portfolio companies over Wellspring’s three most recent funds.

### **III. Investment Strategy**

#### **Value Investment Discipline**

The foundation of Wellspring's investment philosophy and approach is to acquire businesses with solid fundamentals at below-market multiples while employing moderate amounts of financial leverage. Wellspring seeks to identify companies with solid market positions that have not reached their full potential. Critical to this strategy is targeting companies with a narrow set of addressable issues that represent opportunities if accompanied by the right management leadership and sound business plans. These opportunities are often overlooked by other investors, presenting a unique opportunity for value-oriented investors such as Wellspring. As evidence of Wellspring's discipline, from 1998 through September 30, 2016 the average middle-market buyout purchase multiple was 8.0x LTM EBITDA, which is well above Wellspring's average purchase multiple of 6.0x LTM EBITDA.

Core to Wellspring's value-oriented investment strategy is its conservative use of leverage. Wellspring believes this mitigates downside risk and facilitates equity value creation. The Firm seeks to avoid using highly syndicated financing structures with tight covenants and predatory lenders, such as distressed-focused hedge funds. Instead, the Partners have cultivated a group of non-traditional financing relationships that the Firm has worked with over many years. These alternate sources have allowed Wellspring to execute transactions successfully during market downturns or when potential acquisitions are too complex for traditional lenders. In such cases, these relationships have allowed Wellspring to pursue opportunities during times or circumstances when some of its competitors could not. As an example, during the depth of the recession in 2008, Wellspring was able to close five transactions representing approximately \$311.8 million of invested capital.

#### **Strategic Deal Screening**

Wellspring is differentiated by its deal sourcing approach and ability to consummate complex, value-oriented investments. The Firm employs a disciplined screening process developed over its 22-year history to determine the key issues facing an acquisition target and to efficiently assess the prospects for earnings improvement. Wellspring has extensive experience evaluating the risk-adjusted likelihood of execution success, while avoiding the pitfalls of structural weaknesses or fundamental turnaround risk. By targeting opportunities with complexity that require significant pre-acquisition due diligence, Wellspring typically participates in limited auction processes that are less competitive than highly sought-after platforms that require minimal change and carry lower business risk/opportunity. Wellspring's value-orientated strategy of pursuing companies with issues that are ineffectively addressed in "sellside" marketing materials often leads to transaction processes where price is not the sole consideration in evaluating prospective investors. Wellspring strategically differentiates itself early in these processes by dedicating significant internal and external resources and prioritizing due diligence on the issues central to its investment thesis. As a result, Wellspring can often present itself as the "safest" alternative with the highest likelihood of completing the transaction and the lowest risk of transaction failure. Wellspring is also often the preferred partner by the senior management of portfolio companies as a result of the Firm's differentiated and conservative approach to leverage and transparent oversight model, which reflects its small group of senior professionals and absence of bureaucracy.

### **“Hands-on” Value Creation**

A central tenet of each Wellspring investment is the early development and continuous evaluation of the “Wellspring Game Plan,” which is the path for value creation through improvements to the target platform. During the due diligence process, Wellspring works closely with management and its network of industry resources to: (a) prioritize major opportunities for change initiatives; and (b) perform a realistic “gap analysis” on the key hurdles to success. Wellspring has a hands-on approach to each portfolio company that is centered on the belief that by investing in management the Firm can expedite and increase value creation. The Firm strategically upgrades each management team in order to accelerate improvement initiatives and enhance each portfolio company’s attractiveness upon exit. Wellspring has upgraded management teams in 94% of its portfolio companies. Recognizing the resource challenges of driving major change while managing day-to-day operations, Wellspring leverages its network of external consultants and industry executives to assist management in specific functional areas. The Firm’s exclusive operating partner, Bill Ramsey, manages a group of proven external process consultants to assist in areas such as salesforce effectiveness/training, price/product rationalization, procurement, logistics, working capital improvement and productivity (“LEAN”).

Wellspring’s success in transforming portfolio companies and marketing growth platforms to successor buyers is evidenced by the Firm’s history of successful sales. For example, 44% of all sales of Wellspring portfolio companies have been to corporate buyers that did not compete when the prior Fund bought the portfolio company and 50% of all exits have been to larger private equity firms seeking a growth platform. In total, 80% of all exits were done at a higher multiple relative to the entry multiple due to enhancements to the business and the overall outlook.

## **IV. Investment Performance**

Previous fund performance as of March 31, 2017 is shown below:

<b>Fund</b>	<b>Vintage Year</b>	<b>Total Committed Capital</b>	<b>SBI Investment</b>	<b>Net IRR*</b>	<b>Net MOIC*</b>
WCP II	1998	\$268 million	---	20.2%	1.5x
WCP III	2004	\$640 million	---	27.2%	2.2x
WCP IV	2006	\$1.0 billion	---	8.2%	1.5x
WCP V	2011	\$1.2 billion	---	18.8%	1.5x

\* Previous Fund investments may be relatively immature and, therefore, returns may not be indicative of future results. Net IRR and Net MOIC provided by the manager.

## **V. General Partner’s Investment**

The General Partner will commit an amount equal to 2% of aggregate commitments.

## **VI. Fees**

Management fees are 2% per annum for first five years following the initial capital draw. Thereafter, the fees are 1% per annum of commitments through the end of the Commitment Period, and 1% per annum of actively invested capital thereafter.

The management fee and the General Partner's carried interest are subject to discounts for commitments larger than \$115 million.

## **VII. Distributions**

Distributions will be apportioned as follows:

- (a) First, 100% to Limited Partners until each Limited Partner has received a return of capital on all realized or permanently written-down investments; *plus* management fees and other expenses allocated to such investments;
- (b) Second, 100% to Limited Partners until an 8% preferred return on the above amounts has been earned;
- (c) Third, 80% to the General Partner and 20% to the Limited Partners until the General Partner receives a 20% carried interest; and
- (d) Thereafter, 80% to Limited Partners and 20% to the General Partner.

## **VIII. Key Persons**

A Key Person Event will be triggered if at any time prior to the expiration of the commitment period less than three of Greg S. Feldman, William F. Dawson, Jr., Alexander E. Carles, Joshua C. Cascade or John E. Morningstar are actively involved in the affairs of WCP VI.

## **IX. Investment Period and Term**

The investment period is six years from the initial capital draw, and the term is 10 years.

*\* This document is a summary of more detailed information provided in the Confidential Private Placement Memorandum (the "PPM"). It is qualified in its entirety by the more detailed information provided in the PPM.*

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## **EXECUTIVE DIRECTOR'S REPORT**

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DATE: September 1, 2017

TO: Members, State Board of Investment

FROM: Mansco Perry III

**SUBJECT: Executive Director's Response to the Consultant Combined Funds Portfolio Review**

As outlined in my Fiscal Year 2018 Management Work Plan, I requested that each of the State Board of Investment's consultants perform a comprehensive review of the Combined Funds investment program. Aon Hewitt Investment Consulting and Pension Consulting Alliance each provided me with their perspective which I reviewed and discussed with them. At the Investment Advisory Council (IAC) meeting on August 14th, we presented the summary of the consultants' observations and my responses. The IAC had a very robust, engaging, and thorough discussion regarding the issues that were presented.

The key issues are summarized below. The IAC endorsed the recommendations that were presented for approval by the Board. The more detailed memo presented to the IAC is included as Attachment A, which begins on **page 7** of this tab.

### **SUMMARY**

The major issues under consideration are:

- The adoption of a new Strategic Asset Allocation Framework for the Combined Funds. This will include new asset classes and designating asset classes to Strategic Allocation Categories, and may result in changing the investment manager lineup and mandates.
- Increasing the overall total portfolio target weighting and range for the market value of private investments. This approach will enable the SBI to increase our exposure to private investments which improves the possibility of generating attractive returns in a more risk controlled manner.

If these proposals are approved, we will work with our investment consultants to develop policy weights for the revised framework which will result in a modification of our asset allocation. We would then present a proposal for review by the Investment Advisory Council (IAC) and potential adoption by the State Board of Investment (SBI) Board at our fourth quarter meetings.

## **RECOMMENDATION:**

**The Investment Advisory Council endorses the recommendation that the Board authorize the Executive Director to:**

- 1) to adopt the framework of Strategic Allocation Categories as the basis for its asset allocation and authorize the Executive Director to implement the Strategic Allocation Category Framework consistent with investment policy and the positions presented in this memorandum;**
- 2) to increase the target allocation weighting for the market value of private investments from 20% to 25% and set a range with a maximum limitation of 30% rather than the current 24% limit; and**
- 3) to work with the SBI's investment consultants to develop policy weights for the proposed framework to be reviewed by the IAC and make a recommendation to the SBI Board.**

## **BACKGROUND**

### **1) Realignment of the Portfolio Structure and the Strategic Asset Allocation Framework.**

A sample of the proposed framework is presented in Exhibit I on **page 5**.

We are recommending that the Framework of the Strategic Asset Allocation be realigned to the approach which better defines the role that asset classes play in the portfolio. This approach focuses less in terms of “what we invest in” and rather on “why we invest.” Such approaches were developed as a response to the “Great Recession” when we observed that diverse asset classes were highly correlated to public equities.

Many institutional investors have advocated the use of strategic allocation categories to recognize that while certain asset classes may be different (e.g., public equities versus private equity), these assets are related in that they respond to the same underlying fundamental factors and economic drivers, are highly correlated, and have limited ability to counter the investment risk of one another. The notion that implies the inclusion of a number of different asset classes in a portfolio provides adequate risk reduction characteristics has now evolved to recognize that diversification comes from having assets which behave differently during various economic regimes. Some investors may refer to this approach as a risk-based allocation approach.

Key factors in the development of a realigned Strategic Asset Allocation Framework for the SBI will be 1) defining the role of the strategic allocation categories and 2) defining the role that specific asset classes perform. Each asset class used will be grouped with other asset classes that respond to similar economic drivers into a strategic allocation category defined to address the particular economic driver.

Following are the strategic allocation categories we are proposing and their intended roles within the portfolio. Please note that while considerable thought has gone into the proposal, there is not a unique set of strategic allocation categories. As a result, the proposal is based on judgement and some conclusions are arbitrary and subject to change before they are finalized.

- **Growth:** represents the primary reason one invests, which is to achieve attractive returns. Growth is the primary return-seeking strategic allocation category with the objective of generating long-term capital appreciation by participating in global economic growth driven primarily by exposure to the equity risk premium.
- **Income:** attributes of this category include generating stable levels of current income and capital appreciation at lower levels of risk than growth assets, preservation of the principal value of assets, and diversification to the primary drivers of assets in the Growth category. (Please note for some asset classes there may be a “fine line” between whether it should be in the Growth or Income category. Out of necessity, at the end of the day, final judgements may be arbitrary.)
- **Real Return:** to provide diversification through investments in assets which have inflation-sensitive characteristics or the ability to provide a hedge against inflation.
- **Protection:** provides stability, protection during crisis, and can act as a hedge against deflation.
- **Liquidity:** provides liquidity to meet daily obligations, primarily benefit payments and capital commitment calls. Consists of cash and cash equivalents.
- **Opportunity:** the purpose of this bucket is to allow for investment in interesting opportunities or new strategies that do not fit within clearly-defined asset class lines. Asset allocation constraints should not preclude investors from accessing interesting and attractive opportunities.

The proposed framework will become the basis for developing and managing the asset allocation of the Combined Funds. The implementation of the transition to the proposed framework will result in assets transferring and modifications in investment manager mandates occurring as we define the role that particular assets are designated to play within the portfolio. For example, assets managed by fixed income managers may be designated for the Income bucket and the Protection bucket. In such cases, it may be more efficient to have one group of managers invest the assets in the Income bucket and another manage the Protection bucket assets. In some cases, we may conclude that fewer managers are needed to accomplish this objective. As a result, investment manager mandates could change and the lineup of managers could change.

The proposed framework includes implementing additional changes which the consultants’ review address:

- Addition of an inflation-sensitive asset class, which we have termed “Real Return”;

- Addition of an opportunity asset class, which enables the SBI to have the flexibility to invest in new investment ideas and allows us not to preclude attractive investments because of no specific dedicated asset class;
- Provides for the potential to increase our exposure to real estate; and
- Creates a multi-asset credit allocation program to take advantage of credit premia available from a broad range on non-traditional fixed income.

## EXHIBT I

### Sample Asset Framework Outline\*

Strategic Allocation Category	Potential Asset Classes (1)	Attributes Present in Strategic Allocation Category (2)
Growth	<ul style="list-style-type: none"> <li>• U.S. Equity</li> <li>• Non-U.S. Developed Market Equity</li> <li>• Emerging Market Equity</li> <li>• Private Equity</li> <li>• Non-Core Real Estate</li> </ul>	<ul style="list-style-type: none"> <li>• Return seeking</li> <li>• Capture Economic Growth</li> <li>• Exposure to Equity Risk Premium</li> <li>• Capital Appreciation</li> </ul>
Income	<ul style="list-style-type: none"> <li>• Investment Grade Credit</li> <li>• Private Credit</li> <li>• Multi-Asset Credit</li> <li>• Debt-Related Private Equity</li> <li>• Debt-Related Real Estate</li> <li>• Global Diversified Credit</li> </ul>	<ul style="list-style-type: none"> <li>• Principal protection</li> <li>• Income Stream</li> <li>• Lower relative volatility</li> <li>• Diversification</li> <li>• Potential for higher returns than traditional bonds</li> </ul>
Real Return	<ul style="list-style-type: none"> <li>• Private and Public Real Assets</li> <li>• Core Real Estate</li> <li>• TIPS/Inflation-Linked Bonds</li> </ul>	<ul style="list-style-type: none"> <li>• Diversification</li> <li>• Inflation Hedge/Protection</li> <li>• Income Stream</li> </ul>
Protection	<ul style="list-style-type: none"> <li>• U.S. Treasuries</li> <li>• U.S. Government Bonds</li> </ul>	<ul style="list-style-type: none"> <li>• Diversification/Risk Control</li> <li>• Downside protection</li> <li>• Deflation hedge</li> </ul>
Liquidity	<ul style="list-style-type: none"> <li>• Cash and Cash Equivalents</li> </ul>	<ul style="list-style-type: none"> <li>• Short-term liquidity needs</li> </ul>
Opportunity	<ul style="list-style-type: none"> <li>• Niche Opportunities in Multiple Asset Classes</li> </ul>	<ul style="list-style-type: none"> <li>• Varies</li> </ul>

## **2) Pacing and Increased Target Weighting for Private Market Investments**

Both consultants observed that we should attempt to increase the market value of private markets within the total fund and the target weighting for private market investments within the asset allocation. We will adhere to a pacing approach whereby we can ensure that we are able to continuously make investments each vintage year. Increasing the market value is not simply a matter of increasing commitment size. While we believe there is room to allocate more dollars to some of our investments, we believe our current approach of focusing on quality investments regardless of sizing capabilities best achieves the SBI's goals. In some cases, we are constrained by how much we can invest either due to Fund imposed capacity constraints or the SBI's statutory ownership limitation of 20%.

During the past several years, we have been broadening the geographical focus and the scope of types of private investments we are making (e.g., credit, real estate, and infrastructure) beyond private equity and energy, which were the predominant focus in prior years. We believe by expanding the scope of private markets, we have an opportunity to put more dollars to work. With an expanded scope of private market opportunities, the probability of increasing the amount of dollars actually invested should improve. This approach improves the SBI's potential to continue to generate attractive returns in a more risk controlled manner.

We also concur with the observation that the target weighting of private market investments should be increased. However, rather than focusing on a broad target for private markets, we would propose that we focus more on the strategic development of a broadly diversified private investment program. If we adopt the proposed framework structure discussed earlier, we would envision that private market investments could reside in multiple strategic allocation categories (e.g., growth, income, real return). We would suggest that each strategic allocation category have a limit for private investments and that the total portfolio would have an overall maximum limit. The sum for the limits of each segment may be greater than the total portfolio level, but in total be controlled by the maximum limit. This would provide flexibility in each category, but control total exposure at the total portfolio level.

We are recommending that the target weighting of the market value of private investments in the total portfolio be increased from 20% to 25% and that the limitation on the market value range of private investments be increased from 24% to 30%. This will provide the flexibility to invest more assets in lower risk private investments such as private credit, real estate and other forms of private investments which can provide greater diversification and risk mitigation to the portfolio without sacrificing returns. While we are recommending that the target and range of private investments on a market value be increased, we believe that the combined weight of private investments market value and unfunded commitments should still cap out at 35%.

## **ATTACHMENT A**

DATE: August 7, 2017

TO: Members, Investment Advisory Council

FROM: Mansco Perry III

**SUBJECT: Executive Director's Response to the Consultant Combined Funds Portfolio Review**

As outlined in my Fiscal Year 2018 Management Plan, I requested that each of the State Board of Investments' investment consultants perform a comprehensive review of the Combined Funds investment program. Our general investment consultant, Aon Hewitt Investment Consulting Inc., and the special consultant, Pension Consulting Alliance, were asked to provide an independent assessment of the Funds' asset allocation, manager structure, and risk profile. Each organization provided me with their perspective which I have reviewed and discussed with them. Not surprisingly, each organization presented similar findings. While there is not total agreement, many of their suggestions are in concert with some of my own observations. I believe that all would agree that the SBI is not broken, but that there are opportunities to derive more value from our assets and improve how the overall program is managed.

Following is a summary of observations and suggested items for consideration. I have provided a comment regarding any actions or recommendations that I plan to make in response to each item.

### **SUMMARY OF CONSULTANT OBSERVATIONS**

#### **1) Asset Allocation and Portfolio Structure**

##### **A. Realign the Framework for the Strategic Asset Allocation Framework**

- Use strategic allocation categories reflecting similar underlying fundamental factors and economic drivers which impact asset classes
- Define the role of the asset classes used in the portfolio
- More reflective of the risk associated with the asset classes

##### **B. Consider an Inflation-Sensitive Asset Class**

##### **C. Add an Opportunity Bucket to Provide Flexibility for New Investment Ideas**

#### **2) Private Markets / Alternatives**

##### **A. Pacing and Increased Target Weighting**

- Increase the market value of private markets in the actual portfolio closer to the target
- Increase the target weighting of private markets in the strategic asset allocation
- Reduce the number of commitments and increase the commitment size

- B. Re-Categorize the Portfolio to Reflect the Different Types of Private Market Investments Utilized in the Portfolio
- C. Increase Allocation to Real Estate
- D. Consider Reviewing the Mandate of the Resources Segment
- E. Consider Developing Strategic Partnerships and Utilize Co-Investment Opportunities
- F. Develop Strategy, Investment Policy, and an Implementation Plan for Private Market Investments and Alternatives
- G. Consider Liquid Alternatives

### **3) Fixed Income**

- A. Review Program Structure and Define Role
- B. Add Multi-Asset Credit Program

### **4) Public Equity**

- A. Globalization/Home Country Bias
  - Reduce home country bias and move toward a more global market capitalization-weighted target for public equity
- B. Passive Management
  - Increase passive management in highly efficient markets
- C. Active Management
  - If active management continues as part of the public equity program, consider:
    - An allocation to active global equity managers
    - Allocate active risk to high conviction, broad and unconstrained mandates
    - Utilize active small cap international and emerging markets

### **5) Consider Currency Management and a Review of Currency Philosophy**

### **6) Increase Focus on Portfolio Risks**



## **EXECUTIVE DIRECTOR'S RESPONSES TO CONSULTANT OBSERVATIONS**

### **1) Asset Allocation and Portfolio Structure**

#### **A. Realignment of the Portfolio Structure and Asset Allocation Framework**

I agree with the observation and propose that we revise the framework as presented in Exhibit I on **Page 5**.

I am recommending that we realign the framework of the strategic asset allocation to the approach which better defines the role that asset classes play in the portfolio. We should think less in terms of “what we invest in” and focus more on “why we invest.” Such approaches were developed as a response to the “Great Recession” when we observed that diverse asset classes were highly correlated to public equities.

Many institutional investors have advocated the use of strategic allocation categories to recognize that while certain asset classes may be different (e.g., public equities versus private equity), these assets are related in that they respond to the same underlying fundamental factors and economic drivers, are highly correlated, and have limited ability to counter the investment risk of one another. The notion that implies including a number of different asset classes in a portfolio provides adequate risk reduction characteristics has now evolved to recognize that diversification comes from having assets which behave differently during various economic regimes. Some investors may refer to this approach as a risk-based allocation approach.

Key factors in the development of a realigned strategic asset allocation framework for the SBI will be 1) defining the role of the strategic allocation categories and 2) defining the role that specific asset classes perform. Each asset class used will be grouped with other asset classes that respond to similar economic drivers into a strategic allocation category defined to address the particular economic driver.

Following are the strategic allocation categories I am proposing and their intended roles within the portfolio. Please note that while considerable thought has gone into the proposal, there is not a unique set of strategic allocation categories. As a result, the proposal is based on judgement and some conclusions are arbitrary and subject to change before they are finalized.

- **Growth:** represents the primary reason one invests, which is to achieve attractive returns. Growth is the primary return-seeking strategic allocation category with the objective of generating long-term capital appreciation by participating in global economic growth driven primarily by exposure to the equity risk premium.
- **Income:** attributes of this category include the generation of stable levels of current income as well as the potential for capital appreciation at lower levels of risk than growth assets, presentation of the principal value of assets, and ability to provide diversification to the primary drivers of assets in the Growth category. (Please note for some asset classes there may be a “fine line” between whether it should be in the

Growth or Income category. Out of necessity, at the end of the day, final judgements may be arbitrary.)

- Real Return: to provide diversification through investments in assets which have inflation-sensitive characteristics or the ability to provide a hedge against inflation.
- Protection: provides stability, protection during crisis, and can act as a hedge against deflation.
- Liquidity: provides liquidity to meet daily obligations, primarily benefit payments and capital commitment calls. Consists of cash and cash equivalents.
- Opportunity: the purpose of this bucket is to allow for investment in interesting opportunities or new strategies that do not fit within clearly-defined asset class lines. Asset allocation constraints should not preclude investors from accessing interesting and attractive opportunities.

The proposed framework will become the basis for developing and managing the asset allocation of the Combined Funds. The implementation of the transition to the proposed framework will result in assets transferring and modifications in investment manager mandates occurring as we define the role that particular assets are designated to play within the portfolio. For example, assets managed by fixed income managers may be designated for the Income bucket and the Protection bucket. In such cases, it may be more efficient to have one group of managers invest the assets in the Income bucket and another manage the Protection bucket assets. In some cases, we may conclude that fewer managers are needed to accomplish this objective. As a result, investment manager mandates could change and the lineup of managers could change.

**EXHIBT I**  
**Sample Asset Framework Outline\***

<b>Strategic Allocation Category</b>	<b>Potential Asset Classes (1)</b>	<b>Attributes Present in Strategic Allocation Category (2)</b>
Growth	<ul style="list-style-type: none"> <li>• U.S. Equity</li> <li>• Non-U.S. Developed Market Equity</li> <li>• Emerging Market Equity</li> <li>• Private Equity</li> <li>• Non-Core Real Estate</li> </ul>	<ul style="list-style-type: none"> <li>• Return seeking</li> <li>• Capture Economic Growth</li> <li>• Exposure to Equity Risk Premium</li> <li>• Capital Appreciation</li> </ul>
Income	<ul style="list-style-type: none"> <li>• Investment Grade Credit</li> <li>• Private Credit</li> <li>• Multi-Asset Credit</li> <li>• Debt-Related Private Equity</li> <li>• Debt-Related Real Estate</li> <li>• Global Diversified Credit</li> </ul>	<ul style="list-style-type: none"> <li>• Principal protection</li> <li>• Income Stream</li> <li>• Lower relative volatility</li> <li>• Diversification</li> <li>• Potential for higher returns than traditional bonds</li> </ul>
Real Return	<ul style="list-style-type: none"> <li>• Private and Public Real Assets</li> <li>• Core Real Estate</li> <li>• TIPS/Inflation-Linked Bonds</li> </ul>	<ul style="list-style-type: none"> <li>• Diversification</li> <li>• Inflation Hedge/Protection</li> <li>• Income Stream</li> </ul>
Protection	<ul style="list-style-type: none"> <li>• U.S. Treasuries</li> <li>• U.S. Government Bonds</li> </ul>	<ul style="list-style-type: none"> <li>• Diversification/Risk Control</li> <li>• Downside protection</li> <li>• Deflation hedge</li> </ul>
Liquidity	<ul style="list-style-type: none"> <li>• Cash and Cash Equivalents</li> </ul>	<ul style="list-style-type: none"> <li>• Short-term liquidity needs</li> </ul>
Opportunity	<ul style="list-style-type: none"> <li>• Niche Opportunities in Multiple Asset Classes</li> </ul>	<ul style="list-style-type: none"> <li>• Varies</li> </ul>

- (1) In the sample outline, the asset classes which appear represent their potential placement within the strategic allocation categories. Some of the placements may change as we develop the final framework.
- (2) Each asset class may not possess all attributes present in the designated Strategic Allocation Category.

## **B. Consider an Inflation-Sensitive Asset Allocation**

As noted in the previous section, we concur that an asset class which includes assets which have inflation-sensitive characteristics, or has the ability to provide some degree hedge against inflation, is appropriate. We have preliminarily defined this as the “Real Return” bucket. As we develop the revised portfolio structure and asset allocation, we will be able to better define which assets we believe are most appropriate for each strategic allocation category. Please note that while there are asset classes which may be specifically identified as inflation-sensitive (e.g., timber, agriculture, infrastructure, inflation-linked bonds, commodities, etc.), there are others where some segments may be more appropriate in Real Return, but others might be placed in the “Growth” or the “Income” bucket (e.g., real estate and energy or resources).

## **C. Add an Opportunity Bucket to Provide Flexibility for New Investment Ideas**

We concur that it makes sense to have an “Opportunity” asset class category. This approach enables investors to have both the flexibility to examine new investment ideas and to also ensure that attractive investments are not precluded because of the constraints of the asset allocation. We believe that such a category should not have a pre-specified allocation target, but instead have an allocation range with zero on the low end and a reasonable maximum limit. This provides flexibility but prevents forced investing.

## **2) Private Markets / Alternative Investments**

### **A. Pacing and Increased Target Weighting**

We concur with the observation that we attempt to increase the market value of private markets within the total fund. However, we prefer to adhere to a pacing approach whereby we can ensure that we are able to continuously make investments each vintage year. Increasing the market value is not simply a matter of increasing commitment size. While we believe there is room to allocate more dollars to some of our investments, we believe our current approach of focusing on quality investments regardless of sizing capabilities best achieves the SBI’s goals. In some cases, we are constrained by how much we can invest either because General Partner imposed capacity constraints or the SBI’s statutory ownership limitation of 20%.

During the past several years, we have been broadening the geographical focus and the scope of types of private investments we are making (e.g., credit, real estate, and infrastructure) beyond private equity and energy, which were the predominant focus in prior years. We believe by expanding the scope of private markets, we have an opportunity to put more dollars to work. With an expanded scope of private market opportunities, the probability of increasing the amount of dollars actually invested should improve. This approach improves the SBI’s potential to continue to generate attractive returns in a more risk controlled manner.

We also concur with the observation that the target weighting of private market investments should be increased. However, rather than focusing on a broad target for private markets, we would propose that we focus more on the strategic development of a broadly diversified private investment program. If we adopt the proposed framework structure discussed earlier, we would envision that private market investments could reside in multiple strategic allocation categories (e.g., growth, income, real return). We would suggest that each strategic allocation category have a limit for private investments and that the total portfolio would have an overall maximum limit. The sum for the limits of each segment may be greater than the total portfolio level, but in total be controlled by the maximum limit. This would provide flexibility in each category, but control total exposure at the total portfolio level.

We are recommending that the target weighting of the market value of private investments in the total portfolio be increased from 20% to 25% and that the limitation on the market value range of private investments be increased from 24% to 30%. This will provide the flexibility to invest more assets in lower risk private investments such as private credit, real estate and other forms of private investments which can provide greater diversification and risk mitigation to the portfolio without sacrificing returns. While we are recommending that the target and range of private investments on a market value be increased, we believe that the combined weighting of private investments market value and unfunded commitments should still cap out at 35%.

## **B. Re-Categorization of Private Market Investments**

Staff has been in the process of redefining and re-categorizing the private market investment portfolio during the past year. The current structure is based upon decisions made almost three decades ago. The intent and focus going forward is to continue to review and conduct due diligence of a broader range of investments than:

- Private Equity
- Resources
- Real Estate
- Yield-Oriented (represented the above three segments with the provision that there was an income orientation to the fund)

Our new approach currently follows:

- Private Equity
- Credit
- Real Assets (which includes Real Estate, Resources and additional sub-categories)
- Distressed/Opportunistic

The categories may undergo continued refinement as we begin to integrate the various asset classes into the strategic allocation categories. For example, this may become necessary as we review the appropriate categories for Real Estate (see section D below) or the Distressed/Opportunistic segment.

### **C. Increased Allocation to Real Estate**

Regarding the suggestion to increase the Real Estate allocation, any increase in this allocation will likely be dependent upon an increase in the overall portfolio target (or limitation). In 2012, the SBI made an explicit decision to liquidate a significant portion of its Real Estate holdings. Staff has been reviewing this decision during the past year. At this time, we have no formal recommendation. However, we do think that Real Estate should continue to play a role in the portfolio. We anticipate that the various segments of Real Estate may reside in more than one strategic allocation category as the drivers of core real estate may very well be different from opportunistic real estate. There should also be the recognition that real estate can be invested in a variety of forms, i.e., as private investments, public Real Estate Investment Trusts (REITs), and as debt.

### **D. Consider Reviewing the Mandate of the Resources Segment**

Regarding the Resources program, the central question revolves around whether its role in the portfolio is to be total return oriented or is the intention to capture relatively stable inflation-adjusted income (i.e., in a real asset context). Staff has also been discussing this issue. Currently, there is a mixture of different energy-related assets in the portfolio. There are some funds that are real asset oriented, but many funds are private equity funds that focus on the energy sector and are more total return oriented. We have been fortunate in that one of our managers, Merit Energy, was funded due to its income-producing orientation. However, since our first investment with Merit Energy, it has also provided the SBI with a significant amount of capital appreciation. That result has been acceptable. We believe there is a place in the portfolio for either approach, and under the new structure we anticipate that similar to Real Estate, these assets may appear in multiple categories. As a result, the Resources asset class, as the SBI has historically defined it, will no longer exist (except where it may continue to be present as a necessity for performance reporting purposes).

### **E. Strategic Partnership and Co-Investments**

Staff has had numerous discussions regarding strategic partnerships and co-investment opportunities. We believe they could make sense for the SBI. However, in order to take full advantage of such opportunities, a statutory change is required. This will remain a topic for continued review.

### **F. Strategy and Implementation Plan for Private Investments**

We concur that the SBI develop a strategy, investment policy, and an implementation plan for private market investments and alternatives. However, our approach would be dependent upon the change in the asset allocation framework and an increase in the target weighting to private investments. We believe a better approach would be to set limits on the total portfolio and within each strategic allocation category. We will develop a strategy and implementation plan which is primarily focused on each strategic allocation category. Within each strategic allocation category, we will address how best to implement the strategy as it pertains to both the tolerance and capacity for private investments. This

approach will provide flexibility to compose a portfolio which takes advantage of the global opportunity set.

## **G. Liquid Alternatives**

We concur that liquid alternatives should be part of the investment opportunity set for the SBI. As we review the strategic allocation categories, we plan to designate appropriate asset classes to each category. I would anticipate that we would include different types of liquid alternatives during this process.

## **3) Fixed Income**

### **A. Review Program Structure and Define Role**

We have been reviewing the SBI fixed income structure for the past three plus years. The SBI has utilized a static core type fixed income approach for the past three decades. The central focus has been to assemble a group of managers and allow them to allocate assets among the broad U.S. investment grade fixed income market. Some managers have also been allowed to allocate assets to the high yield and international markets on an opportunistic basis.

The objectives of fixed income have been to provide diversification to the equity program, to serve as a deflation hedge, and to provide an appropriate risk-adjusted return. Since the great recession, many institutional investors have taken an approach which recognizes that the different segments of the bond market may play different roles in a portfolio. Different bonds may have different primary risk attributes. There are two major risks which impact bonds, interest rate risk and credit risk. These two risks may be more prevalent in some segments than in others. With the adoption of the strategic allocation category asset allocation framework, we will take this opportunity to segregate (or begin the process of doing so) the different segments and place the segment in the category which best suits the role that the particular bond segment should play in the portfolio. For example, Treasury bonds are well suited to be a deflation hedge and provide Protection of capital in the portfolio. Certain credit segments may be better suited in an Income or Growth category. As we define the composition of the portfolio under the lens of the strategic allocation categories, we will determine how to best assign the segments of the fixed income portfolio.

### **B. Introduce Multi-Asset Credit Allocation**

In addition to the restructuring of the fixed income program within the strategic allocation category framework, we concur that we should develop a multi-asset credit program to take advantage of credit risk premia available from a broad range of non-traditional fixed income. Given the low yield environment being experienced in the traditional fixed income market, we believe taking advantage of other credit-related investments provides an opportunity to generate higher yields and may also decrease portfolio risk. Taking this approach as part of a more comprehensive approach to gaining fixed income exposure can

result in the potential for greater returns without increasing overall portfolio risk relative to portfolios built to be reflective of the traditional broad investment grade bond market.

#### **4) Public Equity**

##### **A. Globalization/Home Country Bias**

In the past year, we have reduced the home country bias of the public equity portfolio from a 75% U.S./25% Non-U.S. split to a 67% U.S./33% Non-U.S. split. At this time, I am not recommending that we make further changes. The SBI's rationale for investing in international equities was based on the premise of diversification and the potential for higher returns. However, in the ensuing 25 years, correlations between domestic and international equities have increased and the SBI's experience has resulted in higher returns in domestic equities. Staff has had several discussions, over the years, and the change made this past year was the only reduction in the home country bias in the past twenty years. Fortunately, not making any changes has been beneficial for the Combined Funds. While past performance is not a predictor of future performance, most of the evidence presented to move closer to global market weights appears to be reminiscent of the arguments made when this topic was reviewed in the past. We will continue to review this issue, but I believe the recent reduction was significant and there is no compelling need to make further changes, at this time.

##### **B. Passive Management**

At this time, there is a higher probability that more assets will be shifted to passive management than to active management. There is a commitment to allow the recently hired small cap growth and emerging markets managers an opportunity to demonstrate that they can provide excess return to their designated benchmark over an extended period of time. While there has been a significant decline in the program's large cap active and semi-passive domestic managers, these areas may see additional asset withdrawals. There is also the possibility that the current international developed managers may also experience a decline in assets.

##### **C. Active Management**

As implied above, there remains a high probability that the domestic large cap segment may continue to experience increases in passive exposure.

Given the size and experience of the SBI's active public equity program, achieving alpha utilizing active management remains a significant challenge. However, we have not completely abandoned active management. We continue to have active management exposure in domestic small cap and both developed and emerging international markets. As stated above, the domestic small cap and the emerging markets managers were hired within the last year and there is a commitment to give them the opportunity to exhibit excess return capabilities.



While the current international developed managers may also experience a decline in assets, we may review the program and implement slight changes to the manager lineup. At a later date, we may consider the addition of active global equity managers as well as active small cap international and emerging market managers. However, at this time, consideration of any review of these areas should be considered a low priority in the Executive Director's Work Plan.

## **5) Currency**

The SBI had a currency hedging program covering the passive exposure of the international equity program for three years in the latter half of the 1990's. Although the program was considered successful and met program objectives, the decision was made to discontinue the program during Fiscal Year 1999. I have had discussions with currency management professionals during the past decade and anticipate that a review of currency management will be part of a future work plan.

## **6) Risk Measurement**

We concur that there should be greater attention given to the reporting of portfolio risks at the manager or fund level, the asset class level, and the total portfolio level. Staff has begun an internal review focused on improving risk measurement and reporting. PCA also provides a quarterly Risk Monitoring Report which focuses on inherent risks within the Combined Funds portfolio.

## **SUMMARY**

While there appears to be a significant amount of information to digest from the prior pages, the major considerations to be addressed are:

- The adoption of the proposed framework for the asset allocation incorporating the use of the Strategic Allocation Categories. This may require adoption of new asset classes and the designation of asset classes to certain allocation categories which could result in changing investment manager mandates and the lineup of investment managers.
- Increasing the overall portfolio target weighting and range for the market value of private investments. This approach will enable us to increase our exposure to private investments which improves the SBI's potential to continue to generate attractive returns in a more risk controlled manner.

If these proposals are approved, we will work with our investment consultants to develop policy weights for the revised framework which will result in a modification of our asset allocation. We would then present a proposal for review by the Investment Advisory Council (IAC) and potential adoption by the State Board of Investment (SBI) Board at our fourth quarter meetings.

## **RECOMMENDATION:**

**The Executive Director is requesting that the IAC endorse the recommendation to the SBI Board:**

- **to adopt the framework of Strategic Allocation Categories as the basis for its asset allocation and authorize the Executive Director to implement the Strategic Allocation Category Framework consistent with investment policy and the positions presented in this memorandum;**
- **to increase the target allocation weighting for the market value of private investments from 20% to 25% and set a range with a maximum limitation of 30% rather than the current 24% limit; and**
- **work with the SBI's investment consultants to develop policy weights for the proposed framework to be reviewed by the IAC and make a recommendation to the SBI Board.**

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## **EXECUTIVE DIRECTOR'S REPORT**

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DATE: September 1, 2017

TO: Members, State Board of Investment

FROM: Mansco Perry III

**SUBJECT: Proposed Statement of Investment Beliefs for the SBI**

Pension Consultant Alliance (PCA) conducted the survey for the SBI Investment Beliefs Project during June. PCA surveyed Board members and designees, the Investment Advisory Council (IAC), Staff, the former Executive Director and three former IAC Chairpersons. I worked with PCA to analyze the survey results.

PCA has prepared a proposed Statement of Investment Beliefs. The statement was presented to the IAC at its August meeting. The IAC reviewed the statement and endorsed the recommendation to adopt the Statement of Investment Beliefs.

### **RECOMMENDATION:**

**The Investment Advisory Council concurs with the Executive Director's recommendation that the SBI adopt the proposed Statement of Investment Beliefs.**

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**Date:** July 27, 2017

**To:** SBI Investment Advisory Committee (IAC)

**From:** Pension Consulting Alliance, Inc. (PCA)

**CC:** Allan Emkin | Neil Rue, CFA | John Burns, CFA

**RE:** **Consideration of Draft SBI Investment Beliefs**

---

### Summary

At its May 2017 meeting, the CIO and IAC provided direction to PCA to work with the CIO to develop a draft set of SBI investment beliefs by August/September 2017. After undertaking a process that included surveying dozens of SBI-related individuals, meeting with senior management, and conducting additional significant discussions on the matter, PCA and the CIO have developed ten investment beliefs the Board and IAC could consider for adoption.

### Discussion

PCA provided the IAC with an introductory discussion on investment beliefs at the May 2017 IAC meeting. While such beliefs often reflect current investment activities and positioning, they can also prove extremely helpful in guiding institutional decision makers toward sound investment principles. In this respect, decision-makers can view investment belief statements as important foundational reference points when making key investment policy and strategy decisions.

Since the May meeting, Staff and PCA have made significant progress in developing an initial set of investment belief statements for the SBI. After considering approximately five dozen different belief statements, surveying dozens of individuals across Staff, IAC, Board, and other key individuals, and meeting with Staff leadership to take their input on framing investment beliefs, the CIO worked with PCA to collate the survey results and factor in key discussion points to develop the ten attached investment belief statements.

Across all these final beliefs, the different survey groups (Staff, IAC, Board and Others) either strongly agreed or agreed with a specific statement. In other words, there was consensus among all parties for the specific statement. That was not always the case across the several-dozen survey statements, as some groups agreed with some statements while other groups showed disagreement.

As expected, the set of draft investment belief statements help to convey SBI's perspective on several key topical/foundational investment areas. Topics covered include asset allocation in the context of the overall retirement system, cost management, expected rewards from exposure to certain risk premiums, active vs. passive management, and governance.

Upon adoption, these Investment Belief Statements will provide a guiding foundation for future strategic investment decisions of the Board and IAC and be a potential focal point for other various stakeholder groups.



## SBI Investment Beliefs

In September 2017, the State Board of Investment adopted a set of ten Investment Beliefs for managing the assets of the Combined Funds (those funds utilized to support the defined benefit plans of the State's employees). The primary purpose of these Beliefs is to guide the SBI toward sound investing principles related to investing on behalf of the Combined Funds. In this respect, the Beliefs help provide context for SBI's actions, reflect SBI's investment values, and acknowledge SBI's role in supporting the State's broader retirement systems.

**The SBI is a long-term investor whose primary mission is to maintain the viability of the retirement systems it supports.**

*When determining an appropriate level of risk that the systems' assets should bear the SBI must reflect the nature of those systems' liabilities and funding policy.*

**The SBI's strategic allocation policy is the primary determinant of (i) the asset portfolio's long-term investment return and (ii) asset portfolio's risk.**

**While the SBI can sacrifice some short-term liquidity to pursue a greater long-term return, the investment portfolio's net cash flows and ability to pay benefits on a year-by-year basis are key risk considerations.**

**Diversification improves the risk-adjusted return profile of the SBI investment portfolio.**

*Diversification of the SBI investment portfolio takes place across several critical dimensions, such as allocation across global regions and country markets (e.g., U.S. versus Europe, Asia, emerging markets, etc.), allocation among different types of assets (equities, bonds, real estate, etc.), spreading assets across various sectors and industries (e.g., technology, financials, consumer-oriented, etc.), and weighting of different risk factor premiums (e.g., value vs. growth, small companies vs. big companies, carry, illiquidity, etc.). If the correlation (i.e., relationship) among the returns generated by these factors is less than perfect (i.e., less than 1.0), then diversification is beneficial.*

**There are long-term benefits to SBI managing investment costs.**

**The equity risk premium is significantly positive over a long-term investment horizon although it can vary over time.**

*The equity risk premium is also pervasive across several asset classes and its overall exposure should be managed accordingly.*

**Private market investments have an illiquidity premium that the SBI can capture.**

*This risk premium can increase the portfolio's long-term compound return and help diversify the portfolio's risk.*

**It is extremely challenging for a large institutional investor to add significant value over market-representative benchmarks, particularly in the highly-competitive public global equity markets.**

*Passive management should be utilized when there is low confidence that active management can add value. Active management can have potential to add value where information processing is difficult and challenging, allowing for market inefficiencies that are potentially exploitable.*

**The SBI benefits significantly when roles and levels of authority are clearly defined and followed.**

*The role of the members of the State Board of Investment (Board) is to establish investment policies that are in compliance with state statute and guide the ongoing management of the funds. The Board delegates implementation of that policy to the Executive Director/CIO, and exercises oversight with respect to the Executive Director/CIO's implementation activities and the portfolio's active risk level in the context of the portfolio's strategic allocation policy. The Board also ensures adequate resources are available to the SBI staff to perform their work;*

*The Investment Advisory Committee (IAC) key role is advising the Board and Executive Director/CIO on general policy matters and methods to enhance the management of the investment portfolio;*

*The Executive Director's/CIO's key role is implementing SBI investment policies and setting the portfolio's active risk level in a prudent manner to achieve value-added over policy benchmarks.*

**Utilizing engagement initiatives to address economic, social, and governance-related (ESG) issues can lead to positive portfolio and governance outcomes.**

*In addition to specific engagement strategies the SBI might apply, proxy rights attached to shareholder interests in public companies are also “plan assets” of the SBI and represent a key mechanism for expressing SBI’s positions relating to specific ESG issues. By taking a leadership role in promoting responsible corporate governance through the proxy voting process, SBI can contribute significantly to implementing ESG best practices which should, in turn, add long-term value to SBI’s investments.*

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## **INVESTMENT ADVISORY COUNCIL REPORT**

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DATE: September 1, 2017

TO: Members, State Board of Investment

FROM: Members, Investment Advisory Council and SBI Staff

**SUBJECT: Public Markets, Non-Retirement, and Defined Contribution Report**

This section of the report provides a brief overview of economic and capital market performance as it pertains to the SBI portfolio. Included in this section is a summary of investment manager activity for the public equity and fixed income managers in the SBI portfolio.

Also, we have included commentary for the non-retirement managers and deferred compensation plan mutual funds.

The report includes the following sections:

	<b>Page</b>
• Public Markets Economic and Market Overview	3
• Public Markets Manager Activity	6
• Non-Retirement Manager Update	9
• Deferred Compensation Manager Update	10

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## **Public Markets Economic and Market Overview Second Quarter 2017**

### **Overview**

Continuity was the dominant theme for U.S. equity markets in the second quarter. Plunging oil prices, heightened political risk, and a rate hike from the U.S. Federal Reserve (Fed) were not enough to derail the eight-year-old market rally. The Fed hiked policy rates by 25 basis points in June and laid out a plan for balance sheet normalization later this year, provided the economy strengthens as anticipated. The so-called "Trump trade" reversed itself as initial enthusiasm for reform faded with a lack of progress on taxes, health care, regulation and infrastructure. The Russell 3000 broad market index returned 3.0% in the quarter. Health Care was the best performing sector in the index, while Energy was the weakest.

The U.S. Treasury yield curve flattened during the second quarter. While short end yields rose in response to FOMC tightening, long end yields fell in response to lackluster economic data, the absence of meaningful wage inflation, and political uncertainty regarding potential fiscal stimulus. On June 14<sup>th</sup>, the Fed raised rates for the second time this year, while the Consumer Price Index came in lower than expected, supporting the decline in yields. Ten year Treasury yields started the quarter at roughly 2.4% and remained range-bound during the quarter, ending June slightly lower at roughly 2.3%. Positive corporate earnings and cash flow supported credit, even with new multi-year lows in yields and weaker macroeconomic data. The Bloomberg Barclays Aggregate Index increased 1.5% for the quarter, with the long end Treasury curve appreciation complementing continued tightening in corporate sectors.

Developed markets advanced during the quarter, as represented by the 5.6% return of the MSCI World ex USA index amid accelerating global growth, and signs of diminishing political risk in the euro zone. Investor sentiment improved with the victory of French centrist candidate Emmanuel Macron who pledged to keep France in the European Union. Macron defeated Marine Le Pen, a populist candidate who campaigned on an anti-EU and anti-immigration platform. The Japanese market experienced strong returns amidst a more positive economic outlook as its exporting companies benefitted from a slight weakening of the Yen versus the dollar. Overall, the U.S. dollar weakened versus developed market currencies, which benefited U.S. dollar-based investors. For the quarter, the top performing sectors in the index were Information Technology, Consumer Staples and Health Care. The worst performing sectors were Energy, Materials, and Real Estate.

Emerging Market equities, represented by the MSCI Emerging Markets index, returned 6.3% during the second quarter. China, Taiwan and South Korea, which represent roughly half of the benchmark, posted double digit returns, while emerging countries in the Middle East as well as Russia lagged the overall index. The top performing sectors for the quarter were Information Technology and Real Estate, led by over 30% returns in Alibaba and Tencent. The worst performing sectors were Energy, Materials, and Utilities. Market style factors were especially pronounced within the EM Equity space, as the MSCI EM-Growth Index returned 9.5%, while its Value counterpart returned 3.2%.

## **SBI Portfolio – Quarter and Year Attribution**

In the second quarter, the SBI's overall portfolio, the Combined Funds, exceeded the composite benchmark return 3.8% versus 3.4%. Domestic equities outperformed the Russell 3000 Index return 3.1% versus 3.0%, while international equities exceeded the MSCI ACWI ex US Index net return 6.6% versus 5.8%. The fixed income portfolio outperformed the Bloomberg Barclays U.S. Aggregate Index return 1.6% versus 1.5%. For the quarter, International equity's strong performance generated the largest contribution to the combined funds return, contributing 1.4 percentage points of the 3.8% total portfolio return. Domestic equity, with twice the market value weighting, contributed about 1.4 percentage points of the 3.8% total portfolio return. For the year ending June 30<sup>th</sup>, domestic equity contributed 8.4 percentage points of the 15.1% portfolio return, while international equity contributed 4.4 percentage points of the total portfolio return.

### **Domestic Equity**

The large cap growth managers exceeded the Russell 1000 Growth benchmark by 4 percentage points for the quarter. Stock selection was positive across most sectors, led by the Consumer Discretionary sector. All three managers outperformed for the quarter.

The large cap value managers outperformed the Russell 1000 Value benchmark by 0.9 percentage points for the quarter. An underweight to Energy helped the quarterly return. All three managers outperformed for the quarter.

The small cap growth managers outperformed the Russell 2000 Growth benchmark by 1.0 percentage point for the quarter. Stock selection, within the Producer Durables, Technology and Health Care sectors helped the quarterly performance. This was the second quarterly performance for ArrowMark, Hood River, Rice Hall and Wellington. Arrowpoint changed its name to ArrowMark Colorado Holdings, LLC, effective March 31, 2017. All of the managers, other than McKinley, outperformed for the quarter.

The small cap value managers trailed the Russell 2000 Value benchmark by 0.2 percentage points for the quarter, due largely to stock selection. Peregrine and Martingale outperformed for the quarter, while Hotchkis & Wiley and Goldman Sachs underperformed.

For the quarter, the semi-passive managers in aggregate underperformed the Russell 1000 index return by 0.4 percentage points. Stock selection in the Consumer Staples, Producer Durables and Technology sectors contributed negatively to returns. The passive Russell 3000 and Russell 1000 index managers tracked their respective indices.

### **International Equity**

The active developed markets equity managers outperformed the MSCI World ex USA Index (net) by 2.0 percentage points for the quarter. Stock selection in Australia, Japan and the United Kingdom was positive. With respect to sectors, stock selection in the Industrials, Health Care, Financials, and Consumer Discretionary sectors added value. The semi-passive developed markets equity managers outperformed the MSCI World ex USA Index (net) by 0.4 percentage point for the quarter. Stock selection in Australia, Japan and Germany contributed positively to performance. With respect to sectors, stock selection in the Financials, Consumer Discretionary and Industrials sectors added value. The passive developed markets manager's performance tracked its index.

**Emerging Markets**

The SBI's six new emerging markets equity managers, funded on March 14, 2017, enjoyed a strong start. The Emerging Markets Active Equity composite outperformed the MSCI EM benchmark by 1.3 percentage points for the quarter. The overall EM program, including passive, outperformed the benchmark by 1 percentage point over the same period. Overall, stock selection and an underweight allocation to Russia and South Africa, contributed positively to returns, while stock selection and an underweight to Korea detracted from performance. Stock selection in the Financials and Energy sectors, and an underweight to a lagging Energy sector, contributed to the outperformance. The passive emerging markets manager's performance tracked its index.

**Fixed Income**

Each of the 7 SBI's fixed income managers in the fixed income pool outperformed the Bloomberg Barclays Aggregate benchmark this quarter, returning 1.6% in total vs. 1.5% for the benchmark. Managers with equal or overweight duration positioning, particularly in the long end, outperformed the benchmark, as yields fell at the long end of the curve. Managers with underweight benchmark duration, exposure to inflation protection securities (TIPS) and less credit focus underperformed their SBI peers. Exposure to credit, both corporate investment grade and high yield, was beneficial, as spreads narrowed during the quarter.

## **Public Markets Manager Activity Second Quarter 2017**

For the quarter, the majority of investment managers performed in-line with expectations. Other noteworthy manager developments for the quarter are shown below.

### **Domestic Equity Managers**

#### **J.P. Morgan**

Jason Ko, a member of the research team covering REITs transitioned over to J.P. Morgan's U.S. Equity Value Team. His responsibilities were assumed by Mathew Rand, who has been with J.P. Morgan since 2013. He joined the firm from Goldman Sachs where he covered the U.S. REIT sector. Staff has no concerns with this personnel change.

#### **Manager Terminations**

The following Domestic Equity Managers were terminated in the Second Quarter 2017:

- **INTECH Investment Management, LLC – large cap growth and large cap semi-passive**
- **Jacobs Levy Equity Management, Inc. – large cap growth**
- **Mellon Capital Management Corporation – large cap semi-passive**
- **Next Century Growth Investors, LLC – small cap growth**
- **Systematic Financial Management, L.P. – large cap value**

### **International Equity Managers**

#### **Columbia Management Investment Advisors, LLC**

In April 2017, Michelle Scrimgeour joined Columbia Threadneedle Investments as Chief Executive Officer, EMEA and CEO of Threadneedle Asset Management Limited. She will also join the executive leadership team of Ameriprise Financial, Inc. She joins from M&G Investments, where she was the current Chief Risk Officer and a Director of M&G Group Limited. Staff has no concerns with this change.

#### **J.P. Morgan Asset Management**

During the second quarter, Malcolm Smith was named as replacement for Howard Williams, Head of Global Equities, who will be retiring in the fourth quarter of 2017. Malcolm, who is based in London, is currently Head of the European Equity Team and joined J.P. Morgan in 2014. Effective June 30, 2017, J.P. Morgan integrated its Global Equity and European Equity teams into one International Equity team under the leadership of Malcolm Smith. As a result, J.P. Morgan's three regional equity teams, U.S., Emerging Markets/Asia Pacific, and International, will be organized along a similar structure. In addition, Shane Duffy has been named CIO for the Global Specialist Team. Staff will monitor the change in the international equity team.

**Fidelity Institutional Asset Management (FIAM)**

Effective July 1, 2017, Judy Marlinski became president of FIAM. She also assumed the title of president of FIAM's two investment management units, FIAM LLC and Fidelity Institutional Asset Management Trust Company. Judy reports to Jeff Lagarce, president of Fidelity Institutional. She succeeded Scott Couto, who left the firm at the end of June 2017. Staff has no concerns with this change.

**State Street Global Advisors (SSgA)**

Effective April 1, 2017, Greg Hartch replaced Mathew Steinaway as SSgA's Chief Risk Officer. In June 2017, Mike Karpik, SSgA's Head of EMEA (Emerging Europe, Middle East & Africa), announced his intention to leave the firm later in the year. Cuan Coulter, who has served as State Street Bank's Chief Compliance Officer since 2011, will become SSgA's new Head of EMEA. Rory Tobin, in addition to his duties as Co-Head of Global SPDR, SSgA's ETF business, will also assume the role of Chairman of SSgA's EMEA region. Staff has no concerns with this change.

**Morgan Stanley (EM)**

On June 1, 2017, Morgan Stanley Investment Management Inc. underwent a legal entity restructuring when ownership was transferred to Morgan Stanley Capital Management, a wholly-owned subsidiary of Morgan Stanley. This change is not expected to have any impact on services or investments offered to the SBI. Staff has no concerns at this time.

**Macquarie (formerly known as Delaware Investments) (EM)**

On March 31, 2017, Delaware Investments adopted the name of its parent and became Macquarie Investment Management (MIM) to reflect the firm's global investment capabilities. Also, in March 2017, John Leonard joined the firm as Head of Equities, Americas. Leonard oversees the nine-U.S. based equity teams and serves as global chair of equities for Macquarie. Prior to MIM, Leonard served as global head of equities for UBS Global Asset Management for over 25 years. Staff has no concerns with these changes.

**Fixed Income Managers****Dodge & Cox**

Thomas M. Mistele, Chief Operating Officer, Senior Counsel and Secretary of Dodge & Cox has announced his retirement from the firm and has begun a two year transition with his replacement, Bill Strickland. While Mr. Mistele was on the Board of Directors, the change is not expected to affect the management of SBI's account.

**PIMCO**

Jay Jacobs, President and Managing Director, will be retiring from PIMCO at the end of September. Following the transition, Robin Shanahan, Managing Director and Global Head of Human Resources and Peter Strelow, Managing Director and Chief Administration Officer, will assume the roles of Co-Chief Operating Officers, reporting to PIMCO's CEO, Emmanuel Roman. Staff has no concerns at this time.

## 2017 Manager Meetings

The second quarter manager reviews are noted below.

### Investment Manager

- AQR Capital Management, LLC
- Goldman Sachs Asset Management, L.P.
- Goldman Sachs Asset Management, L.P.
- LSV Asset Management
- Martin Currie Inc.
- Martingale Asset Management, L.P.
- Morgan Stanley Investment Management Inc.
- Neuberger Berman Investment Advisers LLC
- Pacific Investment Management Company LLC
- Penza Investment Management, LLC
- Sands Capital Management, LLC
- State Street Global Advisors
- Wellington Management Company LLP
- Western Asset Management Company

### Asset Class

International Equity

Domestic Equity

Fixed Income

Domestic Equity

International Equity

Domestic Equity

International Equity

Fixed Income

Fixed Income

International Equity

Domestic Equity

International Equity

Domestic Equity

Fixed Income

## **Non-Retirement Manager Update Second Quarter 2017**

### **Domestic Equities**

#### **Internal Stock Pool**

The performance in the domestic equity portfolio matched the S&P 500 for the quarter and the year.

### **Fixed Income**

#### **RBC Global Asset Management**

The fixed income portfolio outperformed the benchmark, the Barclays Intermediate Government Index, for the quarter and for the year. For the quarter, the overweight to government related securities contributed to the outperformance. The portfolio's return benefited from excess yield from securitized and municipal securities during the quarter and the year.

#### **Internal Bond Pool**

The bond portfolio outperformed its benchmark, the Bloomberg Barclays Aggregate, for the quarter and for the year. For the quarter and the year the allocation to corporate bonds contributed to relative performance. The portfolio's shorter duration relative to the benchmark benefited performance for the year.

## **Deferred Compensation Manager Update Second Quarter 2017**

### **Domestic Equities**

#### **Vanguard Dividend Growth Fund**

The Fund outperformed its benchmark, the NASDAQ US Dividend Achievers Select Index, for the quarter and lagged for the year. For the quarter, stock selection in Consumer Staples and Financial companies were the biggest contributors to relative performance. For the year, the fund's underperformance relative to its benchmark was primarily from an underweight to and poor stock selection in Industrials, along with an overweight to and poor selection in Energy.

#### **Vanguard Institutional Index Plus**

The domestic equity portfolio tracked the return of the S&P 500 Index for the quarter and the year.

#### **Vanguard Mid-Cap Index**

The mid-cap equity portfolio tracked the benchmark, CRSP US Mid Cap Index, for the quarter and for the year.

#### **T. Rowe Price**

The small cap equity portfolio underperformed the Russell 2000 for the quarter and for the year. Stock selection in Health Care and Financial sectors detracted from relative performance for the quarter. For the year, stock selection in Consumer Discretionary, Materials, Information Technology, and Health Care had a negative impact to relative performance.

### **International Equities**

#### **Fidelity Diversified International**

The international equity portfolio outperformed the MSCI EAFE Free for the quarter and underperformed for the year. Favorable stock selection was the main driver to relative performance in addition to sector allocation. Regionally, the portfolio's emerging market allocation benefited returns the most during the quarter. For the year, stock selection in Energy, Consumer Discretionary, Consumer Staples, and Materials detracted from relative performance.

#### **Vanguard Total International Stock Index**

The portfolio outperformed its benchmark, the FTSE Global All Cap ex US Index, for the quarter but slightly lagged for the year. In the short term, the international portfolio will have higher tracking error because of fair value pricing, which tends to smooth out over time.



## **Fixed Income**

### **Dodge & Cox Income Fund**

The fixed income portfolio outperformed the benchmark, the Bloomberg Barclays Aggregate, for the quarter and for the year. Both the quarter and the year returns benefited from security selection and an overweight within corporate bonds. The portfolio's nominal yield advantage also benefited returns for the quarter and year. The portfolio's shorter duration relative to the benchmark benefited performance for the year.

### **Vanguard Total Bond Market Index**

The fixed income portfolio outperformed the benchmark, the Bloomberg Barclays Aggregate Index, for the quarter and lagged the benchmark for the year. Small deviations in the fund's performance relative to the benchmark may occur given the fund's sampling approach to approximate the index.

## **Balanced and Conservative Options**

### **Vanguard Balanced**

The portfolio matched the benchmark for the quarter and slightly underperformed for the year. The underperformance was attributed to the fee expense. The benchmark is a combined return of 60% CRSP US total Market and 40% Barclays Aggregate.

### **Galliard Capital Management**

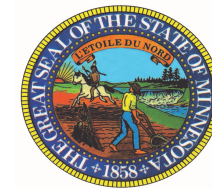
The stable value portfolio matched the benchmark return, the 3 Year Constant Maturity Treasury plus 0.45%, for the quarter and outperformed for the year. For the quarter and the year, the main driver of performance continued to be an overweight to the spread sectors, specifically allocations to CMBS, ABS, Other US Government Securitizations, Agency MBS, and Corporates.

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# Comprehensive Performance Report

June 30, 2017



## Description of SBI Investment Programs

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The Minnesota State Board of Investment is responsible for the investment management of various retirement funds, trust funds and cash accounts.

### Combined Funds

The Combined Funds represent the assets for both the active and retired public employees in the statewide retirement systems, the biggest of which are the Public Employees Retirement Association (PERA), the Teachers Retirement Association (TRA), and the Minnesota State Retirement System (MSRS). The SBI commingles the assets of these plans into the Combined Funds to capture investment efficiencies. All assets in the Combined Funds are managed externally by investment management firms retained by contract.

### Participant Directed Investment Program

The Participant Directed Investment Program (PDIP) provides investment vehicles for a variety of retirement or other tax-advantaged savings plans. Investment goals among the PDIP's many participants are varied. In order to meet the variety of goals, participants may allocate their investments among one or more accounts that are appropriate for their needs within statutory requirements and rules established by the participating organizations. At this time, the assets of various retirement programs, including local firefighter groups, are included here.

### Non-Retirement

The Non-Retirement Funds are funds established by the State of Minnesota and other government entities for various purposes which include the benefit of public schools, the environment, other post-employment benefits, workers compensation insurance, and other purposes.

### State Cash

The State Cash accounts are cash balances of state government funds including the State General Fund. Most accounts are invested by SBI staff through a short-term pooled fund referred to as the Treasurer's Cash Pool. It contains the cash balances of special or dedicated accounts necessary for the operation of certain State agencies and non-dedicated cash in the State Treasury. Because of special legal restrictions, a small number of cash accounts cannot be commingled.



## Funds Under Management

\$ Billions

### COMBINED FUNDS

Combined Funds \$64.1

### PARTICIPANT DIRECTED INVESTMENT PROGRAMS

Supplemental Investment Fund\* 2.1  
State Deferred Compensation Plan 6.4  
Minnesota College Savings Plan 1.3  
Achieve a Better Life Experience 0.0

### NON-RETIREMENT FUNDS

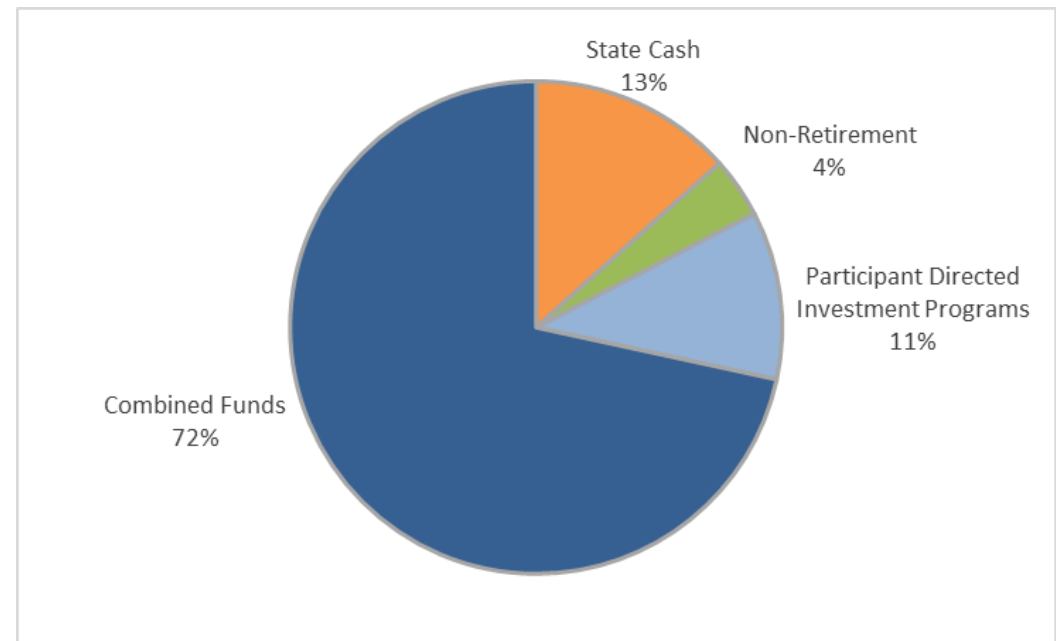
Assigned Risk Plan 0.3  
Permanent School Fund 1.3  
Environmental Trust Fund 1.0  
Closed Landfill Investment Fund 0.1  
Miscellaneous Trust Accounts 0.2  
Other Post Employment Benefits Accounts 0.6

### STATE CASH ACCOUNTS

Invested Treasurer's Cash 11.8  
Other State Cash Accounts 0.1

### TOTAL

89.5



\* Includes assets of smaller retirement funds which are invested with the SBI but are not included in the Combined Funds

Note: Differentials within column amounts may occur due to rounding

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## Quarterly Report

### Table of Contents

<b>Combined Funds</b>	<b>7</b>
Domestic Equity	
International Equity	
Fixed Income	
Private Markets	
 <b>Participant Directed Investment Program</b>	 <b>67</b>
Supplemental Investment Fund	
Deferred Compensation Program	
Minnesota College Savings Plan	
Achieve a Better Life Experience	
 <b>Non-Retirement Funds</b>	 <b>85</b>
Assigned Risk Plan	
Permanent School Fund	
Environmental Trust Fund	
Closed Landfill Investment Fund	
Non-Retirement Managers	
 <b>State Cash Accounts</b>	 <b>93</b>
Invested Treasurer's Cash	
Other State Cash Accounts	
 <b>Addendum</b>	 <b>95</b>

### Performance Reporting Legend

**Manager Level Data**

**Aggregate Level Data**

**Sub-Asset Class Level Data**

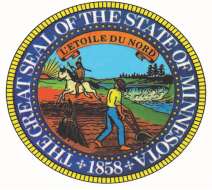
**Asset Class Level Data**

#### Note:

Throughout this report performance is calculated net of investment management fees, aggregates include terminated managers, and returns for all periods greater than one year are annualized. Inception Date and Since Inception Returns refer to the date of retention by the SBI. FYTD refers to the fiscal year to date return generated by an account since July 1 of the most recent year. For historical benchmark details, please refer to the addendum of this report.

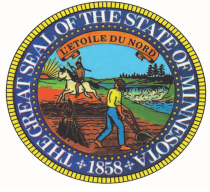
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# Combined Funds

June 30, 2017



## Combined Funds Summary

### Combined Funds Change in Market Value (\$Millions)

	<u>One Quarter</u>
<b>COMBINED FUNDS</b>	
Beginning Market Value	\$62,351
Net Contributions	-561
Investment Return	2,326
Ending Market Value	64,116

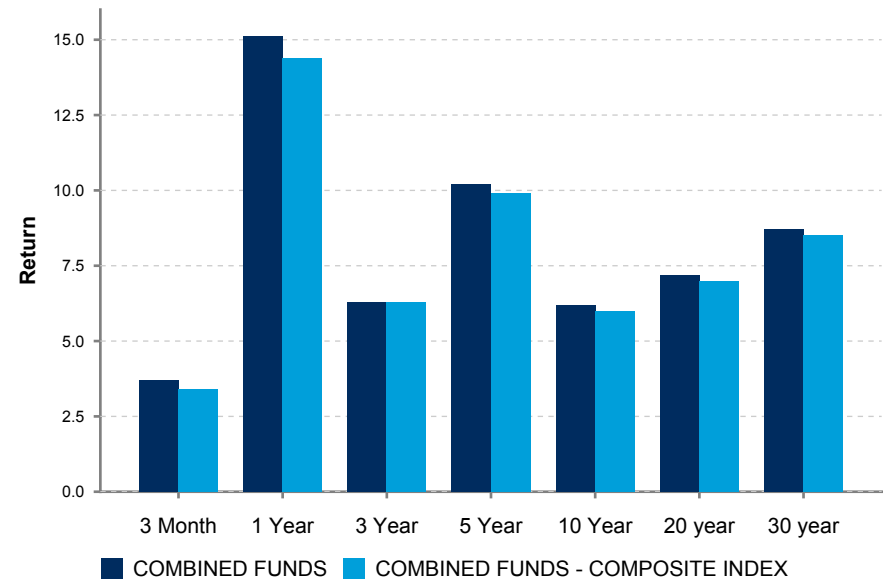
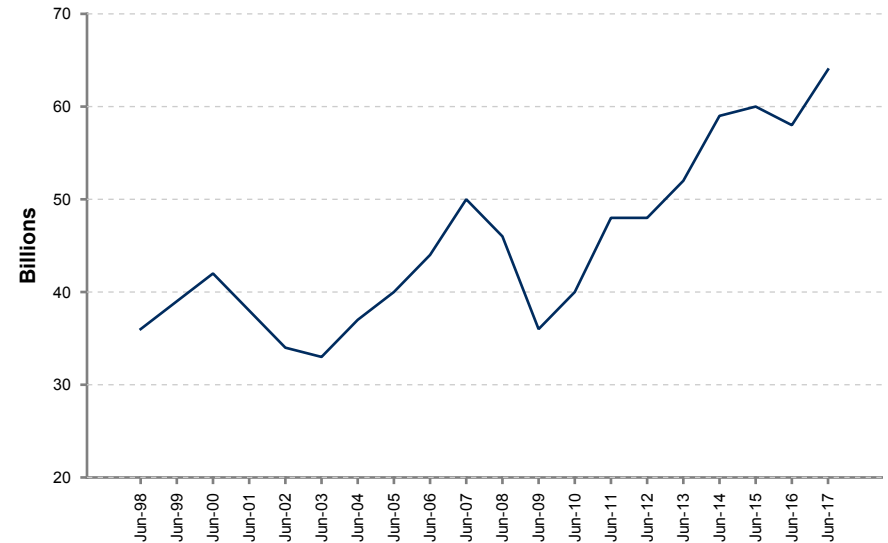
The change in market value of the Combined Funds since the end of last quarter is due to net contributions and investment returns.

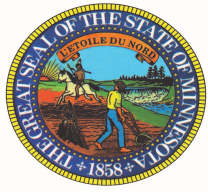
### Performance (Net of Fees)

The Combined Funds' performance is evaluated relative to a composite of public market index and private market investment returns. The Composite performance is calculated by multiplying the beginning of month Composite weights and the monthly returns of the asset class benchmarks.

	<u>Qtr</u>	<u>FYTD</u>	<u>1 Yr</u>	<u>3 Yr</u>	<u>5 Yr</u>	<u>10 Yr</u>	<u>20 Yr</u>	<u>30 Yr</u>
<b>COMBINED FUNDS</b>	<b>3.7%</b>	<b>15.1%</b>	<b>15.1%</b>	<b>6.3%</b>	<b>10.2%</b>	<b>6.2%</b>	<b>7.2%</b>	<b>8.7%</b>
COMBINED FUNDS - COMPOSITE INDEX	3.4	14.4	14.4	6.3	9.9	6.0	7.0	8.5
Excess	0.3	0.8	0.8	-0.1	0.3	0.2	0.2	0.2

### Asset Growth



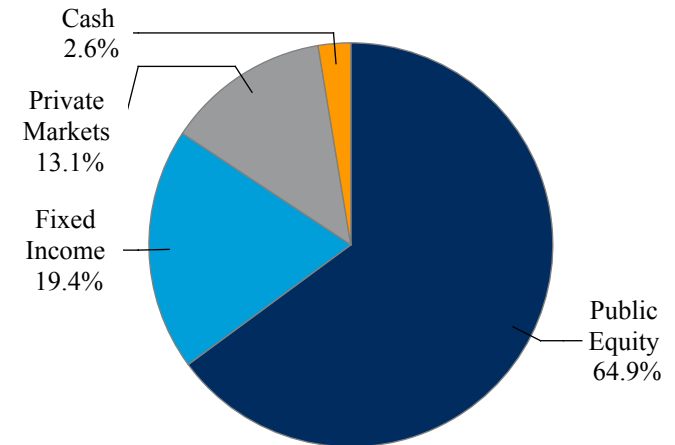


## Combined Funds Summary

### Asset Mix

The Combined Funds actual asset mix relative to the Strategic Asset Allocation Policy Target is shown below. Any uninvested portion of the Private Markets allocation is held in Public Equity. The current Strategic Asset Allocation Policy Target became effective on 7/1/2016.

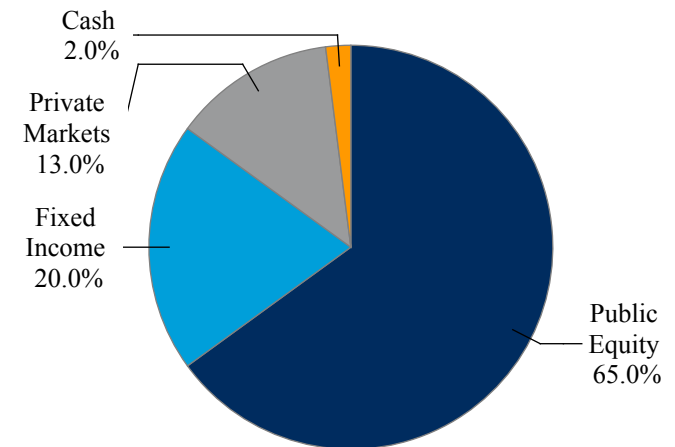
	<u>(Millions)</u>	<u>Actual Mix</u>	<u>Policy Target</u>
Public Equity	\$41,607	64.9%	58.0%
Fixed Income	12,425	19.4	20.0
Private Markets	8,409	13.1	20.0
Cash	1,675	2.6	2.0
<b>TOTAL</b>	<b>64,116</b>	<b>100.0</b>	



### Composite Index Comparison

The Combined Funds Composite is set as the Strategic Asset Allocation Policy Target with the uninvested portion of Private Markets allocated to Public Equity. Asset class weights for Public Equity and Private Markets are reset at the start of each month. The Combined Funds Composite weighting shown below is as of the first day of the quarter.

	<u>Target Weight</u>	<u>Market Index</u>
Public Equity	65.0%	69% Russell 3000/31% MSCI ACWI ex US
Fixed Income	20.0	BB Barclays U.S. Aggregate
Private Markets	13.0	Private Markets
Cash	2.0	3 Month T-Bills





## Combined Funds Asset Class Performance Summary

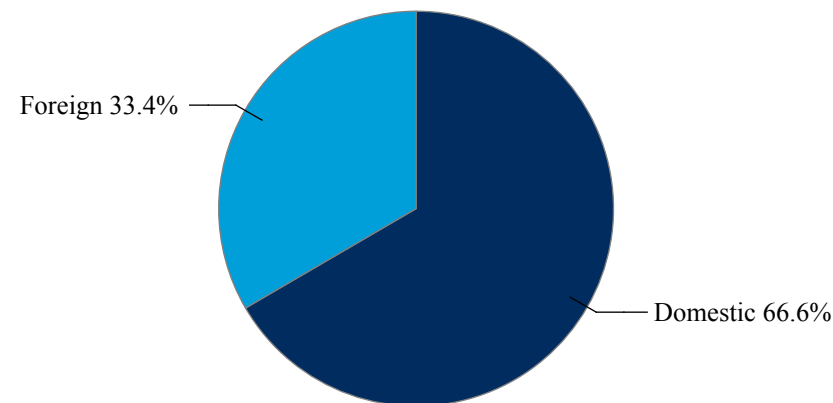
### Public Equity

The Combined Funds Public Equity includes Domestic Equity and International Equity.

The Public Equity benchmark is 67% Russell 3000 and 33% MSCI ACWI ex USA.

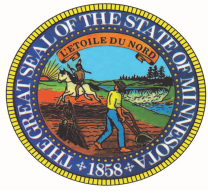
The Russell 3000 measures the performance of the 3000 largest U.S. companies based on total market capitalization.

The Morgan Stanley Capital International All Country World Index ex U.S. (net) is a free float-adjusted market capitalization index that is designed to measure equity market performance in developed and emerging markets other than the United States.



	<u>Last Qtr</u>	<u>FYTD</u>	<u>1 Year</u>	<u>3 Year</u>	<u>5 Year</u>	<u>10 Year</u>	<u>20 Year</u>
Public Equity	4.2%	19.9%	19.9%	7.0%	13.0%	5.9%	6.7%
Public Equity Benchmark	3.9	19.2	19.2				
Excess	0.4	0.6	0.6				
Domestic Equity	3.1	19.4	19.4	8.7	14.5	7.1	7.1
Domestic Equity Benchmark	3.0	18.5	18.5	9.1	14.6	7.3	7.2
Excess	0.1	0.9	0.9	-0.4	-0.0	-0.1	-0.1
International Equity	6.6	20.2	20.2	1.5	8.0	1.6	4.9
International Equity Benchmark	5.8	20.5	20.5	0.8	7.2	1.2	4.5
Excess	0.8	-0.2	-0.2	0.7	0.8	0.4	0.4

Note:  
Prior to 6/30/16 the returns of Domestic and International Equity were not reported as a total Public Equity return.



## Combined Funds Asset Class Performance Summary

### Fixed Income

The Combined Funds Fixed Income performance is shown here.

The Fixed Income benchmark is the Bloomberg Barclays U.S. Aggregate Index. This index reflects the performance of the broad bond market for investment grade (Baa or higher) bonds, U.S. Treasury and agency securities, and mortgage obligations with maturities greater than one year.

	<u>Last Qtr</u>	<u>FYTD</u>	<u>1 Year</u>	<u>3 Year</u>	<u>5 Year</u>	<u>10 Year</u>	<u>20 Year</u>
Fixed Income	1.6%	0.9%	0.9%	2.9%	2.9%	4.9%	5.6%
BBG BARC Agg Bd	1.4	-0.3	-0.3	2.5	2.2	4.5	5.2
Excess	0.2	1.2	1.2	0.5	0.7	0.4	0.3

### Cash

The Combined Funds Cash performance is shown here. Cash is held by the Combined Funds to meet the liquidity needs of the retirement systems to pay benefits.

The Combined Funds Cash benchmark is the 90-Day U.S. Treasury Bill.

	<u>Last Qtr</u>	<u>FYTD</u>	<u>1 Year</u>	<u>3 Year</u>	<u>5 Year</u>	<u>10 Year</u>	<u>20 Year</u>
Cash	0.3%	0.8%	0.8%	0.5%	0.4%	1.0%	2.7%
90 DAY T-BILL	0.2	0.5	0.5	0.2	0.2	0.6	2.2
Excess	0.1	0.3	0.3	0.2	0.2	0.4	0.5



## Combined Funds Asset Class Performance Summary

### Private Markets

	<u>Last Qtr</u>	<u>FYTD</u>	<u>1 Year</u>	<u>3 Year</u>	<u>5 Year</u>	<u>10 Year</u>	<u>20 Year</u>
Total Private Markets	4.9%	19.7%	19.7%	8.9%	11.3%	9.0%	13.3%
Private Equity	5.4	18.7	18.7	12.6	14.1	10.9	14.0
Private Credit	5.2	20.0	20.0	14.4	14.6	11.1	13.2
Resources	3.9	27.3	27.3	-4.7	1.7	6.9	15.1
Real Estate	3.5	7.8	7.8	11.8	12.3	4.7	10.0

### Private Markets

The time-weighted rates of return for the Private Markets portfolio are shown here. Private Markets included Private Equity, Private Credit, Resources, and Real Estate. Some of the existing investments are relatively immature and returns may not be indicative of future results.

### **Private Equity Investments**

The objectives of the Private Equity portfolio, which may include leveraged buyouts, growth equity, venture capital and special situations, are to achieve attractive returns and to provide overall portfolio diversification to the total plan.

### **Private Credit Investments**

The objectives of the Private Credit portfolio, which may include mezzanine debt, direct lending, and other forms of non-investment grade fixed income instruments, are to achieve a high total return over a full market cycle and to provide some degree of downside protection and typically provide current income in the form of a coupon. In certain situations, investments in the Private Credit portfolio also provide an equity component of return in the form of warrants or re-organized equity.

### **Resource Investments**

The objectives of the Resources portfolio, which may include energy, infrastructure, and other hard assets, are to provide protection against the risks associated with inflation and to provide overall portfolio diversification to the total plan.

### **Real Estate Investments**

The objectives of the Real Estate portfolio, which may include core and non-core real estate investments, are to achieve attractive returns, preserve capital, provide protection against risks associated with inflation, and provide overall portfolio diversification to the total plan.

The SBI also monitors Private Markets performance using money-weighted return metrics such as Internal Rate of Return and Multiple of Invested Capital. For money-weighted return metrics please refer to the Combined Funds Performance Report.





## Quarterly Report

# Asset Class & Manager Performance

## June 30, 2017

In compliance with the Strategic Asset Allocation Policy, the assets of the Combined Funds are allocated to public equity, fixed income, private markets, and cash. Each asset class may be further differentiated by geography, management style, and/or strategy. Managers are hired to manage the assets accordingly. This diversification is intended to reduce wide fluctuations in investment returns on a year-to-year basis and enhances the Funds' ability to meet or exceed the actuarial return target over the long-term.

The Combined Funds consist of the assets of active employees and retired members of the statewide retirement plans. The SBI commingles the assets of these plans into the Combined Funds to capture investment efficiencies. This sharing is accomplished by grouping managers by asset class, geography, and management style, into several Investment Pools. The individual funds participate in the Investment Pools by purchasing units which function much like the shares of a mutual fund.

While the vast majority of the units of these pools are owned by the Combined Funds, the Supplemental Investment Fund also owns units of these pools. The Supplemental Investment Funds are mutual fund-like investment vehicles which are used by investors in the Participant Directed Investment Program. Please refer to the Participant Directed Investment Program report for more information.

The performance information presented on the following pages for Public Equity and Fixed Income includes both the Combined Funds and Supplemental Investment Fund. The Private Markets is Combined Funds only. All assets in the Combined Funds are managed externally by investment management firms retained by contract.

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## Domestic Equity

### June 30, 2017



	<u>Ending Market Value</u>	<u>Portfolio Weight</u>	<u>Last Qtr</u>	<u>Fiscal YTD</u>	<u>1 Year</u>	<u>3 Year</u>	<u>5 Year</u>	<u>10 Year</u>	<u>Since Inception</u>	<u>Inception Date</u>
<b>Total Domestic Equity</b>										
<b>ACTIVE DOMESTIC EQUITY AGGREGATE (1)</b>	<b>\$4,329,528,086</b>	<b>15.0%</b>	<b>4.0%</b>	<b>23.0%</b>	<b>23.0%</b>	<b>8.0%</b>	<b>14.5%</b>	<b>6.8%</b>		
Active Domestic Equity Benchmark			2.7	19.9	19.9	8.9	14.5	7.2		
Excess			1.3	3.1	3.1	-0.8	0.0	-0.4		
<b>SEMI PASSIVE DOMESTIC EQUITY AGGREGATE (2)</b>	<b>2,251,648,409</b>	<b>7.8</b>	<b>2.6</b>	<b>17.9</b>	<b>17.9</b>	<b>9.0</b>	<b>14.6</b>	<b>7.2</b>		
Semi Passive Domestic Equity Benchmark			3.1	18.0	18.0	9.3	14.7	7.3		
Excess			-0.4	-0.1	-0.1	-0.3	-0.1	-0.1		
<b>PASSIVE DOMESTIC EQUITY AGGREGATE (3)</b>	<b>22,189,815,579</b>	<b>77.1</b>	<b>3.0</b>	<b>18.4</b>	<b>18.4</b>	<b>9.1</b>	<b>14.6</b>	<b>7.3</b>		
Passive Domestic Equity Benchmark			3.1	18.5	18.5	9.1	14.6	7.3		
Excess			-0.0	-0.1	-0.1	-0.0	-0.0	0.0		
TRANSITION AGGREGATE DOMESTIC EQUITY (4)	510,136	0.0								
<b>TOTAL DOMESTIC EQUITY (5)</b>	<b>28,771,502,211</b>	<b>100.0</b>	<b>3.1</b>	<b>19.3</b>	<b>19.3</b>	<b>8.7</b>	<b>14.5</b>	<b>7.1</b>	<b>10.3</b>	<b>01/1984</b>
Domestic Equity Benchmark			3.0	18.5	18.5	9.1	14.6	7.3	10.6	01/1984
Excess			0.1	0.8	0.8	-0.4	-0.0	-0.2	-0.2	

(1) The Active Domestic Equity Benchmark is a weighted composite each of the individual active domestic equity manager's benchmarks.

(2) The current Semi-Passive Domestic Equity Benchmark is the Russell 1000 index.

(3) The current Passive Domestic Equity Benchmark is a weighted average of the Russell 1000 and Russell 3000.

(4) The Transition Domestic Equity Aggregate contains Domestic Equity securities that are being transitioned to a different manager.

(5) The current Domestic Equity Benchmark is the Russell 3000.

Note: All aggregates include the performance of terminated managers. For historical benchmark details please refer to the addendum of this report.



	<u>2016 Calendar Return</u>	<u>2015 Calendar Return</u>	<u>2014 Calendar Return</u>	<u>2013 Calendar Return</u>	<u>2012 Calendar Return</u>
<b>Total Domestic Equity</b>					
<b>ACTIVE DOMESTIC EQUITY AGGREGATE (1)</b>	<b>10.9%</b>	<b>-0.4%</b>	<b>9.3%</b>	<b>40.2%</b>	<b>15.4%</b>
Active Domestic Equity Benchmark	15.7	-0.6	11.0	34.7	16.3
Excess	-4.8	0.3	-1.7	5.5	-0.9
<b>SEMI PASSIVE DOMESTIC EQUITY AGGREGATE (2)</b>	<b>11.1</b>	<b>0.5</b>	<b>14.2</b>	<b>33.2</b>	<b>17.7</b>
Semi Passive Domestic Equity Benchmark	12.1	0.9	13.2	33.1	16.4
Excess	-1.0	-0.4	1.0	0.1	1.3
<b>PASSIVE DOMESTIC EQUITY AGGREGATE (3)</b>	<b>12.6</b>	<b>0.5</b>	<b>12.6</b>	<b>33.5</b>	<b>16.4</b>
Passive Domestic Equity Benchmark	12.5	0.5	12.6	33.6	16.4
Excess	0.1	0.0	0.0	-0.0	0.0
TRANSITION AGGREGATE DOMESTIC EQUITY (4)					
<b>TOTAL DOMESTIC EQUITY (5)</b>	<b>11.5</b>	<b>0.3</b>	<b>12.3</b>	<b>35.1</b>	<b>16.6</b>
Domestic Equity Benchmark	12.7	0.5	12.6	33.6	16.4
Excess	-1.3	-0.2	-0.2	1.6	0.2

(1) The Active Domestic Equity Benchmark is a weighted composite each of the individual active domestic equity manager's benchmarks.

(2) The current Semi-Passive Domestic Equity Benchmark is the Russell 1000 index.

(3) The current Passive Domestic Equity Benchmark is a weighted average of the Russell 1000 and Russell 3000.

(4) The Transition Domestic Equity Aggregate contains Domestic Equity securities that are being transitioned to a different manager.

(5) The current Domestic Equity Benchmark is the Russell 3000.

Note: All aggregates include the performance of terminated managers. For historical benchmark details please refer to the addendum of this report.



	<u>Ending Market Value</u>	<u>Portfolio Weight</u>	<u>Last Qtr</u>	<u>Fiscal YTD</u>	<u>1 Year</u>	<u>3 Year</u>	<u>5 Year</u>	<u>10 Year</u>	<u>Since Inception</u>	<u>Inception Date</u>
<b>Active Large Cap Growth</b>										
<b>SANDS</b>	<b>\$444,303,128</b>	<b>1.5%</b>	<b>7.1%</b>	<b>25.7%</b>	<b>25.7%</b>	<b>7.8%</b>	<b>14.2%</b>	<b>11.2%</b>	<b>9.9%</b>	<b>01/2005</b>
Russell 1000 Growth			4.7	20.4	20.4	11.1	15.3	8.9	8.9	01/2005
Excess			2.4	5.3	5.3	-3.3	-1.1	2.3	0.9	
<b>WINSLOW</b>	<b>187,395,528</b>	<b>0.7</b>	<b>7.2</b>	<b>21.6</b>	<b>21.6</b>	<b>10.1</b>	<b>14.7</b>	<b>9.1</b>	<b>9.6</b>	<b>01/2005</b>
Russell 1000 Growth			4.7	20.4	20.4	11.1	15.3	8.9	8.9	01/2005
Excess			2.5	1.2	1.2	-1.0	-0.6	0.2	0.6	
<b>ZEVENBERGEN</b>	<b>422,587,544</b>	<b>1.5</b>	<b>11.0</b>	<b>36.7</b>	<b>36.7</b>	<b>8.3</b>	<b>17.3</b>	<b>9.6</b>	<b>10.3</b>	<b>04/1994</b>
Russell 1000 Growth			4.7	20.4	20.4	11.1	15.3	8.9	9.3	04/1994
Excess			6.4	16.3	16.3	-2.8	2.0	0.7	1.1	
<b>RUSSELL 1000 GROWTH AGGREGATE</b>	<b>1,054,286,199</b>	<b>3.7</b>	<b>8.7</b>	<b>27.3</b>	<b>27.3</b>	<b>10.4</b>	<b>15.8</b>	<b>9.2</b>		
Russell 1000 Growth			4.7	20.4	20.4	11.1	15.3	8.9		
Excess			4.0	6.8	6.8	-0.7	0.5	0.3		



	<u>2016 Calendar Return</u>	<u>2015 Calendar Return</u>	<u>2014 Calendar Return</u>	<u>2013 Calendar Return</u>	<u>2012 Calendar Return</u>
<b>Active Large Cap Growth</b>					
<b>SANDS</b>	<b>-6.9%</b>	<b>2.9%</b>	<b>9.1%</b>	<b>42.4%</b>	<b>24.2%</b>
Russell 1000 Growth	7.1	5.7	13.0	33.5	15.3
Excess	-13.9	-2.8	-3.9	8.9	9.0
<b>WINSLOW</b>	<b>-1.9</b>	<b>6.7</b>	<b>11.0</b>	<b>37.4</b>	<b>13.7</b>
Russell 1000 Growth	7.1	5.7	13.0	33.5	15.3
Excess	-9.0	1.0	-2.0	3.9	-1.5
<b>ZEVENBERGEN</b>	<b>-2.8</b>	<b>6.4</b>	<b>3.4</b>	<b>60.6</b>	<b>8.0</b>
Russell 1000 Growth	7.1	5.7	13.0	33.5	15.3
Excess	-9.9	0.7	-9.6	27.1	-7.3
<b>RUSSELL 1000 GROWTH AGGREGATE</b>	<b>1.0</b>	<b>4.6</b>	<b>9.6</b>	<b>42.0</b>	<b>15.5</b>
Russell 1000 Growth	7.1	5.7	13.0	33.5	15.3
Excess	-6.1	-1.1	-3.4	8.5	0.3



	<u>Ending Market Value</u>	<u>Portfolio Weight</u>	<u>Last Qtr</u>	<u>Fiscal YTD</u>	<u>1 Year</u>	<u>3 Year</u>	<u>5 Year</u>	<u>10 Year</u>	<u>Since Inception</u>	<u>Inception Date</u>
<b>Active Large Cap Value</b>										
<b>BARROW HANLEY</b>	<b>\$353,009,072</b>	<b>1.2%</b>	<b>2.7%</b>	<b>15.8%</b>	<b>15.8%</b>	<b>7.2%</b>	<b>13.9%</b>	<b>5.7%</b>	<b>8.0%</b>	<b>04/2004</b>
Russell 1000 Value			1.3	15.5	15.5	7.4	13.9	5.6	7.8	04/2004
Excess			1.3	0.3	0.3	-0.2	-0.0	0.1	0.2	
<b>EARNEST PARTNERS</b>	<b>241,785,203</b>	<b>0.8</b>	<b>2.5</b>	<b>21.2</b>	<b>21.2</b>	<b>8.8</b>	<b>13.1</b>	<b>5.7</b>	<b>6.7</b>	<b>07/2000</b>
Russell 1000 Value			1.3	15.5	15.5	7.4	13.9	5.6	7.1	07/2000
Excess			1.1	5.7	5.7	1.5	-0.8	0.2	-0.5	
<b>LSV</b>	<b>374,418,566</b>	<b>1.3</b>	<b>1.5</b>	<b>20.6</b>	<b>20.6</b>	<b>7.9</b>	<b>16.6</b>	<b>6.2</b>	<b>9.0</b>	<b>04/2004</b>
Russell 1000 Value			1.3	15.5	15.5	7.4	13.9	5.6	7.8	04/2004
Excess			0.1	5.0	5.0	0.5	2.6	0.6	1.2	
<b>RUSSELL 1000 VALUE AGGREGATE</b>	<b>969,212,840</b>	<b>3.4</b>	<b>2.2</b>	<b>20.1</b>	<b>20.1</b>	<b>7.2</b>	<b>14.4</b>	<b>5.8</b>		
Russell 1000 Value			1.3	15.5	15.5	7.4	13.9	5.6		
Excess			0.8	4.6	4.6	-0.1	0.5	0.2		





	<u>2016 Calendar Return</u>	<u>2015 Calendar Return</u>	<u>2014 Calendar Return</u>	<u>2013 Calendar Return</u>	<u>2012 Calendar Return</u>
<b>Active Large Cap Value</b>					
<b>BARROW HANLEY</b>	<b>12.8%</b>	<b>-2.1%</b>	<b>13.0%</b>	<b>35.5%</b>	<b>15.5%</b>
Russell 1000 Value	17.3	-3.8	13.5	32.5	17.5
Excess	-4.5	1.7	-0.5	3.0	-2.0
<b>EARNEST PARTNERS</b>	<b>16.2</b>	<b>-2.7</b>	<b>14.0</b>	<b>32.0</b>	<b>10.7</b>
Russell 1000 Value	17.3	-3.8	13.5	32.5	17.5
Excess	-1.1	1.1	0.5	-0.5	-6.8
<b>LSV</b>	<b>17.0</b>	<b>-2.2</b>	<b>14.0</b>	<b>41.2</b>	<b>20.4</b>
Russell 1000 Value	17.3	-3.8	13.5	32.5	17.5
Excess	-0.4	1.6	0.6	8.7	2.9
<b>RUSSELL 1000 VALUE AGGREGATE</b>	<b>15.3</b>	<b>-3.2</b>	<b>13.1</b>	<b>36.5</b>	<b>16.9</b>
Russell 1000 Value	17.3	-3.8	13.5	32.5	17.5
Excess	-2.1	0.6	-0.4	3.9	-0.6



	<u>Ending Market Value</u>	<u>Portfolio Weight</u>	<u>Last Qtr</u>	<u>Fiscal YTD</u>	<u>1 Year</u>	<u>3 Year</u>	<u>5 Year</u>	<u>10 Year</u>	<u>Since Inception</u>	<u>Inception Date</u>
<b>Semi-Passive Large Cap</b>										
<b>BLACKROCK</b>	<b>\$904,174,698</b>	<b>3.1%</b>	<b>3.1%</b>	<b>20.0%</b>	<b>20.0%</b>	<b>9.9%</b>	<b>15.2%</b>	<b>7.3%</b>	<b>9.7%</b>	<b>01/1995</b>
Semi Passive Domestic Equity Benchmark			3.1	18.0	18.0	9.3	14.7	7.3	9.3	01/1995
Excess			0.0	2.0	2.0	0.6	0.6	-0.0	0.4	
<b>J.P. MORGAN</b>	<b>1,347,473,711</b>	<b>4.7</b>	<b>2.6</b>	<b>18.9</b>	<b>18.9</b>	<b>9.7</b>	<b>15.2</b>	<b>7.9</b>	<b>9.7</b>	<b>01/1995</b>
Semi Passive Domestic Equity Benchmark			3.1	18.0	18.0	9.3	14.7	7.3	9.3	01/1995
Excess			-0.4	0.9	0.9	0.4	0.6	0.7	0.3	
<b>SEMI-PASSIVE DOMESTIC EQUITY AGGREGATE</b>	<b>2,251,648,409</b>	<b>7.8</b>	<b>2.6</b>	<b>17.9</b>	<b>17.9</b>	<b>9.0</b>	<b>14.6</b>	<b>7.2</b>		
Semi Passive Domestic Equity Benchmark			3.1	18.0	18.0	9.3	14.7	7.3		
Excess			-0.4	-0.1	-0.1	-0.3	-0.1	-0.1		



	<u>2016 Calendar Return</u>	<u>2015 Calendar Return</u>	<u>2014 Calendar Return</u>	<u>2013 Calendar Return</u>	<u>2012 Calendar Return</u>
<b>Semi-Passive Large Cap</b>					
<b>BLACKROCK</b>	<b>12.5%</b>	<b>0.8%</b>	<b>14.2%</b>	<b>33.3%</b>	<b>19.0%</b>
Semi Passive Domestic Equity Benchmark	12.1	0.9	13.2	33.1	16.4
Excess	0.5	-0.1	1.0	0.2	2.6
<b>J.P. MORGAN</b>					
<b>J.P. MORGAN</b>	<b>12.3</b>	<b>0.8</b>	<b>15.0</b>	<b>33.7</b>	<b>17.6</b>
Semi Passive Domestic Equity Benchmark	12.1	0.9	13.2	33.1	16.4
Excess	0.2	-0.1	1.8	0.6	1.2
<b>SEMI-PASSIVE DOMESTIC EQUITY AGGREGATE</b>					
<b>SEMI-PASSIVE DOMESTIC EQUITY AGGREGATE</b>	<b>11.1</b>	<b>0.5</b>	<b>14.2</b>	<b>33.2</b>	<b>17.7</b>
Semi Passive Domestic Equity Benchmark	12.1	0.9	13.2	33.1	16.4
Excess	-1.0	-0.4	1.0	0.1	1.3



	<u>Ending Market Value</u>	<u>Portfolio Weight</u>	<u>Last Qtr</u>	<u>Fiscal YTD</u>	<u>1 Year</u>	<u>3 Year</u>	<u>5 Year</u>	<u>10 Year</u>	<u>Since Inception</u>	<u>Inception Date</u>
<b>Active Small Cap Growth</b>										
<b>ARROWMARK</b>	<b>\$185,349,195</b>	<b>0.6%</b>	<b>7.3%</b>						<b>23.1%</b>	<b>11/2016</b>
Russell 2000 Growth			4.4						21.4	11/2016
Excess			2.9						1.7	
<b>HOOD RIVER</b>	<b>217,723,159</b>	<b>0.8</b>	<b>7.5</b>						<b>24.2</b>	<b>11/2016</b>
Russell 2000 Growth			4.4						21.4	11/2016
Excess			3.2						2.7	
<b>MCKINLEY</b>	<b>261,113,833</b>	<b>0.9</b>	<b>1.9</b>	<b>22.3%</b>	<b>22.3%</b>	<b>6.5%</b>	<b>16.0%</b>	<b>6.1%</b>	<b>7.4</b>	<b>01/2004</b>
Russell 2000 Growth			4.4	24.4	24.4	7.6	14.0	7.8	8.8	01/2004
Excess			-2.5	-2.1	-2.1	-1.1	2.0	-1.7	-1.4	
<b>RICE HALL JAMES</b>	<b>191,849,176</b>	<b>0.7</b>	<b>5.3</b>						<b>27.5</b>	<b>11/2016</b>
Russell 2000 Growth			4.4						21.4	11/2016
Excess			0.9						6.0	
<b>WELLINGTON</b>	<b>216,995,445</b>	<b>0.8</b>	<b>6.2</b>						<b>23.8</b>	<b>11/2016</b>
Russell 2000 Growth			4.4						21.4	11/2016
Excess			1.8						2.4	
<b>RUSSELL 2000 GROWTH AGGREGATE</b>	<b>1,073,030,814</b>	<b>3.7</b>	<b>5.4</b>	<b>21.7</b>	<b>21.7</b>	<b>5.8</b>	<b>11.6</b>	<b>5.5</b>		
Russell 2000 Growth			4.4	24.4	24.4	7.6	14.0	7.8		
Excess			1.1	-2.7	-2.7	-1.9	-2.4	-2.3		



	<u>2016 Calendar Return</u>	<u>2015 Calendar Return</u>	<u>2014 Calendar Return</u>	<u>2013 Calendar Return</u>	<u>2012 Calendar Return</u>
<b>Active Small Cap Growth</b>					
<b>ARROWMARK</b>					
Russell 2000 Growth					
Excess					
<b>HOOD RIVER</b>					
Russell 2000 Growth					
Excess					
<b>MCKINLEY</b>	<b>12.9%</b>	<b>3.6%</b>	<b>2.0%</b>	<b>51.6%</b>	<b>23.2%</b>
Russell 2000 Growth	11.3	-1.4	5.6	43.3	14.6
Excess	1.6	5.0	-3.6	8.3	8.6
<b>RICE HALL JAMES</b>					
Russell 2000 Growth					
Excess					
<b>WELLINGTON</b>					
Russell 2000 Growth					
Excess					
<b>RUSSELL 2000 GROWTH AGGREGATE</b>	<b>4.7</b>	<b>1.0</b>	<b>-3.4</b>	<b>47.2</b>	<b>12.0</b>
Russell 2000 Growth	11.3	-1.4	5.6	43.3	14.6
Excess	-6.6	2.4	-9.0	3.9	-2.6



	<u>Ending Market Value</u>	<u>Portfolio Weight</u>	<u>Last Qtr</u>	<u>Fiscal YTD</u>	<u>1 Year</u>	<u>3 Year</u>	<u>5 Year</u>	<u>10 Year</u>	<u>Since Inception</u>	<u>Inception Date</u>
<b>Active Small Cap Value</b>										
<b>GOLDMAN SACHS</b>	<b>\$330,771,470</b>	<b>1.1%</b>	<b>0.4%</b>	<b>20.9%</b>	<b>20.9%</b>	<b>6.9%</b>	<b>14.5%</b>	<b>8.5%</b>	<b>9.8%</b>	<b>01/2004</b>
Russell 2000 Value			0.7	24.9	24.9	7.0	13.4	5.9	8.3	01/2004
Excess			-0.2	-3.9	-3.9	-0.1	1.1	2.6	1.6	
<b>HOTCHKIS AND WILEY</b>	<b>287,810,622</b>	<b>1.0</b>	<b>-0.6</b>	<b>28.1</b>	<b>28.1</b>	<b>4.5</b>	<b>14.9</b>	<b>6.9</b>	<b>8.7</b>	<b>01/2004</b>
Russell 2000 Value			0.7	24.9	24.9	7.0	13.4	5.9	8.3	01/2004
Excess			-1.3	3.3	3.3	-2.5	1.5	1.0	0.4	
<b>MARTINGALE</b>	<b>274,684,991</b>	<b>1.0</b>	<b>1.0</b>	<b>23.2</b>	<b>23.2</b>	<b>8.7</b>	<b>16.6</b>	<b>6.2</b>	<b>8.3</b>	<b>01/2004</b>
Russell 2000 Value			0.7	24.9	24.9	7.0	13.4	5.9	8.3	01/2004
Excess			0.3	-1.6	-1.6	1.6	3.2	0.2	0.1	
<b>PEREGRINE</b>	<b>339,731,149</b>	<b>1.2</b>	<b>1.2</b>	<b>26.1</b>	<b>26.1</b>	<b>6.4</b>	<b>13.4</b>	<b>6.1</b>	<b>10.5</b>	<b>07/2000</b>
Russell 2000 Value			0.7	24.9	24.9	7.0	13.4	5.9	9.9	07/2000
Excess			0.5	1.3	1.3	-0.6	0.1	0.2	0.6	
<b>RUSSELL 2000 VALUE AGGREGATE</b>	<b>1,232,998,233</b>	<b>4.3</b>	<b>0.5</b>	<b>24.6</b>	<b>24.6</b>	<b>6.6</b>	<b>14.6</b>	<b>6.8</b>		
Russell 2000 Value			0.7	24.9	24.9	7.0	13.4	5.9		
Excess			-0.1	-0.3	-0.3	-0.5	1.3	0.9		



	<u>2016 Calendar Return</u>	<u>2015 Calendar Return</u>	<u>2014 Calendar Return</u>	<u>2013 Calendar Return</u>	<u>2012 Calendar Return</u>
<b>Active Small Cap Value</b>					
<b>GOLDMAN SACHS</b>	<b>24.6%</b>	<b>-5.2%</b>	<b>7.4%</b>	<b>39.3%</b>	<b>16.6%</b>
Russell 2000 Value	31.7	-7.5	4.2	34.5	18.1
Excess	-7.1	2.3	3.1	4.8	-1.4
<b>HOTCHKIS AND WILEY</b>	<b>19.9</b>	<b>-8.5</b>	<b>13.0</b>	<b>46.0</b>	<b>24.1</b>
Russell 2000 Value	31.7	-7.5	4.2	34.5	18.1
Excess	-11.8	-1.0	8.8	11.5	6.0
<b>MARTINGALE</b>	<b>34.3</b>	<b>-5.2</b>	<b>7.3</b>	<b>43.1</b>	<b>20.1</b>
Russell 2000 Value	31.7	-7.5	4.2	34.5	18.1
Excess	2.5	2.3	3.1	8.5	2.0
<b>PEREGRINE</b>	<b>27.8</b>	<b>-6.7</b>	<b>4.1</b>	<b>37.3</b>	<b>18.8</b>
Russell 2000 Value	31.7	-7.5	4.2	34.5	18.1
Excess	-3.9	0.8	-0.1	2.8	0.7
<b>RUSSELL 2000 VALUE AGGREGATE</b>	<b>26.5</b>	<b>-6.5</b>	<b>7.5</b>	<b>40.8</b>	<b>19.6</b>
Russell 2000 Value	31.7	-7.5	4.2	34.5	18.1
Excess	-5.2	1.0	3.3	6.3	1.5



	<u>Ending Market Value</u>	<u>Portfolio Weight</u>	<u>Last Qtr</u>	<u>Fiscal YTD</u>	<u>1 Year</u>	<u>3 Year</u>	<u>5 Year</u>	<u>10 Year</u>	<u>Since Inception</u>	<u>Inception Date</u>
<b>Total Passive Domestic Equity</b>										
<b>BLACKROCK RUSSELL 1000</b>	<b>\$10,743,076,421</b>	<b>37.3%</b>	<b>3.1%</b>							<b>10/2016</b>
Russell 1000			3.1							10/2016
Excess			-0.0							
<b>BLACKROCK RUSSELL 3000 (1)</b>	<b>11,446,739,157</b>	<b>39.8</b>	<b>3.0</b>	<b>18.5%</b>	<b>18.5%</b>	<b>9.1%</b>	<b>14.6%</b>	<b>7.3%</b>	<b>9.1%</b>	<b>07/1995</b>
Passive Manager Benchmark			3.0	18.5	18.5	9.1	14.6	7.3	9.0	07/1995
Excess			-0.0	-0.0	-0.0	0.0	0.0	0.0	0.1	
<b>PASSIVE DOMESTIC EQUITY AGGREGATE</b>	<b>22,189,815,579</b>	<b>77.1</b>	<b>3.0</b>	<b>18.4</b>	<b>18.4</b>	<b>9.1</b>	<b>14.6</b>	<b>7.3</b>		
Passive Domestic Equity Benchmark			3.1	18.5	18.5	9.1	14.6	7.3		
Excess			-0.0	-0.1	-0.1	-0.0	-0.0	0.0		

(1) The current Passive Manager Benchmark is the Russell 3000. For historical benchmark details please refer to the addendum of this report.





	<u>2016 Calendar Return</u>	<u>2015 Calendar Return</u>	<u>2014 Calendar Return</u>	<u>2013 Calendar Return</u>	<u>2012 Calendar Return</u>
<b>Total Passive Domestic Equity</b>					
<b>BLACKROCK RUSSELL 1000</b>					
Russell 1000					
Excess					
<b>BLACKROCK RUSSELL 3000 (1)</b>	<b>12.7%</b>	<b>0.5%</b>	<b>12.6%</b>	<b>33.5%</b>	<b>16.4%</b>
Passive Manager Benchmark	12.7	0.5	12.6	33.6	16.4
Excess	0.0	0.0	0.0	-0.0	0.0
<b>PASSIVE DOMESTIC EQUITY AGGREGATE</b>	<b>12.6</b>	<b>0.5</b>	<b>12.6</b>	<b>33.5</b>	<b>16.4</b>
Passive Domestic Equity Benchmark	12.5	0.5	12.6	33.6	16.4
Excess	0.1	0.0	0.0	-0.0	0.0

(1) The current Passive Manager Benchmark is the Russell 3000. For historical benchmark details please refer to the addendum of this report.

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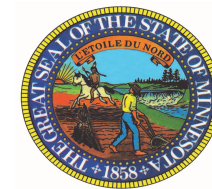
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## International Equity

June 30, 2017



	<u>Ending Market Value</u>	<u>Portfolio Weight</u>	<u>Last Qtr</u>	<u>Fiscal YTD</u>	<u>1 Year</u>	<u>3 Year</u>	<u>5 Year</u>	<u>10 Year</u>	<u>Since Inception</u>	<u>Inception Date</u>
<b>Total International Equity</b>										
<b>DEVELOPED MARKETS (1)</b>	<b>\$10,691,430,763</b>	<b>75.9%</b>	<b>6.3%</b>	<b>19.5%</b>	<b>19.5%</b>	<b>1.5%</b>	<b>9.1%</b>	<b>1.7%</b>		
BENCHMARK DM			5.6	19.5	19.5	0.7	8.1	1.0		
Excess			0.7	-0.0	-0.0	0.8	0.9	0.6		
<b>EMERGING MARKETS (2)</b>	<b>3,387,099,051</b>	<b>24.0</b>	<b>7.0</b>	<b>21.7</b>	<b>21.7</b>	<b>0.9</b>	<b>4.2</b>	<b>1.5</b>		
BENCHMARK EM			6.3	23.7	23.7	1.1	4.0	2.0		
Excess			0.8	-2.1	-2.1	-0.2	0.3	-0.5		
TRANSITION AGGREGATE INTERNATIONAL EQUITY (3)	5,742,910	0.0								
<b>TOTAL INTERNATIONAL EQUITY (4)</b>	<b>14,084,272,724</b>	<b>100.0</b>	<b>6.5</b>	<b>20.2</b>	<b>20.2</b>	<b>1.5</b>	<b>8.0</b>	<b>1.6</b>	<b>6.6</b>	<b>10/1992</b>
International Equity Benchmark			5.8	20.5	20.5	0.8	7.2	1.2	6.1	10/1992
Excess			0.7	-0.3	-0.3	0.7	0.8	0.4	0.5	

(1) The current benchmark for Developed Markets, Benchmark DM, is the Standard (large + mid) MSCI World ex USA (net).

(2) The current benchmark for Emerging Markets, Benchmark EM, is the Standard (large + mid) MSCI Emerging Markets Free (net).

(3) The Transition Aggregate International Equity contains International Equity securities that are being transitioned to a different manager.

(4) Does not include impact of currency overlay on the passive EAFE portfolio from 12/1/95-10/31/00. This impact is included in the return for the Combined Funds portion of the International Equity portfolio. The current International Equity Benchmark is the Standard (large + mid) MSCI ACWI ex U.S. (net).

Note: All aggregates include the performance of terminated managers. For historical benchmark details please refer to the addendum of this report.



	<u>2016 Calendar Return</u>	<u>2015 Calendar Return</u>	<u>2014 Calendar Return</u>	<u>2013 Calendar Return</u>	<u>2012 Calendar Return</u>
<b>Total International Equity</b>					
<b>DEVELOPED MARKETS (1)</b>	<b>1.3%</b>	<b>-0.3%</b>	<b>-4.1%</b>	<b>23.3%</b>	<b>17.6%</b>
BENCHMARK DM	2.7	-3.0	-4.3	21.0	16.4
Excess	-1.5	2.8	0.2	2.2	1.1
<b>EMERGING MARKETS (2)</b>	<b>7.5</b>	<b>-13.1</b>	<b>-3.8</b>	<b>0.2</b>	<b>17.6</b>
BENCHMARK EM	11.2	-14.9	-2.2	-2.6	18.2
Excess	-3.7	1.9	-1.6	2.9	-0.7
TRANSITION AGGREGATE INTERNATIONAL EQUITY (3)					
<b>TOTAL INTERNATIONAL EQUITY (4)</b>	<b>2.6</b>	<b>-2.9</b>	<b>-4.0</b>	<b>17.8</b>	<b>17.6</b>
International Equity Benchmark	4.5	-5.7	-3.9	15.3	16.8
Excess	-1.8	2.8	-0.2	2.5	0.8

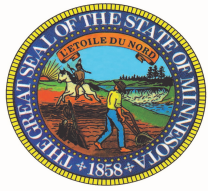
(1) The current benchmark for Developed Markets, Benchmark DM, is the Standard (large + mid) MSCI World ex USA (net).

(2) The current benchmark for Emerging Markets, Benchmark EM, is the Standard (large + mid) MSCI Emerging Markets Free (net).

(3) The Transition Aggregate International Equity contains International Equity securities that are being transitioned to a different manager.

(4) Does not include impact of currency overlay on the passive EAFE portfolio from 12/1/95-10/31/00. This impact is included in the return for the Combined Funds portion of the International Equity portfolio. The current International Equity Benchmark is the Standard (large + mid) MSCI ACWI ex U.S. (net).

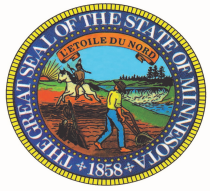
Note: All aggregates include the performance of terminated managers. For historical benchmark details please refer to the addendum of this report.



	<u>Ending Market Value</u>	<u>Portfolio Weight</u>	<u>Last Qtr</u>	<u>Fiscal YTD</u>	<u>1 Year</u>	<u>3 Year</u>	<u>5 Year</u>	<u>10 Year</u>	<u>Since Inception</u>	<u>Inception Date</u>
<b>Active Developed Markets</b>										
<b>ACADIAN</b>	<b>\$486,068,897</b>	<b>3.5%</b>	<b>9.8%</b>	<b>29.6%</b>	<b>29.6%</b>	<b>6.7%</b>	<b>13.7%</b>	<b>1.7%</b>	<b>6.7%</b>	<b>07/2005</b>
BENCHMARK DM			5.6	19.5	19.5	0.7	8.1	1.0	5.0	07/2005
Excess			4.1	10.1	10.1	6.0	5.5	0.7	1.7	
<b>COLUMBIA</b>	<b>394,446,978</b>	<b>2.8</b>	<b>9.1</b>	<b>19.0</b>	<b>19.0</b>	<b>3.2</b>	<b>9.0</b>	<b>2.6</b>	<b>2.5</b>	<b>03/2000</b>
BENCHMARK DM			5.6	19.5	19.5	0.7	8.1	1.0	3.3	03/2000
Excess			3.5	-0.5	-0.5	2.5	0.8	1.5	-0.7	
<b>FIDELITY</b>	<b>394,957,135</b>	<b>2.8</b>	<b>7.0</b>	<b>19.0</b>	<b>19.0</b>	<b>2.1</b>	<b>9.7</b>	<b>2.9</b>	<b>6.5</b>	<b>07/2005</b>
BENCHMARK DM			5.6	19.5	19.5	0.7	8.1	1.0	5.0	07/2005
Excess			1.4	-0.5	-0.5	1.5	1.5	1.9	1.5	
<b>JP MORGAN</b>	<b>328,511,883</b>	<b>2.3</b>	<b>6.1</b>	<b>24.4</b>	<b>24.4</b>	<b>1.2</b>	<b>8.0</b>	<b>1.6</b>	<b>5.0</b>	<b>07/2005</b>
BENCHMARK DM			5.6	19.5	19.5	0.7	8.1	1.0	5.0	07/2005
Excess			0.5	4.9	4.9	0.5	-0.1	0.6	0.1	
<b>MARATHON</b>	<b>868,434,405</b>	<b>6.2</b>	<b>7.0</b>	<b>19.6</b>	<b>19.6</b>	<b>3.1</b>	<b>10.8</b>	<b>4.0</b>	<b>8.3</b>	<b>11/1993</b>
BENCHMARK DM			5.6	19.5	19.5	0.7	8.1	1.0	5.1	11/1993
Excess			1.4	0.1	0.1	2.5	2.6	3.0	3.3	
<b>MCKINLEY</b>	<b>322,843,723</b>	<b>2.3</b>	<b>6.4</b>	<b>17.1</b>	<b>17.1</b>	<b>0.6</b>	<b>8.5</b>	<b>-0.1</b>	<b>4.5</b>	<b>07/2005</b>
BENCHMARK DM			5.6	19.5	19.5	0.7	8.1	1.0	5.0	07/2005
Excess			0.8	-2.4	-2.4	-0.1	0.3	-1.1	-0.5	
<b>ACTIVE DEVELOPED MARKETS AGGREGATE</b>	<b>2,795,263,021</b>	<b>19.8</b>	<b>7.6</b>	<b>21.3</b>	<b>21.3</b>	<b>3.0</b>	<b>10.1</b>	<b>2.4</b>		
BENCHMARK DM			5.6	19.5	19.5	0.7	8.1	1.0		
Excess			2.0	1.8	1.8	2.3	2.0	1.4		



	<u>2016 Calendar Return</u>	<u>2015 Calendar Return</u>	<u>2014 Calendar Return</u>	<u>2013 Calendar Return</u>	<u>2012 Calendar Return</u>
<b>Active Developed Markets</b>					
<b>ACADIAN</b>	<b>8.1%</b>	<b>2.4%</b>	<b>-1.7%</b>	<b>26.1%</b>	<b>17.6%</b>
BENCHMARK DM	2.7	-3.0	-4.3	21.0	16.4
Excess	5.4	5.4	2.6	5.1	1.2
<b>COLUMBIA</b>	<b>-5.6</b>	<b>6.4</b>	<b>-5.6</b>	<b>23.9</b>	<b>19.0</b>
BENCHMARK DM	2.7	-3.0	-4.3	21.0	16.4
Excess	-8.3	9.4	-1.2	2.9	2.6
<b>FIDELITY</b>	<b>1.2</b>	<b>0.1</b>	<b>-5.6</b>	<b>26.7</b>	<b>20.3</b>
BENCHMARK DM	2.7	-3.0	-4.3	21.0	16.4
Excess	-1.5	3.2	-1.3	5.7	3.9
<b>JP MORGAN</b>	<b>4.0</b>	<b>-4.7</b>	<b>-5.1</b>	<b>19.5</b>	<b>18.4</b>
BENCHMARK DM	2.7	-3.0	-4.3	21.0	16.4
Excess	1.2	-1.6	-0.7	-1.5	2.0
<b>MARATHON</b>	<b>-1.1</b>	<b>6.7</b>	<b>-4.0</b>	<b>28.5</b>	<b>17.9</b>
BENCHMARK DM	2.7	-3.0	-4.3	21.0	16.4
Excess	-3.8	9.7	0.3	7.5	1.5
<b>MCKINLEY</b>	<b>-7.5</b>	<b>3.1</b>	<b>-2.7</b>	<b>28.0</b>	<b>16.9</b>
BENCHMARK DM	2.7	-3.0	-4.3	21.0	16.4
Excess	-10.2	6.2	1.6	7.0	0.5
<b>ACTIVE DEVELOPED MARKETS AGGREGATE</b>	<b>-0.2</b>	<b>3.2</b>	<b>-4.1</b>	<b>25.4</b>	<b>17.9</b>
BENCHMARK DM	2.7	-3.0	-4.3	21.0	16.4
Excess	-3.0	6.2	0.2	4.4	1.5



	<u>Ending Market Value</u>	<u>Portfolio Weight</u>	<u>Last Qtr</u>	<u>Fiscal YTD</u>	<u>1 Year</u>	<u>3 Year</u>	<u>5 Year</u>	<u>10 Year</u>	<u>Since Inception</u>	<u>Inception Date</u>
<b>Semi-Passive Developed Markets</b>										
<b>AQR</b>	<b>\$387,219,643</b>	<b>2.7%</b>	<b>5.8%</b>	<b>20.9%</b>	<b>20.9%</b>	<b>1.9%</b>	<b>10.1%</b>	<b>1.7%</b>	<b>5.7%</b>	<b>07/2005</b>
BENCHMARK DM			5.6	19.5	19.5	0.7	8.1	1.0	5.0	07/2005
Excess			0.1	1.4	1.4	1.2	2.0	0.7	0.7	
<b>FIDELITY</b>	<b>552,109,829</b>	<b>3.9</b>	<b>5.8</b>	<b>17.1</b>	<b>17.1</b>	<b>0.4</b>	<b>8.3</b>	<b>1.5</b>	<b>5.6</b>	<b>07/2005</b>
BENCHMARK DM			5.6	19.5	19.5	0.7	8.1	1.0	5.0	07/2005
Excess			0.2	-2.4	-2.4	-0.3	0.1	0.5	0.6	
<b>SSgA</b>	<b>343,220,435</b>	<b>2.4</b>	<b>6.6</b>	<b>22.7</b>	<b>22.7</b>	<b>0.9</b>	<b>9.4</b>	<b>0.5</b>	<b>4.6</b>	<b>07/2005</b>
BENCHMARK DM			5.6	19.5	19.5	0.7	8.1	1.0	5.0	07/2005
Excess			1.0	3.2	3.2	0.2	1.3	-0.5	-0.3	
<b>SEMI-PASSIVE DEVELOPED MARKETS AGGREGATE</b>	<b>1,282,549,907</b>	<b>9.1</b>	<b>6.0</b>	<b>19.7</b>	<b>19.7</b>	<b>1.0</b>	<b>9.1</b>	<b>1.2</b>		
BENCHMARK DM			5.6	19.5	19.5	0.7	8.1	1.0		
Excess			0.4	0.2	0.2	0.3	1.0	0.2		





	<u>2016 Calendar Return</u>	<u>2015 Calendar Return</u>	<u>2014 Calendar Return</u>	<u>2013 Calendar Return</u>	<u>2012 Calendar Return</u>
<b>Semi-Passive Developed Markets</b>					
<b>AQR</b>	<b>0.8%</b>	<b>0.9%</b>	<b>-4.4%</b>	<b>24.1%</b>	<b>20.8%</b>
BENCHMARK DM	2.7	-3.0	-4.3	21.0	16.4
Excess	-2.0	3.9	-0.1	3.1	4.4
<b>FIDELITY</b>					
<b>FIDELITY</b>	<b>-1.7</b>	<b>-0.7</b>	<b>-4.0</b>	<b>23.2</b>	<b>19.4</b>
BENCHMARK DM	2.7	-3.0	-4.3	21.0	16.4
Excess	-4.5	2.3	0.3	2.2	3.0
<b>SSgA</b>					
<b>SSgA</b>	<b>0.6</b>	<b>-0.9</b>	<b>-5.1</b>	<b>25.3</b>	<b>17.3</b>
BENCHMARK DM	2.7	-3.0	-4.3	21.0	16.4
Excess	-2.2	2.1	-0.8	4.2	0.9
<b>SEMI-PASSIVE DEVELOPED MARKETS AGGREGATE</b>					
<b>SEMI-PASSIVE DEVELOPED MARKETS AGGREGATE</b>	<b>-0.4</b>	<b>-0.3</b>	<b>-4.4</b>	<b>24.0</b>	<b>19.2</b>
BENCHMARK DM	2.7	-3.0	-4.3	21.0	16.4
Excess	-3.1	2.7	-0.1	3.0	2.8



	<u>Ending Market Value</u>	<u>Portfolio Weight</u>	<u>Last Qtr</u>	<u>Fiscal YTD</u>	<u>1 Year</u>	<u>3 Year</u>	<u>5 Year</u>	<u>10 Year</u>	<u>Since Inception</u>	<u>Inception Date</u>
<b>Total Developed Markets</b>										
<b>ACTIVE DEVELOPED MARKETS AGGREGATE</b>	<b>\$2,795,263,021</b>	<b>19.8%</b>	<b>7.6%</b>	<b>21.3%</b>	<b>21.3%</b>	<b>3.0%</b>	<b>10.1%</b>	<b>2.4%</b>		
BENCHMARK DM			5.6	19.5	19.5	0.7	8.1	1.0		
Excess			2.0	1.8	1.8	2.3	2.0	1.4		
<b>SEMI-PASSIVE DEVELOPED MARKETS AGGREGATE</b>	<b>1,282,549,907</b>	<b>9.1</b>	<b>6.0</b>	<b>19.7</b>	<b>19.7</b>	<b>1.0</b>	<b>9.1</b>	<b>1.2</b>		
BENCHMARK DM			5.6	19.5	19.5	0.7	8.1	1.0		
Excess			0.4	0.2	0.2	0.3	1.0	0.2		
<b>SSgA DEVELOPED MARKETS PASSIVE</b>	<b>6,613,617,834</b>	<b>47.0</b>	<b>5.9</b>	<b>20.0</b>	<b>20.0</b>	<b>1.1</b>	<b>8.6</b>	<b>1.4</b>	<b>6.3</b>	<b>10/1992</b>
BENCHMARK DM			5.6	19.5	19.5	0.7	8.1	1.0	6.0	10/1992
Excess			0.2	0.5	0.5	0.5	0.4	0.4	0.3	
<b>DEVELOPED MARKETS TOTAL</b>	<b>10,691,430,763</b>	<b>75.9</b>	<b>6.3</b>	<b>19.5</b>	<b>19.5</b>	<b>1.5</b>	<b>9.1</b>	<b>1.7</b>		
BENCHMARK DM			5.6	19.5	19.5	0.7	8.1	1.0		
Excess			0.7	-0.0	-0.0	0.8	0.9	0.6		



	<u>2016 Calendar Return</u>	<u>2015 Calendar Return</u>	<u>2014 Calendar Return</u>	<u>2013 Calendar Return</u>	<u>2012 Calendar Return</u>
<b>Total Developed Markets</b>					
<b>ACTIVE DEVELOPED MARKETS AGGREGATE</b>	<b>-0.2%</b>	<b>3.2%</b>	<b>-4.1%</b>	<b>25.4%</b>	<b>17.9%</b>
BENCHMARK DM	2.7	-3.0	-4.3	21.0	16.4
Excess	-3.0	6.2	0.2	4.4	1.5
<b>SEMI-PASSIVE DEVELOPED MARKETS AGGREGATE</b>	<b>-0.4</b>	<b>-0.3</b>	<b>-4.4</b>	<b>24.0</b>	<b>19.2</b>
BENCHMARK DM	2.7	-3.0	-4.3	21.0	16.4
Excess	-3.1	2.7	-0.1	3.0	2.8
<b>SSgA DEVELOPED MARKETS PASSIVE</b>	<b>3.2</b>	<b>-2.6</b>	<b>-3.9</b>	<b>21.4</b>	<b>16.7</b>
BENCHMARK DM	2.7	-3.0	-4.3	21.0	16.4
Excess	0.4	0.5	0.4	0.4	0.3
<b>DEVELOPED MARKETS TOTAL</b>	<b>1.3</b>	<b>-0.3</b>	<b>-4.1</b>	<b>23.3</b>	<b>17.6</b>
BENCHMARK DM	2.7	-3.0	-4.3	21.0	16.4
Excess	-1.5	2.8	0.2	2.2	1.1



	<u>Ending Market Value</u>	<u>Portfolio Weight</u>	<u>Last Qtr</u>	<u>Fiscal YTD</u>	<u>1 Year</u>	<u>3 Year</u>	<u>5 Year</u>	<u>10 Year</u>	<u>Since Inception</u>	<u>Inception Date</u>
<b>Active Emerging Markets</b>										
<b>EARNEST PARTNERS</b>	<b>\$284,710,207</b>	<b>2.0%</b>	<b>8.0%</b>						<b>8.6%</b>	<b>03/2017</b>
MSCI EMERGING MARKETS			6.3						8.6	03/2017
Excess			1.8						-0.0	
<b>MARTIN CURRIE</b>	<b>294,560,389</b>	<b>2.1</b>	<b>8.9</b>						<b>11.8</b>	<b>03/2017</b>
BENCHMARK EM			6.3						8.6	03/2017
Excess			2.6						3.1	
<b>MACQUARIE</b>	<b>290,987,551</b>	<b>2.1</b>	<b>7.2</b>						<b>10.2</b>	<b>03/2017</b>
BENCHMARK EM			6.3						8.6	03/2017
Excess			0.9						1.6	
<b>MORGAN STANLEY</b>	<b>578,330,810</b>	<b>4.1</b>	<b>8.1</b>	<b>21.7%</b>	<b>21.7%</b>	<b>2.3%</b>	<b>5.4%</b>	<b>2.5%</b>	<b>10.1</b>	<b>01/2001</b>
BENCHMARK EM			6.3	23.7	23.7	1.1	4.0	2.0	9.6	01/2001
Excess			1.9	-2.0	-2.0	1.3	1.5	0.5	0.5	
<b>NEUBERGER BERMAN</b>	<b>289,501,516</b>	<b>2.1</b>	<b>6.8</b>						<b>9.4</b>	<b>03/2017</b>
BENCHMARK EM			6.3						8.6	03/2017
Excess			0.6						0.8	
<b>PZENA</b>	<b>283,599,658</b>	<b>2.0</b>	<b>5.7</b>						<b>8.3</b>	<b>03/2017</b>
BENCHMARK EM			6.3						8.6	03/2017
Excess			-0.6						-0.4	
<b>ROCK CREEK</b>	<b>283,101,164</b>	<b>2.0</b>	<b>5.3</b>						<b>9.3</b>	<b>03/2017</b>
BENCHMARK EM			6.3						9.1	03/2017
Excess			-1.0						0.2	



	<u>2016 Calendar Return</u>	<u>2015 Calendar Return</u>	<u>2014 Calendar Return</u>	<u>2013 Calendar Return</u>	<u>2012 Calendar Return</u>
<b>Active Emerging Markets</b>					
<b>EARNEST PARTNERS</b>					
MSCI EMERGING MARKETS					
Excess					
<b>MARTIN CURRIE</b>					
BENCHMARK EM					
Excess					
<b>MACQUARIE</b>					
BENCHMARK EM					
Excess					
<b>MORGAN STANLEY</b>	<b>6.1%</b>	<b>-9.4%</b>	<b>-2.5%</b>	<b>0.5%</b>	<b>21.1%</b>
BENCHMARK EM	11.2	-14.9	-2.2	-2.6	18.2
Excess	-5.1	5.5	-0.3	3.1	2.8
<b>NEUBERGER BERMAN</b>					
BENCHMARK EM					
Excess					
<b>PZENA</b>					
BENCHMARK EM					
Excess					
<b>ROCK CREEK</b>					
BENCHMARK EM					
Excess					



	<u>Ending Market Value</u>	<u>Portfolio Weight</u>	<u>Last Qtr</u>	<u>Fiscal YTD</u>	<u>1 Year</u>	<u>3 Year</u>	<u>5 Year</u>	<u>10 Year</u>	<u>Since Inception</u>	<u>Inception Date</u>
<b>Total Emerging Markets</b>										
<b>ACTIVE EMERGING MARKETS AGGREGATE</b>	<b>\$2,304,791,296</b>	<b>16.4%</b>	<b>7.2%</b>	<b>19.4%</b>	<b>19.4%</b>	<b>0.3%</b>	<b>3.9%</b>	<b>1.3%</b>		
BENCHMARK EM			6.3	23.7	23.7	1.1	4.0	2.0		
Excess			1.0	-4.3	-4.3	-0.8	-0.1	-0.6		
<b>SSGA EMERGING MARKETS PASSIVE</b>	<b>1,082,307,756</b>	<b>7.7</b>	<b>6.5</b>	<b>23.4</b>	<b>23.4</b>	<b>1.3</b>	<b>4.1</b>		<b>4.5</b>	<b>01/2012</b>
BENCHMARK EM			6.3	23.7	23.7	1.1	4.0		4.3	01/2012
Excess			0.2	-0.3	-0.3	0.2	0.2		0.1	
<b>EMERGING MARKETS TOTAL</b>	<b>3,387,099,051</b>	<b>24.0</b>	<b>7.0</b>	<b>21.7</b>	<b>21.7</b>	<b>0.9</b>	<b>4.2</b>	<b>1.5</b>		
BENCHMARK EM			6.3	23.7	23.7	1.1	4.0	2.0		
Excess			0.8	-2.1	-2.1	-0.2	0.3	-0.5		



	<u>2016 Calendar Return</u>	<u>2015 Calendar Return</u>	<u>2014 Calendar Return</u>	<u>2013 Calendar Return</u>	<u>2012 Calendar Return</u>
<b>Total Emerging Markets</b>					
<b>ACTIVE EMERGING MARKETS AGGREGATE</b>	<b>5.3%</b>	<b>-12.7%</b>	<b>-4.1%</b>	<b>0.6%</b>	<b>17.5%</b>
BENCHMARK EM	11.2	-14.9	-2.2	-2.6	18.2
Excess	-5.9	2.2	-2.0	3.2	-0.8
<b>SSGA EMERGING MARKETS PASSIVE</b>	<b>11.1</b>	<b>-14.6</b>	<b>-2.1</b>	<b>-2.5</b>	<b>18.5</b>
BENCHMARK EM	11.2	-14.9	-2.2	-2.6	18.2
Excess	-0.1	0.3	0.1	0.1	0.3
<b>EMERGING MARKETS TOTAL</b>	<b>7.5</b>	<b>-13.1</b>	<b>-3.8</b>	<b>0.2</b>	<b>17.6</b>
BENCHMARK EM	11.2	-14.9	-2.2	-2.6	18.2
Excess	-3.7	1.9	-1.6	2.9	-0.7

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# Fixed Income

## June 30, 2017



	<u>Ending Market Value</u>	<u>Portfolio Weight</u>	<u>Last Qtr</u>	<u>Fiscal YTD</u>	<u>1 Year</u>	<u>3 Year</u>	<u>5 Year</u>	<u>10 Year</u>	<u>Since Inception</u>	<u>Inception Date</u>
<b>Total Fixed Income</b>										
<b>ACTIVE FIXED INCOME AGGREGATE</b>	<b>\$5,970,655,905</b>	<b>46.8%</b>	<b>1.8%</b>	<b>1.9%</b>	<b>1.9%</b>	<b>3.3%</b>	<b>3.4%</b>	<b>5.0%</b>		
BBG BARC Agg (Dly)			1.4	-0.3	-0.3	2.5	2.2	4.5		
Excess			0.3	2.2	2.2	0.8	1.2	0.5		
<b>SEMI PASSIVE FIXED INCOME AGGREGATE</b>	<b>6,784,657,070</b>	<b>53.2</b>	<b>1.5</b>	<b>-0.1</b>	<b>-0.1</b>	<b>2.7</b>	<b>2.5</b>	<b>4.7</b>		
BBG BARC Agg (Dly)			1.4	-0.3	-0.3	2.5	2.2	4.5		
Excess			0.1	0.2	0.2	0.2	0.3	0.2		
TRANSITION AGGREGATE FIXED INCOME (1)	94,072	0.0								
<b>TOTAL FIXED INCOME (2)</b>	<b>12,755,407,047</b>	<b>100.0</b>	<b>1.6</b>	<b>0.9</b>	<b>0.9</b>	<b>2.9</b>	<b>2.9</b>	<b>4.8</b>	<b>7.7</b>	<b>07/1984</b>
BBG BARC Agg Bd			1.4	-0.3	-0.3	2.5	2.2	4.5	7.4	07/1984
Excess			0.2	1.2	1.2	0.5	0.7	0.4	0.3	

(1) The Transition Aggregate Fixed Income includes fixed income securities that are being transition to a different manager.

(2) The current Fixed Income Benchmark is the Bloomberg Barclays U.S. Aggregate calculated daily: BBG BARC Agg (Dly). For historical benchmark details please refer to the addendum of this report.

Note: All aggregates include the performance of terminated managers. Inception refers to the date of retention by the SBI.



	<u>2016 Calendar Return</u>	<u>2015 Calendar Return</u>	<u>2014 Calendar Return</u>	<u>2013 Calendar Return</u>	<u>2012 Calendar Return</u>
<b>Total Fixed Income</b>					
<b>ACTIVE FIXED INCOME AGGREGATE</b>	<b>4.4%</b>	<b>0.6%</b>	<b>6.2%</b>	<b>-0.8%</b>	<b>8.1%</b>
BBG BARC Agg (Dly)	2.6	0.5	6.0	-2.0	4.2
Excess	1.7	0.0	0.2	1.2	3.9
<b>SEMI PASSIVE FIXED INCOME AGGREGATE</b>	<b>2.8</b>	<b>0.8</b>	<b>6.1</b>	<b>-1.8</b>	<b>5.3</b>
BBG BARC Agg (Dly)	2.6	0.5	6.0	-2.0	4.2
Excess	0.2	0.2	0.1	0.2	1.1
TRANSITION AGGREGATE FIXED INCOME (1)					
<b>TOTAL FIXED INCOME (2)</b>	<b>3.6</b>	<b>0.7</b>	<b>6.1</b>	<b>-1.3</b>	<b>6.7</b>
BBG BARC Agg Bd	2.6	0.5	6.0	-2.0	4.2
Excess	0.9	0.1	0.2	0.7	2.5

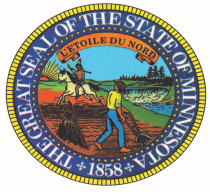
(1) The Transition Aggregate Fixed Income includes fixed income securities that are being transition to a different manager.

(2) The current Fixed Income Benchmark is the Bloomberg Barclays U.S. Aggregate calculated daily: BBG BARC Agg (Dly). For historical benchmark details please refer to the addendum of this report.

Note: All aggregates include the performance of terminated managers. Inception refers to the date of retention by the SBI.



	<u>Ending Market Value</u>	<u>Portfolio Weight</u>	<u>Last Qtr</u>	<u>Fiscal YTD</u>	<u>1 Year</u>	<u>3 Year</u>	<u>5 Year</u>	<u>10 Year</u>	<u>Since Inception</u>	<u>Inception Date</u>
<b>Active Fixed Income Managers</b>										
<b>COLUMBIA</b>	<b>\$1,160,642,196</b>	<b>9.1%</b>	<b>1.8%</b>	<b>2.0%</b>	<b>2.0%</b>	<b>3.3%</b>	<b>3.2%</b>	<b>4.9%</b>	<b>5.5%</b>	<b>07/1993</b>
BBG BARC Agg (Dly)			1.4	-0.3	-0.3	2.5	2.2	4.5	5.4	07/1993
Excess			0.3	2.3	2.3	0.8	1.0	0.5	0.1	
<b>DODGE &amp; COX</b>	<b>1,646,751,688</b>	<b>12.9</b>	<b>1.5</b>	<b>2.7</b>	<b>2.7</b>	<b>3.0</b>	<b>3.6</b>	<b>5.5</b>	<b>6.3</b>	<b>02/2000</b>
BBG BARC Agg (Dly)			1.4	-0.3	-0.3	2.5	2.2	4.5	5.2	02/2000
Excess			0.1	3.0	3.0	0.5	1.4	1.1	1.0	
<b>PIMCO</b>	<b>1,575,510,117</b>	<b>12.4</b>	<b>1.6</b>	<b>0.8</b>	<b>0.8</b>	<b>3.0</b>	<b>3.1</b>		<b>5.9</b>	<b>10/2008</b>
BBG BARC Agg (Dly)			1.4	-0.3	-0.3	2.5	2.2		4.4	10/2008
Excess			0.2	1.1	1.1	0.5	0.9		1.5	
<b>WESTERN</b>	<b>1,587,751,904</b>	<b>12.4</b>	<b>2.2</b>	<b>2.4</b>	<b>2.4</b>	<b>3.7</b>	<b>3.7</b>	<b>5.4</b>	<b>8.6</b>	<b>07/1984</b>
BBG BARC Agg (Dly)			1.4	-0.3	-0.3	2.5	2.2	4.5	7.4	07/1984
Excess			0.8	2.7	2.7	1.2	1.5	0.9	1.2	
<b>ACTIVE FIXED INCOME AGGREGATE</b>	<b>5,970,655,905</b>	<b>46.8</b>	<b>1.8</b>	<b>1.9</b>	<b>1.9</b>	<b>3.3</b>	<b>3.4</b>	<b>5.0</b>		
BBG BARC Agg (Dly)			1.4	-0.3	-0.3	2.5	2.2	4.5		
Excess			0.3	2.2	2.2	0.8	1.2	0.5		



	<u>2016 Calendar Return</u>	<u>2015 Calendar Return</u>	<u>2014 Calendar Return</u>	<u>2013 Calendar Return</u>	<u>2012 Calendar Return</u>
<b>Active Fixed Income Managers</b>					
<b>COLUMBIA</b>	<b>5.2%</b>	<b>0.2%</b>	<b>5.8%</b>	<b>-1.0%</b>	<b>6.9%</b>
BBG BARC Agg (Dly)	2.6	0.5	6.0	-2.0	4.2
Excess	2.6	-0.4	-0.2	1.0	2.7
<b>DODGE &amp; COX</b>	<b>4.8</b>	<b>0.3</b>	<b>6.0</b>	<b>0.9</b>	<b>8.5</b>
BBG BARC Agg (Dly)	2.6	0.5	6.0	-2.0	4.2
Excess	2.2	-0.3	0.0	3.0	4.2
<b>PIMCO</b>	<b>2.8</b>	<b>1.0</b>	<b>5.5</b>	<b>-1.3</b>	<b>9.3</b>
BBG BARC Agg (Dly)	2.6	0.5	6.0	-2.0	4.2
Excess	0.2	0.4	-0.4	0.7	5.1
<b>WESTERN</b>	<b>4.9</b>	<b>0.7</b>	<b>7.0</b>	<b>-1.4</b>	<b>7.8</b>
BBG BARC Agg (Dly)	2.6	0.5	6.0	-2.0	4.2
Excess	2.2	0.1	1.0	0.7	3.6
<b>ACTIVE FIXED INCOME AGGREGATE</b>	<b>4.4</b>	<b>0.6</b>	<b>6.2</b>	<b>-0.8</b>	<b>8.1</b>
BBG BARC Agg (Dly)	2.6	0.5	6.0	-2.0	4.2
Excess	1.7	0.0	0.2	1.2	3.9



	<u>Ending Market Value</u>	<u>Portfolio Weight</u>	<u>Last Qtr</u>	<u>Fiscal YTD</u>	<u>1 Year</u>	<u>3 Year</u>	<u>5 Year</u>	<u>10 Year</u>	<u>Since Inception</u>	<u>Inception Date</u>
<b>Semi Passive Fixed Income Managers</b>										
<b>BLACKROCK</b>	<b>\$2,066,829,549</b>	<b>16.2%</b>	<b>1.5%</b>	<b>-0.1%</b>	<b>-0.1%</b>	<b>2.6%</b>	<b>2.4%</b>	<b>4.4%</b>	<b>5.4%</b>	<b>04/1996</b>
BBG BARC Agg (Dly)			1.4	-0.3	-0.3	2.5	2.2	4.5	5.3	04/1996
Excess			0.0	0.2	0.2	0.2	0.2	-0.1	0.1	
<b>GOLDMAN SACHS</b>	<b>2,486,566,007</b>	<b>19.5</b>	<b>1.5</b>	<b>0.2</b>	<b>0.2</b>	<b>2.7</b>	<b>2.6</b>	<b>4.8</b>	<b>5.7</b>	<b>07/1993</b>
BBG BARC Agg (Dly)			1.4	-0.3	-0.3	2.5	2.2	4.5	5.4	07/1993
Excess			0.1	0.5	0.5	0.2	0.4	0.3	0.3	
<b>NEUBERGER</b>	<b>2,231,261,515</b>	<b>17.5</b>	<b>1.5</b>	<b>-0.3</b>	<b>-0.3</b>	<b>2.6</b>	<b>2.4</b>	<b>4.9</b>	<b>6.6</b>	<b>07/1988</b>
BBG BARC Agg (Dly)			1.4	-0.3	-0.3	2.5	2.2	4.5	6.4	07/1988
Excess			0.1	0.0	0.0	0.1	0.2	0.4	0.2	
<b>SEMI PASSIVE FIXED INCOME</b>	<b>6,784,657,070</b>	<b>53.2</b>	<b>1.5</b>	<b>-0.1</b>	<b>-0.1</b>	<b>2.7</b>	<b>2.5</b>	<b>4.7</b>		
BBG BARC Agg (Dly)			1.4	-0.3	-0.3	2.5	2.2	4.5		
Excess			0.1	0.2	0.2	0.2	0.3	0.2		



	<u>2016 Calendar Return</u>	<u>2015 Calendar Return</u>	<u>2014 Calendar Return</u>	<u>2013 Calendar Return</u>	<u>2012 Calendar Return</u>
<b>Semi Passive Fixed Income Managers</b>					
<b>BLACKROCK</b>	<b>2.8%</b>	<b>0.9%</b>	<b>6.0%</b>	<b>-1.8%</b>	<b>5.0%</b>
BBG BARC Agg (Dly)	2.6	0.5	6.0	-2.0	4.2
Excess	0.1	0.3	0.0	0.2	0.8
<b>GOLDMAN SACHS</b>	<b>3.0</b>	<b>0.8</b>	<b>6.1</b>	<b>-1.7</b>	<b>5.4</b>
BBG BARC Agg (Dly)	2.6	0.5	6.0	-2.0	4.2
Excess	0.3	0.2	0.1	0.3	1.2
<b>NEUBERGER</b>	<b>2.7</b>	<b>0.7</b>	<b>6.1</b>	<b>-2.0</b>	<b>5.4</b>
BBG BARC Agg (Dly)	2.6	0.5	6.0	-2.0	4.2
Excess	0.1	0.2	0.2	0.1	1.2
<b>SEMI PASSIVE FIXED INCOME</b>	<b>2.8</b>	<b>0.8</b>	<b>6.1</b>	<b>-1.8</b>	<b>5.3</b>
BBG BARC Agg (Dly)	2.6	0.5	6.0	-2.0	4.2
Excess	0.2	0.2	0.1	0.2	1.1

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# Private Markets

## June 30, 2017



## Private Markets Performance

### Private Markets

	<u>Last Qtr</u>	<u>FYTD</u>	<u>1 Year</u>	<u>3 Year</u>	<u>5 Year</u>	<u>10 Year</u>	<u>20 Year</u>
Total Private Markets	4.9%	19.7%	19.7%	8.9%	11.3%	9.0%	13.3%
Private Equity	5.4	18.7	18.7	12.6	14.1	10.9	14.0
Private Credit	5.2	20.0	20.0	14.4	14.6	11.1	13.2
Resources	3.9	27.3	27.3	-4.7	1.7	6.9	15.1
Real Estate	3.5	7.8	7.8	11.8	12.3	4.7	10.0

### Private Markets

The time-weighted rates of return for the Private Markets portfolio are shown here. Private Markets included Private Equity, Private Credit, Resources, and Real Estate. Some of the existing investments are relatively immature and returns may not be indicative of future results.

### Private Equity Investments

The objectives of the Private Equity portfolio, which may include leveraged buyouts, growth equity, venture capital and special situations, are to achieve attractive returns and to provide overall portfolio diversification to the total plan.

### Private Credit Investments

The objectives of the Private Credit portfolio, which may include mezzanine debt, direct lending, and other forms of non-investment grade fixed income instruments, are to achieve a high total return over a full market cycle and to provide some degree of downside protection and typically provide current income in the form of a coupon. In certain situations, investments in the Private Credit portfolio also provide an equity component of return in the form of warrants or re-organized equity.

### Resources Investments

The objectives of the Resources portfolio, which may include energy, infrastructure, and other hard assets, are to provide protection against the risks associated with inflation and to provide overall portfolio diversification to the total plan.

### Real Estate Investments

The objectives of the Real Estate portfolio, which may include core and non-core real estate investments, are to achieve attractive returns, preserve capital, provide protection against risks associated with inflation, and provide overall portfolio diversification to the total plan.

The SBI also monitors Private Markets performance using money-weighted return metrics such as Internal Rate of Return and Multiple of Invested Capital. For money-weighted return metrics please refer to the following pages.

**Minnesota State Board of Investment**  
**- Alternative Investments -**  
**As of June 30, 2017**

Investment	Total Commitment	Funded Commitment	MarketValue	Distributions	Unfunded Commitment	IRR %	MOIC*	Period Years
<b>I. REAL ESTATE</b>								
<b>Angelo, Gordon &amp; Co.</b>								
<i>AG Realty Fund IX</i>	100,000,000	60,538,360	63,856,791	1,500,000	39,461,640	10.25	1.08	1.29
<i>AG Asia Realty Fund III</i>	50,000,000	21,000,000	21,388,430	2,875,000	30,953,750	13.60	1.16	0.75
<b>Blackstone</b>								
<i>Blackstone Real Estate Partners V</i>	100,000,000	97,030,342	33,641,998	170,585,770	4,174,052	10.88	2.10	10.93
<i>Blackstone Real Estate Partners VI</i>	100,000,000	99,320,387	18,643,123	194,555,798	4,907,906	12.93	2.15	10.00
<i>Blackstone Real Estate Partners VII</i>	100,000,000	93,824,566	86,658,179	79,572,577	16,659,681	17.71	1.77	5.34
<i>Blackstone Real Estate Partners VIII</i>	150,000,000	72,645,182	67,814,761	21,035,456	93,833,542	14.97	1.22	2.02
<b>Blackstone Strategic Partners (CSFB)</b>								
<i>Strategic Partners III RE</i>	25,000,000	25,752,810	4,182,246	10,953,622	9,006	-6.98	0.59	11.75
<i>Strategic Partners IV RE</i>	50,000,000	50,601,452	10,825,903	38,815,182	1,368,796	-0.52	0.98	8.79
<b>Colony Capital</b>								
<i>Colony Investors III</i>	100,000,000	100,000,000	5,175,300	172,642,105	0	14.56	1.78	19.25
<b>Rockpoint</b>								
<i>Rockpoint Real Estate Fund V</i>	100,000,000	30,571,299	33,061,832	2,073,661	69,697,752	6.42	1.15	1.27
<b>Rockwood</b>								
<i>Rockwood Capital RE Partners X</i>	100,000,000	24,615,602	23,462,533	454,546	75,384,398	-3.88	0.97	0.96
<b>Silverpeak Real Estate Partners</b>								
<i>Silverpeak Legacy Pension Partners II</i>	75,000,000	78,673,707	5,544,602	87,952,458	7,742,386	4.44	1.19	11.75
<i>Silverpeak Legacy Pension Partners III</i>	150,000,000	70,138,520	16,833,935	9,565,043	79,861,480	-12.37	0.38	8.86
<b>T.A. Associates Realty</b>								
<i>Realty Associates Fund VIII</i>	100,000,000	100,000,000	42,930,264	52,803,114	0	-0.52	0.96	10.75
<i>Realty Associates Fund IX</i>	100,000,000	100,000,000	17,413,825	143,048,338	0	10.55	1.60	8.60
<i>Realty Associates Fund X</i>	100,000,000	100,000,000	84,426,736	54,280,759	0	11.76	1.39	5.08
<i>Realty Associates Fund XI</i>	100,000,000	40,000,000	39,828,160	572,862	60,000,000	1.40	1.01	1.75
<b>Real Estate Total</b>	<b>1,600,000,000</b>	<b>1,164,712,227</b>	<b>575,688,618</b>	<b>1,043,286,290</b>	<b>484,054,389</b>		<b>1.39</b>	

**Minnesota State Board of Investment**  
**- Alternative Investments -**  
**As of June 30, 2017**

Investment	Total Commitment	Funded Commitment	MarketValue	Distributions	Unfunded Commitment	IRR %	MOIC*	Period Years
<b>II. RESOURCE</b>								
<b>Apache Corp.</b>								
<i>1986 Net Profits Interest</i>	30,000,000	30,000,000	371,580	59,838,195	0	12.15	2.01	30.25
<b>EIG Global Energy Partners</b>								
<i>EIG Energy Fund XIV</i>	100,000,000	113,013,074	13,906,276	92,181,918	2,761,129	-2.40	0.94	9.95
<i>EIG Energy Fund XV</i>	150,000,000	145,074,733	94,110,712	85,829,469	6,322,679	6.24	1.24	6.82
<i>EIG Energy Fund XVI</i>	200,000,000	124,880,546	118,881,745	25,494,749	81,730,852	8.03	1.16	3.55
<b>EnCap Energy</b>								
<i>EnCap Energy Capital Fund VII</i>	100,000,000	96,692,592	8,574,882	132,528,983	3,860,151	15.26	1.46	9.75
<i>EnCap Energy Capital Fund VIII</i>	100,000,000	92,787,484	44,967,799	40,019,993	8,379,469	-3.09	0.92	6.50
<i>Encap Energy Fund IX</i>	100,000,000	97,848,189	71,072,669	61,606,909	18,569,791	18.59	1.36	4.31
<i>EnCap Energy Capital Fund X</i>	100,000,000	53,585,923	46,276,284	15,145,693	54,200,820	20.57	1.15	2.07
<b>EnerVest Energy</b>								
<i>EnerVest Energy Institutional Fund XIV</i>	100,000,000	84,214,273	77,813,840	6,136,266	17,540,521	-0.28	1.00	1.94
<b>Energy &amp; Minerals Group</b>								
<i>NGP Midstream &amp; Resources</i>	100,000,000	100,090,315	77,916,245	121,030,856	230,871	15.96	1.99	10.00
<i>The Energy &amp; Minerals Group Fund II</i>	100,000,000	94,741,371	128,825,694	33,897,369	5,533,640	16.57	1.72	5.52
<i>The Energy &amp; Minerals Group Fund III</i>	200,000,000	186,946,088	162,453,744	5,097,895	14,793,996	-4.81	0.90	3.07
<i>The Energy &amp; Minerals Group Fund IV</i>	150,000,000	79,888,463	99,061,001	5,152,897	72,583,810	20.73	1.30	1.67
<b>Energy Capital Partners</b>								
<i>Energy Capital Partners II</i>	100,000,000	80,529,511	49,527,211	85,460,609	30,099,613	13.86	1.68	6.70
<i>Energy Capital Partners III</i>	200,000,000	106,956,580	109,839,479	8,889,828	93,043,420	7.48	1.11	3.28
<b>First Reserve</b>								
<i>First Reserve Fund X</i>	100,000,000	100,000,000	430,477	182,429,002	0	31.06	1.83	12.41
<i>First Reserve Fund XI</i>	150,000,000	150,292,121	12,807,276	92,012,153	0	-7.88	0.70	10.27
<i>First Reserve Fund XII</i>	150,000,000	160,143,186	44,713,115	71,186,004	3,440,286	-8.31	0.72	8.42
<i>First Reserve Fund XIII</i>	200,000,000	64,379,747	71,045,244	5,975,369	135,620,253	11.40	1.20	3.41

**Minnesota State Board of Investment**  
**- Alternative Investments -**  
**As of June 30, 2017**

Investment	Total Commitment	Funded Commitment	MarketValue	Distributions	Unfunded Commitment	IRR %	MOIC*	Period Years
<b>Merit Energy Partners</b>								
<i>Merit Energy Partners B</i>	24,000,000	24,000,000	10,225,460	182,321,687	0	24.32	8.02	20.75
<i>Merit Energy Partners C</i>	50,000,000	50,000,000	18,668,994	497,681,630	0	30.98	10.33	18.42
<i>Merit Energy Partners D</i>	88,000,000	70,938,303	35,229,708	311,288,474	0	22.81	4.88	15.85
<i>Merit Energy Partners E</i>	100,000,000	39,983,197	26,049,011	73,805,235	0	13.15	2.50	12.46
<i>Merit Energy Partners F</i>	100,000,000	59,522,861	24,964,326	27,251,921	0	-2.24	0.88	11.02
<i>Merit Energy Partners H</i>	100,000,000	100,000,000	74,637,538	18,410,723	0	-2.27	0.93	6.16
<i>Merit Energy Partners I</i>	169,721,518	143,099,999	178,277,842	4,296,319	26,621,519	28.11	1.28	2.45
<b>NGP</b>								
<i>Natural Gas Partners IX</i>	150,000,000	161,702,525	7,907,594	235,442,290	1,473,974	11.77	1.50	9.44
<i>NGP Natural Resources X</i>	150,000,000	140,378,747	69,642,472	89,627,571	9,621,253	4.80	1.13	5.47
<i>Natural Gas Capital Resources XI</i>	150,000,000	87,730,791	88,614,495	17,344,708	68,431,215	24.28	1.21	2.31
<b>Sheridan</b>								
<i>Sheridan Production Partners I</i>	100,000,000	116,550,000	65,723,992	82,750,000	0	5.98	1.27	10.00
<i>Sheridan Production Partners II</i>	100,000,000	100,000,000	66,365,005	7,000,000	0	-7.15	0.73	6.50
<i>Sheridan Production Partners III-B</i>	100,000,000	34,350,000	41,942,015	2,000,000	65,650,000	26.67	1.28	2.31
<b>T. Rowe Price</b>	18,513,566	18,513,566	7,539,057	5,953,538	0	-38.65	0.73	
<b>Resource Total</b>	<b>3,830,235,084</b>	<b>3,108,834,185</b>	<b>1,948,382,782</b>	<b>2,685,088,254</b>	<b>720,509,262</b>		<b>1.49</b>	

**Minnesota State Board of Investment**  
**- Alternative Investments -**  
**As of June 30, 2017**

Investment	Total Commitment	Funded Commitment	MarketValue	Distributions	Unfunded Commitment	IRR %	MOIC*	Period Years
<b>III. PRIVATE CREDIT</b>								
<b>Audax Group</b>								
<i>Audax Mezzanine Fund III</i>	100,000,000	90,175,036	50,995,033	63,054,397	18,332,960	9.76	1.26	6.99
<i>Audax Mezzanine Fund IV</i>	100,000,000	11,922,399	9,968,061	1,990,291	88,724,551	0.61	1.00	1.98
<b>Avenue Capital Partners</b>								
<i>Avenue Energy Opportunities Fund</i>	100,000,000	100,000,000	120,354,100	934,495	0	11.96	1.21	2.02
<b>Citicorp Mezzanine</b>								
<i>CM Liquidating Partnership</i>	100,000,000	88,029,296	11,799,488	149,642,633	0	16.87	1.83	17.41
<b>Crescent Capital Group</b>								
<i>TCW/Crescent Mezzanine Partners III</i>	75,000,000	68,835,269	2,437,594	156,868,939	29,733,852	35.88	2.31	16.00
<b>Gold Hill Venture Lending</b>								
<i>Gold Hill Venture Lending</i>	40,000,000	40,000,000	1,101,058	63,913,250	0	10.64	1.63	12.51
<i>Gold Hill 2008</i>	25,852,584	25,852,584	9,033,754	32,238,919	0	12.03	1.60	8.75
<b>GS Mezzanine Partners</b>								
<i>GS Mezzanine Partners 2006</i>	100,000,000	74,999,888	3,801,267	131,284,920	9,858,563	4.95	1.80	10.98
<i>GS Mezzanine Partners V</i>	150,000,000	112,057,963	6,380,624	172,683,972	38,044,131	8.85	1.60	9.44
<b>Kohlberg Kravis Roberts</b>								
<i>KKR Lending Partners II</i>	75,000,000	81,865,272	65,734,900	29,570,002	11,180,434	16.51	1.16	2.08
<b>LBC Credit Partners</b>								
<i>LBC Credit Partners IV</i>	100,000,000	25,001,167	25,685,799	416,312	74,998,833	9.43	1.04	1.17
<b>Merit Capital Partners</b>								
<i>William Blair Mezzan. Cap. Fd. III</i>	60,000,000	57,243,241	616,399	112,755,951	2,756,759	15.51	1.98	17.25
<i>Merit Mezzanine Fund IV</i>	75,000,000	70,178,571	17,960,267	107,010,285	4,821,429	10.58	1.78	12.29
<i>Merit Mezzanine Fund V</i>	75,000,000	70,420,408	54,724,865	41,939,385	4,579,592	9.79	1.37	7.28
<i>Merit Mezzanine Fund VI</i>	61,603,125	18,216,603	19,182,859	0	43,386,522	12.46	1.05	1.27
<b>Oaktree Capital Management</b>								
<i>Oaktree Opportunities Fund X</i>	50,000,000	20,000,000	19,695,225	5,619,660	35,000,000	28.06	1.27	2.08
<i>Oaktree Opportunities Fund Xb</i>	100,000,000	0	0	0	100,000,000	0.00	0.00	2.08
<b>Pimco Bravo**</b>								
<i>Pimco Bravo Fund OnShore Feeder I</i>	3,958,027	3,958,027	310,309	3,717,270	2,086,707	1.89	1.02	2.25
<i>Pimco Bravo Fund OnShore Feeder II</i>	5,243,670	4,618,670	5,529,874	5,187	625,000	6.89	1.20	2.25

**Minnesota State Board of Investment**  
**- Alternative Investments -**  
**As of June 30, 2017**

Investment	Total Commitment	Funded Commitment	MarketValue	Distributions	Unfunded Commitment	IRR %	MOIC*	Period Years
<b>Portfolio Advisors</b>								
<i>DLJ Investment Partners II</i>	27,375,168	23,164,217	82,683	34,829,566	0	10.37	1.51	17.25
<i>DLJ Investment Partners III</i>	100,000,000	72,260,040	5,677,044	88,389,198	29,739,249	7.32	1.30	10.77
<b>Prudential Capital Partners</b>								
<i>Prudential Capital Partners II</i>	100,000,000	97,079,158	5,231,021	135,600,498	3,053,595	8.89	1.45	11.75
<i>Prudential Capital Partners III</i>	100,000,000	96,292,841	39,326,728	123,359,252	7,149,552	13.72	1.69	7.96
<i>Prudential Capital Partners IV</i>	100,000,000	95,435,108	75,202,925	40,392,370	5,131,007	10.94	1.21	5.20
<i>Prudential Capital Partners V</i>	150,000,000	8,994,254	8,847,899	0	141,005,747	-3.98	0.98	0.87
<b>Summit Partners</b>								
<i>Summit Subordinated Debt Fund III</i>	45,000,000	42,750,000	9,745,381	55,057,070	2,250,000	9.32	1.52	13.12
<i>Summit Subordinated Debt Fund IV</i>	50,000,000	55,134,261	19,821,367	52,499,924	16,044,207	9.65	1.31	9.01
<b>TCW Asset Management</b>								
<i>TCW Direct Lending</i>	100,000,000	76,021,441	58,855,835	21,913,589	32,729,586	5.53	1.06	2.21
<b>Windjammer Capital Investors</b>								
<i>Windjammer Mezzanine &amp; Equity Fund II</i>	66,708,861	56,569,498	68,519	84,876,800	10,139,363	8.94	1.50	17.00
<i>Windjammer Senior Equity Fund III</i>	75,000,000	61,619,620	19,235,282	126,531,293	13,380,380	18.91	2.37	11.24
<i>Windjammer Senior Equity Fund IV</i>	100,000,000	77,681,454	67,187,676	6,906,820	24,987,467	-2.29	0.95	5.10
<i>Private Credit Total</i>	<b>2,410,741,435</b>	<b>1,726,376,286</b>	<b>734,593,836</b>	<b>1,844,002,249</b>	<b>749,739,485</b>		<b>1.49</b>	

**Minnesota State Board of Investment**  
**- Alternative Investments -**  
**As of June 30, 2017**

Investment	Total Commitment	Funded Commitment	MarketValue	Distributions	Unfunded Commitment	IRR %	MOIC*	Period Years
<b>IV. PRIVATE EQUITY</b>								
<b>Adams Street Partners</b>								
<i>Adams Street Global Secondary Fund 5</i>	100,000,000	72,529,750	54,281,342	21,947,518	27,470,250	2.64	1.05	4.78
<i>Adams Street Global Secondary Fund 6</i>	100,000,000	-	-	-	100,000,000	-	-	0
<b>Advent International</b>								
<i>Advent International GPE VI</i>	50,000,000	50,000,000	31,298,588	76,885,584	-	17.98	2.16	9.00
<i>Advent International GPE VII</i>	90,000,000	81,000,000	84,516,831	34,200,083	9,000,000	15.36	1.47	4.54
<i>Advent International GPE VIII</i>	100,000,000	23,400,000	22,974,471	-	76,600,000	-4.02	0.98	1.40
<b>Affinity Ventures</b>								
<i>Affinity Ventures IV</i>	4,000,000	4,000,000	1,154,149	1,541,970	-	-7.47	0.67	12.75
<i>Affinity Ventures V</i>	5,000,000	5,000,000	2,886,784	1,585,611	0	-2.45	0.89	8.74
<b>APAX Partners</b>								
<i>Apax VIII - USD</i>	200,000,000	204,727,016	208,803,242	45,725,902	18,017,529	11.30	1.24	4.06
<i>Apax IX - USD</i>	150,000,000	5,250,000	2,550,440	-	144,750,000	-52.13	0.49	1.00
<b>Banc Fund</b>								
<i>Banc Fund VII</i>	45,000,000	45,000,000	47,841,000	15,392,725	-	3.36	1.41	12.00
<i>Banc Fund VIII</i>	98,250,000	98,250,000	156,858,108	48,533,973	0	15.48	2.09	8.93
<i>Banc Fund IX</i>	107,205,932	85,764,746	104,940,885	1,407,814	21,441,186	17.86	1.24	2.81
<b>BlackRock**</b>								
<i>BlackRock Tempus Fund</i>	1,774,870	1,774,870	726,609	1,308,352	-	12.70	1.15	1.81
<b>Blackstone</b>								
<i>Blackstone Capital Partners IV</i>	70,000,000	72,325,477	7,426,131	192,304,580	1,945,831	37.06	2.76	14.72
<i>Blackstone Capital Partners V</i>	140,000,000	130,994,409	14,559,305	227,295,035	8,522,239	7.97	1.85	11.16
<i>Blackstone Capital Partners VI</i>	100,000,000	88,714,261	89,385,357	40,852,257	16,683,497	11.38	1.47	8.68
<i>Blackstone Capital Partners VII</i>	130,000,000	16,498,486	16,809,897	46,064	113,521,841	-19.30	1.02	1.75
<b>Blackstone Strategic Partners (CSFB/ DLJ)</b>								
<i>Strategic Partners II-B</i>	100,000,000	86,154,714	614,433	161,889,320	4,692,847	35.07	1.89	13.70
<i>Strategic Partners III-B</i>	100,000,000	78,088,666	16,646,763	101,761,623	15,070,182	6.50	1.52	11.83
<i>Strategic Partners III VC</i>	25,000,000	24,818,888	6,201,521	27,787,072	1,138,329	6.27	1.37	11.83
<i>Strategic Partners IV-B</i>	100,000,000	92,041,126	22,290,928	128,192,214	18,379,014	12.43	1.63	9.01
<i>Strategic Partners IV VC</i>	40,500,000	40,049,287	13,806,172	46,918,010	2,965,229	9.54	1.52	8.79
<i>Strategic Partners V</i>	100,000,000	77,878,472	35,977,546	91,310,525	41,339,010	20.37	1.63	5.62
<i>Strategic Partners VI</i>	150,000,000	81,280,504	84,312,285	32,501,432	71,617,717	22.13	1.44	2.96



**Minnesota State Board of Investment**  
**- Alternative Investments -**  
**As of June 30, 2017**

Investment	Total Commitment	Funded Commitment	MarketValue	Distributions	Unfunded Commitment	IRR %	MOIC*	Period Years
<b>Strategic Partners VII</b>	150,000,000	14,700,409	17,789,543	1,804,121	135,299,591	88.23	1.33	1.38
<b>BLUM Capital Partners</b>								
<i>Blum Strategic Partners II</i>	50,000,000	40,185,889	134,317	89,708,870	2,127,584	22.42	2.24	15.70
<i>Blum Strategic Partners III</i>	75,000,000	78,121,020	-	83,524,046	471,064	0.26	1.07	11.83
<i>Blum Strategic Partners IV</i>	150,000,000	170,916,780	0	167,939,991	5,896,033	-0.75	0.98	9.36
<b>Brookfield Asset Management Inc.</b>								
<i>Brookfield Capital Partners Fund IV</i>	100,000,000	33,772,408	34,672,881	7,794,360	71,489,160	13.06	1.26	1.78
<b>CVC Capital Partners</b>								
<i>CVC European Equity Partners V</i>	133,942,703	132,413,576	55,106,428	187,825,177	1,628,978	14.37	1.83	9.01
<i>CVC Capital Partners VI</i>	254,303,501	139,313,187	155,352,866	2,223,185	115,918,953	8.56	1.13	3.73
<b>Carval Investors</b>								
<i>CVI Global Value Fund</i>	200,000,000	190,000,000	29,609,733	290,286,276	10,000,000	9.67	1.68	10.22
<i>CVI Credit Value Fund I</i>	100,000,000	95,000,000	41,609,805	167,914,197	5,000,000	19.10	2.21	6.50
<i>CVI Credit Value Fund A II</i>	150,000,000	142,500,000	127,845,275	62,800,217	7,500,000	8.18	1.34	4.42
<i>CVI Credit Value Fund A III</i>	150,000,000	97,500,000	113,147,970	-	52,500,000	13.10	1.16	1.83
<b>Cardinal Partners</b>								
<i>DSV Partners IV</i>	10,000,000	10,000,000	31,177	39,196,082	-	10.61	3.92	31.97
<b>Carlyle Group</b>								
<i>Carlyle Strategic Partners IV</i>	100,000,000	10,212,331	10,303,676	1,457,332	91,245,001	22.57	1.15	1.25
<b>Chicago Growth Partners (William Blair)</b>								
<i>William Blair Capital Partners VII</i>	50,000,000	48,150,000	59,631	67,985,017	1,650,000	8.26	1.41	16.06
<i>Chicago Growth Partners I</i>	50,000,000	52,441,998	5,119,924	53,058,188	300,000	2.40	1.11	11.68
<i>Chicago Growth Partners II</i>	60,000,000	58,095,626	21,503,013	94,583,860	1,652,374	18.74	2.00	9.06
<b>Court Square Capital Partners</b>								
<i>Court Square Capital Partners</i>	100,000,000	80,827,220	104,698	182,160,766	1,920,943	28.91	2.26	15.30
<i>Court Square Capital Partners II</i>	175,000,000	158,503,096	44,278,211	255,085,071	17,544,102	12.91	1.89	10.57
<i>Court Square Capital Partners III</i>	175,000,000	97,116,094	56,930,988	63,877,629	85,547,995	10.47	1.24	4.83
<b>Crescendo</b>								
<i>Crescendo IV</i>	101,500,000	101,500,000	14,424,384	37,386,052	-	-6.05	0.51	17.06
<b>Diamond Castle Partners</b>								
<i>Diamond Castle Partners IV</i>	92,487,949	91,151,326	-	94,068,606	1,377,108	0.40	1.03	10.56
<b>Elevation Partners</b>								
<i>Elevation Partners</i>	75,000,000	69,311,710	579,089	113,091,463	799,634	11.82	1.64	11.87
<b>Fox Paine &amp; Company</b>								

**Minnesota State Board of Investment**  
**- Alternative Investments -**  
**As of June 30, 2017**

Investment	Total Commitment	Funded Commitment	MarketValue	Distributions	Unfunded Commitment	IRR %	MOIC*	Period Years
<i>Fox Paine Capital Fund II</i>	50,000,000	46,299,626	4,068,672	86,859,891	11,953,212	18.91	1.96	16.75
<b>GHJM Marathon Fund</b>								
<i>GHJM Marathon Fund V</i>	50,000,000	50,093,425	-	95,948,519	46,502	12.10	1.92	12.50
<i>TrailHead Fund</i>	20,000,000	15,414,187	20,774,703	2,406,955	4,585,813	12.55	1.50	5.10
<b>Glouston Capital Partners (fka Permal)**</b>								
<i>Glouston Private Equity Opportunities Fund</i>	5,337,098	4,247,098	2,056,536	2,515,487	1,090,000	3.84	1.08	2.25
<b>GTCR Golder Rauner</b>								
<i>GTCR IX</i>	75,000,000	71,414,933	6,468,482	119,144,001	3,585,067	13.51	1.76	10.75
<i>GTCR X</i>	100,000,000	93,248,604	66,852,726	129,082,682	6,751,396	22.21	2.10	6.31
<i>GTCR Fund XI</i>	110,000,000	65,712,553	65,869,458	15,407,534	44,287,447	15.48	1.24	3.38
<b>GS Capital Partners</b>								
<i>GS Capital Partners 2000</i>	50,000,000	50,000,000	165,394	115,122,481	-	23.49	2.31	16.58
<i>GS Capital Partners V</i>	100,000,000	73,958,901	1,504,912	219,279,192	1,041,099	18.23	2.99	12.00
<i>GS Capital Partners VI</i>	100,000,000	80,215,619	19,803,130	110,990,160	15,039,971	5.80	1.63	10.16
<i>West Street Capital Partners</i>	150,000,000	13,500,000	12,822,165	-	136,500,000	-5.76	0.95	0.53
<i>GS Vintage VII</i>	100,000,000	2,000,000	2,000,000	-	98,000,000	0.00	1.00	0.37
<b>HarbourVest**</b>								
<i>Dover Street VII Cayman Fund</i>	2,198,112	2,070,612	746,213	1,163,702	127,500	-5.65	0.92	2.25
<i>HarbourVest Intl PE Partners V-Cayman US</i>	3,521,849	3,293,739	1,607,787	2,426,789	228,110	13.72	1.22	2.25
<i>Harbourvest Intl PE Partners VI-Cayman</i>	4,230,909	3,771,838	3,859,212	1,136,556	459,071	17.36	1.32	2.25
<i>HarbourVest Partners VIII Cayman Buyout</i>	4,506,711	4,194,711	2,566,540	2,634,438	312,000	13.99	1.24	2.25
<i>HarbourVest Partners VIII-Cayman Venture</i>	7,190,898	7,050,898	4,893,015	2,940,496	140,000	5.56	1.11	2.25
<b>Hellman &amp; Friedman</b>								
<i>Hellman &amp; Friedman Capital Partners V</i>	160,000,000	146,165,961	3,206,543	415,483,079	8,070,303	27.91	2.86	12.33
<i>Hellman &amp; Friedman Capital Partners VI</i>	175,000,000	171,035,354	38,626,990	310,253,019	5,087,265	13.07	2.04	10.00
<i>Hellman &amp; Friedman Capital Partners VII</i>	50,000,000	47,410,744	57,959,683	22,242,847	2,589,256	18.15	1.69	7.95
<b>IK Investment Partners</b>								
<i>IK Fund VII</i>	180,294,720	169,629,300	177,514,762	16,742,521	10,665,421	6.02	1.15	3.55
<i>IK Fund VIII</i>	169,923,527	28,807,990	27,883,132	2,213,957	143,261,439	6.55	1.04	0.95
<b>Kohlberg Kravis Roberts</b>								
<i>KKR Millennium Fund</i>	200,000,000	200,000,000	19,253,695	400,827,308	-	16.32	2.10	14.31
<i>KKR 2006 Fund</i>	200,000,000	211,063,288	89,063,198	262,796,284	3,360,223	8.45	1.67	10.51
<i>KKR Americas Fund XII</i>	150,000,000	-	-	-	150,000,000	0.00	0.00	1.33
<i>KKR Asian Fund III</i>	100,000,000	-	-	-	100,000,000	0.00	0.00	0.25

**Minnesota State Board of Investment**  
**- Alternative Investments -**  
**As of June 30, 2017**

Investment	Total Commitment	Funded Commitment	MarketValue	Distributions	Unfunded Commitment	IRR %	MOIC*	Period Years
<b>Leonard Green &amp; Partners</b>								
<i>Green Equity Investors VI</i>	200,000,000	213,778,395	204,976,510	66,923,993	10,758,975	11.93	1.27	5.04
<b>Lexington Capital Partners</b>								
<i>Lexington Capital Partners VI-B</i>	100,000,000	98,365,297	21,316,397	120,963,822	1,634,703	7.80	1.45	11.27
<i>Lexington Capital Partners VII</i>	200,000,000	166,986,835	79,548,367	177,095,378	41,166,114	15.46	0.00	7.80
<i>Lexington Capital Partners VIII</i>	150,000,000	42,225,863	41,821,051	19,158,593	114,384,150	32.06	1.44	3.07
<i>Lexington Middle Market Investors IV</i>	100,000,000	-	-	-	100,000,000	0.00	0.00	0.52
<b>MHR Institutional Partners</b>								
<i>MHR Institutional Partners IV</i>	75,000,000	18,000,000	15,071,115	1,733,418	58,509,011	-5.20	0.93	1.96
<b>Madison Dearborn Capital Partners</b>								
<i>Madison Dearborn Capital Partners VII</i>	100,000,000	24,326,801	23,479,961	57,142	75,673,199	-4.21	0.00	1.53
<b>Merced Capital</b>								
<i>Merced Partners II</i>	75,000,000	63,768,881	4,985,045	124,662,721	-	23.92	2.03	10.00
<i>Merced Partners III</i>	100,000,000	100,000,000	56,370,960	76,497,107	0	6.63	1.33	6.90
<i>Merced Partners IV</i>	125,000,000	125,000,000	133,349,775	11,248,378	0	5.66	1.16	3.72
<i>Merced Partners V</i>	100,000,000	37,616,250	37,616,250	0	62,383,750	0.00	1.00	0.00
<b>Neuberger Berman</b>								
<i>Dyal Capital Partners III</i>	175,000,000	121,343,383	72,283,473	58,941,714	112,598,331	24.35	1.08	0.54
<b>Nordic Capital</b>								
<i>Nordic Capital Fund VIII</i>	177,604,412	116,521,186	146,944,838	49,418	61,083,226	10.80	1.26	3.55
<b>North Sky Capital**</b>								
<i>North Sky Capital LBO Fund III</i>	1,070,259	720,259	504,060	424,624	350,000	15.12	1.29	2.25
<i>North Sky Capital Venture Fund III</i>	1,384,080	1,277,830	522,505	869,341	106,250	5.51	1.09	2.25
<b>Oak Hill Capital Management, Inc.</b>								
<i>Oak Hill Capital Partners IV</i>	150,000,000	15,000,000	9,034,530	0	135,000,000	-40.39	0.60	0.56
<b>Oaktree Capital Management</b>								
<i>Oaktree Principal Fund VI</i>	100,000,000	38,652,814	32,160,874	11,561,586	72,509,912	20.56	1.13	2.25
<b>Paine &amp; Partners</b>								
<i>Paine &amp; Partners Capital Fund IV</i>	75,000,000	39,367,701	34,583,049	1,074,740	36,688,304	-8.85	0.91	2.30
<b>PERMIRA</b>								
<i>Permira V</i>	178,586,154	161,392,363	186,219,659	2,229,773	17,193,792	7.62	1.17	3.25
<i>Permira VI</i>	135,926,608	21,164,465	20,882,024	0	114,762,143	-2.83	0.99	0.93
<b>Public Pension Capital Management</b>								
<i>Public Pension Capital</i>	100,000,000	49,987,358	50,205,944	1,149,355	50,012,642	-8.89	1.03	2.88

**Minnesota State Board of Investment**  
**- Alternative Investments -**  
**As of June 30, 2017**

Investment	Total Commitment	Funded Commitment	MarketValue	Distributions	Unfunded Commitment	IRR %	MOIC*	Period Years
<b>RWI Ventures</b>								
<i>RWI Ventures I</i>	7,603,265	7,603,265	483,933	6,094,262	0	-4.30	0.87	10.75
<b>Silver Lake Partners</b>								
<i>Silver Lake Partners II</i>	100,000,000	90,142,191	14,494,024	156,317,295	11,771,953	11.07	1.89	12.75
<i>Silver Lake Partners III</i>	100,000,000	91,352,370	56,864,658	135,356,048	10,675,428	18.13	2.10	10.00
<i>Silver Lake Partners IV</i>	100,000,000	76,189,252	80,704,541	32,761,458	35,839,166	28.04	1.49	4.51
<i>Silver Lake Partners V</i>	135,000,000	-	-	-	135,000,000	0.00	0.00	0.25
<b>Split Rock Partners</b>								
<i>Split Rock Partners</i>	50,000,000	47,454,543	26,715,874	25,998,744	2,545,457	1.36	1.11	11.92
<i>Split Rock Partners II</i>	60,000,000	58,845,000	45,374,980	23,289,936	1,155,000	4.13	1.17	8.92
<b>Summit Partners</b>								
<i>Summit Ventures V</i>	25,000,000	24,125,000	104,865	33,358,461	875,000	8.12	1.39	19.00
<i>Summit Partners Growth Equity Fund VIII</i>	100,000,000	106,489,649	102,805,193	49,846,746	12,212,734	17.27	1.43	5.91
<i>Summit Partners Growth Equity Fund IX</i>	100,000,000	6,000,000	6,248,724	-	94,000,000	4.20	1.04	1.84
<b>T. Rowe Price</b>	28,282,209	28,282,209	15,837,583	22,494,869	-	20.44	1.36	
<b>TPG Capital</b>								
<i>TPG Partners VII</i>	100,000,000	35,547,673	34,651,220	1,250,410	65,676,741	1.26	1.01	1.56
<b>Thoma Cressey</b>								
<i>Thoma Cressey Fund VI</i>	35,000,000	33,915,000	1,891	34,556,478	1,085,000	0.22	1.02	18.61
<i>Thoma Cressey Fund VII</i>	50,000,000	50,000,000	919,353	106,625,069	-	23.60	2.15	16.60
<i>Thoma Cressey Fund VIII</i>	70,000,000	68,932,574	1,524,016	233,860,926	770,000	18.27	2.93	10.92
<b>Thoma Bravo</b>								
<i>Thoma Bravo Fund XII</i>	75,000,000	30,374,491	28,986,407	-	44,625,509	-5.50	0.95	0.81
<b>Thomas H. Lee Partners</b>								
<i>Thomas H. Lee Equity Fund VII</i>	100,000,000	38,252,291	52,737,225	31,244	61,747,709	48.88	1.38	1.56
<i>Thomas, McNerney &amp; Partners</i>								
<i>Thomas, McNerney &amp; Partners I</i>	30,000,000	30,000,000	3,032,665	15,087,143	-	-8.68	0.60	14.40
<i>Thomas, McNerney &amp; Partners II</i>	50,000,000	48,125,000	16,473,698	94,461,371	1,875,000	17.07	2.31	10.75
<b>Varde Fund</b>								
<i>Varde Fund IX</i>	100,000,000	100,000,000	15,105,454	203,143,061	0	15.23	2.18	8.77
<i>Varde Fund X</i>	150,000,000	150,000,000	119,311,838	171,061,240	0	12.84	1.94	6.94
<i>Varde Fund XI</i>	200,000,000	200,000,000	260,254,600	-	-	7.83	1.30	3.73
<b>Vestar Capital Partners</b>								
<i>Vestar Capital Partners IV</i>	55,000,000	53,635,969	746,203	102,141,056	57,313	14.66	1.92	17.29

**Minnesota State Board of Investment**  
**- Alternative Investments -**  
**As of June 30, 2017**

Investment	Total Commitment	Funded Commitment	MarketValue	Distributions	Unfunded Commitment	IRR %	MOIC*	Period Years
<i>Vestar Capital Partners V</i>	75,000,000	74,936,812	19,529,057	82,246,388	63,188	4.31	1.36	11.28
<i>Vestar Capital Partners VI</i>	100,000,000	78,284,566	84,508,588	51,133,094	21,715,434	31.03	1.73	5.52
<b>Warburg Pincus</b>								
<i>Warburg Pincus Equity Partners</i>	100,000,000	100,000,000	390,972	163,222,253	0	10.02	1.64	18.76
<i>Warburg Pincus Private Equity VIII</i>	100,000,000	100,000,000	11,074,352	219,211,151	0	14.85	2.30	14.96
<i>Warburg Pincus Private Equity IX</i>	100,000,000	100,000,000	12,404,649	164,844,296	0	10.08	1.77	11.68
<i>Warburg Pincus Private Equity X</i>	150,000,000	150,000,000	77,286,049	146,753,987	-	7.91	1.49	9.44
<i>Warburg Pincus Private Equity XI</i>	200,000,000	186,800,000	204,226,676	47,839,400	13,200,000	12.21	1.35	4.28
<i>Warburg Pincus Private Equity XII</i>	131,000,000	41,658,000	40,061,578	353,700	89,342,000	-5.23	0.97	1.36
<i>Warburg Pincus China</i>	45,000,000	8,100,000	5,882,686	1,935,000	38,835,000	-7.65	0.97	0.55
<b>Wayzata</b>								
<i>Wayzata Opportunities Fund</i>	100,000,000	93,180,000	1,138,130	156,084,065	18,920,000	8.45	1.69	11.28
<i>Wayzata Opportunities Fund II</i>	150,000,000	57,450,000	23,895,941	183,589,062	30,000,000	16.41	3.61	9.44
<i>Wayzata Opportunities Fund III</i>	150,000,000	68,415,000	43,584,874	25,553,965	101,910,000	0.49	1.01	4.79
<b>Welsh, Carson, Anderson &amp; Stowe</b>								
<i>Welsh, Carson, Anderson &amp; Stowe X</i>	100,000,000	98,000,000	17,696,356	148,394,381	2,000,000	8.05	1.69	11.29
<i>Welsh, Carson, Anderson &amp; Stowe XI</i>	100,000,000	99,245,264	68,864,265	87,591,319	754,736	12.87	1.58	8.69
<i>Welsh, Carson, Anderson &amp; Stowe XII</i>	150,000,000	41,709,761	49,043,335	2,070,391	108,290,239	11.22	1.23	2.25
<b>Private Equity Total</b>	12,917,625,765	9,066,414,280	5,099,876,179	9,303,975,438	4,019,961,425		1.59	
<b>Alternatives Total</b>	<b>20,758,602,284</b>	<b>15,066,336,978</b>	<b>8,358,541,415</b>	<b>14,876,352,231</b>	<b>5,974,264,561</b>		<b>1.54</b>	

Notes

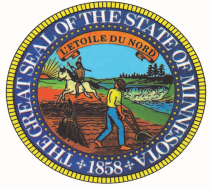
None of the data presented herein has been reviewed or approved by either the general partner or investment manager. The performance and valuation data presented herein is not a guarantee or prediction of future results. Ultimately, the actual performance and value of any investment is not known until final liquidation. Because there is no industry-standardized method for valuation or reporting comparisons of performance and valuation data among different investments is difficult.

\* MOIC: Multiple of Invested Capital

\*\*Partnership interests transferred to the MSBI during 1Q2015. All data presented as of the transfer date.

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# Participant Directed Investment Program

June 30, 2017

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## Quarterly Report

# Participant Directed Investment Program

The Participant Directed Investment Program (PDIP) provides investment vehicles for a variety of retirement or other tax-advantaged savings plans. The objective of the Plan is to be competitive in the market place by providing quality investment options with low fees to its participants. Investment goals among the PDIP's many participants are varied.

- The Supplemental Investment Fund (SIF) is a program which provides individuals the opportunity to invest in many of the same investment pools as the Combined Funds. Participation in the SIF is accomplished through the purchase or sale of shares in each Fund. The SIF is structured much like a family of mutual funds. Participants may allocate their investments among one or more accounts that are appropriate for their needs within statutory requirements and rules established by the participating organizations. It provides some or all of the investment options for the Unclassified Employees Retirement Plan, Minnesota Deferred Compensation Plan, Public Employees Defined Contribution Plan, Hennepin County Supplemental Retirement Plan, and Health Care Savings Plan. All Funds in the SIF program, except the Stable Value Fund, are available to local volunteer fire relief associations who invest their assets with the SBI. The Volunteer Firefighter Account is available only for those local firefighter entities that participate in the Statewide Volunteer Firefighter Plan. Local entities that participate in this Plan must have all their assets invested in the Volunteer Firefighter Account.
- The Minnesota Deferred Compensation Plan offers plan participants three sets of investment options. The first is a set of actively and passively managed options that includes four mutual funds, a Money Market Fund, a Stable Value Fund and five passively managed mutual funds. The second is a set of target date funds called Minnesota Target Retirement Funds. The third is a self-directed brokerage account window which offers thousands of mutual funds. The SBI has no direct management responsibilities for funds within the self-directed brokerage account window. The Minnesota Deferred Compensation Plan uses two of the SIF investment options, the Stable Value Fund and the Money Market Fund, for its participants.
- The Minnesota College Savings Plan is an education savings plan designed to help families set aside funds for future college costs. It is established under the provisions of the Internal Revenue Code Section 529, which authorized these types of savings plans to help families meet the costs of qualified colleges nationwide. The SBI is responsible for the investments and the Minnesota Office of Higher Education (OHE) is responsible for the overall administration of the Plan. The SBI and OHE have contracted jointly with TIAA-CREF Tuition Financing, Inc. to provide administrative, marketing, communication, recordkeeping and investment management services.
- The Minnesota Achieve a Better Life Experience Plan (ABLE) is a savings plan designed to help individuals save for qualified disability expenses without losing eligibility for certain assistance programs. The plan is administered by the Department of Human Services (DHS). The SBI and DHS have jointly contracted with Ascensus to provide recordkeeping, administrative, and investment management services for the plan.

The investment returns shown in this report are calculated using a time-weighted rate of return formula. These returns are net of investment management fees and transaction costs. They do not, however, reflect administrative expenses that may be deducted by the retirement systems or other agencies to defray administrative costs.



## Supplemental Investment Fund Summary

The Minnesota Supplemental Investment Fund (SIF) is a multi-purpose investment program that offers a range of investment options to state and local public employees. The SIF provides some or all of the investment options to the Unclassified Employees Retirement Plan, Minnesota Deferred Compensation Plan, Public Employees Defined Contribution Plan, Hennepin County Supplemental Retirement Plan, Health Care Savings Plan, local police and firefighter retirement plans and the Voluntary Statewide Volunteer Firefighter plan.

A wide diversity of investment goals exists among the Fund's participants. In order to meet those needs, the Fund has been structured much like a "family of mutual funds." Participants may allocate their investments among one or more accounts that are appropriate for their needs, within the statutory requirements and rules established by the participating organizations. Participation in the Fund is accomplished through the purchase or sale of shares in each account. All returns are net of investment management fees.

### Investment Option Descriptions

- Balanced Fund - a balanced portfolio utilizing both common stocks and bonds.
- U.S. Stock Actively Managed Fund - an actively managed, U.S. common stock portfolio.
- U.S. Stock Index Fund - a passively managed, common stock portfolio designed to broadly track the performance of the U.S. stock market.
- Broad International Stock Fund - a portfolio of non-U.S. stocks that incorporates both active and passive management.
- Bond Fund - an actively managed, bond portfolio.
- Money Market Fund - a portfolio utilizing short-term, liquid debt securities.
- Stable Value Fund - a portfolio of stable value instruments, including security backed contracts and insurance company and bank investment contracts.
- Volunteer Firefighter Account - a balanced portfolio only used by the Voluntary Statewide Volunteer Firefighter Plan.

	<u>Ending Market Value</u>	<u>Last Qtr</u>	<u>1 Year</u>	<u>3 Year</u>	<u>5 Year</u>	<u>10 Year</u>	<u>Option Since</u>
BALANCED FUND	\$403,114,401	2.4%	11.3%	6.6%	9.9%	6.6%	01/1980
U.S. ACTIVELY MANAGED FUND	229,166,850	3.7	20.5	8.7	14.6	7.1	07/1986
U.S. STOCK INDEX FUND	559,315,447	3.0	18.5	9.1	14.6	7.3	07/1986
BROAD INTERNATIONAL STOCK FUND	179,233,485	6.6	20.2	1.5	8.0	1.6	09/1994
BOND FUND	154,814,304	1.6	0.9	2.9	2.9	4.9	07/1986
MONEY MARKET FUND	383,817,052	0.2	0.7	0.4	0.3	0.8	07/1986
STABLE VALUE FUND	1,565,131,997	0.5	2.0	2.0	2.1	3.1	11/1994
VOLUNTEER FIREFIGHTER ACCOUNT	75,432,019	2.8	10.1	4.9	7.8		01/2010

On June 30, 2017 the total market value of the Supplemental Investment Fund was \$2.1 billion.

Note:

The Market Value for the Money Market Fund and the Stable Value Fund also includes assets held through the Deferred Compensation Plan. The total Supplemental Investment Fund value does not include the Deferred Compensation Plan assets.



## Supplemental Investment Fund Performance

### Balanced Fund

The primary investment objective of the Balanced Fund is to gain exposure to publicly traded U.S. equities, bond and cash in a diversified investment portfolio. The Fund seeks to maximize long-term real rates of return, while limiting short-run portfolio return volatility. The Balanced Fund is invested in a balanced portfolio of common stocks and bonds. Common stocks provide the potential for significant capital appreciation, while bonds act as a deflation hedge and provide portfolio diversification. The benchmark is a blend of 60% Russell 3000/35% Barclays Aggregate Bond Index/5% T-Bills Composite.

	<u>Ending Market Value</u>	<u>Last Qtr</u>	<u>1 Year</u>	<u>3 Year</u>	<u>5 Year</u>	<u>10 Year</u>
<b>BALANCED FUND</b>	<b>\$403,114,401</b>	<b>2.4%</b>	<b>11.3%</b>	<b>6.6%</b>	<b>9.9%</b>	<b>6.6%</b>
SIF BALANCED FUND BENCHMARK		2.3	10.7	6.4	9.5	6.1
Excess		0.1	0.6	0.1	0.4	0.5

### U.S. Actively Managed Fund

The U.S. Stock Actively Managed Fund's investment objective is to generate above-average returns from capital appreciation on common stocks. The U.S. Stock Actively Managed Fund is invested primarily in the common stocks of U.S. companies. The managers in the account also hold varying levels of cash.

	<u>Ending Market Value</u>	<u>Last Qtr</u>	<u>1 Year</u>	<u>3 Year</u>	<u>5 Year</u>	<u>10 Year</u>
<b>U.S. ACTIVELY MANAGED FUND</b>	<b>229,166,850</b>	<b>3.7</b>	<b>20.5</b>	<b>8.7</b>	<b>14.6</b>	<b>7.1</b>
Russell 3000		3.0	18.5	9.1	14.6	7.3
Excess		0.7	2.0	-0.4	0.1	-0.2



## Supplemental Investment Fund Performance

### U.S. Stock Index Fund

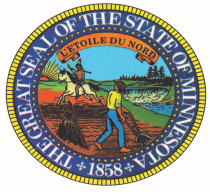
The investment objective of the U.S. Stock Index Fund is to generate returns that track those of the U.S. stock market as a whole. The Fund is designed to track the performance of the Russell 3000 Index, a broad-based equity market indicator. The Fund is invested 100% in common stock.

	<u>Ending Market Value</u>	<u>Last Qtr</u>	<u>1 Year</u>	<u>3 Year</u>	<u>5 Year</u>	<u>10 Year</u>
<b>U.S. STOCK INDEX FUND</b>	<b>\$559,315,447</b>	<b>3.0%</b>	<b>18.5%</b>	<b>9.1%</b>	<b>14.6%</b>	<b>7.3%</b>
Russell 3000		3.0	18.5	9.1	14.6	7.3
Excess		-0.0	-0.0	0.0	0.0	0.1

### Broad International Stock Fund

The investment objective of the Broad International Stock Fund is to earn a high rate of return by investing in the stock of companies outside the U.S. Portions of the Fund are passively managed and semi-passively managed. These portions of the Fund are designed to track and modestly outperform, respectively, the return of developed markets included in the MSCI World ex USA Index. A portion of the Fund is "actively managed" by several international managers and emerging markets specialists who buy and sell stocks in an attempt to maximize market value. The International Equity Benchmark is currently the MSCI ACWI ex USA (net).

	<u>Ending Market Value</u>	<u>Last Qtr</u>	<u>1 Year</u>	<u>3 Year</u>	<u>5 Year</u>	<u>10 Year</u>
<b>BROAD INTERNATIONAL STOCK FUND</b>	<b>179,233,485</b>	<b>6.6</b>	<b>20.2</b>	<b>1.5</b>	<b>8.0</b>	<b>1.6</b>
International Equity Benchmark		5.8	20.5	0.8	7.2	1.2
Excess		0.8	-0.2	0.7	0.8	0.5



## Supplemental Investment Fund Performance

### Bond Fund

The investment objective of the Bond Fund is to exceed the return of the broad domestic bond market by investing in fixed income securities. The Bond Fund invests primarily in high-quality, government and corporate bonds that have intermediate to long-term maturities, usually 3 to 20 years. The Bond Fund benchmark is the Bloomberg Barclays U.S. Aggregate.

	<u>Ending Market Value</u>	<u>Last Qtr</u>	<u>1 Year</u>	<u>3 Year</u>	<u>5 Year</u>	<u>10 Year</u>
<b>BOND FUND</b>	<b>\$154,814,304</b>	<b>1.6%</b>	<b>0.9%</b>	<b>2.9%</b>	<b>2.9%</b>	<b>4.9%</b>
BBG BARC Agg Bd		1.4	-0.3	2.5	2.2	4.5
Excess		0.2	1.2	0.5	0.7	0.4

### Money Market Fund

The investment objective of the Money Market Fund is to protect principal by investing in short-term, liquid U.S. Government securities. The Fund is invested entirely in high-quality, short-term U.S. Treasury and Agency securities. The average maturity of the portfolios is less than 90 days. Please note that the Market Value for the Money Market Fund reflects assets held through the Deferred Compensation Plan as well.

	<u>Ending Market Value</u>	<u>Last Qtr</u>	<u>1 Year</u>	<u>3 Year</u>	<u>5 Year</u>	<u>10 Year</u>
<b>MONEY MARKET FUND</b>	<b>383,817,052</b>	<b>0.2</b>	<b>0.7</b>	<b>0.4</b>	<b>0.3</b>	<b>0.8</b>
90 DAY T-BILL		0.2	0.5	0.2	0.2	0.6
Excess		0.0	0.3	0.2	0.1	0.2



## Supplemental Investment Fund Performance

### Stable Value Fund

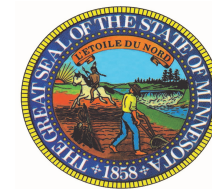
The investment objectives of the Stable Value Fund are to protect investors from loss of their original investment and to provide competitive interest rates using somewhat longer-term investments than typically found in a money market fund. The Fund is invested in a well-diversified portfolio of high-quality fixed income securities with strong credit ratings. The Fund also invests in contracts issued by highly rated insurance companies and banks which are structured to provide principal protection for the Fund's diversified bond portfolios, regardless of daily market changes. The Stable Value Fund Benchmark is the 3-year Constant Maturity Treasury Bill +45 basis points. Please note that the Market Value for the Stable Value Fund reflects assets held through the Deferred Compensation Plan as well.

	<u>Ending Market Value</u>	<u>Last Qtr</u>	<u>1 Year</u>	<u>3 Year</u>	<u>5 Year</u>	<u>10 Year</u>
<b>STABLE VALUE FUND</b>	<b>\$1,565,131,997</b>	<b>0.5%</b>	<b>2.0%</b>	<b>2.0%</b>	<b>2.1%</b>	<b>3.1%</b>
3-Year Constant Maturity Treasury + 0.45%		0.5	1.7	1.5	1.3	1.7
Excess		0.0	0.3	0.4	0.7	1.5

### Volunteer Firefighter Account

The Volunteer Firefighter Account is different than other SIF program options. It is available only to the local entities that participate in the Statewide Volunteer Firefighter Plan (administered by PERA) and have all of their assets invested in the Volunteer Firefighter Account. There are other volunteer firefighter plans that are not eligible to be consolidated that may invest their assets through other SIF program options. The investment objective of the Volunteer Firefighter Account is to maximize long-term returns while limiting short-term portfolio return volatility. The account is invested in a balanced portfolio of domestic equity, international equity, fixed income and cash. The benchmark for this account is 35% Russell 3000, 15% MSCI ACWI ex USA (net), 45% Bloomberg Barclays U.S. Aggregate, 5% 3 Month T-Bills.

	<u>Ending Market Value</u>	<u>Last Qtr</u>	<u>1 Year</u>	<u>3 Year</u>	<u>5 Year</u>	<u>10 Year</u>
<b>VOLUNTEER FIREFIGHTER ACCOUNT</b>	<b>75,432,019</b>	<b>2.8</b>	<b>10.1</b>	<b>4.9</b>	<b>7.8</b>	
SIF Volunteer Firefighter Account BM		2.6	9.1	4.6	7.2	
Excess		0.2	1.0	0.3	0.5	



## Deferred Compensation Plan Summary

The Deferred Compensation Plan provides public employees with a tax-sheltered retirement savings plan that is supplemental to their primary retirement plan. (In most cases, the primary plan is a defined benefit plan administered by TRA, PERA, or MSRS.)

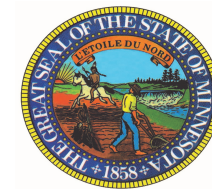
Participants choose from 4 actively managed stock and bond funds, 5 passively managed stock and bond funds and a set of 10 target date retirement fund options.

The SBI also offers a money market option and a stable value option. All provide for daily pricing needs of the plan administrator. Participants may also choose from hundreds of funds available through a mutual fund brokerage window. The current plan structure became effective July 1, 2011.

	<u>Ending Market Value</u>	<u>Last Qtr</u>	<u>1 Year</u>	<u>3 Year</u>	<u>5 Year</u>	<u>10 Year</u>	<u>Option Since</u>
VANGUARD INSTITUTIONAL INDEX PLUS	\$1,146,183,944	3.1%	17.9%	9.6%	14.6%	7.2%	07/1999
VANGUARD DIVIDEND GROWTH	567,687,115	3.8					10/2016
VANGUARD MID CAP INDEX	501,700,896	2.8	17.3	8.1	14.8	7.5	01/2004
T. ROWE PRICE SMALL-CAP STOCK	657,583,937	2.4	21.2	8.0	14.5	9.5	07/1999
FIDELITY DIVERSIFIED INTERNATIONAL	284,406,521	7.7	18.0	2.7	9.5	1.8	07/1999
VANGUARD TOTAL INTERNATIONAL STOCK INDEX	180,252,784	5.8	20.1	1.4	7.7		07/2011
VANGUARD BALANCED INDEX	747,660,445	2.4	10.6	6.5	9.6	6.6	12/2003
DODGE & COX INCOME	227,154,150	1.5	3.2	2.8	3.4	5.2	07/1999
VANGUARD TOTAL BOND MARKET INDEX	205,425,822	1.5	-0.4	2.4	2.1	4.5	12/2003
SIF MONEY MARKET	69,947,395	0.2	0.7	0.4	0.3	0.8	07/1986
SIF FIXED INTEREST	1,351,219,935	0.5	2.0	2.0	2.1	3.1	11/1994
2020 FUND	106,126,981	1.9	6.8	2.8	5.8		07/2011
2025 FUND	91,460,954	2.5	9.1	3.7	7.4		07/2011
2030 FUND	61,885,426	3.1	11.4	4.5	8.5		07/2011
2035 FUND	48,914,476	3.5	12.7	4.7	9.2		07/2011
2040 FUND	34,676,543	3.7	13.9	4.9	9.7		07/2011
2045 FUND	27,776,921	3.8	15.0	5.0	10.2		07/2011
2050 FUND	19,478,232	3.9	15.8	5.2	10.3		07/2011
2055 FUND	10,285,562	3.9	15.8	5.2	10.3		07/2011
2060 FUND	9,989,248	3.9	15.8	5.2	10.3		07/2011
INCOME FUND	77,247,843	1.6	5.4	2.4	4.3		07/2011

On June 30, 2017 the total market value for the Deferred Compensation Plan was \$6.4 Billion.





## Deferred Compensation Plan Options

### LARGE CAP EQUITY

#### **Vanguard Index Institutional Plus (passive)**

A passive domestic stock portfolio that tracks the S&P 500.

#### **Vanguard Dividend Growth (active) (1)**

A fund of large cap stocks which is expected to outperform the Nasdaq US Dividend Achievers Select Index, over time.

### MID CAP EQUITY

#### **Vanguard Mid Cap Index (passive) (2)**

A fund that passively invests in companies with medium market capitalizations that tracks the CRSP US Mid-Cap Index.

### SMALL CAP EQUITY

#### **T Rowe Price Small Cap (active)**

A fund that invests primarily in companies with small market capitalizations and is expected to outperform the Russell 2000 Index.

### INTERNATIONAL EQUITY

#### **Fidelity Diversified International (active)**

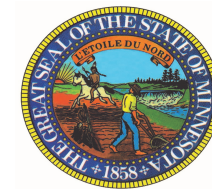
A fund that invests primarily in stocks of companies located outside of the United States and is expected to outperform the MSCI index of Europe, Australasia and the Far East (EAFE), over time.

#### **Vanguard Total International Stock Index (passive) (3)**

A fund that seeks to track the investment performance of the FTSE Global All Cap ex US Index, an index designed to measure equity market performance in developed and emerging markets, excluding the United States.

	Ending Market Value	Last Qtr	1 Year	3 Year	5 Year	Option Since
<b>Large Cap US Equity</b>						
<b>VANGUARD INSTITUTIONAL INDEX PLUS</b>	<b>\$1,146,183,944</b>	<b>3.1%</b>	<b>17.9%</b>	<b>9.6%</b>	<b>14.6%</b>	<b>07/1999</b>
S&P 500		3.1	17.9	9.6	14.6	07/1999
Excess		-0.0	-0.0	-0.0	-0.0	
<b>VANGUARD DIVIDEND GROWTH</b>	<b>567,687,115</b>	<b>3.8</b>				<b>10/2016</b>
NASDAQ US Dividend Achievers Select		3.6				10/2016
Excess		0.2				
<b>Mid Cap US Equity</b>						
<b>VANGUARD MID CAP INDEX</b>	<b>501,700,896</b>	<b>2.8</b>	<b>17.3</b>	<b>8.1</b>	<b>14.8</b>	<b>01/2004</b>
CRSP US Mid Cap Index		2.8	17.3	8.1	14.8	01/2004
Excess		-0.0	-0.0	-0.0	0.0	
<b>Small Cap US Equity</b>						
<b>T. ROWE PRICE SMALL-CAP STOCK</b>	<b>657,583,937</b>	<b>2.4</b>	<b>21.2</b>	<b>8.0</b>	<b>14.5</b>	<b>07/1999</b>
Russell 2000		2.5	24.6	7.4	13.7	07/1999
Excess		-0.0	-3.4	0.7	0.8	
<b>International Equity</b>						
<b>FIDELITY DIVERSIFIED INTERNATIONAL</b>	<b>284,406,521</b>	<b>7.7</b>	<b>18.0</b>	<b>2.7</b>	<b>9.5</b>	<b>07/1999</b>
MSCI EAFE FREE (NET)		6.1	20.3	1.1	8.7	07/1999
Excess		1.6	-2.3	1.6	0.9	
<b>VANGUARD TOTAL INTERNATIONAL STOCK INDEX</b>	<b>180,252,784</b>	<b>5.8</b>	<b>20.1</b>	<b>1.4</b>	<b>7.7</b>	<b>07/2011</b>
FTSE Global All Cap ex US Index Net		5.6	20.2	1.2		07/2011
Excess		0.2	-0.1	0.2		





## Deferred Compensation Options

### BALANCED

#### **Vanguard Balanced Index (passive) (4)**

A fund that passively invests in a mix of domestic stocks and bonds. The fund is expected to track a weighted benchmark of 60% CRSP US Total Market Index/40% BB Barclays U.S. Aggregate.

### FIXED INCOME

#### **Dodge & Cox Income Fund (active)**

A fund that invests primarily in investment grade securities in the U.S. bond market which is expected to outperform the BB Barclays U.S. Aggregate, over time.

#### **Vanguard Total Bond Market Index (passive)**

A fund that passively invests in a broad, market weighted bond index that is expected to track the BB Barclays U.S. Aggregate.

#### **SIF Money Market Fund (5)**

A fund that invests in short-term debt instruments which is expected to outperform the return on 90-Day U.S. Treasury Bills.

### STABLE VALUE

#### **SIF Stable Value Fund (5)**

A portfolio composed of stable value instruments which are primarily investment contracts and security backed contracts. The fund is expected to outperform the return of the 3 year Constant Maturity Treasury +45 basis points, over time.

**Ending Market Value** **Last Qtr** **1 Year** **3 Year** **5 Year** **Option Since**

#### **Balanced Funds**

<b>VANGUARD BALANCED INDEX</b>	<b>\$747,660,445</b>	<b>2.4%</b>	<b>10.6%</b>	<b>6.5%</b>	<b>9.6%</b>	<b>12/2003</b>
Vanguard Balanced Fund Benchmark		2.4	10.7	6.5	9.6	12/2003
Excess		0.0	-0.1	-0.0	-0.0	

#### **Fixed Income**

<b>DODGE &amp; COX INCOME</b>	<b>227,154,150</b>	<b>1.5</b>	<b>3.2</b>	<b>2.8</b>	<b>3.4</b>	<b>07/1999</b>
BBG BARC Agg Bd		1.4	-0.3	2.5	2.2	07/1999
Excess		0.1	3.6	0.4	1.2	

<b>VANGUARD TOTAL BOND MARKET INDEX</b>	<b>205,425,822</b>	<b>1.5</b>	<b>-0.4</b>	<b>2.4</b>	<b>2.1</b>	<b>12/2003</b>
BBG BARC Agg Bd		1.4	-0.3	2.5	2.2	12/2003
Excess		0.0	-0.1	-0.0	-0.1	

<b>SIF MONEY MARKET</b>	<b>69,947,395</b>	<b>0.2</b>	<b>0.7</b>	<b>0.4</b>	<b>0.3</b>	<b>07/1986</b>
90 DAY T-BILL		0.2	0.5	0.2	0.2	07/1986
Excess		0.0	0.3	0.2	0.1	

#### **Stable Value**

<b>SIF FIXED INTEREST</b>	<b>1,351,219,935</b>	<b>0.5</b>	<b>2.0</b>	<b>2.0</b>	<b>2.1</b>	<b>11/1994</b>
3-Year Constant Maturity Treasury + 0.45%		0.5	1.7	1.5	1.3	11/1994
Excess		0.0	0.3	0.4	0.7	

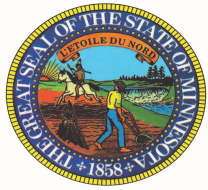
(1) Vanguard Dividend Growth replaced the Janus Twenty Fund in the third quarter of 2016.

(2) Prior to 02/01/2013 the benchmark was the MSCI US Mid-Cap 450 Index

(3) Prior to 06/01/2013 the benchmark was MSCI ACWI ex USA IMI.

(4) Prior to 01/01/2013 the benchmark was 60% MSCI US Broad Market Index and 40% Bloomberg Barclays U.S. Aggregate.

(5) SIF Money Market and SIF Fixed Interest are Supplemental Investment Fund options which are also offered under the Deferred Compensation Plan.



## Deferred Compensation Options

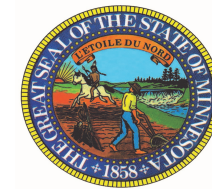
### MN TARGET RETIREMENT ACCOUNTS

Target retirement funds offer a mix of investments that are adjusted over time to reduce risk and become more conservative as the target retirement date approaches. A participant only needs to make one investment decision by investing their assets in the fund that is closest to their anticipated retirement date.

#### Target Date Retirement Funds

	<u>Ending Market Value</u>	<u>Last Qtr</u>	<u>1 Year</u>	<u>3 Year</u>	<u>5 Year</u>	<u>Option Since</u>		<u>Ending Market Value</u>	<u>Last Qtr</u>	<u>1 Year</u>	<u>3 Year</u>	<u>5 Year</u>	<u>Option Since</u>	
SSgA														
2020 FUND	\$106,126,981	1.9%	6.8%	2.8%	5.8%	07/2011		2045 FUND	\$27,776,921	3.8%	15.0%	5.0%	10.2%	07/2011
2020 FUND BENCHMARK		1.8	6.9	2.9	5.9	07/2011		2045 FUND BENCHMARK		3.8	15.2	5.1	10.3	07/2011
Excess		0.0	-0.1	-0.0	-0.1			Excess		0.0	-0.2	-0.0	-0.1	
2025 FUND	91,460,954	2.5	9.1	3.7	7.4	07/2011		2050 FUND	19,478,232	3.9	15.8	5.2	10.3	07/2011
2025 FUND BENCHMARK		2.5	9.3	3.7	7.5	07/2011		2050 FUND BENCHMARK		3.9	16.0	5.2	10.4	07/2011
Excess		0.0	-0.2	-0.0	-0.1			Excess		0.0	-0.3	-0.0	-0.1	
2030 FUND	61,885,426	3.1	11.4	4.5	8.5	07/2011		2055 FUND	10,285,562	3.9	15.8	5.2	10.3	07/2011
2030 FUND BENCHMARK		3.1	11.7	4.5	8.6	07/2011		2055 FUND BENCHMARK		3.9	16.0	5.2	10.4	07/2011
Excess		0.0	-0.2	-0.0	-0.1			Excess		0.0	-0.2	-0.0	-0.1	
2035 FUND	48,914,476	3.5	12.7	4.7	9.2	07/2011		2060 FUND	9,989,248	3.9	15.8	5.2	10.3	07/2011
2035 FUND BENCHMARK		3.4	12.9	4.8	9.2	07/2011		2060 FUND BENCHMARK		3.9	16.0	5.2	10.4	07/2011
Excess		0.0	-0.2	-0.0	-0.1			Excess		0.0	-0.3	-0.0	-0.1	
2040 FUND	34,676,543	3.7	13.9	4.9	9.7	07/2011		INCOME FUND	77,247,843	1.6	5.4	2.4	4.3	07/2011
2040 FUND BENCHMARK		3.6	14.1	5.0	9.8	07/2011		INCOME FUND BENCHMARK		1.6	5.5	2.4	4.4	07/2011
Excess		0.0	-0.2	-0.0	-0.1			Excess		0.0	-0.1	-0.1	-0.1	

Note: Each SSgA Fund benchmark is the aggregate of the returns of the Fund's underlying index funds weighted by the Fund's asset allocation



## MN College Savings Plan Options

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The Minnesota College Savings Plan is an education savings plan designed to help families set aside funds for future college costs. The SBI is responsible for the investments and the Minnesota Office of Higher Education (OHE) is responsible for the overall administration of the Plan.

The SBI and OHE contract jointly with TIAA to provide administrative, marketing, communication, recordkeeping and investment management services. Please see the next page for the performance as reported by TIAA.

### **AGE-BASED MANAGED ALLOCATIONS**

The Age-Based Managed Allocation Option seeks to align the investment objective and level of risk, which will become more conservative as the beneficiary ages and moves closer to entering an eligible educational institution.

### **RISK BASED ALLOCATIONS**

The Risk Based Allocation Option offers three separate allocation investment options - Aggressive, Moderate and Conservative, each of which has a fixed risk level that does not change as the Beneficiary ages.

### **ASSET CLASS BASED ALLOCATIONS**

**U.S. LARGE CAP EQUITY INDEX** - A passive domestic stock portfolio that tracks the S&P 500.

**INTERNATIONAL EQUITY INDEX** - A fund that passively invests in a mix of developed and emerging market equities. The fund is expected to track a weighted benchmark of 80% MSCI ACWI World ex USA and 20% MSCI Emerging Markets Free Index.

**U.S. AND INTERNATIONAL EQUITY INDEX** - A fund that invests in a mix of equities, both U.S. and international, across all capitalization ranges and real estate-related securities. The fund is expected to track a weighted benchmark of 60% Russell 3000, 24% International, 6% Emerging Markets, and 10% Real Estate Securities Fund.

**PRINCIPAL PLUS INTEREST OPTION** - A passive fund where contributions are invested in a Funding Agreement issued by TIAA-CREF Life. The funding agreement provides for a return of principal plus a guaranteed rate of interest which is made by the insurance company to the policyholder, not the account owners. The account is expected to outperform the return of the 3-month T-Bill.

**EQUITY AND INTEREST ACCUMULATION** - A fund that passively invests half of the portfolio in U.S. equities across all capitalization ranges and the other half in the same Funding Agreement issued by TIAA-CREF Life as described above. The fund is expected to track a weighted benchmark of 50% Russell 3000 and 50% 3-month T-Bill.

**100% FIXED INCOME** - A fund that passively invests in fixed income holdings that tracks the Bloomberg Barclays U.S. Aggregate and two active funds that invest in inflation-linked bonds and high yield securities. The fund is expected to track a weighted benchmark of 70% BB Barclays Aggregate, 20% inflation-linked bond, and 10% high yield.

**MONEY MARKET** - An active fund that invests in high-quality, short-term money market instruments of both domestic and foreign issuers that tracks the iMoneyNet Average All Taxable benchmark.



**MINNESOTA COLLEGE SAVINGS PLAN**  
**Performance Statistics for the Period Ending: June 30, 2017**

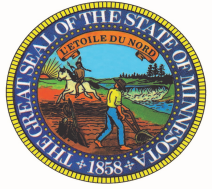
Fund Name	Ending Market	3 Months	1 Year	Annualized				Inception Date
				3 Years	5 Years	10 Years	Since Inception	
Managed Ages 0-4	\$27,345,298	3.53%	13.72%	-	-	-	6.59%	8/12/2014
BM: Managed Ages 0-4		3.33%	13.91%	-	-	-	6.73%	
Managed Ages 5-8	\$70,373,952	3.31%	12.11%	-	-	-	6.07%	8/12/2014
BM: Managed Ages 5-8		3.06%	12.20%	-	-	-	6.21%	
Managed Ages 9-10	\$69,675,333	3.00%	10.50%	-	-	-	5.54%	8/12/2014
BM: Managed Ages 9-10		2.78%	10.51%	-	-	-	5.68%	
Managed Ages 11-12	\$103,946,305	2.59%	8.82%	-	-	-	4.91%	8/12/2014
BM: Managed Ages 11-12		2.46%	8.82%	-	-	-	5.03%	
Managed Ages 13-14	\$138,242,649	2.36%	7.32%	-	-	-	4.30%	8/12/2014
BM: Managed Ages 13-14		2.14%	7.16%	-	-	-	4.38%	
Managed Age 15	\$73,647,164	1.84%	5.73%	-	-	-	3.59%	8/12/2014
BM: Managed Age 15		1.72%	5.48%	-	-	-	3.50%	
Managed Age 16	\$69,227,714	1.67%	4.89%	-	-	-	3.20%	8/12/2014
BM: Managed Age 16		1.49%	4.64%	-	-	-	3.01%	
Managed Age 17	\$67,851,465	1.40%	4.23%	-	-	-	2.84%	8/12/2014
BM: Managed Age 17		1.26%	3.80%	-	-	-	2.52%	
Managed Ages 18 & Over	\$179,835,961	1.13%	3.38%	-	-	-	2.44%	8/12/2014
BM: Managed Ages 18 & Over		1.02%	2.97%	-	-	-	2.02%	
U.S. and International Equity Option	\$294,512,994	4.05%	16.99%	6.65%	11.89%	4.97%	6.77%	10/ 1/2001
BM: U.S. and International Equity Option		3.88%	17.39%	6.78%	12.21%	5.60%	7.71%	



# MINNESOTA COLLEGE SAVINGS PLAN

Performance Statistics for the Period Ending: June 30, 2017

Fund Name	Ending Market	3 Months	1 Year	Annualized				Inception Date
				3 Years	5 Years	10 Years	Since Inception	
Moderate Allocation Option	\$60,700,840	2.91%	10.46%	4.89%	7.78%	-	5.03%	8/ 2/2007
BM: Moderate Allocation Option		2.78%	10.51%	5.09%	8.09%	-	5.64%	
100% Fixed-Income Option	\$13,047,311	1.06%	0.49%	2.01%	1.46%	-	3.72%	8/16/2007
BM: 100% Fixed-Income Option		1.15%	0.80%	2.31%	1.90%	-	4.41%	
International Equity Index Option	\$3,206,463	6.43%	20.56%	1.19%	-	-	4.80%	6/18/2013
BM: International Equity Index Option		6.15%	20.99%	1.22%	-	-	5.05%	
Money Market Option	\$9,508,516	0.10%	0.29%	0.10%	0.06%	-	0.30%	11/ 1/2007
BM: Money Market Option		0.10%	0.21%	0.09%	0.06%	-	0.34%	
Principal Plus Interest Option	\$114,147,923	0.34%	1.42%	1.33%	1.35%	2.10%	2.59%	10/10/2001
Citigroup 3-Month U.S. Treasury Bill		0.18%	0.46%	0.20%	0.15%	0.51%	1.27%	
Aggressive Allocation Option	\$14,598,464	3.45%	13.74%	-	-	-	6.53%	8/12/2014
BM: Aggressive Allocation Option		3.33%	13.91%	-	-	-	6.73%	
Conservative Allocation Option	\$6,822,495	1.86%	5.58%	-	-	-	3.28%	8/18/2014
BM: Conservative Allocation Option		1.72%	5.48%	-	-	-	3.26%	
Equity and Interest Accumulation Option	\$1,953,508	1.76%	9.76%	-	-	-	5.25%	8/18/2014
BM: Equity and Interest Accumulation Option		1.59%	9.19%	-	-	-	4.85%	
U.S. Large Cap Equity Option	\$16,215,091	3.04%	17.69%	-	-	-	10.23%	8/12/2014
BM: U.S. Large Cap Equity Option		3.09%	17.90%	-	-	-	10.46%	
Matching Grant	\$2,492,587	0.34%	1.42%	1.33%	1.35%	2.10%	2.61%	3/22/2002
Citigroup 3-Month U.S. Treasury Bill		0.18%	0.46%	0.20%	0.15%	0.51%	1.24%	



## MN ABLE Plan Options

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### **MINNESOTA ACHIEVE A BETTER LIFE EXPERIENCE**

The Minnesota Achieve a Better Life Experience Plan (ABLE) is a savings plan designed to help individuals save for qualified disability expenses without losing eligibility for certain assistance programs. The plan is administered by the Department of Human Services (DHS).

The SBI and DHS have jointly contracted with Ascensus to provide recordkeeping, administrative, and investment management services for the plan.

### **RISK BASED ALLOCATIONS**

The plan offers seven different allocation investment options: Aggressive, Moderately Aggressive, Growth, Moderate, Moderately Conservative, Conservative, and Checking. Each allocation is based on a fixed risk level.

# MINNESOTABLE<sup>plan</sup>

A member of The National ABLE Alliance

Performance as of  
06/30/17

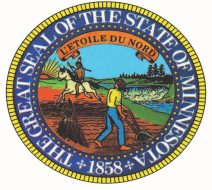
Total Market Value: \$ 512,208

<u>Fund Name</u>	<u>Market Value</u>	<u>% of Plan</u>	<u>1 Month</u>	<u>3 Months</u>	<u>YTD</u>	<u>1 Year</u>	<u>3 Year</u>	<u>5 Year</u>	<u>10 Year</u>	<u>Inception</u>	<u>Inception Date</u>
Aggressive Option	\$ 62,755	12.25%	1.03	3.06	8.01					7.90	12/15/16
ABLE Aggressive Custom Benchmark			1.02	3.18	8.34						
<b>Variance</b>			<b>0.01</b>	<b>(0.12)</b>	<b>(0.33)</b>						
Moderately Aggressive Option	\$ 53,446	10.43%	0.94	2.69	6.90					6.90	12/15/16
ABLE Moderately Aggressive Custom Benchmark			0.81	2.72	7.11						
<b>Variance</b>			<b>0.13</b>	<b>(0.03)</b>	<b>(0.21)</b>						
Growth Option	\$ 92,825	18.12%	0.57	2.13	5.49					5.70	12/15/16
ABLE Growth Custom Benchmark			0.60	2.27	5.89						
<b>Variance</b>			<b>(0.03)</b>	<b>(0.14)</b>	<b>(0.40)</b>						
Moderate Option	\$ 55,782	10.89%	0.38	1.65	4.49					4.80	12/15/16
ABLE Moderate Custom Benchmark			0.39	1.82	4.69						
<b>Variance</b>			<b>(0.01)</b>	<b>(0.17)</b>	<b>(0.20)</b>						
Moderately Conservative Option	\$ 52,298	10.21%	0.29	1.17	3.09					3.40	12/15/16
ABLE Moderately Conservative Custom Benchmark			0.25	1.30	3.28						
<b>Variance</b>			<b>0.04</b>	<b>(0.13)</b>	<b>(0.19)</b>						
Conservative Option	\$ 97,197	18.98%	0.10	0.59	1.40					1.60	12/15/16
ABLE Conservative Custom Benchmark			0.08	0.60	1.41						
<b>Variance</b>			<b>0.02</b>	<b>(0.01)</b>	<b>(0.01)</b>						
Checking Option	\$ 97,906	19.11%	0.00	0.00	0.00					0.00	03/30/17

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# Non-Retirement

## June 30, 2017



## Quarterly Report

# Non-Retirement Funds

The SBI manages funds for trusts and programs created by the Minnesota State Constitution and Legislature.

- The Permanent School Fund is a trust established for the benefit of Minnesota public schools.
- The Environmental Trust Fund is a trust established for the protection and enhancement of Minnesota's environment. It is funded with a portion of the proceeds from the state's lottery.
- The Minnesota Workers Compensation Assigned Risk Plan provides worker compensation insurance for companies unable to obtain coverage through private carriers.
- The Closed Landfill Investment Fund is a trust created by the Legislature to invest money to pay for the long-term costs of maintaining the integrity of landfills in Minnesota once they are closed.
- Other Post-Employment Benefits Accounts (OPEB) are the assets set aside by local units of government for the payment of retiree benefits trusted by the Public Employees Retirement Association.
- Miscellaneous Trust Accounts are other small funds managed by the SBI for a variety of purposes.

All equity, fixed income, and cash assets for these accounts are currently managed internally by the SBI except the fixed income portion of the Assigned Risk Plan. RBC is the manager for the Assigned Risk Plan fixed income allocation.



## Non-Retirement

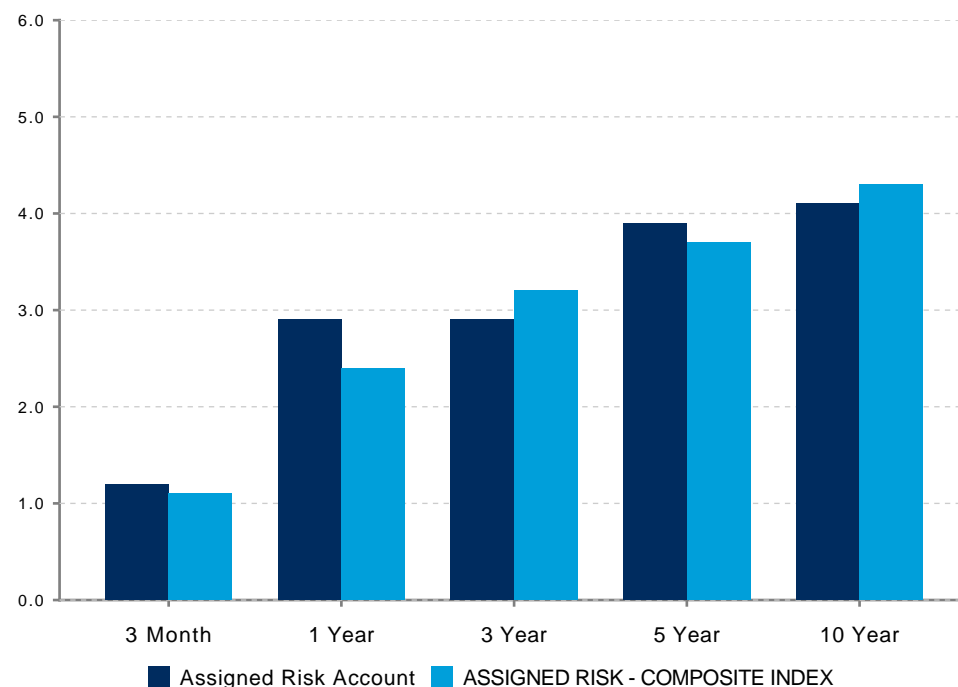
### Assigned Risk Plan

The Assigned Risk plan has two investment objectives: to minimize the mismatch between assets and liabilities and to provide sufficient liquidity for the payment of ongoing claims and operating expenses.

The Assigned Risk Plan is invested in a portfolio of common stocks and bonds. The actual asset mix will fluctuate in response to changes in the Plan's liability stream.

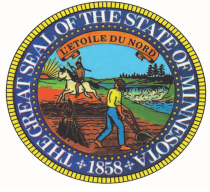
RBC Global Asset Management (U.S.) Inc. manages the bond segment of the Fund. SBI Staff passively manages the equity segment to track the performance of the S&P 500.

The fixed income benchmark is the Bloomberg Barclays Intermediate Government Index. The total fund benchmark is a combination of the fixed income and equity benchmarks, weighted according to the total fund asset allocation targets.



	<u>Ending Market Value</u>	<u>Last Qtr</u>	<u>1 Year</u>	<u>3 Year</u>	<u>5 Year</u>	<u>10 Year</u>	<u>Actual Weight</u>	<u>Policy Weight</u>
Assigned Risk Account	\$323,086,323	1.2%	2.9%	2.9%	3.9%	4.1%		
EQUITIES	65,944,239	3.1	19.6	8.0	14.3	7.1	20.5%	20.0%
FIXED INCOME	257,142,085	0.7	-1.1	1.5	1.1	3.2	79.5%	80.0%
ASSIGNED RISK - COMPOSITE INDEX		1.1	2.4	3.2	3.7	4.3		
Excess		0.0	0.5	-0.2	0.1	-0.2		
S&P 500		3.1	17.9	9.6	14.6	7.2		
BBG BARC US Gov: Int		0.7	-1.2	1.5	1.1	3.4		

Note: Prior to 1/17/2017 the Assigned Risk equity segment was managed by SSgA (formerly GE Investment Mgmt.).



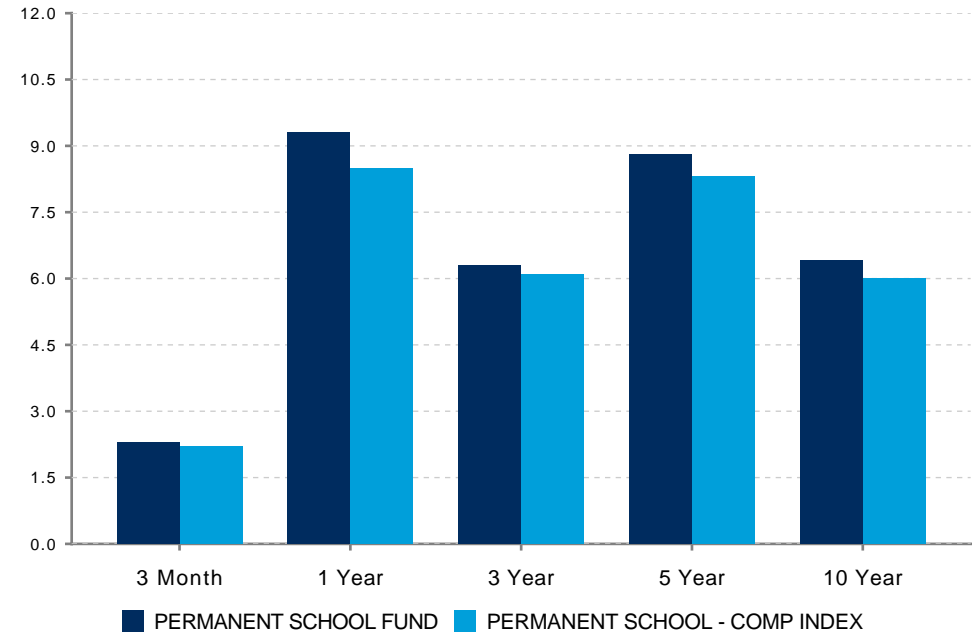
## Non-Retirement

### Permanent School Fund

The investment objective of the Permanent School Fund is to produce a growing level of spendable income, within the constraints of maintaining adequate portfolio quality and liquidity. The income from the portfolio is transferred to the school endowment fund and distributed to Minnesota's public schools.

The Permanent School Fund is invested in a balanced portfolio of common stocks and bonds. Common stocks provide the potential for significant capital appreciation, while bonds provide portfolio diversification and a more stable stream of current income.

SBI staff currently manages all assets of the Permanent School Fund. The stock segment is passively managed to track the performance of the S&P 500. The bond segment is actively managed to add incremental value through sector, security and yield curve decisions. The fixed income benchmark is the Bloomberg Barclays U.S. Aggregate. The total fund benchmark is a combination of the fixed income and equity benchmarks, weighted according to the total fund asset allocation targets.



	<u>Ending Market Value</u>	<u>Last Qtr</u>	<u>1 Year</u>	<u>3 Year</u>	<u>5 Year</u>	<u>10 Year</u>	<u>Actual Weight</u>	<u>Policy Weight</u>
PERMANENT SCHOOL FUND	\$1,316,578,080	2.3%	9.3%	6.3%	8.8%	6.4%		
CASH EQUIVALENTS	25,139,621	0.2	0.6	0.3	0.3	0.8	1.9%	2.0%
EQUITIES	672,924,099	3.1	17.9	9.7	14.6	7.2	51.1%	50.0%
FIXED INCOME	618,514,360	1.6	0.8	3.0	3.1	5.1	47.0%	48.0%
PERMANENT SCHOOL - COMP INDEX		2.2	8.5	6.1	8.3	6.0		
Excess		0.1	0.8	0.2	0.4	0.4		
S&P 500		3.1	17.9	9.6	14.6	7.2		
BBG BARC US Agg		1.4	-0.3	2.5	2.2	4.5		

Note: Prior to 7/1/97 the Fund allocation was 100% fixed income.



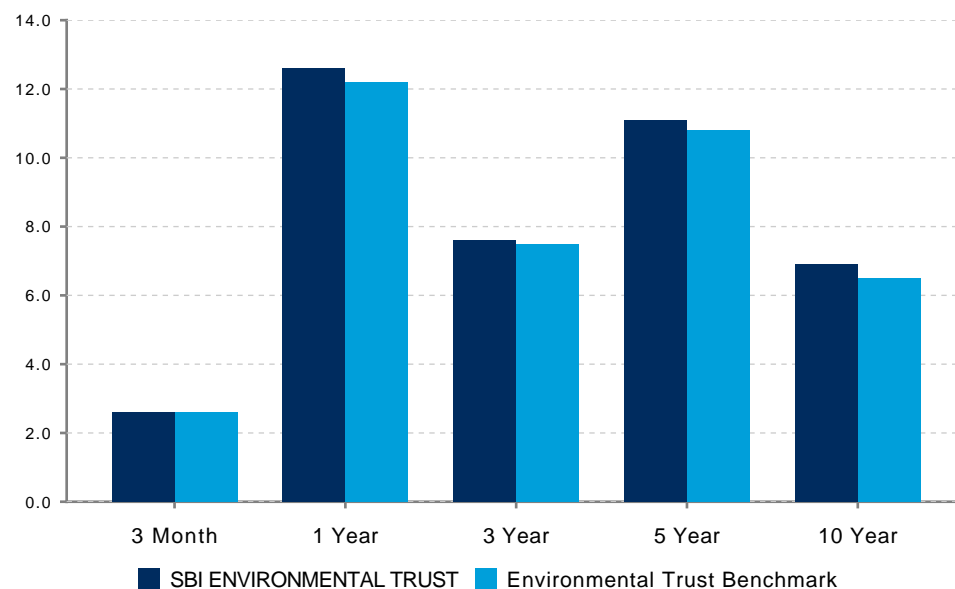
## Non-Retirement

### Environmental Trust Fund

The objective of the Environmental Trust Fund is to increase the market value of the Fund over time in order to increase the annual amount made available for spending within the constraints of maintaining adequate portfolio quality and liquidity.

The Environmental Trust Fund is invested in a balanced portfolio of common stocks and bonds. Common stocks provide the potential for significant capital appreciation, while bonds act as a deflation hedge and provide portfolio diversification.

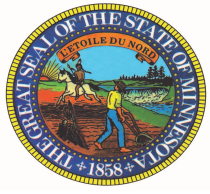
SBI staff currently manages all assets of the Environmental Trust Fund. The bond segment is actively managed to add incremental value through sector, security and yield curve decisions. The stock segment is passively managed to track the performance of the S&P 500. The fixed income benchmark is the Bloomberg Barclays U.S. Aggregate. The total fund benchmark is a combination of the fixed income and equity benchmarks, weighted according to the total fund asset allocation targets.



	<u>Ending Market Value</u>	<u>Last Qtr</u>	<u>1 Year</u>	<u>3 Year</u>	<u>5 Year</u>	<u>10 Year</u>	<u>Actual Weight</u>	<u>Policy Weight</u>
SBI ENVIRONMENTAL TRUST	\$1,028,370,411	2.6%	12.6%	7.6%	11.1%	6.9%		
CASH EQUIVALENTS	19,869,976	0.2	0.6	0.3	0.3	0.8	1.9%	2.0%
EQUITIES	724,795,128	3.1	17.9	9.7	14.6	7.2	70.5%	70.0%
FIXED INCOME	283,705,307	1.6	0.8	3.0	3.1	5.1	27.6%	28.0%
Environmental Trust Benchmark		2.6	12.2	7.5	10.8	6.5		
Excess		0.0	0.4	0.1	0.2	0.3		
S&P 500		3.1	17.9	9.6	14.6	7.2		
BBG BARC US Agg		1.4	-0.3	2.5	2.2	4.5		

Note:

From 7/1/94 to 7/1/99, the Fund's target allocation and benchmark was 50% fixed income and 50% stock. Prior to 7/1/94 the Fund was invested entirely in short-term instruments as part of the Invested Treasurer's Cash pool.

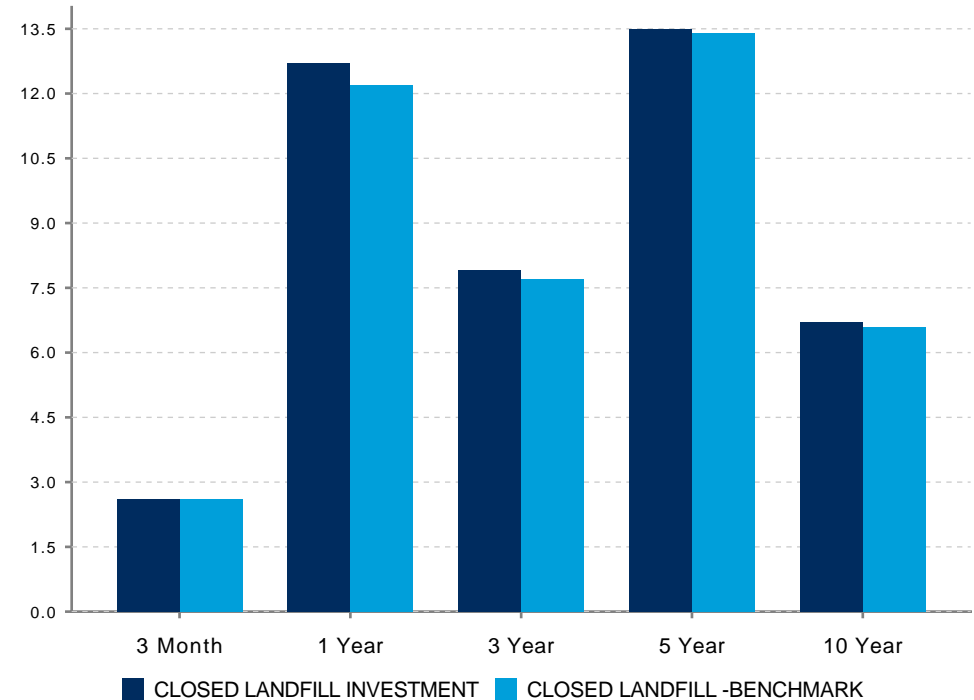


## Non-Retirement

### Closed Landfill Investment Fund

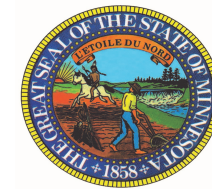
The investment objective of the Closed Landfill Investment Fund is to increase the market value of the Fund and to reduce volatility to meet future expenditures. By statute, the assets of the Fund are unavailable for expenditure until after the fiscal year 2020 to pay for long-term costs of maintaining the integrity of landfills in Minnesota once they are closed. In FY 2011, \$48 million was transferred out of the general fund leaving a balance of \$1 million in the account. Legislation was enacted in 2013 to replenish the principal and earnings back into the fund and in FY 2014 a repayment was made in the amount of \$64.2 million. In 2015, legislation was passed which repealed any further repayments.

SBI staff currently manage all assets of the Closed Landfill Investment Fund. The bond segment is actively managed to add incremental value through sector, security and yield curve decisions. The stock segment is managed to passively track the performance of the S&P 500. The fixed income benchmark is the Bloomberg Barclays U.S. Aggregate. The total fund benchmark is a combination of the fixed income and equity benchmarks, weighted according to the total fund asset allocation targets.



	<u>Ending Market Value</u>	<u>Last Qtr</u>	<u>1 Year</u>	<u>3 Year</u>	<u>5 Year</u>	<u>10 Year</u>	<u>Actual Weight</u>	<u>Policy Weight</u>
CLOSED LANDFILL INVESTMENT	\$81,193,833	2.6%	12.7%	7.9%	13.5%	6.7%		
EQUITIES	57,145,885	3.1	17.9	9.7	14.6	7.2	70.4%	70.0%
FIXED INCOME	24,047,947	1.6	0.8				29.6%	30.0%
CLOSED LANDFILL -BENCHMARK		2.6	12.2	7.7	13.4	6.6		
Excess		0.0	0.5	0.1	0.0	0.1		
S&P 500		3.1	17.9	9.6	14.6	7.2		
BBG BARC US Agg		1.4	-0.3	2.5	2.2	4.5		

Note: Prior to 9/10/14 the Fund's target allocation and benchmark was 100% domestic equity.



	<u>Ending Market Value</u>	<u>Last Qtr</u>	<u>Fiscal YTD</u>	<u>1 Year</u>	<u>3 Year</u>	<u>5 Year</u>	<u>10 Year</u>	<u>Since Inception</u>	<u>Inception Date</u>
<b>SBI INTERNAL EQUITY INDEX</b>	<b>2,104,743,210</b>	<b>3.1</b>	<b>17.9</b>	<b>17.9</b>	<b>9.7</b>	<b>14.6</b>	<b>7.2</b>	<b>9.5</b>	<b>07/1993</b>
S&P 500 INDEX (DAILY)		3.1	17.9	17.9	9.6	14.6	7.2	9.4	07/1993
Excess		-0.0	-0.0	-0.0	0.0	-0.0	0.0	0.1	
<b>SBI INTERNAL FIXED INCOME</b>	<b>1,085,050,891</b>	<b>1.6</b>	<b>0.8</b>	<b>0.8</b>	<b>3.0</b>	<b>3.1</b>	<b>5.1</b>	<b>6.2</b>	<b>07/1994</b>
BBG BARC Agg (Dly)		1.4	-0.3	-0.3	2.5	2.2	4.5	5.7	07/1994
Excess		0.1	1.2	1.2	0.5	0.9	0.6	0.5	
<b>RBC</b>	<b>257,142,116</b>	<b>0.7</b>	<b>-1.1</b>	<b>-1.1</b>	<b>1.5</b>	<b>1.1</b>	<b>3.2</b>	<b>5.1</b>	<b>07/1991</b>
Voyageur Custom Index		0.7	-1.2	-1.2	1.5	1.1	3.4	5.2	07/1991
Excess		0.0	0.2	0.2	0.1	0.0	-0.2	-0.1	

Note:

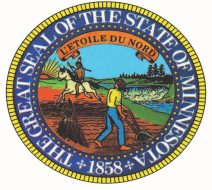
RBC is the manager for the fixed income portion of the assigned risk account. RBC changed its name from Voyageur Asset Management on 1/1/2010. The current benchmark is the Bloomberg Barclays Intermediate Government Index. Prior to 7/1/11 the Voyageur Custom Index was 10% 90 day T-Bill, 25% Merrill 1-3 Government, 15% Merrill 3-5 Government, 25% Merrill 5-10 Government, 25% Merrill Mortgage Master.

In addition to the Non-Retirement Funds listed on the previous pages, the SBI Internal Equity Index and the SBI Internal Fixed Income also include the assets of various smaller Miscellaneous Trust Accounts and Other Post Employment Benefits.

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# State Cash

## June 30, 2017



## State Cash Accounts

### Invested Treasurer's Cash

The Invested Treasurer's Cash Pool (ITC) represents the balances in more than 400 separate accounts that flow through the Minnesota State Treasury. These accounts vary greatly in size. The ITC contains the cash balances of certain State agencies and non-dedicated cash in the State Treasury.

The investment objectives of the ITC, in order of priority, are as follows:

- Safety of Principal. To preserve capital.
- Liquidity. To meet cash needs without the forced sale of securities at a loss.
- Competitive Rate of Return. To provide a level of current income consistent with the goal of preserving capital.

The SBI seeks to provide safety of principal by investing all cash accounts in high quality, liquid, short term investments. These include U.S. Treasury and Agency issues, repurchase agreements, bankers acceptances, commercial paper, and certificates of deposit.

Beginning in January 2003, the Treasurer's Cash Pool is measured against the iMoneyNet, All Taxable Money Fund Report Average.

	<u>Ending Market Value</u>	<u>Last Qtr</u>	<u>1 Year</u>	<u>3 Year</u>	<u>5 Year</u>	<u>10 Year</u>
Treasurer's Cash	11,820,363,556	0.3	0.8	0.7	0.6	1.3
iMoneyNet Money Fund Average-All Taxable		0.1	0.3	0.1	0.1	0.5

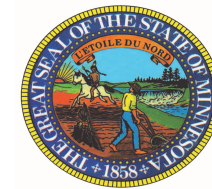
### Other State Cash Accounts

Due to differing investment objectives, strategies, and time horizons, some State agencies' accounts are invested separately. These agencies direct the investments or provide the SBI with investment guidelines and the SBI executes on their behalf. Consequently, returns are shown for informational purposes only and there are no benchmarks for these accounts.

	<u>Ending Market Value</u>	<u>Last Qtr</u>	<u>1 Year</u>	<u>3 Year</u>	<u>5 Year</u>	<u>10 Year</u>
Debt Service	77,601,891	1.1	0.7	2.4		
Housing Finance	48,150,932	0.3	0.2	1.5		
Public Facilities Authority	18,437,255	1.0	1.4	2.4		

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# Addendum



## Addendum

### Benchmark Definitions

#### **Active Domestic Equity Benchmark:**

A weighted composite each of the individual active domestic equity managers' benchmarks. Effective 3/1/2017 the calculation uses the average weight of the manager relative to the total group of active managers during the month. Prior to 3/1/2017 the beginning of the month weight relative to the total group was used.

#### **Benchmark DM:**

Since 6/1/08 the developed markets managers' benchmark, "Benchmark DM," is the Standard (large + mid) MSCI World ex USA (net). From 10/1/07 through 5/31/08 the benchmark was the Provisional Standard MSCI World ex USA (net). From 10/1/03 to 9/30/07 the benchmark was the MSCI World ex USA (net). Prior to that date, it was the MSCI EAFE Free (net), including from 10/1/01 to 5/31/02 when it was the Provisional MSCI EAFE Free (net).

#### **Benchmark EM:**

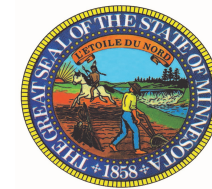
Since 6/1/08 the emerging markets managers' benchmark, "Benchmark EM," is the Standard (large + mid) MSCI Emerging Markets Free (net). From 10/1/07 through 5/31/08 the benchmark was the Provisional Standard MSCI Emerging Markets Free (net). From 1/1/01 to 9/30/07 the benchmark was the MSCI Emerging Markets Free (net). Prior to that date, it was the MSCI Emerging Markets Free (gross), including from 10/1/01 to 5/31/02 when it was the Provisional MSCI Emerging Markets Free (net).

#### **Combined Funds Composite Index:**

The Composite Index performance is calculated by multiplying the beginning of month Composite weights by the monthly returns of the asset class benchmarks. Effective 1/1/2017, the Combined Funds Composite weight is set as the Strategic Asset Allocation Policy Target with the uninvested portion of Private Markets allocated to Public Equity. Asset class weights for Public Equity and Private Markets are reset at the start of each month. From 7/1/2016-12/31/2016 the composite weights were set to match actual allocation as the portfolio was brought into line with the new Strategic Asset Allocation Policy Target. Prior to 7/1/2016 the uninvested portion of the Private Markets was invested in Fixed Income and the Composite Index was adjusted accordingly. When the Strategic Asset Allocation Policy Target changes, so does the Composite Index.

#### **Domestic Equity Benchmark:**

Russell 3000 effective 10/1/2003. From 7/1/1999 to 9/30/2003, it was the Wilshire 5000 Investable Index. From 11/1/1993 to 6/30/1999, the target was the Wilshire 5000 as reported with no adjustments. Prior to 11/1/1993, the Wilshire 5000 was adjusted to reflect SBI mandated restrictions, which included liquor and tobacco, American Home Products and South Africa.



## Addendum

### Benchmark Definitions (continued)

#### **Fixed Income Benchmark:**

In 2016, the Barclays Agg was rebranded Bloomberg Barclays Agg to reflect an ownership change. Prior to 9/18/2008 this index was called the Lehman Brothers Aggregate Bond Index. From 7/1/84-6/30/94 the asset class benchmark was the Salomon Brothers Broad Investment Grade Index

#### **International Equity Benchmark:**

Since 6/1/08 the International Equity asset class target is the Standard (large + mid) MSCI ACWI ex U.S. (net). From 10/1/07 through 5/31/08 the benchmark was the Provisional Standard MSCI ACWI ex U.S. (net). From 10/1/03 to 9/30/07 the target was MSCI ACWI ex U.S. (net). From 1/1/01 to 9/30/03, the target was MSCI EAFE Free (net) plus Emerging Markets Free (net), and from 7/1/99 to 12/31/00 the target was MSCI EAFE Free (net) plus Emerging Markets Free (gross). From 7/1/99 to 9/30/03, the weighting of each index fluctuated with market capitalization. From 10/1/01 to 5/31/02 all international benchmarks being reported were the MSCI Provisional indices. From 12/31/96 to 6/30/99 the benchmark was fixed at 87% EAFE Free (net)/13% Emerging Markets Free (gross). On 5/1/96, the portfolio began transitioning from 100% EAFE Free (net) to the 12/31/96 fixed weights. Prior to 5/1/96 it was 100% the EAFE Free (net).

#### **Passive Domestic Equity Benchmark:**

A weighted average of the Russell 1000 and Russell 3000 effective 10/1/2016. From 10/1/2003 to 10/1/2016 it was equal to the Russell 3000. From 7/1/2000 to 9/30/2003, it was the Wilshire 5000 Investable Index. From 11/1/1993 to 6/30/2000, the target was the Wilshire 5000 as reported with no adjustments. Prior to 11/1/1993, the Wilshire 5000 was adjusted to reflect SBI mandated restrictions, which included liquor and tobacco, American Home Products and South Africa.

#### **Passive Manager Benchmark:**

Russell 3000 effective 10/1/2003. From 7/1/2000 to 9/30/2003, it was the Wilshire 5000 Investable Index. From 11/1/1993 to 6/30/2000, the target was the Wilshire 5000 as reported with no adjustments. Prior to 11/1/1993, the Wilshire 5000 was adjusted to reflect SBI mandated restrictions, which included liquor and tobacco, American Home Products and South Africa.

#### **Public Equity Benchmark:**

67% Russell 3000 and 33% MSCI ACWI ex USA effective 7/1/2017. Prior to 6/30/16 the returns of Domestic and International Equity were not reported as a total Public Equity return. From 6/30/16-6/30/17 the Public Equity benchmark adjusted by 2% each quarter from 75% Russell 3000 and 25% MSCI ACWI ex USA until it reached its current weighting.

#### **Semi-Passive Domestic Equity Benchmark:**

Russell 1000 index effective 1/1/2004. Prior to 1/1/2004 it was the Completeness Fund benchmark.

**MINNESOTA STATE BOARD OF INVESTMENT**  
**Composition of State Investment Portfolios By Type of Investment**  
**Market Value June 30, 2017 (in Thousands)**

	<b>Cash &amp; ST</b>	<b>Bonds Int</b>	<b>Bonds Ext</b>	<b>Stock Int</b>	<b>Stock Ext</b>	<b>Ext Intl</b>	<b>Alternative</b>	<b>Total</b>
<b>COMBINED RETIREMENT FUNDS</b>								
Teachers Retirement Fund	622,773 2.94%	0	4,098,977 19.32%	0	9,142,315 43.08%	4,583,377 21.60%	2,773,952 13.07%	21,221,394 100%
Public Employees Retirement Fund	468,437 2.43%	0	3,744,268 19.42%	0	8,351,176 43.31%	4,186,750 21.71%	2,533,903 13.14%	19,284,534 100%
State Employees Retirement Fund	312,411 2.51%	0	2,412,541 19.39%	0	5,380,906 43.27%	2,697,645 21.69%	1,632,670 13.13%	12,436,173 100%
Public Employees Police & Fire	188,309 2.39%	0	1,535,288 19.43%	0	3,424,290 43.33%	1,716,722 21.72%	1,038,994 13.15%	7,903,603 100%
Highway Patrol Retirement Fund	17,761 2.58%	0	133,670 19.39%	0	298,137 43.24%	149,467 21.68%	90,460 13.12%	689,495 100%
Judges Retirement Fund	5,629 3.05%	0	35,578 19.29%	0	79,354 43.03%	39,783 21.57%	24,078 13.06%	184,422 100%
Correctional Employees Retirement	27,810 2.73%	0	197,493 19.36%	0	440,487 43.17%	220,832 21.64%	133,652 13.10%	1,020,274 100%
Public Employees Correctional	14,956 2.49%	0	116,764 19.41%	0	260,430 43.28%	130,563 21.70%	79,019 13.13%	601,732 100%
PERA Minneapolis Retirement	16,674 2.15%	0	150,750 19.47%	0	336,232 43.43%	168,565 21.77%	102,020 13.18%	774,241 100%
<b>TOTAL COMBINED FUNDS</b>	<b>1,674,760 2.61%</b>	<b>0</b>	<b>12,425,329 19.38%</b>	<b>0</b>	<b>27,713,327 43.22%</b>	<b>13,893,704 21.66%</b>	<b>8,408,748 13.11%</b>	<b>64,115,868 100%</b>

	Cash & ST	Bonds Int	Bonds Ext	Stock Int	Stock Ext	Ext Intl	Alternative	Total
<b>MINNESOTA SUPPLEMENTAL FUNDS</b>								
Balanced Fund	18,807 4.66%	141,210 35.03%	0	0	243,097 60.30%	0	0	403,114 100%
U.S. Stock Actively Managed Fund	0	0	0	0	229,167 100.00%	0	0	229,167 100%
Money Market Fund	313,870 100.00%	0	0	0	0	0	0	313,870 100%
U.S. Stock Index Fund	0	0	0	0	559,315 100.00%	0	0	559,315 100%
Bond Fund	0	0	154,814 100.00%	0	0	0	0	154,814 100%
Broad International Stock Fund	0	0	0	0	0	179,233 100.00%	0	179,233 100%
Stable Value Fund	0	0	214,091 100.00%	0	0	0	0	214,091 100%
Volunteer Firefighters Account	3,448 4.58%	0	34,052 45.14%	0	26,597 35.26%	11,335 15.03%	0	75,432 100%
<b>TOTAL SUPPLEMENTAL FUNDS</b>	336,125 15.79%	141,210 6.63%	402,957 18.93%	0	1,058,176 49.71%	190,568 8.95%	0	2,129,036 100%
<b>MN DEFERRED COMP PLAN</b>	78,927 1.23%	0	2,278,476 35.45%	0	3,505,055 54.54%	564,607 8.78%	0	6,427,065 100%
<b>TOTAL RETIREMENT FUNDS</b>	2,089,812 2.88%	141,210 0.19%	15,106,762 20.79%	0	32,276,558 44.41%	14,648,879 20.16%	8,408,748 11.57%	72,671,969 100%

	Cash & ST	Bonds Int	Bonds Ext	Stock Int	Stock Ext	Ext Intl	Alternative	Total
<b>ASSIGNED RISK PLAN</b>	185 0.06%	0	256,957 79.53%	0	65,944 20.41%	0	0	323,086 100%
<b>ENVIRONMENTAL FUND</b>	19,870 1.93%	283,705 27.59%	0	724,795 70.48%	0	0	0	1,028,370 100%
<b>PERMANENT SCHOOL FUND</b>	25,140 1.91%	618,514 46.98%	0	672,924 51.11%	0	0	0	1,316,578 100%
<b>CLOSED LANDFILL FUND</b>	0	24,048 29.62%	0	57,146 70.38%	0	0	0	81,194 100%
<b>Metropolitan Landfill Contingency Action Trust</b>	0	2,411 26.84%	0	6,573 73.16%	0	0	0	8,984 100%
<b>MISCELLANEOUS TRUST FUND</b>	553 0.27%	77,810 37.78%	0	127,603 61.95%	0	0	0	205,966 100%
<b>Other Post Employment Funds (OPEB's)</b>	16,509 2.87%	105,931 18.42%	0	452,721 78.71%	0	0	0	575,161 100%
<b>TREASURERS CASH</b>	11,819,222 100.00%	0	0	0	0	0	0	11,819,222 100%
<b>MISCELLANEOUS STATE ACCOUNTS</b>	0	145,221 100.00%	0	0	0	0	0	145,221 100%
<b>MN COLLEGE SAVINGS PLAN</b>	9,509 0.71%	0	635,194 47.59%	0	491,500 36.83%	198,657 14.88%	0	1,334,860 100%
<b>TOTAL CASH AND NON-RETIREMENT</b>	11,890,988 70.62%	1,257,640 7.47%	892,151 5.30%	2,041,762 12.13%	557,444 3.31%	198,657 1.18%	0	16,838,642 100%
<b>GRAND TOTAL</b>	<b>13,980,800 15.62%</b>	<b>1,398,850 1.56%</b>	<b>15,998,913 17.87%</b>	<b>2,041,762 2.28%</b>	<b>32,834,002 36.68%</b>	<b>14,847,536 16.59%</b>	<b>8,408,748 9.39%</b>	<b>89,510,611 100%</b>



