AGENDA
INVESTMENT ADVISORY COUNCIL MEETING
Tuesday, November 15, 2016
12:00 P.M.
State Board of Investment
Retirement Systems Building
Room 117 – Main Floor
60 Empire Drive, St. Paul, MN

		TAB
1.	**Approval of Minutes of August 22, 2016**	
2.	**Report from the Executive Director**	
	A. Quarterly Investment Review (July 1, 2016 – September 30, 2016)	**A**
	B. Administrative Report 1. Reports on Budget and Travel 2. FY16 Audit Report 3. Draft of FY16 Annual Report 4. Meeting Dates for Calendar Year 2017 5. Sudan Update 6. Iran Update 7. Litigation Update	**B**
	C. Asset Allocation Transition Update	**C**
	D. Public Markets: Investment Manager Review, Fixed Income	**D**
	E. Public Markets: Investment Manager Review, International Equity	**E**
	F. Private Markets Proposed Legislation	**F**
3.	**Private Markets Report**	**G**
	A. Review of current strategy	
	B. Consideration of investment commitments with four existing managers and two new managers	
4.	**Public Markets Report**	
	A. Third Quarter Performance	**H**
	B. Public Markets: Emerging Markets Manager Search	**I**
5.	**Other items**	

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INVESTMENT ADVISORY COUNCIL

MINUTES

November 15, 2016

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Minutes
Investment Advisory Council
August 22, 2016

The Investment Advisory Council (IAC) met at 12:00 P.M. on Monday, August 22, 2016 in the Board Room – First Floor, 60 Empire Drive, St. Paul, Minnesota.

MEMBERS PRESENT: Doug Anderson, Jeff Bailey, Dave Bergstrom, Kerry Brick, Dennis Duerst, Cindy Farrell (for Myron Frans), Kim Faust, Susanna Gibbons, Morris Goodwin Jr., Laurie Hacking, Peggy Ingison, Gary Martin, Malcolm McDonald, Carol Peterfeso, Elaine Voss, and Shawn Wischmeier.

MEMBERS ABSENT: Denise Anderson.

SBI STAFF: Mansco Perry, LeaAnn Stagg, Patricia Ammann, Nate Blumenshine, Tammy Brusehaver, Stephanie Gleeson, Inma Conde Goldman, Aaron Griga, Andrew Krech, Steve Kuettel, Mike Menssen, John Mulé, Jon Stacy, Charlene Olson, and Melissa Mader.

OTHERS ATTENDING: Ann Posey and Rod Bare, Callan Associates Inc.; Ramona Advani, State Auditor's Office; Bert Black, Secretary of State's Office; Christie Eller, Attorney General's Office; Kim Holmes and Yassin Omar, Office of the Governor; Erin Leonard and Tim Rekow, Minnesota State Retirement System; Tyler Billig, Scott Dunning and April Lee, Office of the Legislative Auditor; Edgar Hernandez, SEIU; Jim Baker, UNITE HERE; and Gordon Voss, private citizen.

The minutes of the May 17, 2016 meeting were approved.

Executive Director's Report

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 June 30, 2016 (Combined Funds 6.5% vs. Composite 6.3%) and had provided a real rate of return of 5.3% above inflation over the latest 20 year period (Combined Funds 7.5% vs. CPI 2.2%).

Mr. Perry stated that assets increased slightly over the quarter (Combined Funds ending value of $57.8 versus a beginning value of $57.6 billion). The Combined Funds return was 20 basis points (bps) below the benchmark for the quarter (Combined Funds 1.4% vs. Composite 1.6%) and 120 bps below for the year (Combined Funds -0.1% vs. Composite 1.1%). The underperformance extended into the three-year period but the Combined Funds outperformed its target all other time periods reported.

Mr. Perry reported that the domestic stock manager group underperformed its target for the quarter (Domestic Stocks 2.0% vs. Domestic Equity Asset Class Target 2.6%) and for the year (Domestic

Stocks 0.0% vs. Domestic Equity Asset Class Target 2.1%). He stated that the international stock manager group underperformed its target for the quarter (International Stocks -0.8% vs. International Equity Asset Class Target -0.6%) and outperformed for the year and over longer time periods. Mr. Perry then stated that the bond segment outperformed its target for the quarter (Bonds 2.4% vs. Fixed Income Asset Class Target 2.2%), underperformed for the year (Bonds 5.9% vs. Fixed Income Asset Class Target 6.0%) but outperformed its target in all other time periods reported. He stated that the alternative investments detracted from performance for the quarter but was positive for the year (total return of -0.3% and 0.2%, respectively). Mr. Perry concluded his report noting that, as of June 30, 2016, the SBI was responsible for managing over $80.9 billion of assets.

Mr. Perry referred members to Tab B of the meeting materials for the administrative report. He reported that for the fiscal year the SBI finished under budget. Mr. Perry stated that Tab B contained the updated information for Sudan and Iran. He noted that there is currently no litigation involving the SBI.

Mr. Blumenshine provided a brief overview of the current alternative investment program. Staff identified and reviewed five funds for the committee to consider for new investment. Mr. Krech described Prudential Capital Partners Fund V (Private Credit); Mr. Stacy described Permira Fund VI (Private Equity) and Thoma Bravo Fund XII (Private Equity); Mr. Blumenshine described Warburg Pincus China (Private Equity); and Mr. Krech reviewed Angelo Gordon Asia Realty Fund III (Real Estate). After discussion, Mr. McDonald moved approval of the five recommendations and Ms. Faust seconded the motion. The motion passed, Ms. Hacking abstained.

Ms. Stagg and Mr. Menssen walked through the small-cap manager search process completed by Staff and Callan. This search resulted in the recommendation to hire four small-cap growth investment managers: Arrowpoint Asset Management, LLC; Hood River Capital Management, LLC; Rice Hall James & Associates, LLC; and Wellington Management Company LLP. After a discussion on each of the firms, Mr. Bergstrom moved the staff recommendation to retain up to four small-cap managers. Mr. Goodwin seconded the motion. The motion passed.

Mr. Perry outlined the timeline and other moves that will coincide with the asset allocation changes passed at the June 2, 2016, Board Meeting. This includes contractual updates that allow for additional passive investments in the Russell sub-sectors, trimming of some actively managed portfolios, and review of the accounting structure so that fund movements will not negatively impact defined contribution participants. Mr. Perry re-affirmed the transition away from active management into passive management where markets are efficient. The committee conveyed their support of the general move to a higher allocation to passively managed assets.

The meeting adjourned at 3:10 p.m.

Respectfully submitted,

Mansco Perry TO

Mansco Perry III
Executive Director and
Chief Investment Officer

TAB

A

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LONG TERM OBJECTIVES
Period Ending 9/30/16

COMBINED FUNDS: $59.5 Billion	Result	Compared to Objective (2)
Match or Exceed Composite Index (10 Yr.) 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.	6.5% (1)	0.2 percentage point above the target
Provide Real Return (20 Yr.) Provide returns that are 3-5 percentage points greater than inflation over the latest 20 year period.	7.6%	5.5 percentage points above CPI

(1) Performance is calculated net of fees.
(2) Differential from composite may occur due to rounding.

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EXECUTIVE SUMMARY

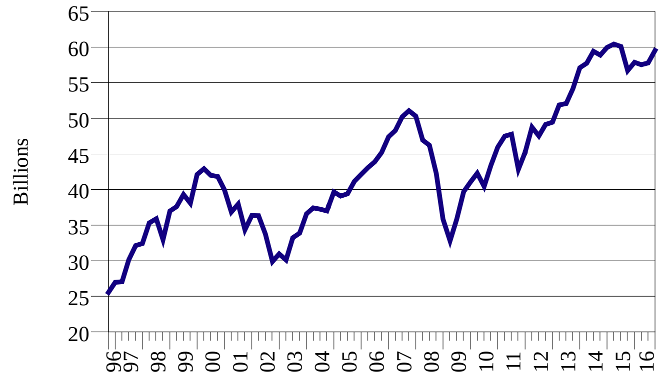
Combined Funds (Net of Fees)

Asset Growth

The market value of the Combined Funds increased 3.0% during the third quarter of 2016. The negative net contributions were outweighed by positive investment returns during the quarter.

	Asset Growth During Third Quarter 2016 (Millions)
Beginning Value	$57,804
Net Contributions	-605
Investment Return	2,348
Ending Value	$59,547

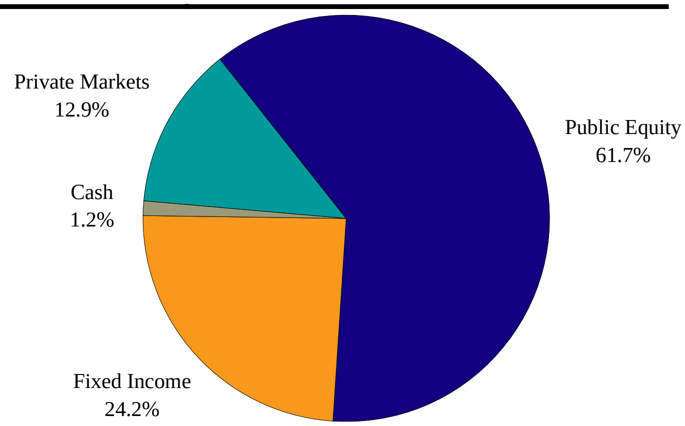
Combined Funds Market Value



Asset Mix

On July 1, 2016 the Combined Funds policy target changed as reflected below. During fiscal year 2017, assets will gradually be transitioned from Bonds to Public Equity to reflect the new policy of holding uninvested Private Markets assets in the Public Equity portfolio.

	Policy Targets	Actual Mix 9/30/16	Actual Market Value (Millions)
Public Equity	58.0%	61.7%	$36,756
Bonds	20.0%	24.2%	14,394
Private Markets*	20.0%	12.9%	7,703
Cash	2.0%	1.2%	694
	100.0%	100.0%	$59,547



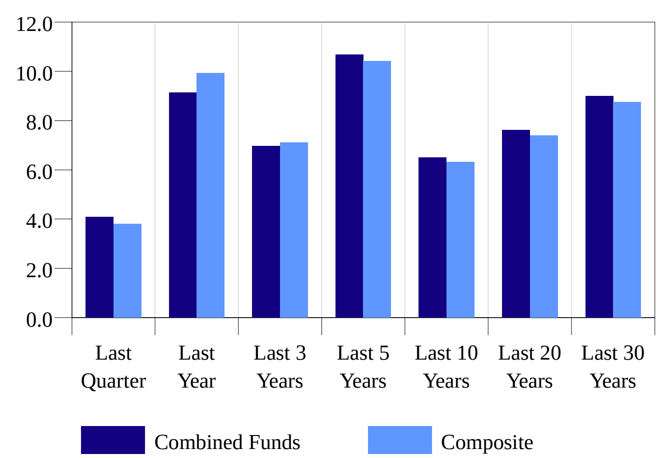
* Any uninvested allocation is held in bonds and public equity.

Fund Performance (Net of Fees)

The Combined Funds outperformed its benchmark for the quarter and underperformed its benchmark for the year.

Periods Ended 9/30/16

	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 10 Years	Last 20 Years	Last 30 Years
Combined Funds	**4.1%**	**9.1%**	**7.0%**	**10.7%**	**6.5%**	**7.6%**	**9.0%**
Composite	3.8%	9.9%	7.1%	10.4%	6.3%	7.4%	8.8%



Note: All periods over one year are annualized.
Column sums throughout this report may not add due to rounding.

EXECUTIVE SUMMARY

Stock and Bond Manager Performance
(Net of Fees)

Public Equity

The public equity manager group (active, semi-passive and passive combined) outperformed its target for the quarter.

Public Equity Target: Effective 7/1/2016 the Public Equity Target is 75% Russell 3000/ 25% MSCI ACWI Ex-US. This target will transition over time to 67% Russell 3000/ 33% MSCI ACWI Ex-US.

Periods Ended 9/30/16

	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
Public Equity	5.3%	12.1%	7.6%	14.0%	6.2%
Public Equity Target	**5.0%**	--	--	--	--

Domestic Stocks

The domestic stock manager group (active, semi-passive and passive combined) outperformed its target for the quarter and underperformed for the year.

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

Periods Ended 9/30/16

	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
Dom. Stocks	**4.8%**	**13.3%**	**9.9%**	**16.3%**	**7.2%**
Asset Class Target*	4.4%	15.0%	10.4%	16.4%	7.4%

* The Domestic Equity Asset Class Target is the Russell 3000 effective 10/1/03. From 7/1/99 to 9/30/03, it was the Wilshire 5000 Investable Index.

International Stocks

The international stock manager group (active, semi-passive and passive combined) underperformed its target for the quarter and the year.

MSCI ACWI Free ex USA (net): The Morgan Stanley Capital International All Country World Index is a free float-adjusted market capitalization index that is designed to measure equity market performance in the global developed and emerging markets. There are 45 countries included in this index. It does not include the United States.

Periods Ended 9/30/16

	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
Int'l Stocks	**6.7%**	**8.4%**	**0.9%**	**6.9%**	**2.7%**
Asset Class Target*	6.9%	9.3%	0.2%	6.0%	2.2%

* Since 6/1/08 the International Equity Asset Class Target is the Standard MSCI ACWI ex U.S. (net). From 10/1/07 to 5/31/08 the benchmark was the Provisional Standard MSCI ACWI ex USA (net). From 10/1/03 to 9/30/07 the target was MSCI ACWI ex USA (net).

Bonds

The bond manager group (active and semi-passive combined) outperformed its target for the quarter and the year.

Barclays Aggregate: The Barclays Aggregate Bond 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.

Periods Ended 9/30/16

	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
Bonds	**0.9%**	**6.0%**	**4.4%**	**3.9%**	**5.1%**
Asset Class Target	0.5%	5.2%	4.0%	3.1%	4.8%

Private Markets

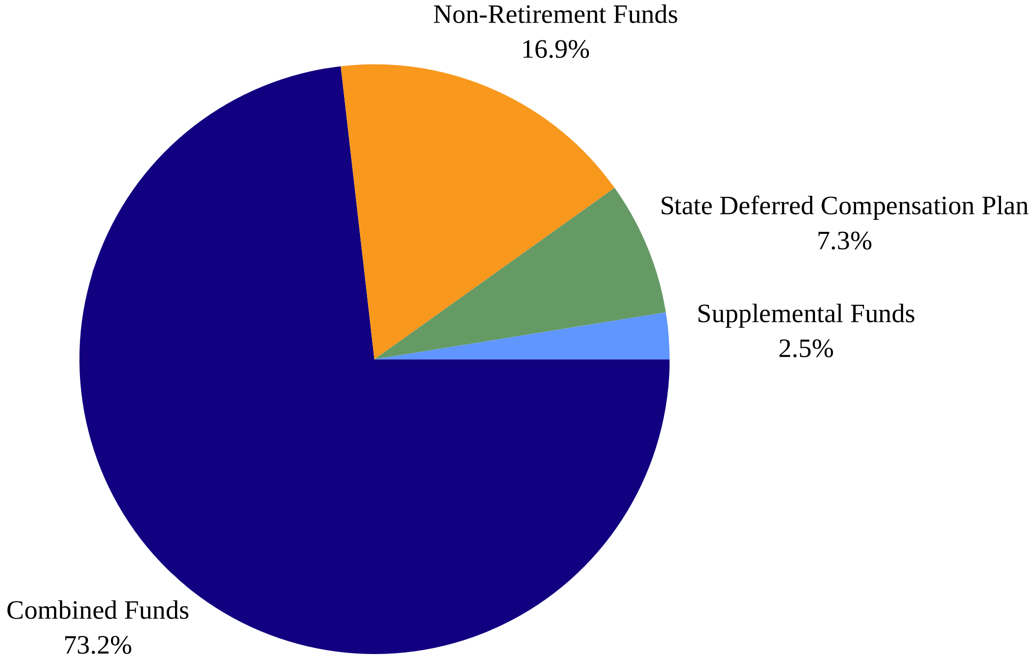
Periods Ended 9/30/16

	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
Private Markets	**5.2%**	**2.5%**	**9.7%**	**9.7%**	**9.8%**

Note: All periods over one year are annualized.

EXECUTIVE SUMMARY

Funds Under Management



	9/30/16 Market Value (Billions)
Retirement Funds	
Combined Funds	$59.5
Supplemental Investment Fund	2.1
(Excluding Deferred Compensation Plan Assets)	
State Deferred Compensation Plan	6.0
Non-Retirement Funds	
Assigned Risk Plan	0.3
Permanent School Fund	1.2
Environmental Trust Fund	0.9
Closed Landfill Investment Fund	0.1
Miscellaneous Trust Accounts	0.2
Other Post Employment Benefits Accounts	0.5
State Cash Accounts	9.3
Minnesota College Savings Plan	1.2
Total	**$81.4**

Note: Amounts and percentages may not add due to rounding.

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MINNESOTA
STATE BOARD
OF INVESTMENT

QUARTERLY INVESTMENT REPORT

Third Quarter 2016

(July 1, 2016 - September 30, 2016)

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VARIOUS CAPITAL MARKET INDICES

	Periods Ended September 30, 2016					
	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 10 Years	Last 20 Years
Domestic Equity						
Russell 3000 (broad market)	4.4%	15.0%	10.4%	16.4%	7.4%	8.0%
Russell 1000 (large cap)	4.0	14.9	10.8	16.4	7.4	8.1
Russell 2000 (small cap)	9.0	15.5	6.7	15.8	7.1	8.1
Dow Jones Wilshire Composite	4.4	14.9	10.4	16.3	7.5	8.1
Dow Jones Industrials	2.8	15.5	9.2	13.8	7.4	8.3
S&P 500	3.9	15.4	11.2	16.4	7.2	7.9
Domestic Fixed Income						
Barclays Aggregate (1)	0.5	5.2	4.0	3.1	4.8	5.6
Barclays Gov't/Credit	0.4	5.9	4.2	3.2	4.9	5.7
3 month U.S. Treasury Bills	0.1	0.3	0.1	0.1	0.9	2.4
International						
MSCI Emerging Markets Free Index (2)	9.0	16.8	-0.6	3.0	3.9	5.7
MSCI ACWI ex USA (3)	6.9	9.3	0.2	6.0	2.2	--
MSCI EAFE (4)	6.4	6.5	0.5	7.4	1.8	4.3
MSCI World ex USA (5)	6.3	7.2	0.3	6.9	1.9	4.5
Salomon Non U.S. Gov't Bond	0.6	12.6	1.2	0.2	3.9	4.3
Inflation Measure						
Consumer Price Index CPI-U (6)	0.2	1.5	1.0	1.2	1.8	2.1
Consumer Price Index CPI-W (7)	0.1	1.2	0.7	1.0	1.7	2.1

(1) Barclays Capital Aggregate Bond index. Includes governments, corporates and mortgages.

(2) Morgan Stanley Capital International Emerging Markets Free Index (Net index).

(3) Morgan Stanley Capital International All Country World Index ex USA (Net index).

(4) Morgan Stanley Capital International Index of Europe, Australasia and the Far East (EAFE) (Net index).

(5) Morgan Stanley Capital International World ex USA Index (Developed Markets) (Net index).

(6) Consumer Price Index (CPI) for all urban consumers, also known as CPI-U.

(7) Consumer Price Index (CPI) for all wage earners, also known as CPI-W.

Note: All periods over one year are annualized.

FINANCIAL MARKETS REVIEW

DOMESTIC STOCKS

The U.S. stock market, as measured by the Russell 3000 index, posted a 4.4% return for the third quarter of 2016. The market quickly shook off effects of the Brexit vote and continued to rally during the quarter. As investors regained confidence in the health of the economy and the sense of panic subsided, more volatile stocks began to recover, while the prices of many of the low volatility dividend stocks declined. Within the Russell 3000, Technology was the best performing sector with a 13.5% return while Utilities was the weakest sector with a -5.3% return for the quarter. Small cap stocks outperformed large cap stocks during the quarter.

Performance for the Russell Style Indices for the quarter is shown below:

Large Growth	Russell 1000 Growth	4.6%
Large Value	Russell 1000 Value	3.5%
Small Growth	Russell 2000 Growth	9.2%
Small Value	Russell 2000 Value	8.9%

The Russell 3000 index returned 15.0% for the year ending September 30, 2016.

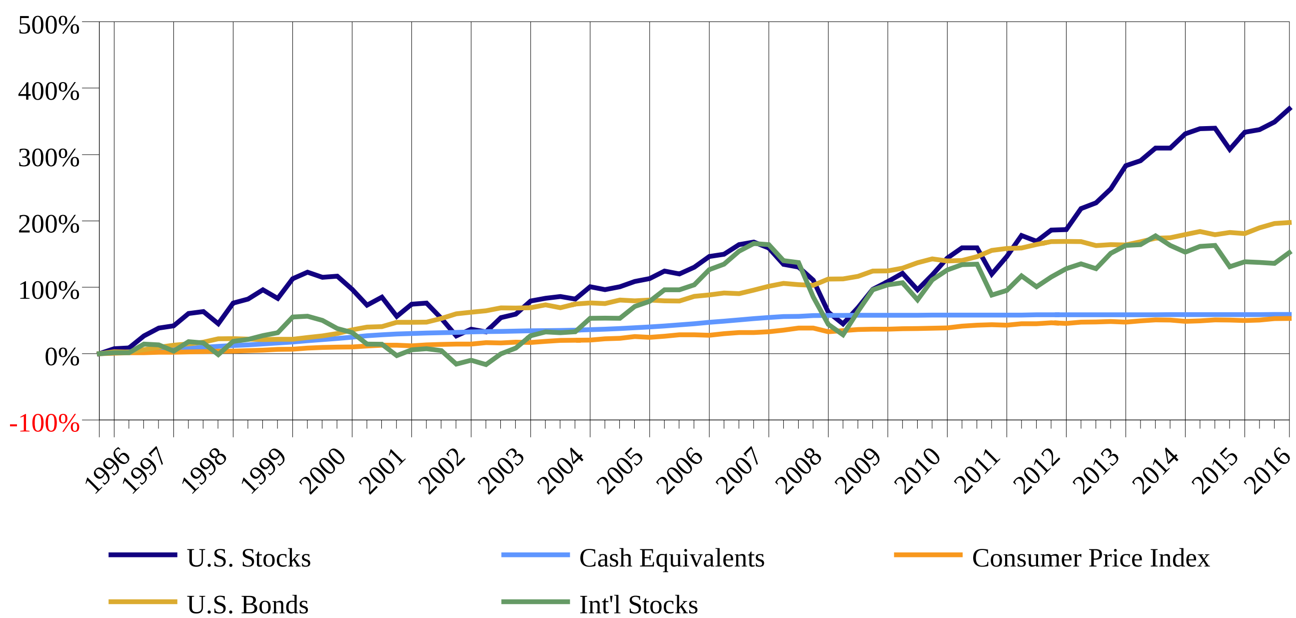
DOMESTIC BONDS

The U.S. bond market, as measured by the Barclays Capital U.S. Aggregate Bond Index, produced a total return of 0.46% for the quarter. The 2-year U.S. Treasury yield ended the quarter higher by 18 basis points at .76%, the 5-year increased by 15 basis points to 1.15%, the 10-year increased by 13 basis points to 1.60%, and the 30-year increased by 3 basis points to 2.32%. Corporate bonds were the biggest driver of performance followed by agency MBS and CMBS.

The major sector returns for the Barclays Capital U.S. Aggregate Bond Index for the quarter were:

U.S. Treasury	-0.3%
Agency	0.3%
Corporates	1.4%
Agency MBS	0.6%
Commercial Mortgages	0.6%
Asset-Backed	0.2%

PERFORMANCE OF CAPITAL MARKETS
Cumulative Returns



FINANCIAL MARKETS REVIEW

DEVELOPED INTERNATIONAL MARKETS

In aggregate, developed international stock markets (as measured by MSCI World ex USA index net) provided a return of 6.3% for the quarter. Developed markets had a positive quarter amid generally positive macroeconomic data and accommodative policies. However, uncertainty surrounding the United Kingdom vote to leave the European Union weighed on market sentiment during the quarter. The top performing sectors were Information Technology, Materials and Consumer Discretionary. The worst performing sectors were Health Care, Telecommunication Services and Utilities.

The quarterly performance of the six largest stock markets, which comprise about 73% of the MSCI World ex USA index, is shown below:

Japan	8.6%
United Kingdom	4.0%
France	6.4%
Canada	4.8%
Germany	10.0%
Switzerland	2.6%

The MSCI World ex USA index returned 7.2% during the last year.

EMERGING INTERNATIONAL MARKETS

Emerging markets (as measured by MSCI Emerging Market index net) provided a return of 9.0% for the quarter. Developing countries had a strong quarter as low valuations, improving fundamentals and higher yields drove fund flows into the asset class. The top performing sectors were Information Technology, Materials and Financials. The worst performing sectors were Utilities, Consumer Staples and Telecommunication Services.

The quarterly performance of the six largest stock markets, which comprise about 77% of the MSCI Emerging Markets index, is shown below:

China	13.9%
Korea	11.0%
Taiwan	11.7%
India	5.9%
Brazil	11.3%
South Africa	6.3%

The Emerging Markets Free index returned 16.8% during the last year.

REAL ESTATE

During the third quarter of 2016, private real estate achieved its 27th consecutive quarter of positive returns with the NCREIF Property Index posting a return of 1.8%. Real Estate markets have seen a healthy recovery since the 2008-2009 crash. An aggregate $19bn in private real estate funds was raised in 3Q16, with approximately 80% of the total amount focused on North American properties. Closed-end private real estate dry powder stands at $225bn, but 65% of institutional investors still plan to commit more than $50mn to the space over the next 12 months. (Sources: NCREIF; Preqin)

PRIVATE EQUITY

During the third quarter of 2016, an aggregate $62 billion in private equity funds was raised across 170 funds. Buyout funds topped the list of aggregate capital raised with $36bn and Venture Capital closed the most funds with 76. Heading into 4Q16, there are 1,807 private equity funds raising capital, targeting an aggregate $495bn. Nearly two-thirds of the capital being raised will focus on North America and Europe. (Source: Preqin)

The aggregate value of the 408 buyout exits in 3Q16 was $81bn. The aggregate exit value essentially matched the average of the previous three quarters, but is below the $90bn average of the previous five years. The largest deal announced in the quarter was the $4.4bn buyout of Playtika Ltd, which was purchased by a consortium of five buyers. (Sources: Preqin)

RESOURCE FUNDS

During the third quarter of 2016, crude oil traded between a range of $39/bbl and $49/bbl. The average price for the quarter was $45/bbl, which was $1 below the average price from the second quarter. Institutional investors appear comfortable committing to energy strategies, as 91% of the aggregate capital raised within Natural Resources in 2016 has been committed to energy strategies. (Source: Bloomberg, Preqin)

COMBINED FUNDS

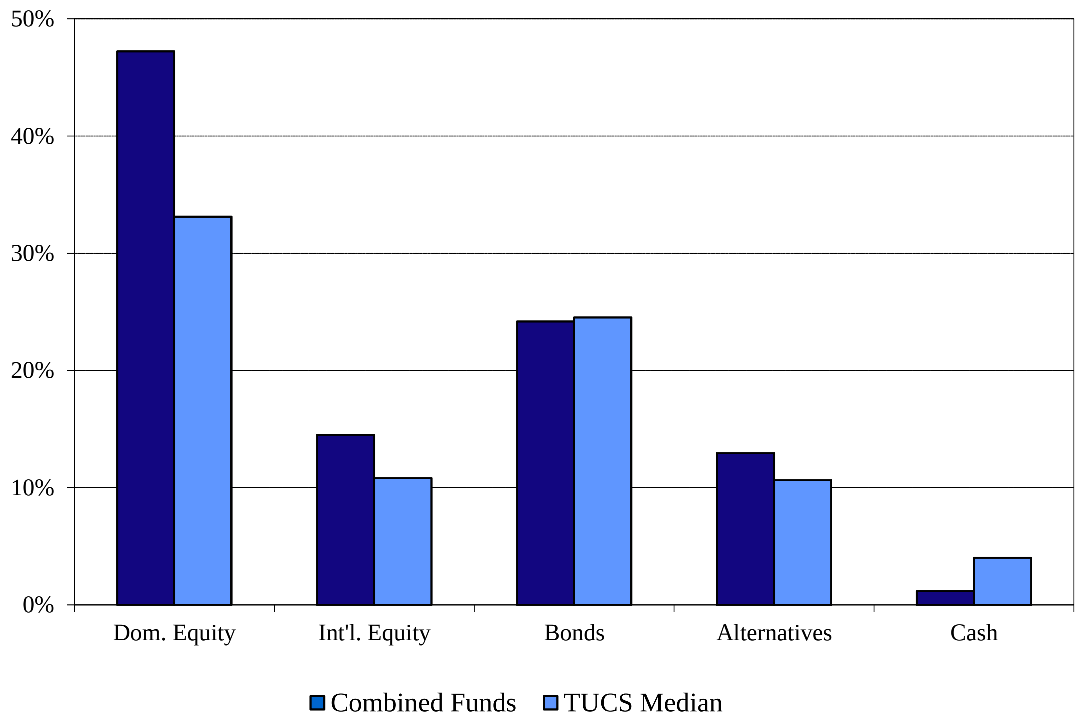
The comparison universe used by the SBI is the Trust Universe Comparison Service (TUCS). Only funds with assets over $1 billion are included in the comparisons shown in this section.

Asset Mix Compared to Other Pension Funds

On 9/30/16, the asset mix of the Combined Funds was:

	$ Million	%
Public Equity	$36,756	61.7%
Bonds	14,394	24.2%
Private Markets*	7,703	12.9%
Cash	694	1.2%
Total	59,547	100.0%

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:



	Domestic Equity	Int'l Equity	Bonds	Alternatives	Cash
Combined Funds	47.2%	14.5%	24.2%	12.9%	1.2%
Median Allocation in TUCS*	33.1%	10.8%	24.5%	10.6%**	4.0%

* Public and corporate plans over $1 billion.

** May include assets other than alternatives.

COMBINED FUNDS

Performance Compared to Other Pension Funds

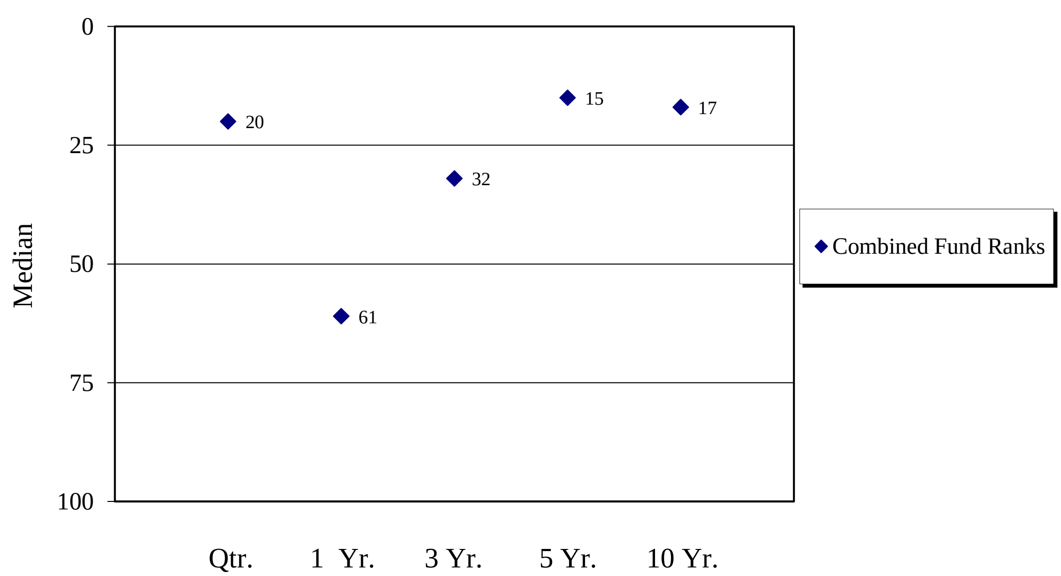
While the SBI is concerned with how its returns compare to other pension investors, universe comparisons should be used with great care. There are several reasons why such comparisons will provide an "apples to oranges" look at performance:

- **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 9/30/16				
	Quarter	**1 Year**	**3 Years**	**5 Years**	**10 Years**
Combined Funds Percentile Rank in TUCS*	20th	61st	32nd	15th	17th

* Compared to public and corporate plans greater than $1 billion, gross of fees.

Note: All periods over one year are annualized.

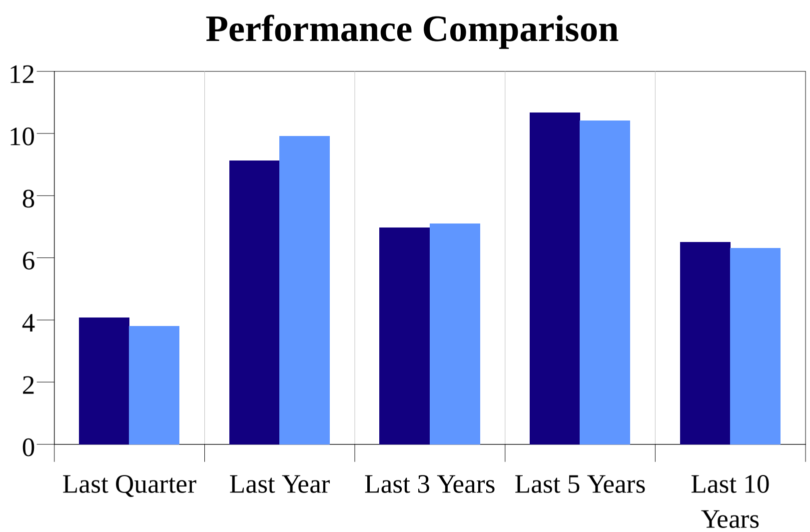
COMBINED FUNDS

Performance Compared to Composite Index

The Combined Funds' performance is evaluated relative to a composite of market indices. The composite is weighted in a manner that reflects the asset allocation of the Combined Funds. Beginning July 1, 2016, the Combined Funds Composite composition entered a transition period as unfunded commitments to private markets shift from Bonds to Public Equity:

	Market Index	Combined Funds Composite 3Q16
Public Equity	75% Russell 3000/25% MSCI ACWI ex US	60.4%*
Bonds	Barclays Capital Aggregate	24.7%*
Private Markets	Private Markets	12.8%*
Unallocated Cash	3 Month T-Bills	2.1%*
		100.0%

*During the transition period all asset class weights are reset in the composite at the start of each month. The above Combined Funds Composite weighting was as of the beginning of the quarter.



Periods Ended 9/30/16	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
Combined Funds **	4.1%	9.1%	7.0%	10.7%	6.5%
Composite	3.8%	9.9%	7.1%	10.4%	6.3%

** Actual returns are reported net of fees.

Note: All periods over one year are annualized.

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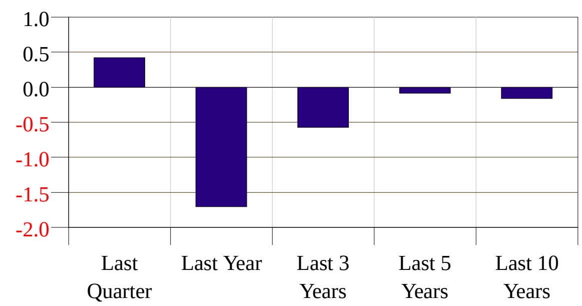
STOCK AND BOND MANAGERS

Performance of Asset Pools
(Net of Fees)

Domestic Stocks

Target: Russell 3000

Value Added to Domestic Equity Target (1)



Periods Ended 9/30/16

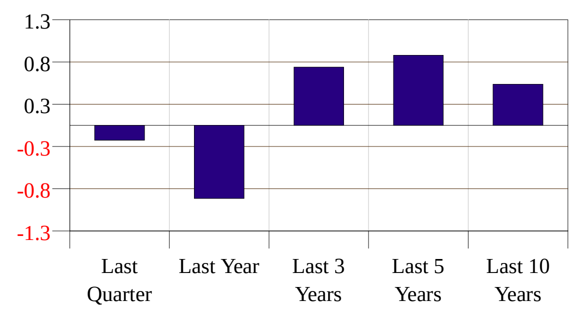
	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
Domestic Stocks	**4.8%**	**13.3%**	**9.9%**	**16.3%**	**7.2%**
Asset Class Target*	4.4%	15.0%	10.4%	16.4%	7.4%

* The Domestic Equity Asset Class Target is the Russell 3000 effective 10/1/03. From 7/1/99 to 9/30/03, it was the Wilshire 5000 Investable Index.

International Stocks

Target: Standard MSCI ACWI Free ex U.S. (net)

Value Added to International Equity Target (1)



Periods Ended 9/30/16

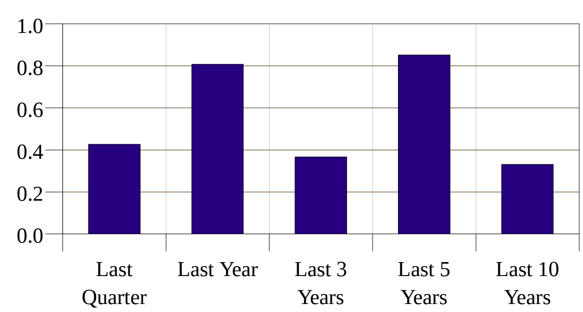
	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
Int'l Stocks	**6.7%**	**8.4%**	**0.9%**	**6.9%**	**2.7%**
Asset Class Target*	6.9%	9.3%	0.2%	6.0%	2.2%

* The Int'l Equity Asset Class Target is MSCI ACWI Free ex U.S. (net) effective 10/1/03.

Bonds

Target: Barclays Capital Aggregate Bond Index

Value Added to Fixed Income Target (1)



Periods Ended 9/30/16

	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
Bonds	**0.9%**	**6.0%**	**4.4%**	**3.9%**	**5.1%**
Asset Class Target	0.5%	5.2%	4.0%	3.1%	4.8%

Note: All periods over one year are annualized.
(1) Graph data is based on actual return and may not match table due to rounding.

Private Markets

Performance of Asset Categories
(Net of Fees)

Private Markets

	Periods Ended 9/30/16				
	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
Private Markets	5.2%	2.5%	9.7%	9.7%	9.8%
Inflation	0.2%	1.5%	1.0%	1.2%	1.8%

Real Estate Investments (Equity emphasis)

The SBI began its real estate program in the mid-1980's and periodically makes new investments. Some of the existing investments are relatively immature and returns may not be indicative of future results.

	Periods Ended 9/30/16				
	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
Real Estate	0.8%	6.1%	14.6%	12.1%	6.0%

Private Equity Investments (Equity emphasis)

The SBI began its private equity program in the mid-1980's and periodically makes new investments. Some of the existing investments are relatively immature and returns may not be indicative of future results.

	Periods Ended 9/30/16				
	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
Private Equity	3.9%	8.3%	13.6%	12.1%	11.7%

Resource Investments (Equity emphasis)

The SBI began its resource program in the mid-1980's and periodically makes new investments. Some of the existing investments are relatively immature and returns may not be indicative of future results.

	Periods Ended 9/30/16				
	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
Resource	11.9%	-17.8%	-5.1%	0.2%	6.4%

Yield Oriented Investments (Debt emphasis)

The SBI began its yield oriented program in 1994. Some of the existing investments are relatively immature and returns may not be indicative of future results.

	Periods Ended 9/30/16				
	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
Yield Oriented	5.6%	0.8%	8.5%	9.5%	10.9%

Note: All periods over one year are annualized.

SUPPLEMENTAL INVESTMENT FUND

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.

On September 30, 2016 the market value of the entire Fund was $2.1 billion.

Investment Options

	9/30/16 Market Value (In Millions)
Balanced Fund - a balanced portfolio utilizing both common stocks and bonds.	$385
U.S. Stock Actively Managed Fund - an actively managed, all common stock portfolio.	$214
U.S. Stock Index Fund- a passively managed, all common stock portfolio designed to track the performance of the entire U.S. stock market.	$499
Broad International Stock Fund- a portfolio of non U.S. stocks that incorporates both active and passive management.	$182
Bond Fund - an actively managed, all bond portfolio.	$156
Money Market Fund - a portfolio utilizing short-term, liquid debt securities.	$368
Stable Value Fund - a portfolio of stable value instruments, including security backed contracts and insurance company and bank investment contracts.	$213
Volunteer Firefighter Account - a balanced portfolio only used by the Voluntary Statewide Volunteer Firefighter Plan.	$56

SUPPLEMENTAL INVESTMENT FUND ACCOUNTS

BALANCED FUND

Investment Objective

The primary investment objective of the Balanced Fund is similar to that of the Combined Funds. The Fund seeks to maximize long-term real rates of return, while limiting short-run portfolio return volatility.

Asset Mix

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.

	Target	Actual
Stocks	60.0%	61.1%
Bonds	35.0%	34.3%
Cash	5.0%	4.6%
	100.0%	100.0%

Periods Ended 9/30/16

	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
Total Account	**3.0%**	**11.0%**	**7.9%**	**11.3%**	**6.8%**
Benchmark*	2.8%	10.9%	7.8%	10.9%	6.3%

* 60% Russell 3000/35% Barclays Aggregate Bond Index/5% T-Bills Composite.

U.S. STOCK ACTIVELY MANAGED FUND

Investment Objective

The U.S. Stock Actively Managed Fund's investment objective is to generate above-average returns from capital appreciation on common stocks.

Asset Mix

The U.S. Stock Actively Managed Fund is invested primarily in the common stocks of US companies. The managers in the account also hold varying levels of cash.

Periods Ended 9/30/16

	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
Total Account	**5.0%**	**12.4%**	**9.6%**	**16.2%**	**7.1%**
Benchmark*	4.4%	15.0%	10.4%	16.4%	7.4%

* Russell 3000.

U.S. STOCK INDEX FUND

Investment Objective and Asset Mix

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, a broad-based equity market indicator.

The Fund is invested 100% in common stock.

Periods Ended 9/30/16

	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
Total Account	**4.4%**	**15.0%**	**10.5%**	**16.4%**	**7.4%**
Benchmark*	4.4%	15.0%	10.4%	16.4%	7.4%

* Russell 3000.

Note: All periods over one year are annualized.

SUPPLEMENTAL INVESTMENT FUND ACCOUNTS

BROAD INTERNATIONAL STOCK FUND

Investment Objective and Asset Mix

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. At least 25% of the Fund is "passively managed" and no more than 33% of the Fund is "semi-passively managed." These portions of the Fund are designed to track and modestly outperform, respectively, the return of 23 developed markets included in the MSCI World ex USA Index. The remainder 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.

Periods Ended 9/30/16

	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
Total Account	**6.7%**	**8.4%**	**0.9%**	**6.9%**	**2.7%**
Benchmark*	6.9%	9.3%	0.2%	6.0%	2.2%

* The Int'l Equity Asset Class Target is MSCI ACWI ex USA (net).

BOND FUND

Investment Objective

The investment objective of the Bond Fund is to exceed the return of the broad domestic bond market by investing in fixed income securities.

Asset Mix

The Bond Fund invests primarily in high-quality, government and corporate bonds that have intermediate to long-term maturities, usually 3 to 20 years.

Periods Ended 9/30/16

	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
Total Account	**0.9%**	**6.0%**	**4.4%**	**3.9%**	**5.1%**
Barclays Agg	0.5%	5.2%	4.0%	3.1%	4.8%

MONEY MARKET FUND

Investment Objective

The investment objective of the Money Market Fund is to protect principal by investing in short-term, liquid U.S. Government securities.

Asset Mix

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.

Periods Ended 9/30/16

	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
Total Account	**0.1%**	**0.5%**	**0.2%**	**0.2%**	**1.1%**
3 month T-Bills	0.1%	0.3%	0.1%	0.1%	0.9%

Note: All periods over one year are annualized.

SUPPLEMENTAL INVESTMENT FUND ACCOUNTS

STABLE VALUE FUND

Investment Objective

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.

Asset Mix

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.

Periods Ended 9/30/16

	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
Total Account	**0.5%**	**2.1%**	**1.9%**	**2.2%**	**3.3%**
Benchmark*	0.3%	1.4%	1.4%	1.2%	1.9%

* The Stable Value Fund Benchmark is the 3-year Constant Maturity Treasury Bill +45 basis points.

VOLUNTEER FIREFIGHTER ACCOUNT

The investment objective of the Volunteer Firefighter Account is to maximize long-term returns while limiting short-term portfolio return volitility.

The Account is invested in a balanced portfolio:

	Target	Actual
Domestic Stocks	35.0%	35.0%
International Stocks	15.0%	15.4%
Bonds	45.0%	44.9%
Cash	5.0%	4.7%
	100.0%	100.0%

Periods Ended 9/30/16

	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
Total Account	**2.9%**	**9.1%**	**5.8%**	**8.5%**	**--**
Benchmark*	2.8%	9.1%	5.6%	8.1%	--

* The benchmark for this account is 35% Russell 3000, 15% MSCI ACWI ex USA (net), 45% Barclays Aggregate, 5% 3 Month T-Bills.

Note: All periods over one year are annualized.

DEFERRED COMPENSATION PLAN ACCOUNTS

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 10 target 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 in a mutual fund window. The current plan structure became effective July 1, 2011. The investment options and objectives are outlined below.

In the third quarter of 2016, the Janus Large-Cap Fund was replaced by the Vanguard Dividend Growth Large-Cap Fund.

On September 30, 2016, the market value of the entire Fund was $6.0 billion.

Investment Options

		9/30/16 Market Value (In Millions)
Vanguard Index Institutional Plus Shares (passive)		$1,029.3
Vanguard Dividend Growth (active)		$523.1
Vanguard Mid Cap Index Institutional Shares (passive)		$447.6
T. Rowe Price Small-Cap Stock (active)		$594.8
Fidelity Diversified International (active)		$282.8
Vanguard Total International Stock Index Institutional Plus (passive)		$144.1
Vanguard Balanced Index Institutional Shares (passive)		$715.6
Dodge & Cox Income Fund (active)		$220.3
Vanguard Total Bond Market Index Institutional Shares (passive)		$212.3
SIF Money Market Fund		$65.1
SIF Stable Value Fund		$1,349.5
State Street Global Advisors MN Target Retirement Funds		$375.6
Income Fund	$69.9	
2020 Fund	$83.6	
2025 Fund	$73.3	
2030 Fund	$46.6	
2035 Fund	$35.8	
2040 Fund	$22.7	
2045 Fund	$18.7	
2050 Fund	$13.0	
2055 Fund	$6.6	
2060 Fund	$5.4	

DEFERRED COMPENSATION PLAN ACCOUNTS

LARGE CAP EQUITY

Vanguard Index Institutional Plus (passive)

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

Periods Ended 9/30/16

	Last Quarter	Last Year	Last 3 Years	Last 5 Years
Fund	**3.8%**	**15.4%**	**11.2%**	**16.4%**
S&P 500	3.9%	15.4%	11.2%	16.4%

Vanguard Dividend Growth (active)

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

	Last Quarter	Last Year	Last 3 Years	Last 5 Years
Fund	**0.8%**	**13.7%**	**10.1%**	**14.7%**
Nasdaq US Div	1.1%	16.2%	8.8%	14.0%

MID CAP EQUITY

Vanguard Mid Cap Index (passive)

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

Periods Ended 9/30/16

	Last Quarter	Last Year	Last 3 Years	Last 5 Years
Fund	**5.2%**	**12.6%**	**9.9%**	**16.5%**
CRSP U.S. Mid Cap	5.2%	12.7%	10.0%	16.6%

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.

Periods Ended 9/30/16

	Last Quarter	Last Year	Last 3 Years	Last 5 Years
Fund	**6.2%**	**16.1%**	**7.9%**	**17.4%**
Russell 2000	9.0%	15.5%	6.7%	15.8%

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.

Periods Ended 9/30/16

	Last Quarter	Last Year	Last 3 Years	Last 5 Years
Fund	**6.5%**	**6.0%**	**3.0%**	**9.6%**
MSCI EAFE	6.4%	6.5%	0.5%	7.4%

Vanguard Total International Stock Index (passive)

A fund that seeks to track the investment performance of the MSCI All Country World ex USA Investable Market Index, an index designed to measure equity market performance in developed and emerging markets, excluding the United States.

	Last Quarter	Last Year	Last 3 Years	Last 5 Years
Fund	**6.7%**	**9.7%**	**0.9%**	**6.8%**
ACWI ex USA IMI	7.0%	10.2%	1.2%	6.7%

Note: All periods over one year are annualized.

DEFERRED COMPENSATION PLAN ACCOUNTS

BALANCED

Vanguard Balanced Index (passive)

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% Barclays Aggregate.

Periods Ended 9/30/16

	Last Quarter	Last Year	Last 3 Years	Last 5 Years
Fund	**2.8%**	**11.2%**	**8.0%**	**11.0%**
Benchmark	2.8%	11.2%	8.0%	11.1%

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 Barclays Aggregate, over time.

Periods Ended 9/30/16

	Last Quarter	Last Year	Last 3 Years	Last 5 Years
Fund	**1.8%**	**7.1%**	**4.3%**	**4.3%**
Barclays Agg	0.5%	5.2%	4.0%	3.1%

Vanguard Total Bond Market Index (passive)

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

	Last Quarter	Last Year	Last 3 Years	Last 5 Years
Fund	**0.4%**	**5.3%**	**4.0%**	**3.0%**
Barclays Agg	0.5%	5.2%	4.0%	3.1%

SIF Money Market Fund

A fund that invests in short-term debt instruments which is expected to outperform the return on 3-month U.S. Treasury Bills.

	Last Quarter	Last Year	Last 3 Years	Last 5 Years
Fund	**0.1%**	**0.5%**	**0.2%**	**0.2%**
3-Mo. Treas.	0.1%	0.3%	0.1%	0.1%

SIF STABLE VALUE FUND

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.

Periods Ended 9/30/16

	Last Quarter	Last Year	Last 3 Years	Last 5 Years
Fund	**0.5%**	**2.1%**	**1.9%**	**2.2%**
Benchmark	0.3%	1.4%	1.4%	1.2%

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.

See the "Performance Summaries" section of the Public Markets, Non-Retirement, and Defined Contribution Report.

Note: All periods over one year are annualized.

MN COLLEGE SAVINGS PLAN ACCOUNTS

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.

On September 30, 2016, the market value of the entire Fund was $1.2 billion.

Investment Options

	9/30/16 Market Value (In Millions)
Age Based Managed Allocation	
Age Band 0-4 Years	$24.6
Age Band 5-8 Years	$71.9
Age Band 9-10 Years	$72.9
Age Band 11-12 Years	$101.7
Age Band 13-14 Years	$136.2
Age Band 15 Years	$65.0
Age Band 16 Years	$64.9
Age Band 17 Years	$64.4
Age Band 18 Years and over	$148.1
Risk Based Managed Allocations	
Aggressive	$10.0
Moderate	$55.0
Conservative	$4.0
Static Options:	
U.S. Large Cap Equity	$9.8
International Equity	$2.4
U.S. and International Equity	$274.1
Equity and Interest Accumulation	$1.2
100% Fixed Income	$11.7
Money Market	$8.3
Principal Plus Interest	$106.4

MN COLLEGE SAVINGS PLAN ACCOUNTS

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.

See the "Performance Summaries" section of the Public Markets, Non-Retirement, and Defined Contribution Report.

RISK BASED ALLOCATIONS

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

See the "Performance Summaries" section of the Public Markets, Non-Retirement, and Defined Contribution Report.

U.S. LARGE CAP EQUITY INDEX

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

Periods Ended 9/30/16

	Last Quarter	Last Year	Last 3 Years	Last 5 Years
Fund	3.8%	15.2%	--	--
S&P 500	3.9%	15.4%	--	--

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% Emerging Markets Free Index.

Periods Ended 9/30/16

	Last Quarter	Last Year	Last 3 Years	Last 5 Years
Fund	6.7%	8.2%	0.2%	--
Benchmark	7.0%	8.6%	0.3%	--

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.

Periods Ended 9/30/16

	Last Quarter	Last Year	Last 3 Years	Last 5 Years
Fund	4.4%	13.2%	7.6%	13.4%
Benchmark	4.6%	13.7%	7.8%	13.6%

Note: All periods over one year are annualized.

MN COLLEGE SAVINGS PLAN ACCOUNTS

EQUITY AND INTEREST ACCUMULATION

A fund that passively invests half of the portfolio in equities across all capitalization ranges and the other half in a funding agreement. The fund is expected to track a weighted benchmark of 50% Russell 3000 and 50% 3-month T-Bill.

Periods Ended 9/30/16	Last Quarter	Last Year	Last 3 Years	Last 5 Years
Fund	2.4%	7.9%	--	--
Benchmark	2.2%	7.5%	--	--

100% FIXED INCOME

A fund that passively invests in fixed income holdings that tracks the Barclays 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% Barclays Aggregate, 20% inflation-linked bond, and 10% high yield.

Periods Ended 9/30/16	Last Quarter	Last Year	Last 3 Years	Last 5 Years
Fund	0.9%	5.5%	3.3%	2.4%
Benchmark	0.9%	5.8%	3.6%	2.8%

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.

Periods Ended 9/30/16	Last Quarter	Last Year	Last 3 Years	Last 5 Years
Fund	0.1%	0.1%	0.0%	0.0%
iMoney Net Average All Taxable	0.0%	0.1%	0.0%	0.0%

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.

Periods Ended 9/30/16	Last Quarter	Last Year	Last 3 Years	Last 5 Years
Fund	0.3%	1.4%	1.3%	1.4%
3-Month T-Bill	0.1%	0.2%	0.1%	0.1%

Note: All periods over one year are annualized.

ASSIGNED RISK PLAN

Investment Objectives

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.

Asset Mix

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.

	9/30/16 Target	9/30/16 Actual
Stocks	20.0%	20.1%
Bonds	80.0%	79.9%
Total	100.0%	100.0%

Investment Management

RBC Global Asset Management (US) manages the bond segment of the Fund. SSgA manages the equity segment.

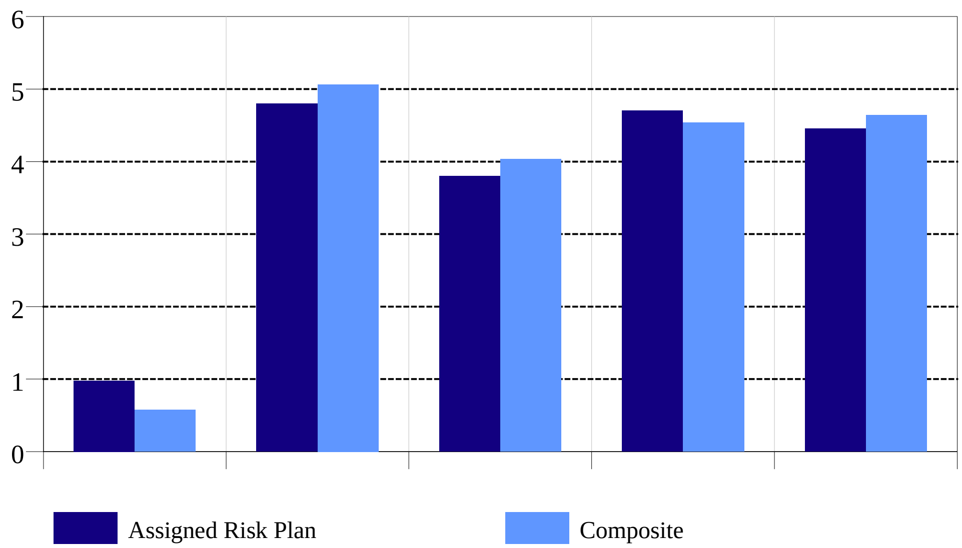
Performance Benchmarks

Since July 1, 2011, the fixed income benchmark has been the Barclays Capital Intermediate Government Index. Since July 1, 1994, the equity benchmark has been the S&P 500 index. The total fund benchmark is a combination of the fixed income and equity benchmarks, weighted according to the total fund asset allocation targets.

Market Value

On September 30, 2016 the market value of the Assigned Risk Plan was $311 million.

Performance Comparison



Periods Ended 9/30/16

	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
Total Fund*	**1.0%**	**4.8%**	**3.8%**	**4.7%**	**4.5%**
Composite	0.6%	5.1%	4.0%	4.5%	4.6%
Equity Segment*	**5.7%**	**13.9%**	**9.4%**	**16.0%**	**7.2%**
S&P 500	3.9%	15.4%	11.2%	16.4%	7.2%
Bond Segment*	**-0.2%**	**2.5%**	**2.2%**	**1.6%**	**3.5%**
Barclays Int Gov Index	-0.2%	2.4%	2.2%	1.6%	3.8%

* Actual returns are calculated net of fees.

Note: All periods over one year are annualized.

PERMANENT SCHOOL FUND

Investment Objectives

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.

Asset Mix

Effective with FY98, 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.

	9/30/16 Target	9/30/16 Actual
Stocks	50.0%	51.7%
Bonds	48.0%	46.4%
Cash	2.0%	1.9%
Total	100.0%	100.0%

Prior to FY98, the Fund was invested entirely in fixed income securities in order to maximize current income. It was understood that the change in asset mix would reduce portfolio income in the short term, but enhance the value of the fund, over time.

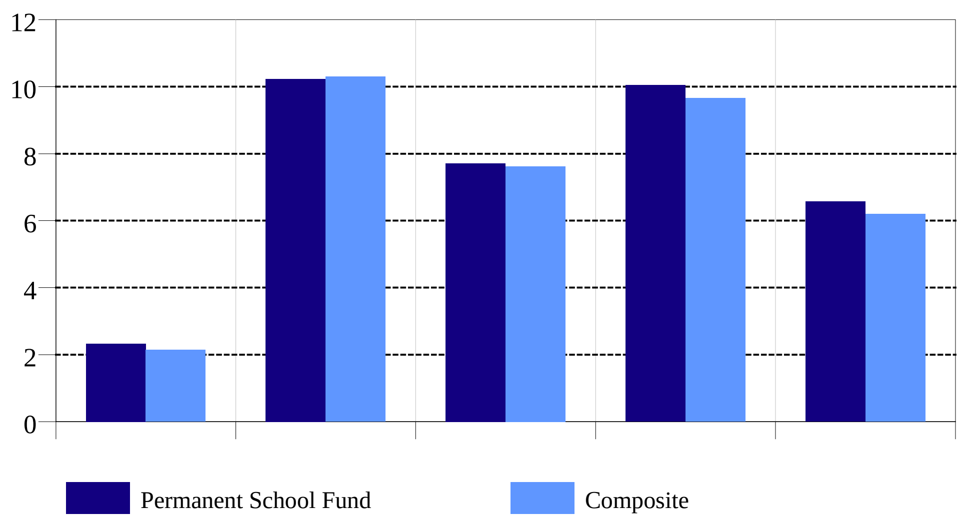
Investment Management

SBI staff 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.

Market Value

On September 30, 2016 the market value of the Permanent School Fund was $1.2 billion**.**

Performance Comparison



	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
	Periods Ended 9/30/16				
Total Fund*	**2.3%**	**10.2%**	**7.7%**	**10.1%**	**6.6%**
Composite	2.1%	10.3%	7.6%	9.7%	6.2%
Equity Segment*	**3.9%**	**15.4%**	**11.2%**	**16.3%**	**7.3%**
S&P 500	3.9%	15.4%	11.2%	16.4%	7.2%
Bond Segment*	**0.8%**	**5.3%**	**4.4%**	**3.9%**	**5.3%**
Barclays Agg	0.5%	5.2%	4.0%	3.1%	4.8%

* Actual returns are calculated net of fees.

Note: All periods over one year are annualized.

ENVIRONMENTAL TRUST FUND

Investment Objectives

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.

Asset Mix

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. As of July 1, 1999, the asset allocation changed from 50% stocks/50% fixed income to 70% stocks/30% fixed income.

	9/30/16 Target	9/30/16 Actual
Stocks	70.0%	70.5%
Bonds	28.0%	27.6%
Cash	2.0%	1.9%
Total	100.0%	100.0%

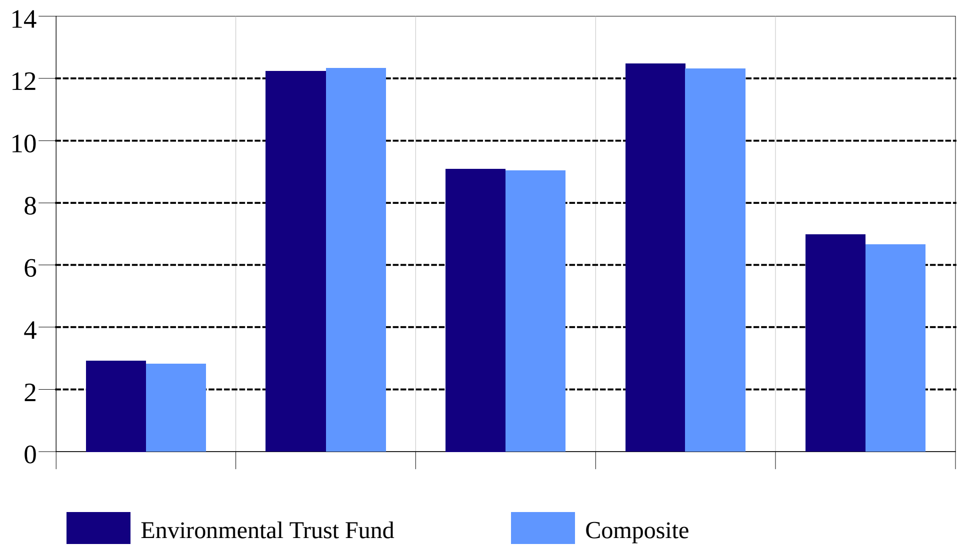
Investment Management

SBI staff 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.

Market Value

On September 30, 2016 the market value of the Environmental Trust Fund was $949 million.

Performance Comparison



Periods Ended 9/30/16	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
Total Fund*	**2.9%**	**12.2%**	**9.1%**	**12.5%**	**7.0%**
Composite	2.8%	12.3%	9.0%	12.3%	6.7%
Equity Segment*	**3.9%**	**15.4%**	**11.2%**	**16.3%**	**7.3%**
S&P 500	3.9%	15.4%	11.2%	16.4%	7.2%
Bond Segment*	**0.8%**	**5.3%**	**4.4%**	**3.9%**	**5.3%**
Barclays Agg	0.5%	5.2%	4.0%	3.1%	4.8%

* Actual returns are calculated net of fees.

Note: All periods over one year are annualized.

CLOSED LANDFILL INVESTMENT FUND

Investment Objectives

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.

Asset Mix

From July 1999 to September 2014 the Fund's target allocation was 100% domestic equities. The SBI changed the Fund allocation in 2014 to a more balanced allocation of 70% a domestic equities and 30% bonds.

	9/30/16 Target	9/30/16 Actual
Stocks	70.0%	70.1%
Bonds	30.0%	29.9%
Total	100.0%	100.0%

Investment Management

SBI staff 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.

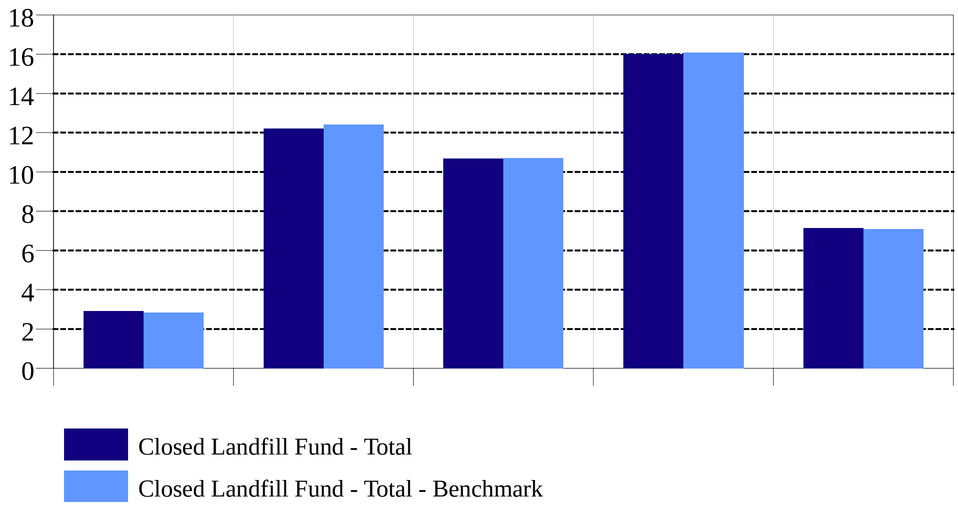
Legislation

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..

Market Value

On September 30, 2016, the market value of the Closed Landfill Investment Fund was $74 million.

Performance Comparison



Periods Ended 9/30/16

	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
Total Fund (1)	**2.9%**	**12.2%**	**10.7%**	**16.0%**	**7.1%**
Composite (3)	2.8%	12.4%	10.7%	16.1%	7.1%
Equity Segment (1)	**3.9%**	**15.4%**	**11.2%**	**16.3%**	**7.3%**
S&P 500	3.9%	15.4%	11.2%	16.4%	7.2%
Bond Segment (1,2)	**0.8%**	**5.3%**	**--**	**--**	**--**
Barclays Agg	0.5%	5.2%	--	--	--

(1) Actual returns are calculated net of fees.

(2) Bond Segment admission date 9/10/14. Returns to be reported upon first full quarter of history (12/31/2014)

(3) The benchmark of the fund is the S&P 500 from mid July 1999 to 9/9/14. As of 9/10/14 the benchmark consist of S&P 500 (70%) and Barclays Aggregate (30%).

Note: All periods over one year are annualized.

STATE CASH ACCOUNTS

Description

State Cash Accounts represent the balances in more than 400 separate accounts that flow through the Minnesota State Treasury. These accounts vary greatly in size.

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.

In addition, each State of Minnesota bond sale requires two additional pools, one for bond proceeds and one for debt reserve transfer.

Because of special legal restrictions, a small number of cash accounts cannot be commingled. These accounts are invested separately.

Investment Objectives

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.

Asset Mix

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.

Investment Management

All state cash accounts are managed by SBI investment staff. As noted above, most of the assets of the cash accounts are invested through the large commingled investment pool.

Period Ending 9/30/16

	Market Value (Millions)	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
Treasurer's Cash Pool*	**$9,133**	**0.2%**	**0.7%**	**0.6%**	**0.6%**	**1.6%**
Custom Benchmark**		0.0%	0.1%	0.0%	0.0%	0.8%
3 month T-Bills		0.1%	0.3%	0.1%	0.1%	0.9%

* Actual returns are calculated net of fees.
** Beginning in January 2003, the Treasurer's Cash Pool is measured against the iMoneyNet, All Taxable Money Fund Report Average.

MINNESOTA STATE BOARD OF INVESTMENT

Composition of State Investment Portfolios By Type of Investment
Market Value September 30, 2016 (in Thousands)

	Cash & ST	Bonds Int	Bonds Ext	Stock Int	Stock Ext	Ext Intl	Alternative	Total
COMBINED RETIREMENT FUNDS								
Teachers Retirement Fund	223,186	0	4,807,661	0	9,391,721	2,884,399	2,572,802	19,879,769
	1.13%		24.18%		47.24%	14.51%	12.94%	100%
Public Employees Retirement Fund	208,378	0	4,293,902	0	8,388,098	2,576,165	2,297,866	17,764,409
	1.17%		24.17%		47.22%	14.50%	12.94%	100%
State Employees Retirement Fund	138,381	0	2,786,834	0	5,444,054	1,671,986	1,491,364	11,532,619
	1.20%		24.16%		47.21%	14.50%	12.93%	100%
Public Employees Police & Fire	84,187	0	1,770,049	0	3,457,775	1,061,957	947,236	7,321,204
	1.15%		24.18%		47.23%	14.51%	12.94%	100%
Highway Patrol Retirement Fund	8,951	0	155,863	0	304,476	93,511	83,410	646,211
	1.39%		24.12%		47.12%	14.47%	12.91%	100%
Judges Retirement Fund	2,948	0	41,565	0	81,197	24,937	22,244	172,891
	1.71%		24.04%		46.96%	14.42%	12.87%	100%
Correctional Employees Retirement	14,481	0	224,259	0	438,089	134,546	120,012	931,387
	1.55%		24.08%		47.04%	14.45%	12.89%	100%
Public Employees Correctional	6,599	0	128,575	0	251,169	77,139	68,806	532,288
	1.24%		24.16%		47.19%	14.49%	12.93%	100%
PERA Minneapolis Retirement	7,041	0	185,785	0	362,929	111,463	99,422	766,640
	0.92%		24.23%		47.34%	14.54%	12.97%	100%
TOTAL COMBINED FUNDS	694,152	0	14,394,493	0	28,119,508	8,636,103	7,703,162	59,547,418
	1.17%		24.17%		47.22%	14.50%	12.94%	100%

	Cash & ST	Bonds Int	Bonds Ext	Stock Int	Stock Ext	Ext Intl	Alternative	Total
MINNESOTA SUPPLEMENTAL FUNDS								
Balanced Fund	17,615 4.57%	132,236 34.34%	0	0	235,296 61.09%	0	0	385,147 100%
U.S. Stock Actively Managed Fund	0	0	0	0	214,097 100.00%	0	0	214,097 100%
Money Market Fund	368,452 100.00%	0	0	0	0	0	0	368,452 100%
U.S. Stock Index Fund	0	0	0	0	498,686 100.00%	0	0	498,686 100%
Bond Fund	0	0	155,656 100.00%	0	0	0	0	155,656 100%
Broad International Stock Fund	0	0	0	0	0	181,843 100.00%	0	181,843 100%
Stable Value Fund	0	0	213,083 100.00%	0	0	0	0	213,083 100%
Volunteer Firefighters Account	2,612 4.70%	0	24,993 44.92%	0	19,461 34.98%	8,569 15.40%	0	55,635 100%
TOTAL SUPPLEMENTAL FUNDS	388,679 18.75%	132,236 6.38%	393,732 19.00%	0	967,540 46.69%	190,412 9.19%	0	2,072,599 100%
MN DEFERRED COMP PLAN	70,610 1.18%	0	2,222,945 37.30%	0	3,163,797 53.09%	502,788 8.44%	0	5,960,140 100%
TOTAL RETIREMENT FUNDS	1,153,441 1.71%	132,236 0.20%	17,011,170 25.17%	0	32,250,845 47.72%	9,329,303 13.80%	7,703,162 11.40%	67,580,157 100%

	Cash & ST	Bonds Int	Bonds Ext	Stock Int	Stock Ext	Ext Intl	Alternative	Total
ASSIGNED RISK PLAN	1,986 0.64%	0	246,334 79.24%	0	62,567 20.13%	0	0	310,887 100%
ENVIRONMENTAL FUND	17,820 1.88%	261,743 27.59%	0	669,218 70.53%	0	0	0	948,781 100%
PERMANENT SCHOOL FUND	23,183 1.87%	577,453 46.44%	0	642,721 51.69%	0	0	0	1,243,357 100%
CLOSED LANDFILL FUND	0	22,171 29.89%	0	52,008 70.11%	0	0	0	74,179 100%
MISCELLANEOUS TRUST FUND	490 0.29%	68,809 41.37%	0	97,025 58.33%	0	0	0	166,324 100%
Other Post Employment Funds (OPEB's)	16,774 3.11%	101,499 18.84%	0	420,591 78.05%	0	0	0	538,864 100%
TREASURERS CASH	9,132,651 100.00%	0	0	0	0	0	0	9,132,651 100%
MISCELLANEOUS STATE ACCOUNTS	0	144,238 100.00%	0	0	0	0	0	144,238 100%
MN COLLEGE SAVINGS PLAN	8,324 0.68%	0	605,455 49.11%	0	434,833 35.27%	184,275 14.95%	0	1,232,887 100%
TOTAL CASH AND NON-RETIREMENT	9,201,228 66.71%	1,175,913 8.53%	851,789 6.18%	1,881,563 13.64%	497,400 3.61%	184,275 1.34%	0	13,792,168 100%
GRAND TOTAL	**10,354,669 12.73%**	**1,308,149 1.61%**	**17,862,959 21.95%**	**1,881,563 2.31%**	**32,748,245 40.24%**	**9,513,578 11.69%**	**7,703,162 9.47%**	**81,372,325 100%**

TAB

B

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EXECUTIVE DIRECTOR'S ADMINISTRATIVE REPORT

DATE: November 8, 2016

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 September 30, 2016 is included as **Attachment A.**

A report on travel for the period from July 1, 2016 – September 30, 2016 is included as **Attachment B**.

2. FY16 Audit Report

The Legislative Auditor is working on the financial audit of SBI operations for FY16. We will inform you of the results upon completion of the audit.

3. Draft of FY16 Annual Report

A draft of the SBI's annual report for FY16 will be distributed to the Board members/designees and IAC members in December or January.

4. Meeting Dates for Calendar 2017

The quarterly meetings of the Investment Advisory Council and State Board of Investment have been scheduled for calendar year 2017 and are:

IAC	**SBI**
Monday, February 13, 2017	**Thursday, February 23, 2017**
Monday, May 15, 2017	**Wednesday, May 31, 2017**
Monday, August 14, 2017	**Thursday, August 24, 2017**
Monday, November 20, 2017	**Tuesday, December 5, 2017**

Please note: The meeting dates have been confirmed.

5. 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 third quarter, SBI managers sold a total of 223,724 shares in two separate companies on the divestment list.

Attachment C is a copy of the September 29, 2016 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.

6. 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 third quarter, SBI managers sold 19,575 shares in a company on the divestment list.

Attachment D is a copy of the September 29, 2016 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.

7. Litigation Update

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

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ATTACHMENT A

STATE BOARD OF INVESTMENT
FISCAL YEAR 2016 ADMINISTRATIVE BUDGET REPORT
FISCAL YEAR TO DATE THROUGH SEPTEMBER 30, 2016

ITEM	FISCAL YEAR 2017 BUDGET	FISCAL YEAR 2017 9/30/2016
PERSONNEL SERVICES		
FULL TIME EMPLOYEES	$ 4,838,700	$ 972,131
PART TIME EMPLOYEES	0	0
MISCELLANEOUS PAYROLL	100,000	0
SUBTOTAL	**$ 4,938,700**	**$ 972,131**
STATE OPERATIONS		
RENTS & LEASES	299,000	70,108
REPAIRS/ALTERATIONS/MAINTENANCE	15,000	2,962
PRINTING & BINDING	8,000	3,262
PROFESSIONAL/TECHNICAL SERVICES	150,000	31
COMPUTER SYSTEMS SERVICES	20,000	3,085
COMMUNICATIONS	36,000	7,075
TRAVEL, IN-STATE	1,000	105
TRAVEL, OUT-STATE	119,000	16,603
SUPPLIES	27,000	5,732
EQUIPMENT	25,000	2,510
EMPLOYEE DEVELOPMENT	35,000	8,592
OTHER OPERATING COSTS	140,000	26,390
INDIRECT COSTS	250,000	27,549
ATTORNEY GENERAL COSTS		5,806
SUBTOTAL	**$ 1,125,000**	**$ 179,812**
TOTAL ADMINISTRATIVE BUDGET	**$ 6,063,700**	**$ 1,151,943**

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ATTACHMENT B

STATE BOARD OF INVESTMENT

Travel Summary by Date
SBI Travel July 1, 2016 - September 30, 2016

Purpose	Name	Destination and Date	Total Cost
Manager Monitoring **Fixed Income Manager:** Neuberger Berman	C. Boll	Chicago, IL 7/11	$ 470.68
Manager Monitoring **Fixed Income Manager:** Neuberger Berman	A. Griga	Chicago, IL 7/11	430.96
Manager Monitoring **Fixed Income Managers:** Aberdeen; BlackRock; Goldman Sachs **Manager Search** **Fixed Income Manager:** Prudential	A. Griga	New York, NY Newark, NJ Philadelphia, PA 8/8-8/10	1,827.98
Conference: KKR's 2016 CIO Symposium	M. Perry	Washington, DC 9/8-9/9	1,033.92
Manager Monitoring **Alternative Investment** **Managers:** Advent; Apax Partners; CVC; IK Partners; Nordic Capital; Permira **Manager Search** **Alternative Investment** **Managers:** Bridgepoint; Cinver; BC Partners	A. Krech	London, England 9/10-9/17	3,324.90

STATE BOARD OF INVESTMENT

Travel Summary by Date
SBI Travel July 1, 2016 - September 30, 2016

Purpose	Name	Destination and Date	Total Cost
Manager Monitoring Alternative Investment Managers: Advent; Apax Partners; CVC; IK Partners; Nordic Capital; Permira **Manager Search Alternative Investment Managers:** Bridgepoint; Cinver; BC Partners	J. Stacy	London, England 9/10-9/17	$ 3,344.85
Conference: National Association of State Treasurers (NAST)	M. Perry	Seattle, WA 9/11-9/12	692.30
Conference: KKR Annual Credit Meeting	C. Boll	New York, NY 9/13-9/15	1,530.54
Manager Monitoring Alternative Investment Manager: EMG	C. Boll	Houston, TX 9/20-9/22	1,317.73
In-State Travel: Kellogg Fire Relief	P. Ammann	Kellogg, MN 9/20	88.34
Manager Search Alternative Investment Manager: Dyal Capital Partners	A. Krech	New York, NY 9/26-9/27	977.46
Conference: 2016 Fall Conference Council of Institutional Investors	J. Mulé	Chicago, IL 9/28-9/30	1,065.90

ATTACHMENT C

Letter to SBI International and Domestic Equity Managers

September 29, 2016

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 **<u>may not be purchased</u>** for the SBI portfolio that your organization manages. If you own securities of companies on the Restricted List **<u>and</u>** the companies are **<u>not</u>** 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 June 28, 2016 letter you received. **This new list is effective September 30, 2016.**

Changes to **Attachment 1**:

The following companies have been **<u>added</u>** to the Restricted List:

• **GDF SUEZ**	**France**
• **Parisienne Chauffage Urbain**	**France**
• **Neftekamsky Avtozavod**	**Russia**

The following company had its name changed:

- **GAZ OAO** changed its name to **GAZ OJSC**

Attachment 2 is the List of Sudan Stocks Requiring Divestment. If you own securities of companies on this list then you must **<u>divest</u>** 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:**

The following company was **<u>added</u>** to the Divestment List:

- **ENGIE** **France**

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,

Mansco Perry III
Executive Director and Chief Investment Officer

Enclosures

cc: Michael J. Menssen, Director, Debt Management
Tammy Brusehaver, Investment Officer, Public Equity
Inma Conde Goldman, Investment Officer, Public Equity
Stephanie Gleeson, Investment Officer, Public Equity
Patricia Ammann, Investment Officer, Private Markets

ATTACHMENT 1

Restricted Sudan Stocks	
Company Name	**Country of Origin**
Andritz AG	Austria
Orca Gold Inc.	Canada
AKM Industrial Company Limited	China
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
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
ASEC Company for Mining (ASCOM)	Egypt
Egypt Kuwait Holding Company	Egypt
ENGIE	France
GDF SUEZ	France
Parisienne Chauffage Urbain	France
MAN SE	Germany
Renk AG	Germany
Volkswagen 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

ATTACHMENT 1

Restricted Sudan Stocks

Company Name	Country of Origin
Engen Botswana Ltd. AKA Engen	Malaysia
KLCCP Stapled Group AKA KLCC Property Holdings	Malaysia
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 OJSC	Russia
Kamaz PJSC	Russia
Neftekamsky Avtozavod (aka NEFAZ)	Russia
Pavlovo Bus JSC	Russia
LS Industrial Systems	South Korea

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

Source: EIRIS Conflict Risk Network

Effective Date: September 30, 2016

ATTACHMENT 2

SUDAN STOCKS REQUIRING DIVESTMENT

Company Name	Country of Origin	Divest 50 Percent By this Date	Divest 100 Percent By this date
ENGIE	France	June 30, 2017	December 31, 2017

Effective Date: September 30, 2016

COMPLETED/HISTORICAL DIVESTMENT

Company Name	Country of Origin	Divest 50 Percent By this Date	Divest 100 Percent By this date
Shanghai Electric Group Co. Ltd.	China	March 31, 2016	September 30, 2016
Volkswagen AG	Germany	June 30, 2015	December 31, 2015
Poly Property Group	China	March 31, 2015	September 30, 2015
MAN SE	Germany	December 31, 2014	June 30, 2015
Bharat Heavy Electricals	India	September 30, 2014	March 31, 2015
Bharat Electronics Limited	India	September 30, 2014	March 31, 2015
Andritz AG	Austria	September 30, 2014	March 31, 2015
Dongfeng Motor Group Company Limited	China	March 31, 2011	September 30, 2011
China Petroleum and Chemical Corporation AKA Sinopec Corp	China	April 30, 2008	October 31, 2008
PetroChina Company	China	April 30, 2008	October 31, 2008
Oil and Natural Gas Corp AKA ONGC	India	April 30, 2008	October 31, 2008
Malaysia International Shipping Company AKA MISC Berhad	Malaysia	April 30, 2008	October 31, 2008

ATTACHMENT 3

EIRIS CONFLICT RISK NETWORK
Empowering Responsible Investment

Security Identifiers for "Scrutinized" Stocks

The following security identifiers correlate with the Third Quarter 2016 Sudan Company Report and are current as of August 12, 2016

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	Fondscode
ANDRITZ AG	ANDRITZ GROUP	Vienna (WBAH)	Common Stock	ANDRITZ AG	ANDR AV	632305	B1WVF68 AT			AT0000730007	013042748		
ANDRITZ AG	ANDRITZ GROUP	BATS Europe (BATE)	Common Stock	ANDRITZ AG	ANDR EB	632305	B1WVF68 AT			AT0000730007	013042748		
ANDRITZ AG	ANDRITZ GROUP	Chi-X Europe (CHIX)	Common Stock	ANDRITZ AG	ANDR IX	632305	B1WVF68 AT			AT0000730007	013042748		
ANDRITZ AG	ANDRITZ GROUP	Turquoise (TRQX)	Common Stock	ANDRITZ AG	ANDR TQ	632305	B1WVF68 AT			AT0000730007	013042748		
ANDRITZ AG	ANDRITZ GROUP	Xetra (XETR)	Common Stock	ANDRITZ AG	AZ2 GB	632305	B1X9FH2 DE			AT0000730007	013042748		
ANDRITZ AG	ANDRITZ GROUP	Xetra (XETR)	Common Stock	ANDRITZ AG	AZ2 GD	632305	B1X9FH2 DE			AT0000730007	013042748		
ANDRITZ AG	ANDRITZ GROUP	Xetra (XETR)	Common Stock	ANDRITZ AG	AZ2 GF	632305	B1X9FH2 DE			AT0000730007	013042748		
ANDRITZ AG	ANDRITZ GROUP	Xetra (XETR)	Common Stock	ANDRITZ AG	AZ2 GH	632305	B1X9FH2 DE			AT0000730007	013042748		
ANDRITZ AG	ANDRITZ GROUP	Xetra (XETR)	Common Stock	ANDRITZ AG	AZ2 GM	632305	B1X9FH2 DE			AT0000730007	013042748		
ANDRITZ AG	ANDRITZ GROUP	Xetra (XETR)	Common Stock	ANDRITZ AG	AZ2 GR	632305	B1X9FH2 DE			AT0000730007	013042748		
ANDRITZ AG	ANDRITZ GROUP	Xetra (XETR)	Common Stock	ANDRITZ AG	AZ2 GS	632305	B1X9FH2 DE			AT0000730007	013042748		
ANDRITZ AG	ANDRITZ GROUP	Xetra (XETR)	Common Stock	ANDRITZ AG	AZ2 GY	632305	B1X9FH2 DE			AT0000730007	013042748		
ANDRITZ AG	ANDRITZ GROUP	Quotrix Exch (XQTX)	Common Stock	ANDRITZ AG	AZ2 QT	632305	B1X9FH2 DE			AT0000730007	013042748		
ANDRITZ AG	ANDRITZ GROUP	Tradegate (XGAT)	Common Stock	ANDRITZ AG	AZ2 TH	632305	B1X9FH2 DE			AT0000730007	013042748		
ANDRITZ AG	ANDRITZ GROUP	OTC US (OOTC)	Common Stock	ANDRITZ AG	ADRZF US	632305	B1XBL36			AT0000730007	013042748	A11123105	
ANDRITZ AG	ANDRITZ GROUP	OTC US (OOTC)	Common Stock	ANDRITZ AG	ADRZF UV	632305	B1XBL36			AT0000730007	013042748	A11123105	
ANDRITZ AG	ANDRITZ GROUP	Euro Comp (XLON)	Common Stock	ANDRITZ AG	ANDR EU	632305	B28F3F6 GB			AT0000730007	013042748		
ANDRITZ AG	ANDRITZ GROUP	LSE EuropeQS (XLON)	Common Stock	ANDRITZ AG	ANDR LI	632305	B28F3F6 GB			AT0000730007	013042748		
ANDRITZ AG	ANDRITZ GROUP	LSE EuropeQS (XLON)	Common Stock	ANDRITZ AG	ANDR LO	632305	B28F3F6 GB			AT0000730007	013042748		
ANDRITZ AG	ANDRITZ GROUP	Euro OTC (XLON)	Common Stock	ANDRITZ AG	ANDR XA	632305	B28F3F6 GB			AT0000730007	013042748		
ANDRITZ AG	ANDRITZ GROUP	Euro OTC (XLON)	Common Stock	ANDRITZ AG	ANDR XB	632305	B28F3F6 GB			AT0000730007	013042748		
ANDRITZ AG	ANDRITZ GROUP	Euro OTC (XLON)	Common Stock	ANDRITZ AG	ANDR XD	632305	B28F3F6 GB			AT0000730007	013042748		
ANDRITZ AG	ANDRITZ GROUP	Euro OTC (XLON)	Common Stock	ANDRITZ AG	ANDR XE	632305	B28F3F6 GB			AT0000730007	013042748		
ANDRITZ AG	ANDRITZ GROUP	Euro OTC (XLON)	Common Stock	ANDRITZ AG	ANDR XL	632305	B28F3F6 GB			AT0000730007	013042748		
ANDRITZ AG	ANDRITZ GROUP	Euro OTC (XLON)	Common Stock	ANDRITZ AG	ANDR XV	632305	B28F3F6 GB			AT0000730007	013042748		
ANDRITZ AG	ANDRITZ GROUP	BX Worldcaps (XBRN)	Common Stock	ANDRITZ AG	ANDR BW	632305	BHZL8M4 CH			AT0000730007	013042748		
ANDRITZ AG	ANDRITZ GROUP	SIX Swiss Ex (XSWX)	Common Stock	ANDRITZ AG	ANDR SE	632305	BHZL8M4 CH			AT0000730007	013042748		
ANDRITZ AG	ANDRITZ GROUP	BX Worldcaps (XBRN)	Common Stock	ANDRITZ AG	ANDR SW	632305	BHZL8M4 CH			AT0000730007	013042748		
ANDRITZ AG	ANDRITZ GROUP	Euro OTC (XLON)	Common Stock	ANDRITZ AG	ANDR XS	632305				AT0000730007	013042748		
ANDRITZ AG	ANDRITZ GROUP	Euro Comp (XLON)	Common Stock	ANDRITZ AG	ANDRCHF EU	632305				AT0000730007	013042748	A11123105	
ANDRITZ AG	ANDRITZ GROUP	Blockmatch (BLOX)	Common Stock	ANDRITZ AG	ANDRV B3	632305				AT0000730007			
ANDRITZ AG	ANDRITZ GROUP	Liquidnet (LIQU)	Common Stock	ANDRITZ AG	ANDRV L3	632305				AT0000730007			
ANDRITZ AG	ANDRITZ GROUP	ITG Posit (XPOS)	Common Stock	ANDRITZ AG	ANDRV PO	632305				AT0000730007	013042748	A11123105	
ANDRITZ AG	ANDRITZ GROUP	UBS MTF (XUBS)	Common Stock	ANDRITZ AG	ANDRV S2	632305				AT0000730007			
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	A1W8D1	B3DY4P2 US	034522102		US0345221024	096194871		
ASEC COMPANY FOR MINING (ASCOM) aka ASEK COMPANY FOR MINING	ASEC COMPANY FOR MINING (ASCOM) aka ASEK COMPANY FOR MINING	EGX (XCAI)	Common Stock	ASEK CO FOR MINING	ASCM EC	A0Q78K	B04CCH2 EG			EGS10001C013			
ASEC COMPANY FOR MINING (ASCOM) aka ASEK COMPANY FOR MINING	ASEC COMPANY FOR MINING (ASCOM) aka ASEK COMPANY FOR MINING	EGX (XCAI)	Common Stock	ASEK CO FOR MINING	ASCM EY	A0Q78K	B04CCH2 EG			EGS10001C013			
BHARAT ELECTRONICS LIMITED	BHARAT ELECTRONICS LIMITED	Natl India (XNSE)	Common Stock	BHARAT ELECTRONICS LIMITED	BHE IB	120304	6139715 IN			INE263A01016			
BHARAT ELECTRONICS LIMITED	BHARAT ELECTRONICS LIMITED	Natl India (XNSE)	Common Stock	BHARAT ELECTRONICS LIMITED	BHE IN	120304	6139715 IN			INE263A01016			
BHARAT ELECTRONICS LIMITED	BHARAT ELECTRONICS LIMITED	Natl India (XNSE)	Common Stock	BHARAT ELECTRONICS LIMITED	BHE IS	120304	6139715 IN			INE263A01016			
BHARAT ELECTRONICS LIMITED	BHARAT ELECTRONICS LIMITED	Natl India (XNSE)	Second Lending	BHARAT ELECTRONICS LTD-SLB	BHE/S IN								
BHARAT ELECTRONICS LIMITED	BHARAT ELECTRONICS LIMITED	Natl India (XNSE)	Second Lending	BHARAT ELECTRONICS LTD-SLB	BHE/S IS								
BHARAT HEAVY ELECTRICALS	BHARAT HEAVY ELECTRICALS LIMITED	Natl India (XNSE)	Common Stock	BHARAT HEAVY ELECTRICALS	BHEL IB	A1JLKM	B6SNRV2 IN			INE257A01026			
BHARAT HEAVY ELECTRICALS	BHARAT HEAVY ELECTRICALS LIMITED	Natl India (XNSE)	Common Stock	BHARAT HEAVY ELECTRICALS	BHEL IN	A1JLKM	B6SNRV2 IN			INE257A01026			
BHARAT HEAVY ELECTRICALS	BHARAT HEAVY ELECTRICALS LIMITED	Natl India (XNSE)	Common Stock	BHARAT HEAVY ELECTRICALS	BHEL IS	A1JLKM	B6SNRV2 IN			INE257A01026			
BHARAT HEAVY ELECTRICALS	BHARAT HEAVY ELECTRICALS LIMITED	Natl India (XNSE)	Second Lending	BHARAT HEAVY ELECTRICALS-SLB	BHEL/S IN								
BHARAT HEAVY ELECTRICALS	BHARAT HEAVY ELECTRICALS LIMITED	Natl India (XNSE)	Second Lending	BHARAT HEAVY ELECTRICALS-SLB	BHEL/S IS								
CHINA GEZHOUBA GROUP COMPANY LTD	CHINA GEZHOUBA GROUP COMPANY LTD	Shanghai (XSHG)	Common Stock	CHINA GEZHOUBA GROUP CO LT-A	600068 CG	A0M31Z	6377214 CN			CNE000000QF1			
CHINA GEZHOUBA GROUP COMPANY LTD	CHINA GEZHOUBA GROUP COMPANY LTD	Shanghai (XSHG)	Common Stock	CHINA GEZHOUBA GROUP CO LT-A	600068 CH	A0M31Z	6377214 CN			CNE000000QF1			
CHINA GEZHOUBA GROUP COMPANY LTD	CHINA GEZHOUBA GROUP COMPANY LTD	Nth SSE-SEHK (XSSC)	Common Stock	CHINA GEZHOUBA GROUP CO LT-A	600068 C1	A0M31Z	BP3R693 CN			CNE000000QF1			
DAQING HUAKE GROUP CO LTD	CHINA NATIONAL PETROLEUM CORP aka CNPC	Shenzhen (XSHE)	Common Stock	DAQING HUAKE GROUP CO-A	000985 CH	A0M4C2	6277949 CN			CNE000001402			
DAQING HUAKE GROUP CO LTD	CHINA NATIONAL PETROLEUM CORP aka CNPC	Shenzhen (XSHE)	Common Stock	DAQING HUAKE GROUP CO-A	000985 CS	A0M4C2	6277949 CN			CNE000001402			
KUNLUN ENERGY CO LTD	CHINA NATIONAL PETROLEUM CORP aka CNPC	Frankfurt (XFRA)	Common Stock	KUNLUN ENERGY CO LTD	CTJ1 GB	A1CV3E	5387753 DE		952131	BMG5320C1082	050092003		
KUNLUN ENERGY CO LTD	CHINA NATIONAL PETROLEUM CORP aka CNPC	Frankfurt (XFRA)	Common Stock	KUNLUN ENERGY CO LTD	CTJ1 GD	A1CV3E	5387753 DE		952131	BMG5320C1082	050092003		
KUNLUN ENERGY CO LTD	CHINA NATIONAL PETROLEUM CORP aka CNPC	Frankfurt (XFRA)	Common Stock	KUNLUN ENERGY CO LTD	CTJ1 GF	A1CV3E	5387753 DE		952131	BMG5320C1082	050092003		
KUNLUN ENERGY CO LTD	CHINA NATIONAL PETROLEUM CORP aka CNPC	Frankfurt (XFRA)	Common Stock	KUNLUN ENERGY CO LTD	CTJ1 GM	A1CV3E	5387753 DE		952131	BMG5320C1082	050092003		
KUNLUN ENERGY CO LTD	CHINA NATIONAL PETROLEUM CORP aka CNPC	Frankfurt (XFRA)	Common Stock	KUNLUN ENERGY CO LTD	CTJ1 GR	A1CV3E	5387753 DE		952131	BMG5320C1082	050092003		
KUNLUN ENERGY CO LTD	CHINA NATIONAL PETROLEUM CORP aka CNPC	Frankfurt (XFRA)	Common Stock	KUNLUN ENERGY CO LTD	CTJ1 GS	A1CV3E	5387753 DE		952131	BMG5320C1082	050092003		
KUNLUN ENERGY CO LTD	CHINA NATIONAL PETROLEUM CORP aka CNPC	Quotrix Exch (XQTX)	Common Stock	KUNLUN ENERGY CO LTD	CTJ1 QT	A1CV3E	5387753 DE			BMG5320C1082	50092003		
KUNLUN ENERGY CO LTD	CHINA NATIONAL PETROLEUM CORP aka CNPC	Tradegate (XGAT)	Common Stock	KUNLUN ENERGY CO LTD	CTJ1 TH	A1CV3E	5387753 DE		952131	BMG5320C1082	050092003		
KUNLUN ENERGY CO LTD	CHINA NATIONAL PETROLEUM CORP aka CNPC	Hong Kong (XHKG)	Common Stock	KUNLUN ENERGY CO LTD	135 HK	A1CV3E	6340078 HK		952131	BMG5320C1082	050092003		
KUNLUN ENERGY CO LTD	CHINA NATIONAL PETROLEUM CORP aka CNPC	OTC Exchange (OOTC)	Common Stock	KUNLUN ENERGY CO LTD	KUNUF PQ	A1CV3E	B01DDZ3 US		952131	BMG5320C1082	050092003		
KUNLUN ENERGY CO LTD	CHINA NATIONAL PETROLEUM CORP aka CNPC	OTC Exchange (OOTC)	Common Stock	KUNLUN ENERGY CO LTD	KUNUF US	A1CV3E	B01DDZ3 US		952131	BMG5320C1082	050092003		
KUNLUN ENERGY CO LTD	CHINA NATIONAL PETROLEUM CORP aka CNPC	OTC Exchange (OOTC)	Common Stock	KUNLUN ENERGY CO LTD	KUNUF UV	A1CV3E	B01DDZ3 US		952131	BMG5320C1082	050092003		
KUNLUN ENERGY CO LTD	CHINA NATIONAL PETROLEUM CORP aka CNPC	Sth SSE-SEHK (SHSC)	Common Stock	KUNLUN ENERGY CO LTD	135 H1	A1CV3E	BP3RW39 HK		952131	BMG5320C1082	050092003		
KUNLUN ENERGY CO LTD	CHINA NATIONAL PETROLEUM CORP aka CNPC	Euro Comp (XLON)	Common Stock	KUNLUN ENERGY CO LTD	135EUR EU	A1CV3E				BMG5320C1082	50092003		
KUNLUN ENERGY CO LTD	CHINA NATIONAL PETROLEUM CORP aka CNPC	OTC Exchange (OOTC)	ADR	CNPC HONG KONG LTD-UNSP ADR	KLYCY PQ	A1J7V7	B3L2812 US	50126A101		US50126A1016			
KUNLUN ENERGY CO LTD	CHINA NATIONAL PETROLEUM CORP aka CNPC	OTC Exchange (OOTC)	ADR	CNPC HONG KONG LTD-UNSP ADR	KLYCY US	A1J7V7	B3L2812 US	50126A101		US50126A1016			
KUNLUN ENERGY CO LTD	CHINA NATIONAL PETROLEUM CORP aka CNPC	OTC Exchange (OOTC)	ADR	CNPC HONG KONG LTD-UNSP ADR	KLYCY UV	A1J7V7	B3L2812 US	50126A101		US50126A1016			
PETROCHINA CO LTD	CHINA NATIONAL PETROLEUM CORP aka CNPC	Buenos Floor (XBUE)	CEDEAR	PETROCHINA CO LTD -CEDEAR	PTR AF		B1C5SR2 AR			ARDEUT113958			
PETROCHINA CO LTD	CHINA NATIONAL PETROLEUM CORP aka CNPC	Buenos Floor (XBUE)	CEDEAR	PETROCHINA CO LTD -CEDEAR	PTR AR		B1C5SR2 AR			ARDEUT113958			
PETROCHINA CO LTD	CHINA NATIONAL PETROLEUM CORP aka CNPC	Frankfurt (XFRA)	Common Stock	PETROCHINA CO LTD-H	PC6 GB	A0M4YQ	5939507 DE			CNE1000003W8	011014674		
PETROCHINA CO LTD	CHINA NATIONAL PETROLEUM CORP aka CNPC	Frankfurt (XFRA)	Common Stock	PETROCHINA CO LTD-H	PC6 GD	A0M4YQ	5939507 DE			CNE1000003W8	011014674		
PETROCHINA CO LTD	CHINA NATIONAL PETROLEUM CORP aka CNPC	Frankfurt (XFRA)	Common Stock	PETROCHINA CO LTD-H	PC6 GF	A0M4YQ	5939507 DE			CNE1000003W8	011014674		
PETROCHINA CO LTD	CHINA NATIONAL PETROLEUM CORP aka CNPC	Frankfurt (XFRA)	Common Stock	PETROCHINA CO LTD-H	PC6 GH	A0M4YQ	5939507 DE			CNE1000003W8	011014674		
PETROCHINA CO LTD	CHINA NATIONAL PETROLEUM CORP aka CNPC	Frankfurt (XFRA)	Common Stock	PETROCHINA CO LTD-H	PC6 GM	A0M4YQ	5939507 DE			CNE1000003W8	011014674		
PETROCHINA CO LTD	CHINA NATIONAL PETROLEUM CORP aka CNPC	Frankfurt (XFRA)	Common Stock	PETROCHINA CO LTD-H	PC6 GR	A0M4YQ	5939507 DE			CNE1000003W8	011014674		
PETROCHINA CO LTD	CHINA NATIONAL PETROLEUM CORP aka CNPC	Frankfurt (XFRA)	Common Stock	PETROCHINA CO LTD-H	PC6 GS	A0M4YQ	5939507 DE			CNE1000003W8	011014674		
PETROCHINA CO LTD	CHINA NATIONAL PETROLEUM CORP aka CNPC	Frankfurt (XFRA)	Common Stock	PETROCHINA CO LTD-H	PC6 GY	A0M4YQ	5939507 DE			CNE1000003W8	011014674		
PETROCHINA CO LTD	CHINA NATIONAL PETROLEUM CORP aka CNPC	Quotrix Exch (XQTX)	Common Stock	PETROCHINA CO LTD-H	PC6 QT	A0M4YQ	5939507 DE			CNE1000003W8	011014674		
PETROCHINA CO LTD	CHINA NATIONAL PETROLEUM CORP aka CNPC	Frankfurt (XFRA)	Common Stock	PETROCHINA CO LTD-H	PC6 TH	A0M4YQ	5939507 DE			CNE1000003W8	011014674		
PETROCHINA CO LTD	CHINA NATIONAL PETROLEUM CORP aka CNPC	Hong Kong (XHKG)	Common Stock	PETROCHINA CO LTD-H	857 HK	A0M4YQ	6226576 HK			CNE1000003W8	011014674		
PETROCHINA CO LTD	CHINA NATIONAL PETROLEUM CORP aka CNPC	OTC US (OOTC)	Common Stock	PETROCHINA CO LTD-H	PCCYF US	A0M4YQ	B01DNL9 US			CNE1000003W8	011014674	Y6883Q104	
PETROCHINA CO LTD	CHINA NATIONAL PETROLEUM CORP aka CNPC	OTC US (OOTC)	Common Stock	PETROCHINA CO LTD-H	PCCYF UV	A0M4YQ	B01DNL9 US			CNE1000003W8	011014674	Y6883Q104	

PETROCHINA CO LTD	CHINA NATIONAL PETROLEUM CORP aka CNPC	Sth SSE-SEHK (SHSC)	Common Stock	PETROCHINA CO LTD-H	857 H1	A0M4YQ	BP3RWW8 HK		CNE1000003W8	011014674	
PETROCHINA CO LTD	CHINA NATIONAL PETROLEUM CORP aka CNPC	Shanghai (XSHG)	Common Stock	PETROCHINA CO LTD-A	601857 CG	A0NANC	B28SLD9 CN		CNE1000007Q1	033421664	
PETROCHINA CO LTD	CHINA NATIONAL PETROLEUM CORP aka CNPC	Shanghai (XSHG)	Common Stock	PETROCHINA CO LTD-A	601857 CH	A0NANC	B28SLD9 CN		CNE1000007Q1	033421664	
PETROCHINA CO LTD	CHINA NATIONAL PETROLEUM CORP aka CNPC	Nth SSE-SEHK (XSSC)	Common Stock	PETROCHINA CO LTD-A	601857 C1	A0NANC	BP3R206 CN		CNE1000007Q1	033421664	
PETROCHINA CO LTD	CHINA NATIONAL PETROLEUM CORP aka CNPC	New York (XNYS)	ADR	PETROCHINA CO LTD -ADR	PTR UB	936983	2568841 US	74646E100	US71646E1001	011511449	
PETROCHINA CO LTD	CHINA NATIONAL PETROLEUM CORP aka CNPC	New York (XNYS)	ADR	PETROCHINA CO LTD -ADR	PTR UD	936983	2568841 US	74646E100	US71646E1001	011511449	
PETROCHINA CO LTD	CHINA NATIONAL PETROLEUM CORP aka CNPC	New York (XNYS)	ADR	PETROCHINA CO LTD -ADR	PTR UF	936983	2568841 US	74646E100	US71646E1001	011511449	
PETROCHINA CO LTD	CHINA NATIONAL PETROLEUM CORP aka CNPC	New York (XNYS)	ADR	PETROCHINA CO LTD -ADR	PTR UN	936983	2568841 US	74646E100	US71646E1001	011511449	
PETROCHINA CO LTD	CHINA NATIONAL PETROLEUM CORP aka CNPC	New York (XNYS)	ADR	PETROCHINA CO LTD -ADR	PTR UP	936983	2568841 US	74646E100	US71646E1001	011511449	
PETROCHINA CO LTD	CHINA NATIONAL PETROLEUM CORP aka CNPC	New York (XNYS)	ADR	PETROCHINA CO LTD -ADR	PTR US	936983	2568841 US	74646E100	US71646E1001	011511449	
PETROCHINA CO LTD	CHINA NATIONAL PETROLEUM CORP aka CNPC	New York (XNYS)	ADR	PETROCHINA CO LTD -ADR	PTR UT	936983	2568841 US	74646E100	US71646E1001	011511449	
PETROCHINA CO LTD	CHINA NATIONAL PETROLEUM CORP aka CNPC	New York (XNYS)	ADR	PETROCHINA CO LTD -ADR	PTR UX	936983	2568841 US	74646E100	US71646E1001	011511449	
PETROCHINA CO LTD	CHINA NATIONAL PETROLEUM CORP aka CNPC	New York (XNYS)	ADR	PETROCHINA CO LTD -ADR	PTR VJ	936983	2568841 US	74646E100	US71646E1001	011511449	
PETROCHINA CO LTD	CHINA NATIONAL PETROLEUM CORP aka CNPC	New York (XNYS)	ADR	PETROCHINA CO LTD -ADR	PTR VK	936983	2568841 US	74646E100	US71646E1001	011511449	
PETROCHINA CO LTD	CHINA NATIONAL PETROLEUM CORP aka CNPC	New York (XNYS)	ADR	PETROCHINA CO LTD -ADR	PTR VY	936983	2568841 US	74646E100	US71646E1001	011511449	
PETROCHINA CO LTD	CHINA NATIONAL PETROLEUM CORP aka CNPC	Frankfurt (XFRA)	ADR	PETROCHINA CO LTD -ADR	PC6A GB	936983	4633327 DE	71646E100	US71646E1001	011511449	
PETROCHINA CO LTD	CHINA NATIONAL PETROLEUM CORP aka CNPC	Frankfurt (XFRA)	ADR	PETROCHINA CO LTD -ADR	PC6A GF	936983	4633327 DE	71646E100	US71646E1001	011511449	
PETROCHINA CO LTD	CHINA NATIONAL PETROLEUM CORP aka CNPC	Frankfurt (XFRA)	ADR	PETROCHINA CO LTD -ADR	PC6A GM	936983	4633327 DE	71646E100	US71646E1001	011511449	
PETROCHINA CO LTD	CHINA NATIONAL PETROLEUM CORP aka CNPC	Frankfurt (XFRA)	ADR	PETROCHINA CO LTD -ADR	PC6A GR	936983	4633327 DE	71646E100	US71646E1001	011511449	
PETROCHINA CO LTD	CHINA NATIONAL PETROLEUM CORP aka CNPC	Frankfurt (XFRA)	ADR	PETROCHINA CO LTD -ADR	PC6A GS	936983	4633327 DE	71646E100	US71646E1001	011511449	
PETROCHINA CO LTD	CHINA NATIONAL PETROLEUM CORP aka CNPC	Frankfurt (XFRA)	ADR	PETROCHINA CO LTD -ADR	PC6A GY	936983	4633327 DE	71646E100	US71646E1001	011511449	
PETROCHINA CO LTD	CHINA NATIONAL PETROLEUM CORP aka CNPC	Singapore (XSES)	ADR	PETROCHINA CO LTD -ADR	PTR SP	936983	B3KTK63 SG		US71646E1001	011511449	
PETROCHINA CO LTD	CHINA NATIONAL PETROLEUM CORP aka CNPC	Mexico (XMEX)	ADR	PETROCHINA CO LTD -ADR	PTRN MM	936983	B569834	71646E100	US71646E1001	011511449	
PETROCHINA CO LTD	CHINA NATIONAL PETROLEUM CORP aka CNPC	Tradegate (XGAT)	ADR	PETROCHINA CO LTD -ADR	PC6A TH	936983		74646E100	US71646E1001	011511449	
AKM INDUSTRIAL CO. LTD.	CHINA NORTH INDUSTRIES GROUP CORPORATION (CNGC/NORINCO)	Hong Kong (XHKG)	Common Stock	AKM INDUSTRIAL CO LTD	1639 HK	A0D86T	B02J0J3 HK		HK8298013897	021553654	
AKM INDUSTRIAL CO. LTD.	CHINA NORTH INDUSTRIES GROUP CORPORATION (CNGC/NORINCO)	Berlin (XBER)	Common Stock	AKM INDUSTRIAL CO LTD	AIQ GB	A0D86T	B06L0H3 DE		HK8298013897	021553654	
AKM INDUSTRIAL CO. LTD.	CHINA NORTH INDUSTRIES GROUP CORPORATION (CNGC/NORINCO)	Berlin (XBER)	Common Stock	AKM INDUSTRIAL CO LTD	AIQ GR	A0D86T	B06L0H3 DE		HK8298013897	021553654	
NORINCO INTERNATIONAL COOPERATION LTD.	CHINA NORTH INDUSTRIES GROUP CORPORATION (CNGC/NORINCO)	Shenzhen (XSHE)	Common Stock	NORINCO INTL COOPERATION -A	000065 CH	A0M35W	6112125 CN		CNE000000VZ9		
NORINCO INTERNATIONAL COOPERATION LTD.	CHINA NORTH INDUSTRIES GROUP CORPORATION (CNGC/NORINCO)	Shenzhen (XSHE)	Common Stock	NORINCO INTL COOPERATION -A	000065 CS	A0M35W	6112125 CN		CNE000000VZ9		
NORTH HUAJIN CHEMICAL INDUSTRIES CO LTD	CHINA NORTH INDUSTRIES GROUP CORPORATION (CNGC/NORINCO)	Shenzhen (XSHE)	Common Stock	NORTH HUAJIN CHEMICAL INDU-A	000059 CH	A0M30T	6796143 CN		CNE000000NY9		Y7742G105
NORTH HUAJIN CHEMICAL INDUSTRIES CO LTD	CHINA NORTH INDUSTRIES GROUP CORPORATION (CNGC/NORINCO)	Shenzhen (XSHE)	Common Stock	NORTH HUAJIN CHEMICAL INDU-A	000059 CS	A0M30T	6796143 CN		CNE000000NY9		
NORTH NAVIGATION CONTROL TECHNOLOGY CO. LTD.	CHINA NORTH INDUSTRIES GROUP CORPORATION (CNGC/NORINCO)	Shenzhen (XSHE)	Common Stock	NORTH NAVIGATION CONTROL T-A	600435 CG	A0M4L5	6649946 CN		CNE000001F88		
NORTH NAVIGATION CONTROL TECHNOLOGY CO. LTD.	CHINA NORTH INDUSTRIES GROUP CORPORATION (CNGC/NORINCO)	Shenzhen (XSHE)	Common Stock	NORTH NAVIGATION CONTROL T-A	600435 CH	A0M4L5	6649946 CN		CNE000001F88		
NORTH NAVIGATION CONTROL TECHNOLOGY CO. LTD.	CHINA NORTH INDUSTRIES GROUP CORPORATION (CNGC/NORINCO)	Nth SSE-SEHK (XSSC)	Common Stock	NORTH NAVIGATION CONTROL T-A	600435 C1	A0M4L5	BP3RB54 CN		CNE000001F88		
CHINA PETROLEUM & CHEMICAL CORP aka SINOPEC CORP	CHINA PETROCHEMICAL CORP aka SINOPEC GROUP	Shanghai (XSHG)	Common Stock	CHINA PETROLEUM & CHEMICAL-A	600028 CH	A0M4G4	6373728 CN		CNE0000018G1		
CHINA PETROLEUM & CHEMICAL CORP aka SINOPEC CORP	CHINA PETROCHEMICAL CORP aka SINOPEC GROUP	Hong Kong (XHKG)	Common Stock	CHINA PETROLEUM & CHEMICAL-H	386 HK	A0M4XN	6291819 HK		CNE1000002Q2	012150504	
CHINA PETROLEUM & CHEMICAL CORP aka SINOPEC CORP	CHINA PETROCHEMICAL CORP aka SINOPEC GROUP	Frankfurt (XFRA)	Common Stock	CHINA PETROLEUM & CHEMICAL -H	CHU GB	A0M4XN	7027756 DE		CNE1000002Q2	012150504	
CHINA PETROLEUM & CHEMICAL CORP aka SINOPEC CORP	CHINA PETROCHEMICAL CORP aka SINOPEC GROUP	Frankfurt (XFRA)	Common Stock	CHINA PETROLEUM & CHEMICAL -H	CHU GD	A0M4XN	7027756 DE		CNE1000002Q2	012150504	
CHINA PETROLEUM & CHEMICAL CORP aka SINOPEC CORP	CHINA PETROCHEMICAL CORP aka SINOPEC GROUP	Frankfurt (XFRA)	Common Stock	CHINA PETROLEUM & CHEMICAL -H	CHU GF	A0M4XN	7027756 DE		CNE1000002Q2	012150504	
CHINA PETROLEUM & CHEMICAL CORP aka SINOPEC CORP	CHINA PETROCHEMICAL CORP aka SINOPEC GROUP	Frankfurt (XFRA)	Common Stock	CHINA PETROLEUM & CHEMICAL -H	CHU GH	A0M4XN	7027756 DE		CNE1000002Q2	012150504	
CHINA PETROLEUM & CHEMICAL CORP aka SINOPEC CORP	CHINA PETROCHEMICAL CORP aka SINOPEC GROUP	Frankfurt (XFRA)	Common Stock	CHINA PETROLEUM & CHEMICAL -H	CHU GM	A0M4XN	7027756 DE		CNE1000002Q2	012150504	
CHINA PETROLEUM & CHEMICAL CORP aka SINOPEC CORP	CHINA PETROCHEMICAL CORP aka SINOPEC GROUP	Frankfurt (XFRA)	Common Stock	CHINA PETROLEUM & CHEMICAL -H	CHU GR	A0M4XN	7027756 DE		CNE1000002Q2	012150504	
CHINA PETROLEUM & CHEMICAL CORP aka SINOPEC CORP	CHINA PETROCHEMICAL CORP aka SINOPEC GROUP	Frankfurt (XFRA)	Common Stock	CHINA PETROLEUM & CHEMICAL -H	CHU GS	A0M4XN	7027756 DE		CNE1000002Q2	012150504	
CHINA PETROLEUM & CHEMICAL CORP aka SINOPEC CORP	CHINA PETROCHEMICAL CORP aka SINOPEC GROUP	Quotrix Exch (XQTX)	Common Stock	CHINA PETROLEUM & CHEMICAL -H	CHU QT	A0M4XN	7027756 DE		CNE1000002Q2	012150504	
CHINA PETROLEUM & CHEMICAL CORP aka SINOPEC CORP	CHINA PETROCHEMICAL CORP aka SINOPEC GROUP	OTC US (OOTC)	Common Stock	CHINA PETROLEUM & CHEMICAL-H	SNPMF PQ	A0M4XN	B01XKR4 US		CNE1000002Q2	012150504	Y15010104
CHINA PETROLEUM & CHEMICAL CORP aka SINOPEC CORP	CHINA PETROCHEMICAL CORP aka SINOPEC GROUP	OTC US (OOTC)	Common Stock	CHINA PETROLEUM & CHEMICAL-H	SNPMF US	A0M4XN	B01XKR4 US		CNE1000002Q2	012150504	Y15010104
CHINA PETROLEUM & CHEMICAL CORP aka SINOPEC CORP	CHINA PETROCHEMICAL CORP aka SINOPEC GROUP	OTC US (OOTC)	Common Stock	CHINA PETROLEUM & CHEMICAL-H	SNPMF UV	A0M4XN	B01XKR4 US		CNE1000002Q2	012150504	Y15010104
CHINA PETROLEUM & CHEMICAL CORP aka SINOPEC CORP	CHINA PETROCHEMICAL CORP aka SINOPEC GROUP	Sth SSE-SEHK (SHSC)	Common Stock	CHINA PETROLEUM & CHEMICAL-H	386 H1	A0M4XN	BP3RSM0 HK		CNE1000002Q2	012150504	
CHINA PETROLEUM & CHEMICAL CORP aka SINOPEC CORP	CHINA PETROCHEMICAL CORP aka SINOPEC GROUP	Shanghai (XSHG)	Common Stock	CHINA PETROLEUM & CHEMICAL-A	600028 CG	A0M4G4	6373728 CN		CNE1000018G1		
CHINA PETROLEUM & CHEMICAL CORP aka SINOPEC CORP	CHINA PETROCHEMICAL CORP aka SINOPEC GROUP	Nth SSE-SEHK (XSSC)	Common Stock	CHINA PETROLEUM & CHEMICAL-A	600028 C1	A0M4G4	BP3R240 CN		CNE1000018G1		
CHINA PETROLEUM & CHEMICAL CORP aka SINOPEC CORP	CHINA PETROCHEMICAL CORP aka SINOPEC GROUP	New York (XNYS)	ADR	CHINA PETROLEUM & CHEMICAL-ADR	SNP UB	578971	2639189 US	16941R108	US16941R1086	011899374	
CHINA PETROLEUM & CHEMICAL CORP aka SINOPEC CORP	CHINA PETROCHEMICAL CORP aka SINOPEC GROUP	New York (XNYS)	ADR	CHINA PETROLEUM & CHEMICAL-ADR	SNP UD	578971	2639189 US	16941R108	US16941R1086	011899374	
CHINA PETROLEUM & CHEMICAL CORP aka SINOPEC CORP	CHINA PETROCHEMICAL CORP aka SINOPEC GROUP	New York (XNYS)	ADR	CHINA PETROLEUM & CHEMICAL-ADR	SNP UF	578971	2639189 US	16941R108	US16941R1086	011899374	
CHINA PETROLEUM & CHEMICAL CORP aka SINOPEC CORP	CHINA PETROCHEMICAL CORP aka SINOPEC GROUP	New York (XNYS)	ADR	CHINA PETROLEUM & CHEMICAL-ADR	SNP UN	578971	2639189 US	16941R108	US16941R1086	011899374	
CHINA PETROLEUM & CHEMICAL CORP aka SINOPEC CORP	CHINA PETROCHEMICAL CORP aka SINOPEC GROUP	New York (XNYS)	ADR	CHINA PETROLEUM & CHEMICAL-ADR	SNP UP	578971	2639189 US	16941R108	US16941R1086	011899374	
CHINA PETROLEUM & CHEMICAL CORP aka SINOPEC CORP	CHINA PETROCHEMICAL CORP aka SINOPEC GROUP	New York (XNYS)	ADR	CHINA PETROLEUM & CHEMICAL-ADR	SNP US	578971	2639189 US		US16941R1086	011899374	
CHINA PETROLEUM & CHEMICAL CORP aka SINOPEC CORP	CHINA PETROCHEMICAL CORP aka SINOPEC GROUP	New York (XNYS)	ADR	CHINA PETROLEUM & CHEMICAL-ADR	SNP UT	578971	2639189 US	16941R108	US16941R1086	011899374	
CHINA PETROLEUM & CHEMICAL CORP aka SINOPEC CORP	CHINA PETROCHEMICAL CORP aka SINOPEC GROUP	New York (XNYS)	ADR	CHINA PETROLEUM & CHEMICAL-ADR	SNP UX	578971	2639189 US	16941R108	US16941R1086	011899374	
CHINA PETROLEUM & CHEMICAL CORP aka SINOPEC CORP	CHINA PETROCHEMICAL CORP aka SINOPEC GROUP	New York (XNYS)	ADR	CHINA PETROLEUM & CHEMICAL-ADR	SNP VJ	578971	2639189 US	16941R108	US16941R1086	011899374	
CHINA PETROLEUM & CHEMICAL CORP aka SINOPEC CORP	CHINA PETROCHEMICAL CORP aka SINOPEC GROUP	New York (XNYS)	ADR	CHINA PETROLEUM & CHEMICAL-ADR	SNP VK	578971	2639189 US	16941R108	US16941R1086	011899374	
CHINA PETROLEUM & CHEMICAL CORP aka SINOPEC CORP	CHINA PETROCHEMICAL CORP aka SINOPEC GROUP	New York (XNYS)	ADR	CHINA PETROLEUM & CHEMICAL-ADR	SNP VY	578971	2639189 US	16941R108	US16941R1086	011899374	
CHINA PETROLEUM & CHEMICAL CORP aka SINOPEC CORP	CHINA PETROCHEMICAL CORP aka SINOPEC GROUP	London Intl (XLON)	ADR	CHINA PETROLEUM & CHEM-ADR	SNP LI	578971	2654375 GB	16941R108	US16941R1086	011899374	

CHINA PETROLEUM & CHEMICAL CORP aka SINOPEC CORP	CHINA PETROCHEMICAL CORP aka SINOPEC GROUP	Munich (XMUN)	ADR	CHINA PETROLEUM & CHEMICAL-ADR	CHUA GB	578971	B0RSW00 DE	16941R108		US16941R1086	011899374	
CHINA PETROLEUM & CHEMICAL CORP aka SINOPEC CORP	CHINA PETROCHEMICAL CORP aka SINOPEC GROUP	Munich (XMUN)	ADR	CHINA PETROLEUM & CHEMICAL-ADR	CHUA GF	578971	B0RSW00 DE	16941R108		US16941R1086	011899374	
CHINA PETROLEUM & CHEMICAL CORP aka SINOPEC CORP	CHINA PETROCHEMICAL CORP aka SINOPEC GROUP	Munich (XMUN)	ADR	CHINA PETROLEUM & CHEMICAL-ADR	CHUA GM	578971	B0RSW00 DE	16941R108		US16941R1086	011899374	
CHINA PETROLEUM & CHEMICAL CORP aka SINOPEC CORP	CHINA PETROCHEMICAL CORP aka SINOPEC GROUP	Munich (XMUN)	ADR	CHINA PETROLEUM & CHEMICAL-ADR	CHUA GR	578971	B0RSW00 DE	16941R108		US16941R1086	011899374	
CHINA PETROLEUM & CHEMICAL CORP aka SINOPEC CORP	CHINA PETROCHEMICAL CORP aka SINOPEC GROUP	Munich (XMUN)	ADR	CHINA PETROLEUM & CHEMICAL-ADR	CHUA GS	578971	B0RSW00 DE	16941R108		US16941R1086	011899374	
CHINA PETROLEUM & CHEMICAL CORP aka SINOPEC CORP	CHINA PETROCHEMICAL CORP aka SINOPEC GROUP	Mexico (XMEX)	ADR	CHINA PETROLEUM & CHEM-ADR	SNPN MM	578971	B4QSP22 MX	16941R108		US16941R1086	011899374	
CHINA PETROLEUM & CHEMICAL CORP aka SINOPEC CORP	CHINA PETROCHEMICAL CORP aka SINOPEC GROUP	Tradegate (XGAT)	ADR	CHINA PETROLEUM & CHEM-ADR	CHUA TH	578971		16941R108		US16941R1086	011899374	
SINOPEC ENGINEERING GROUP CO LTD	CHINA PETROCHEMICAL CORP aka SINOPEC GROUP	Sth SSE-SEHK (SHSC)	Common Stock	SINOPEC ENGINEERING GROUP-H	2386 H1	A1T97T	B92NYC9			CNE100001NV2	093502256	
SINOPEC ENGINEERING GROUP CO LTD	CHINA PETROCHEMICAL CORP aka SINOPEC GROUP	Hong Kong (XHKG)	Common Stock	SINOPEC ENGINEERING GROUP-H	2386 HK	A1T97T	B92NYC9			CNE100001NV2	093502256	
SINOPEC ENGINEERING GROUP CO LTD	CHINA PETROCHEMICAL CORP aka SINOPEC GROUP	Munich (XMUN)	Common Stock	SINOPEC ENGINEERING GROUP-H	1NS GF	A1T97T	B96WKB3			CNE100001NV2		
SINOPEC ENGINEERING GROUP CO LTD	CHINA PETROCHEMICAL CORP aka SINOPEC GROUP	Munich (XMUN)	Common Stock	SINOPEC ENGINEERING GROUP-H	1NS GM	A1T97T	B96WKB3			CNE100001NV2		
SINOPEC ENGINEERING GROUP CO LTD	CHINA PETROCHEMICAL CORP aka SINOPEC GROUP	Munich (XMUN)	Common Stock	SINOPEC ENGINEERING GROUP-H	1NS GR	A1T97T	B96WKB3			CNE100001NV2		
SINOPEC ENGINEERING GROUP CO LTD	CHINA PETROCHEMICAL CORP aka SINOPEC GROUP	Munich (XMUN)	Common Stock	SINOPEC ENGINEERING GROUP-H	1NS GS	A1T97T	B96WKB3			CNE100001NV2		
SINOPEC ENGINEERING GROUP CO LTD	CHINA PETROCHEMICAL CORP aka SINOPEC GROUP	Quotrix Exch (XQTX)	Common Stock	SINOPEC ENGINEERING GROUP-H	1NS QT	A1T97T	B96WKB3 DE			CNE100001NV2		
SINOPEC ENGINEERING GROUP CO LTD	CHINA PETROCHEMICAL CORP aka SINOPEC GROUP	Euro Comp (XLON)	Common Stock	SINOPEC ENGINEERING GROUP-H	2386EUR EU	A1T97T				CNE100001NV2	093502256	Y80359105
SINOPEC KANTON HOLDINGS LTD	CHINA PETROCHEMICAL CORP aka SINOPEC GROUP	Frankfurt (XFRA)	Common Stock	SINOPEC KANTONS HOLDINGS	SAK GB	923923	4601197 DE			BMG8165U1009	011563384	
SINOPEC KANTON HOLDINGS LTD	CHINA PETROCHEMICAL CORP aka SINOPEC GROUP	Frankfurt (XFRA)	Common Stock	SINOPEC KANTONS HOLDINGS	SAK GF	923923	4601197 DE			BMG8165U1009	011563384	
SINOPEC KANTON HOLDINGS LTD	CHINA PETROCHEMICAL CORP aka SINOPEC GROUP	Frankfurt (XFRA)	Common Stock	SINOPEC KANTONS HOLDINGS	SAK GR	923923	4601197 DE			BMG8165U1009	011563384	
SINOPEC KANTON HOLDINGS LTD	CHINA PETROCHEMICAL CORP aka SINOPEC GROUP	Frankfurt (XFRA)	Common Stock	SINOPEC KANTONS HOLDINGS	SAK GS	923923	4601197 DE			BMG8165U1009	011563384	
SINOPEC KANTON HOLDINGS LTD	CHINA PETROCHEMICAL CORP aka SINOPEC GROUP	Hong Kong (XHKG)	Common Stock	SINOPEC KANTONS HOLDINGS	934 HK	923923	6162692 HK			BMG8165U1009	011563384	
SINOPEC KANTON HOLDINGS LTD	CHINA PETROCHEMICAL CORP aka SINOPEC GROUP	Hong Kong (XHKG)	Common Stock	SINOPEC KANTONS HOLDINGS	934 H1	923923	BP3RXQ9 HK			BMG8165U1009	011563384	
SINOPEC KANTON HOLDINGS LTD	CHINA PETROCHEMICAL CORP aka SINOPEC GROUP	OTC US (OOTC)	ADR	SINOPEC KANTONS-UNSPON ADR	SPKOY PQ		B3KRT60	82934W207		US82934W2070		
SINOPEC KANTON HOLDINGS LTD	CHINA PETROCHEMICAL CORP aka SINOPEC GROUP	OTC US (OOTC)	ADR	SINOPEC KANTONS-UNSPON ADR	SPKOY US		B3KRT60	82934W207		US82934W2070		
SINOPEC KANTON HOLDINGS LTD	CHINA PETROCHEMICAL CORP aka SINOPEC GROUP	OTC US (OOTC)	ADR	SINOPEC KANTONS-UNSPON ADR	SPKOY UV		B3KRT60	82934W207		US82934W2070		
SINOPEC OILFIELD EQUIPMENT	CHINA PETROCHEMICAL CORP aka SINOPEC GROUP	Shenzhen (XSHE)	Common Stock	SINOPEC OILFIELD EQUIPMENT-A	000852 CH	A0M37A	6136385			CNE000000XK7		Y4446M108
SINOPEC OILFIELD EQUIPMENT	CHINA PETROCHEMICAL CORP aka SINOPEC GROUP	Shenzhen (XSHE)	Common Stock	SINOPEC OILFIELD EQUIPMENT-A	000852 CS	A0M37A	6136385			CNE000000XK7		Y4446M108
SINOPEC OILFIELD SERVICE CORP	CHINA PETROCHEMICAL CORP aka SINOPEC GROUP	Shanghai (XSHG)	Common Stock	SINOPEC YIZHENG CHEMICAL -A	600871 CG	A0M3V6	6986740 CN			CNE000000HS3		
SINOPEC OILFIELD SERVICE CORP	CHINA PETROCHEMICAL CORP aka SINOPEC GROUP	Shanghai (XSHG)	Common Stock	SINOPEC YIZHENG CHEMICAL -A	600871 CH	A0M3V6	6986740 CN			CNE000000HS3		
SINOPEC OILFIELD SERVICE CORP	CHINA PETROCHEMICAL CORP aka SINOPEC GROUP	Nth SSE-SEHK (XSSC)	Common Stock	SINOPEC YIZHENG CHEMICAL -A	600871 C1	A0M3V6	BWT5TJ1 CN			CNE000000HS3		
SINOPEC OILFIELD SERVICE CORP	CHINA PETROCHEMICAL CORP aka SINOPEC GROUP	Hong Kong (XHKG)	Common Stock	SINOPEC YIZHENG CHEMICAL-H	1033 HK	A0M4Y6	6984669 HK		917709	CNE1000004D6	008069662	
SINOPEC OILFIELD SERVICE CORP	CHINA PETROCHEMICAL CORP aka SINOPEC GROUP	Sth SSE-SEHK (SHSC)	Common Stock	SINOPEC YIZHENG CHEMICAL-H	1033 H1	A0M4Y6			917709	CNE1000004D6	008069662	
SINOPEC SHANGHAI PETROCHEMICALS LTD	CHINA PETROCHEMICAL CORP aka SINOPEC GROUP	Shanghai (XSHG)	Common Stock	SINOPEC SHANGHAI PETROCHE-A	600688 CG	A0M3RA	6802794			CNE000000BB2		
SINOPEC SHANGHAI PETROCHEMICALS LTD	CHINA PETROCHEMICAL CORP aka SINOPEC GROUP	Shanghai (XSHG)	Common Stock	SINOPEC SHANGHAI PETROCHE-A	600688 CH	A0M3RA	6802794			CNE000000BB2		
SINOPEC SHANGHAI PETROCHEMICALS LTD	CHINA PETROCHEMICAL CORP aka SINOPEC GROUP	Nth SSE-SEHK (XSSC)	Common Stock	SINOPEC SHANGHAI PETROCHE-A	600688 C1	A0M3RA	BP3R596 CN			CNE000000BB2		
SINOPEC SHANGHAI PETROCHEMICALS LTD	CHINA PETROCHEMICAL CORP aka SINOPEC GROUP	Frankfurt (XFRA)	Common Stock	SINOPEC SHANGHAI PETROCHEM-H	SGJH GB	A0M4Y5	5888632 DE		908303	CNE1000004C8	005096162	
SINOPEC SHANGHAI PETROCHEMICALS LTD	CHINA PETROCHEMICAL CORP aka SINOPEC GROUP	Frankfurt (XFRA)	Common Stock	SINOPEC SHANGHAI PETROCHEM-H	SGJH GD	A0M4Y5	5888632 DE		908303	CNE1000004C8	005096162	
SINOPEC SHANGHAI PETROCHEMICALS LTD	CHINA PETROCHEMICAL CORP aka SINOPEC GROUP	Frankfurt (XFRA)	Common Stock	SINOPEC SHANGHAI PETROCHEM-H	SGJH GF	A0M4Y5	5888632 DE		908303	CNE1000004C8	005096162	
SINOPEC SHANGHAI PETROCHEMICALS LTD	CHINA PETROCHEMICAL CORP aka SINOPEC GROUP	Frankfurt (XFRA)	Common Stock	SINOPEC SHANGHAI PETROCHEM-H	SGJH GH	A0M4Y5	5888632 DE		908303	CNE1000004C8	005096162	
SINOPEC SHANGHAI PETROCHEMICALS LTD	CHINA PETROCHEMICAL CORP aka SINOPEC GROUP	Frankfurt (XFRA)	Common Stock	SINOPEC SHANGHAI PETROCHEM-H	SGJH GM	A0M4Y5	5888632 DE		908303	CNE1000004C8	005096162	
SINOPEC SHANGHAI PETROCHEMICALS LTD	CHINA PETROCHEMICAL CORP aka SINOPEC GROUP	Frankfurt (XFRA)	Common Stock	SINOPEC SHANGHAI PETROCHEM-H	SGJH GR	A0M4Y5	5888632 DE		908303	CNE1000004C8	005096162	
SINOPEC SHANGHAI PETROCHEMICALS LTD	CHINA PETROCHEMICAL CORP aka SINOPEC GROUP	Frankfurt (XFRA)	Common Stock	SINOPEC SHANGHAI PETROCHEM-H	SGJH GS	A0M4Y5	5888632 DE		908303	CNE1000004C8	005096162	
SINOPEC SHANGHAI PETROCHEMICALS LTD	CHINA PETROCHEMICAL CORP aka SINOPEC GROUP	Quotrix Exch (XQTX)	Common Stock	SINOPEC SHANGHAI PETROCHEM-H	SGJH QT	A0M4Y5	5888632 DE		908303	CNE1000004C8	005096162	
SINOPEC SHANGHAI PETROCHEMICALS LTD	CHINA PETROCHEMICAL CORP aka SINOPEC GROUP	Hong Kong (XHKG)	Common Stock	SINOPEC SHANGHAI PETROCHEM-H	338 HK	A0M4Y5	6797458 HK		908303	CNE1000004C8	005096162	
SINOPEC SHANGHAI PETROCHEMICALS LTD	CHINA PETROCHEMICAL CORP aka SINOPEC GROUP	Sth SSE-SEHK (SHSC)	Common Stock	SINOPEC SHANGHAI PETROCHEM-H	338 H1	A0M4Y5	BP3RXR0 HK		908303	CNE1000004C8	005096162	
SINOPEC SHANGHAI PETROCHEMICALS LTD	CHINA PETROCHEMICAL CORP aka SINOPEC GROUP	New York (XNYS)	ADR	SINOPEC SHANGHAI-SPONS ADR	SHI UB	887169	2800059 US		908289	US82935M1099	012248750	
SINOPEC SHANGHAI PETROCHEMICALS LTD	CHINA PETROCHEMICAL CORP aka SINOPEC GROUP	New York (XNYS)	ADR	SINOPEC SHANGHAI-SPONS ADR	SHI UD	887169	2800059 US		908289	US82935M1099	012248750	
SINOPEC SHANGHAI PETROCHEMICALS LTD	CHINA PETROCHEMICAL CORP aka SINOPEC GROUP	New York (XNYS)	ADR	SINOPEC SHANGHAI-SPONS ADR	SHI UF	887169	2800059 US		908289	US82935M1099	012248750	
SINOPEC SHANGHAI PETROCHEMICALS LTD	CHINA PETROCHEMICAL CORP aka SINOPEC GROUP	New York (XNYS)	ADR	SINOPEC SHANGHAI-SPONS ADR	SHI UN	887169	2800059 US		908289	US82935M1099	012248750	
SINOPEC SHANGHAI PETROCHEMICALS LTD	CHINA PETROCHEMICAL CORP aka SINOPEC GROUP	New York (XNYS)	ADR	SINOPEC SHANGHAI-SPONS ADR	SHI UP	887169	2800059 US		908289	US82935M1099	012248750	
SINOPEC SHANGHAI PETROCHEMICALS LTD	CHINA PETROCHEMICAL CORP aka SINOPEC GROUP	New York (XNYS)	ADR	SINOPEC SHANGHAI-SPONS ADR	SHI UT	887169	2800059 US		908289	US82935M1099	012248750	
SINOPEC SHANGHAI PETROCHEMICALS LTD	CHINA PETROCHEMICAL CORP aka SINOPEC GROUP	New York (XNYS)	ADR	SINOPEC SHANGHAI-SPONS ADR	SHI VJ	887169	2800059 US		908289	US82935M1099	012248750	

SINOPEC SHANGHAI PETROCHEMICALS LTD	CHINA PETROCHEMICAL CORP aka SINOPEC GROUP	New York (XNYS)	ADR	SINOPEC SHANGHAI-SPONS ADR	SHI VK	887169	2800059 US		908289	US82935M1099	012248750	
SINOPEC SHANGHAI PETROCHEMICALS LTD	CHINA PETROCHEMICAL CORP aka SINOPEC GROUP	New York (XNYS)	ADR	SINOPEC SHANGHAI-SPONS ADR	SHI VY	887169	2800059 US		908289	US82935M1099	012248750	
SINOPEC SHANGHAI PETROCHEMICALS LTD	CHINA PETROCHEMICAL CORP aka SINOPEC GROUP	Frankfurt (XFRA)	ADR	SINOPEC SHANGHAI-SPONS ADR	SHI GB	887169	5734638 DE	82935M109	908289	US82935M1099	012248750	
SINOPEC SHANGHAI PETROCHEMICALS LTD	CHINA PETROCHEMICAL CORP aka SINOPEC GROUP	Frankfurt (XFRA)	ADR	SINOPEC SHANGHAI-SPONS ADR	SHI GF	887169	5734638 DE	82935M109	908289	US82935M1099	012248750	
SINOPEC SHANGHAI PETROCHEMICALS LTD	CHINA PETROCHEMICAL CORP aka SINOPEC GROUP	Frankfurt (XFRA)	ADR	SINOPEC SHANGHAI-SPONS ADR	SHI GM	887169	5734638 DE	82935M109	908289	US82935M1099	012248750	
SINOPEC SHANGHAI PETROCHEMICALS LTD	CHINA PETROCHEMICAL CORP aka SINOPEC GROUP	Frankfurt (XFRA)	ADR	SINOPEC SHANGHAI-SPONS ADR	SHI GR	887169	5734638 DE	82935M109	908289	US82935M1099	012248750	
SINOPEC SHANGHAI PETROCHEMICALS LTD	CHINA PETROCHEMICAL CORP aka SINOPEC GROUP	Frankfurt (XFRA)	ADR	SINOPEC SHANGHAI-SPONS ADR	SHI GS	887169	5734638 DE	82935M109	908289	US82935M1099	012248750	
SINOPEC SHANGHAI PETROCHEMICALS LTD	CHINA PETROCHEMICAL CORP aka SINOPEC GROUP	Singapore (XSES)	ADR	SINOPEC SHANGHAI -SPONS ADR	SHI SP	887169	B3MNGN2	82935M109	908289	US82935M1099	012248750	
SINOPEC SHANGHAI PETROCHEMICALS LTD	CHINA PETROCHEMICAL CORP aka SINOPEC GROUP	New York (XNYS)	ADR	SINOPEC SHANGHAI-SPONS ADR	SHI US	887169	2800059 US		908289	US82935M1099	012248750	
POLY PROPERTY GROUP CO LTD	CHINA POLY GROUP CORPORATION	Hong Kong (XHKG)	Common Stock	POLY PROPERTY GROUP CO LTD	119 HK	885546	6220987 HK			HK0119000674	004580702	
POLY PROPERTY GROUP CO LTD	CHINA POLY GROUP CORPORATION	Frankfurt (XFRA)	Common Stock	POLY PROPERTY GROUP CO LTD	CMJ GB	885546	B1HJJS7 DE			HK0119000674	004580702	
POLY PROPERTY GROUP CO LTD	CHINA POLY GROUP CORPORATION	Frankfurt (XFRA)	Common Stock	POLY PROPERTY GROUP CO LTD	CMJ GF	885546	B1HJJS7 DE			HK0119000674	004580702	
POLY PROPERTY GROUP CO LTD	CHINA POLY GROUP CORPORATION	Frankfurt (XFRA)	Common Stock	POLY PROPERTY GROUP CO LTD	CMJ GR	885546	B1HJJS7 DE			HK0119000674	004580702	
POLY PROPERTY GROUP CO LTD	CHINA POLY GROUP CORPORATION	Frankfurt (XFRA)	Common Stock	POLY PROPERTY GROUP CO LTD	CMJ GS	885546	B1HJJS7 DE			HK0119000674	004580702	
POLY PROPERTY GROUP CO LTD	CHINA POLY GROUP CORPORATION	OTC US (OOTC)	Common Stock	POLY PROPERTY GROUP CO LTD	PHKIF US	885546	B23CST1 US			HK0119000674	004580702	Y7064G105
POLY PROPERTY GROUP CO LTD	CHINA POLY GROUP CORPORATION	Sth SSE-SEHK (SHSC)	Common Stock	POLY PROPERTY GROUP CO LTD	119 H1	885546	BP3RQJ3 HK			HK0119000674	004580702	
POLY PROPERTY GROUP CO LTD	CHINA POLY GROUP CORPORATION	OTC US (OOTC)	Receipt	POLY PROPERTY GROUP CO LTD	PHKIY PQ		BJTXRN4 US			US7316541090		
POLY PROPERTY GROUP CO LTD	CHINA POLY GROUP CORPORATION	OTC US (OOTC)	Receipt	POLY PROPERTY GROUP CO LTD	PHKIY US		BJTXRN4 US			US7316541090		
DONGFENG MOTOR GROUP COMPANY LIMITED	DONGFENG MOTOR GROUP COMPANY LIMITED	OTC US (OOTC)	Common Stock	DONGFENG MOTOR GRP CO LTD-H	DNFGF PQ	A0M4XY	B0XZY65 US			CNE 100000312	023857456	Y21042109
DONGFENG MOTOR GROUP COMPANY LIMITED	DONGFENG MOTOR GROUP COMPANY LIMITED	Hong Kong (XHKG)	Common Stock	DONGFENG MOTOR GRP CO LTD-H	489 HK	A0M4XY	B0PH5N3 HK			CNE100000312	023857456	
DONGFENG MOTOR GROUP COMPANY LIMITED	DONGFENG MOTOR GROUP COMPANY LIMITED	Frankfurt (XFRA)	Common Stock	DONGFENG MOTOR GRP CO LTD-H	D4D GB	A0M4XY	B0TBB66 DE			CNE100000312	023857456	
DONGFENG MOTOR GROUP COMPANY LIMITED	DONGFENG MOTOR GROUP COMPANY LIMITED	Frankfurt (XFRA)	Common Stock	DONGFENG MOTOR GRP CO LTD-H	D4D GF	A0M4XY	B0TBB66 DE			CNE100000312	023857456	
DONGFENG MOTOR GROUP COMPANY LIMITED	DONGFENG MOTOR GROUP COMPANY LIMITED	Frankfurt (XFRA)	Common Stock	DONGFENG MOTOR GRP CO LTD-H	D4D GM	A0M4XY	B0TBB66 DE			CNE100000312	023857456	
DONGFENG MOTOR GROUP COMPANY LIMITED	DONGFENG MOTOR GROUP COMPANY LIMITED	Frankfurt (XFRA)	Common Stock	DONGFENG MOTOR GRP CO LTD-H	D4D GR	A0M4XY	B0TBB66 DE			CNE100000312	023857456	
DONGFENG MOTOR GROUP COMPANY LIMITED	DONGFENG MOTOR GROUP COMPANY LIMITED	Frankfurt (XFRA)	Common Stock	DONGFENG MOTOR GRP CO LTD-H	D4D GS	A0M4XY	B0TBB66 DE			CNE100000312	023857456	
DONGFENG MOTOR GROUP COMPANY LIMITED	DONGFENG MOTOR GROUP COMPANY LIMITED	Quotrix Exch (XQTX)	Common Stock	DONGFENG MOTOR GRP CO LTD-H	D4D QT	A0M4XY	B0TBB66 DE			CNE100000312	023857456	
DONGFENG MOTOR GROUP COMPANY LIMITED	DONGFENG MOTOR GROUP COMPANY LIMITED	OTC US (OOTC)	Common Stock	DONGFENG MOTOR GRP CO LTD-H	DNFGF UV	A0M4XY	B0XZY65			CNE100000312	023857456	Y21042109
DONGFENG MOTOR GROUP COMPANY LIMITED	DONGFENG MOTOR GROUP COMPANY LIMITED	OTC US (OOTC)	Common Stock	DONGFENG MOTOR GRP CO LTD-H	DNFGF US	A0M4XY	B0XZY65 US			CNE100000312	023857456	Y21042109
DONGFENG MOTOR GROUP COMPANY LIMITED	DONGFENG MOTOR GROUP COMPANY LIMITED	Hong Kong (XHKG)	Common Stock	DONGFENG MOTOR GRP CO LTD-H	489 H1	A0M4XY	BP3RTP0 HK			CNE100000312	023857456	
DONGFENG MOTOR GROUP COMPANY LIMITED	DONGFENG MOTOR GROUP COMPANY LIMITED	OTC US (OOTC)	Common Stock	DONGFENG MOTOR GRP CO LTD-H	DNFGY PQ		B3SQPT4 US	257738203		US2577382037		
DONGFENG MOTOR GROUP COMPANY LIMITED	DONGFENG MOTOR GROUP COMPANY LIMITED	OTC US (OOTC)	ADR	DONGFENG MOTOR GRP-H-UNS ADR	DNFGY US		B3SQPT4 US	257738203		US2577382037		
DONGFENG MOTOR GROUP COMPANY LIMITED	DONGFENG MOTOR GROUP COMPANY LIMITED	OTC US (OOTC)	Common Stock	DONGFENG MOTOR GRP CO LTD-H	DNFGY UV		B3SQPT4 US	257738203		US2577382037		
EGYPT KUWAIT HOLDING CO	EGYPT KUWAIT HOLDING CO	Kuwait (XKUW)	Common Stock	EGYPT KUWAIT HOLDING CO SAE	EKHOLDIN KK	A0H1G7	B0S8H15 KW			EG69082C013		
EGYPT KUWAIT HOLDING CO	EGYPT KUWAIT HOLDING CO	Cairo (XCAI)	Common Stock	EGYPT KUWAIT HOLDING CO SAE	EKHO EC	A0H1G7	B0QMD00 EG			EGS69082C013		
EGYPT KUWAIT HOLDING CO	EGYPT KUWAIT HOLDING CO	Cairo (XCAI)	Common Stock	EGYPT KUWAIT HOLDING CO SAE	EKHO EY	A0H1G7	B0QMD00 EG			EGS69082C013		
ENERGY HOUSE HOLDING CO KSCC/THE	ENERGY HOUSE HOLDING CO KSCC/THE	Kuwait (XKUW)	Common Stock	ENERGY HOLDING CO KSCC/THE	ENERGYH KK	A0KD4C	B13BW99 KW			KW0EQ0601801		
KUWAIT FINANCE HOUSE	ENERGY HOUSE HOLDING CO KSCC/THE	Kuwait (XKUW)	Common Stock	KUWAIT FINANCE HOUSE	KFIN KK	A0JC70	6503138 KW			KW0EQ0100085		
ENGIE	ENGIE	EN Paris (XPAR)	Common Stock	ENGIE	ENGI FP	A0ER6Q	B0C2CQ3			FR0010208488	022341499	F42768105
ENGIE	ENGIE	Equiduct (XEQT)	Common Stock	ENGIE	ENGIP BQ	A0ER6Q	B0C2CQ3			FR0010208488	022341499	F42768105
ENGIE	ENGIE	BATS Europe (BATE)	Common Stock	ENGIE	ENGIP EB	A0ER6Q	B0C2CQ3			FR0010208488	022341499	F42768105
ENGIE	ENGIE	Chi-X Europe (CHIX)	Common Stock	ENGIE	ENGIP IX	A0ER6Q	B0C2CQ3			FR0010208488	022341499	F42768105
ENGIE	ENGIE	Aquis Exchg (AQXE)	Common Stock	ENGIE	ENGIP QX	A0ER6Q	B0C2CQ3			FR0010208488	022341499	F42768105
ENGIE	ENGIE	Turquoise (TRQX)	Common Stock	ENGIE	ENGIP TQ	A0ER6Q	B0C2CQ3			FR0010208488	022341499	F42768105
ENGIE	ENGIE	Sigma X MTF (SGMX)	Common Stock	ENGIE	GSZ S1	A0ER6Q	B0C2CQ3 FR			FR0010208488	022341499	
ENGIE	ENGIE	Xtra EU Strs (XETR)	Common Stock	GDF SUEZ	GZF GB	A0ER6Q	B0CYN33 DE			FR0010208488	022341499	
ENGIE	ENGIE	Xtra EU Strs (XETR)	Common Stock	GDF SUEZ	GZF GD	A0ER6Q	B0CYN33 DE			FR0010208488	022341499	
ENGIE	ENGIE	Xtra EU Strs (XETR)	Common Stock	GDF SUEZ	GZF GE	A0ER6Q	B0CYN33 DE			FR0010208488	022341499	
ENGIE	ENGIE	Xtra EU Strs (XETR)	Common Stock	GDF SUEZ	GZF GF	A0ER6Q	B0CYN33 DE			FR0010208488	022341499	
ENGIE	ENGIE	Xtra EU Strs (XETR)	Common Stock	GDF SUEZ	GZF GH	A0ER6Q	B0CYN33 DE			FR0010208488	022341499	
ENGIE	ENGIE	Xtra EU Strs (XETR)	Common Stock	GDF SUEZ	GZF GI	A0ER6Q	B0CYN33 DE			FR0010208488	022341499	
ENGIE	ENGIE	Xtra EU Strs (XETR)	Common Stock	GDF SUEZ	GZF GM	A0ER6Q	B0CYN33 DE			FR0010208488	022341499	
ENGIE	ENGIE	Xtra EU Strs (XETR)	Common Stock	GDF SUEZ	GZF GR	A0ER6Q	B0CYN33 DE			FR0010208488	022341499	
ENGIE	ENGIE	Xtra EU Strs (XETR)	Common Stock	GDF SUEZ	GZF GS	A0ER6Q	B0CYN33 DE			FR0010208488	022341499	
ENGIE	ENGIE	Xtra EU Strs (XETR)	Common Stock	GDF SUEZ	GZF GY	A0ER6Q	B0CYN33 DE			FR0010208488	022341499	
ENGIE	ENGIE	Quotrix Exch (XQTX)	Common Stock	GDF SUEZ	GZF QT	A0ER6Q	B0CYN33 DE			FR0010208488	022341499	
ENGIE	ENGIE	Tradegate (XGAT)	Common Stock	GDF SUEZ	GZF TH	A0ER6Q	B0CYN33 DE			FR0010208488	022341499	
ENGIE	ENGIE	OTC US (OOTC)	Common Stock	ENGIE	ENGQF PQ	A0ER6Q	B0Z11C6			FR0010208488	022341499	F7629A107
ENGIE	ENGIE	OTC US (OOTC)	Common Stock	ENGIE	ENGQF US	A0ER6Q	B0Z11C6			FR0010208488	022341499	F7629A107
ENGIE	ENGIE	OTC US (OOTC)	Common Stock	ENGIE	ENGQF UV	A0ER6Q	B0Z11C6			FR0010208488	022341499	F7629A107
ENGIE	ENGIE	LSE Europe QS (XLON)	Common Stock	GDF SUEZ	GSZ LI	A0ER6Q	B28HB14 GB			FR0010208488	022341499	
ENGIE	ENGIE	LSE Europe QS (XLON)	Common Stock	GDF SUEZ	GSZ LO	A0ER6Q	B28HB14 GB			FR0010208488	022341499	
ENGIE	ENGIE	Brsaltaliana (MTAA)	Common Stock	ENGIE	ENGI IF	A0ER6Q	B3BQVC6			FR0010208488	022341499	F42768105
ENGIE	ENGIE	Brsaltaliana (MTAA)	Common Stock	ENGIE	ENGI IM	A0ER6Q	B3BQVC6			FR0010208488	022341499	F42768105
ENGIE	ENGIE	Luxembourg (XLUX)	Common Stock	GDF SUEZ	GSZ LX	A0ER6Q	B3BVQW6 LU			FR0010208488	022341499	
ENGIE	ENGIE	SIX Swiss Ex (XSWX)	Common Stock	ENGIE	ENGI SE	A0ER6Q	BRTM7D7			FR0010208488	022341499	F42768105
ENGIE	ENGIE	SIX Swiss Ex (XSWX)	Common Stock	ENGIE	ENGI SW	A0ER6Q	BRTM7D7			FR0010208488	022341499	F42768105
ENGIE	ENGIE	Euro Comp (XLON)	Common Stock	ENGIE	ENGI1EUR EU	A0ER6Q				FR0010208488	022341499	F42768105
ENGIE	ENGIE	EURO OTC (XLON)	Common Stock	ENGIE	ENGI1EUR XB	A0ER6Q				FR0010208488	022341499	F42768105
ENGIE	ENGIE	EURO OTC (XLON)	Common Stock	ENGIE	ENGI1EUR XD	A0ER6Q				FR0010208488	022341499	F42768105
ENGIE	ENGIE	EURO OTC (XLON)	Common Stock	ENGIE	ENGI1EUR XE	A0ER6Q				FR0010208488	022341499	F42768105
ENGIE	ENGIE	EURO OTC (XLON)	Common Stock	ENGIE	ENGI1EUR XL	A0ER6Q				FR0010208488	022341499	F42768105
ENGIE	ENGIE	EURO OTC (XLON)	Common Stock	ENGIE	ENGI1EUR XO	A0ER6Q				FR0010208488	022341499	F42768105
ENGIE	ENGIE	EURO OTC (XLON)	Common Stock	ENGIE	ENGI1EUR XS	A0ER6Q				FR0010208488	022341499	F42768105
ENGIE	ENGIE	EURO OTC (XLON)	Common Stock	ENGIE	ENGI1EUR XV	A0ER6Q				FR0010208488	022341499	F42768105
ENGIE	ENGIE	Euro Comp (XLON)	Common Stock	ENGIE	ENGICHF EU	A0ER6Q				FR0010208488	022341499	F42768105
ENGIE	ENGIE	EURO OTC (XLON)	Common Stock	ENGIE	ENGICHF XW	A0ER6Q				FR0010208488	022341499	
ENGIE	ENGIE	ITG Posit (XPOS)	Common Stock	ENGIE	ENGIP PO	A0ER6Q				FR0010208488	022341499	
ENGIE	ENGIE	Euro TLX (ETLX)	Common Stock	GDF SUEZ	GSZ TE	A0ER6Q				FR0010208488	022341499	
ENGIE	ENGIE	OTC US (OOTC)	ADR	ENGIE-SPON ADR	ENGIY PQ	A14XKC	BYY9W15	29286D105		US29286D1054	126845286	

ENGIE	ENGIE	OTC US (OOTC)	ADR	ENGIE-SPON ADR	ENGIY US	A14XKC	BYY9W15	29286D105		US29286D1054	126845286	
ENGIE	ENGIE	OTC US (OOTC)	ADR	ENGIE-SPON ADR	ENGIY UV	A14XKC	BYY9W15	29286D105		US29286D1054	126845286	
ENGIE	ENGIE	Berlin (XBER)	ADR	GDF SUEZ-SPON ADR	GZFB GB	A0Q41P	B3BXWH9 DE	36160B105		US36160B1052	038007297	
ENGIE	ENGIE	Berlin (XBER)	ADR	GDF SUEZ-SPON ADR	GZFB GF	A0Q41P	B3BXWH9 DE	36160B105		US36160B1052	038007297	
ENGIE	ENGIE	Berlin (XBER)	ADR	GDF SUEZ-SPON ADR	GZFB GR	A0Q41P	B3BXWH9 DE	36160B105		US36160B1052	038007297	
ENGIE	ENGIE	Berlin (XBER)	ADR	GDF SUEZ-SPON ADR	GZFB GS	A0Q41P	B3BXWH9 DE	36160B105		US36160B1052	038007297	
PARISIENNE CHAUFFAGE URBAIN	ENGIE	BATS Europe (BATE)	Common Stock	PARISIENNE CHAUFFAGE URBAIN	CHAU EB	919453	4189165			FR0000052896	011389066	F70641117
PARISIENNE CHAUFFAGE URBAIN	ENGIE	EN Paris (XPAR)	Common Stock	PARISIENNE CHAUFFAGE URBAIN	CHAU FP	919453	4189165			FR0000052896	011389066	F70641117
PARISIENNE CHAUFFAGE URBAIN	ENGIE	Chi-X Europe (CHIX)	Common Stock	PARISIENNE CHAUFFAGE URBAIN	CHAU IX	919453	4189165			FR0000052896	011389066	F70641117
PARISIENNE CHAUFFAGE URBAIN	ENGIE	Euro Comp (XLON)	Common Stock	PARISIENNE CHAUFFAGE URBAIN	CHAU EU	919453				FR0000052896	011389066	F70641117
GAZ OJSC	GAZ GROUP	MICEX Main (MISX)	Common Stock	GAZ OJSC	GAZA RM	903426	B5BKBJ9 RU		950579	RU0009034268	034991693	
GAZ OJSC	GAZ GROUP	MICEX Main (MISX)	Common Stock	GAZ OJSC	GAZA RX	903426	B5BKBJ9 RU		950579	RU0009034268	034991693	
GAZ OJSC	GAZ GROUP	MICEX Main (MISX)	Preference	GAZ OJSC	GAZAP RM	910283	B5BKC29 RU			RU0009102834		
GAZ OJSC	GAZ GROUP	MICEX Main (MISX)	Preference	GAZ OJSC	GAZAP RX	910283	B5BKC29 RU			RU0009102834		
PAVLOVO BUS JSC	GAZ GROUP	MICEX Main (MISX)	Common Stock	PAVLOVSKY BUS-CLS	PAZA RM	908324	B57MPG4 RU			RU0009083240		
PAVLOVO BUS JSC	GAZ GROUP	MICEX Main (MISX)	Common Stock	PAVLOVSKY BUS-CLS	PAZA RX	908324	B57MPG4 RU			RU0009083240		
HARBIN ELECTRIC CO LTD	HARBIN ELECTRIC CO LTD	Hong Kong (XHKG)	Common Stock	HARBIN ELECTRIC CO LTD-H	1133 HK	A0M4X8	6422761 HK		930709	CNE10000003C0	011043780	
HARBIN ELECTRIC CO LTD	HARBIN ELECTRIC CO LTD	Frankfurt (XFRA)	Common Stock	HARBIN ELECTRIC CO LTD-H	HP6H GB	A0M4X8	B1HJDX0 DE		930709	CNE10000003C0	011043780	
HARBIN ELECTRIC CO LTD	HARBIN ELECTRIC CO LTD	Frankfurt (XFRA)	Common Stock	HARBIN ELECTRIC CO LTD-H	HP6H GF	A0M4X8	B1HJDX0 DE		930709	CNE10000003C0	011043780	
HARBIN ELECTRIC CO LTD	HARBIN ELECTRIC CO LTD	Frankfurt (XFRA)	Common Stock	HARBIN ELECTRIC CO LTD-H	HP6H GR	A0M4X8	B1HJDX0 DE		930709	CNE10000003C0	011043780	
HARBIN ELECTRIC CO LTD	HARBIN ELECTRIC CO LTD	OTC US (OOTC)	Common Stock	HARBIN ELECTRIC CO LTD-H	HBPWF US	A0M4X8	B3BHKK0 US		930709	CNE10000003C0	011043780	
HARBIN ELECTRIC CO LTD	HARBIN ELECTRIC CO LTD	OTC US (OOTC)	Common Stock	HARBIN ELECTRIC CO LTD-H	HBPWF UV	A0M4X8	B3BHKK0 US		930709	CNE10000003C0	011043780	
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		
LANKA IOC PLC	INDIAN OIL CORP LTD aka IOCL	Colombo (XCOL)	Common Stock	LANKA IOC PLC	LIOC 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 CG	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	Nth SSE-SEHK (XSSC)	Common Stock	JIANGXI HONGDU AVIATION-A	600316 C1	A0M4EK	BP3R8J7 CN			CNE0000015N3		
KAMAZ PJSC	KAMAZ PJSC	MICEX Main (XMIC)	Common Stock	KAMAZ	KMAZ RM	895958	B55XCQ8 RU			RU0008959580	006692125	
KAMAZ PJSC	KAMAZ PJSC	MICEX Main (XMIC)	Common Stock	KAMAZ	KMAZ RX	895958	B55XCQ8 RU			RU0008959580	006692125	
NEFTEKAMSKY AVTOZAVOD aka NEFAZ	KAMAZ PJSC	MICEX Main (XMIC)	Common Stock	NEFTEKAMSKY AVTOZAVOD-CLS	NFAZ RM		B5637D9 RU			RU0009115604		
NEFTEKAMSKY AVTOZAVOD aka NEFAZ	KAMAZ PJSC	MICEX Main (XMIC)	Common Stock	NEFTEKAMSKY AVTOZAVOD-CLS	NFAZ RX		B5637D9 RU			RU0009115604		
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	001117254	
MAN SE	MAN SE	BX Worldcaps (XBRN)	Common Stock	MAN SE	MAN BW	593700	5563520 DE		944020	DE0005937007	001117254	
MAN SE	MAN SE	BATS Europe (BATE)	Common Stock	MAN SE	MAN EB	593700	5563520 DE		944020	DE0005937007	001117254	
MAN SE	MAN SE	Xetra (XETR)	Common Stock	MAN SE	MAN GB	593700	5563520 DE		944020	DE0005937007	001117254	
MAN SE	MAN SE	Xetra (XETR)	Common Stock	MAN SE	MAN GD	593700	5563520 DE		944020	DE0005937007	001117254	
MAN SE	MAN SE	Xetra (XETR)	Common Stock	MAN SE	MAN GF	593700	5563520 DE		944020	DE0005937007	001117254	
MAN SE	MAN SE	Xetra (XETR)	Common Stock	MAN SE	MAN GH	593700	5563520 DE		944020	DE0005937007	001117254	
MAN SE	MAN SE	Xetra (XETR)	Common Stock	MAN SE	MAN GI	593700	5563520 DE		944020	DE0005937007	001117254	
MAN SE	MAN SE	Xetra (XETR)	Common Stock	MAN SE	MAN GM	593700	5563520 DE		944020	DE0005937007	001117254	
MAN SE	MAN SE	Xetra (XETR)	Common Stock	MAN SE	MAN GR	593700	5563520 DE		944020	DE0005937007	001117254	
MAN SE	MAN SE	Xetra (XETR)	Common Stock	MAN SE	MAN GS	593700	5563520 DE		944020	DE0005937007	001117254	
MAN SE	MAN SE	Xetra (XETR)	Common Stock	MAN SE	MAN GY	593700	5563520 DE		944020	DE0005937007	001117254	
MAN SE	MAN SE	Quotrix Exch (XQTX)	Common Stock	MAN SE	MAN QT	593700	5563520 DE		944020	DE0005937007	001117254	
MAN SE	MAN SE	Sigma X MTF (SGMX)	Common Stock	MAN SE	MAN S1	593700	5563520 DE		944020	DE0005937007	001117254	
MAN SE	MAN SE	BX Worldcaps (XBRN)	Common Stock	MAN SE	MAN SW	593700	5563520 DE		944020	DE0005937007	001117254	
MAN SE	MAN SE	Tradegate (XGAT)	Common Stock	MAN SE	MAN TH	593700	5563520 DE		944020	DE0005937007	001117254	
MAN SE	MAN SE	Turquoise (TRQX)	Common Stock	MAN SE	MAN TQ	593700	5563520 DE		944020	DE0005937007	001117254	
MAN SE	MAN SE	Aquis Exchg (AQXE)	Common Stock	MAN SE	MAND QX	593700	5563520 DE		944020	DE0005937007	001117254	
MAN SE	MAN SE	Chi-X Europe (CHIX)	Common Stock	MAN SE	MANG IX	593700	5563520 DE		944020	DE0005937007	001117254	
MAN SE	MAN SE	SIX Swiss Ex (XSWX)	Common Stock	MAN SE	MAN SE	593700	5628883 CH		944020	DE0005937007	001117254	
MAN SE	MAN SE	OTC US (OOTC)	Common Stock	MAN SE	MAGOF US	593701	B0318P0 US		944020	DE0005937007	001117254	D51716104
MAN SE	MAN SE	OTC US (OOTC)	Common Stock	MAN SE	MAGOF UV	593701	B0318P0 US		944020	DE0005937007	001117254	D51716104
MAN SE	MAN SE	Euro Comp (XLON)	Common Stock	MAN SE	MAN EU	593700	B10LRX1 GB			DE0005937007	001117254	
MAN SE	MAN SE	LSE EuropeQS (XLON)	Common Stock	MAN SE	MAN LI	593700	B10LRX1 GB		944020	DE0005937007	001117254	
MAN SE	MAN SE	LSE EuropeQS (XLON)	Common Stock	MAN SE	MAN LO	593700	B10LRX1 GB		944020	DE0005937007	001117254	
MAN SE	MAN SE	Euro OTC (XLON)	Common Stock	MAN SE	MAN XB	593700	B10LRX1 GB			DE0005937007	001117254	
MAN SE	MAN SE	Euro OTC (XLON)	Common Stock	MAN SE	MAN XE	593700	B10LRX1 GB			DE0005937007	001117254	
MAN SE	MAN SE	Euro OTC (XLON)	Common Stock	MAN SE	MAN XS	593700	B10LRX1 GB			DE0005937007	001117254	
MAN SE	MAN SE	Euro OTC (XLON)	Common Stock	MAN SE	MAN XV	593700	B10LRX1 GB			DE0005937007	001117254	
MAN SE	MAN SE	Euro TLX (ETLX)	Common Stock	MAN SE	MAN TE	593700	B88FOL3 IT		944020	DE0005937007	001117254	
MAN SE	MAN SE	EURO OTC (XLON)	Common Stock	MAN SE	MAN XA	593700				DE0005937007	001117254	D51716104
MAN SE	MAN SE	Euro OTC (XLON)	Common Stock	MAN SE	MAN XD	593700				DE0005937007	001117254	
MAN SE	MAN SE	Euro OTC (XLON)	Common Stock	MAN SE	MAN XL	593700				DE0005937007	001117254	
MAN SE	MAN SE	EURO OTC (XLON)	Common Stock	MAN SE	MAN XO	593700				DE0005937007	001117254	D51716104
MAN SE	MAN SE	Euro Comp (XLON)	Common Stock	MAN SE	MANCHF EU	593700				DE0005937007	001117254	D51716104
MAN SE	MAN SE	Blockmatch (BLOX)	Common Stock	MAN SE	MAND B3	593700				DE0005937007	001117254	
MAN SE	MAN SE	ITG Posit (XPOS)	Common Stock	MAN SE	MAND PO	593700				DE0005937007	001117254	D51716104
MAN SE	MAN SE	UBS MTF (XUBS)	Common Stock	MAN SE	MAND S2	593700				DE0005937007	001117254	
MAN SE	MAN SE	BATS Europe (BATE)	Preference	MAN SE-VORZUGSAKTIEN	MAN3D EB	593703	5563531			DE0005937031	001114816	D51716112
MAN SE	MAN SE	Xetra (XETR)	Preference	MAN SE-VORZUGSAKTIEN	MAN3 GB	593703	5563531 DE		944021	DE0005937031	001114816	
MAN SE	MAN SE	Xetra (XETR)	Preference	MAN SE-VORZUGSAKTIEN	MAN3 GD	593703	5563531 DE		944021	DE0005937031	001114816	
MAN SE	MAN SE	Xetra (XETR)	Preference	MAN SE-VORZUGSAKTIEN	MAN3 GF	593703	5563531 DE		944021	DE0005937031	001114816	
MAN SE	MAN SE	Xetra (XETR)	Preference	MAN SE-VORZUGSAKTIEN	MAN3 GH	593703	5563531 DE		944021	DE0005937031	001114816	
MAN SE	MAN SE	Xetra (XETR)	Preference	MAN SE-VORZUGSAKTIEN	MAN3 GI	593703	5563531 DE		944021	DE0005937031	001114816	
MAN SE	MAN SE	Xetra (XETR)	Preference	MAN SE-VORZUGSAKTIEN	MAN3 GM	593703	5563531 DE		944021	DE0005937031	001114816	
MAN SE	MAN SE	Xetra (XETR)	Preference	MAN SE-VORZUGSAKTIEN	MAN3 GR	593703	5563531 DE		944021	DE0005937031	001114816	
MAN SE	MAN SE	Xetra (XETR)	Preference	MAN SE-VORZUGSAKTIEN	MAN3 GS	593703	5563531 DE		944021	DE0005937031	001114816	
MAN SE	MAN SE	Xetra (XETR)	Preference	MAN SE-VORZUGSAKTIEN	MAN3 GY	593703	5563531 DE		944021	DE0005937031	001114816	
MAN SE	MAN SE	Quotrix Exch (XQTX)	Preference	MAN SE-VORZUGSAKTIEN	MAN3 QT	593703	5563531 DE		944021	DE0005937031	001114816	
MAN SE	MAN SE	Turquoise (TRQX)	Preference	MAN SE-VORZUGSAKTIEN	MAN3 TQ	593703	5563531 DE		944021	DE0005937031	001114816	
MAN SE	MAN SE	Equiduct (XEQT)	Preference	MAN SE-VORZUGSAKTIEN	MAN3D BQ	593703	5563531 DE		944021	DE0005937031	001114816	
MAN SE	MAN SE	Chi-X Europe (CHIX)	Preference	MAN SE-VORZUGSAKTIEN	MAN3D IX	593703	5563531 DE		944021	DE0005937031	001114816	
MAN SE	MAN SE	Euro Comp (XLON)	Preference	MAN SE-VORZUGSAKTIEN	MAN3 EU	593703	B28K2R6 GB			DE0005937031	001114816	
MAN SE	MAN SE	Euro OTC (XLON)	Preference	MAN SE-VORZUGSAKTIEN	MAN3 XS	593703	B28K2R6 GB			DE0005937031	001114816	
MAN SE	MAN SE	Tradegate (XGAT)	Preference	MAN SE-VORZUGSAKTIEN	MAN3 TH	593703			944021	DE0005937031	001114816	
MAN SE	MAN SE	ITG Posit (XPOS)	Preference	MAN SE-VORZUGSAKTIEN	MAN3D PO	593703			944022	DE0005937031	001114816	
MAN SE	MAN SE	OTC US (OOTC)	ADR	MAN SE-UNSSPONSORED ADR	MAGOY PQ	A0YF6N	B3DY656 US	561641101		US5616411014	054361637	
MAN SE	MAN SE	OTC US (OOTC)	ADR	MAN SE-UNSSPONSORED ADR	MAGOY US	A0YF6N	B3DY656 US	561641101		US5616411014	054361637	

MAN SE	MAN SE	OTC US (OOTC)	ADR	MAN SE-UNSSPONSORED ADR	MAGOY UV	A0YF6N	B3DY656 US	561641101		US5616411014	054361637	
MAN SE	MAN SE	Frankfurt (XFRA)	ADR	MAN SE-UNSSPONSORED ADR	MANC GF	A0YF6N	B5900P0 DE	561641101		US5616411014	054361637	
MAN SE	MAN SE	Frankfurt (XFRA)	ADR	MAN SE-UNSSPONSORED ADR	MANC GR	A0YF6N	B5900P0 DE	561641101		US5616411014	054361637	
MAN SE	MAN SE	Frankfurt (XFRA)	ADR	MAN SE-UNSSPONSORED ADR	MANC GS	A0YF6N	B5900P0 DE	561641101		US5616411014	054361637	
MAN SE	MAN SE	Frankfurt (XFRA)	ADR	MAN SE-UNSSPONSORED ADR	MANC GY	A0YF6N	B5900P0 DE	561641101		US5616411014	054361637	
RENK AG	MAN SE	Frankfurt (XFRA)	Common Stock	RENK AG	ZAR GB	785000	5555969 DE		916291	DE0007850000	001121936	
RENK AG	MAN SE	Frankfurt (XFRA)	Common Stock	RENK AG	ZAR GF	785000	5555969 DE		916291	DE0007850000	001121936	
RENK AG	MAN SE	Frankfurt (XFRA)	Common Stock	RENK AG	ZAR GM	785000	5555969 DE		916291	DE0007850000	001121936	
RENK AG	MAN SE	Frankfurt (XFRA)	Common Stock	RENK AG	ZAR GR	785000	5555969 DE		916291	DE0007850000	001121936	
RENK AG	MAN SE	Frankfurt (XFRA)	Common Stock	RENK AG	ZAR GS	785000	5555969 DE		916291	DE0007850000	001121936	
RENK AG	MAN SE	Euro Comp (XLON)	Common Stock	RENK AG	ZAR EU	785000	B28LK31 GB			DE0007850000	001121936	
RENK AG	MAN SE	Euro OTC (XLON)	Common Stock	RENK AG	ZAR XD	785000				DE0007850000	001121936	
VOLKSWAGEN AG	MAN SE	Chi-X Europe (CHIX)	Common Stock	VOLKSWAGEN AG	VW IX	766400	5496994			DE0007664005	001115308	D94523145
VOLKSWAGEN AG	MAN SE	LSE EuropeQS (XLON)	Common Stock	VOLKSWAGEN AG	VOW LI	766400	0308908 DE			DE0007664005	001115308	
VOLKSWAGEN AG	MAN SE	LSE EuropeQS (XLON)	Common Stock	VOLKSWAGEN AG	VOW LO	766400	0308908 DE			DE0007664005	001115308	
VOLKSWAGEN AG	MAN SE	EURO OTC (XLON)	Common Stock	VOLKSWAGEN AG	VOW XD	766400	0308908 GB			DE0007664005	001115308	
VOLKSWAGEN AG	MAN SE	EURO OTC (XLON)	Common Stock	VOLKSWAGEN AG	VOW XE	766400	0308908 GB			DE0007664005	001115308	
VOLKSWAGEN AG	MAN SE	EURO OTC (XLON)	Common Stock	VOLKSWAGEN AG	VOW XL	766400	0308908 GB			DE0007664005	001115308	
VOLKSWAGEN AG	MAN SE	EURO OTC (XLON)	Common Stock	VOLKSWAGEN AG	VOW XO	766400	0308908 GB			DE0007664005	001115308	
VOLKSWAGEN AG	MAN SE	EURO OTC (XLON)	Common Stock	VOLKSWAGEN AG	VOW XS	766400	0308908 GB			DE0007664005	001115308	
VOLKSWAGEN AG	MAN SE	EURO OTC (XLON)	Common Stock	VOLKSWAGEN AG	VOW XV	766400	0308908 GB			DE0007664005	001115308	
VOLKSWAGEN AG	MAN SE	SIX Swiss Ex (XSWX)	Common Stock	VOLKSWAGEN AG	VOW BW	766400	5496994 CH			DE0007664005	001115308	
VOLKSWAGEN AG	MAN SE	SIX Swiss Ex (XSWX)	Common Stock	VOLKSWAGEN AG	VOW SE	766400	5496994 CH			DE0007664005	001115308	
VOLKSWAGEN AG	MAN SE	SIX Swiss Ex (XSWX)	Common Stock	VOLKSWAGEN AG	VOW SW	766400	5496994 CH			DE0007664005	001115308	
VOLKSWAGEN AG	MAN SE	BATS Europe (BATE)	Common Stock	VOLKSWAGEN AG	VW EB	766400	5496994 CH		996800	DE0007664005	001115308	
VOLKSWAGEN AG	MAN SE	EN Amsterdam (XAMS)	Common Stock	VOLKSWAGEN AG	VWA NA	766400	5497016 NL			DE0007664005	001115308	
VOLKSWAGEN AG	MAN SE	Luxembourg (XLUX)	Common Stock	VOLKSWAGEN AG	VOW LX	766400	5497061 LU			DE0007664005	001115308	
VOLKSWAGEN AG	MAN SE	Equiduct (XEQT)	Common Stock	VOLKSWAGEN AG	VOW BQ	766400	5497102 DE			DE0007664005	001115308	
VOLKSWAGEN AG	MAN SE	BATS Europe (BATE)	Common Stock	VOLKSWAGEN AG	VOW EB	766400	5497102 DE			DE0007664005	001115308	
VOLKSWAGEN AG	MAN SE	Xetra (XETR)	Common Stock	VOLKSWAGEN AG	VOW GB	766400	5497102 DE			DE0007664005	001115308	
VOLKSWAGEN AG	MAN SE	Xetra (XETR)	Common Stock	VOLKSWAGEN AG	VOW GD	766400	5497102 DE			DE0007664005	001115308	
VOLKSWAGEN AG	MAN SE	Xetra (XETR)	Common Stock	VOLKSWAGEN AG	VOW GF	766400	5497102 DE			DE0007664005	001115308	
VOLKSWAGEN AG	MAN SE	Xetra (XETR)	Common Stock	VOLKSWAGEN AG	VOW GH	766400	5497102 DE			DE0007664005	001115308	
VOLKSWAGEN AG	MAN SE	Xetra (XETR)	Common Stock	VOLKSWAGEN AG	VOW GI	766400	5497102 DE			DE0007664005	001115308	
VOLKSWAGEN AG	MAN SE	Xetra (XETR)	Common Stock	VOLKSWAGEN AG	VOW GM	766400	5497102 DE			DE0007664005	001115308	
VOLKSWAGEN AG	MAN SE	Xetra (XETR)	Common Stock	VOLKSWAGEN AG	VOW GR	766400	5497102 DE			DE0007664005	001115308	
VOLKSWAGEN AG	MAN SE	Xetra (XETR)	Common Stock	VOLKSWAGEN AG	VOW GS	766400	5497102 DE			DE0007664005	001115308	
VOLKSWAGEN AG	MAN SE	Xetra (XETR)	Common Stock	VOLKSWAGEN AG	VOW GY	766400	5497102 DE			DE0007664005	001115308	
VOLKSWAGEN AG	MAN SE	Quotrix Exch (XQTX)	Common Stock	VOLKSWAGEN AG	VOW QT	766400	5497102 DE			DE0007664005	001115308	
VOLKSWAGEN AG	MAN SE	Tradegate (XGAT)	Common Stock	VOLKSWAGEN AG	VOW TH	766400	5497102 DE			DE0007664005	001115308	
VOLKSWAGEN AG	MAN SE	Turquoise (TRQX)	Common Stock	VOLKSWAGEN AG	VOW TQ	766400	5497102 DE			DE0007664005	001115308	
VOLKSWAGEN AG	MAN SE	Chi-X Europe (CHIX)	Common Stock	VOLKSWAGEN AG	VOWG IX	766400	5497102 DE			DE0007664005	001115308	
VOLKSWAGEN AG	MAN SE	Sigma X MTF (SGMX)	Common Stock	VOLKSWAGEN AG	VOW S1	766400	5497102DE		996800	DE0007664005	001115308	
VOLKSWAGEN AG	MAN SE	OTC US (OOTC)	Common Stock	VOLKSWAGEN AG	VLKAF PQ	766400	B01DRL7 US			DE0007664005	001115308	
VOLKSWAGEN AG	MAN SE	OTC US (OOTC)	Common Stock	VOLKSWAGEN AG	VLKAF US	766400	B01DRL7 US			DE0007664005	001115308	
VOLKSWAGEN AG	MAN SE	OTC US (OOTC)	Common Stock	VOLKSWAGEN AG	VLKAF UV	766400	B01DRL7 US			DE0007664005	001115308	
VOLKSWAGEN AG	MAN SE	EuroTLX (ETLX)	Common Stock	VOLKSWAGEN AG	VOW TE	766400	B7N7B69 IT			DE0007664005	001115308	
VOLKSWAGEN AG	MAN SE	Euro Comp (XLON)	Common Stock	VOLKSWAGEN AG	VOW EU	766400				DE0007664005	001115308	
VOLKSWAGEN AG	MAN SE	Euro OTC (XLON)	Common Stock	VOLKSWAGEN AG	VOW XB	766400				DE0007664005	001115308	
VOLKSWAGEN AG	MAN SE	Euro Comp (XLON)	Common Stock	VOLKSWAGEN AG	VOWCHF EU	766400				DE0007664005	001115308	
VOLKSWAGEN AG	MAN SE	Blockmatch (BLOX)	Common Stock	VOLKSWAGEN AG	VOWD B3	766400				DE0007664005		
VOLKSWAGEN AG	MAN SE	ITG Posit (XPOS)	Common Stock	VOLKSWAGEN AG	VOWD PO	766400				DE0007664005	001115308	D94523145
VOLKSWAGEN AG	MAN SE	Aquis Exchg (AQXE)	Common Stock	VOLKSWAGEN AG	VOWD QX	766400			996800	DE0007664005	001115308	
VOLKSWAGEN AG	MAN SE	UBS MTF (XUBS)	Common Stock	VOLKSWAGEN AG	VOWD S2	766400				DE0007664005		
VOLKSWAGEN AG	MAN SE	BATS Europe (BATE)	Preference	VOLKSWAGEN AG-PREF	VWV EB	766403	5497146			DE0007664039	001117432	D94523103
VOLKSWAGEN AG	MAN SE	Chi-X Europe (CHIX)	Preference	VOLKSWAGEN AG-PREF	VWV IX	766403	5497146			DE0007664039	001117432	D94523103
VOLKSWAGEN AG	MAN SE	LSE EuropeQS (XLON)	Preference	VOLKSWAGEN AG-PREF	50IT LI	766403	0309291 GB			DE0007664039	001117432	
VOLKSWAGEN AG	MAN SE	LSE EuropeQS (XLON)	Preference	VOLKSWAGEN AG-PREF	50IT LO	766403	0309291 GB			DE0007664039	001117432	
VOLKSWAGEN AG	MAN SE	EURO OTC (XLON)	Preference	VOLKSWAGEN AG-PREF	VOW3 XB	766403	0309291 GB			DE0007664039	001117432	
VOLKSWAGEN AG	MAN SE	EURO OTC (XLON)	Preference	VOLKSWAGEN AG-PREF	VOW3 XD	766403	0309291 GB			DE0007664039	001117432	
VOLKSWAGEN AG	MAN SE	EURO OTC (XLON)	Preference	VOLKSWAGEN AG-PREF	VOW3 XE	766403	0309291 GB			DE0007664039	001117432	
VOLKSWAGEN AG	MAN SE	EURO OTC (XLON)	Preference	VOLKSWAGEN AG-PREF	VOW3 XI	766403	0309291 GB			DE0007664039	001117432	
VOLKSWAGEN AG	MAN SE	EURO OTC (XLON)	Preference	VOLKSWAGEN AG-PREF	VOW3 XL	766403	0309291 GB			DE0007664039	001117432	
VOLKSWAGEN AG	MAN SE	EURO OTC (XLON)	Preference	VOLKSWAGEN AG-PREF	VOW3 XO	766403	0309291 GB			DE0007664039	001117432	
VOLKSWAGEN AG	MAN SE	EURO OTC (XLON)	Preference	VOLKSWAGEN AG-PREF	VOW3 XS	766403	0309291 GB			DE0007664039	001117432	
VOLKSWAGEN AG	MAN SE	EURO OTC (XLON)	Preference	VOLKSWAGEN AG-PREF	VOW3 XV	766403	0309291 GB			DE0007664039	001117432	
VOLKSWAGEN AG	MAN SE	SIX Swiss Ex (XSWX)	Preference	VOLKSWAGEN AG-PREF	VW/V BW	766403	5497146 CH			DE0007664039	001117432	
VOLKSWAGEN AG	MAN SE	SIX Swiss Ex (XSWX)	Preference	VOLKSWAGEN AG-PREF	VW/V SE	766403	5497146 CH			DE0007664039	001117432	
VOLKSWAGEN AG	MAN SE	SIX Swiss Ex (XSWX)	Preference	VOLKSWAGEN AG-PREF	VW/V SW	766403	5497146 CH			DE0007664039	001117432	
VOLKSWAGEN AG	MAN SE	Equiduct (XEQT)	Preference	VOLKSWAGEN AG-PREF	VOW3 BQ	766403	5497168 DE			DE0007664039	001117432	
VOLKSWAGEN AG	MAN SE	BATS Europe (BATE)	Preference	VOLKSWAGEN AG-PREF	VOW3 EB	766403	5497168 DE			DE0007664039	001117432	
VOLKSWAGEN AG	MAN SE	Xetra (XETR)	Preference	VOLKSWAGEN AG-PREF	VOW3 GB	766403	5497168 DE			DE0007664039	001117432	
VOLKSWAGEN AG	MAN SE	Xetra (XETR)	Preference	VOLKSWAGEN AG-PREF	VOW3 GD	766403	5497168 DE			DE0007664039	001117432	
VOLKSWAGEN AG	MAN SE	Xetra (XETR)	Preference	VOLKSWAGEN AG-PREF	VOW3 GF	766403	5497168 DE			DE0007664039	001117432	
VOLKSWAGEN AG	MAN SE	Xetra (XETR)	Preference	VOLKSWAGEN AG-PREF	VOW3 GH	766403	5497168 DE			DE0007664039	001117432	
VOLKSWAGEN AG	MAN SE	Xetra (XETR)	Preference	VOLKSWAGEN AG-PREF	VOW3 GI	766403	5497168 DE			DE0007664039	001117432	
VOLKSWAGEN AG	MAN SE	Xetra (XETR)	Preference	VOLKSWAGEN AG-PREF	VOW3 GM	766403	5497168 DE			DE0007664039	001117432	
VOLKSWAGEN AG	MAN SE	Xetra (XETR)	Preference	VOLKSWAGEN AG-PREF	VOW3 GR	766403	5497168 DE			DE0007664039	001117432	
VOLKSWAGEN AG	MAN SE	Xetra (XETR)	Preference	VOLKSWAGEN AG-PREF	VOW3 GS	766403	5497168 DE			DE0007664039	001117432	
VOLKSWAGEN AG	MAN SE	Xetra (XETR)	Preference	VOLKSWAGEN AG-PREF	VOW3 GY	766403	5497168 DE			DE0007664039	001117432	
VOLKSWAGEN AG	MAN SE	Chi-X Europe (CHIX)	Preference	VOLKSWAGEN AG-PREF	VOW3 IX	766403	5497168 DE			DE0007664039	001117432	
VOLKSWAGEN AG	MAN SE	Quotrix Exch (XQTX)	Preference	VOLKSWAGEN AG-PREF	VOW3 QT	766403	5497168 DE			DE0007664039	001117432	
VOLKSWAGEN AG	MAN SE	Aquis Exchg (AQXE)	Preference	VOLKSWAGEN AG-PREF	VOW3 QX	766403	5497168 DE			DE0007664039	001117432	
VOLKSWAGEN AG	MAN SE	Sigma X MTF (SGMX)	Preference	VOLKSWAGEN AG-PREF	VOW3 S1	766403	5497168 DE		909007	DE0007664039	001117432	
VOLKSWAGEN AG	MAN SE	Tradegate (XGAT)	Preference	VOLKSWAGEN AG-PREF	VOW3 TH	766403	5497168 DE			DE0007664039	001117432	
VOLKSWAGEN AG	MAN SE	Turquoise (TRQX)	Preference	VOLKSWAGEN AG-PREF	VOW3 TQ	766403	5497168 DE			DE0007664039	001117432	
VOLKSWAGEN AG	MAN SE	Luxembourg (XLUX)	Preference	VOLKSWAGEN AG-PREF	VOWP LX	766403	5497221 LU			DE0007664039	001117432	
VOLKSWAGEN AG	MAN SE	OTC US (OOTC)	Preference	VOLKSWAGEN AG-PREF	VLKPF PQ	766403	B1GXSC7 US			DE0007664039	001117432	
VOLKSWAGEN AG	MAN SE	OTC US (OOTC)	Preference	VOLKSWAGEN AG-PREF	VLKPF US	766403	B1GXSC7 US			DE0007664039	001117432	
VOLKSWAGEN AG	MAN SE	OTC US (OOTC)	Preference	VOLKSWAGEN AG-PREF	VLKPF UV	766403	B1GXSC7 US			DE0007664039	001117432	
VOLKSWAGEN AG	MAN SE	Brsaltaliana (MTAA)	Preference	VOLKSWAGEN AG-PREF	VOW3 IF	766403	BD3VRN2 IT			DE0007664039	001117432	
VOLKSWAGEN AG	MAN SE	Brsaltaliana (MTAA)	Preference	VOLKSWAGEN AG-PREF	VOW3 IM	766403	BD3VRN2 IT			DE0007664039	001117432	
VOLKSWAGEN AG	MAN SE	Mexico (XMEX)	Preference	VOLKSWAGEN AG-PREF	VOW3N MM	766403	BYQT730			DE0007664039	001117432	D94523103
VOLKSWAGEN AG	MAN SE	Euro Comp (XLON)	Preference	VOLKSWAGEN AG-PREF	VOW3 EU	766403				DE0007664039	001117432	
VOLKSWAGEN AG	MAN SE	Euro Comp (XLON)	Preference	VOLKSWAGEN AG-PREF	VOW3CHF EU	766403				DE0007664039	001117432	
VOLKSWAGEN AG	MAN SE	Blockmatch (BLOX)	Preference	VOLKSWAGEN AG-PREF	VOW3D B3	766403				DE0007664039		
VOLKSWAGEN AG	MAN SE	Liquidnet (LIQU)	Preference	VOLKSWAGEN AG-PREF	VOW3D L3	766403				DE0007664039		
VOLKSWAGEN AG	MAN SE	ITG Posit (XPOS)	Preference	VOLKSWAGEN AG-PREF	VOW3D PO	766403				DE0007664039	001117432	
VOLKSWAGEN AG	MAN SE	UBS MTF (XUBS)	Preference	VOLKSWAGEN AG-PREF	VOW3D S2	766403				DE0007664039		
VOLKSWAGEN AG	MAN SE	EURO OTC (XLON)	Preference	VOLKSWAGEN AG-PREF	VOW3USD XB	766403				DE0007664039	001117432	D94523103
VOLKSWAGEN AG	MAN SE	OTC US (OOTC)	ADR	VOLKSWAGEN AG-SPONS ADR	VLKAY PQ	879511	2930484 US	928662303		US9286623031	011526233	
VOLKSWAGEN AG	MAN SE	OTC US (OOTC)	ADR	VOLKSWAGEN AG-SPONS ADR	VLKAY US	879511	2930484 US	928662303		US9286623031	011526233	

VOLKSWAGEN AG	MAN SE	OTC US (OOTC)	ADR	VOLKSWAGEN AG-SPONS ADR	VLKAY UV	879511	2930484 US	928662303		US9286623031	011526233	
VOLKSWAGEN AG	MAN SE	Frankfurt (XFRA)	ADR	VOLKSWAGEN AG-SPONS ADR	VOW4 GB	879511	B62V8T7	928662303		US9286623031	011526233	
VOLKSWAGEN AG	MAN SE	Frankfurt (XFRA)	ADR	VOLKSWAGEN AG-SPONS ADR	VOW4 GM	879511	B62V8T7	928662303		US9286623031	011526233	
VOLKSWAGEN AG	MAN SE	Frankfurt (XFRA)	ADR	VOLKSWAGEN AG-SPONS ADR	VOW4 GF	879511	B62V8T7 DE	928662303		US9286623031	011526233	
VOLKSWAGEN AG	MAN SE	Frankfurt (XFRA)	ADR	VOLKSWAGEN AG-SPONS ADR	VOW4 GR	879511	B62V8T7 DE	928662303		US9286623031	011526233	
VOLKSWAGEN AG	MAN SE	Frankfurt (XFRA)	ADR	VOLKSWAGEN AG-SPONS ADR	VOW4 GY	879511	B62V8T7 DE	928662303		US9286623031	011526233	
VOLKSWAGEN AG	MAN SE	OTC US (OOTC)	ADR	VOLKSWAGEN AG-SPONS ADR PFD	VLKPY PQ	A0DPR2	2265960 US	928662402		US9286624021	042872202	
VOLKSWAGEN AG	MAN SE	OTC US (OOTC)	ADR	VOLKSWAGEN AG-SPONS ADR PFD	VLKPY US	A0DPR2	2265960 US	928662402		US9286624021	042872202	
VOLKSWAGEN AG	MAN SE	OTC US (OOTC)	ADR	VOLKSWAGEN AG-SPONS ADR PFD	VLKPY UV	A0DPR2	2265960 US	928662402		US9286624021	042872202	
VOLKSWAGEN AG	MAN SE	Frankfurt (XFRA)	ADR	VOLKSWAGEN AG-SPONS ADR PFD	VOW5 GB	A0DPR2	B603118 DE	928662402		US9286624021	042872202	
VOLKSWAGEN AG	MAN SE	Frankfurt (XFRA)	ADR	VOLKSWAGEN AG-SPONS ADR PFD	VOW5 GF	A0DPR2	B603118 DE	928662402		US9286624021	042872202	
VOLKSWAGEN AG	MAN SE	Frankfurt (XFRA)	ADR	VOLKSWAGEN AG-SPONS ADR PFD	VOW5 GR	A0DPR2	B603118 DE	928662402		US9286624021	042872202	
VOLKSWAGEN AG	MAN SE	Frankfurt (XFRA)	ADR	VOLKSWAGEN AG-SPONS ADR PFD	VOW5 GY	A0DPR2	B603118 DE	928662402		US9286624021	042872202	
MANAGEM	MANAGEM	Casablanca (XCAS)	Common Stock	MANAGEM	MNG MC	165414	6287454 MA			MA0000011058		
SOCIETE METALLURGIQUE D'IMITER	MANAGEM	Casablanca (XCAS)	Common Stock	SOCIETE METALLURGI D'IMITER	SMI MC	256307	6007759 MA			MA0000010068		
MANGALORE REFINERY & PETROCHEMICALS LIMITED	OIL & NATURAL GAS CORP	Mumbai (XBOM)	Common Stock	MANGALORE REFINERY & PETROCHEMICALS LIMITED	MRPL IB	A0NANW	6121530 IN			INE103A01014		
MANGALORE REFINERY & PETROCHEMICALS LIMITED	OIL & NATURAL GAS CORP	Mumbai (XBOM)	Common Stock	MANGALORE REFINERY & PETROCHEMICALS LIMITED	MRPL IN	A0NANW	6121530 IN			INE103A01014		
MANGALORE REFINERY & PETROCHEMICALS LIMITED	OIL & NATURAL GAS CORP	Mumbai (XBOM)	Common Stock	MANGALORE REFINERY & PETROCHEMICALS LIMITED	MRPL IS	A0NANW	6121530 IN			INE103A01014		
OIL & NATURAL GAS CORP LTD	OIL & NATURAL GAS CORP	Natl India (XNSE)	Common Stock	OIL & NATURAL GAS CORP LTD	ONGC IN	A1H6P4	6139362 IN			INE213A01029		
OIL & NATURAL GAS CORP LTD	OIL & NATURAL GAS CORP	Natl India (XNSE)	Common Stock	OIL & NATURAL GAS CORP LTD	ONGC IB	A1H6P4	6139362 IS			INE213A01029		
OIL & NATURAL GAS CORP LTD	OIL & NATURAL GAS CORP	Natl India (XNSE)	Common Stock	OIL & NATURAL GAS CORP LTD	ONGC IS	A1H6P4	6139362 IS			INE213A01029		
OIL & NATURAL GAS CORP LTD	OIL & NATURAL GAS CORP	Natl India (XNSE)	Sec Lending	OIL & NATURAL GAS CORP-SLB	ONGC/S IN							
OIL & NATURAL GAS CORP LTD	OIL & NATURAL GAS CORP	Natl India (XNSE)	Sec Lending	OIL & NATURAL GAS CORP-SLB	ONGC/S IS							
OIL INDIA LTD	OIL INDIA LTD	Natl India (XNSE)	Common Stock	OIL INDIA LTD	OINL IB	A0X9PF	B409HQ9 IN			INE274J01014		
OIL INDIA LTD	OIL INDIA LTD	Natl India (XNSE)	Common Stock	OIL INDIA LTD	OINL IN	A0X9PF	B409HQ9 IN			INE274J01014		
OIL INDIA LTD	OIL INDIA LTD	Natl India (XNSE)	Common Stock	OIL INDIA LTD	OINL IS	A0X9PF	B409HQ9 IN			INE274J01014		
ORCA GOLD INC	ORCA GOLD INC	Venture (XTSX)	Common Stock	ORCA GOLD INC	ORG DS	A1T8LS	B84J7Q3	68558N102		CA68558N1024	091768224	
ORCA GOLD INC	ORCA GOLD INC	Venture (XTSX)	Common Stock	ORCA GOLD INC	ORG CN	A1T8LS	B84J7Q3 CA	68558N102		CA68558N1024	091768224	
ORCA GOLD INC	ORCA GOLD INC	Venture (XTSX)	Common Stock	ORCA GOLD INC	ORG CV	A1T8LS	B84J7Q3 CA	68558N102		CA68558N1024	091768224	
ORCA GOLD INC	ORCA GOLD INC	Venture (XTSX)	Common Stock	ORCA GOLD INC	ORG QF	A1T8LS	B84J7Q3 CA	68558N102		CA68558N1024	091768224	
ORCA GOLD INC	ORCA GOLD INC	Venture (XTSX)	Common Stock	ORCA GOLD INC	ORG QH	A1T8LS	B84J7Q3 CA	68558N102		CA68558N1024	091768224	
ORCA GOLD INC	ORCA GOLD INC	Venture (XTSX)	Common Stock	ORCA GOLD INC	ORG TG	A1T8LS	B84J7Q3 CA	68558N102		CA68558N1024	091768224	
ORCA GOLD INC	ORCA GOLD INC	Venture (XTSX)	Common Stock	ORCA GOLD INC	ORG TV	A1T8LS	B84J7Q3 CA	68558N102		CA68558N1024	091768224	
ORCA GOLD INC	ORCA GOLD INC	OTC US (OOTC)	Common Stock	ORCA GOLD INC	CANWF PQ	A1T8LS	B8JYMF7 US	68558N104		CA68558N1024	091768224	
ORCA GOLD INC	ORCA GOLD INC	OTC US (OOTC)	Common Stock	ORCA GOLD INC	CANWF US	A1T8LS	B8JYMF7 US	68558N103		CA68558N1024	091768225	
ORCA GOLD INC	ORCA GOLD INC	OTC US (OOTC)	Common Stock	ORCA GOLD INC	CANWF UV	A1T8LS	B8JYMF7 US	68558N102		CA68558N1024	091768224	
ORCA GOLD INC	ORCA GOLD INC	Frankfurt (XFRA)	Common Stock	ORCA GOLD INC	HJ6A GB	A1T8LS	B9L55S9 DE	68558N102		CA68558N1024	091768224	
ORCA GOLD INC	ORCA GOLD INC	Frankfurt (XFRA)	Common Stock	ORCA GOLD INC	HJ6A GF	A1T8LS	B9L55S9 DE	68558N102		CA68558N1024	091768224	
ORCA GOLD INC	ORCA GOLD INC	Frankfurt (XFRA)	Common Stock	ORCA GOLD INC	HJ6A GR	A1T8LS	B9L55S9 DE	68558N102		CA68558N1024	091768224	
ORCA GOLD INC	ORCA GOLD INC	Frankfurt (XFRA)	Common Stock	ORCA GOLD INC	HJ6A GS	A1T8LS	B9L55S9 DE	68558N102		CA68558N1024	091768224	
ENGEN BOTSWANA LTD	PETROLIAM NASIONAL BERHAD aka PETRONAS	Gaborone (XBOT)	Common Stock	ENGEN	ENGN BG	546632	B063G04			BW0000000058		
KLCCP STAPLED GROUP	PETROLIAM NASIONAL BERHAD aka PETRONAS	Bursa Malaysia (XKLS)	Common Stock	KLCC PROPERTY HOLDINGS BHD	KLCCSS MK	A1T91X	B92NSW7 MY			MYL5235SS008		
MALAYSIA INTERNATIONAL SHIPPING COMPANY aka MISC BHD	PETROLIAM NASIONAL BERHAD aka PETRONAS	Bursa Malaysia (XKLS)	Common Stock	MISC BHD	MISC MK	880504	6557997 MY		905279	MYL3816OO005	003527883	
MALAYSIA MARINE AND HEAVY ENGINEERING HOLDINGS BHD	PETROLIAM NASIONAL BERHAD aka PETRONAS	Bursa Malaysia (XKLS)	Common Stock	MALAYSIA MARINE AND HEAVY EN	MMHE MK	A1C7U6	B3W5NN7			MYL5186OO001	055049394	
PETRONAS CHEMICALS GROUP BHD	PETROLIAM NASIONAL BERHAD aka PETRONAS	Bursa Malaysia (XKLS)	Common Stock	PETRONAS CHEMICALS GROUP BHD	PCHEM MK	A1C891	B5KQGT3 MY			MYL5183OO008	055800235	
PETRONAS DAGANGAN BHD	PETROLIAM NASIONAL BERHAD aka PETRONAS	Bursa Malaysia (XKLS)	Common Stock	PETRONAS DAGANGAN BHD	PETD MK	895131	6695938 MY			MYL5681OO001	005378044	
PETRONAS GAS BHD	PETROLIAM NASIONAL BERHAD aka PETRONAS	Bursa Malaysia (XKLS)	Common Stock	PETRONAS GAS BHD	PTG MK	896633	6703972 MY			MYL6033OO004	007076959	
POWER CONSTRUCTION CORP OF-A	POWER CONSTRUCTION CORPORATION OF CHINA (POWERCHINA)	Shanghai (XSHG)	Common Stock	POWER CONSTRUCTION CORP OF-A	601669 CG	A1JNL6	B4TH690 CN			CNE1000017G1		
POWER CONSTRUCTION CORP OF-A	POWER CONSTRUCTION CORPORATION OF CHINA (POWERCHINA)	Shanghai (XSHG)	Common Stock	POWER CONSTRUCTION CORP OF-A	601669 CH	A1JNL6	B4TH690 CN			CNE1000017G1		
POWER CONSTRUCTION CORP OF-A	POWER CONSTRUCTION CORPORATION OF CHINA (POWERCHINA)	Nth SSE-SEHK (XSSC)	Common Stock	POWER CONSTRUCTION CORP OF-A	601669 C1	A1JNL6	BP3R4M2 CN			CNE1000017G1		
SHANGHAI ELECTRIC GROUP CO LTD	SHANGHAI ELECTRIC GROUP CO LTD	Euro Comp (XLON)	Common Stock	SHANGHAI ELECTRIC GRP CO L-H	2727EUR EU	A0M4YX	#N/A N/A			CNE100000437	021854387	Y76824104
SHANGHAI ELECTRIC GROUP CO LTD	SHANGHAI ELECTRIC GROUP CO LTD	Hong Kong (XHKG)	Common Stock	SHANGHAI ELECTRIC GRP CO L-H	2727 HK	A0M4YX	B07J656 HK			CNE100000437	021854387	
SHANGHAI ELECTRIC GROUP CO LTD	SHANGHAI ELECTRIC GROUP CO LTD	Quotrix Exch (XQTX)	Common Stock	SHANGHAI ELECTRIC GRP CO L-H	USR QT	A0M4YX	B07ZG10			CNE100000437	021854387	Y76824104
SHANGHAI ELECTRIC GROUP CO LTD	SHANGHAI ELECTRIC GROUP CO LTD	Frankfurt (XFRA)	Common Stock	SHANGHAI ELECTRIC GRP CO L-H	USR GB	A0M4YX	B07ZG10 DE			CNE100000437	021854387	
SHANGHAI ELECTRIC GROUP CO LTD	SHANGHAI ELECTRIC GROUP CO LTD	Frankfurt (XFRA)	Common Stock	SHANGHAI ELECTRIC GRP CO L-H	USR GF	A0M4YX	B07ZG10 DE			CNE100000437	021854387	
SHANGHAI ELECTRIC GROUP CO LTD	SHANGHAI ELECTRIC GROUP CO LTD	Frankfurt (XFRA)	Common Stock	SHANGHAI ELECTRIC GRP CO L-H	USR GM	A0M4YX	B07ZG10 DE			CNE100000437	021854387	
SHANGHAI ELECTRIC GROUP CO LTD	SHANGHAI ELECTRIC GROUP CO LTD	Frankfurt (XFRA)	Common Stock	SHANGHAI ELECTRIC GRP CO L-H	USR GR	A0M4YX	B07ZG10 DE			CNE100000437	021854387	
SHANGHAI ELECTRIC GROUP CO LTD	SHANGHAI ELECTRIC GROUP CO LTD	Frankfurt (XFRA)	Common Stock	SHANGHAI ELECTRIC GRP CO L-H	USR GS	A0M4YX	B07ZG10 DE			CNE100000437	021854387	
SHANGHAI ELECTRIC GROUP CO LTD	SHANGHAI ELECTRIC GROUP CO LTD	Sth SSE-SEHK (SHSC)	Common Stock	SHANGHAI ELECTRIC GRP CO L-H	2727 H1	A0M4YX	BP3RX69 HK			CNE100000437	021854387	
SHANGHAI ELECTRIC GROUP CO LTD	SHANGHAI ELECTRIC GROUP CO LTD	Shanghai (XSHG)	Common Stock	SHANGHAI ELECTRIC GRP CO L-H	601727 CG	A0YAVL	B3FJ9X8 CN			CNE100000D55		
SHANGHAI ELECTRIC GROUP CO LTD	SHANGHAI ELECTRIC GROUP CO LTD	Shanghai (XSHG)	Common Stock	SHANGHAI ELECTRIC GRP CO L-H	601727 CH	A0YAVL	B3FJ9X8 CN			CNE100000D55		
SHANGHAI ELECTRIC GROUP CO LTD	SHANGHAI ELECTRIC GROUP CO LTD	Nth SSE-SEHK (XSSC)	Common Stock	SHANGHAI ELECTRIC GRP CO L-H	601727 C1	A0YAVL	BP3R3T2 CN			CNE100000D55		
SHANGHAI ELECTRIC GROUP CO LTD	SHANGHAI ELECTRIC GROUP CO LTD	OTC US (OOTC)	ADR	SHANGHAI ELECTRIC-UNSP ADR	SIELY PQ	A1H9PU	B3L2823 US	81943J108		US81943J1088		
SHANGHAI ELECTRIC GROUP CO LTD	SHANGHAI ELECTRIC GROUP CO LTD	OTC US (OOTC)	ADR	SHANGHAI ELECTRIC-UNSP ADR	SIELY US	A1H9PU	B3L2823 US	81943J108		US81943J1088		
SHANGHAI ELECTRIC GROUP CO LTD	SHANGHAI ELECTRIC GROUP CO LTD	OTC US (OOTC)	ADR	SHANGHAI ELECTRIC-UNSP ADR	SIELY UV	A1H9PU	B3L2823 US	81943J108		US81943J1088		
SHANGHAI ELECTRIC GROUP CO LTD	SHANGHAI ELECTRIC GROUP CO LTD	Tradegate (XGAT)	Common Stock	SHANGHAI ELECTRIC GRP CO L-H	USR TH	A0M4YX	B07ZG10 DE				021854387	
SHANGHAI MECHANICAL AND ELECTRICAL INDUSTRY CO LTD	SHANGHAI ELECTRIC GROUP CO LTD	Shanghai (XSHG)	Common Stock	SHANGHAI MECHANICAL AND EL-A	600835 CG	A0M654	6785851 CN			CNE000000B91		
SHANGHAI MECHANICAL AND ELECTRICAL INDUSTRY CO LTD	SHANGHAI ELECTRIC GROUP CO LTD	Shanghai (XSHG)	Common Stock	SHANGHAI MECHANICAL AND EL-A	600835 CH	A0M654	6785851 CN			CNE000000B91		
SHANGHAI MECHANICAL AND ELECTRICAL INDUSTRY CO LTD	SHANGHAI ELECTRIC GROUP CO LTD	Nth SSE-SEHK (XSSC)	Common Stock	SHANGHAI MECHANICAL AND EL-A	600835 C1	A0M654	BP3R7Q7 CN			CNE000000B91		
SHANGHAI MECHANICAL AND ELECTRICAL INDUSTRY CO LTD	SHANGHAI ELECTRIC GROUP CO LTD	Shanghai (XSHG)	Common Stock	SHANGHAI MECHANICAL AND EL-B	900925 CG	A0M3UQ	6797436 CN		916599	CNE000000G39	032099050	
SHANGHAI MECHANICAL AND ELECTRICAL INDUSTRY CO LTD	SHANGHAI ELECTRIC GROUP CO LTD	Shanghai (XSHG)	Common Stock	SHANGHAI MECHANICAL AND EL-B	900925 CH	A0M3UQ	6797436 CN		916599	CNE000000G39	032099050	

ATTACHMENT D

Letter to SBI International and Domestic Equity Managers

September 29, 2016

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 <u>may not be purchased</u> for the SBI portfolio that your organization manages.** If you own securities of companies on the Restricted List **<u>and</u>** the companies are **<u>not</u>** 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 Iran Companies that was attached to the June 24, 2016 letter you received. **This new list is effective September 30, 2016.**

Changes to **Attachment 1**:

The following company was **<u>added</u>** to the Restricted List:

- **Eni Spa** **Italy**

Attachment 2 is the List of Iran Companies Requiring Divestment. If you own securities of companies on this list then you must **<u>divest</u>** 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**:

The following company was **added** to the Divestment List:

- **Linde AG** **Germany**

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. Please note that 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,

Mansco Perry III
Executive Director and Chief Investment Officer

Enclosures

cc: Michael J. Menssen, Director, Debt Management
Patricia Ammann, Investment Officer, Private Markets
Tammy Brusehaver, Investment Officer, Public Equity
Inma Conde Goldman, Investment Officer, Public Equity
Stephanie Gleeson, Investment Officer, Public Equity

ATTACHMENT 1
RESTRICTED IRAN COMPANIES
SECURITIES OF COMPANIES MAY NOT BE PURCHASED FOR PORTFOLIO

COMPANY NAME	**COUNTRY**
Bharat Petroleum Corporation Ltd.	India
China Petroleum & Chemical Corp	China
Daelim Industrial	South Korea
Eni Spa	Italy
Gail (India) Ltd.	India
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
Lukoil Oil Co.	Russia
Maire Tecnimont S.p.A	Italy
Mitsui & Co. Ltd	Japan
Oil & Natural Gas Corporation Ltd.	India
PetroChina Co. Ltd.	China
Toyo Engineering Corporation	Japan
Toyota Tsusho Corporation	Japan

Effective Date: September 30, 2016

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
GS Engineering & Construction Corp	South Korea	June 30, 2016	December 31, 2016
Daelim Industrial	South Korea	December 31, 2016	June 30, 2017
Linde AG	Germany	March 31, 2017	September 30, 2017

Effective Date: September 30, 2016

COMPLETED/HISTORICAL DIVESTMENTS

Company Name	Country of Origin	Divest 50 Percent By this Date	Divest 100 Percent By this Date
Lukoil Oil Co.	Russia	March 31, 2016	September 30, 2016
Gazprom OAO	Russia	December 31, 2015	June 30, 2016
Mitsui & Company, Ltd.	Japan	September 30, 2012	March 31, 2013
Toyota Tsusho	Japan	September 30, 2012	March 31, 2013

ATTACHMENT 3
IRAN RESTRICTED COMPANIES
Security Identifiers

ISIN	Company	SYMBOL	CUSIP	COUNTRY
INE029A01011	Bharat Petroleum Corporation Ltd.	500547		India
ARDEUT114071	China Petroleum & Chemical Corp	386	16941R108	China
CNE0000018G1	China Petroleum & Chemical Corp	386	16941R108	China
CNE1000002Q2	China Petroleum & Chemical Corp	386	16941R108	China
US16941R1086	China Petroleum & Chemical Corp	386	16941R108	China
KR7000210005	Daelim Industrial	210		Korea South
KR7000211003	Daelim Industrial	210		Korea South
IT0003132476	Eni Spa	ENI	26874R108	Italy
ARDEUT112612	Eni Spa	ENI	26874R108	Italy
US26874R1086	Eni Spa	ENI	26874R108	Italy
INE129A01019	Gail (India) Ltd.	532155	36268T206	India
US36268T2069	Gail (India) Ltd.	532155	36268T206	India
US36268T1079	Gail (India) Ltd.	532155	36268T206	India
US3682871088	Gazprom OAO	GAZP	368287207	Russia
US3682872078	Gazprom OAO	GAZP	368287207	Russia
RU0007661625	Gazprom OAO	GAZP	368287207	Russia
ARDEUT114261	Gazprom OAO	GAZP	368287207	Russia
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	A001120		Korea South
DE0006483001	Linde AG	LIN	535223200	Germany
US5352232004	Linde AG	LIN	535223200	Germany
RU0009024277	Lukoil Oil Co.	LKOH	69343P105	Russia
US5498741058	Lukoil Oil Co.	LKOH	69343P105	Russia
ARDEUT114253	Lukoil Oil Co.	LKOH	69343P105	Russia
US69343P1057	Lukoil Oil Co.	LKOH	69343P105	Russia
US69343P2048	Lukoil Oil Co.	LKOH	69343P105	Russia
US56064T1016	Maire Tecnimont S.p.A.	MT	56064T101	Italy
IT0004931058	Maire Tecnimont S.p.A.	MT	56064T101	Italy
JP3893600001	Mitsui & Co. Ltd	8031	606827202	Japan
US6068272029	Mitsui & Co. Ltd	8031	606827202	Japan
INE213A01029	Oil & Natural Gas Corporation Ltd.	500312		India
ARDEUT113958	PetroChina Co. Ltd.	857	71646E100	China
US71646E1001	PetroChina Co. Ltd.	857	71646E100	China
CNE1000007Q1	PetroChina Co. Ltd.	857	71646E100	China
CNE1000003W8	PetroChina Co. Ltd.	857	71646E100	China
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: September 30, 2016

Letter to SBI Fixed Income Managers

September 29, 2016

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 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 makes changes to the List of Restricted Iran Companies that was attached to the June 24, 2016 letter you received. **This new list is effective September 30, 2016.**

Changes to **Attachment 1**:

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

- **Eni Spa** **Italy**

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.

Changes to **Attachment 2**:

The following company has been **<u>added</u>** to the Divestment List:

- **Linde AG** **Germany**

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

Sincerely,

Mansco Perry III
Executive Director and Chief Investment 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 Officer, Private Markets

ATTACHMENT 1
RESTRICTED IRAN COMPANIES
SECURITIES OF COMPANIES MAY NOT BE PURCHASED FOR PORTFOLIO

COMPANY NAME	**COUNTRY**
Bharat Petroleum Corporation Ltd.	India
China Petroleum & Chemical Corp	China
Daelim Industrial	South Korea
Eni Spa	Italy
Gail (India) Ltd.	India
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
Lukoil Oil Co.	Russia
Maire Tecnimont S.p.A	Italy
Mitsui & Co. Ltd	Japan
Oil & Natural Gas Corporation Ltd.	India
PetroChina Co. Ltd.	China
Toyo Engineering Corporation	Japan
Toyota Tsusho Corporation	Japan

Effective Date: September 30, 2016

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
GS Engineering & Construction Corp	South Korea	June 30, 2016	December 31, 2016
Daelim Industrial	South Korea	December 31, 2016	June 30, 2017
Linde AG	Germany	March 31, 2017	September 30, 2017

Effective Date: September 30, 2016

COMPLETED/HISTORICAL DIVESTMENTS

Company Name	Country of Origin	Divest 50 Percent By this Date	Divest 100 Percent By this Date
Lukoil Oil Co.	Russia	March 31, 2016	September 30, 2016
Gazprom OAO	Russia	December 31, 2015	June 30, 2016
Mitsui & Company, Ltd.	Japan	September 30, 2012	March 31, 2013
Toyota Tsusho	Japan	September 30, 2012	March 31, 2013

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DATE: November 8, 2016

TO: Members, Investment Advisory Council

FROM: Mansco Perry III

SUBJECT: Asset Allocation Transition Update

At the June 2016 SBI meeting, the Board approved a new Asset Allocation Policy for the Combined Funds. Additionally, the Executive Director indicated his intention to increase the proportion of the Public Equity program that is passively managed. Following are three charts which indicate how the transitions are progressing.

Transition to new Asset Allocation Policy

The first chart reflects how the asset allocation is moving towards the new target. The focal point for the SBI is the Adjusted Policy Target which is the basis for the Combined Funds Composite Index and reflects that the uninvested Private Markets allocation will be invested in Public Equities. During the transition period, it will be reflective of the actual beginning of the month asset allocation. The expectation is the allocation to bonds continuously moves towards the 20% target level, at which point, the transition will be concluded. Then, the only allocations to float in the composite index will be Public Equities and Private Markets. Looking at the first chart, you can see that the allocation to bonds has declined from 24.7% to 22.8% thus far in Fiscal Year 2017. The objective is to reach the target by fiscal year end.

Public Equity Transition

The second chart tracks the change in the components of the allocation target for Public Equities. The target has changed from a 75% U.S./25% Non-U.S. split to a 67% U.S./33% Non-U.S. split. The objective is to transition Public Equities to reflect the 67%/33% split by the end of the fiscal year. At the beginning of Fiscal Year 2017, the split was 76.7%/23.3%. As of November 1, 2016, we have a 73.6%/26.4% split. At this time, staff anticipates adding several new Emerging Markets managers to our roster. If the Board approves our recommendation, we anticipate that new managers will be funded in January 2017. At that time, additional assets will be transitioned to further increase our Non-U.S. public equity allocation. Additional transfers to our Non-U.S. public equity allocation will occur due to market movements, portfolio rebalancing, and manager changes in Public Equities.

Increased Passive Management in Public Equities

The process of increasing passive management in Public Equities began in October 2016. As the final chart illustrates, we have crossed the 50% passive management threshold for Public Equities. While there is no pre-specified target for the amount of passive management, we anticipate an increase above the current levels.

Staff will continue to update the SBI and the IAC on the status of these transitions throughout the fiscal year.

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Minnesota State Board of Investment

Combined Funds Asset Allocation Transition

	Previous Target	Current Target	1-Jul-16	1-Oct-16	1-Nov-16	Adjusted Policy Target if full Transitioned Nov-1
Public Equity	60.0%	58.0%	60.4%	61.7%	61.8%	64.9%
Bonds	18.0%	20.0%	24.7%	24.2%	22.8%	20.0%
Private Markets	20.0%	20.0%	12.8%	12.9%	13.1%	13.1%
Cash	2.0%	2.0%	2.1%	1.2%	2.3%	2.0%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Domestic and International Transition

	Previous Target	Current Target	1-Jul-16	1-Oct-16	1-Nov-16
Domestic	75.0%	67.0%	76.7%	76.5%	73.6%
International	25.0%	33.0%	23.3%	23.5%	26.4%
Total	100.0%	100.0%	100.0%	100.0%	100.0%

Minnesota State Board of Investment

Active and Passive Allocation Transition

Public Equity

	1-Jul-16
Active	64.5%
Passive	35.5%

	1-Nov-16
Active	47.7%
Passive	52.3%

Domestic Equity

	1-Jul-16
Active	66.7%
Passive	33.3%

	1-Nov-16
Active	46.3%
Passive	53.7%

International Equity

	1-Jul-16
Active	57.3%
Passive	42.7%

	1-Nov-16
Active	51.4%
Passive	48.6%

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DATE: November 8, 2016

TO: Members, Investment Advisory Council

FROM: SBI Staff

SUBJECT Review of fixed income manager, Aberdeen Asset Management

Summary

The SBI hired Aberdeen Asset Management (originally Deutsche Asset Management) to manage a fixed income mandate in February 2000. As of October 31, 2016, the SBI portfolio with Aberdeen was $940 million.

Aberdeen has provided consistent value added performance relative to its benchmark for the SBI since inception. However, since December 2015, Aberdeen's fixed income platform has experienced several organizational events which have caused the SBI Staff to recommend that the SBI discontinue its relationship with Aberdeen for fixed income management. During this time period, a portfolio manager filed a lawsuit against the firm citing discrimination and retaliation because he was denied a promotion to Head the North American fixed income platform. The lawsuit was subsequently settled. During 2016, Aberdeen experienced significant turnover within its fixed income platform. Lastly, in October 2016, Aberdeen informed the SBI that they had entered into an agreement to sell its U.S. Core and Core Plus Strategies. As a result, the SBI Executive Director informed Aberdeen that they were being defunded and froze their account in November 2016. The assets are in the process of being transitioned in accordance with the changes in the SBI asset allocation. Staff recommends that the Aberdeen fixed income relationship be terminated.

Organization Assets

As of Q2 2016, Aberdeen had $94.3B fixed income Assets Under Management, of which $9.9B is North American Fixed Income. North American Fixed Income includes $2.1B Core Bond, $471MM Core Plus, $1.6B Total Return Bond/TRB Plus, and $81MM High Yield. The SBI invests in Core Bond, which is a bottom-up duration neutral strategy benchmarked vs. the Bloomberg Barclays U.S. Aggregate Index. Since 2012, Aberdeen's U.S. Core Fixed Income strategy has lost nine net accounts and experienced a 40% reduction in AUM.

U.S. Core Fixed Income	**2012**	**2013**	**2014**	**2015**	**YTD 2016**
Asset Under Mgmt. ($mm, end of year)	$3,722	$2,894	$2,531	$2,387	$2,120
Net Flows (G/L, $mm)	($443)	($627)	($380)	($83)	($381)

Organizational Issues

In December 2015, Neil Moriarty, Core Fixed Income PM, filed a lawsuit against Aberdeen Asset Management, citing age discrimination/retaliation because he was denied a promotion to Head of North American Fixed Income. The lawsuit was settled in March 2016 via mutual agreement. In June 2016, Aberdeen replaced Don Quigley with Lynn Chen in Total Return Bond, and Greg Hopper with Steve Logan in U.S. High Yield. The SBI does not have significant exposure to Aberdeen's High Yield or Total Return products.

In June 2016, four research analysts that supported U.S. Core Fixed Income strategy left Aberdeen. They were Jon Prestley, Jamie Chiarieri, Geoff Roth and Jee-Hyea Choi. Fifteen fundamental and technical analysts remained on the Core Fixed Income team.

In August 2016, Neal Rayner, Head of Fixed Income Trading U.S., was asked to leave the company, per Aaron's on-site visit with Charles Tan and Kieran McGlynn. His day to day focus was high yield trading which was underperforming its benchmark, although as head of trading, he did have management oversight of the five remaining members of the North American Fixed Income trading team.

Most recently in October 2016, Aberdeen informed the SBI that following a strategic review of their U.S. fixed income business, they had entered into an agreement to sell their U.S. Core and Core Plus strategies to TriState Capital Holdings, Inc. to add to its Chartwell Investment Partners business. TriState Capital is a bank holding company based in Pittsburgh, PA. Its Chartwell Investment partners subsidiary held $10.6 billion in AUM as of 3Q 2016, ($6.2 billion equity and $2.5 billion fixed income) and serves as the advisor to the Berwyn Funds and Chartwell Mutual Funds. Six members of the U.S. Fixed Income team are expected to leave Aberdeen to join Chartwell: Neil Moriarty, Stephen Cianci, Michael Degernes, Oliver Chambers, Stefan Martin and Stephen Frech.

Performance

We note that Aberdeen's performance has been adequate over relevant time periods, versus their benchmark.

Returns for Periods Ending 9/30/16	Last Quarter	Year to Date	Last Year	Last 3 Years	Last 5 Years	Last 10 Years	Inception Date	Since Inception
Aberdeen Asset Management	1.02	6.65	6.01	4.75	4.33	4.63	1/1/1990	6.82
Barclays Aggregate	0.46	5.80	5.19	4.03	3.08	4.79	1/1/1990	6.30
Difference	0.56	0.85	0.82	0.72	1.25	-0.16		0.52

RECOMMENDATION:

Due to staff departures, organizational instability and the sale of Aberdeen's Core fixed income business to a third party, Staff recommends that the SBI terminate the relationship with Aberdeen Asset Management Inc.

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DATE: November 8, 2016

TO: Members, Investment Advisory Council

FROM: SBI Staff

SUBJECT: Review of emerging markets manager, Capital International, Inc.

Summary

The SBI hired Capital International, Inc. ("Capital") in February 2001 to manage an active emerging markets mandate. As of September 30, 2016, the SBI's portfolio with Capital was $668 million. While the strategy continues to be managed by a well-resourced and experienced team, Capital has experienced persistent underperformance and asset losses in the product, as well turnover within the investment team. As a result of these issues, the Executive Director informed Capital that they were being defunded and froze their account in October 2016. Currently, the assets are being managed passively by State Street's transition management unit. A final destination for the assets will be determined following the December 2016 SBI meeting. Staff recommends that the Capital emerging markets relationship be terminated. Following are more details regarding issues with Capital.

Organization Assets

The total assets in the strategy have significantly decreased in past years. The product had net losses every year since 2012.

	Assets Gained* (millions)	Assets Lost* (millions)	**Total Assets (millions)**
YTD 2016 (9/30/16)	$0	$1,136	**$5,766**
2015	$348	$989	**$6,485**
2014	$921	$3,021	**$10,256**
2013	$826	$2,064	**$15,425**
2012	$209	$2,018	**$19,586**

**Assets gained and lost represent U.S. institutional EME accounts*

Team Turnover

The strategy has recently experienced significant personnel turnover. Two significant recent changes were the transition out of the account of senior portfolio managers David Fisher and Luis Freitas de Oliveira in June 2016.

Performance

As of September 2016, the portfolio has underperformed its benchmark for all time periods shown.

	One year	Two years	Three years	Four years	Five years	Ten years	Since inception (February 2001)
Capital International, Inc.	15.4	-4.5	-2.7	-1.3	1.0	3.4	8.2
MSCI Emerging Markets	16.8	-2.9	-0.6	-0.2	3.0	4.0	9.1
Active Performance	**-1.4**	**-1.6**	**-2.1**	**-1.1**	**-2.0**	**-0.6**	**-0.9**

Also, the portfolio underperformed the benchmark in five of the past six calendar years.

	2015	2014	2013	2012	2011	2010
Capital International, Inc.	-16.4	-5.9	0.7	13.8	-22.8	16.1
MSCI Emerging Markets	-14.9	-2.2	-2.6	18.2	-18.4	18.9
Active Performance	**-1.5**	**-3.8**	**3.3**	**-4.4**	**-4.3**	**-2.7**

RECOMMENDATION:

Due to continued underperformance, asset loss, and team turnover, Staff recommends that the SBI terminate the relationship with Capital International, Inc.

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DATE: November 8, 2016

TO: Members, Investment Advisory Council

FROM: Mansco Perry III

SUBJECT: Proposed Private Markets Legislation

Each quarter, the Private Markets team considers numerous investment opportunities for the State Board of Investment. Most of this deal flow represents the traditional limited partnership fund structures which have become the staple of the industry over the past three plus decades. Over the past decade, large institutional investors have negotiated new investment arrangements with more favorable economic terms. In most cases, these situations represent similar investment opportunities but with the advantage of lower fees than are paid in the traditional fund structures. The fee saving opportunities also utilize investment vehicles which limit the SBI's liability similar to traditional fund structures. The difference is these new structures can be customized by the general partner for larger limited partners such as the SBI. Typically, these opportunities are placed in a separate account and may include co-investment opportunities.

The SBI staff recommends that the Board adopt proposed legislation which permits investments in separate accounts and co-investment opportunities and exempts these investments from certain restrictions. These investments can benefit the portfolio in the following ways:

(i) Provide access to the same type of underlying investments as a commingled vehicle, but at lower cost;
(ii) Generate attractive risk-adjusted returns through investments that cannot easily be made via a commingled vehicle; and
(iii) Allow for the SBI to impose investment restrictions and/or guidelines that protect the interests of the plan, or allow for the SBI to construct a unique portfolio specific to the SBI's needs.

For instance, the SBI can obtain a lower blended cost when a General Partner may be unwilling to grant significant fee concessions on a commitment to a main commingled fund, but may instead be willing to manage a separate pool of capital for the SBI alongside a commitment to the main fund on a lower-fee or no-fee basis, and without carried interest. In this hypothetical example, by committing $70 million to the main fund and $30 million to the separate pool, rather than $100 million to the fund, the SBI would substantially lower both the management fees charged on the total amount of capital, as well as the carried interest shared with the General Partner. Depending on the structure of the separate pool, the SBI may be the only limited partner in the fund or may participate in a co-investment opportunity with one or more additional limited partners.

If these investment opportunities are prudent and provide economic benefits that would accrue to plan participants, it is within the Executive Director's fiduciary duty to consider them. Currently, however, Minn. Stat. § 11A.24, subd. 6(b) forecloses the ability to participate in separate accounts and most co-investment opportunities because the SBI would hold up to a 100% interest in the investment vehicle and the vehicle may not have four other participants. To address this issue, the proposed amendment exempts these investments from the requirements that the SBI's participation in the investment vehicle be limited to 20% and that the investment have four unrelated owners. Importantly, the amendment preserves the requirement that the SBI participate in investment vehicles that have limited liability, which would limit the SBI's co-investment opportunities to indirect ownership through appropriate investment vehicles. Finally, any investments in separate accounts or co-investment opportunities would count against the 35% portfolio limitation for alternative investments.

The SBI staff recommends that the Board adopt the attached proposed amendment to 11A.24, subd. 6(a) and (b), which would permit investments in separate accounts and co-investment opportunities, and exempt these investments from restrictions which currently prohibit separate accounts.

RECOMMENDATION:

SBI Staff is requesting that the IAC concur with Staff's recommendation to pursue proposed legislation permitting Private Market investments in separate accounts and co-investment opportunities, and exempt these investments from restrictions which currently prohibit separate accounts.

PROPOSED AMENDMENT

Minn. Stat. § 11A.24, subd. 6(a) and (b)

(a) In addition to the investments authorized in subdivisions 1 to 5, and subject to the provisions in paragraph (b), the state board is authorized to invest funds in:

(1) equity and debt investment businesses through participation in limited partnerships, trusts, private placements, limited liability corporations, limited liability companies, limited liability partnerships, and corporations;

(2) real estate ownership interests or loans secured by mortgages or deeds of trust or shares of real estate investment trusts through investment in limited partnerships, bank-sponsored collective funds, trusts, mortgage participation agreements, and insurance company commingled accounts~~, including separate accounts~~;

(3) resource investments through limited partnerships, trusts, private placements, limited liability corporations, limited liability companies, limited liability partnerships, and corporations; ~~and~~

<u>(4) investment vehicles that are co-investments or separate accounts containing underlying investments of the types described in (1), (2), or (3) above; and</u>

~~(4)~~ **<u>(5)</u>** international securities.

(b) The investments authorized in paragraph (a) must conform to the following provisions:

(1) the aggregate value of all investments made under paragraph (a), clauses (1) to ~~(3)~~ **<u>(4)</u>**, may not exceed 35 percent of the market value of the fund for which the state board is investing;

(2) there must be at least four unrelated owners of the **<u>underlying</u>** investment other than the state board for investments made under paragraph (a), clause (1), (2), or (3);

(3) state board participation in an investment vehicle is limited to 20 percent thereof for investments made under paragraph (a), clause (1), (2), or (3); and

(4) state board participation ~~in a limited partnership~~ **<u>in an investment vehicle</u>** does not include a general partnership interest or other interest involving general liability. The state board may ~~not engage in any activity as a limited partner~~ **<u>not participate in any investment vehicle in a manner</u>** which creates general liability.

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DATE: November 8, 2016

TO: Members, Investment Advisory Council

FROM: SBI Staff

Staff has reviewed the following information and action agenda items:

- Review of current strategy.
- Consideration of new commitments.

Existing Managers:

Private Equity	Merced Capital	Fund V	$100 Million
Private Equity	West Street Capital Partners	Fund VII	$150 Million
Private Equity	Goldman Sachs Vintage	Fund VII	$100 Million
Private Equity	Lexington Partners	LMMI IV	$100 Million

New Managers:

Private Equity	Dyal Capital Partners	Fund III	$175 Million
Private Equity	Oak Hill Capital Partners	Fund IV	$150 Million

IAC action is required on the second item.

INFORMATION ITEM:

1) 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 yield-oriented investments in which Minnesota State Board of Investment (SBI) participation is limited to commingled funds or other pooled vehicles. Charts summarizing the Board's current commitments are attached (see **Attachments A and B**).

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 yield-oriented investments is to target funds that typically provide a current return and may have an equity component such as subordinated debt or mezzanine investments. Yield-oriented investments will provide diversification by including investments in the private equity, resource and real estate categories.

ACTION ITEMS:

1) Investment with an existing private equity manager, Merced Capital ("Merced"), in Merced Partners V ("Merced V").

Merced Capital is seeking investors for a new $800 million distressed fund, Merced Partners V. The Firm was founded in 1988, and since 2005 has raised seven multi-year lock-up funds with approximately $2.5 billion in aggregate capital commitments. The SBI has invested in the three most recent Merced Capital funds.

Fund V will invest primarily through investments where the General Partner determines there is strong downside protection from asset or enterprise value and/or counter-party credit and compelling return potential from some combination of current income, financial instrument price appreciation, and asset or enterprise value appreciation. Merced believes targeting individual deployments between $5 million and $50 million enhances both the quantity and quality of deal flow. This range is too big for most individual investors and too small for most of Merced's larger competitors. Merced targets sectors and individual investments that attract less attention due to size, complexity or illiquidity.

In addition to reviewing the attractiveness of the Merced V 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 Merced V is included as **Attachment C**.

RECOMMENDATION:

Staff is requesting that the Investment Advisory Council concur with Staff's recommendation to commit up to $100 million, or 20% of Merced 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 Merced 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 Merced Capital or reduction or termination of the commitment.

2) **Investment with an existing private equity manager, Goldman, Sachs & Co. ("Goldman Sachs"), in West Street Capital Partners VII, L.P. ("WSCP VII").**

Goldman Sachs is seeking investors for a new $5 billion private equity fund, West Street Capital Partners VII, L.P. West Street Capital Partners ("WSCP") is part of Goldman Sach's Merchant Banking Division ("MBD"). The MBD is one of the world's largest leading alternative investing platforms, with over 30 years of global experience investing over $150 billion of capital across corporate equity, credit, infrastructure and real estate investments. The SBI has invested in three prior Goldman Sachs private equity funds.

The investment objective of WSCP VII is to seek long-term capital gains through the creation of a diversified global portfolio of direct or indirect investments in equity, equity-related and similar securities. The firm expects WSCP VII to be invested in a similar manner to prior corporate private equity investing activity, across geographies (approximately 60% of invested cost in the Americas, 40% outside the Americas) and industries. There are five key tenets to their investment strategy: value orientation, domain expertise, company building, preferred partner and powerful global network. WSCP VII will continue to focus on the following sectors in which WSCP possesses deep expertise: Financial Services; Technology, Media, & Telecommunications ("TMT"); Natural Resources; Services; Consumer; and Healthcare.

In addition to reviewing the attractiveness of the WSCP VII 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 WSCP VII is included as **Attachment D**.

RECOMMENDATION:

Staff is requesting that the Investment Advisory Council concur with Staff's recommendation to commit up to $150 million, or 20% of West Street Capital Partners VII, 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 Goldman, Sachs & 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 Goldman, Sachs & Co. or reduction or termination of the commitment.

3) **Investment with an existing private equity manager, Goldman, Sachs & Co. ("Goldman Sachs"), in Vintage VII, L.P. ("Vintage VII").**

Goldman Sachs is establishing Vintage VII to acquire and structure portfolios of private equity partnerships and assets in the secondary market. Goldman Sachs has an 18-year track record of investing in the private equity secondaries market, dating back to its first fund launched in 1998. The Vintage fund series has 17 dedicated investment professionals and is complemented by over 150 Alternative Investments & Manager Selection Group ("AIMS") professionals.

Vintage VII seeks to outperform the public market equivalent by (i) identifying and investing in high quality assets and managers on a global basis, leveraging the resources of Goldman Sachs and the AIMS Group; (ii) capitalizing on market disruptions which may result in unique opportunities to purchase private equity fund interests and assets at attractive prices; and (iii) partnering with knowledgeable private equity managers to acquire assets which may sit outside of traditional fund structures or which require innovative solutions to create new fund structures. Vintage VII will be comprised of traditional secondary market purchases, where limited partner interests of one or more funds are purchased, and also special situations. Special situations transactions involve the acquisition of private equity assets outside of the traditional fund structure, and may include fund restructuring and management company stakes.

In addition to reviewing the attractiveness of the Vintage VII 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 Vintage VII is included as **Attachment E**.

RECOMMENDATION:

Staff is requesting that the Investment Advisory Council concur with Staff's recommendation to commit up to $100 million, or 20% of Vintage VII, 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 Goldman, Sachs & 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 Goldman, Sachs & Co. reduction or termination of the commitment.

4) Investment with an existing private equity manager, Lexington Partners, in Lexington Middle Market Investors IV, L.P. ("LMMI IV").

Lexington Partners is forming LMMI IV, to continue Lexington's history of successfully acquiring U.S. growth capital, small, and middle market buyout interests through negotiated secondary market purchases. Lexington is the largest independent manager of secondary acquisition and co-investment funds with more than $34 billion in original committed capital.

LMMI IV will seek to generate superior returns by negotiating attractive secondary market purchases of interests in high-quality U.S. middle market buyout investments, primarily in established funds that are less than 50% invested. Lexington Partners believes that the U.S. middle market is an attractive private equity segment due to the combination of higher potential growth rates for small- and mid-sized businesses, generally lower purchase price multiples, modest leverage, and the opportunity for substantial value creation from accretive acquisitions and operational improvements. Lexington Partners designed the Lexington Middle Market Investors' innovative investment strategy 12 years ago specifically to provide high-quality U.S. middle market buyout exposure to investors on a diversified basis with the objective of mitigating risk while capitalizing on Lexington's ability to originate, analyze, negotiate, and close attractive acquisitions in the global secondary market.

In addition to reviewing the attractiveness of the LMMI IV 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 LMMI IV is included as **Attachment F**.

RECOMMENDATION:

Staff is requesting that the Investment Advisory Council concur with Staff's recommendation to commit up to $100 million, or 20% of Lexington Middle Market Investors IV, 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 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 Lexington Partners reduction or termination of the commitment.

5) **Investment with a new private equity manager, Dyal Capital Partners ("Dyal"), in Dyal Capital Partners III, L.P. ("Dyal III").**

Dyal Capital Partners is sponsoring Dyal III to make minority equity investments in established investment management companies. Dyal Capital Partners is part of the Neuberger Berman Private Equity ("NB Private Equity") platform. Since its inception, NB Private Equity has managed over $25 billion of investor commitments across primary, secondary, co-investments, private debt and other direct investments.

Dyal III will focus on acquiring minority interests in leading institutionalized private equity firms, which should continue to benefit from increased allocations to private equity funds by large institutional investors, such as public and corporate pension plans and sovereign wealth funds. Further, Dyal believes that portfolio diversification is critical and will seek to assemble a portfolio of complimentary investments diversified by investment strategy, vintage years, and geography. Dyal anticipates that each investment in a private equity General Partner will benefit from three return components: (i) a share of management fees, which is very stable and predictable over the life of the funds, (ii) a share of return of capital and gains on balance sheet investments made alongside the limited partners in the funds (i.e., the GP commitment), and (iii) a share of carried interest, which is episodic and varies with fund returns.

In addition to reviewing the attractiveness of the Dyal III 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 Dyal III is included as **Attachment G**.

RECOMMENDATION:

Staff is requesting that the Investment Advisory Council concur with Staff's recommendation to acquire an interest for a commitment of up to $175 million, or 20% of Dyal Capital Partners III, 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 Dyal Capital 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 Dyal Capital Partners reduction or termination of the commitment.

6) **Investment with a new private equity manager, Oak Hill Capital Partners ("Oak Hill"), in Oak Hill Capital Partners IV, L.P. ("OHCP IV").**

Oak Hill is forming OHCP IV to make private equity investments of $100 million to $300 million in middle-market companies primarily in North America. OHCP IV's investment activities will focus on the following sectors: (i) Consumer, Retail & Distribution; (ii) Industrials; (iii) Media & Communications; and (iv) Services. Oak Hill has a 28-year history of successful private equity investing, making it one of the longest-tenured middle-market firms in the industry.

Oak Hill's investment strategy focuses on originating attractive opportunities and executing successful investments by adhering to its theme-based investment strategy. This strategy requires a deep understanding of: (i) the long-term secular trends within each core sector; (ii) the key operating drivers of business performance; and (iii) the intrinsic value of an asset. Oak Hill has an established track record of creating value through multiple initiatives, which not only increases the number of levers to drive franchise value but also expands the universe of potential investment opportunities. In order to unlock financial and strategic value over the course of an investment, Oak Hill typically focuses on one or two of the following initiatives: operating initiatives, strategic repositioning, and/or mergers and acquisitions.

In addition to reviewing the attractiveness of the OHCP IV 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 OHCP IV is included as **Attachment H**.

RECOMMENDATION:

Staff is requesting that the Investment Advisory Council concur with Staff's recommendation to commit up to $150 million, or 20% of Oak Hill Capital Partners IV, 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 Oak Hill Capital 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 Oak Hill Capital Partners reduction or termination of the commitment.

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ATTACHMENT A

Minnesota State Board of Investment

Pooled Alternative Investments

Combined Funds

September 30, 2016

Combined Funds Market Value	$59,547,416,827
Amount Available for Investment	**$4,277,947,071**

	Current Level	Target Level	Difference
Market Value (MV)	$7,631,536,294	$11,909,483,365	$4,277,947,071
MV +Unfunded	$13,268,922,526	$20,841,595,890	$7,572,673,364

Asset Class	Market Value	Unfunded Commitment	Total
Private Equity	$4,667,078,227	$3,460,901,677	$8,127,979,904
Real Estate	$598,652,485	$528,836,424	$1,127,488,909
Resource	$1,379,742,272	$874,226,161	$2,253,968,433
Yield-Oriented	$986,063,310	$773,421,970	$1,759,485,280
Total	$7,631,536,294	$5,637,386,232	$13,268,922,526

Cash Flows

September 30, 2016

Year	Capital Calls	Distributions	Net Invested
2016 (thru 9/30)	$1,324,479,099	($1,072,919,919)	$251,559,180
2015	$1,541,161,769	($2,128,301,645)	($587,139,876)
2014	$1,378,984,263	($2,133,698,037)	($754,713,774)
2013	$1,257,559,066	($2,522,817,494)	($1,265,258,428)

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ATTACHMENT B

Minnesota State Board of Investment

- Alternative Investments -

As of September 30, 2016

Investment	Total Commitment	Funded Commitment	MarketValue	Distributions	Unfunded Commitment	IRR %	MOIC*	Period Years
I. REAL ESTATE								
Angelo, Gordon & Co.								
AG Realty Fund IX	100,000,000	38,640,717	39,113,757	0	61,359,283	1.80	**1.01**	1.81
Blackstone								
Blackstone Real Estate Partners V	100,000,000	97,030,342	45,651,761	155,498,414	4,174,052	10.88	**2.07**	10.18
Blackstone Real Estate Partners VI	100,000,000	99,320,387	48,073,829	157,048,538	4,907,906	12.59	**2.07**	9.25
Blackstone Real Estate Partners VII	100,000,000	92,693,726	94,816,690	64,439,122	17,790,521	19.21	**1.72**	4.59
Blackstone Real Estate Partners VIII	150,000,000	57,605,075	59,519,199	5,041,974	96,542,436	11.62	**1.12**	1.27
Blackstone Strategic Partners (CSFB)								
Strategic Partners III RE	25,000,000	25,752,810	5,080,765	10,023,438	9,006	-7.28	**0.59**	11.00
Strategic Partners IV RE	50,000,000	50,538,570	12,726,377	36,283,170	1,431,678	-0.72	**0.97**	8.04
Colony Capital								
Colony Investors III	100,000,000	100,000,000	5,169,500	172,642,105	0	14.57	**1.78**	18.50
Silverpeak Real Estate Partners								
Silverpeak Legacy Pension Partners II	75,000,000	78,596,974	8,312,748	86,318,011	7,819,119	4.52	**1.20**	11.00
Silverpeak Legacy Pension Partners III	150,000,000	69,966,786	17,275,825	9,390,517	80,033,214	-13.02	**0.38**	8.11
Rockpoint								
Rockpoint Real Estate Fund V	100,000,000	14,265,428	15,402,097	269,051	86,003,623	-4.06	**1.10**	1.72
Rockwood								
Rockwood Capital RE Partners X	100,000,000	6,234,414	6,234,414	0	93,765,586	0.00	**1.00**	0.21
T.A. Associates Realty								
Realty Associates Fund VII	75,000,000	75,000,000	483,582	76,273,641	0	0.33	**1.02**	11.62
Realty Associates Fund VIII	100,000,000	100,000,000	54,677,385	39,891,542	0	-0.70	**0.95**	10.00
Realty Associates Fund IX	100,000,000	100,000,000	69,629,537	89,984,124	0	10.97	**1.60**	7.85
Realty Associates Fund X	100,000,000	100,000,000	92,124,369	40,990,394	0	12.30	**1.33**	4.34
Realty Associates Fund XI	100,000,000	25,000,000	24,360,650	0	75,000,000	-2.58	**0.97**	1.01
Real Estate Total	**1,625,000,000**	**1,130,645,229**	**598,652,485**	**944,094,040**	**528,836,424**	6.85	**1.36**	
II. RESOURCE								
Apache Corp.								
1986 Net Profits Interest	30,000,000	30,000,000	417,720	59,464,292	0	12.14	**2.00**	29.50
EIG Global Energy Partners								
EIG Energy Fund XIV	100,000,000	112,513,074	11,471,368	92,181,918	3,261,129	-3.30	**0.92**	9.20
EIG Energy Fund XV	150,000,000	145,074,733	103,052,557	62,311,812	6,322,679	4.41	**1.14**	6.07
EIG Energy Fund XVI	200,000,000	107,380,546	83,593,569	10,369,007	99,230,852	-10.27	**0.88**	2.80
EnCap Energy								
EnCap Energy Capital Fund VII	100,000,000	96,692,592	10,255,871	130,765,121	3,860,151	15.53	**1.46**	9.00
EnCap Energy Capital Fund VIII	100,000,000	86,740,226	41,173,958	32,728,723	13,722,229	-6.19	**0.85**	5.75
Encap Energy Fund IX	100,000,000	87,182,069	81,338,727	21,529,754	19,156,147	12.23	**1.18**	3.57
EnCap Energy Capital Fund X	100,000,000	28,079,400	24,587,288	1,536,826	73,457,426	-13.49	**0.93**	1.33
Energy & Minerals Group								
NGP Midstream & Resources	100,000,000	99,954,848	80,762,129	112,972,183	366,338	16.36	**1.94**	9.25
The Energy & Minerals Group Fund II	100,000,000	88,788,289	122,929,583	22,393,093	11,485,016	17.31	**1.64**	4.77
The Energy & Minerals Group Fund III	200,000,000	172,051,198	136,933,982	4,391,607	29,677,136	-11.05	**0.82**	2.32
The Energy & Minerals Group Fund IV	150,000,000	92,640,894	90,445,861	85,406	57,359,953	-3.10	**0.98**	0.92
Energy Capital Partners								
Energy Capital Partners II	100,000,000	80,529,511	48,198,887	70,054,005	30,099,613	11.43	**1.47**	5.95
Energy Capital Partners III	200,000,000	68,790,968	79,001,061	0	131,209,032	10.11	**1.15**	2.53
EnerVest Energy								
EnerVest Energy Institutional Fund XIV	100,000,000	69,052,803	63,050,285	3,142,011	32,701,991	-7.41	**0.96**	1.19
First Reserve								
First Reserve Fund X	100,000,000	100,000,000	401,435	182,429,002	0	31.06	**1.83**	11.66
First Reserve Fund XI	150,000,000	150,292,121	14,743,863	87,351,627	0	-8.94	**0.68**	9.53
First Reserve Fund XII	150,000,000	161,217,207	50,176,012	70,703,666	2,366,265	-8.03	**0.75**	7.67
First Reserve Fund XIII	200,000,000	32,731,423	19,348,869	2,279,302	167,268,577	-31.62	**0.66**	2.66
NGP								
Natural Gas Partners IX	150,000,000	161,154,200	19,510,020	224,576,328	2,022,299	12.04	**1.51**	8.69
NGP Natural Resources X	150,000,000	131,825,315	89,076,117	47,788,542	18,174,685	1.53	**1.04**	4.73
Natural Gas Capital Resources XI	150,000,000	49,327,363	38,839,752	12,374,843	106,834,643	6.93	**1.04**	1.56

Minnesota State Board of Investment

- Alternative Investments -

As of September 30, 2016

Investment	Total Commitment	Funded Commitment	MarketValue	Distributions	Unfunded Commitment	IRR %	MOIC*	Period Years
Sheridan								
Sheridan Production Partners I	100,000,000	100,000,000	51,724,005	82,750,000	0	6.78	**1.34**	9.25
Sheridan Production Partners II	100,000,000	100,000,000	70,444,970	7,000,000	0	-7.04	**0.77**	5.75
Sheridan Production Partners III	100,000,000	34,350,000	30,565,998	0	65,650,000	-35.01	**0.89**	1.56
T. Rowe Price	18,513,566	18,513,566	17,698,385	0	0	-4.71	**0.96**	
Resource Total	**3,198,513,566**	**2,404,882,347**	**1,379,742,272**	**1,341,179,069**	**874,226,161**	5.17	**1.13**	
III. YIELD-ORIENTED								
Audax Group								
Audax Mezzanine Fund III	100,000,000	88,989,140	53,361,764	54,627,232	19,518,855	9.25	**1.21**	6.24
Audax Mezzanine Fund IV	100,000,000	2,140,540	2,140,540	0	97,859,460	0.00	**1.00**	1.23
Avenue Capital Partners								
Avenue Energy Opportunities Fund	100,000,000	95,026,598	92,762,399	934,495	4,973,402	-2.60	**0.99**	1.27
Citicorp Mezzanine								
CM Liquidating Partnership	100,000,000	88,029,296	11,526,914	132,324,719	0	16.23	**1.63**	16.67
Crescent Capital Group								
TCW/Crescent Mezzanine Partners III	75,000,000	68,835,269	2,407,492	156,868,939	29,733,852	35.89	**2.31**	15.26
Gold Hill Venture Lending								
Gold Hill Venture Lending	40,000,000	40,000,000	923,511	63,913,250	0	10.62	**1.62**	11.76
Gold Hill 2008	25,852,584	25,852,584	11,153,257	30,318,755	0	12.59	**1.60**	8.00
GS Mezzanine Partners								
GS Mezzanine Partners 2006	100,000,000	74,999,888	6,198,074	127,211,034	9,858,563	4.72	**1.78**	10.24
GS Mezzanine Partners V	150,000,000	112,057,963	12,895,410	165,434,372	60,803,216	9.26	**1.59**	8.69
Kohlberg Kravis Roberts								
KKR Lending Partners II	75,000,000	70,343,089	61,511,929	15,218,592	14,306,846	13.91	**1.09**	1.33
LBC Credit Partners								
LBC Credit Partners IV	100,000,000	3,453,648	3,453,648	0	96,546,352	0.00	**1.00**	0.42
Merit Capital Partners								
William Blair Mezzan. Cap. Fd. III	60,000,000	57,243,241	620,666	112,755,951	2,756,759	15.51	**1.98**	16.50
Merit Mezzanine Fund IV	75,000,000	70,178,571	28,532,990	87,353,296	4,821,429	9.70	**1.65**	11.54
Merit Mezzanine Fund V	75,000,000	70,420,408	56,572,052	31,760,647	4,579,592	8.19	**1.25**	6.54
Merit Mezzanine Fund VI	45,000,000	6,965,000	6,965,000	0	38,035,000	0.00	**1.00**	0.52
Merit Energy Partners								
Merit Energy Partners B	24,000,000	24,000,000	11,389,520	181,045,738	0	24.34	**8.02**	20.00
Merit Energy Partners C	50,000,000	50,000,000	20,317,170	493,654,262	0	30.99	**10.28**	17.68
Merit Energy Partners D	88,000,000	70,938,303	42,808,465	305,623,509	0	22.92	**4.91**	15.10
Merit Energy Partners E	100,000,000	39,983,197	26,828,369	66,686,905	0	12.77	**2.34**	11.71
Merit Energy Partners F	100,000,000	59,522,861	27,028,486	27,251,921	0	-1.67	**0.91**	10.27
Merit Energy Partners H	100,000,000	100,000,000	71,595,125	12,410,723	0	-6.90	**0.84**	5.41
Merit Energy Partners I	169,721,518	125,099,999	137,862,951	246,000	44,621,519	32.87	**1.10**	1.71
Oaktree Capital Management								
Oaktree Opportunities Fund X	50,000,000	7,500,000	8,333,813	619,660	42,500,000	17.76	**1.19**	1.33
Oaktree Opportunities Fund Xb	100,000,000	0	0	0	100,000,000	0.00	**0.00**	1.33
Pimco Bravo**								
Pimco Bravo Fund I	3,958,027	3,958,027	589,063	3,447,441	1,816,879	2.33	**1.02**	1.51
Pimco Bravo Fund II	5,243,670	5,243,670	5,674,925	0	0	4.85	**1.08**	1.51
Portfolio Advisors								
DLJ Investment Partners II	27,375,168	23,164,217	80,537	34,829,566	0	10.37	**1.51**	16.50
DLJ Investment Partners III	100,000,000	63,523,951	8,057,227	75,601,649	38,475,338	6.96	**1.32**	10.03
Prudential Capital Partners								
Prudential Capital Partners I	100,000,000	99,713,348	0	155,231,567	286,652	11.06	**1.56**	15.20
Prudential Capital Partners II	100,000,000	96,976,021	5,705,563	135,177,792	3,156,732	8.95	**1.45**	11.00
Prudential Capital Partners III	100,000,000	95,838,210	47,640,846	109,778,573	7,604,183	13.68	**1.64**	7.21
Prudential Capital Partners IV	100,000,000	82,525,114	77,125,962	22,314,189	18,041,000	13.06	**1.20**	4.45
Summit Partners								
Summit Subordinated Debt Fund III	45,000,000	42,750,000	5,578,900	55,057,070	2,250,000	8.32	**1.42**	12.38
Summit Subordinated Debt Fund IV	50,000,000	55,250,000	25,409,900	45,467,890	15,669,302	9.89	**1.28**	8.26

Minnesota State Board of Investment

- Alternative Investments -

As of September 30, 2016

Investment	Total Commitment	Funded Commitment	MarketValue	Distributions	Unfunded Commitment	IRR %	MOIC*	Period Years
TCW Asset Management								
TCW Direct Lending LLC	100,000,000	58,019,463	45,715,813	12,603,079	48,887,731	0.29	**1.01**	1.46
Windjammer Capital Investors								
Windjammer Mezzanine & Equity Fund II	66,708,861	56,569,498	377,300	84,439,334	10,139,363	8.93	**1.50**	16.25
Windjammer Senior Equity Fund III	75,000,000	61,619,620	17,467,838	126,252,774	13,380,380	18.94	**2.33**	10.49
Windjammer Senior Equity Fund IV	100,000,000	58,993,400	49,449,891	5,382,680	42,799,565	-3.82	**0.93**	4.35
Yield-Oriented Total	**2,975,859,828**	**2,155,724,135**	**986,063,310**	**2,931,843,604**	**773,421,970**	0.00	**1.82**	
IV. PRIVATE EQUITY								
Adams Street Partners								
Adams Street Global Secondary Fund 5	100,000,000	61,270,000	41,588,602	18,625,419	38,730,000	-1.08	**0.98**	4.04
Advent International								
Advent International GPE VI	50,000,000	49,000,005	30,848,041	67,932,255	999,995	17.13	**2.02**	8.25
Advent International GPE VII	90,000,000	76,815,000	89,800,900	12,015,083	13,185,000	13.66	**1.33**	3.79
Advent International GPE VIII	100,000,000	2,100,000	1,802,516	0	97,900,000	-17.38	**0.86**	0.65
Affinity Ventures								
Affinity Ventures IV	4,000,000	4,000,000	1,785,924	1,541,970	0	-3.46	**0.83**	12.00
Affinity Ventures V	5,000,000	5,000,000	3,052,588	1,585,611	0	-1.84	**0.93**	8.00
APAX Partners								
Apax VIII - USD	200,000,000	171,727,016	187,430,491	18,618,593	46,891,577	11.73	**1.20**	3.32
Apax IX - USD	150,000,000	0	0	0	150,000,000	0.00	**0.00**	0.25
Banc Fund								
Banc Fund VII	45,000,000	45,000,000	46,773,720	812,725	0	0.59	**1.06**	11.25
Banc Fund VIII	98,250,000	98,250,000	133,102,517	24,953,973	0	11.36	**1.61**	8.18
Banc Fund IX	107,205,932	55,747,085	58,769,580	0	51,458,847	5.43	**1.05**	2.06
BlackRock								
BlackRock Tempus Fund	1,774,870	1,774,870	927,477	1,073,278	0	15.04	**1.13**	1.06
Blackstone								
Blackstone Capital Partners IV	70,000,000	72,267,426	16,145,977	180,404,015	2,003,882	37.09	**2.72**	13.97
Blackstone Capital Partners V	140,000,000	130,900,605	39,696,428	196,469,371	8,616,043	8.10	**1.80**	10.41
Blackstone Capital Partners VI	100,000,000	85,585,970	93,420,783	17,840,904	17,789,615	8.98	**1.30**	7.94
Blackstone Capital Partners VII	130,000,000	0	0	0	130,000,000	0.00	**0.00**	1.01
Blackstone Strategic Partners (CSFB/ DLJ)								
Strategic Partners II-B	100,000,000	86,140,635	2,053,163	160,717,586	4,706,926	35.09	**1.89**	12.96
Strategic Partners III-B	100,000,000	78,066,047	25,598,722	91,973,457	15,092,801	6.54	**1.51**	11.08
Strategic Partners III VC	25,000,000	24,755,364	7,444,864	26,594,046	1,201,853	6.49	**1.38**	11.08
Strategic Partners IV-B	100,000,000	91,609,280	26,146,667	122,801,487	18,810,860	12.67	**1.63**	8.27
Strategic Partners IV VC	40,500,000	39,695,991	17,145,400	44,067,723	3,318,525	10.15	**1.54**	8.04
Strategic Partners V	100,000,000	75,962,800	49,904,058	73,631,165	43,254,682	21.78	**1.63**	4.87
Strategic Partners VI	150,000,000	70,550,895	92,926,562	8,201,022	82,347,326	30.14	**1.43**	2.21
Strategic Partners VII	150,000,000	3,000,000	3,356,892	0	147,000,000	12.03	**1.12**	0.63
BLUM Capital Partners								
Blum Strategic Partners II	50,000,000	40,185,889	63,826	89,708,870	2,127,584	22.41	**2.23**	14.96
Blum Strategic Partners III	75,000,000	78,121,020	0	83,508,219	471,064	0.25	**1.07**	11.08
Blum Strategic Partners IV	150,000,000	170,916,780	0	167,939,991	5,896,033	-0.75	**0.98**	8.62
Brookfield Asset Management Inc.								
Brookfield Capital Partners Fund IV	100,000,000	26,192,359	26,537,864	1,889,939	74,494,663	6.43	**1.09**	1.03
Carval Investors								
CVI Global Value Fund	200,000,000	190,000,000	37,455,048	281,963,583	10,000,000	9.75	**1.68**	9.47
CVI Credit Value Fund I	100,000,000	95,000,000	67,388,552	135,410,375	5,000,000	19.09	**2.13**	5.75
CVI Credit Value Fund A II	150,000,000	142,500,000	168,263,292	10,171,948	7,500,000	7.48	**1.25**	3.67
CVI Credit Value Fund A III	150,000,000	67,500,000	73,075,433	0	82,500,000	10.13	**1.08**	1.08
Cardinal Partners								
DSV Partners IV	10,000,000	10,000,000	31,325	39,196,082	0	10.61	**3.92**	31.23
Carlyle Group								
Carlyle Strategic Partners IV	100,000,000	0	0	0	100,000,000	0.00	**0.00**	0.50
Chicago Growth Partners (William Blair)								
William Blair Capital Partners VII	50,000,000	48,150,000	4,743,470	64,292,866	1,650,000	8.45	**1.43**	15.32
Chicago Growth Partners I	50,000,000	52,441,998	5,482,017	53,058,188	300,000	2.57	**1.12**	10.94
Chicago Growth Partners II	60,000,000	57,975,626	48,949,052	63,542,737	1,772,374	18.65	**1.94**	8.31

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Investment	Total Commitment	Funded Commitment	MarketValue	Distributions	Unfunded Commitment	IRR %	MOIC*	Period Years
Court Square Capital Partners								
Court Square Capital Partners	100,000,000	80,813,422	285,108	181,548,807	1,934,741	28.91	**2.25**	14.55
Court Square Capital Partners II	175,000,000	158,078,327	63,678,012	241,844,253	17,968,871	13.59	**1.93**	9.82
Court Square Capital Partners III	175,000,000	72,517,652	54,660,694	31,844,069	110,146,437	7.41	**1.19**	4.08
Crescendo								
Crescendo IV	101,500,000	101,500,000	11,933,779	37,386,052	0	-6.73	**0.49**	16.31
CVC Capital Partners								
CVC European Equity Partners V	133,904,107	129,528,618	70,195,627	140,977,089	4,375,489	12.66	**1.63**	8.27
CVC Capital Partners VI	254,911,104	90,041,388	90,891,326	545,893	165,377,326	1.25	**1.02**	2.98
Diamond Castle Partners								
Diamond Castle Partners IV	92,487,949	91,151,326	0	94,068,606	1,377,108	0.40	**1.03**	9.81
Elevation Partners								
Elevation Partners	75,000,000	69,311,710	1,277,794	112,437,120	799,634	11.84	**1.64**	11.12
Fox Paine & Company								
Fox Paine Capital Fund II	50,000,000	46,299,626	3,984,828	86,859,891	11,953,212	18.95	**1.96**	16.00
GHJM Marathon Fund								
GHJM Marathon Fund V	50,000,000	50,093,425	59,926	95,838,392	46,502	12.10	**1.91**	11.75
TrailHead Fund	20,000,000	14,914,187	18,117,164	2,406,955	5,085,813	11.76	**1.38**	4.35
GS Capital Partners								
GS Capital Partners 2000	50,000,000	50,000,000	2,212,975	112,309,390	0	23.46	**2.29**	15.83
GS Capital Partners V	100,000,000	73,958,901	8,322,313	209,467,705	1,041,099	18.22	**2.94**	11.25
GS Capital Partners VI	100,000,000	80,215,619	26,507,718	96,147,732	15,039,971	5.57	**1.53**	9.41
GTCR Golder Rauner								
GTCR VI	90,000,000	90,000,000	2,204,762	77,813,800	0	-3.79	**0.89**	18.00
GTCR IX	75,000,000	69,539,933	6,513,871	119,144,001	5,460,067	13.87	**1.81**	10.00
GTCR X	100,000,000	93,248,604	82,354,193	88,929,872	6,751,396	20.94	**1.84**	5.56
GTCR Fund XI	110,000,000	48,387,553	50,505,812	649,653	61,612,447	5.00	**1.06**	2.63
HarbourVest**								
Dover Street VII	2,198,112	2,070,612	1,056,262	960,649	127,500	-2.50	**0.97**	1.51
HarbourVest Intl PE Partners V	3,518,499	3,293,739	2,038,369	1,821,185	224,760	13.87	**1.17**	1.51
Harbourvest Intl PE Partners VI	4,241,093	3,356,101	3,358,746	721,699	884,993	15.98	**1.22**	1.51
HarbourVest Partners VIII Buyout	4,506,711	4,142,711	2,835,893	1,958,396	364,000	12.71	**1.16**	1.51
HarbourVest Partners VIII Venture	7,190,898	7,015,898	5,232,318	2,245,237	175,000	4.50	**1.07**	1.51
Hellman & Friedman								
Hellman & Friedman Capital Partners V	160,000,000	146,165,961	3,841,888	414,854,231	8,070,303	27.92	**2.86**	11.58
Hellman & Friedman Capital Partners VI	175,000,000	170,348,983	43,599,339	296,606,878	5,773,636	12.96	**2.00**	9.25
Hellman & Friedman Capital Partners VII	50,000,000	47,237,591	50,581,250	17,066,887	2,762,409	15.14	**1.43**	7.20
IK Investment Partners								
IK Fund VII	180,167,393	167,781,957	168,312,060	7,293,202	12,385,435	2.79	**1.05**	2.80
IK Fund VIII	168,440,553	15,829,146	15,958,600	0	152,611,407	0.83	**1.01**	0.20
Kohlberg Kravis Roberts								
KKR Millennium Fund	200,000,000	200,000,000	25,921,198	395,648,311	0	16.42	**2.11**	13.56
KKR 2006 Fund	200,000,000	209,602,896	103,685,267	232,483,122	4,820,615	8.07	**1.60**	9.76
KKR Americas Fund XII	150,000,000	0	0	0	150,000,000	0.00	**0.00**	0.58
Leonard Green & Partners								
Green Equity Investors VI	200,000,000	200,777,472	207,046,925	28,350,388	21,295,009	10.44	**1.17**	4.30
Lexington Capital Partners								
Lexington Capital Partners VI	100,000,000	98,365,297	26,482,100	114,032,372	1,634,703	7.75	**1.43**	10.52
Lexington Capital Partners VII	200,000,000	164,170,550	90,712,170	156,066,484	43,299,357	15.76	**1.50**	7.05
Lexington Capital Partners VIII	150,000,000	33,194,146	32,122,565	9,795,927	120,867,237	27.25	**1.26**	2.32
Madison Dearborn Capital Partners								
Madison Dearborn Capital Partners VII	100,000,000	7,836,870	7,082,932	0	92,163,130	-8.77	**0.90**	0.78
MHR Institutional Partners								
MHR Institutional Partners IV	75,000,000	13,500,000	12,730,163	184,217	61,500,000	-4.90	**0.96**	1.21
Merced Capital								
Merced Partners II	75,000,000	63,768,881	8,767,472	121,622,383	0	24.10	**2.04**	9.25
Merced Partners III	100,000,000	100,000,000	63,026,074	68,497,107	0	6.92	**1.32**	6.15
Merced Partners IV	125,000,000	125,000,000	134,842,125	0	0	4.08	**1.08**	2.97
Nordic Capital								
Nordic Capital Fund VIII	177,776,744	97,819,773	94,351,352	49,418	79,956,970	-1.47	**0.97**	2.80
North Sky Capital**								
North Sky Capital LBO Fund III	1,070,259	720,259	497,570	333,594	350,000	10.98	**1.15**	1.51
North Sky Capital Venture Fund III	1,384,080	1,277,830	646,805	689,583	106,250	3.65	**1.05**	1.51

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- Alternative Investments -

As of September 30, 2016

Investment	Total Commitment	Funded Commitment	MarketValue	Distributions	Unfunded Commitment	IRR %	MOIC*	Period Years
Oaktree Capital Management								
Oaktree Principal Fund VI	100,000,000	21,393,823	13,127,787	9,743,624	87,950,941	11.46	**1.07**	1.51
Paine & Partners								
Paine & Partners Capital Fund IV	75,000,000	24,738,573	21,138,740	0	50,261,427	-19.64	**0.85**	1.56
Permal Capital**								
Permal PE Opportunities IV	5,337,098	4,247,098	2,691,359	1,885,487	1,090,000	5.64	**1.08**	1.51
PERMIRA								
Permira V	178,640,568	148,719,392	149,984,093	2,229,773	29,921,176	1.58	**1.02**	2.50
Public Pension Capital Management								
Public Pension Capital	100,000,000	8,922,513	9,563,950	180,012	91,077,487	-22.09	**1.09**	2.13
RWI Ventures								
RWI Ventures I	7,603,265	7,603,265	486,319	6,094,262	0	-4.38	**0.87**	10.01
Sightline Healthcare								
Sightline Healthcare Fund IV	7,700,000	7,753,673	43,313	7,829,436	0	0.12	**1.02**	12.77
Silver Lake Partners								
Silver Lake Partners II	100,000,000	90,121,966	19,382,241	155,275,475	11,771,953	11.35	**1.94**	12.00
Silver Lake Partners III	100,000,000	91,136,846	58,476,500	116,782,778	10,522,581	17.21	**1.92**	9.25
Silver Lake Partners IV	100,000,000	66,324,494	71,850,364	14,656,610	41,965,302	24.94	**1.30**	3.76
Split Rock Partners								
Split Rock Partners	50,000,000	47,454,543	18,631,134	25,998,744	2,545,457	-0.84	**0.94**	11.17
Split Rock Partners II	60,000,000	57,825,000	38,630,425	23,289,936	2,175,000	2.08	**1.07**	8.18
Summit Partners								
Summit Ventures V	25,000,000	24,125,000	47,221	33,358,461	875,000	8.11	**1.38**	18.25
Summit Partners Growth Equity Fund VIII	100,000,000	92,801,274	96,014,568	27,224,839	20,258,082	16.20	**1.33**	5.16
Summit Partners Growth Equity Fund IX	100,000,000	0	0	0	100,000,000	0.00	**0.00**	1.09
Thoma Bravo								
Thoma Bravo Fund XII	75,000,000	0	0	0	75,000,000	0.00	**0.00**	0.06
Thoma Cressey								
Thoma Cressey Fund VI	35,000,000	33,915,000	430,733	34,128,882	1,085,000	0.22	**1.02**	17.87
Thoma Cressey Fund VII	50,000,000	50,000,000	918,519	106,625,069	0	23.61	**2.15**	15.85
Thoma Cressey Fund VIII	70,000,000	68,932,574	1,067,446	233,860,926	770,000	18.25	**2.93**	10.17
Thomas H. Lee Partners								
Thomas H. Lee Equity Fund VII	100,000,000	15,961,879	16,536,611	31,244	84,038,121	5.54	**1.04**	0.81
Thomas, McNerney & Partners								
Thomas, McNerney & Partners I	30,000,000	30,000,000	6,982,022	10,504,694	0	-10.10	**0.58**	13.65
Thomas, McNerney & Partners II	50,000,000	47,125,000	18,680,221	90,888,340	2,875,000	17.32	**2.33**	10.00
TPG Capital								
TPG Partners VII	100,000,000	22,355,630	20,782,155	25,996	77,644,370	-12.98	**0.93**	0.81
T. Rowe Price	70,728,535	70,728,535	27,386,966	48,139,157	0	5.29	**1.07**	
Varde Fund								
Varde Fund IX	100,000,000	100,000,000	30,931,502	175,058,234	0	14.56	**2.06**	8.02
Varde Fund X	150,000,000	150,000,000	157,534,608	100,157,213	0	11.30	**1.72**	6.20
Varde Fund XI	200,000,000	200,000,000	245,697,000	0	0	7.79	**1.23**	2.98
Vestar Capital Partners								
Vestar Capital Partners IV	55,000,000	53,635,969	1,056,871	101,917,140	57,313	14.67	**1.92**	16.55
Vestar Capital Partners V	75,000,000	74,936,812	42,408,530	56,940,572	63,188	4.20	**1.33**	10.54
Vestar Capital Partners VI	100,000,000	69,414,329	75,013,218	33,964,002	30,585,671	30.10	**1.57**	4.77
Warburg Pincus								
Warburg Pincus Equity Partners	100,000,000	100,000,000	1,358,223	162,262,253	0	10.02	**1.64**	18.02
Warburg Pincus Private Equity VIII	100,000,000	100,000,000	17,385,646	208,207,623	0	14.73	**2.26**	14.21
Warburg Pincus Private Equity IX	100,000,000	100,000,000	12,004,642	163,310,456	0	10.00	**1.75**	10.93
Warburg Pincus Private Equity X	150,000,000	150,000,000	74,969,145	139,901,237	0	7.50	**1.43**	8.69
Warburg Pincus Private Equity XI	200,000,000	175,000,000	194,527,943	25,382,200	25,000,000	11.46	**1.26**	3.53
Warburg Pincus Private Equity XII	131,000,000	14,606,500	13,244,605	0	116,393,500	-21.28	**0.91**	0.62
Wayzata								
Wayzata Opportunities Fund	100,000,000	93,180,000	1,598,386	155,536,211	18,920,000	8.45	**1.69**	10.53
Wayzata Opportunities Fund II	150,000,000	57,450,000	29,352,671	171,736,599	30,000,000	16.23	**3.50**	8.69
Wayzata Opportunities Fund III	150,000,000	67,275,000	45,120,339	17,836,917	100,425,000	-4.04	**0.94**	4.04

Minnesota State Board of Investment

- Alternative Investments -

As of September 30, 2016

Investment	Total Commitment	Funded Commitment	MarketValue	Distributions	Unfunded Commitment	IRR %	MOIC*	Period Years
Welsh, Carson, Anderson & Stowe								
Welsh, Carson, Anderson & Stowe VIII	100,000,000	100,000,000	151,455	128,668,552	0	3.12	**1.29**	17.94
Welsh, Carson, Anderson & Stowe IX	125,000,000	123,750,000	70,891	205,602,079	1,250,000	11.19	**1.66**	16.01
Welsh, Carson, Anderson & Stowe X	100,000,000	98,000,000	22,402,058	141,955,099	2,000,000	7.99	**1.68**	10.54
Welsh, Carson, Anderson & Stowe XI	100,000,000	97,272,608	65,239,447	80,463,834	2,727,392	12.38	**1.50**	7.95
Welsh, Carson, Anderson & Stowe XII	150,000,000	41,709,761	44,011,264	0	108,290,239	4.73	**1.06**	1.50
Private Equity Total	**11,991,037,769**	**8,599,496,684**	**4,667,078,227**	**8,679,696,995**	**3,460,901,677**		**1.55**	
Private Markets Total	**19,790,411,163**	**14,290,748,395**	**7,631,536,295**	**13,896,813,709**	**5,637,386,232**		**1.51**	

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.

ATTACHMENT C

PRIVATE EQUITY MANAGER SUMMARY PROFILE

I. Background Data

Name of Fund:	Merced Partners V, L.P.
Type of Fund:	Distressed
Target Fund Size:	$800 million
Fund Manager:	Merced Capital
Manager Contact:	Erik Bender 601 Carlson Parkway, Suite 200 Minnetonka, MN 55305 952-476-7222

II. Organization and Staff

Merced Partners V, L.P (the "Fund") is being formed by Merced Capital L.P. ("Merced"; formally known as EBF) to make opportunistic investments in financial instruments and assets. Merced Capital was founded in 1988, and since 2005, the Firm has raised seven multi-year lock-up funds with approximately $2.5 billion in aggregate capital commitments. Merced also manages Merced Partners Limited Partnership ("Merced"), an annual liquidity fund that was formed in 1990. The Firm's current partner group averages over 25 years' experience in alternative investing and has been working together at Merced Capital for nearly 15 years. An equally stable and experienced team of 45 investment and administrative personnel support the partner group.

III. Investment Strategy

The Fund's investment objective is to achieve a substantial absolute and relative return on capital while bearing less than commensurate risk. The Fund expects to pursue its objective primarily through investments where the General Partner determines there is strong downside protection from asset or enterprise value and/or counter-party credit and compelling return potential from some combination of current income, financial instrument price appreciation, and asset or enterprise value appreciation.

Merced believes targeting individual deployments between $5 million and $50 million enhances both the quantity and quality of deal flow. This range is too big for most individual investors and too small for most of Merced's larger competitors. Merced targets sectors and individual investments that attract less attention due to size, complexity or illiquidity. Many of the deals Merced pursues fall outside the reach of firms with more traditional investment mandates or larger amounts of capital under management.

Downside assessment is the starting point for all investments. Merced's primary tools to protect against investment loss are avoidance of leverage, diversification, and a focus on near-term projected cash flow. Merced further attempts to mitigate loss by purchasing in a contrarian manner at cyclical lows and by generally targeting out-of-favor sectors, financial instruments, and assets.

Historically, Merced has not used leverage at the fund level and has utilized leverage at the investment level on a highly selective basis. For investment-level leverage to make sense, Merced's needs two things. First, the need for predictable cash flows, such as from a strong airline lessee, a diversified group of office tenants, or a near-term residential lot build-out. Second, Merced needs to witness a meaningful transfer of risk onto the lender, without a commensurate transfer of expected reward, which they seek to retain exclusively.

Merced's approach is to bring numerous and diverse core competencies to the investment process. Within this flexible framework, Merced allocates capital in a "best-ideas" manner. This may mean that not all of their core investment sector competencies will manifest themselves in actual investments in any given fund. Merced's six core investment sector competencies include the following:

- Credit - Credit analysis is a fundamental skill at Merced. They combine their depth of experience with thorough analysis to capitalize on issuer-specific dislocations and industry cycles. They invest primarily in corporate secured loans, unsecured bonds and selectively in municipal debt and mortgage backed securities.

- Real Estate – The firm has been investing in Real Estate since the late '90s. Areas they have invested in include; un-entitled land/lot development, homebuilder JVs, bank-owned homes, finished lots, and commercial properties. Most recently, they have been primarily focused on homebuilder JVs, where they target regional markets with mid-sized homebuilder partners.

- Insurance - Merced's deployments in this sector have meaningfully differentiated their portfolios and returns and have included significant allocations to Regulation XXX bonds and catastrophe bonds.

- Equipment – The team has knowledge and networks in three primary areas of equipment investing: aircraft, power generation, and shipping.

- Lending – Merced has identified numerous and varied opportunities to lend money on a private basis. They benefit from a first-lien on some form of collateral, most often involving residential or small-balance commercial real estate. Loans are typically underwritten at between 50% and 80% loan-to value, depending on the nature of the collateral.

- Operating Interests – Merced also invests in a limited number of established operating companies. They prefer simple businesses with a limited number of products and highly predictable margins, which are protected by barriers to entry.

IV. Investment Performance

Previous fund performance as of September 30, 2016 is shown below:

Fund	**Vintage Year**	**Total Committed Capital**	**SBI Investment**	**Net IRR***	**Net MOIC***
Harrington	2005	$279 million	--	6.9%	1.6x
Merced Partners II	2007	$474 million	$75 million	24.1%	1.9x
Merced Partners III	2010	$567 million	$100 million	7.1%	1.3x
Merced Partners IV	2013	$800 million	$125 million	6.3%	1.1x

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

V. General Partner's Investment

The General Partner, its affiliates and their respective employees, shareholders, partners and members will together make capital commitments to the Fund and any Parallel Regulatory Vehicles equal to at least 1.5% of the aggregate capital commitments of all partners to the Fund and all Parallel Regulatory Vehicles.

VI. Fees

Until the end of the Commitment Period, the Partnership shall pay to the General Partner or its designee, on a quarterly basis in advance per annum a "Management Fee" of 1.25% of Limited Partner's Capital Commitment. Thereafter, the annual Management Fee will be 1.25% of Limited Partner's aggregate capital contributions used to fund the acquisition cost of unrealized Fund investments as of the first day of the quarterly period to which the Management Fee payment relates. Notwithstanding any dissolution of the Fund, the General Partner will continue to earn and be entitled to receive the Management Fee for each fiscal quarter through the completion of the winding up and termination of the Fund.

VII. Distributions

Generally, the General Partner will receive 20% of all distributed profits with respect to the Fund's investments after the Limited Partners receive a return of all of their invested capital plus a preferred return thereon equal to 8% per annum.

VIII. Key Persons

A "Key Individual Event" means, prior to the end of the Commitment period, that fewer than three of the Key Individuals are devoting substantially all of their business time to the management of the affairs of the Fund, Other Accounts, Permitted Successor Funds and any co-investment vehicles, parallel vehicles or alternative investment vehicles related to any of the foregoing.

"Key Individuals" means David Ericson, Vincent Vertin, Stuart Brown, Hendrik Vroege or such other individuals designated by the General Partner and approved by the Advisory Board.

IX. Investment Period and Term

The Fund will have a term of seven years. The term of the Fund may be extended at the option of the General Partner for one additional year with the consent of the Advisory Board

The Investment Period will last for a period of four years.

Note: 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

PRIVATE EQUITY MANAGER SUMMARY PROFILE

I. Background Data

Name of Fund:	West Street Capital Partners VII, L.P.
Type of Fund:	Private Equity - Buyout
Target Fund Size:	$5 billion
Fund Manager:	Goldman, Sachs & Co.
Administrative Contact:	Amy Brown 200 West St, 37th Floor New York, NY 10282 (212) 357-5422

II. Organization and Staff

Goldman Sachs is establishing West Street Capital Partners VII, L.P. (the "Partnership" or "CP VII") to be Goldman Sachs' ("Firm") primary vehicle to make direct private equity investments. CP VII is part of Goldman Sachs' Merchant Banking Division ("MBD"). The MBD is one of the world's largest leading alternative investing platforms, with over 30 years of global experience investing over $150 billion of capital across corporate equity, credit, infrastructure and real estate Investments. Today, the MBD has over $65 billion of assets under management across these platforms.

Goldman Sachs long history of investing its capital in a variety of businesses and transactions began in 1983, when the Firm started to invest in selected long-term equity investments. Many of the early investments proved successful and, in 1986, the Firm established investment partnerships that allowed the Firm's clients to participate alongside Goldman Sachs. In 1991, Goldman Sachs formalized its private equity fund business through the creation of a distinct business unit with a mandate to manage the Firm's private corporate equity investments. The GS Capital Partners ("GSCP") Funds had a broad mandate to make private equity investments on a global basis in situations where the Firm perceived an attractive risk/return trade-off. From 1992 until 2012, the GSCP Funds served as the primary vehicles for Goldman Sachs' direct private equity investing activities.

Since completing the last GSCP Fund's investing portfolio in 2012, MBD has invested approximately $5.3 billion in investments that fall in the $100 million to $500 million range targeted for the CP VII Partnerships. Throughout this period, private equity investments were funded on the Goldman Sachs balance sheet and/or alongside separate accounts managed by the firm.

The private equity team consists of approximately 120 investment professionals, including approximately 30 partners and managing directors, in 7 countries, with offices in New York, London, Hong Kong, Tokyo, Beijing, San Francisco, Mumbai, and Sao Paulo.

III. Investment Strategy

The investment objective is to seek long-term capital gains through the creation of a diversified global portfolio of direct or indirect investments in equity, equity-related and similar securities. The firm expects CP VII to be invested in a similar manner to MBD's aggregate prior corporate private equity investing activity, across geographies (approximately 60% of invested cost in the Americas, 40% outside the Americas) and industries. There are five key tenets to their investment strategy: value orientation, domain expertise, company building, preferred partner and powerful global network.

Value Orientation

CP VII will look globally to find investment opportunities with the potential for multiple expansion as a result of, but not limited to, the following characteristics:

- Embedded growth: Identify businesses with embedded growth options and/or undervalued growth potential;
- Complexity: Find sophisticated solutions to complex situations to unlock value;
- Out-of-favor situations: Use deep industry expertise, extensive due diligence, and market insight to invest through the cycle; or
- Industrial Consolidations: Engage in M&A to create market leaders or improve business mix.

Domain Expertise

The MBD has developed a deep domain expertise through its long history and broad portfolio, which allows MBD to generate distinct, repeatable investment themes around the world and over time. CP VII will continue to focus on the following sectors in which CP VII possesses deep expertise: Financial Services; Technology, Media, & Telecommunications ("TMT"); Natural Resources; Services; Consumer; and Healthcare. Examples include:

- Drawing on its global expertise to assess investment opportunities by staffing investment deal terms with industry-specific expertise from across geographies;
- The MBD has a diverse global portfolio, with over 750 individual corporate equity investments since MBD's inception (over 150 current portfolio companies), that provide insights into industry themes;
- On-the-ground resources and a long-standing presence in key markets supplement these insights with access to a deep network of relationships, including with companies, entrepreneurs, regulators, and executives; and
- The MBD believes its position within the Firm provides MBD with access to leading expertise at the Firm, including the know-how to understand macro, regional, and industry trends.

Company Building

CP VII seeks to create value in its portfolio companies through a variety of ways. A major value enhancement is through operating improvements: CP VII employs a disciplined approach to helping portfolio companies enhance operations by (i) identifying, through rigorous due diligence and benchmarking, specific areas of improvement; (ii) supporting experienced management to execute on these areas; (iii) providing external resources to implement operating initiatives; and (iv) tracing, monitoring, and holding management teams accountable for results.

Cultivating entrepreneurialism is another lever the MBD professionals use to add value. At times, a specific industry sub-segment presents a compelling industry theme in which investments into existing companies are not actionable for valuation or other reasons. In these circumstances, the MBD has had a long-standing history of founding companies to create opportunities at attractive entry valuations and provide the basis for attractive risk-adjusted returns. To execute this strategy, CP VII backs new companies in partnership with experienced management teams and entrepreneurs, and the firm draws on its experience to work with them to manage start-up risk.

Organic growth initiatives are a third approach to driving value. CP VII uses domain expertise to provide guidance on where, how, and when to enter new business lines or geographies. In addition, CP VII leverages on-the-ground Goldman Sachs and MBD resources to help portfolio companies execute on these initiatives.

Fourth is growth and acquisition capital. CP VII helps its portfolio companies identify and source accretive acquisition opportunities; provide post-acquisition integration support and track synergy realization; and offer oversight of capex plans and execution, with disciplined focus of return on invested capital and value creation.

Fifth is talent and human capital management. CP VII helps its portfolio companies find the best teams for their support needs by (i) utilizing Goldman Sachs' platform and brand to attract and retain the best talent, including support from experienced, value-adding boards of directors; (ii) assembling experienced management teams; and (iii) incentivizing performance through tailored compensation.

Preferred Partner

MBD's position inside – and partnership with- Goldman Sachs more broadly often makes MBD a partner of choice for executives, entrepreneurs, shareholders and other key stakeholders. This preferred partner status has, in the past, helped MBD source proprietary deal flow. MBD's preferred partner status primarily results from the aspects of the Goldman Sachs brand and the Firm's strong existing relationships.

Global Network

In addition to leveraging the more than 750 current and past portfolio companies, multi-asset platform, domain expertise and broad network, the MBD draws on the wide reach of the Firm to source investment opportunities.

IV. Investment Performance

Previous fund performance as of June 30, 2016 for the MBD's primary corporate equity investment vehicles is shown below:

Fund	Vintage Year	Total Committed Capital	SBI Investment	Net IRR*	Net MOIC*
GSCP I	1992	$1.04 billion	--	27%	3.3x
GSCP II	1995	$1.75 billion	--	5%	1.2x
GSCP III	1998	$2.78 billion	--	0%	1.0x
GSCP 2000	2000	$5.25 billion	$50 million	23%	2.2x
GSCP V	2005	$8.51 billion	$100 million	18%	2.7x
GSCP VI	2007	$20.30 billion	$100 million	6%	1.2x
Balance Sheet & Managed Account	2012-2014	$3.80 billion	--	14%	1.3x

* 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) were provided by State Street for Funds 2000 – VI and by Goldman Sachs for Funds I – III and the Balance Sheet & Managed Account investments.

V. General Partner's Investment

The CP VII Partnerships are expected to include at least $500 million in investments from Goldman Sachs employees (through an investment in the Employee Fund and including leverage structured as preferred equity provided by Goldman Sachs), representing 10% of the target $5 billion fund size (subject to regulatory considerations).

VI. Fees

The Investment Manager will collect an annual management fee payable semi-annually in arrears. The Management Fee will be charged as follows:

(a) If a Limited Partner's capital commitments and such Limited Partner's and its affiliates' capital commitments to the other CP VII Partnerships in the aggregate are less than $250 million, (i) 1.50% on capital commitments during the Commitment Period, (ii) 1.0% on Net Invested Capital for two years following the end of the Commitment Period and, (iii) 0.75% on Net Invested Capital thereafter for the remainder of the Term.

(b) If a Limited Partner's capital commitments and such Limited Partner's and its affiliates' capital commitments to the other CP VII Partnerships in the aggregate are equal to or greater than $250 million, (i) 1.25% of capital commitments during the Commitment Period, (ii) 0.875% on Net Invested Capital for two years following the end of the Commitment Period and, (iii) 0.75% on Net invested Capital thereafter for the remainder of the Term.

VII. Distributions

Interest and other dividends paid to the Partnership generally will be applied by the Partnership to pay its expenses and to establish reserves. Remaining current cash flow from investments and net proceeds from investment dispositions will be distributed as follows:

(a) If the entire portfolio has not achieved the Preferred Return computed by marking to market unrealized gains and losses, distributions will be made to all partners pro rata based on their capital commitments as of the distribution date.

(b) If the entire portfolio has achieved the Preferred Return compute by marking to market unrealized gains and losses, then amounts otherwise distributable to Limited Partners will be distributed to such Limited Partners pro rata based on their capital commitments until such Limited Partners have received a cumulative amount equal to the sum of:

   i. their capital contributions used to fund the cost of all investments that have been sold, refinanced, redeemed or otherwise disposed and

   ii. the Preferred Return of 8% per annum thereon.

(c) Next, amounts otherwise distributable to such Limited Partners will be distributed to the holders of SLP Interests (defined as Goldman Sachs and / or its employees, directly or indirectly, including through the Employee Fund) until they have achieved 20% of total profits otherwise allocable to Limited Partners.

(d) Thereafter, amounts will be distributed 20% to the holders of SLP Interests and 80% to the Limited Partners.

VIII. Key Persons

A Key Person Event means the departure of:

(a) Both of the Chief Investment Officers of the CP VII Partnerships, Sumit Rajpal and Andrew Wolff, and the Chairperson of the Investment Committee, Rich Friedman, or,

(b) One or more Investment Committee members who are members of the MBD that result in there being fewer than 50% of the total number of Investment Committee members who are members of the MBD at such time following the Final Admission Date, as such total number may be increased from time to time through the addition of one or more additional Investment Committee members who are members of MBD.

IX. Investment Period and Term

The commitment period will commence on the initial admission date and will continue until the fifth anniversary of the final admission date. The term of the Partnership will be ten years from the final admission date, subject to the General Partner's right, in its discretion, to extend the term of the Partnership for one additional year and, with the consent of the Investment Advisory Committee, for up to two additional one-year periods thereafter.

Note: 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 and any supplemental thereto.

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ATTACHMENT E

PRIVATE EQUITY MANAGER SUMMARY PROFILE

I. Background Data

Name of Fund:	Vintage VII, L.P.
Type of Fund:	Private Equity - Secondaries
Target Fund Size:	$5 billion
Fund Manager:	Goldman, Sachs & Co.
Administrative Contact:	Amy Brown 200 West St, 37th Floor New York, NY 10282 (212) 357-5422

II. Organization and Staff

Goldman Sachs (the "Firm") is establishing Vintage VII, L.P. (the "Partnership" or "Fund VII") to acquire and structure portfolios of private equity partnerships and assets in the secondary market. The Firm has an 18-year track record of investing in the private equity secondaries market, dating back to its first fund launched in 1998. Within Goldman Sachs, the Vintage fund series is managed in the Alternative Investments & Manager Selection Group ("AIMS"), which is a division of Goldman Sachs Investment Management ("GSAM"). AIMS has over 300 global professionals across 9 offices worldwide and together they manage over $150 billion in assets. The Vintage investment team is comprised of 17 dedicated investment professionals, supplemented by 13 Strategy Vertical Heads who work on secondary transactions within their areas of expertise. There are 150 private markets employees in total across AIMS who touch the Vintage Funds in either an investment, risk management and analytics, or client service capacity.

III. Investment Strategy

The investment objective of Fund VII is to acquire and structure portfolios of private equity partnerships and assets in the secondary market. The Fund seeks to outperform the public market equivalent by (i) identifying and investing in high quality assets and managers on a global basis, leveraging the resources of Goldman Sachs and the AIMS Group; (ii) capitalizing on market disruptions which may result in unique opportunities to purchase private equity fund interests and assets at attractive prices; and (iii) partnering with knowledgeable private equity managers to acquire assets which may sit outside of traditional fund structures or which require innovative solutions to create new fund structures.

The AIMS team divides secondary investing into two broad categories: LP Secondaries and Direct Secondaries / Special Situations. LP Secondaries involve the purchase of a limited partnership interest in one or multiple private equity funds. In these transactions, the secondary investor generally assumes the associated rights and obligations of the original investor in the fund(s). The Vintage team intends to use its informational advantage to carve out subsets of fund interests from large portfolios being sold. Direct Secondaries / Special Situations involve the acquisition of private equity assets outside of the traditional fund structure. Examples that the AIMS team has executed in the past are:

(a) Fund restructurings: Restructuring a fund to realign incentives between managers and investors whereby a buyer offers to acquire existing investor interests and, to the extent appropriate, create a new vehicle to manage the portfolio of assets under revised terms.
(b) Regulatory change: Opportunity to acquire private equity assets through captive team spin-outs or portfolio sales from banks and other financial institutions as the new regulatory environment makes it more challenging for these organizations to hold certain illiquid investments on their balance sheets.
(c) Management company stakes: As the private equity industry matures, the secondary market can be a tool to provide strategic capital at the management company level to facilitate generational transitions or growth capital to become a more diversified asset manager.

While most participants focus on multi-fund portfolios, the Vintage strategy allows AIMS to pivot across the market depending on where they find the best relative value. Over the course of their program, approximately half of the transactions have been in direct secondaries or special situation investments, and AIMS actively seeks out tactical investment themes to maximize potential alpha generation.

Sourcing plays an important role for the strategy as the Firm's network provides it with a competitive advantage in the secondary space. The Firm is able to leverage (subject to informational barriers) Goldman Sachs' 36,800 employees in 74 offices across 37 countries. In addition, AIMS is one of the largest allocators to the private markets with over $50 billion of committed capital, over 500 manager relationships globally, and over 7,500 private market funds evaluated to date. This leads to an extensive network of relationships with private market firms, corporations, investors, entrepreneurs, governments, pension fund managers, endowments, foundations, financial institutions, high net worth individuals, and financial intermediaries worldwide.

Idiosyncratic deal dynamics among the seller, buyer, and investment manager also play an important role in buying well in the secondary market. The Firm believes it is well-suited to negotiate these dynamics for several reasons. First, AIMS is a partner of choice for many investment managers with whom it has developed extensive relationships over the course of its long history investing in private equity. This is potentially critical as transfers of limited partner interests typically require the approval of the investment manager. Second, the Firm has the ability to act on an expedited basis, which is often a critical consideration for sellers of private equity. Third, the Firm is experienced at navigating structurally complex deal dynamics related to legal, tax, asset transfers, and other considerations.

IV. Investment Performance

Previous fund performance as of June 30, 2016 for historical Vintage funds is shown below:

Fund	Vintage Year	Total Committed Capital	SBI Investment	Net IRR*	Net MOIC *
Vintage I	1998	$412 million	--	7.9%	1.3x
Vintage II	2001	$1,130 million	--	16.7%	1.5x
Vintage III*	2004	$1,504 million	--	10.0%	1.4x
Vintage IV	2006	$3,003 million	--	5.7%	1.3x
Vintage V	2008	$5,525 million	--	12.8%	1.5x
Vintage VI	2012	$5,867 million	--	13.8%	1.2x

* 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) were provided by Goldman Sachs. Performance for Vintage III is as of 3/31/16.

V. General Partner's Investment

Current and former employees will commit at least $170 million to Vintage VII. The split between these commitments is approximately $70 million from current employees and $100 million from accounts affiliated with former employees.

VI. Fees

The Investment Manager will collect an annual management fee payable quarterly. The Management Fee will be charged as follows:

(a) 1.125% on Limited Partners' capital commitment during the four year investment period.
(b) Upon the termination of the Investment Period and each subsequent anniversary, the percentage used to calculate the management fee will decline to 75% of the previous year.

VII. Distributions

Distributions will be apportioned to Limited Partners as follows:

(a) First, 100% to each Limited Partner until such Limited Partner has received cumulative distributions equal to such Limited Partner's cumulative capital contributions.
(b) Second, 100% to each Limited Partner until such Limited Partner has received an 8% per annum compounded internal rate of return.
(c) Third, 100% to the Carried Interest Partner until the cumulative Carried Interest is equal to 10%.
(d) Thereafter, 90% to each Limited Partner and 10% to the Carried Interest Partner.

VIII. Key Persons

The Fund does not have a key person provision.

IX. Investment Period and Term

The Investment Period is the period from the formation of the Fund until the fourth anniversary of the Commencement Date. The term of the Fund will continue until one year after the date on which the Fund has liquidated all its investments and the Fund has extinguished or has otherwise provided for its obligations.

Note: 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 and any supplemental thereto.

ATTACHMENT F

PRIVATE EQUITY MANAGER SUMMARY PROFILE

I. Background Data

Name of Fund:	Lexington Middle Market Investors IV, L.P.
Type of Fund:	Private Equity Limited Partnership
Target Fund Size:	$2 billion
Fund Manager:	Lexington Partners
Manager Contact:	Jenny Kheng Lexington Partners 3000 Sand Hill Road, Ste 1-220 Menlo Park, CA 94025 (650) 561-9600

II. Organization and Staff

Lexington Partners L.P. (the "Firm" or "Lexington") is forming Lexington Middle Market Investors IV, L.P. (the "Partnership" or "LMMI IV"), to continue Lexington's history of successfully acquiring U.S. growth capital, small, and middle market buyout (collectively, "middle market buyout") interests through negotiated secondary market purchases. Lexington is the largest independent manager of secondary acquisition and co-investment funds with more than $34 billion in original committed capital. Lexington has been at the forefront of private equity innovation since principals of Lexington helped pioneer the development of the secondary market for private investment fund interests 25 years ago and also created one of the first independent co-investment programs 18 years ago. Lexington's leadership position in the secondary and co-investment markets has attracted commitments from more than 700 institutional investors in over 30 countries, including many of the largest global investors with alternative asset commitments.

Since 1990, principals of Lexington have successfully originated, analyzed, negotiated, and closed over 400 secondary transactions, including 62 in the LMMI secondary funds and acquiring over 2,600 private investment fund interests managed by more than 640 sponsors, including 176 U.S. middle market buyout sponsors. In addition, since 1998, Lexington's secondary funds have made select commitments to new private investment funds during their initial formation to complement Lexington's secondary acquisition strategy.

Lexington's private equity secondary strategy is led by Partners Brent Nicklas, Kirk Beaton, Duncan Chapman, Charles Grant, Tom Newby, Marshall Parke, Pål Ristvedt, John Rudge, Lee Tesconi, Wilson Warren, and Victor Wu.

III. Investment Strategy

LMMI IV will seek to generate superior returns by negotiating attractive secondary market purchases of interests in high-quality U.S. middle market buyout investments, primarily in established funds that are less than 50% invested. Lexington believes that the U.S. middle market is an attractive private equity segment due to the combination of higher potential growth rates for small- and mid-sized businesses, generally lower purchase price multiples, modest leverage, and the opportunity for substantial value creation from accretive acquisitions and operational improvements. In addition, multiple liquidity options are available for small- and mid-sized businesses including sales to both strategic and financial buyers, recapitalizations, and public market exits. As a result, pooled returns for U.S. middle market buyout primary funds have consistently demonstrated strong relative performance compared to public market indices and other private equity strategies. The Firm designed the Lexington Middle Market Investors' innovative investment strategy 12 years ago specifically to provide high-quality U.S. middle market buyout exposure to investors on a diversified basis with the objective of mitigating risk while capitalizing on Lexington's ability to originate, analyze, negotiate, and close attractive acquisitions in the global secondary market.

Lexington intends to capitalize on the experience of its principals, its substantial expertise in secondary market transactions, its proprietary database of information and disciplined investment process to seek superior investment returns for LMMI IV. While the investment opportunity for LMMI IV is a subset of the global secondary market, Lexington believes its ability to selectively pursue U.S. middle market buyout interests, both separately and within the context of broad portfolio dispositions, will allow the Partnership to benefit from an attractive secondary market opportunity as well as the full scale of Lexington's sourcing ability, counterparty reputation, strength of capital, and breadth of relationships in the global secondary market. Lexington believes that LMMI IV will provide investors with an opportunity to obtain attractive U.S. middle market buyout exposure on a lower-risk and better-cost basis than primary funds while benefitting from earlier and more consistent cash distributions.

IV. *Investment Performance*

Previous fund performance as of June 30, 2016 is shown below:

Fund	Vintage Year	Total Committed Capital	SBI Investment	Net IRR*	Net MOIC*
LMMI I	2005	$556 million	-	11.3%	1.6
LMMI II	2009	$650 million	-	14.0%	1.4
LMMI III	2013	$1,070 million	-	14.4%	1.2
LCP I	1996	$242 million	-	13.1%	1.3
LCP II	1998	$1,111 million	-	8.2%	1.3
LCP III	1999	$656 million	-	8.7%	1.3
LCP IV	2000	$606 million	-	19.3%	1.8
LCP V	2002	$2,004 million	-	19.0%	1.7
LCP VI	2006	$3,774 million	$100 million	7.8%	1.4
LCP VII	2010	$7,054 million	$200 million	15.8%	1.5
LCP VIII	2014	$10,119 million	$150 million	27.3%	1.3

* Previous Fund investments may be relatively immature and, therefore, returns may not be indicative of future results. Net IRR and Net MOIC for LCP VI-VIII provided by State Street. Other fund returns provided by the manager.

V. General Partner's Investment

The General Partner and its affiliates will commit to the Partnership the lesser of (i) $40,000,000 or (ii) 2% of the Partnership's aggregate capital commitments.

VI. Fees

During the investment period, 1% per annum of capital committed to the Fund. After the investment period, the management fee is 0.85% per annum on the sum of the reported value of all secondary investments and unfunded commitments to secondary investments.

VII. Distributions

Distributions will be apportioned as follows:

(a) First, 100% to such Limited Partners until such Limited Partner has received distributions equal to the aggregate amount of capital contributions made to the Partnership by such Limited Partner in respect to Secondary Investments and fees and expenses.
(b) Second, 100% to such Limited Partner until such a time as the 7% Preferred Return Test is satisfied.
(c) Third, 100% to the General Partner until it receives a cumulative carried interest of 10%.
(d) Fourth, 90% to such Limited Partner and 10% to the General Partner until such a time as the 10% IRR Test is satisfied.
(e) Fifth, 100% to the General Partner until it receives a cumulative carried interest of 12.5%.
(f) Thereafter, 87.5% to such Limited Partner and 12.5% to the General Partner.

VIII. Key Persons

A temporary suspension period will occur upon the failure for any reason of three out of the five Key Persons for a period of three consecutive months to devote sufficient portion of their business time to the Advisor and related entities. Brent R. Nicklas, Charles R. Grant, Marshall W. Parke, Lee J. Tesconi and Wilson S. Warren are designated the initial Key Persons of the General Partner.

IX. Investment Period and Term

The investment period will end following the earlier of (a) the date upon which a Successor Fund begins to accrue an advisory fee and (b) the fifth anniversary of the Final Closing Date. The Partnership will terminate on December 31 of the year during which occurs the tenth anniversary of the Final Closing Date, but may be extended for up to a total of three one-year periods.

Note: 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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ATTACHMENT G

PRIVATE EQUITY MANAGER SUMMARY PROFILE

I. Background Data

Name of Fund:	Dyal Capital Partners III, L.P.
Type of Fund:	Private Equity
Target Fund Size:	$4.5 billion
Fund Manager:	Neuberger Berman
Manager Contact:	Sean Ward 605 3rd Ave New York, NY 10158 212-476-8532

II. Organization and Staff

Dyal Capital Partners ("Dyal" or "the firm") is sponsoring Dyal Capital Partners III (the "Fund" or "Fund III") to make minority equity investments in established investment management companies ("Partner Managers").

Dyal Capital Partners is part of the Neuberger Berman ("NB") Private Equity platform. Since its inception, NB Private Equity has managed over $35 billion of investor commitments across primary, secondary, co-investments, private debt and other direct investments (since inception through June 30, 2016). NB Private Equity has a global presence with over 110 investment professionals in offices in the U.S., Europe, Asia, and South America, and is supported by approximately 130 investor service professionals including the back office services affiliate Capital Analytics.

The Dyal Capital Partners team is composed of 23 professionals: 8 senior investment professionals and a 15-member Business Services Platform. The 8 members of the Investment Team have extensive prior experience in asset management mergers and acquisitions, and have consummated minority investments in 13 hedge funds and 6 private equity managers across Dyal Funds I – III. The Business Services Platform provides strategic services to Partner Managers in four key areas: qualified client introductions, strategic advisory projects, consultant coverage, and product development.

The Dyal team is headquartered in New York, and has raised a total of $3.4 billion in two prior funds (Dyal Capital Partners I and Dyal Capital Partners II), each following a hedge fund-focused investment program that is otherwise substantially similar to the private equity-focused program that Fund III intends to implement.

III. Investment Strategy

Fund III focuses on acquiring minority interests in leading institutionalized private equity firms, which should continue to benefit from increased allocations to private equity funds by large institutional investors, such as public and corporate pension plans and sovereign wealth funds. Further, Dyal believes that portfolio diversification is critical and will seek to assemble a portfolio of complimentary investments diversified by investment strategy, vintage years, and geography.

Dyal believes that owners of private equity firms are increasingly attracted to taking on minority equity partners for a number of reasons. First, such a transaction can provide the private equity firm with permanent capital, which can be used to make larger commitments to their own funds or develop new products, as well as engage in acquisitions or geographic expansion. Second, selling a minority stake may allow management to reallocate ownership to the next generation of investment professionals. Third, certain firms may have existing financial shareholders that are seeking liquidity, or may be looking to spin a successful franchise out of a bank due to regulatory concerns. Lastly, taking on a minority partner can provide management with access to capital while avoiding an IPO and the costs and responsibilities of running a public company.

Dyal seeks to respond to all of these motivations, and has three distinct advantages in seeking to partner with high quality private equity firms: (i) a deep and experienced team, (ii) the ability to offer a true strategic partnership, and (iii) affiliation with a global asset management firm that does not, generally speaking, compete with Partner Managers.

The Firm anticipates that each Fund III investment in a private equity Partner Manager will benefit from three return components:

1. A share of management fees, which is very stable and predictable over the life of the funds,
2. A share of return of capital and gains on balance sheet investments made alongside the limited partners in the funds (i.e., the GP commitment), and
3. A share of carried interest, which is episodic and varies with fund returns.

Although every transaction is unique, Dyal generally seeks to acquire the right to these three income streams with respect to a Partner Manager's existing funds, as well as those it will raise in the future. The existing funds may be at different stages of their lives, and the predictability of the performance of balance sheet assets and the likelihood of carried interest payments varies according to the stage of the fund. Regardless of fund stage, the expected management fee income is much less variable and can be more accurately predicted. Dyal uses reasonable and conservative assumptions regarding the size and performance of funds that a Partner Manager may raise in the future, and evaluates several different scenarios (both good and bad) to assess the range of possible outcomes. Dyal's underwriting does not ascribe significant terminal value to the manager at the end of an expected 12 year hold period. Dyal expects to generate attractive returns solely from cash flow.

Dyal's focus is on "institutionalized" firms that are positioned for sustained earnings stability with potential upside growth. These firms have the resources to retain large, sophisticated investors and build lasting businesses. Institutionalized firms dedicate substantial resources to non-investment functions, such as investor relations, legal, compliance, and risk management. They typically have multiple products and are not key-person dependent. Managers will be evaluated both for their investment acumen and their ability to build and manage growth businesses successfully. In addition to business stability and attractiveness to institutional investors and consultants, institutionalized firms are generally large enough to be profitable even in years with little or no carried interest.

Fund III Partner Managers will be entitled to benefit from the customized suite of services provided by Dyal's Business Services Platform. Broadly speaking, the Business Services Platform executes projects in four key areas:

- Qualified Client Introductions – making strategic, qualified introductions of Dyal's Partner Managers to carefully selected institutional allocators to alternative investments, including a number of investors in Dyal's funds.
- Consultant Coverage – providing Partner Managers with guidance through the consultant process, including identification of key decision-makers at individual consulting firms and advice regarding how to approach each consultant's evaluation process.
- Strategic Advisory – undertaking strategic advisory projects regarding best practices in such areas as succession planning, firm infrastructure and operations, counterparty exposure, expansion, employee compensation, and branding.
- Product Development – launching new products with extensive market and product opportunity analyses that define relevant peer groups, examine performance data, and identify potential target investors and barriers to entry.

IV. *Investment Performance*

Previous fund performance as of June 30, 2016 is shown below:

Fund	Vintage Year	Total Committed Capital	SBI Investment	Net IRR*	Net MOIC*
Dyal I	2012	$1.3 billion	--	7%	1.2x
Dyal II	2014	$2.1 billion	--	--	--

* 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 and its affiliates (including employees of Neuberger Berman) will commit to Fund III an amount equal to 1% of aggregate commitments.

VI. *Fees*

The management fee for Fund III will be 2% per annum during the Investment Period, stepping down to 1.5% beginning on the earliest of (A) the end of the investment period, (B) the date upon which 90% of the aggregate commitments have been drawn, committed or reserved for expenses or investments and (C) the initial closing of a successor partnership. No management fee will be charged after the 15th anniversary of Fund III's initial closing.

VII. Distributions

Distributions will be apportioned to Limited Partners as follows:

(a) First, 100% to such Limited Partner until such Limited Partner has received cumulative distributions of Investment Proceeds equal to such Limited Partner's cumulative capital contributions through such date.
(b) Second, 100% to such Limited Partner until cumulative distributions of Investment Proceeds are sufficient to provide an 8% per annum compounded internal rate of return.
(c) Third, 100% to the Special Limited Partner until the cumulative Carried Interest is equal to 20%.
(d) Thereafter, 80% to such Limited Partner and 20% to the Special Limited Partner.

VIII. Key Persons

A Key Person Event will be triggered if either (A) Michael Rees ceases to spend at least 40% of his business time on the business and activities of the Fund, or (B) if none of Sean Ward, Mark O'Sullivan, and Andrew Laurino are devoting a sufficient amount of time to the Fund as is reasonably required to conduct the investment and other activities of the Fund.

IX. Investment Period and Term

The investment period will last for five years from the date of the final closing, unless terminated earlier by the General Partner. The General Partner may extend the investment period for up to two periods of up to 12 month each, with the consent of the LP Advisory Committee. At any time during the investment period, 80% in interest of the voting investors may elect to terminate the investment period. Fund III will continue in existence indefinitely. However, the General Partner may present the Limited Partners with the opportunity to offer all or substantially all of their interests for public or private sale, and may cause Fund III to enter into a transaction that affords the Limited Partners with an opportunity to receive in exchange for all or substantially all of their interests cash or marketable securities. Any such Full Liquidity Event may involve (i) a public offering, (ii) issuance of stock or common equity, (iii) a securitization of future income streams, (iv) a sale of transfer to an existing private or public company in exchange for more liquid securities, or (v) another type of offering of securities or financing.

Note: This document is a summary of more detailed information provided in the Confidential Private Placement Memorandum, as supplemented by Supplement No. 1 and Supplement No.2 to the PPM (the "PPM"). It is qualified in its entirety by the more detailed information provided in the PPM.

ATTACHMENT H

PRIVATE EQUITY MANAGER SUMMARY PROFILE

I. Background Data

Name of Fund:	Oak Hill Capital Partners IV, L.P.
Type of Fund:	Private Equity - Buyout
Target Fund Size:	$2 billion
Fund Manager:	Oak Hill Capital Management, LLC
Administrative Contact:	Andrew Burdick 263 Tresser Boulevard, 15th Floor Stamford, CT 06901 (203) 328-1672

II. Organization and Staff

Oak Hill Capital Management, LLC ("Oak Hill" or the "Firm") has a 30-year history of successful private equity investing, making it one of the longest-tenured middle-market firms in the industry. The Firm began its investment activities in 1986 as the family office of Robert M. Bass, at which time it established its longstanding approach as "principal-minded" investors and its core philosophy of partnership through alignment of interests. In 1999, the Firm raised its first outside capital and formed its first fund. Oak Hill is led by two Managing Partners and 12 Partners (together or separately, the "Partners"), who have worked at Oak Hill for an average of 16 years and have an average of 29 years of industry experience. The Oak Hill team comprises 37 dedicated professionals with extensive expertise in private equity, investment banking, capital markets, operations, consulting, legal, and other functional areas. Oak Hill is headquartered in New York and has offices in Menlo Park and Stamford.

III. Investment Strategy

Oak Hill's investment strategy focuses on originating attractive opportunities and executing successful investments by adhering to its theme-based investment strategy. This strategy requires a deep understanding of: (i) the long-term secular trends within each core sector; (ii) the key operating drivers of business performance; and (iii) the intrinsic value of an asset. Oak Hill believes that its investment strategy enables the Firm to form differentiated perspectives relative to other potential acquirers and intends to continue to deploy its proven and disciplined investment strategy by seeking to:

- Leverage sector knowledge to develop actionable investment themes based on observable long-term trends;
- Proactively originate investment opportunities that align with the Firm's investment themes;

- Partner with proven management and leverage in-house functional experts and established relationships with operating talent;
- Identify, underwrite, and execute against customized value creation roadmaps;
- Mitigate risk; and
- Position companies to capitalize on the optimal exit strategy.

With an average of 29 years of relevant industry experience, Oak Hill's Partners have amassed comprehensive industry knowledge and an extensive network of relationships that allow them to develop proprietary and actionable investment themes. Investment themes are identified based on the attractiveness and sustainability of industry demand and financial trends, and are continually evaluated for whether or not they are actionable in light of macroeconomic and market conditions. The Firm invests considerable resources in analyzing the macroeconomic outlook, secular trends, and industry dynamics in addition to relevant company-specific trends. Oak Hill conducts periodic business planning sessions during which themes are underwritten (or re-underwritten) on a Firm-wide basis to ensure efficient allocation of resources and to maximize knowledge sharing.

Once an investment theme has been identified, the Firm's professionals proactively build a pipeline of potential investment targets. Oak Hill professionals identify target companies in its core sectors through a variety of direct and indirect methods, including the Firm's network of industry and management relationships, primary research, outbound inquiries, industry conferences, and advisor/banker introductions. Oak Hill's origination strategy is highly disciplined, as the Firm focuses exclusively on opportunities within its established investment themes and avoids "reactive" opportunities. This allows Oak Hill professionals to focus on opportunities where they believe they are best positioned to create value through differentiated perspectives and expertise.

Oak Hill believes that superior management and operating talent can consistently lead to outperformance. For nearly three decades, Oak Hill has demonstrated its ability to identify and partner with best-in-class managers, which is a critical element of executing on value creation roadmaps and driving investment performance. Once an investment has been made, Oak Hill seeks to actively add value to its portfolio companies through a variety of resources that it offers to each company, in addition to providing board oversight. Management receives support and hands-on assistance from Oak Hill and the Firm's operating network. Oak Hill investment professionals are actively engaged in designing strategic plans, acquisitions, dispositions, capital markets events, and other priority items on portfolio companies' value creation roadmaps, each of which draws upon the industry experience and expertise of the Oak Hill team. Oak Hill complements management with its extensive network of operating talent. The professionals in this network are not employees of the Firm, but are experienced professionals with whom Oak Hill has established relationships and who provide additional resources to the Oak Hill funds and portfolio companies. These value-added resources have enabled the Firm's portfolio companies to enhance execution, financial growth, and franchise value.

Oak Hill has an established track record of creating value through multiple initiatives, which not only increases the number of levers to drive franchise value but also expands the universe of potential investment opportunities. In order to unlock financial and strategic value over the course of an investment, Oak Hill typically focuses on one or two of the following initiatives, targeting those that are expected to have the largest impact on company performance.

- Operating Initiatives: Oak Hill has successfully executed a variety of revenue and profitability enhancing operating initiatives that directly result in revenue gains and/or EBITDA margin expansion, such as capacity enhancement, geographic expansion, pricing model refinement, and margin improvement through supply-chain/sourcing arrangements.
- Strategic Repositioning: In some situations, Oak Hill will pursue major business transformations to maximize value and drive growth, such as enhancing brand positioning, go-to-market strategy, or implementing other business model refinements designed to increase franchise value.
- Mergers & Acquisitions: Oak Hill works closely with its management teams to pursue accretive add-on acquisitions. These acquisition opportunities are often pre-determined as a result of Oak Hill's theme-based approach and institutional sector knowledge.

Oak Hill believes that exit strategies and investment horizons must be tailored to meet the circumstances of each portfolio company as well as market conditions. The Oak Hill team has experience utilizing several different options to realize attractive returns on its investments, including: (i) selling portfolio companies to strategic buyers for stock, cash, or a combination thereof; (ii) IPOs and secondary public equity offerings; (iii) sales to financial buyers; and (iv) dividend recapitalizations. The Firm analyzes capital markets opportunities and potential exit alternatives both during underwriting and throughout the life of each investment.

IV. Investment Performance

Previous fund performance as of June 30, 2016 for Oak Hill Capital Partners ("OHCP") is shown below:

Fund	Vintage Year	Total Committed Capital	SBI Investment	Net IRR*	Net MOIC*
OHCP I	1999	$1,508 million	--	12%	1.9
OHCP II	2004	$2,369 million	--	11%	1.7
OHCP III	2007	$3,514 million	--	11%	1.7

* Previous Fund investments may be relatively immature and, therefore, returns may not be indicative of future results. Performance was provided by Oak Hill Capital Management.

V. General Partner's Investment

The Oak Hill professionals and Robert M. Bass will commit at least $300 million, of which $100 million will be committed by the investment professionals.

VI. Fees

During the commitment period, 1.75% per annum of aggregate commitments. Thereafter and until the tenth anniversary of the initial closing, 1.25% per annum of aggregate capital contributions attributable to investments that have not been disposed. After the tenth anniversary of the initial closing, 0.75% per annum of aggregate capital contributions attributable to investments that have not been disposed of. After the thirteenth anniversary of initial closing, no management fee will be paid.

VII. Distributions

Distributions will be apportioned to Limited Partners as follows:

(a) first, 100% to each investor until it has received total distributions equal to its capital contributions;
(b) second, 100% to each investor until it has received an 8% per annum return (compounded annually) on the investor's outstanding capital contributions (the "Preferred Return");
(c) third, 100% to the General Partner as carried interest until it has received 20% of all distributions made by the fund pursuant to sub-paragraph (b) above and this sub-paragraph (c); and
(d) fourth, 80% to investors and 20% to the General Partner as carried interest.

VIII. Key Persons

If, at any time prior to the expiration of the Commitment Period, (a) a majority of J. Taylor Crandall, Steven B. Gruber, and Tyler J. Wolfram or (b) a majority of Mr. Crandall, Mr. Wolfram, and Brian N. Cherry cease to fulfill their agreed upon time commitments to OHCP IV, then the General Partner will notify the Limited Partners of the occurrence of such Managing Partner Key Person Event and OHCP IV will automatically be in suspension mode.

IX. Investment Period and Term

The Investment Period will last for a period of six years. The fund will terminate 10 years from the initial closing with the option of (i) an additional one-year extension at the sole discretion of the General Partner and (ii) up to two additional one-year extensions with the approval of the Advisory Board.

Note: 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 and any supplemental thereto.

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DATE: November 8, 2016

TO: Members, Investment Advisory Council

FROM: 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. Also, included in this section is a summary of investment manager activity and performance summaries of the equity and fixed income managers in the SBI portfolio.

Also, we have included commentary and performance for the non-retirement managers, deferred compensation plan mutual funds, and performance for options within the Minnesota College Savings Plan.

The report includes the following sections:

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Public Markets Economic and Market Overview
Third Quarter 2016

Overview

After a wave of pessimism swept through financial markets following the U.K. referendum to leave the European Union, sentiment gradually improved and risk taking was rewarded. This quarter, many of the defensive stocks that led for much of the first half of 2016 did not participate in the rally. Recent economic data reflect a stable environment for consumer spending, supported by continued job growth and wage gains that have more than offset the upward pressure on gas prices from rebounding oil markets. As a result, Technology was the best performing sector in the Russell 3000 index which had an overall return of 4.4%. Utilities and Consumer Staples were the only two sectors with negative returns for the quarter.

U.S. Treasury yields started the third quarter at record lows following the June 23, 2016 U.K. referendum to leave the European Union, then steadily increased as the Brexit shock abated and positive economic reports including a strong July employment data were released. The FOMC chose to leave the Fed Funds target range unchanged in September. Chair Yellen commented that even if economic conditions warranted a rate hike in calendar 2016, the Fed would remain accommodative for the foreseeable future. The Barclays Aggregate Index rose 0.5% for the quarter, with the spread tightening of longer duration credit outweighing the decline in U.S Treasuries.

Developed markets had a positive quarter, as represented by the 6.3% return of the MSCI World ex. USA Index (net) return, amid generally positive macroeconomic data and accommodative policies across many regions. However, uncertainty surrounding the United Kingdom vote to leave the European Union weighed on market sentiment at certain points. The quarter returns were positive even as a number of global macroeconomic developments remained in flux, particularly around various central bank policies and oil prices. The top performing sectors for the quarter were Information Technology, Materials and Consumer Discretionary. The worst performing sectors were Health Care, Telecommunication Services and Utilities.

Overall, emerging markets saw a strong quarter despite overall global uncertainty. The MSCI Emerging Markets Index (net) had a return of 9.0% during the third quarter. Low valuations, improving fundamentals and higher yields drove fund flows into the asset class. The top performing sectors were Information Technology, Materials and Financials. The worst performing sectors were Utilities, Consumer Staples and Telecommunication Services.

SBI Portfolio

In the third quarter, the SBI's overall portfolio, the Combined Funds, exceeded the composite benchmark return 4.1% versus 3.8%. Domestic equities outperformed the Russell 3000 Index return (4.4%) by 40 basis points, while international equities underperformed the MSCI ACWI ex USA Index (net) return (6.9%) by 20 basis points. The fixed income portfolio outpaced the Barclays Aggregate Index return (0.5%) by 40 basis points.

Domestic Equity

The large cap growth managers exceeded the Russell 1000 Growth benchmark by 3.1% for the quarter. The quarterly return was helped by stock selection in Health Care. INTECH trailed the quarterly benchmark by 2.9%. Sands and Zevenbergen outperformed by 6.6% and 7.7%, respectfully. The large cap value managers outperformed the Russell 1000 Value benchmark by 1.3% for the quarter. Stock selection in the Financial Services sector and an underweight to the Utilities sector helped the quarterly return. All managers exceeded the quarterly benchmark, led by Systematic's outperformance of 2.7%. Both of the small cap growth managers trailed the Russell 2000 Growth benchmark by 4.1% for the quarter. Stock selection in the Health Care and Technology sectors hurt the quarterly performance. The small cap value managers underperformed the Russell 2000 Value benchmark by 0.6% for the quarter. Negative stock selection across most sectors detracted from the quarterly performance. Three of the managers trailed the benchmark, while Peregrine outperformed by 0.6%. For the quarter, the semi-passive managers in aggregate matched the Russell 1000 index return and the passive manager matched the Russell 3000 index.

Four new small cap growth managers were funded on October 31, 2016.

International Equity

Active developed equity managers outperformed the MSCI World ex USA Index (net) by 0.1 percentage point for the quarter as stock selection as well as allocation added value to performance. From a country point of view, stock selection was positive in Australia, Canada and France. From a sector point of view, allocation was positive in Information Technology, Utilities and Energy and selection was positive in Health Care and Information Technology.

Emerging Markets

The SBI's emerging markets equity managers underperformed the benchmark by 0.4 percentage point due to negative country allocation in Philippines, China and Mexico and negative sector allocation in Information Technology, Industrials and Health Care.

Fixed Income

The relative performance of SBI's fixed income managers vs. the Barclays Aggregate benchmark for the quarter was mixed. In total, the managers outperformed the benchmark by 0.4 percentage point. Managers with underweight duration positioning and exposure to credit largely outperformed the benchmark, while managers with equal or overweight benchmark duration and less credit focus underperformed. Exposure to credit, both corporate investment grade and high yield, was beneficial, as spreads narrowed during the quarter, as did CMBS and non-agency RMBS.

Public Markets Manager Activity
Third Quarter 2016

For the quarter, the majority of investment managers performed in line with expectations. There were some noteworthy manager developments for the quarter involving Winslow Capital, J.P. Morgan, BlackRock, Fidelity, State Street Global Advisors (SSgA), and Aberdeen.

Domestic Equity Managers

Winslow Capital
Michael Hoover, energy analyst, left Winslow as of July 15, 2016. Energy was getting to be a smaller and smaller part of the portfolio. Stephan Peterson, financial analyst, will cover the energy sector. Staff will monitor the change and does not have any concerns with the pending change.

J.P. Morgan
During the third quarter, J.P. Morgan's Global Head of Equities, Martin Porter, announced his intention to retire in the fourth quarter of 2016. Paul Quinsee, Chief Investment Officer of U.S. Equity, will become the new Global Head of Equities, reporting to Chris Wilcox, CEO of J.P. Morgan's Global Investment Management business.

Effective as of the end of 3Q16, Lee Spelman assumed the role of Head of U.S. Equity, a team managing assets across the Core, Value, Growth and Behavioral Finance platforms. Previously, Lee held an investment role and, most recently, was Head of the U.S. Equity Client Portfolio Management team. Staff has no concerns with these announcements.

BlackRock
Mark Wiseman joined BlackRock in September as Head of Global Active Equity. As a Senior Managing Director, he will join the Global Executive Committee and will also become Chairman of the BlackRock Global Investment Committee. Mark will also help support BlackRock Alternative Investors (BAI).

In consultation with Mark, BlackRock has established a structure for the Global Active Equity platform under co-CIO's Nigel Bolton, Raffaele Savi and Jeff Shen that provides global, regional and functional direction for the team.

Chris Jones, formerly co-CIO for Americas Fundamental Equity, departed BlackRock, having recently informed the firm of his desire to leave the firm to pursue other long-held interests in the arts and business. Staff has no concerns with these announcements.

International Equity Managers

Fidelity
In October 2016, Fidelity announced the departure of Chris Steward, the co-lead portfolio manager for their International Growth strategy. As a result, Brian Hoesly, who has co-managed the strategy alongside Steward since 2013, will be solely responsible for the management of the product. Staff will monitor these changes.

State Street Global Advisors (SSgA)
During the third quarter, SSgA completed its acquisition of GE Asset Management. As a result of this acquisition, Lori Heinel became the Deputy Global Chief Investment Officer, while also retaining her role as Chief Portfolio Strategist. Dale Brooksbank left his position as the Head of Trading, EMEA. Graham Sorrell and Sharon Ruffles have assumed his responsibilities while SSgA searches for a replacement. Stephen Mantle left his position as Head of Trading, APAC. Tommy Cheung has assumed his responsibilities while SSgA searches for a replacement. Staff will continue to monitor staffing changes at SSgA.

Fixed Income Managers

Aberdeen
In August 2016, Aberdeen Asset Management announced the departure of Neal Rayner, Head of Fixed Income trading. Neal had management oversight over a team of five North American Fixed Income traders including the SBI's U.S. Core Bond mandate. Aberdeen announced that Neal's responsibilities would be assumed by existing staff.

In October 2016, Aberdeen conducted a strategic review of its U.S. Fixed Income business and decided to exit the U.S. Core and Core Plus business. Aberdeen agreed to sell these businesses to Chartwell Investment Partners LLC, an investment management business of TriState Capital located in Berwyn, PA. Six Aberdeen investments professionals currently managing the SBI's account will be joining Chartwell: Neil Moriarty, Stephen Cianci, Michael Degernes, Oliver Chambers, Stefan Martin and Stephen Frech. Staff feels this decision creates an unacceptable level of organizational risk, and is recommending terminating our relationship with Aberdeen.

2016 Manager Meetings

Staff continued with the SBI Stock and Bond Manager Annual Reviews. The third quarter manager reviews are noted below.

Investment Manager	Asset Class
• Aberdeen Asset Management Inc.	Fixed Income
• Barrow, Hanley, Mewhinney & Strauss, LLC	Domestic Equity
• BlackRock Financial Management, Inc.	Fixed Income
• Goldman Sachs Asset Management	Fixed Income
• INTECH Investment Management, LLC	Domestic Equity
• Mellon Capital Management Corporation	Domestic Equity
• Neuberger Berman Fixed Income LLC	Fixed Income
• State Street Global Advisors (SSgA)	International Equity
• Winslow Capital Management, LLC	Domestic Equity

Non-Retirement Manager Update
Third Quarter 2016

Domestic Equities

State Street Global Advisors (previously GE Asset Management)

The domestic equity portfolio outperformed the S&P 500 for the quarter and underperformed for the year. Performance for the quarter benefited from broad based stock selection with the greatest contribution from the cyclical sectors, including information technology, financials, industrials, and consumer discretionary. Sector allocation also benefited for the quarter with an underweight to consumer staples, telecom and utilities.

Staff continues to monitor the portfolio closely with the sale of GE Asset Management (GEAM) to State Street on July 1, 2016.

Internal Stock Pool

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

Fixed Income

RBC Global Asset Management

The fixed income portfolio tracked the benchmark, the Barclays Intermediate Government Index, for the quarter and outperformed for the year.

Internal Bond Pool

The bond portfolio outperformed its benchmark, the Barclays Aggregate, for the quarter and for the year. For the quarter, the overweight position to investment grade credit benefited and within investment grade credit, energy and producer manufacturing were the biggest drivers of performance. For the year, the allocation to corporates and mortgages were the largest contributors to performance.

Deferred Compensation Managers
Third Quarter 2016

Domestic Equities

Janus Twenty

The MNDCP liquidated Janus Twenty Fund during the third quarter of 2016 and mapped the assets to the Vanguard Dividend Growth Fund.

Vanguard Dividend Growth Fund

The Vanguard Dividend Growth Fund was added to the MNDCP investment line-up during the third quarter of 2016 and is an actively managed portfolio invested by Wellington Management. The Fund focuses on high-quality companies with a history of paying a stable or increasing dividend over time. The investment team focuses on revenues, earnings, and free cash flow as indicators of growing income streams.

The Fund lagged its benchmark, the NASDAQ US Dividend Achievers Select Index, for the quarter and for the year. Performance for the quarter was primarily impacted from stock selection in the information technology and consumer discretionary sectors. For the year, poor stock selection in industrials, financials and materials pulled down returns.

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 the year.

T. Rowe Price

The small cap equity portfolio underperformed the Russell 2000 for the quarter and outperformed for the year. Performance for the year benefited from strong stock selection in industrial and business services in addition to the energy sectors.

The MNDCP transitioned the T. Rowe Price Small Cap Equity investors out of the Retail Mutual Fund and into the lower fee, Institutional Share Class Fund during the third quarter of 2016. This was an in-kind transfer and there were no changes to the process, team, or portfolio.

Staff met with Frank Alonso, who will replace Greg McCrickard as the lead portfolio manager in October of 2016.

International Equities

Fidelity Diversified International
The international equity portfolio outperformed the MSCI EAFE Free for the quarter and underperformed for the year. Performance for the quarter benefited from stock selection.

The MNDCP will transition the Fidelity Diversified International investors out of the Retail Mutual Fund and into the lower fee, Commingled Investment Trust (CIT) in November of 2016. This is an in-kind transfer and there were no changes to the process, team, or portfolio.

Vanguard Total International Stock Index
The portfolio underperformed its benchmark, the FTSE Global All Cap ex US Index, for the quarter and for the year. In the short term, the international portfolio will have higher tracking error as a result 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 Barclays Aggregate, for the quarter and for the year. The quarterly performance benefited from credit security selection and the Fund's overweight position to corporate bonds and underweight to U.S. Treasuries. For the year, credit security selection aided return as did the Fund's overweight to the Industrial sector and underweight to U.S. Treasuries.

Vanguard Total Bond Market Index
The fixed income portfolio underperformed the benchmark, the Barclays Aggregate Index, for the quarter and outperformed for the year.

Balanced and Conservative Options

Vanguard Balanced
The portfolio tracked the benchmark return for the quarter and for the year. The benchmark is a combined return of 60% CRSP US Total Market and 40% Barclays Aggregate.

Galliard Capital Management
The stable value portfolio outperformed its benchmark, the 3 Year Constant Maturity Treasury plus 0.45%, for the quarter and the year. For the quarter, the portfolio benefited from a significant allocation to the spread sectors, including Agency RMBS, CMBS, ABS, Corporates and other U.S. Government Securitizations (Agency DUS, SBAs). For the year, allocations to the spread sectors, including Agency MBS, CMBS, ABS, Taxable Municipals and Corporates had a positive impact on performance. An overweight to intermediate maturities was also helpful, as that segment of the curve continued to outperform shorter maturities.

STATE BOARD
OF INVESTMENT

Domestic Equity Manager Performance Summaries

Third Quarter 2016

MINNESOTA
STATE BOARD
OF INVESTMENT

Domestic Equity

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COMBINED RETIREMENT FUNDS
ACTIVE DOMESTIC EQUITY MANAGERS

Periods Ended September 30, 2016

	Last Quarter	Last Year	Last 3 Years	Last 5 Years
Russell 1000 Growth Aggregate	7.7	11.7	9.3	16.3
Russell 1000 Growth Index	*4.6*	*13.8*	*11.8*	*16.6*
Russell 1000 Value Aggregate	4.8	11.1	8.5	15.9
Russell 1000 Value Index	*3.5*	*16.2*	*9.7*	*16.2*
Russell 2000 Growth Aggregate	5.1	2.2	1.6	13.2
Russell 2000 Growth Index	*9.2*	*12.1*	*6.6*	*16.1*
Russell 2000 Value Aggregate	8.3	13.0	7.2	17.1
Russell 2000 Value Index	*8.9*	*18.8*	*6.8*	*15.4*
Active Manager Aggregate	6.4	10.7	7.9	15.8
Benchmark	*5.2*	*15.2*	*9.7*	*16.3*
Semi-Passive Aggregate	4.0	13.6	10.8	16.6
Benchmark	*4.0*	*14.9*	*10.8*	*16.4*
Passive Manager (BlackRock)	4.4	15.0	10.5	16.4
Russell 3000 Index	*4.4*	*15.0*	*10.4*	*16.4*
Total Aggregate	**4.8**	**13.3**	**9.9**	**16.3**
Russell 3000 Index	*4.4*	*15.0*	*10.4*	*16.4*

Calendar Years

	2015	2014	2013	2012	2011
Russell 1000 Growth Aggregate	4.6	9.6	42.0	15.5	-0.4
Russell 1000 Growth Index	*5.7*	*13.0*	*33.5*	*15.3*	*2.6*
Russell 1000 Value Aggregate	-3.2	13.1	36.5	16.9	-2.1
Russell 1000 Value Index	*-3.8*	*13.5*	*32.5*	*17.5*	*0.4*
Russell 2000 Growth Aggregate	1.0	-3.4	47.2	12.0	-5.6
Russell 2000 Growth Index	*-1.4*	*5.6*	*43.3*	*14.6*	*-2.9*
Russell 2000 Value Aggregate	-6.5	7.5	40.8	19.6	-4.5
Russell 2000 Value Index	*-7.5*	*4.2*	*34.5*	*18.1*	*-5.5*
Active Manager Aggregate	-0.4	9.3	40.2	15.4	-2.7
Active Manager Benchmark	*-0.6*	*11.0*	*34.7*	*16.3*	*0.0*
Semi-Passive Aggregate	0.5	14.2	33.2	17.7	2.2
Benchmark	*0.9*	*13.2*	*33.1*	*16.4*	*1.5*
Passive Manager (BlackRock)	0.5	12.6	33.5	16.4	0.8
Russell 3000 Index	*0.5*	*12.6*	*33.6*	*16.4*	*1.0*
Total Aggregate	**0.3**	**12.3**	**35.1**	**16.6**	**0.4**
Russell 3000 Index	*0.5*	*12.6*	*33.6*	*16.4*	*1.0*

COMBINED RETIREMENT FUNDS
ACTIVE DOMESTIC EQUITY MANAGERS
Periods Ended September 2016

Performance versus Russell Style Benchmarks for All Periods

	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Since Inception(1)
Russell 1000 Growth Index	**4.6**	**13.8**	**11.8**	**16.6**	**11.0**
INTECH	1.7	13.1	11.7	16.6	7.5
Benchmark	*4.6*	*13.8*	*11.8*	*16.6*	*8.2*
Jacobs Levy	6.9	15.6	12.6	17.0	7.4
Benchmark	*4.6*	*13.8*	*11.8*	*16.6*	*8.2*
Sands Capital	11.2	11.5	7.4	16.7	9.4
Benchmark	*4.6*	*13.8*	*11.8*	*16.6*	*8.2*
Winslow-Large Cap	6.2	10.5	10.2	15.5	8.9
Benchmark	*4.6*	*13.8*	*11.8*	*16.6*	*8.2*
Zevenbergen Capital	12.3	7.1	5.3	15.5	9.7
Benchmark	*4.6*	*13.8*	*11.8*	*16.6*	*8.9*
Aggregate	**7.7**	**11.7**	**9.3**	**16.3**	
Russell 1000 Value Index	**3.5**	**16.2**	**9.7**	**16.2**	**8.4**
Barrow, Hanley	3.7	13.1	9.3	15.9	7.6
Benchmark	*3.5*	*16.2*	*9.7*	*16.2*	*7.3*
Earnest Partners	5.1	10.2	9.3	14.1	6.1
Benchmark	*3.5*	*16.2*	*9.7*	*16.2*	*6.7*
LSV Asset Mgmt.	4.7	11.1	9.6	18.2	8.3
Benchmark	*3.5*	*16.2*	*9.7*	*16.2*	*7.3*
Systematic Financial Mgmt.	6.2	9.7	5.9	14.4	6.5
Benchmark	*3.5*	*16.2*	*9.7*	*16.2*	*7.3*
Aggregate	**4.8**	**11.1**	**8.5**	**15.9**	

(1) Since inception by the SBI. Inception dates as follows:

4/1/94: Zevenbergen Capital
7/1/00: Earnest Partners
4/1/04: Barrow Hanley, LSV Asset Mgmt., Systematic Financial Mgmt.
1/1/05: INTECH, Jacobs Levy, Sands Capital, Winslow-Large Cap

Note: All aggregates include the performance of terminated managers

COMBINED RETIREMENT FUNDS
ACTIVE DOMESTIC EQUITY MANAGERS
Periods Ended September 2016

Performance versus Russell Style Benchmarks for All Periods

	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Since Inception [1]
Small Cap					
Russell 2000 Growth Index	**9.2**	**12.1**	**6.6**	**16.1**	**9.6**
McKinley Capital	5.1	6.1	5.4	17.6	6.6
Benchmark	*9.2*	*12.1*	*6.6*	*16.1*	*8.3*
Next Century Growth	5.1	-1.8	-1.3	10.3	2.4
Benchmark	*9.2*	*12.1*	*6.6*	*16.1*	*4.3*
Aggregate	**5.1**	**2.2**	**1.6**	**13.2**	
Russell 2000 Value Index	**8.9**	**18.8**	**6.8**	**15.4**	**8.7**
Goldman Sachs	6.6	15.5	7.8	17.1	9.3
Benchmark	*8.9*	*18.8*	*6.8*	*15.4*	*7.6*
Hotchkis & Wiley	8.4	5.0	5.9	17.1	7.8
Benchmark	*8.9*	*18.8*	*6.8*	*15.4*	*7.6*
Martingale Asset Mgmt.	8.4	19.1	9.9	19.2	7.7
Benchmark	*8.9*	*18.8*	*6.8*	*15.4*	*7.6*
Peregrine Capital	9.5	13.0	6.0	15.8	10.1
Benchmark	*8.9*	*18.8*	*6.8*	*15.4*	*9.5*
Aggregate	**8.3**	**13.0**	**7.2**	**17.1**	
Active Mgr. Aggregate (2)	**6.4**	**10.7**	**7.9**	**15.8**	

(1) Since inception by the SBI. Inception dates as follows:

7/1/00: Next Century, Peregrine Capital
1/1/04: Goldman Sachs, Hotchkis & Wiley, Martingale Asset Mgmt., McKinley Capital

(2) The Active Manager Aggregate Benchmark is the aggregate of the weighted average of the active manager benchmarks and is not the Russell 3000.

Note: All aggregates include the performance of terminated managers

COMBINED RETIREMENT FUNDS
DOMESTIC EQUITY MANAGERS
Periods Ended September 2016
Versus Manager Benchmarks

	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Since Inception(1)
Semi-Passive Managers (2)					
BlackRock Institutional	4.5	14.6	11.1	17.1	9.4
Benchmark	*4.0*	*14.9*	*10.8*	*16.4*	*9.0*
INTECH	3.1	12.2	9.7	15.7	11.9
Benchmark	*4.0*	*14.9*	*10.8*	*16.4*	*12.3*
JP Morgan	4.4	14.7	11.5	16.9	9.3
Benchmark	*4.0*	*14.9*	*10.8*	*16.4*	*9.0*
Mellon Capital	3.9	12.6	10.7	16.5	8.7
Benchmark	*4.0*	*14.9*	*10.8*	*16.4*	*9.0*
Semi-Passive Aggregate (R1000)	**4.0**	**13.6**	**10.8**	**16.6**	
Passive Manager (R3000)					
BlackRock Institutional	4.4	15.0	10.5	16.4	8.8
Benchmark	*4.4*	*15.0*	*10.4*	*16.4*	*8.7*
Total Aggregate (3)	**4.8**	**13.3**	**9.9**	**16.3**	**10.2**
Benchmark (3,4)	4.4	15.0	10.4	16.4	10.4
Russell 3000 Index (3)	*4.4*	*15.0*	*10.4*	*16.4*	*10.7*
Russell 1000 Index (3)	*4.0*	*14.9*	*10.8*	*16.4*	*10.8*
Russell 2000 Index (3)	*9.0*	*15.5*	*6.7*	*15.8*	*9.3*

(1) Since retention by the SBI. Inception dates as follows:

1/1/95: BlackRock Institutional (semi-passive), J.P. Morgan, Mellon Capital
7/1/95: BlackRock Institutional (passive)
4/1/10: INTECH

(2) Semi-Passive managers' benchmark is the Russell 1000 index beginning 1/1/04 and was the Completeness Fund benchmark prior to 1/1/04.
(3) Total Aggregate and Benchmarks Inception as of 1/1/84
(4) The Total Aggregate benchmark is the Russell 3000 effective 10/1/03. From 7/1/99 to 9/30/03, it was the Wilshire 5000 Investable Index. From 11/1/93 to 6/30/99, the target was the Wilshire 5000 as reported with no adjustments. Prior to 11/1/93, the Wilshire 5000 was adjusted to reflect SBI mandated restrictions, which included liquor and tobacco, American Home Products and South Africa.

Note: All aggregates include the performance of terminated managers.

COMBINED RETIREMENT FUNDS
DOMESTIC EQUITY MANAGERS

	September 30, 2016 Market Value	Percent	June 30, 2016 Market Value	Percent
Russell 1000 Growth Aggregate	**$3,126,050,711**	**10.7%**	**$2,902,263,835**	**10.5%**
INTECH	$653,575,148	2.2%	$642,485,709	2.3%
Jacobs Levy	$774,360,727	2.7%	$724,067,067	2.6%
Sands Capital	$718,656,064	2.5%	$646,540,430	2.3%
Winslow-Large Cap	$332,989,863	1.1%	$313,547,522	1.1%
Zevenbergen Capital	$646,468,908	2.2%	$575,623,105	2.1%
Russell 1000 Value Aggregate	**$3,090,914,819**	**10.6%**	**$2,947,553,474**	**10.6%**
Barrow Hanley	$875,130,045	3.0%	$843,422,888	3.0%
Earnest Partners	$587,891,921	2.0%	$559,627,807	2.0%
LSV Asset Mgmt.	$872,635,135	3.0%	$833,429,314	3.0%
Systematic Financial Mgmt.	$755,257,717	2.6%	$711,073,465	2.6%
Russell 2000 Growth Aggregate	**$769,046,879**	**2.6%**	**$731,619,577**	**2.6%**
McKinley Capital	$404,327,371	1.4%	$384,529,827	1.4%
Next Century Growth	$364,719,507	1.3%	$347,089,750	1.3%
Russell 2000 Value Aggregate	**$1,148,462,244**	**3.9%**	**$1,060,570,082**	**3.8%**
Goldman Sachs	$291,521,871	1.0%	$273,510,256	1.0%
Hotchkis & Wiley	$243,458,098	0.8%	$224,633,552	0.8%
Martingale Asset Mgmt.	$241,633,910	0.8%	$222,875,223	0.8%
Peregrine Capital	$371,848,365	1.3%	$339,551,051	1.2%
Semi-Passive Manager Aggregate	**$10,868,220,873**	**37.4%**	**$10,450,129,983**	**37.7%**
BlackRock Institutional	$2,712,223,976	9.3%	$2,594,540,987	9.3%
INTECH	$2,425,735,898	8.3%	$2,353,846,996	8.5%
JP Morgan	$3,107,621,962	10.7%	$2,977,204,819	10.7%
Mellon Capital	$2,622,639,037	9.0%	$2,524,537,181	9.1%
Passive Manager	**$10,084,351,357**	**34.7%**	**$9,659,523,740**	**34.8%**
BlackRock Institutional	$10,084,351,357	34.7%	$9,659,523,740	34.8%
Total Portfolio	**$29,087,046,883**	**100.0%**	**$27,751,660,692**	**100.0%**

COMBINED RETIREMENT FUNDS
ACTIVE DOMESTIC EQUITY MANAGERS
Calendar Year Returns
Russell Style Manager Benchmarks

	2015	2014	2013	2012	2011
LARGE CAP					
Russell 1000 Growth Index	**5.7**	**13.0**	**33.5**	**15.3**	**2.6**
INTECH	4.0	12.8	34.1	17.8	0.1
Jacobs Levy	4.3	12.9	37.0	13.0	6.6
Sands Capital	2.9	9.1	42.4	24.2	2.7
Winslow - Large Cap	6.7	11.0	37.4	13.7	0.1
Zevenbergen Capital	6.4	3.4	60.6	8.0	-9.8
Aggregate	**4.6**	**9.6**	**42.0**	**15.5**	**-0.4**
Russell 1000 Value Index	**-3.8**	**13.5**	**32.5**	**17.5**	**0.4**
Barrow, Hanley	-2.1	13.0	35.5	15.5	1.7
Earnest Partners	-2.7	14.0	32.0	10.7	-4.7
LSV Asset Mgmt.	-2.2	14.0	41.2	20.4	-0.8
Systematic Financial Mgmt.	-5.7	11.6	35.0	18.2	-7.4
Aggregate	**-3.2**	**13.1**	**36.5**	**16.9**	**-2.1**
SMALL CAP					
Russell 2000 Growth Index	**-1.4**	**5.6**	**43.3**	**14.6**	**-2.9**
McKinley Capital	3.6	2.0	51.6	23.2	-7.9
Next Century Growth	-1.7	-6.5	50.3	1.9	-4.5
Aggregate	**1.0**	**-3.4**	**47.2**	**12.0**	**-5.6**
Russell 2000 Value Index	**-7.5**	**4.2**	**34.5**	**18.1**	**-5.5**
Goldman Sachs	-5.2	7.4	39.3	16.6	1.3
Hotchkis & Wiley	-8.5	13.0	46.0	24.1	-10.8
Martingale Asset Mgmt.	-5.2	7.3	43.1	20.1	-5.2
Peregrine Capital	-6.7	4.1	37.3	18.8	-4.1
Aggregate	**-6.5**	**7.5**	**40.8**	**19.6**	**-4.5**
Active Mgr. Aggregate	**-0.4**	**9.3**	**40.2**	**15.4**	**-2.7**
Active Mgr. Aggregate Benchmark (1)	*-0.6*	*11.0*	*34.7*	*16.3*	*0.0*

(1) The Active Manager Aggregate Benchmark is the aggregate of the weighted average of the active manager benchmarks and is not the Russell 3000.

Note: All aggregates include the performance of terminated managers. Returns shown are full-year returns only.
Performance of managers hired during a calendar year are reported beginning with the following calendar year.

COMBINED RETIREMENT FUNDS
DOMESTIC EQUITY MANAGERS
Calendar Year Returns
Versus Manager Benchmarks

	2015	**2014**	**2013**	**2012**	**2011**
Semi-Passive Managers					
Russell 1000 Index	**0.9**	**13.2**	**33.1**	**16.4**	**1.5**
BlackRock Institutional	0.8	14.2	33.3	19.0	1.6
INTECH	0.7	11.6	33.0	16.6	2.9
JP Morgan	0.8	15.0	33.7	17.6	1.1
Mellon Capital	-0.2	15.9	32.6	17.3	4.6
Semi-Passive Aggregate (R1000)	**0.5**	**14.2**	**33.2**	**17.7**	**2.2**
Passive Managers					
Russell 3000 Index	**0.5**	**12.6**	**33.6**	**16.4**	**1.0**
BlackRock Institutional	0.5	12.6	33.5	16.4	0.8
Total Aggregate	**0.3**	**12.3**	**35.1**	**16.6**	**0.4**
Russell 3000 Index	*0.5*	*12.6*	*33.6*	*16.4*	*1.0*
Russell 1000 Index	*0.9*	*13.2*	*33.1*	*16.4*	*1.5*
Russell 2000 Index	*-4.4*	*4.9*	*38.8*	*16.3*	*-4.2*

Note: All aggregates include the performance of terminated managers. Returns shown are full year returns only. Performance of managers hired during a calendar year are reported beginning with the following calendar year.

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STATE BOARD
OF INVESTMENT

International Manager Performance Summaries

Third Quarter 2016

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MINNESOTA
STATE BOARD
OF INVESTMENT

International Managers

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COMBINED RETIREMENT FUNDS
INTERNATIONAL MANAGERS
Periods Ended September 2016

	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Since Inception (1)
Active Developed Markets (2)					
Acadian	6.1	14.2	5.3	10.6	5.3
Benchmark	*6.3*	*7.2*	*0.3*	*6.9*	*4.2*
Columbia	6.2	4.4	1.4	8.8	1.9
Benchmark	*6.3*	*7.2*	*0.3*	*6.9*	*2.7*
Fidelity	5.4	7.0	1.0	8.9	5.8
Benchmark	*6.3*	*7.2*	*0.3*	*6.9*	*4.2*
J.P. Morgan	8.6	7.2	-0.6	7.0	4.1
Benchmark	*6.3*	*7.2*	*0.3*	*6.9*	*4.2*
Marathon Asset Management	6.5	6.0	3.3	9.9	8.1
Benchmark	*6.3*	*7.2*	*0.3*	*6.9*	*4.7*
McKinley	6.4	1.5	1.1	8.6	3.9
Benchmark	*6.3*	*7.2*	*0.3*	*6.9*	*4.2*
Aggregate	**6.4**	**6.7**	**2.2**	**9.0**	
Benchmark	*6.3*	*7.2*	*0.3*	*6.9*	
Active Emerging Markets (3)					
Capital International	7.8	15.4	-2.7	1.0	8.2
Benchmark	*9.0*	*16.8*	*-0.6*	*3.0*	*9.1*
Morgan Stanley	9.2	15.5	1.4	4.8	10.1
Benchmark	*9.0*	*16.8*	*-0.6*	*3.0*	*9.1*
Aggregate	**8.6**	**15.4**	**-0.6**	**3.0**	
Benchmark	*9.0*	*16.8*	*-0.6*	*3.0*	
Semi-Passive Developed Markets (2)					
AQR	6.6	5.9	1.3	8.9	4.9
Benchmark	*6.3*	*7.2*	*0.3*	*6.9*	*4.2*
Fidelity	5.1	3.0	0.5	7.7	5.0
Benchmark	*6.3*	*7.2*	*0.3*	*6.9*	*4.2*
State Street	5.9	3.3	-0.1	7.0	3.6
Benchmark	*6.3*	*7.2*	*0.3*	*6.9*	*4.2*
Aggregate	**5.8**	**3.9**	**0.6**	**7.9**	
Benchmark	*6.3*	*7.2*	*0.3*	*6.9*	

(1) Since inception by the SBI. Inception dates as follows:
10/1/92: State Street (semi-passive developed markets)
10/1/93: Marathon Asset Management (active developed markets)
1/1/00: Columbia (active developed markets)
1/1/01: Capital International, Morgan Stanley (active emerging markets)
7/1/05: Acadian, J.P. Morgan, McKinley (active developed markets) AQR, Fidelity (semi-passive developed markets)

(2) Pyramis changed its name to Fidelity in October 2015.

(3) Since 6/1/08 the developed markets manager's benchmark 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 MSCI World ex USA (net). Prior to that date, it was MSCI EAFE Free (net). From 10/1/01 to 5/31/02 the benchmark was the Provisional MSCI EAFE Free (net).

(4) Since 6/1/08 the emerging markets manager's benchmark 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 MSCI Emerging Markets Free (net). Prior to that date, it was MSCI Emerging Markets Free (gross). From 10/1/01 to 5/31/02 the benchmarkwas the Provisional MSCI Emerging Markets Free (net).

COMBINED RETIREMENT FUNDS
INTERNATIONAL MANAGERS
Periods Ended September 2016

	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Since Inception (1)
Passive Developed Markets (2)					
State Street	6.3	7.6	0.8	7.3	6.0
Benchmark	*6.3*	*7.2*	*0.3*	*6.9*	*5.7*
Passive Emerging Markets (3)					
State Street	9.1	17.1	-0.3	--	2.5
Benchmark	*9.0*	*16.8*	*-0.6*	--	*2.3*
Equity Only (4)	6.7	8.4	0.9	6.9	6.3
Benchmark (5)	*6.9*	*9.3*	*0.2*	*6.0*	*5.8*
Total Program (5,9)	**6.7**	**8.4**	**0.9**	**6.9**	**6.5**
Benchmark (6,9)	*6.9*	*9.3*	*0.2*	*6.0*	*5.8*
SBI Int'l Equity Target (6,9)	*6.9*	*9.3*	*0.2*	*6.0*	*5.8*
MSCI ACWI Free ex USA (7,9)	*6.9*	*9.3*	*0.2*	*6.0*	*6.0*
MSCI World ex USA (net) (9)	*6.3*	*7.2*	*0.3*	*6.9*	*5.8*
MSCI EAFE Free (net) (9)	*6.4*	*6.5*	*0.5*	*7.4*	*5.6*
MSCI Emerging Markets Free (8,9)	*9.0*	*16.8*	*-0.6*	*3.0*	*7.2*

(1) Since retention by the SBI. Inception dates as follows:

10/1/92: State Street (passive developed markets)
1/1/12: State Street (passive emerging markets)

(2) Since 6/1/08 the developed markets managers' benchmark is the Standard (large + mid) MSCI World ex U.S. (net). From 10/1/07 through 5/31/08 the benchmark was the Provisional Standard MSCI World ex U.S. (net). From 10/1/03 to 9/30/07 the benchmark was MSCI World ex U.S. (net). Prior to that date, it was MSCI EAFE Free (net). From 10/1/01 to 5/31/02 the benchmark was the Provisional MSCI EAFE Free (net).

(3) Since 6/1/08 the emerging markets manager's benchmark 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 MSCI Emerging Markets Free (net). Prior to that date, it was MSCI Emerging Markets Free (gross). From 10/1/01 to 5/31/02 the benchmark was the Provisional MSCI Emerging Markets Free (net).

(4) Equity managers only. Includes impact of terminated managers.

(5) Includes impact of currency overlay on the passive EAFE portfolio from 12/1/95-10/31/00.

(6) 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. 100% EAFE Free (net) prior to 5/1/96.

(7) MSCI ACWI Free ex U.S. (gross) through 12/31/00. MSCI ACWI Free ex U.S. (net) thereafter.

(8) MSCI Emerging Markets Free (gross) through 12/31/00. MSCI Emerging Markets Free (net) thereafter.

(9) Total Program and Benchmarks Inception as of 10/1/92

COMBINED RETIREMENT FUNDS
INTERNATIONAL STOCK MANAGERS
Periods Ended September 2016

	September 30, 2016 Market Value	Percent	June 30, 2016 Market Value	Percent
Active Developed Markets	**$2,453,024,676**	**27.8%**	**$2,304,703,452**	**27.9%**
Acadian	$397,971,375	4.5%	$375,162,372	4.5%
Columbia	$351,878,958	4.0%	$331,467,747	4.0%
Fidelity	$349,827,648	4.0%	$331,933,224	4.0%
J.P. Morgan	$286,731,510	3.2%	$264,115,034	3.2%
Marathon	$773,260,668	8.8%	$726,265,010	8.8%
McKinley	$293,354,517	3.3%	$275,760,065	3.3%
Active Emerging Markets	**$1,482,737,481**	**16.8%**	**$1,365,310,657**	**16.5%**
Capital International	$667,957,627	7.6%	$619,511,164	7.5%
Morgan Stanley	$814,779,854	9.2%	$745,799,493	9.0%
Semi-Passive Developed Markets	**$1,133,061,024**	**12.8%**	**$1,071,434,610**	**13.0%**
AQR	$341,574,462	3.9%	$320,409,936	3.9%
Fidelity	$495,324,747	5.6%	$471,352,159	5.7%
State Street	$296,161,815	3.4%	$279,672,516	3.4%
Passive Developed Markets	**$3,466,289,968**	**39.3%**	**$3,260,989,280**	**39.4%**
State Street	$3,466,289,968	39.3%	$3,260,989,280	39.4%
Passive Emerging Markets	**$291,403,298**	**3.3%**	**$267,103,049**	**3.2%**
State Street	$291,403,298	3.3%	$267,103,049	3.2%
Total Portfolio	**$8,826,516,447**	**100.0%**	**$8,269,541,048**	**100.0%**

COMBINED RETIREMENT FUNDS
INTERNATIONAL STOCK MANAGERS
Calendar Year Returns

	2015	2014	2013	2012	2011
Active Developed Markets (1)					
Acadian	2.4	-1.7	26.1	17.6	-12.9
Benchmark	*-3.0*	*-4.3*	*21.0*	*16.4*	*-12.2*
Columbia	6.4	-5.6	23.9	19.0	-12.1
Benchmark	*-3.0*	*-4.3*	*21.0*	*16.4*	*-12.2*
Fidelity	0.1	-5.6	26.7	20.3	-11.9
Benchmark	*-3.0*	*-4.3*	*21.0*	*16.4*	*-12.2*
J.P. Morgan	-4.7	-5.1	19.5	18.4	-10.2
Benchmark	*-3.0*	*-4.3*	*21.0*	*16.4*	*-12.2*
Marathon	6.7	-4.0	28.5	17.9	-9.2
Benchmark	*-3.0*	*-4.3*	*21.0*	*16.4*	*-12.2*
McKinley	3.1	-2.7	28.0	16.9	-15.5
Benchmark	*-3.0*	*-4.3*	*21.0*	*16.4*	*-12.2*
Aggregate	**3.2**	**-4.1**	**25.4**	**17.9**	**-11.7**
Benchmark	*-3.0*	*-4.3*	*21.0*	*16.4*	*-12.2*
Active Emerging Markets (2)					
Capital International	-16.4	-5.9	0.7	13.8	-22.8
Benchmark	*-14.9*	*-2.2*	*-2.6*	*18.2*	*-18.4*
Morgan Stanley	-9.4	-2.4	0.5	21.1	-17.8
Benchmark	*-14.9*	*-2.2*	*-2.6*	*18.2*	*-18.4*
Aggregate	**-12.7**	**-4.1**	**0.6**	**17.5**	**-20.6**
Benchmark	-14.9	-2.2	-2.6	18.2	-18.4
Semi-Passive Developed Markets (1)					
AQR	0.9	-4.4	24.1	20.8	-13.9
Benchmark	*-3.0*	*-4.3*	*21.0*	*16.4*	*-12.2*
Fidelity	-0.7	-4.0	23.2	19.4	-12.6
Benchmark	*-3.0*	*-4.3*	*21.0*	*16.4*	*-12.2*
State Street	-0.9	-5.1	25.3	17.3	-15.6
Benchmark	*-3.0*	*-4.3*	*21.0*	*16.4*	*-12.2*
Aggregate	**-0.3**	**-4.4**	**24.0**	**19.2**	**-13.8**
Benchmark	*-3.0*	*-4.3*	*21.0*	*16.4*	*-12.2*

(1) Since 6/1/08 the developed markets manager's benchmark 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).

(2) Since 6/1/08 the emerging markets manager's benchmark 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 MSCI Emerging Markets Free (net).

(3) Equity managers only. Includes impact of terminated managers.

(4) Since 6/1/08 the International Equity asset class target is the Standard (large + mid) MSCI ACWI ex USA (net). From 10/1/07 through 5/31/08 the benchmark was the Provisional Standard MSCI ACWI ex USA (net). From 10/1/03 to 9/30/07 the target was MSCI ACWI ex USA (net).

COMBINED RETIREMENT FUNDS
INTERNATIONAL STOCK MANAGERS
Calendar Year Returns

	2015	2014	2013	2012	2011
Passive Developed Markets (1)					
State Street	-2.6	-3.9	21.4	16.7	-11.9
Benchmark	*-3.0*	*-4.3*	*21.0*	*16.4*	*-12.2*
Passive Emerging Markets (2)					
State Street	-14.6	-2.1	-2.5	18.5	--
Benchmark	*-14.9*	*-2.2*	*-2.6*	*18.2*	--
Equity Only (3) (4)	-2.9	-4.0	17.8	17.6	-14.2
Benchmark	*-5.7*	*-3.9*	*15.3*	*16.8*	*-13.7*
Total Program (4)	**-2.9**	**-4.0**	**17.8**	**17.6**	**-14.2**
Benchmark	*-5.7*	*-3.9*	*15.3*	*16.8*	*-13.7*
SBI Int'l Equity Target (5)	*-5.7*	*-3.9*	*15.3*	*16.8*	*-13.7*
MSCI ACWI Free ex USA (net)	*-5.7*	*-3.9*	*15.3*	*16.8*	*-13.7*
MSCI World ex USA (net)	-3.0	-4.3	21.0	16.4	-12.2
MSCI EAFE Free (net)	-0.8	-4.9	22.8	17.3	-12.1
MSCI Emerging Markets Free (net)	*-14.9*	*-2.2*	*-2.6*	*18.2*	*-18.4*

(1) Since 6/1/08 the developed markets manager's benchmark 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).

(2) Since 6/1/08 the emerging markets manager's benchmark 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 MSCI Emerging Markets Free (net).

(3) Equity managers only. Includes impact of terminated managers.

(4) Since 6/1/08 the International Equity asset class target is the Standard (large + mid) MSCI ACWI ex USA (net). From 10/1/07 through 5/31/08 the benchmark was the Provisional Standard MSCI ACWI ex USA (net). From 10/1/03 to 9/30/07 the target was MSCI ACWI ex USA (net).

STATE BOARD OF INVESTMENT

Bond Manager Performance Summaries

Third Quarter 2016

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MINNESOTA
STATE BOARD
OF INVESTMENT

Bond Managers

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COMBINED RETIREMENT FUNDS
BOND MANAGERS
Periods Ended September 2016

	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Since Inception (1)
Active Managers					
Barclays Aggregate Index	**0.5**	**5.2**	**4.0**	**3.1**	
Aberdeen	1.0	6.0	4.8	4.3	5.7
Benchmark	*0.5*	*5.2*	*4.0*	*3.1*	*5.5*
Columbia (RiverSource)	1.2	7.1	4.5	4.2	5.7
Benchmark	*0.5*	*5.2*	*4.0*	*3.1*	*5.6*
Dodge & Cox	1.4	6.3	4.5	4.6	6.5
Benchmark	*0.5*	*5.2*	*4.0*	*3.1*	*5.5*
PIMCO	0.9	5.7	3.9	4.2	6.5
Benchmark	*0.5*	*5.2*	*4.0*	*3.1*	*4.9*
Western	1.5	7.5	5.2	4.6	8.8
Benchmark	*0.5*	*5.2*	*4.0*	*3.1*	*7.6*
Active Mgr. Aggregate	**1.2**	**6.5**	**4.6**	**4.4**	
Semi-Passive Managers					
BlackRock	0.5	5.5	4.2	3.4	5.6
Benchmark	*0.5*	*5.2*	*4.0*	*3.1*	*5.6*
Goldman	0.6	5.6	4.2	3.5	5.9
Benchmark	*0.5*	*5.2*	*4.0*	*3.1*	*5.6*
Neuberger	0.5	5.4	4.2	3.5	6.8
Benchmark	*0.5*	*5.2*	*4.0*	*3.1*	*6.6*
Semi-Passive Mgr. Aggregate	**0.5**	**5.5**	**4.2**	**3.5**	
Benchmark	*0.5*	*5.2*	*4.0*	*3.1*	
Historical Aggregate (2,3)	**0.9**	**6.0**	**4.4**	**3.9**	**7.8**
Benchmark (3,4)	*0.5*	*5.2*	*4.0*	*3.1*	*7.6*
Barclays Aggregate Index (3,4)	0.5	5.2	4.0	3.1	7.6

(1) Since inception by the SBI. Inception dates as follows:

7/1/84: Western
7/1/88: Neuberger
7/1/93: Columbia, Goldman
4/1/96: BlackRock
1/1/00: Aberdeen, Dodge & Cox
10/1/08: PIMCO

(2) Includes performance of terminated managers.
(3) Historical Aggregate and benchmarks inception date: 7/1/84
(4) Prior to July 1994, this index reflects the Solomon BIG.

COMBINED RETIREMENT FUNDS
BOND MANAGERS
Periods Ending September 2016

	September 30, 2016 Market Value	Percent	June 30, 2016 Market Value	Percent
Semi-Passive	**$7,328,967,424**	**49.8%**	**$7,289,927,864**	**50.0%**
BlackRock	$2,080,716,979	14.1%	$2,069,472,383	14.2%
Goldman	$2,497,601,539	17.0%	$2,482,558,420	17.0%
Neuberger	$2,750,648,907	18.7%	$2,737,897,062	18.8%
Active Managers	**$7,378,338,595**	**50.2%**	**$7,288,279,045**	**50.0%**
Aberdeen	$1,197,469,961	8.1%	$1,185,409,947	8.1%
Columbia (RiverSource)	$1,152,234,999	7.8%	$1,138,131,044	7.8%
Dodge & Cox	$1,626,487,686	11.1%	$1,604,207,631	11.0%
PIMCO	$1,577,238,913	10.7%	$1,563,237,473	10.7%
Western	$1,824,907,035	12.4%	$1,797,292,951	12.3%
Total Portfolio	**$14,707,306,019**	**100.0%**	**$14,578,206,909**	**100.0%**

COMBINED RETIREMENT FUNDS
BOND MANAGERS
Calendar Year Returns

	2015	2014	2013	2012	2011
Active Managers					
Aberdeen	0.8	6.7	-1.5	7.7	8.0
Benchmark	*0.5*	*6.0*	*-2.0*	*4.2*	*7.8*
Columbia (RiverSource)	0.2	5.8	-1.0	6.9	8.1
Benchmark	*0.5*	*6.0*	*-2.0*	*4.2*	*7.8*
Dodge & Cox	0.3	6.0	0.9	8.5	5.0
Benchmark	*0.5*	*6.0*	*-2.0*	*4.2*	*7.8*
PIMCO	1.0	5.5	-1.3	9.3	4.5
Benchmark	*0.5*	*6.0*	*-2.0*	*4.2*	*7.8*
Western	0.7	7.0	-1.4	7.8	7.1
Benchmark	*0.5*	*6.0*	*-2.0*	*4.2*	*7.8*
Active Mgr. Aggregate	**0.6**	**6.2**	**-0.8**	**8.1**	**6.4**
Benchmark	*0.5*	*6.0*	*-2.0*	*4.2*	*7.8*
Semi-Passive Managers					
BlackRock	0.9	6.0	-1.8	5.0	8.0
Benchmark	*0.5*	*6.0*	*-2.0*	*4.2*	*7.8*
Goldman	0.8	6.1	-1.7	5.4	8.3
Benchmark	*0.5*	*6.0*	*-2.0*	*4.2*	*7.8*
Neuberger	0.7	6.1	-2.0	5.4	7.6
Benchmark	*0.5*	*6.0*	*-2.0*	*4.2*	*7.8*
Semi-Passive Mgr. Aggregate	**0.8**	**6.1**	**-1.8**	**5.3**	**8.0**
Benchmark	*0.5*	*6.0*	*-2.0*	*4.2*	*7.8*
Historical Aggregate	**0.7**	**6.1**	**-1.3**	**6.7**	**7.2**
Benchmark	*0.5*	*6.0*	*-2.0*	*4.2*	*7.8*
Barclays Aggregate Index	0.5	6.0	-2.0	4.2	7.8

The benchmark for the Fixed Income Asset Class is the Barclays Capital U.S. Aggregate Bond Index.

STATE BOARD
OF INVESTMENT

Non-Retirement Manager Performance Summaries

Third Quarter 2016

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MINNESOTA
STATE BOARD
OF INVESTMENT

Non-Retirement Managers

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NON-RETIREMENT MANAGERS
Periods Ended September 2016

	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Since Inception (1)
GE Asset Management	5.7	13.9	9.4	16.0	9.7
S&P 500 Index	*3.9*	*15.4*	*11.2*	*16.4*	*9.5*
RBC Global Asset Management (2)	-0.2	2.5	2.2	1.6	5.2
Barclays Intermediate Government	*-0.2*	*2.4*	*2.2*	*1.6*	*5.4*
Internal Stock Pool	3.9	15.4	11.2	16.3	9.2
S&P 500 Index	*3.9*	*15.4*	*11.2*	*16.4*	*9.1*
Internal Bond Pool - Trust	0.8	5.3	4.4	3.9	6.4
Barclays Aggregate	0.5	5.2	4.0	3.1	5.9

(1) Since retention by the SBI. Inception dates as follows:
7/1/91: RBC Global Asset Management
7/1/93: Internal Stock Pool
7/1/94: Internal Bond Pool - Trust
1/1/95: GE Asset Management

(2) Prior to July 2011, a blended benchmark consisting of 25% Merrill Lynch (ML) Mortgage Master, 25% ML 1-3 Yr Gov't, 25% ML 5-10 Year Treasury/Ag, 15% ML 3-5 Year Treasury/Ag, and 10% ML 91-day T-Bill was utilized.

NON-RETIREMENT MANAGERS
Periods Ended September 2016

	September 30, 2016 Market Value	Percent	June 30, 2016 Market Value	Percent
GE Asset Management	$64,186,358	2.0%	$62,012,336	2.0%
RBC Global Asset Management	$246,700,856	7.7%	$247,204,792	7.9%
Internal Stock Pool	$1,878,917,044	58.8%	$1,811,952,176	58.1%
Internal Bond Pool - Trust	$1,004,681,823	31.5%	$999,299,424	32.0%
Total Portfolio	**$3,194,486,082**	**100.0%**	**$3,120,468,728**	**100.0%**

NON-RETIREMENT MANAGERS
Calendar Year Returns

	2015	2014	2013	2012	2011
GE Asset Management	-1.4	13.2	34.5	16.8	-2.2
S&P 500 Index	*1.4*	*13.7*	*32.4*	*16.0*	*2.1*
RBC Global Asset Management (1)	1.3	2.5	-1.3	1.8	7.1
Barclays Intermediate Gov	*1.2*	*2.5*	*-1.2*	*1.7*	*6.2*
Internal Stock Pool	1.5	13.7	32.2	16.0	2.2
S&P 500 Index	*1.4*	*13.7*	*32.4*	*16.0*	*2.1*
Internal Bond Pool - Trust	0.8	6.0	0.0	5.8	5.6
Barclays Aggregate	0.5	6.0	-2.0	4.2	7.8

(1) Prior to July 2011, a blended benchmark consisting of 25% Merrill Lynch (ML) Mortgage Master, 25% ML 1-3 Year Gov't, 25% ML 5-10 Year Treasury/Ag, 15% ML 3-5 Year Treasury/Ag, and 10% ML 91-day T-Bill was utilized.

STATE BOARD
OF INVESTMENT

Deferred Compensation Plan
Minnesota College Savings Plan
Performance Summaries

Third Quarter 2016

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MINNESOTA
STATE BOARD
OF INVESTMENT

Deferred Compensation Plan
and
Minnesota College Savings Plan

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MN STATE 457 DEFERRED COMPENSATION PLAN
FUND OPTIONS
Periods Ended September 2016

	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Since Inception(1)
Large Cap Equity					
Vanguard Dividend Growth	0.8	13.7	10.1	14.7	8.2
S&P 500	*3.9*	*15.4*	*11.2*	*16.4*	--
Vanguard Institutional Index Plus	3.8	15.4	11.2	16.4	4.7
S&P 500	*3.9*	*15.4*	*11.2*	*16.4*	*4.7*
Mid Cap Equity					
Vanguard Mid-Cap Index	5.2	12.6	9.9	16.5	9.6
CRSP US Mid Cap (2)	*5.2*	*12.7*	*10.0*	*16.6*	*9.6*
Small Cap Equity					
T. Rowe Price Small-Cap Stock	6.2	16.1	7.9	17.4	9.6
Russell 2000	*9.0*	*15.5*	*6.7*	*15.8*	*6.7*
International					
Fidelity Diversified International	6.5	6.0	3.0	9.6	6.3
MSCI EAFE Free	*6.4*	*6.5*	*0.5*	*7.4*	*3.5*
Vanguard Total International Stock Index	6.7	9.7	0.9	6.8	1.8
FTSE Global All Cap ex US (3)	*7.0*	*10.2*	*1.2*	*6.7*	*2.0*
Balanced					
Vanguard Balanced Index Inst. Fund	2.8	11.2	8.0	11.0	7.1
60% CRSP US Tot Mkt, 40% Barclays Agg (4)	*2.8*	*11.2*	*8.0*	*11.1*	*7.1*
Fixed Income					
Dodge & Cox Income Fund	1.8	7.1	4.3	4.3	5.8
Barclays Aggregate	*0.5*	*5.2*	*4.0*	*3.1*	*5.3*
Vanguard Total Bond Market Index Inst.	0.4	5.3	4.0	3.0	4.6
Barclays Aggregate	0.5	5.2	4.0	3.1	4.6
SIF Money Market (5)	0.1	0.5	0.2	0.2	2.1
3 Month T-Bills	0.1	0.3	0.1	0.1	1.8
SIF Fixed Interest (5)					
Galliard Capital Management	0.5	2.1	1.9	2.2	4.6
3-Year Constant Maturity Treasury +45bp	*0.3*	*1.4*	*1.4*	*1.2*	*3.6*

Benchmarks for the Funds are noted in italics below the Fund names.

(1) Since retention by the SBI. Time periods varies for each manager.

(2) Benchmark is the CRSP US Mid-Cap Index beginning February 2013. Prior to that date it was the MSCI US Mid-Cap 450 Index.

(3) Benchmark is the FTSE Global All Cap ex US Index beginning June 2013; MSCI ACWI ex USA IMI beginning December 2010; MSCI EAFE and Emerging Markets Index beginning August 2006. Prior to that date it was the total International Composite Index, which is the MSCI EAFE Index and the Select Emerging Markets Free Index.

(4) Benchmark is 60% CRSP US Total Market Index and 40% Barclays Aggregate Bond Index beginning January 2013. Prior to that date it was 60% MSCI US Broad Market Index and 40% Barclays Aggregate Bond Index..

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

MN STATE 457 DEFERRED COMPENSATION PLAN
FUND OPTIONS
Periods Ended September 2016

MN Target Retirement Funds	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Since Inception (1)
SSgA					
Income Fund	1.9	7.1	3.5	5.6	4.5
Income Fund Benchmark	2.0	7.2	3.6	5.7	4.6
2020 Fund	2.3	8.5	4.6	7.7	6.5
2020 Fund Benchmark	2.5	8.6	4.7	7.8	6.6
2025 Fund	3.0	10.1	5.5	9.3	7.4
2025 Fund Benchmark	3.2	10.2	5.5	9.3	7.5
2030 Fund	3.6	11.2	6.0	10.1	8.0
2030 Fund Benchmark	3.8	11.3	6.0	10.2	8.0
2035 Fund	3.8	11.6	6.2	10.8	8.2
2035 Fund Benchmark	4.1	11.7	6.2	10.8	8.3
2040 Fund	4.1	11.9	6.2	11.2	8.1
2040 Fund Benchmark	4.3	12.0	6.3	11.2	8.2
2045 Fund	4.4	12.3	6.3	11.6	8.1
2045 Fund Benchmark	4.6	12.3	6.3	11.6	8.1
2050 Fund	4.6	12.6	6.3	11.6	8.1
2050 Fund Benchmark	4.9	12.6	6.3	11.6	8.2
2055 Fund	4.6	12.6	6.3	11.6	8.1
2055 Fund Benchmark	4.9	12.6	6.3	11.6	8.2
2060 Fund	4.6	12.6	6.3	11.6	8.1
2060 Fund Benchmark	4.9	12.6	6.3	11.6	8.2

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. The underlying index funds are listed below.

(1) Since retention by the SBI. Time period varies for each manager.

MN STATE 457 DEFERRED COMPENSATION PLAN
FUND OPTIONS
Periods Ended September 2016

SSgA Index Funds	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Since Inception (1)
S&P 500 Index Fund	3.9	15.5	11.2	16.4	12.3
S&P 500	*3.9*	*15.4*	*11.2*	*16.4*	*12.3*
DJ-UBS Roll Select Commodity Index Fund	-2.6	0.9	-10.5	--	-8.6
DJ-UBS Roll Select Commodity Index	*-2.7*	*0.9*	*-10.5*	--	*-8.5*
Russell Small/Mid Cap Index Fund	7.2	13.5	7.5	--	13.6
Russell Small Cap Completeness Index	*7.2*	*13.5*	*7.5*	--	*13.6*
Global All-Cap Equity ex-US Index Fund	6.4	10.1	0.9	6.9	2.0
MSCI ACWI ex USA IMI	*7.1*	*9.8*	*0.6*	*6.4*	*1.7*
Global Real Estate Securities Index Fund	0.8	14.0	8.1	12.5	8.1
FTSE EPRA/NAREIT Dev Liquid	*0.8*	*13.1*	*7.3*	*11.8*	*7.3*
Long Government Bond Index Fund	-0.3	13.0	11.1	5.5	9.6
Barclays Long Government	*-0.3*	*13.0*	*11.1*	*5.5*	*9.6*
Bond Index Fund	0.5	5.2	4.1	3.1	3.7
Barclays Aggregate	*0.5*	*5.2*	*4.0*	*3.1*	*3.7*
Inflation Protected Bond Index Fund	1.0	6.6	2.4	1.9	2.7
Barclays U.S. TIPS	*1.0*	*6.6*	*2.4*	*1.9*	*2.7*
High Yield Bond Index Fund	5.3	12.2	4.7	8.0	6.2
Barclays U.S. High Yield Very Liquid	*5.4*	*12.4*	*4.8*	*8.2*	*6.3*
U.S. Short-Term Gov/Credit Index Fund	0.0	1.2	1.0	1.5	1.5
Barclays 1-3 Yr Govt/Credit	*0.0*	*1.3*	*1.1*	*1.1*	*1.1*

Benchmarks for the SSgA Funds are noted in italics below the Fund names.

(1) Minnesota Target Retirement Funds inception date is July 2011.

MN STATE 457 DEFERRED COMPENSATION PLAN
FUND OPTIONS
Calendar Year Returns

	2015	2014	2013	2012	2011
Large Cap Equity					
Vanguard Dividend Growth	2.6	11.8	31.5	10.4	9.4
S&P 500	*1.4*	*13.7*	*32.4*	*16.0*	*2.1*
Vanguard Institutional Index Plus	1.4	13.7	32.4	16.0	2.1
S&P 500	*1.4*	*13.7*	*32.4*	*16.0*	*2.1*
Mid Cap Equity					
Vanguard Mid-Cap Index	-1.3	13.8	35.2	16.0	-2.0
CRSP US Mid Cap (1)	*-1.3*	*13.8*	*35.4*	*16.0*	*-1.9*
Small Cap Equity					
T. Rowe Price Small-Cap Stock	-3.1	7.4	39.6	18.7	0.2
Russell 2000	*-4.4*	*4.9*	*38.8*	*16.3*	*-4.2*
International					
Fidelity Diversified International	3.1	-3.2	25.2	19.4	-13.8
MSCI EAFE Free	*-0.8*	*-4.9*	*22.8*	*17.3*	*-12.1*
Vanguard Total International Stock Index	-4.2	-4.1	15.2	18.3	--
FTSE Global All Cap ex US (2)	*-4.0*	*-3.1*	*15.9*	*17.0*	--
Balanced					
Vanguard Balanced Index Inst. Fund	0.5	10.0	18.1	11.5	4.3
60% CRSP US Tot Mkt, 40% Barclays Agg (3)	*0.7*	*10.0*	*18.2*	*11.6*	*4.1*
Fixed Income					
Dodge & Cox Income Fund	-0.6	5.5	0.6	7.9	4.8
Barclays Aggregate	*0.5*	*6.0*	*-2.0*	*4.2*	*7.8*
Vanguard Total Bond Market Index Inst.	0.4	5.9	-2.1	4.2	7.7
Barclays Aggregate	0.5	6.0	-2.0	4.2	7.8
SIF Money Market (4)	0.2	0.1	0.2	0.3	0.2
3 Month T-Bills	0.1	0.0	0.1	0.1	0.1
SIF Fixed Interest (4)					
Galliard Capital Management	2.0	1.8	2.2	2.8	3.4
3-Year Constant Maturity Treasury +45bp	*1.5*	*1.3*	*1.0*	*0.8*	*1.2*

Benchmarks for the Funds are noted in italics below the Fund names.

(1) Benchmark is the CRSP US Mid-Cap Index beginning February 2013. Prior to that date it was the MSCI US Mid-Cap 450 Index.

(2) Benchmark is the FTSE Global All Cap ex US Index beginning June 2013; MSCI ACWI ex USA IMI beginning December 2010; MSCI EAFE and Emerging Markets Index beginning August 2006. Prior to that date it was the total International Composite Index, which is the MSCI EAFE Index and the Select Emerging Markets Free Index.

(3) Benchmark is 60% CRSP US Total Market Index and 40% Barclays Aggregate Bond Index beginning January 2013. Prior to that date it was 60% MSCI US Broad Market Index and 40% Barclays Aggregate Bond Index.

(4) SIF Money Market Account and SIF Fixed Interest Accounts are Supplemental Investment Fund options (SIF), which are also offered under the Deferred Compensation Plan accounts.

MN STATE 457 DEFERRED COMPENSATION PLAN
FUND OPTIONS
Calendar Year Returns

MN Target Retirement Funds	**2015**	**2014**	**2013**	**2012**	**2011**
SSgA					
Income Fund	-1.4	3.6	5.1	9.7	--
Income Fund Benchmark	-1.3	3.8	5.3	9.8	--
2020 Fund	-1.6	5.3	8.8	12.5	--
2020 Fund Benchmark	-1.6	5.5	9.1	12.5	--
2025 Fund	-1.9	5.9	13.2	13.7	--
2025 Fund Benchmark	-1.9	6.2	13.5	13.7	--
2030 Fund	-2.0	6.3	16.0	14.3	--
2030 Fund Benchmark	-2.0	6.6	16.3	14.1	--
2035 Fund	-2.0	6.4	18.1	14.9	--
2035 Fund Benchmark	-2.0	6.7	18.5	14.7	--
2040 Fund	-2.2	6.4	19.7	15.5	--
2040 Fund Benchmark	-2.1	6.6	20.0	15.3	--
2045 Fund	-2.4	6.2	21.3	16.0	--
2045 Fund Benchmark	-2.3	6.5	21.6	15.8	--
2050 Fund	-2.5	6.2	21.4	15.9	--
2050 Fund Benchmark	-2.4	6.5	21.7	15.8	--
2055 Fund	-2.5	6.2	21.4	15.9	--
2055 Fund Benchmark	-2.4	6.5	21.7	15.8	--
2060 Fund	-2.5	6.2	21.4	16.0	--
2060 Fund Benchmark	-2.4	6.5	21.7	15.8	--

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 STATE 457 DEFERRED COMPENSATION PLAN
FUND OPTIONS
Calendar Year Returns

SSgA Index Funds	**2015**	**2014**	**2013**	**2012**	**2011**
S&P 500 Index Fund	1.4	13.7	32.4	16.0	--
S&P 500	*1.4*	*13.7*	*32.4*	*16.0*	*2.1*
DJ-UBS Roll Select Commodity Index Fund	-23.4	-15.3	-9.3	--	--
DJ-UBS Roll Select Commodity Index	-23.4	-15.2	-9.1	--	--
Russell Small/Mid Cap Index Fund	-3.5	7.5	38.4	--	--
Russell Small Cap Completeness Index	*-3.4*	*7.4*	*38.5*	--	--
Global All-Cap Equity ex-US Index Fund	-4.4	-4.2	15.4	18.2	--
MSCI ACWI ex USA IMI	*-4.6*	*-3.9*	*15.8*	*17.0*	--
Global Real Estate Securities Index Fund	0.2	15.5	2.7	28.9	--
FTSE EPRA/NAREIT Dev Liquid	*-0.5*	*15.0*	*2.5*	*27.5*	*-5.8*
Long Government Bond Index Fund	-1.1	24.6	-12.5	3.8	--
Barclays Long Government	*-1.2*	*24.7*	*-12.5*	*3.8*	*29.1*
Bond Index Fund	0.6	6.0	-2.1	4.2	--
Barclays Aggregate	*0.5*	*6.0*	*-2.0*	*4.2*	*7.8*
Inflation Protected Bond Index Fund	-1.4	3.6	-8.6	6.9	--
Barclays U.S. TIPS	*-1.4*	*3.6*	*-8.6*	*7.0*	*13.6*
High Yield Bond Index Fund	-5.2	2.1	6.6	14.8	--
Barclays U.S. High Yield Very Liquid	*-5.3*	*2.1*	*6.6*	*15.4*	*6.1*
U.S. Short-Term Gov/Credit Index Fund	0.6	0.7	0.6	3.9	--
Barclays 1-3 Yr Govt/Credit	*0.7*	*0.8*	*0.6*	*1.3*	*1.6*

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.

Benchmarks for the Funds are noted in italics below the Fund names.

Numbers in blue include returns prior to retention by SBI.

MN STATE 457 DEFERRED COMPENSATION PLAN
FUND OPTIONS

	September 30, 2016 Market Value	Percent	June 30, 2016 Market Value	Percent
Fixed Income	**$497,644,577**	**8.3%**	**$477,196,705**	**8.2%**
Dodge & Cox Income Fund	$220,259,042	3.7%	$212,184,648	3.7%
Vanguard Total Bond Market Index Inst.	$212,281,984	3.6%	$202,076,677	3.5%
Money Market	$65,103,551	1.1%	$62,935,380	1.1%
Stable Value	**$1,349,547,509**	**22.6%**	**$1,338,725,839**	**23.1%**
Galliard Stable Value Composite	$1,349,547,509	22.6%	$1,338,725,839	23.1%
Large Cap Equity	**$1,552,483,333**	**26.0%**	**$1,518,362,992**	**26.2%**
Vanguard Dividend Growth	$523,139,752	8.8%	$522,605,769	9.0%
Vanguard Institutional Index Plus	$1,029,343,581	17.3%	$995,757,223	17.2%
Mid Cap Equity	**$447,569,468**	**7.5%**	**$429,590,616**	**7.4%**
Vanguard Mid-Cap Index	$447,569,468	7.5%	$429,590,616	7.4%
Small Cap Equity	**$594,827,717**	**10.0%**	**$567,937,098**	**9.8%**
T. Rowe Price Small-Cap Stock	$594,827,717	10.0%	$567,937,098	9.8%
Balanced	**$715,625,950**	**12.0%**	**$698,017,886**	**12.1%**
Vanguard Balanced Index Inst. Fund	$715,625,950	12.0%	$698,017,886	12.1%
International	**$426,897,778**	**7.2%**	**$407,146,576**	**7.0%**
Fidelity Diversified International	$282,769,488	4.7%	$270,615,627	4.7%
Vanguard Total International Stock Index	$144,128,290	2.4%	$136,530,949	2.4%
Target Retirement Funds (1)	**$375,557,929**	**6.3%**	**$350,811,208**	**6.1%**
Income Fund	$69,941,231	1.2%	$67,358,307	1.2%
2020 Fund	$83,607,729	1.4%	$79,542,830	1.4%
2025 Fund	$73,285,589	1.2%	$67,248,838	1.2%
2030 Fund	$46,646,470	0.8%	$43,094,834	0.7%
2035 Fund	$35,751,175	0.6%	$33,042,229	0.6%
2040 Fund	$22,651,552	0.4%	$21,116,030	0.4%
2045 Fund	$18,725,424	0.3%	$16,872,493	0.3%
2050 Fund	$12,976,927	0.2%	$11,702,888	0.2%
2055 Fund	$6,561,915	0.1%	$5,666,063	0.1%
2060 Fund	$5,409,917	0.1%	$5,166,696	0.1%

(1) Target Retirement Funds is a deferred comp option also offered in the Unclassified Plan. The Target Date Funds were first offered in the Unclassified Plan as of July 1, 2015.

MINNESOTA COLLEGE SAVINGS PLAN
STATIC OPTIONS (1)
Periods Ended September 2016

	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Since Inception (1)
Equity					
MNCSP US Intl Equity Allocation	4.4	13.2	7.6	13.4	6.3
MNCSP US Intl Equity Allocation Bnmk	4.6	13.7	7.8	13.6	7.3
MNCSP Equity Interest Allocation	2.4	7.9	--	--	3.6
MNCSP Equity Interest Allocation Bnmk	2.2	7.5	--	--	3.3
MNCSP Intl Eq Index Allocation	6.7	8.2	0.2	--	2.0
MNCSP Intl Eq Index Allocation Bnmk	7.0	8.6	0.3	--	2.2
MNCSP US LC Equity Allocation	3.8	15.2	--	--	7.4
MNCSP US LC Equity Allocation Bnmk	3.9	15.4	--	--	7.7
Fixed Income					
MNCSP Fixed Income Allocation	0.9	5.5	3.3	2.4	4.1
MNCSP Fixed Income Allocation Bnmk	0.9	5.8	3.6	2.8	4.8
MNCSP Principal Interest Allocation	0.3	1.4	1.3	1.4	2.6
MNCSP Principal Interest Allocation Bnmk	0.1	0.2	0.1	0.1	1.3
MNCSP Money Market Allocation	0.1	0.1	0.0	0.0	0.3
MNCSP Money Market Allocation Bnmk	0.0	0.1	0.0	0.0	0.3

(1) Since retention by the SBI. Time periods varies for each option

MINNESOTA COLLEGE SAVINGS PLAN
ALLOCATION OPTIONS
Periods Ended September 2016

	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Since Inception(1)
Allocation Options					
MNCSP Aggressive Allocation	3.7	11.4	--	--	4.2
MNCSP Aggressive Allocation Bnmk	3.9	12.2	--	--	4.5
MNCSP Moderate Allocation	3.0	9.9	5.9	9.0	4.7
MNCSP Moderate Allocation Bnmk	3.1	10.7	6.2	9.3	5.4
MNCSP Conservative Allocation	1.8	6.5	--	--	2.6
MNCSP Conservative Allocation Bnmk	1.8	6.8	--	--	2.6
Managed Allocation Options					
MNCSP Managed 0-4 Yrs	3.8	11.7	--	--	4.4
MNCSP Managed 0-4 Yrs Bnmk	3.9	12.2	--	--	4.5
MNCSP Managed 5-8 Yrs	3.4	10.9	--	--	4.2
MNCSP Managed 5-8 Yrs Bnmk	3.5	11.4	--	--	4.4
MNCSP Managed 9-10 Yrs	2.9	10.0	--	--	4.0
MNCSP Managed 9-10 Yrs Bnmk	3.1	10.7	--	--	4.2
MNCSP Managed 11-12 Yrs	2.6	9.0	--	--	3.7
MNCSP Managed 11-12 Yrs Bnmk	2.7	9.6	--	--	3.9
MNCSP Managed 13-14 Yrs	2.3	8.0	--	--	3.4
MNCSP Managed 13-14 Yrs Bnmk	2.3	8.5	--	--	3.6
MNCSP Managed 15 Yrs	1.8	6.6	--	--	3.0
MNCSP Managed 15 Yrs Bnmk	1.8	6.8	--	--	3.0
MNCSP Managed 16 Yrs	1.5	5.8	--	--	2.7
MNCSP Managed 16 Yrs Bnmk	1.5	5.9	--	--	2.6
MNCSP Managed 17 Yrs	1.3	5.0	--	--	2.5
MNCSP Managed 17 Yrs Bnmk	1.3	4.9	--	--	2.2
MNCSP Managed 18+ Yrs	1.1	4.2	--	--	2.2
MNCSP Managed 18+ Yrs Bnmk	1.0	3.9	--	--	1.8

(1) Since retention by the SBI. Time period varies for each option.

MINNESOTA COLLEGE SAVINGS PLAN
ALLOCATION OPTIONS UNDERLYING FUNDS
Periods Ended September 2016

	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
TIAA-CREF:Bond Indx;Inst	0.5	5.1	4.0	3.0	--
Barclays Agg (SBI Toolbox Returns)	0.5	5.2	4.0	3.1	4.8
TIAA-CREF:EM Eq Idx;Inst	9.0	16.8	-0.6	3.2	--
MSCI:EM Gross	9.2	17.2	-0.2	3.4	4.3
TIAA-CREF:Eq Idx;Inst	4.4	14.9	10.4	16.3	7.4
Russell 3000 Index	4.4	15.0	10.4	16.4	7.4
TIAA-CREF:Hi-Yld;Inst	5.4	11.4	5.1	7.8	7.3
ML:1-3 BB US HY CP	2.4	7.6	4.1	6.4	6.7
TIAA-CREF:Infl Bond;Inst	0.5	4.5	1.7	1.3	4.0
Barclays U.S. TIPS Index	1.0	6.6	2.4	1.9	4.5
TIAA-CREF:Itl Eq Ix;Inst	6.1	6.6	0.7	7.9	2.0
MSCI EAFE USD Index	6.4	6.5	0.5	7.4	1.8
TIAA-CREF:Money Mkt;Inst	0.1	0.2	0.1	0.1	1.0
MFR Avg All-Taxble	0.1	0.4	0.2	0.1	0.9
TIAA-CREF:Real Est;Inst	-0.4	16.1	13.6	15.3	5.7
FTSE:NAREIT All Eq Index	-1.2	20.9	13.9	16.0	6.4
TIAA-CREF:S&P500 Idx;Ins	3.9	15.3	11.1	16.3	7.2
S&P 500 Index	3.9	15.4	11.2	16.4	7.2

MINNESOTA COLLEGE SAVINGS PLAN
FUND OPTIONS

	September 30, 2016 Market Value	Percent	June 30, 2016 Market Value	Percent
Fixed Income	**$126,464,046**	**10.3%**	**$127,667,485**	**10.5%**
MNCSP Fixed Income Allocation	$11,728,524	1.0%	$11,538,110	0.9%
MNCSP Principal Interest Allocation	$106,411,210	8.6%	$107,945,249	8.9%
MNCSP Money Market Allocation	$8,324,312	0.7%	$8,184,126	0.7%
Equity	**$287,536,187**	**23.3%**	**$281,978,681**	**23.1%**
MNCSP US Intl Equity Allocation	$274,138,971	22.2%	$269,771,387	22.1%
MNCSP Equity Interest Allocation	$1,214,523	0.1%	$1,105,993	0.1%
MNCSP Intl Eq Index Allocation	$2,379,386	0.2%	$2,266,382	0.2%
MNCSP US LC Equity Allocation	$9,803,307	0.8%	$8,834,919	0.7%
Allocation Options	**$69,012,088**	**5.6%**	**$66,184,354**	**5.4%**
MNCSP Aggressive Allocation	$9,961,250	0.8%	$9,370,486	0.8%
MNCSP Moderate Allocation	$55,018,153	4.5%	$53,428,190	4.4%
MNCSP Conservative Allocation	$4,032,685	0.3%	$3,385,678	0.3%
Managed Allocation Options	**$749,874,319**	**60.8%**	**$743,814,322**	**61.0%**
MNCSP Managed 0-4 Yrs	$24,604,575	2.0%	$24,308,558	2.0%
MNCSP Managed 5-8 Yrs	$71,939,014	5.8%	$72,218,552	5.9%
MNCSP Managed 9-10 Yrs	$72,949,422	5.9%	$72,718,701	6.0%
MNCSP Managed 11-12 Yrs	$101,719,516	8.3%	$103,116,866	8.5%
MNCSP Managed 13-14 Yrs	$136,234,549	11.1%	$130,516,740	10.7%
MNCSP Managed 15 Yrs	$64,975,645	5.3%	$62,431,054	5.1%
MNCSP Managed 16 Yrs	$64,936,736	5.3%	$62,277,004	5.1%
MNCSP Managed 17 Yrs	$64,419,477	5.2%	$64,823,376	5.3%
MNCSP Managed 18+ Yrs	$148,095,385	12.0%	$151,403,471	12.4%

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DATE: November 8, 2016

TO: Members, Investment Advisory Council

FROM: SBI Staff

SUBJECT: Emerging Markets Equity Manager Search

Background

In September 2016, the emerging markets portfolio of the SBI's Combined Funds was made up of two active managers, Morgan Stanley and Capital International, and one passive manager, State Street Global Advisors. The sizes of the mandates were $815 million, $668 million and $291 million, respectively. The first two managers have active mandates and the last manager has a passive mandate. In October 2016, the SBI Executive Director decided to liquidate the Capital International portfolio.

As discussed at previous IAC and SBI meetings, emerging markets is an area that the Executive Director believes provides an opportunity for successful active management. The Executive Director and SBI Staff have conducted a search for emerging markets managers which can reduce the concentration within the overall emerging markets portfolio.

The Executive Director is recommending that the SBI grant authorization to hire up to six additional managers. Staff has assembled a grouping of six managers who provide a blend of different management approaches, and exposure across the market capitalization and style spectrums. Collectively, the six managers provide an interesting array. Individually, the six are good organizations, have sound investment processes, and have exhibited different return patterns. Collectively, they represent the makings of a very diversified portfolio.

A summary of the search process followed by the SBI Staff and the consultant, Callan Associates, is outlined below.

Emerging Markets Manager Search Process

The process started with Staff determining the objectives of the search help diversify the SBI's current emerging markets managers.

The following objectives were outlined:

1) Excess returns that are diversifying to the existing emerging markets portfolio;
2) Firm size assets of $1 billion or greater;
3) Product assets of $500 million or greater;
4) Stable investment team;
5) Good long-term relative performance; and
6) Open to new accounts.

After screening the eVestment database based on the outlined objectives and meeting with multiple managers, SBI Staff established a preliminary candidate list comprised of eleven managers.

Staff and Callan conducted a call to review this preliminary list. Strengths and weakness of each of the strategies were reviewed. After the review, five managers from the initial list were selected as possible candidates.

Also during the call Callan suggested seven additional strategies for SBI Staff to review. Staff conducted due diligence on these managers which included detailed analysis on the investment products and conference calls with the managers to better understand the organizations, the teams, the investment strategies and the risk-adjusted performance.

At this point, a final list of six managers was created:

- Delaware Investments
- EARNEST Partners
- Martin Currie Investment Management, Ltd.
- Neuberger Berman
- Pzena Investment Management, LLC
- The Rock Creek Emerging Markets Group

SBI Staff required each finalist to respond to an extensive due diligence questionnaire. In addition, in-house meetings were held in order to provide SBI Staff members with a better understanding of the investment process directly from the portfolio managers involved in managing the strategy.

Finally, Callan and the SBI Staff compiled their manager analyses and held a conference call to review the finalists' information in detail. The focus was not only on strengths and weaknesses of individual managers but also on how well each manager would complement both the existing emerging markets managers as well as the other five new managers being considered.

Key Aspects of Emerging Markets Managers

SBI Staff and Callan believe that all six finalists have good investment organizations, with good investment processes and performance histories.

All the strategies are managed by experienced senior investment professionals. In most cases, portfolio managers and analysts have extensive experience in emerging markets.

Other than Rock Creek, that has a top-down fundamental macro component, all the other strategies are bottom-up, fundamental. From this point of view, they should be a good complement to the other strategies.

All six finalists complement each other regarding size and style. EARNEST Partners, Neuberger Berman, Pzena and Rock Creek all gravitate towards smaller capitalization stocks while Martin Currie and Delaware focus on larger capitalization stocks. Delaware, EARNEST Partners, and Pzena are value managers while Martin Currie, Neuberger Berman, and Rock Creek have growth orientation portfolios.

The number of stocks within each strategy differs. SBI Staff included both concentrated, high conviction strategies as well as diversified portfolios containing a large number of holdings.

All of the finalists run medium to high volatility portfolios with five year ex post tracking error in the 3-6% range.

The fees for all finalists are within a reasonable range. The Executive Director will negotiate the best fee structure possible with each investment management firm.

Based on Staff and Callan's review, Staff is recommending the SBI retain the following six firms for potential inclusion in the Emerging Markets portfolio.

RECOMMENDATION:

SBI Staff is requesting that the IAC concur with Staff's recommendation to retain up to six of the following emerging markets investment managers for the Emerging Market portfolio

- ***Delaware Investments***
- ***EARNEST Partners***
- ***Martin Currie Investment Management, Ltd.***
- ***Neuberger Berman***
- ***Pzena Investment Management, LLC***
- ***The Rock Creek Emerging Markets Group***

and that the SBI authorize the Executive Director, with assistance from SBI's legal counsel, to negotiate fees and execute a contract with each firm.

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MINNESOTA STATE BOARD OF INVESTMENT

SUMMARY INFORMATION

Firm Name: Delaware Investments

Name of Product: Emerging Markets Equity

Investment Style: Emerging Markets Equity

Number of portfolio managers on this product: 1

Number of analysts on this product: 3

Investment Philosophy

Delaware believes market price and intrinsic business value are positively correlated in the long run but that in the short-term divergences can emerge. They seek to take advantage of these divergences through a disciplined, fundamental, bottom-up approach.

They invest in companies with sustainable franchises when they are trading at a significant discount to their conservative intrinsic value estimate. The team defines intrinsic value as the appropriately discounted value of a business' cash-flow stream. They only buy when the business trades at a significant discount to their intrinsic value estimate. The team focuses resources on sustainable franchises, defined as those companies with high potential to earn excess returns above their cost of capital over the long run.

The team aims to capture market inefficiencies by:

1) Judging a franchise's sustainability and secular growth prospects
2) Maintaining a long-term structural bias to capture franchises oversold due to temporary setbacks
3) Exploiting public market and private market valuation discrepancies
4) Buying assets below their replacement costs

They prefer companies that have large market opportunities in which to deploy capital, ensuring that they grow faster than the overall economy.

They define the opportunity universe as those securities in the MSCI Emerging Markets index, non-index emerging markets companies and companies with significant exposure to emerging markets. Their universe consists of approximately 2,800 stocks. They do not maintain a strict market capitalization minimum, though they generally invest in companies with market cap of at least $100 million and trading volume of at least $1 million per day.

Investment Process

Fundamental bottom-up research is the core of their investment process. The team's fundamental research process can be broken down into two main components: analyzing a company's sustainability and assessing its intrinsic value.

Sustainability analysis involves identification of a company's source of competitive advantage and the ability of its management to maximize its return potential. Fundamental research is conducted emphasizing the long-term determinants of a company's returns and growth. They focus on companies with identifiable competitive advantages and businesses with high entry barriers and high replication costs.

Intrinsic value assessment plays a crucial role in their investment process. In order to estimate a company's intrinsic value, they choose one or more appropriate valuation methods based on the fundamentals of the business. This typically involves a combination of discounted cash-flow analysis, replacement cost, private market transaction or multiple analyses. They are generally looking for a minimum discount to a conservative intrinsic value estimate of 25%.

Company research is performed by each member of the team according to their regional responsibilities. It is the entire team's responsibility to discuss relative values between and across industries and countries. The team is encouraged to collaborate informally to share ideas, develop insights, compare valuations, and inform each other of major developments in their respective markets. Team members make trips to their regions for on-site visits as well.

Position weightings are bottom-up driven and based on their conviction in a company's franchise sustainability and its discount to intrinsic value estimate. They do not explicitly allocate capital by country or sectors. Their country and sector weightings depend on the availability of investment opportunities that they come across in each country or sector. They do not add value from currency management; however currency valuation is an input into their bottom-up investment decisions.

Individual position weights are discussed between the analysts and Liu-Er Chen. Liu-Er Chen has the final decision-making authority.

They are constantly evaluating their portfolio to ensure that they have conviction in each position that they own. If more attractive alternatives arise, they will take the opportunity to ensure that they are allocating capital to the ideas that they find the most attractive and in which they have the most conviction.

Portfolio Team

Liu-Er Chen, CFA
Senior Vice President, Chief Investment Officer — Emerging Markets and Healthcare
Liu-Er Chen heads the firm's global Emerging Markets team, and he is also the portfolio manager for Delaware Healthcare Fund, which launched in September 2007. Prior to joining Delaware Investments in September 2006 in his current position, he spent nearly 11 years at Evergreen Investment Management Company, where he most recently worked as managing director and senior portfolio manager. He co-managed the Evergreen Emerging Markets Growth Fund from 1999 to 2001, and became the Fund's sole manager in 2001. He was also the sole manager of the Evergreen Health Care Fund since its inception in 1999. Chen began his career at Evergreen in 1995 as an analyst covering Asian and global healthcare stocks, before being promoted to portfolio manager in 1998. Prior to his career in asset management, Chen worked for three years in sales, marketing, and business development for major American and European pharmaceutical and medical device companies. He received his medical education in China and he has experience in medical research at both the Chinese Academy of Sciences and Cornell Medical School. He holds an MBA with a concentration in management from Columbia Business School.

Jeffrey S. Wang, CFA
Vice President, Senior Equity Analyst
Jeffrey S. Wang is responsible for covering Asia for the firm's global Emerging Markets team. Prior to joining Delaware Investments in August 2007, he spent three years as an emerging markets investment manager at Pictet Asset Management in London, England, where he was part of a team that managed more than $10 billion in emerging market equity assets. In addition, he managed the firm's Global High Yield Emerging Equities Fund. He began his career in 1999 at Putnam Investments, leaving the firm in 2002 as a senior investment associate. Wang earned a bachelor's degree in economics, magna cum laude, from Harvard University and an MBA with High Honors from the University of Chicago Booth School of Business.

Daniel Ko
Vice President, Senior Equity Analyst
Daniel Ko, who joined Delaware Investments in June 2012, is a senior equity analyst responsible for covering Eastern Europe, the Middle East, and Africa, as well as financials, for the firm's global Emerging Markets team. Prior to joining the firm, he worked with Putnam Investments from 2009 to 2012 as a research analyst covering financials. From 2002 to 2007, Ko worked as a strategist at JPMorgan on the firm's global currency and commodity strategy team. He earned his bachelor's degree in economics from Brown University and an MBA from Columbia Business School.

Wei Xiao
Vice President, Senior Equity Analyst
Wei Xiao is a senior equity analyst responsible for covering technology and Latin America for the firm's global Emerging Markets team. Prior to joining Delaware Investments in July 2011, he worked at Amazon.com as a senior product manager in charge of the company's third-party platform in consumer electronics. Before that, Xiao was a senior research analyst with China Asset Management, the largest mutual fund company in China, where he covered the Asian technology sector, including internet and information technology. Earlier, he worked as an equity research

analyst with Fidelity Management & Research Company. Xiao began his career with Microsoft as a software engineer in the company's e-business group. He earned a bachelor's degree in computer science from Jiaotong University in China, a master's degree in computer science from the University of Illinois at Urbana-Champaign and an MBA with a concentration in finance from the Kellogg School of Management, Northwestern University.

Risk Management

The team, under the leadership of Liu-Er Chen, is responsible for risk management. Portfolio risk is continuously managed through a combination of portfolio construction techniques as well as risk assessment of individual holdings. They are thorough when conducting fundamental research and by creating a diversified portfolio of stocks trading at significant discounts to intrinsic value. Scenario analysis and stress testing are conducted as part of their bottom-up research. They monitor portfolio risk metrics and portfolio constraints on a regular basis.

Additional risk management is provided by the Equity Quantitative Analysis team. In addition to proprietary systems for portfolio risk analysis, they use MSCI Barra's Global Model to measure risk and produce risk metrics. Risk reports contains details on the portfolio's factor exposures and relative risk decomposition as outlined by Barra, as well as predicted tracking error and predicted beta relative to their benchmark. The Equity Quantitative Analysis team is available to provide any further risk metrics or analysis as needed through FactSet, among other tools, and reviews all risk models to ensure that they are appropriate for the strategy. Delaware Investments' equity CIO monitors risk metrics on a regular basis.

They do not target a specific tracking error relative to the benchmark, but it will typically range between 4% and 6%.

Ownership

Since January 2010, Delaware Investments is owned by Macquarie Affiliated Managers, a subsidiary of Macquarie Group Limited.

Macquarie Group Limited is a global provider of banking, financial, advisory, investment and funds management services headquartered in Australia. It is publicly listed (ASX: MQG).

Data as of June 30, 2016

Firm's total assets under management:	$173,586 million
Total assets under management in this product:	$3,905 million
Institutional assets under management in this product:	$1,481 million
Number of separate accounts in this product:	12

Number of stocks in portfolio:	95
Weighted average market cap (million):	$28,848
MSCI Emerging Markets weighted average market cap:	$25,668
Weighted median market cap (million):	$11,293
MSCI Emerging Markets median market cap:	$8,578

Historical Beta (five years):	1.06
Historical Tracking Error (five years):	5.10%

Turnover (calendar years):

2015: 11.75%
2014: 30.16%
2013: 23.28%
2012: 16.92%
2011: 21.29%

Number of accounts and AUM (calendar years):

	Number of accounts	AUM (Millions)
2011	27	$4,931
2012	30	$6,055
2013	30	$7,524
2014	27	$6,743
2015	22	$4,290

Largest Accounts:

Below are the firm's five largest tax-exempt institutional separate accounts for the emerging markets product under consideration.

Type	*Amount*
Mutual Fund	$496 million
Public	$228 million
Public	$214 million
Mutual Fund	$34 million
Sub-advisory	$16 million

Returns:

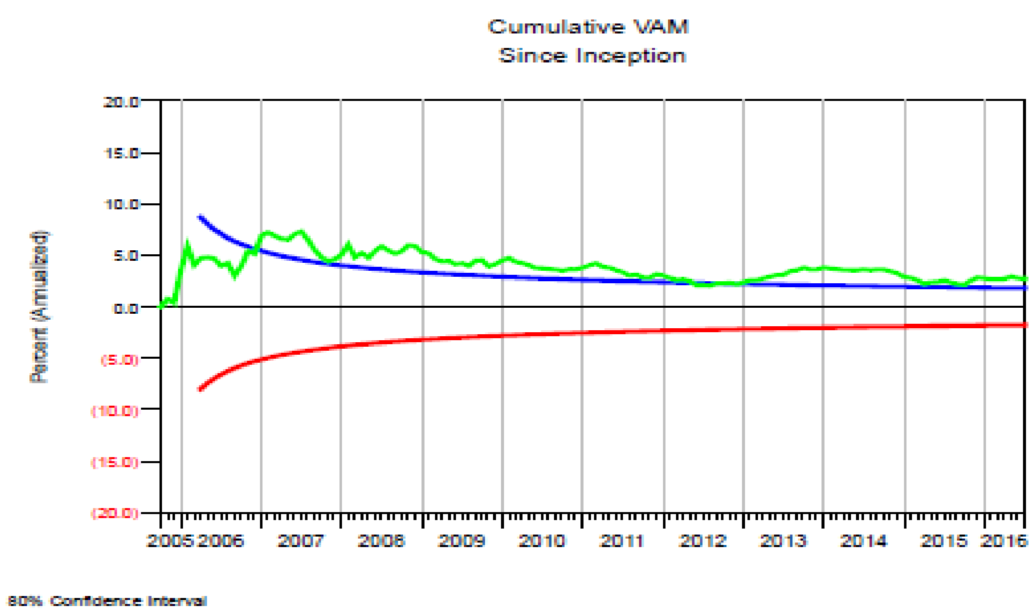
(As of June 30, 2016)

	Last Quarter	Last Year	Last Three Years	Last Five Years	Last Seven Years
Delaware	1.43	-8.32	0.10	-1.88	5.76
MSCI Emerging Markets	0.66	-12.05	-1.56	-3.78	3.79
Difference	0.77	3.73	1.66	1.90	1.97

	2015	2014	2013	2012	2011
Delaware	-13.63	-6.53	11.88	16.37	-19.17
MSCI Emerging Markets	-14.92	-2.19	-2.60	18.22	-18.42
Difference	1.29	-4.34	14.48	-1.85	-0.75

VAM Chart:

Delaware versus MSCI Emerging Markets
(as of June 30, 2016)



MINNESOTA STATE BOARD OF INVESTMENT

SUMMARY INFORMATION

Firm Name: EARNEST Partners

Name of Product: Global Emerging Markets Unconstrained

Investment Style: Emerging Markets Equity

Number of portfolio managers on this product[1]: 6

Number of analysts on this product[2]: 8

Investment Philosophy

EARNEST Partners is a fundamental, bottom-up investment manager. The firm's investment objective is to outperform the assigned benchmark while seeking to control volatility and risk.

EARNEST Partners implements this philosophy using a screen developed in-house called Return Pattern Recognition®, thorough fundamental analysis and risk management that seeks to minimize the likelihood of meaningfully underperforming the assigned benchmark.

Given the typical characteristics of the firm's portfolios, such as lower P/E's than the market, EARNEST Partners is typically categorized as a relative value manager. It is important to point out that the firm does not subscribe to a deep value dogma, but rather ends up with a relative value based portfolio as an outgrowth of the process.

Investment Process

The first step in their investment process is to screen the relevant universe to identify stocks that they believe are likely to outperform based on their financial characteristics and the current environment. Using an approach called Return Pattern Recognition®, they identify the financial and market characteristics that have been in place when an individual company has produced outstanding performance. These characteristics include valuation measures, market trends, operating trends, growth measures, profitability measures, and macroeconomics. They screen thousands of companies and select those exhibiting the set of characteristics that have historically indicated excess returns.

[1] Shared with other products

[2] Shared with other products

The approximately 150 best companies that pass the aforementioned screens are put through a second more rigorous review. In this step, they develop an investment thesis for each company. This thesis must be tested. The test generally includes conversations with the company's management team and industry specialists, review of the company's financial reports, analysis of industry and company-specific studies, and independent field research. They seek companies in attractive industries with developed strategies, talented and honest management teams, sufficient funding, and strong financial results. The experience and different perspectives of their investment team are advantages in determining which companies they believe are best positioned to meet or exceed expectations. They eliminate from consideration any company that does not pass their rigorous fundamental analysis.

The final step in their investment process is to construct a portfolio that includes those stocks they expect to have the best performance and that blend together well. Their clients are primarily concerned about the risk of meaningfully underperforming the assigned benchmark. Hence, they focus their attention on reducing this possibility. They use a statistical approach called downside deviation to measure and then constrain the likelihood of significantly underperforming the benchmark. Using this information, they seek to select investments that blend together to manage downside risk. The result is a concentrated portfolio of approximately 40-50 stocks that they believe can provide excess returns and limited risk of meaningful underperformance.

EARNEST Partners does not target sector or industry weights. Instead, the weightings are an outgrowth of their bottom-up, fundamental stock selection process. Their process is designed to put the client in the individual securities that they believe have the most attractive expected returns; relative over weights and underweights are an outgrowth of where they finding those individual opportunities. The risk management process also influences the weights taken in any one sector or country. As a general rule, larger sectors and countries will not represent more than two times the benchmark weight. No individual holding should exceed 5.0% of the portfolio's value.

Portfolio Team

Paul E. Viera
CEO and Partner
Mr. Viera is the founder and Chief Executive Officer of EARNEST Partners, an investment firm responsible for overseeing over $20 billion for municipalities, states, corporations, endowments, and universities. He developed Return Pattern Recognition®, the investment methodology used to screen equities at EARNEST Partners. He has a BA in Economics from the University of Michigan, an MBA from the Harvard Business School, and has over thirty years of investment experience. Mr. Viera was a Vice President at Bankers Trust in both New York and London. He later joined Invesco, where he became a Global Partner and senior member of its Investment Team. Mr. Viera is a Trustee of the Woodruff Arts Center and a member of its investment committee, a member of the Board of Dean's Advisors for Harvard Business School, a member of the Council on Foreign Relations, a member of Board of Foreign Advisors of Haitong Securities (the second largest Chinese securities firm), a board member for the National Center for Human & Civil Rights, and the Atlanta Society of Finance and Investment Professionals. He is also a commentator for several news organizations, including, among others, CNBC and Bloomberg News.

Trey Greer, CFA, CPA
Partner
Mr. Greer is a member of the investment team at EARNEST Partners. He has a BS in Business Administration and a Master of Accounting from the University of North Carolina at Chapel Hill and an MBA from Emory University. He has over 20 years of investment experience and began his career in public accounting. He later joined AMVESCAP PLC where he was an Investment Manager with assignments in London, Houston, and Atlanta. He is a member of the CFA Institute, the Atlanta Society of Finance and Investment Professionals, and the American Institute of Certified Public Accountants.

Chris Hovis, CFA
Partner
Mr. Hovis is a member of the investment team at EARNEST Partners. Prior to joining EARNEST Partners, he served as a Senior Analyst with Morgan Keegan where he was an analyst in US Software. His extensive background also includes experience in the information technology industry as well as in Equity Research with SunTrust Robinson Humphrey and CQ Partners. Previously, he was VP of Marketing and Business Development at Lancope, and a senior software engineer at Intel and Alliance Semiconductor. He holds an MBA with Distinction from The Wharton School of Business and Bachelor degrees with Highest Honors in Electrical Engineering from Georgia Tech and in Physics from Centre College. Mr. Hovis is also a member of the CFA Institute and the Atlanta Society of Finance and Investment Professionals.

Jessie Magee, CFA
Partner
Mr. Magee is a member of the investment team at EARNEST Partners. Prior to joining EARNEST Partners, he spent more than seven years in the Research & Advanced Vehicle Technology division of Ford Motor Company working on alternative fuel technologies, occupant safety, and new product development. Later, he worked in Corporate Finance at Intel Corporation where he developed strategies to improve semiconductor materials sourcing and support price negotiations with Intel's strategic suppliers. He also spent six years in the Army National Guard as a Combat Engineer. He holds a BS in Mechanical Engineering from Southern University, an MS in Mechanical Engineering from the University of Michigan, and an MBA from Emory University. He is also a member of the CFA Institute and the Atlanta Society of Finance and Investment Professionals.

Tammy Qiuhong Tang
Partner
Ms. Tang is a member of the investment team at EARNEST Partners and is leading EARNEST Partners operations in China. She holds a BS in English Literature from Beijing Foreign Studies University, a BA in Business Administration from the University of California, Riverside, and an MBA from the University of Southern California. She began her career with General Electric, China. Later, she worked as a senior manager in the Investment Bank at Haitong Securities Company, where she focused on IPOs and follow-on issues. Prior to joining EARNEST Partners, she served as Director of the International Relationship Department of the Securities Association of China. Ms. Tang is fluent in Mandarin.

Dinkar Singh, Ph.D.
Director
Dr. Singh is a member of the investment team at EARNEST Partners. Prior to joining EARNEST Partners, he worked for more than five years at the IBM Research Center in the Silicon Technology group. Leading a team of Ph.D.s/engineers, he helped develop semiconductor technology for next-generation electronic chips, resulting in the first demonstration of an advanced memory and world record chip speed and was awarded five U.S. patents with four additional patent applications pending. Dr. Singh has a Ph.D. from Stanford University in Applied Physics, an MBA with high honors from the University of Chicago, and studied previously at the Indian Institute of Technology. Dr. Singh is fluent in Hindi.

Risk Management

EARNEST Partners considers risk management to be a critical piece of the investment process. Classical risk measurement assigns the same penalty, in the form of a volatility measure, to a portfolio that significantly outperforms its benchmark as it does to a portfolio that significantly underperforms its benchmark. EARNEST Partners instead chooses to focus on constructing a portfolio that minimizes the probability of underperforming the assigned benchmark. In seeking to achieve this objective, the firm uses a statistical measure called downside deviation.

Their target is to be within one downside deviation unit of the benchmark and it is reviewed (1) at the creation of a portfolio; (2) any time a stock is added to or deleted from a portfolio; and (3) at the end of each month. They believe this approach enables EARNEST Partners to capture excess returns while still constraining downside risk.

While they do not use tracking error to measure risk in their process, they are able to track this metric for clients. The trailing three year period ending 6/30/2016, tracking error for the portfolio was 3.93.

Ownership

EARNEST Partners is 100% employee owned. Paul E. Viera holds a controlling interest and the position of CEO. Seven other principals own the remaining interests. EARNEST Partners expects to increase equity participation among other employees over the next several years as contributions warrant.

<u>Data as of June 30, 2016</u>

Firm's total assets under management:	$19,466 million
Total assets under management in this product:	$639 million
Institutional assets under management in this product:	$639 million
Number of separate accounts in this product:	5

Number of stocks in portfolio:	53
Weighted average market cap (million):	$20,867
MSCI Emerging Markets weighted average market cap:	$25,668
Weighted median market cap (million):	$7,968
MSCI Emerging Markets median market cap:	$8,578

Historical Beta (five years): 1.03
Historical Tracking Error (five years): 4.71%

Turnover (calendar years):

2015: 6.06%
2014: 3.94%
2013: 19.20%
2012: 6.84%
2011: 0.00%

Number of accounts and AUM (calendar years):

	Number of accounts	**AUM (Millions)**
2011	1	8
2012	2	65
2013	5	426
2014	5	614
2015	5	528

Largest Accounts:

Below are the firm's five largest tax-exempt institutional separate accounts for the emerging markets product under consideration.

<u>Type</u>	*<u>Amount</u>*
Corporate	$364 million
Public	$142 million
Corporate	$84 million
Foundation	$40 million
Corporate	$9 million

Returns:

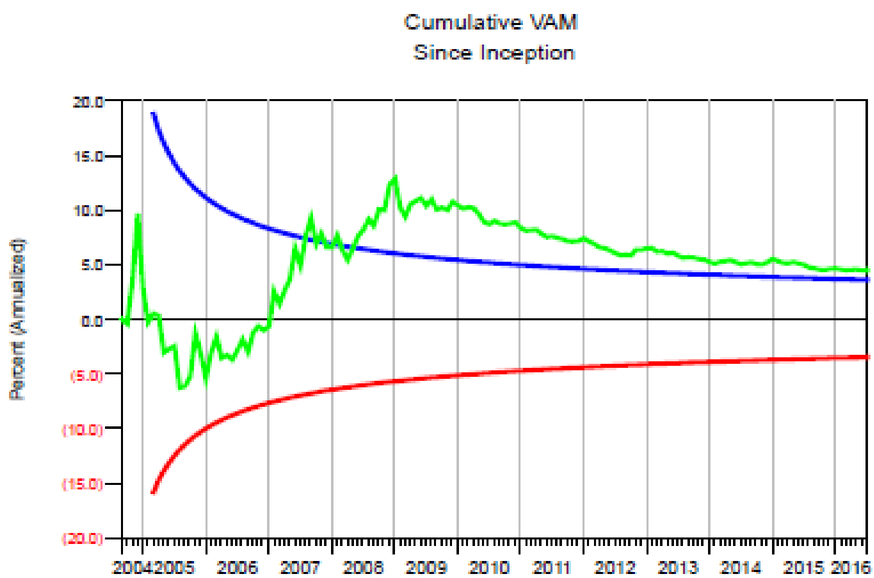
(As of June 30, 2016)

	Last Quarter	Last Year	Last Three Years	Last Five Years	Last Seven Years
EARNEST Unconstrained	1.34	-12.79	-0.89	-3.43	4.41
MSCI Emerging Markets	0.66	-12.05	-1.56	-3.78	3.79
Difference	0.68	-0.74	0.67	0.35	0.62

	2015	2014	2013	2012	2011
EARNEST Unconstrained	-18.47	6.01	-7.18	18.09	-17.18
MSCI Emerging Markets	-14.92	-2.19	-2.60	18.22	-18.42
Difference	-3.55	8.20	-4.58	-0.13	1.24

VAM Chart:

EARNEST Partners Unconstrained versus MSCI Emerging Markets
(as of June 30, 2016)



MINNESOTA STATE BOARD OF INVESTMENT

SUMMARY INFORMATION

Firm Name: Martin Currie Investment Management, Ltd.

Name of Product: Global Emerging Markets

Investment Style: Emerging Markets Equity

Number of portfolio managers on this product: 7

Number of analysts on this product: 0

Investment Philosophy

Their primary belief regarding investing in emerging markets is that sustainable cash-flows and the effective allocation of capital are the main determinants of share price movement over the long term. They focus on cash-flows rather than reporting earnings because the latter can be subject to differing accounting policies across the multi-country and multi-sector investment universe.

The Martin Currie emerging markets team builds long-term, high conviction, stock-focused portfolios, driven by fundamental research within an appropriate risk framework. They seek to identify those emerging markets companies that can sustain cash-flow growth and generate returns in excess of their cost of capital. They believe that it takes a long time for the success of a business model to become fully apparent, so they typically invest within a three-to-five year horizon.

The Martin Currie emerging markets team believes that an assessment of a company environmental, social and governance ("ESG") performance, or sustainability, can help identify those business models that are most likely to sustain high returns and resist competitive pressures.

Their core universe is the MSCI Emerging Markets index, however, they will include off-benchmark stocks if they believe that those will enhance the risk/return profile of the strategy. Typically their weighting to off-benchmark stocks is in the range of 0-20%. For them, frontier markets is part of the investment universe. They have invested in several of them in the past and continue to look for opportunities in these areas. They take account of geographic and political factors by ensuring that they are being sufficiently compensated for the country-specific risks companies face. To do this, they apply a country-specific cost of equity to all their cash-flow valuation models. The cost of equity in frontier markets is likely to be higher.

Regarding market capitalization, they split the universe in five quintiles focusing on the first and third quintiles, corresponding to mega and mid-capitalization stocks.

Investment Process

The investment process is designed to deliver high-conviction stock ideas based on fundamental bottom-up analysis. All portfolio managers are responsible for research, idea generation and analysis and the management of client portfolios.

Investment decisions can come from a wide range of sources, including the emerging markets team; the wider Martin Currie investment team; research trips; sector specific screens; company meetings and industry contacts.

All the research is internally generated. The emerging markets team meets hundreds of companies each year. In addition, specific sources for ESG research are utilized. These include MSCI ESG Research, UBS, CLSA and ISS. They also use Eurasia for political research. Top-down factors are viewed as a source of risk to the strategy, not a source of alpha. A country-specific cost of equity is applied to all cash-flow valuation models within the stock research process. Short-term macro and political research focus on the risks that could pose a threat to the stocks in the portfolio.

Martin Currie's investment team holds regular sector research meetings that bring together all portfolio managers. The purpose of these formal meetings is to generate and share potential investment ideas, discuss findings from company meetings and review corporate announcements. The outcome of these meetings is a "research priority list" that focuses resources on research ideas that are of greatest relevance to client's portfolios. Once the investment thesis receives unanimous approval, it is added to the "approved research list". This list (100-120 names) provides an exclusive source of companies to populate portfolios.

The portfolio is constructed to ensure that the upside potential and downside risk in the portfolio is dominated by stock selection and that other risks are minimized. Country, sector and market cap weightings are the result of stock selection.

Martin Currie has an internal investment risk framework to ensure that products are run in line with objectives, risk tolerances, and in accordance with the investment process. This framework includes soft limits on active exposures, tracking errors, cash weight and liquidity.

Portfolio Team

Kim Catechis, Head of Global Emerging Markets
Investment experience: 29 years
Kim is head of global emerging markets at Martin Currie. He is a co-manager on a number of portfolios, with specific responsibility for macro and political research. Kim joined Martin Currie in October 2010 from Scottish Widows Investment Partnership (SWIP), where he had been head of global emerging markets since 1998. Before joining SWIP, Kim established and managed Eagle Star Inversiones, an asset-management venture in Spain. He began his investment career as a

portfolio manager for Edinburgh Fund Managers in 1987. Kim is a member of the 20-20 Investment Association, a non-profit association of leading global investors focused on evaluating investment opportunities, while fulfilling a commitment to corporate social responsibility in emerging and frontier markets. He is fluent in Spanish, Portuguese, and French, and has intermediate language ability in Russian, German, Italian and Greek. Kim has an MBA from the University of Stirling and a BA in French and German.

Alastair Reynolds, Portfolio Manager, Global Emerging Markets
Professional qualifications: ASIP, Investment experience: 25 years
Alastair joined Martin Currie in 2010 and co-manages our global emerging-markets (GEMs) strategy, with specific responsibility for researching stocks in the industrials sector. He joined us from SWIP, where he was research manager on its GEMs desk. He was lead manager of the GEMs smaller - companies and specialist Central and Eastern European mandates. Before joining SWIP in 2000, Alastair was an investment manager with Edinburgh Fund Managers. He began his career with Scottish Amicable Investment Management, where he spent seven years as an analyst and fund manager. Alastair is an associate of the UK Society of Investment Professionals (ASIP).

Andrew Ness, Portfolio Manager, Global Emerging Markets
Professional qualifications: ASIP, Investment experience: 21 years
Andrew is a co-manager of our global emerging markets strategy and is responsible for financials-sector research. Andrew joined Martin Currie in 2010 from SWIP, where he was investment director on the global emerging markets equity desk. As portfolio manager, Andrew managed SWIP's global emerging markets sustainability portfolios. As sector analyst, he was responsible for stocks across the financial sector in emerging markets. Before joining SWIP, Andrew was a portfolio manager with Deutsche Asset Management in New York and London. He began his career with Murray Johnstone in Glasgow, where he managed his first emerging - market mandates. He is an associate of the UK Society of Investment Professionals (ASIP). Andrew has an MSc in business economics from the University of Strathclyde.

Divya Mathur, Portfolio Manager, Global Emerging Markets
Professional qualifications: ASIP, Investment experience: 20 years
Divya is a co-manager of our global emerging markets strategy, with responsibility for technology and utilities-sector research. He joined Martin Currie in 2010 from SWIP, where he was investment director on the global emerging markets desk. As portfolio manager, Divya was lead manager of the Global Emerging Markets Infrastructure fund and co - manager of the balanced mandates. As sector analyst, he was responsible for stocks across the technology and utilities sectors in emerging markets. Earlier, Divya spent over a decade at Henderson Global Investors in London, where he began his career as a quantitative strategist, before managing global emerging market and dedicated Indian equity portfolios for eight years. Divya speaks Hindi. He is an associate of the UK Society of Investment Professionals (ASIP). Divya has an MSc in investment analysis from the University of Stirling and a BSc (Hons) in computer science and accounting from the University of Manchester.

Jeff Casson, Portfolio Manager, Global Emerging Markets
Professional qualifications: CFA® charterholder, Investment experience: 16 years
Jeff co-manages our global emerging markets strategy. He joined Martin Currie in 2010 and has responsibility for researching stocks in the materials and telecoms sectors. Jeff came to us from SWIP, where he was investment director in the global emerging markets team. As portfolio manager there, Jeff was lead manager of the Latin American strategy and supported Alastair Reynolds in the management of the global emerging markets smaller-companies strategy. As sector analyst, he was responsible for stocks in the telecommunications and consumer sectors. Jeff joined SWIP in April 2005 as an investment director on the global emerging markets equity team, with particular responsibility for Latin America. Earlier, he was an investment manager at Alliance Trust, where he began his investment career in 1999. Jeff is a CFA® charterholder. He has an BAcc (Hons) from the University of Dundee.

Andrew Mathewson, Portfolio Manager, Global Emerging Markets
Professional qualifications: CFA® charterholder, Investment experience: 14 years
Andrew is a co-manager of our global emerging markets strategy. He joined Martin Currie in 2005 from the Scottish Investment Trust, where he was an investment manager for UK equities. For over five years, Andrew worked in Martin Currie's Asia and global emerging markets team, as an investment manager for the GEM product with a research focus on EMEA markets. With the arrival of the former SWIP emerging-markets team, Andrew integrated into the new GEM team, taking on responsibility for the consumer and healthcare sectors. Andrew is a CFA® charterholder. He has a BSC (Hons) in Economics from the University of St Andrews.

Thomas Larsen, Portfolio Manager, Global Emerging Markets
Professional qualifications: CFA® charterholder, Investment experience: 5 years
Thomas joined Martin Currie in 2010 as an investment trainee on the Asia team, before moving to the global industrials and utilities research team. In 2012 he joined the global emerging markets team where he currently works as an investment manager, mainly focused on stocks within the energy sector. Before joining the company, he worked on an entrepreneurial project at the University of Edinburgh's Department for Information Services & Knowledge Management. Thomas is a CFA® charterholder. He has an MA in International Business from the University of Edinburgh.

Risk Management

Risk management is fully integrated within the investment process. Martin Currie takes a multi-faceted approach to risk management.

- Business risks: competitive, regulatory and sustainability risks are assessed through qualitative analysis.
- Financial risks: risks to revenues, margins, costs and cash-flows are assessed through financial modelling.

- Investment risks: macroeconomic and political risks are assessed through the application of a country-specific cost of equity.
- Portfolio risks: style and factor sensitivities are assessed by independent analysis and pre-trade simulation.

The team builds portfolios where risk is dominated by high conviction stocks while factor and thematic risks are minimized. They approach risk management from both an ex-ante and ex-post perspective. The ex-ante forecast risk analysis includes risk modelling, stress testing, and simple comparisons of active weights and tilts relative to the benchmark. They do not target tracking error but the strategy has a maximum forecast tracking error limit of 8.00% per year. The ex-post analysis of portfolio behavior includes multi-factor attribution (by country, sector, beta, style, and size), stock level attribution, and characteristics of delivered relative returns. This includes delivered tracking error and beta, performance in rising and falling markets, and analysis of the magnitude of relative return outcomes.

Some of the specific risk tools the group uses are:

- SunGard APT statistical risk model
- Proprietary liquidity risk model with daily analysis
- Style research for fundamental style profiling
- Analysis of delivered portfolio behavior through Statpro and proprietary tools
- Pre and post trade mandate compliance using Sentinel

Martin Currie has an experienced independent investment risk team. The team provides oversight of adherence to the risk framework and works closely with portfolio managers providing analytics and portfolio construction advice. Also, they perform formal risk reviews on a quarterly basis.

Ownership

Martin Currie is wholly owned by Legg Mason and is one of ten affiliates under the Legg Mason company umbrella, which includes Western Asset Management, Clearbridge and Brandywine.

Legg Mason is a global asset management firm with over US$700 billion in assets under management. Its autonomous affiliates provide active asset management in many major investment centers throughout the world. Legg Mason is headquartered in Baltimore, Maryland, and its common stock is listed on the New York Stock Exchange (symbol: LM).

<u>Data as of June 30, 2016</u>

Firm's total assets under management:	$11,920 million
Total assets under management in this product:	$1,091 million
Institutional assets under management in this product:	$998 million
Number of separate accounts in this product:	6

Number of stocks in portfolio:	53
Weighted average market cap (million):	$34,162
MSCI Emerging Markets weighted average market cap:	$25,668
Weighted median market cap (million):	$9,074
MSCI Emerging Markets median market cap:	$8,578

Historical Beta (five years):	1.00
Historical Tracking Error (five years):	3.33%

Turnover (calendar years):

2015: 22.3%
2014: 38.2%
2013: 25.4%
2012: 28.5%
2011: 55.2%

Number of accounts and AUM (calendar years):

	Number of accounts	**AUM (Millions)**
2011	8	$213
2012	11	$625
2013	11	$1,175
2014	12	$1,240
2015	10	$1,020

Largest Accounts:

Below are the firm's five largest tax-exempt institutional separate accounts for the emerging markets product under consideration.

<u>Type</u>	*<u>Amount</u>*
Australia Superannuation Fund	$318 million
US Public Pension Fund	$219 million
Australia Superannuation Fund	$167 million
Australia Superannuation Fund	$156 million
UK Superannuation Fund	$71 million

Returns:

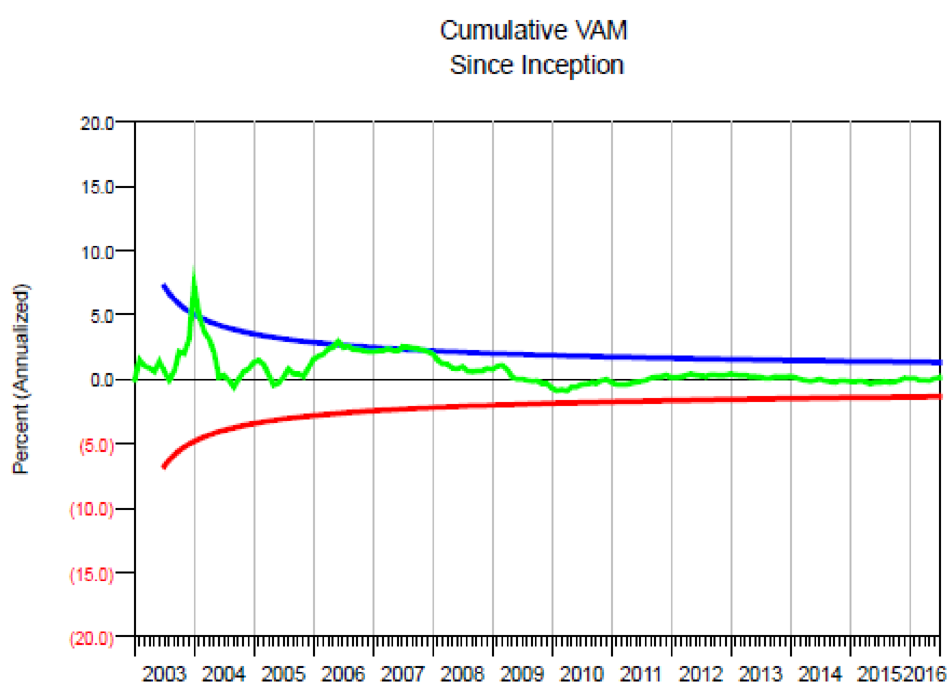
(As of June 30, 2016)

	Last Quarter	Last Year	Last Three Years	Last Five Years	Last Seven Years
Martin Currie	3.72	-7.21	-1.51	-3.12	NA
MSCI Emerging Markets	0.66	-12.05	-1.56	-3.78	NA
Difference	3.06	4.84	0.05	0.66	NA

	2015	2014	2013	2012	2011
Martin Currie	-12.64	-6.62	-4.06	21.57	-15.28
MSCI Emerging Markets	-14.92	-2.19	-2.60	18.22	-18.42
Difference	2.28	-4.43	-1.46	3.35	3.14

VAM Chart:

Martin Currie versus MSCI Emerging Markets
(as of June 30, 2016)



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MINNESOTA STATE BOARD OF INVESTMENT

SUMMARY INFORMATION

Firm Name: Neuberger Berman

Name of Product: Emerging Markets Equity

Investment Style: Emerging Markets Equity

Number of portfolio managers on this product: 1

Number of analysts on this product: 4

Investment Philosophy

Neuberger Berman seeks to maximize performance by constructing its portfolios with high quality, growing companies trading at attractive valuations, which have the potential to outperform the MSCI Emerging Markets Index at low risk. It is their belief that emerging markets are less efficient than developed ones, and because of this inefficiency, or lack of market transparency, mispricing opportunities should be available for the team to capitalize on.

The team seeks to add value through bottom-up selection focused on companies that are profitable, have minimal debt and that it believes are attractively valued. Their investment universe included companies with principal businesses in the emerging markets. This includes investing in index names, but names outside the index as well. The team may invest in countries outside of the index (up to 20%), but that is limited to frontier markets (investable markets that typically have lower capitalization and liquidity than the more developed emerging markets) and developed markets companies whose assets are domiciled and/or revenues are derived in emerging markets.

The team focuses on price-to-cash-flow and discounted cash-flow as its primary valuation tools, as the team believes that these enable the team to estimate value in an objective and consistent fashion.

A key element of the strategy is the team's bottom-up identification of new opportunities that are driven by the secular growth found in emerging markets. The team's universe includes all markets that it believes offer adequate economic freedom and stock market capitalization. These include the markets of Asia, the Indian subcontinent, Africa, Eastern Europe, and South America.

The team invests in what it believes are the best investment opportunities available in the emerging markets with capitalizations above $200 million. The strategy tends to overweight small and mid-cap stocks and underweight large cap securities relative to the benchmark.

The strategy seeks long-term growth of capital that strives to provide outperformance versus the target benchmark over a market cycle.

Investment Process

The initial step of the team's process applies an investability screen to the stock universe of more than 12,000 securities. The team seeks to narrow this universe of companies by eliminating stocks with inadequate market capitalization (less than $200 million), insufficient liquidity (less than $2 million daily liquidity), extreme valuations, or excessively leveraged balance sheets. Of the remaining 900+ investable companies, the team screens for financial attributes that it believes are indicators of future share price outperformance.

The next step is to identify which of these 400+ companies are likely to be able to continue their track record of growth and profitability. The bulk of the team's strategic analysis happens during this stage of its investment process and is driven primarily by proprietary research and qualitative screens.

During the due diligence process, the team visits prospective companies in order to meet with employees at different levels of the organization. Onsite visits are also followed up with frequent conference calls and these meetings, formal and informal, are made in an attempt to understand not just the company, but the competitive environment in which it is operating. In addition, the team meets regulators, government officials, and independent consultants. The team also attends numerous conferences to meet with customers, suppliers, and competitors in a less formal setting. These meetings, it should be noted, are intended to provide the team with a holistic view of a company which allows it to evaluate, during its entire investment process, the growth prospects of the company and whether or not returns are sustainable in the future.

The research phase reduces the number of companies to approximately 200 names, which are subjected to detailed financial analysis. The team uses proprietary models to evaluate a company's financial statements, along with preparing a discounted cash-flow analysis, building peer group comparisons, and evaluating various valuation statistics (Price/Earnings, Price/Cash-Flow, Price/Sales, Price/Book, Enterprise Value/Cash-Flow, Private Market Value, etc.).

The team invests in what it believes are the best investment opportunities available in the emerging markets with capitalizations above $200 million. The strategy tends to be overweight small and mid-cap stocks and underweight large cap securities relative to the benchmark.

Based on the team's conviction and risk tolerance, individual names will be held to a maximum position of 5% at time of purchase with a typical initial position size of 0.5-2%.

Portfolios primarily invest in three emerging markets regions: Asia, Latin America, and Euro-Middle East-Africa. The team can invest up to 20% in countries outside of the index, which includes frontier markets as well as developed market-listed companies whose assets and/or revenues are principally in emerging markets.

Portfolio Team

Conrad A. Saldanha, CFA, Managing Director, joined the firm in 2008. Conrad is a Senior Portfolio Manager for the Global Equity team and is responsible for Emerging Market equities. Prior to joining the firm, he held several positions at GE Asset Management, Inc., most recently, vice president and co-portfolio manager on the Global Emerging Markets product, as well as the portfolio manager for the Indian Equity strategy. Previous positions include vice president and portfolio manager for International and European equities, analyst for International, European and Emerging equities. Conrad began his career at GE Capital's Financial Management Program. He earned a BCom from St. Xavier's College, Calcutta, an MBA from Virginia Polytechnic Institute and has also been awarded the Chartered Financial Analyst designation.

Marco A. Spinar, CFA, Senior Vice President, joined the firm in 2009. Marco is an Associate Portfolio Manager on the Global Equity team and is focused on the Latin America and EMEA regions within the Emerging Markets Equity team. Prior to joining the firm, he was an analyst for a developing markets fund at Oppenheimer funds. Marco also worked as a director of business operations at iPublish.com, an online book publishing division of Time Warner Book Group. He began his career in 1997 as a financial services consultant at Mercer Management Consulting. He received a BA in Economics from the University of Michigan and an MA in Economics from Stanford University. Marco has been awarded the Chartered Financial Analyst designation.

Patrick Ru, CFA, Senior Vice President, joined the firm in 2011. Patrick is an Associate Portfolio Manager on the Global Equity team, supporting the Emerging Market equity strategies. Prior to joining the firm, he was a vice president for International Equity Sales with Goldman Sachs primarily focused on the Pan-Asian markets. Before that he was an associate for Asia Equity Sales with Lehman Brothers. Patrick began his career with Cisco Systems, where he was a senior IT analyst. He received an MBA from the University of Virginia's Darden School of Business and a BA in Economics and Urban Studies and Planning from the University of California San Diego. Patrick has been awarded the Chartered Financial Analyst designation and is fluent in Mandarin Chinese.

Yev Ruzhitsky, CFA, Senior Vice President, joined the firm in 2014. Yev is a Senior Research Analyst on the Global Equity team, supporting the Emerging Market equity strategies. He was most recently at Equinox Partners L.P., where he spent over five years as a senior analyst responsible for identifying undervalued, high quality businesses for that firm's global equity hedge fund with particular focus on emerging markets. Prior to that, he worked for five years as an analyst at Ramius LLC, a multi-strategy hedge fund. He also has held several analyst/associate positions at buy-side firms and started his finance career as a corporate finance analyst in Bear Stearns' Technology and Aerospace Defense Group. Yev began his professional career in 1999 as a consultant at Arthur Andersen, LLP. He received a BSE in Computer Engineering from the University of Michigan and has also been awarded the Chartered Financial Analyst designation.

Sophie Chiu, Associate, joined the firm in 2016. Sophie is a Regional Analyst on the Global Equity team, supporting the Emerging Market Equity strategies. Prior to her joining, Sophie worked as a sell-side research analyst at Credit Suisse, and previously JPMorgan covering Chinese and Taiwanese equities. She started her career as a research analyst at Autonomous Research. She holds a MS in Finance with distinction from Warwick Business School, UK, and a BA in Finance from National Taiwan University. She is fluent in Mandarin Chinese.

Risk Management

The team believes that risk management starts with a focus on absolute risk at the stock level, which is determined by analyzing the business and its cash-flows to attempt to identify cash generating business with less leverage that could sustain earnings growth going forward.

Additionally, the team assesses the liquidity of a stock prior to purchase, as well as during the holding period, across all portfolios and at a firm level. For example, the investment team runs monthly tests on a stock's liquidity. Assuming that the team's trading would represent no more than one third of the average daily trading volume of the stock, it attempts to determine if a particular security can be sold or disposed of over seven business days and in the ordinary course of business.

In an attempt to manage risk at a portfolio level, the team also conducts BARRA analysis to assess the total active risk of its portfolios and targets tracking error that is in the range of 4% and 7%.

The team assesses risk across three main dimensions: geographic, sector, and market capitalization:

- Geographic: portfolios primarily invest in international regions (Asia, Latin America, and EMEA). The team limits its exposure to country weights to no more than +/- 10 percent relative to the index. They seek to diversify investments across the various emerging markets. The team's maximum allocation to countries outside the current index is 20%, as indicated previously.
- Sector: portfolio investments represent ten index industry sectors. The team limits its exposure to sector weights to no more than +/- 10 percent relative to the index.
- Market Capitalization: The team invests in the best investment opportunities available in the emerging markets with capitalizations above $200 million. The strategy tends to overweight small- and mid-cap stocks and underweight large cap securities relative to the benchmark.

The strategy tends to be classified as a Growth at a Reasonable Price (GARP). There are no explicit constraints on factor risk, but the team wants the idiosyncratic risk to be the largest explicit risk in the portfolio. The BARRA analysis is monitored to seek to ensure this is implemented consistently over time.

Target statistics are based on the strategy's historical track record, current investment philosophy and processes, as well as the portfolio management team's subjective strategy and market outlook.

Ownership

Neuberger Berman is a private, independent, employee-owned investment manager with approximately 450 current employee owners as of June 30, 2016.

The firm had $246 billion in assets under management as of June 30, 2016.

<u>Data as of June 30, 2016</u>

Firm's total assets under management:	$246, 216 million
Total assets under management in this product:	$4,596 million
Institutional assets under management in this product:	$3,013 million
Number of separate accounts in this product:	16

Number of stocks in portfolio:	101
Weighted average market cap (million):	$26,008
MSCI Emerging Markets weighted average market cap:	$25,668
Weighted median market cap (million):	$5,417
MSCI Emerging Markets median market cap:	$8,578

Historical Beta (five years):	0.93
Historical Tracking Error (five years):	3.86%

Turnover (calendar years):

2015: 42.5%
2014: 36.7%
2013: 35.9%
2012: 47.8%
2011: 75.9%

Number of accounts and AUM (calendar years):

	Number of accounts	**AUM (Millions)**
2011	16	$1,408
2012	17	$2,617
2013	19	$4,122
2014	20	$5,003
2015	20	$4,217

Largest Accounts:

Below are the firm's five largest tax-exempt institutional separate accounts for the emerging markets product under consideration.

<u>Type</u>	*<u>Amount</u>*
Non US Pension	$1,165 million
Public/Government	$316 million
Non US Pension	$241 million
Public/Government	$233 million
Public/Government	$222 million

Returns:

(As of June 30, 2016)

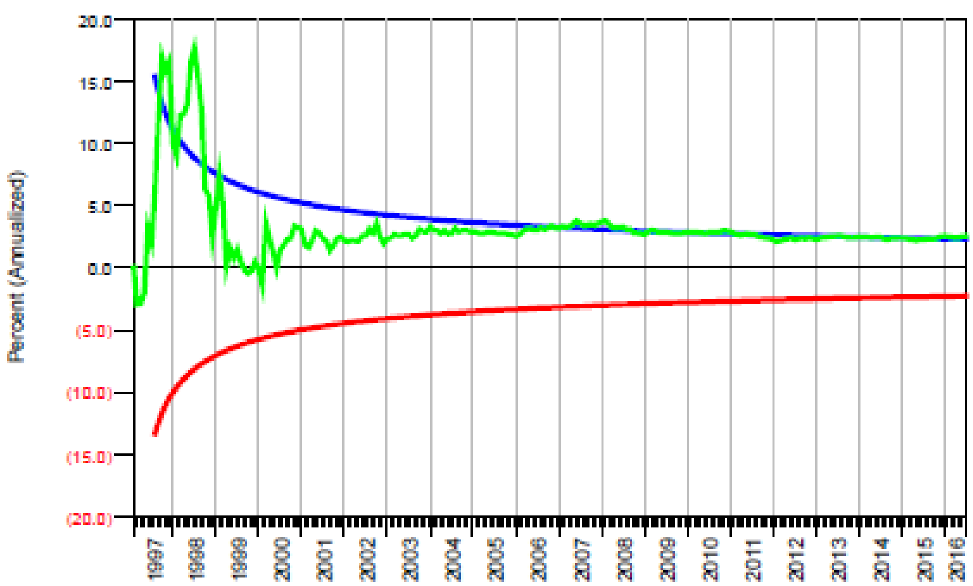
	Last Quarter	Last Year	Last Three Years	Last Five Years	Last Seven Years
Neuberger Berman	3.53	-5.66	0.69	-1.68	5.75
MSCI Emerging Markets	0.66	-12.05	-1.56	-3.78	3.79
Difference	2.87	6.39	2.25	2.10	1.96

	2015	2014	2013	2012	2011
Neuberger Berman	-10.44	-1.42	3.23	21.51	-23.77
MSCI Emerging Markets	-14.92	-2.19	-2.60	18.22	-18.42
Difference	4.48	0.77	5.83	3.29	-5.35

VAM Chart:

Neuberger Berman versus MSCI Emerging Markets
(as of June 30, 2016)

Cumulative VAM
Since Inception



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MINNESOTA STATE BOARD OF INVESTMENT

SUMMARY INFORMATION

Firm Name: Pzena Investment Management, LLC

Name of Product: Emerging Markets Focused Value

Investment Style: Emerging Markets Equity

Number of portfolio managers on this product[1]: 4

Number of analysts on this product[2]**:** 19

Investment Philosophy

Pzena's investment philosophy can be defined as classic value. They seek to buy good businesses at low prices, focusing exclusively on companies that are underperforming their historic earnings power. This value philosophy is predicated on the belief that most investors do not want to invest in businesses that are experiencing problems or are out-of-favor. That is, a lack of near-term earnings visibility leads investors to significantly undervalue companies that are experiencing some form of distress.

They believe that waiting for the catalyst to emerge before making the investment can result in missing the initial stock price appreciation, which can be rapid and steep. Therefore, they seek to capture this initial stock price appreciation as they believe that the return garnered from this initial rise compensates for their longer holding period.

They seek to buy very good businesses at very low prices. They apply fundamental research to these companies in an effort to determine whether the problems that caused the earnings shortfall are temporary or permanent. They include companies in the portfolio only when all three of the following criteria are met: 1) problems are temporary; 2) management has a viable strategy to generate earnings recovery; and 3) there is meaningful downside protection in case the earnings recovery does not materialize.

They rely heavily on valuation – specifically, the price-to-normal earnings ratio. They look to buy companies that are trading at low price-to-normal earnings, where current earnings are below historic norms. As such, they typically invest in businesses that are currently performing below the long-term trend, where management has a plan to generate an earnings recovery. Thus, the

[1] Shared with other products

[2] Shared with other products

future growth prospects of their investments tend to rely more on a return to long-term trends than on fundamental organic industry growth.

They believe that the price-to-normal earnings ratio is a better gauge of valuation for the long-term investor than other valuation methods (e.g. price-to-current earnings, price-to-book, etc.). Many of these other valuation metrics have limitations that could cause investors to overlook attractive investment opportunities.

Investment Process

Their investment process starts with a universe ranking using their proprietary "StockAnalyzer", a modeling system to forecast stocks' normalized earnings. Next, research will focus on the most undervalued 20% (top quintile) of the universe. Portfolio managers assign the cheapest stocks to research analysts who have two weeks to complete an initial review of the company, seeking to answer three questions:

- What went wrong to cause the earnings and stock price decline?
- What needs to go right to generate a recovery?
- What data must they gather to be able to make an informed decision about the stock?

At this stage, approximately 70% of names are eliminated. The research analysts complete a full research project on the remaining 30% of the companies. Many of their analysts have experience working in industry, management consulting and private equity, which has given them experience and training that is directly applicable to their research approach.

Once they have built a model, the analyst and one of the portfolio managers will meet with company management. They take this step at the end of their research process to ensure that they are fully able to engage in an informed dialogue with the management.

Following the company visit, they meet with an external analyst who is bearish on the stock. Their goal is to understand whether they have missed something structural or whether they are making a timing call. The most common insight they receive at this stage is that while their thesis may be correct, there is no near-term visibility to earnings improvement. In those cases, they tend to be encouraged by the market's short-term orientation. If they determine they may have missed a structural issue, they re-visit their research.

As a final step, they incorporate all of the inputs they have gathered through the research process into their models and develop a fully-researched estimate of normalized earnings. At this stage, normalized earnings are the earnings they expect the company to generate five years forward.

Once it has been determined that a stock will be incorporated within the portfolio. They adhere to strict guidelines to control for risk. They maintain the following risk parameters to ensure that no one position or sector can cause significant risk to the portfolio:

- No one position shall be greater than 4% at the time of purchase
- No one position shall be greater than 6% at market
- No one economic sector shall be greater than (a) 20% of the total portfolio or (b) 150% of the sector's weight in the MSCI Emerging Market Index
- No one country shall exceed the greater of (a) 20% of the total portfolio or (b) 150% of the country's weight in the MSCI Emerging Market or MSCI Frontier Market index

They do not hedge currency in their portfolios. Currency exposure is a by-product of stock selection. The valuation at the individual stock level incorporates the currency exposure when country risk discount rates are applied in the analysis of a potential opportunity. However, they do consider the impact of currency moves on the range of outcomes of normalized earnings, which in turn, impacts position sizing.

Portfolio Team

John P. Goetz
Managing Principal, Co-Chief Investment Officer, Portfolio Manager, and member of the firm's Executive Committee
Mr. Goetz serves as co-portfolio manager for the U.S. large cap strategies and all non-U.S. strategies. He was also the director of Research and was responsible for building and training the research team. Prior to joining Pzena Investment Management, Mr. Goetz held a range of key positions at Amoco Corporation, his last as the Global Business Manager for Amoco's $1 billion polypropylene business where he had bottom-line responsibility for operations and development worldwide. Prior positions included strategic planning, joint venture investments, and project financing in various oil and chemical businesses. Before joining Amoco, Mr. Goetz had been employed by The Northern Trust Company and Bank of America. He earned a B.A. summa cum laude in Mathematics and Economics from Wheaton College and an M.B.A from the Kellogg School at Northwestern University.

Caroline Cai, CFA
Principal and Portfolio Manager
Ms. Cai is a co-portfolio manager for the international (ex-U.S.) and global strategies, European Focused Value strategy, and Emerging Markets Focused Value strategy. Prior to joining Pzena Investment Management, Ms. Cai was a senior analyst at AllianceBernstein LLP, and a business analyst at McKinsey & Company. She earned a B.A. summa cum laude in Math and Economics from Bryn Mawr College. Ms. Cai holds the Chartered Financial Analyst designation.

Allison Fisch
Principal and Portfolio Manager
Ms. Fisch is a co-portfolio manager for the emerging markets and international (ex-U.S.) strategies. Prior to joining Pzena Investment Management, Ms. Fisch was a business analyst at

McKinsey & Company. She earned a B.A. summa cum laude in Psychology and a minor in Drama from Dartmouth College. At Dartmouth, Ms. Fisch was a member of the Phi Beta Kappa and Psi Chi national honor societies.

Rakesh Bordia
Principal and Portfolio Manager
Mr. Bordia is a co-portfolio manager for Emerging Markets Focused Value strategy. Prior to joining Pzena Investment Management, Mr. Bordia was a principal at Booz Allen Hamilton focusing on innovation and growth strategies, and a software engineer at River Run Software Group. He earned a Bachelor of Technology in Computer Science and Engineering from the Indian Institute of Technology, Kanpur, India and an M.B.A. from the Indian Institute of Management, Ahmedabad, India.

Risk Management

They define risk as the possibility of losing money at the end of a three-to-five year holding period when they sell a position. Through their Stock Analyzer, Factset and Barra systems they review individual stocks and aggregate portfolio level risk factors. Reports are run by portfolio management administrators and monitored by portfolio managers. However, the most important risk control is research.

Lead by the research analyst, they make a judgment regarding the nature of a company’s under-valuation. For example, companies and by extension, industries, receive higher weightings when they can reasonably judge the range of potential business outcomes to be a narrow one. On the other hand they are likely to give little or no weight to situations where a stock is clearly cheap, but the underlying resolution of the cheapness is unlikely to be estimated through intense research. Outstanding legal judgments against a company or industry, or estimating demand for new products or services are examples of such “non-researchable” circumstances.

Volatility is another input to their investment research process. Given the enormous market dislocations of the 2007/08 period, many market participants have contemplated ways to reduce volatility in their portfolios. They completed a study to explore the impact of volatility in a deep value portfolio and have observed that moderate volatility is good for the value investor, and that performance can be improved, and volatility reduced, when the extremes of volatility are taken into account as a research input.

Their embed risk controls at multiple stages in the investment process: from research to portfolio construction to trading. Additionally, risk management is implemented at the portfolio management level by the co-portfolio managers, Rakesh Bordia, Caroline Cai, Allison Fisch, John Goetz, and the Portfolio Implementation team. At regularly held portfolio review meetings, all portfolio managers and those involved in the administration of client portfolios review the current investment strategy, and current holdings in each portfolio. Issues such as turnover, security weighting and sector weighting are all reviewed to be sure that they are following both firm and client guidelines. Model changes, priority buys, sells and trims are set at these meetings.

Since they do not attempt to track a benchmark, they do not believe that traditional short-term measures of risk are appropriate (i.e.: one-year standard deviation, tracking error).

Ownership

As of June 30, 2016, Pzena Investment Management, LLC had 39 employees with an equity interest, representing approximately 59.0% of the Firm. The remaining shares are held by other members, including former employees, who hold approximately 16.6% interest, and approximately 24.4% of the Firm is publicly owned through their holding company, Pzena Investment Management, Inc.

Data as of June 30, 2016

Firm's total assets under management:	$25,430 million
Total assets under management in this product:	$1,801 million
Institutional assets under management in this product:	$1,383 million
Number of separate accounts in this product:	11

Number of stocks in portfolio:	59
Weighted average market cap (million):	$22,850 million
MSCI Emerging Markets weighted average market cap:	$25,668
Weighted median market cap (million):	$4,978 million
MSCI Emerging Markets median market cap:	$8,578

Historical Beta (five years):	0.99
Historical Tracking Error (five years):	5.24%

Turnover (calendar years):

2015: 35.4%
2014: 26.3%
2013: 26.5%
2012: 22.9%
2011: 60.2%

Number of accounts and AUM (calendar years):

	Number of accounts	AUM (Millions)
2011	3	$193 million
2012	2	$267 million
2013	10	$851 million
2014	17	$1,112 million
2015	18	$1,619 million

Largest Accounts:

Below are the firm's five largest tax-exempt institutional separate accounts for the emerging markets product under consideration.

Type	*Amount*
Public	$580 million
Corporate	$184 million
Corporate	$179 million
Corporate	$136 million
Corporate	$121 million

Returns:

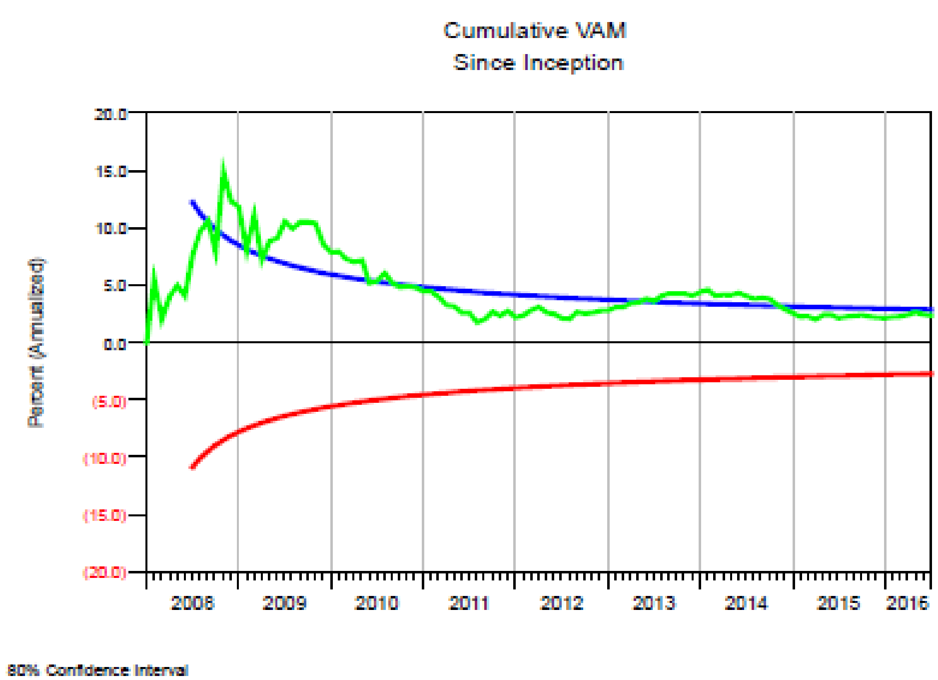
(As of June 30, 2016)

	Last Quarter	Last Year	Last Three Years	Last Five Years	Last Seven Years
Pzena	0.79	-8.59	-1.48	-1.67	4.50
MSCI Emerging Markets	0.66	-12.05	-1.56	-3.78	3.79
Difference	0.13	3.46	0.08	2.11	0.71

	2015	2014	2013	2012	2011
Pzena	-15.64	-9.87	10.03	24.34	-21.94
MSCI Emerging Markets	-14.92	-2.19	-2.60	18.22	-18.42
Difference	-0.72	-7.68	12.63	6.12	-3.52

VAM Chart:

Pzena versus MSCI Emerging Markets
(as of June 30, 2016)



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MINNESOTA STATE BOARD OF INVESTMENT

SUMMARY INFORMATION

Firm Name: The Rock Creek Emerging Markets Group ("Rock Creek")

Name of Product: Emerging Markets Equity

Investment Style: Emerging Markets Equity

Number of portfolio managers on this product: 3

Number of analysts on this product: 2

Investment Philosophy

The investment team has a long history of investing in emerging markets, including time at the World Bank. Rock Creek has invested in emerging markets since its inception as part of its portfolios. Rock Creek's standalone Emerging Markets equity strategy was launched in August 2009 with the objective of consistently outperforming the MSCI Emerging Markets Index.

The investment team interacts with well-established investors, policy makers, economists, and strategists to refine their macroeconomic view on countries, sectors, and investment themes. They monitor flows into individual emerging markets from both foreign and local investors to measure the investor sentiment in these countries. These market insights and data points are an important part of the process because it allows them to make specific calls on country, sector, and market capitalization exposures. They will express their views via a combination of portfolio allocations to individual securities, ETFs, customized baskets of stocks, and index futures.

The emerging markets portfolios utilize an actively managed all-cap approach in which their top-down views drive country and sector selection and their locally based company research drives security selection. Their focus on the drivers of growth and opportunity in local emerging markets has tended to skew their portfolios to a structural overweighting in the small and mid-cap space. They find that smaller companies that are not benchmark constituents are often overlooked by sell-side analysts and typical global emerging markets investors. As such, they are an attractive source of potential alpha.

The Rock Creek Emerging Markets Team believes that having access to locally based investment teams is a critical component to their future success. Emerging markets are expanding rapidly as local entrepreneurs launch new businesses and well-established family and state-owned enterprises expand their public equity ownership. Equally, domestic markets are increasingly opening to foreign investors (e.g., China's domestic A-Share market). They firmly believe that navigating these emerging opportunities and discovering businesses with promising long-term growth prospects is greatly enhanced when it is led by experienced institutional investors with long histories in the local markets.

Investment Process

Rock Creek's Emerging Markets portfolios utilize an actively managed all-cap approach in which their top-down views drive country and sector selection and locally based investment teams provide on-the-ground stock picking talent that drives security selection. They keep the top-down/bottom-up decision-making processes separate from one another as they believe that individual security decisions should be influenced by local factors while their top-down views are derived from broader country and global macro views. The Rock Creek investment team adjusts the bottom-up derived portfolio to reflect top-down views on country exposures and betas.

Each investment decision that they implement is the outcome of thorough bottom-up research conducted by experienced locally based investment teams. These teams are comprised of experienced local investors who have long experience in their respective markets. They speak the local language, they know the reputations and practices of the management teams who run the businesses they follow, and they understand the nuances underlying the specific risks and opportunities embedded in each prospective investment. Rock Creek ensures that the local teams employ the highest standards of professionalism and objectivity in conducting bottom-up research.

The outcome of this investment process is expressed in a series of unique local-market portfolios that have a decided skew to smaller and mid-cap companies whose growth prospects are linked to specific local and regional economic factors.

The formulation and implementation of the top-down decision-making takes place at Rock Creek's headquarters in Washington D.C. The investment team interacts with well-established investors, policy makers, economists and strategists to refine the macroeconomic views on countries, sectors and investment themes. They monitor flows into individual emerging markets from both foreign and local investors to measure the investor sentiment in these countries. These market insights and data points are an important part of the investment process, allowing them to make specific top-down calls on country, sector and market capitalization exposures. They express these views via a combination of portfolio allocations to individual countries/sectors/market caps, ETFs, customized baskets of stocks and index futures. The result of this bottom-up and top-down process is a global emerging markets portfolio which combines the highest conviction stock ideas with the highest conviction top-down views.

With respect to their locally based investment teams, their company, industry and market research is conducted by dedicated and experienced portfolio managers and analysts. All Rock Creek's local investment teams are subject to an exhaustive due diligence process that is conducted by their Investment, Legal, Compliance, Risk and Operations Teams. Understanding the research, idea-generation and portfolio management processes of each local team is critical and is a key part of investment due diligence. Each local team works in close collaboration with Rock Creek and conducts its research efforts in line with specific guidelines set by Rock Creek.

Although their CIO and the Investment Committee have ultimate decision making authority, individual portfolio managers and their teams are expected to drive the investment process.

Portfolio Team

Afsaneh Beschloss, Founder and CEO: Ms. Beschloss has over 33 years of industry experience, including serving as Treasurer and Chief Investment Officer of The World Bank. She launched the Rock Creek Group in 2002.

Kenneth Lay, Senior Managing Director: Mr. Lay joined the Rock Creek Group in 2011. He has over 34 years of industry experience and previously served as Treasurer of the World Bank, where he managed over $100 billion in investments, including in local emerging markets. Mr. Lay also served as a country director in Latin America and Southeastern Europe.

Sudhir Krishnamurthi, Senior Managing Director: Dr. Krishnamurthi has been with the Rock Creek Group since its launch in 2002. He has over 25 years of industry experience, including as Director of the World Bank's Investment Management Department. He was also Finance Director for a top 100 Indian engineering conglomerate.

Alberto Fassinotti, Managing Director: Mr. Fassinotti is a portfolio manager focusing on Latin America. He has 15 years of industry experience, including working for Darby Overseas Investments, an emerging markets private equity firm. He also worked at J.P. Morgan covering EM strategies and for Goldman Sachs.

Ronald van der Wouden, Managing Director: Mr. van der Wouden was previously Co-Head of Risk Management in the World Bank Treasury. In that position, he was responsible for risk management across different businesses within the Treasury (the global fixed income portfolios, the alternative investment portfolio, and fixed income relative value).

Risk Management

When constructing portfolios, they place considerable emphasis on quantitative analytics, as well as on qualitative judgments, with the goal of identifying the most attractive trade-offs between risk and return.

From a quantitative standpoint, they employ a broad range of quantitative tools to analyze an investment's contribution to the portfolio. For example, the team conducts security and portfolio stress tests and scenario analysis as well as cluster analysis to evaluate how individual securities and portfolios of securities may perform in different environments. The focus is on selecting complementary investment ideas that are not highly correlated to one another. Their quantitative team has developed tools and measures, such as advanced correlation calculations, positions overlap analysis and exposure concentration analysis, to identify investment ideas that are complementary to one another and can add value to a portfolio through unique investment strategies, styles and positions. Specifically, they regularly monitor the following parameters:

- Portfolio beta
- Country, sector and market cap deviations versus the benchmark
- Asset managers' and overall portfolio volatility and Value at Risk
- Asset managers' and overall portfolio alpha, tracking error and information ratio
- Asset managers' and overall portfolio expected shortfall and drawdown risk
- Risk and performance attribution reports for individual asset managers and overall portfolios

Cash, in the context of risk management, is actively used when they intend to achieve an overall beta reduction.

Their typical emerging markets equity portfolios have a tracking error limit of 10%, although they usually manage portfolios to a lower risk level. The tracking error level of the portfolio depends both on the dispersion in performance across emerging market countries and the dispersion in performance across securities and sectors within a country. They increase or decrease the tracking error of the portfolio according to the opportunity set presented by the markets. They consider the portfolio's overall tracking error relative to its index as well as the local team's tracking error relative to the appropriate index assigned to the sub-portfolio.

Ownership

Rock Creek is 35% employee owned and 65% owned by the Affiliated Managers Division (AMD) of Wells Fargo Investment Group, Inc. AMD has a zero voting interest. Rock Creek maintains an independent management committee, culture and investment process.

<u>Data as of June 30, 2016</u>

Firm's total assets under management:	$11,600 million
Total assets under management in this product:	$2,750 million
Institutional assets under management in this product:	$2,700 million
Number of separate accounts in this product:	8

Number of stocks in portfolio:	842
Weighted average market cap (million):	$19,222
MSCI Emerging Markets weighted average market cap:	$25,668
Weighted median market cap (million):	$4,506
MSCI Emerging Markets median market cap:	$8,578

Historical Beta (five years):	0.93
Historical Tracking Error (five years):	4.13%

Turnover (calendar years):

2015: 68.5%
2014: 85.6%
2013: 71.6%
2012: 76.6%
2011: 74.3%

Number of accounts and AUM (calendar years):

	Number of accounts	AUM (Millions)
2011	2	$1,121
2012	4	$1,619
2013	5	$2,314
2014	6	$2,388
2015	8	$2,450

Largest Accounts:

Below are the firm's five largest tax-exempt institutional separate accounts for the emerging markets product under consideration.

<u>Type</u>	*<u>Amount</u>*
Public Fund 1	$1,090 million
Public Fund 2	$465 million
Public Fund 3	$435 million
Corporate Pension Fund 1	$220 million
Sovereign Wealth Fund 1	$220 million

Returns:

(As of June 30, 2016)

	Last Quarter	Last Year	Last Three Years	Last Five Years	Last Seven Years
Rock Creek	2.72	-12.53	-1.61	-1.24	NA
MSCI Emerging Markets	0.66	-12.05	-1.56	-3.78	NA
Difference	2.06	-0.48	-0.05	2.54	NA

	2015	2014	2013	2012	2011
Rock Creek	-12.97	-1.72	4.22	24.80	-17.52
MSCI Emerging Markets	-14.60	-1.82	-2.27	18.63	-18.17
Difference	1.63	0.10	6.49	6.17	0.65

VAM Chart:

Rock Creek versus MSCI Emerging Markets
(as of June 30, 2016)