

**Preliminary Investment Update:
Public Employees Retirement System (PERS) and
Teachers' Fund for Retirement (TFFR)**

Employee Benefits Program Committee

September 1, 2016

Dave Hunter, Executive Director / CIO

Darren Schulz, Deputy Chief Investment Officer

ND Retirement & Investment Office (RIO)

State Investment Board (SIB)

Overview of PERS and TFFR Investment Returns and SIB Client Assets Under Management

PERS and TFFR Pension Plans Posted a Net Investment Return of 0.28% for Fiscal 2016

Current year results were negatively impacted by slowing economic growth rates and political uncertainty in the U.S. and abroad. During the last 3-to-5 years, PERS and TFFR's results have outperformed (e.g. 32nd to 37th percentile) most other U.S. public pension plans. Over the last 30-years, PERS and TFFR posted net investment returns of 7.89% and 7.73%, which is close to their respective long-term assumptions of 8.0% and 7.75%, respectively.

SIB Client Assets Have Doubled in the Last Five-Years

SIB assets have doubled from \$5.6 billion at June 30, 2011, to \$11.3 billion at June 30, 2016. This growth has resulted from \$3.5 billion in cash contributions (predominantly from the Legacy Fund) and nearly \$2.2 billion of net investment returns.

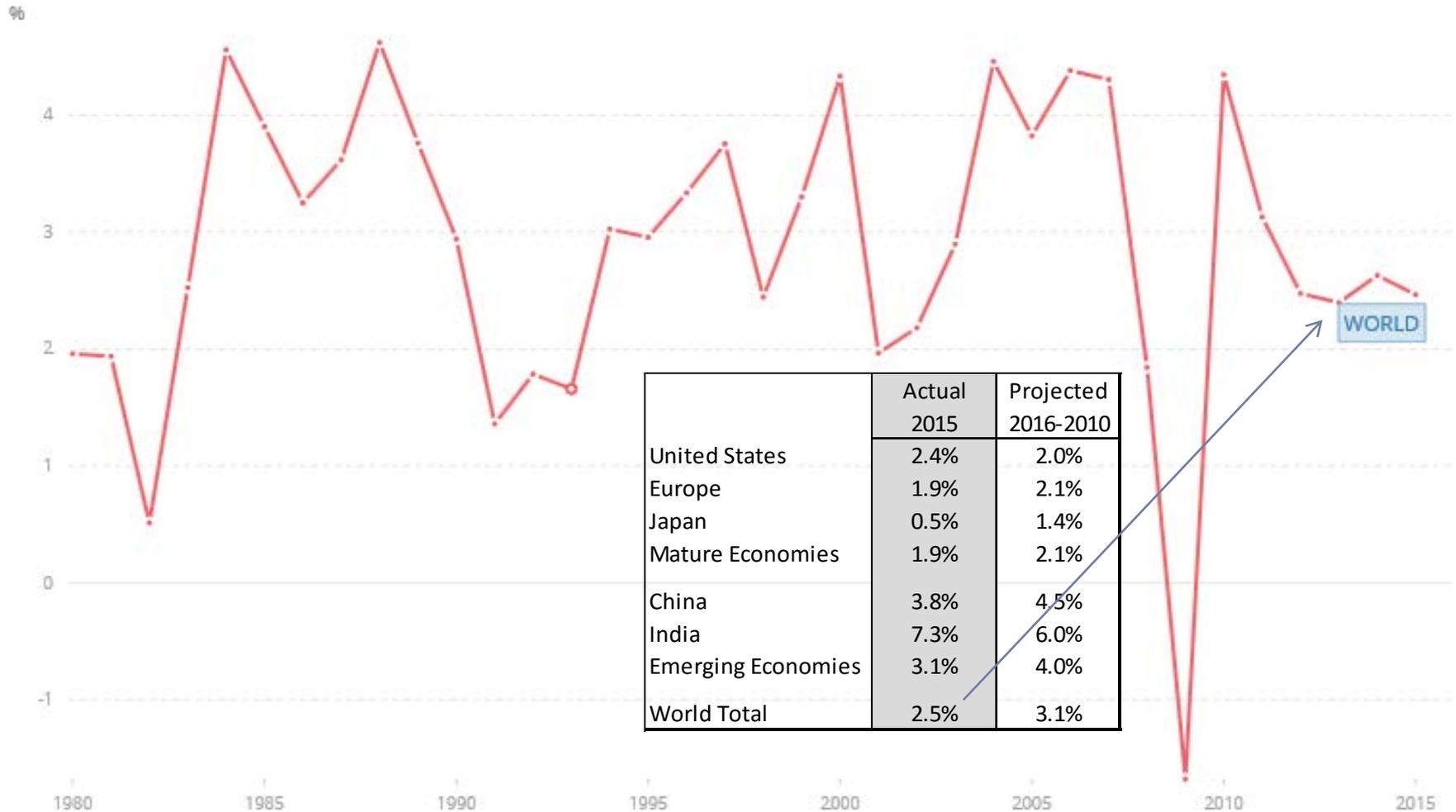
SIB Returns Have Outperformed Passive Benchmarks By Over \$200 million since 2011

SIB investment returns have benefitted from selecting firms which have outperformed passive benchmarks by over \$200 million (or 0.50%) in the last 5-years (after fees). Asset allocation decisions are the primary driver of investment returns but the prudent use of active investment management can help our clients achieve their long term investment goals.

Focus on Investment Management Fees and Expenses

Fee reduction efforts have reduced SIB client investment fees from 0.65% per year in fiscal 2013 to nearly 0.45% in fiscal 2016 – this translates into **over \$20 million of annual fee savings.**

“World GDP Growth Rates” have declined to 2.5% from 2012 to 2015, with some “Experts” projecting slightly higher future growth rates.



U.S. GDP Growth is Slowing although the U.S. Unemployment Rate is Low

US GDP ANNUAL GROWTH RATE



SOURCE: WWW.TRADINGECONOMICS.COM | U.S. BUREAU OF ECONOMIC ANALYSIS

US UNEMPLOYMENT RATE



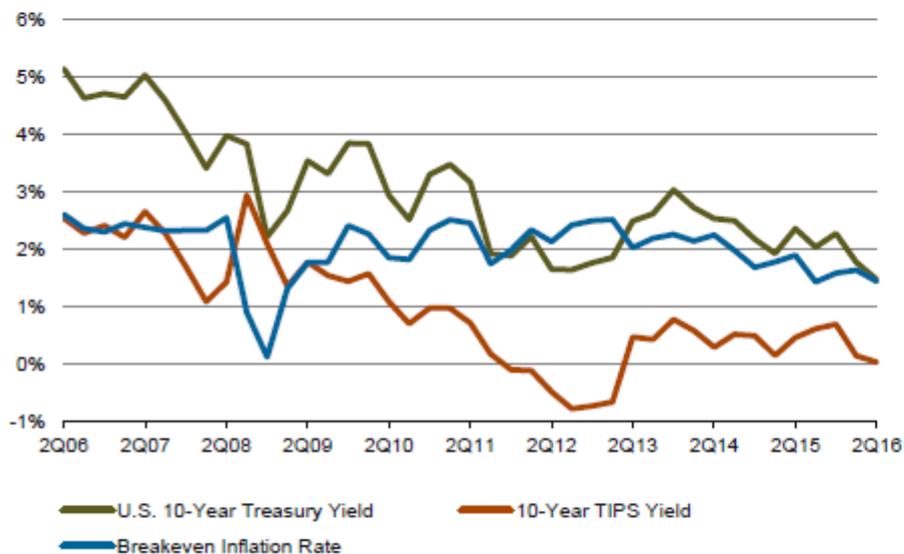
SOURCE: WWW.TRADINGECONOMICS.COM | U.S. BUREAU OF LABOR STATISTICS

Yield Curve Changes

Key: Long-Term Treasury Rates Fell 0.85% Last Year

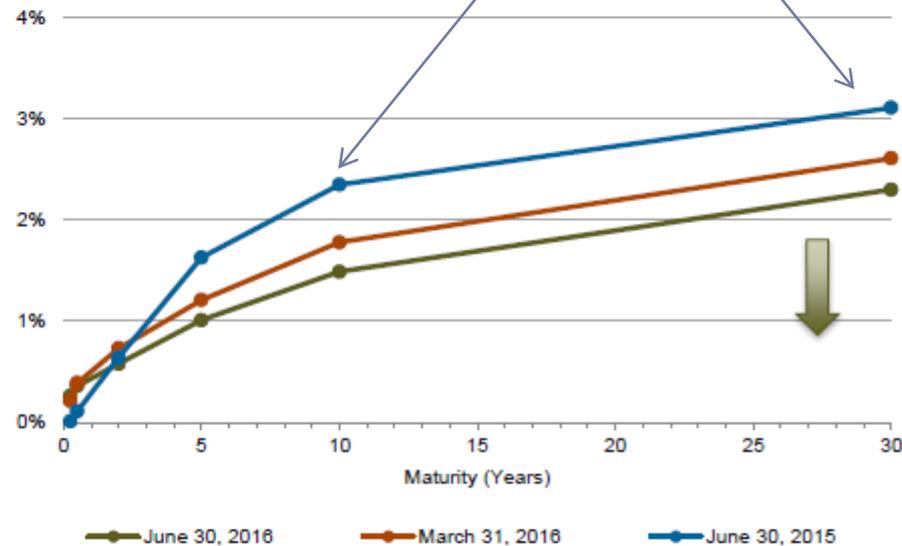
Periods Ending June 30, 2016

Historical 10-Year Yields



Source: Bloomberg

U.S. Treasury Yield Curves

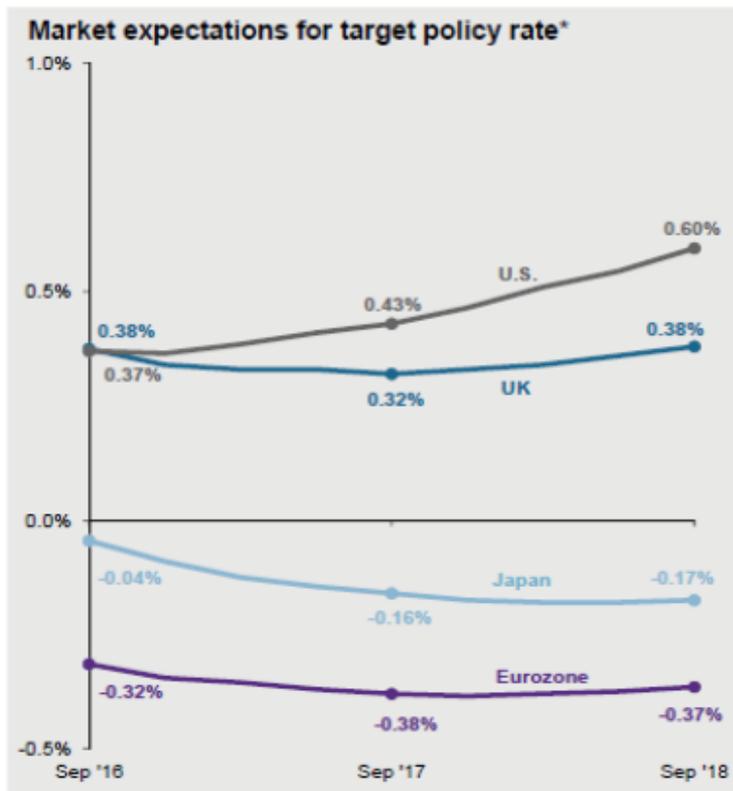


Source: U.S. Department of the Treasury

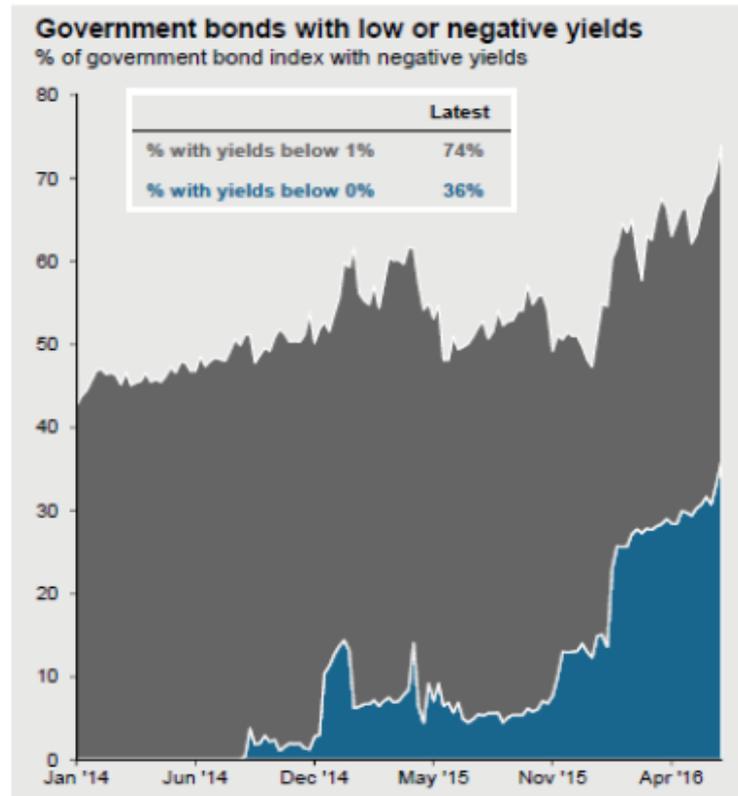
- Low rates abroad kept demand for U.S. assets strong. The German 10-year sovereign bond traded at a negative yield for the first time ever.
- The decline in Treasury yields boosted returns across all segments, with longer maturities posting the biggest gains. The 10-year dropped 29 basis points to a low not seen since 2012, finishing June at 1.49%.
- Breakeven inflation ended lower despite a climb in oil prices and healthy core inflation numbers.

Global Rate Expectations and Current Environment

Key: 74% of Global Gov't. Bond Yields are < 1% while 36% are Negative.



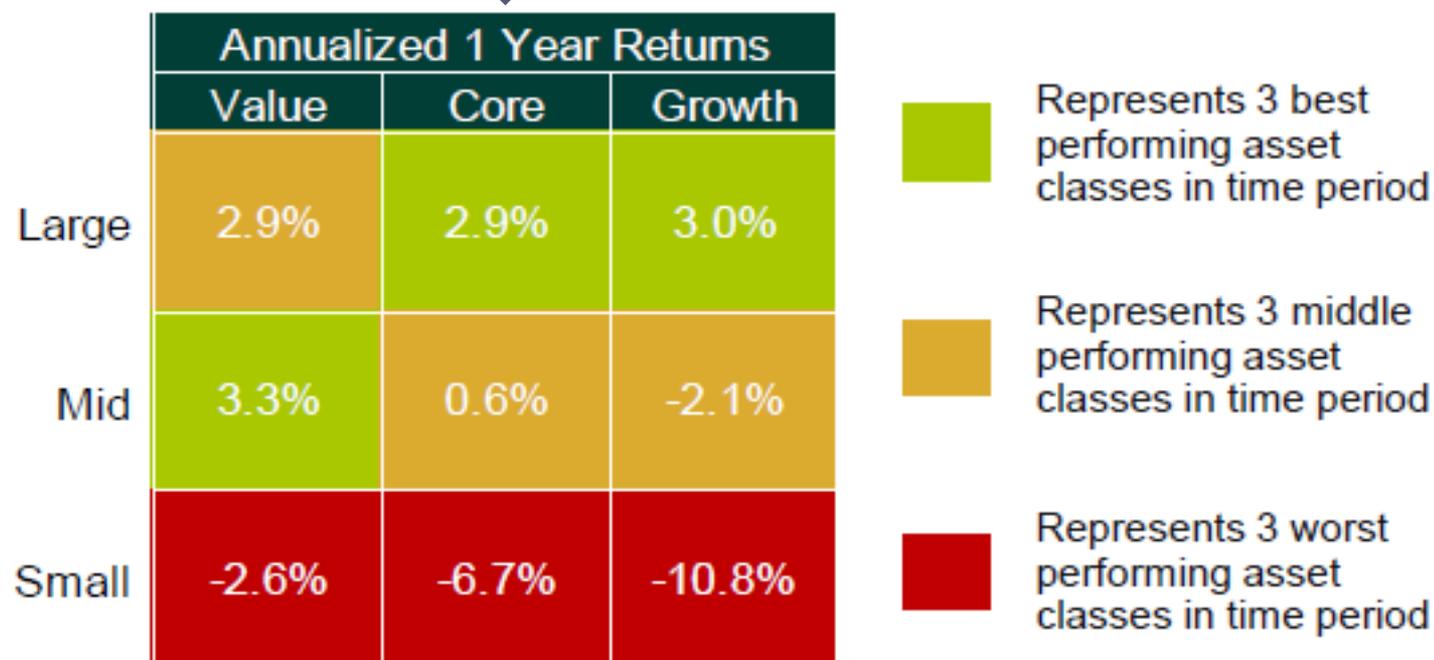
* Target policy rates for Japan are estimated using EuroYen 3-month futures contracts less a 6 bps risk premium.



Sources: JP Morgan, Guide to the Markets, June 30, 2016. Bank of America / Merrill Lynch Global Government Bond Index

U.S. Equity Style Returns

Periods Ending June 30, 2016



- Last Year: Small cap underperformed; style mixed

Large Cap Core is represented by the Russell 1000 Index, Large Cap Value is represented by the Russell 1000 Value Index and Large Cap Growth is represented by the Russell 1000 Growth Index. Mid Cap Core is represented by the Russell Midcap Index, Mid Cap Value is represented by the Russell Midcap Value Index and Mid Cap Growth is represented by the Russell Midcap Growth Index. Small Cap Core is represented by the Russell 2000 Index, Small Cap Value is represented by the Russell 2000 Value Index and Small Cap Growth is represented by the Russell 2000 Growth Index.

Asset Class Performance

Periodic Table of Investment Returns
for Periods Ended June 30, 2016

Best

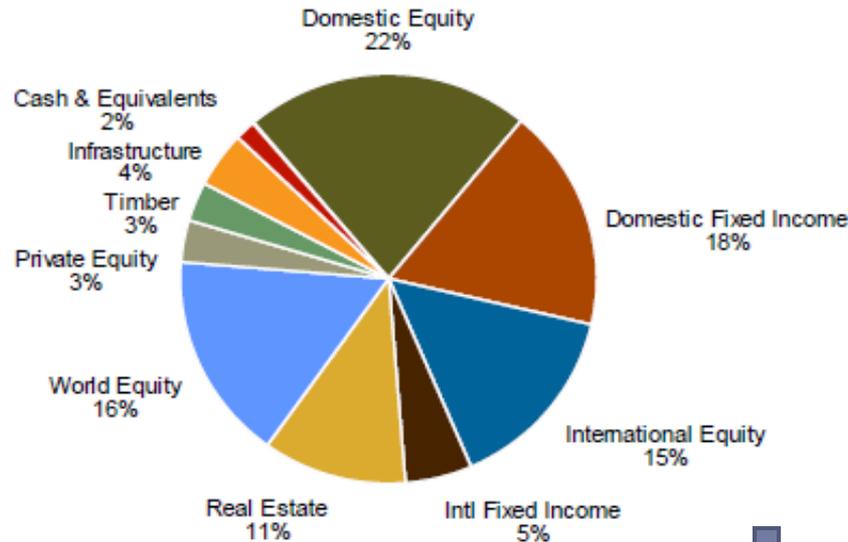


Worst

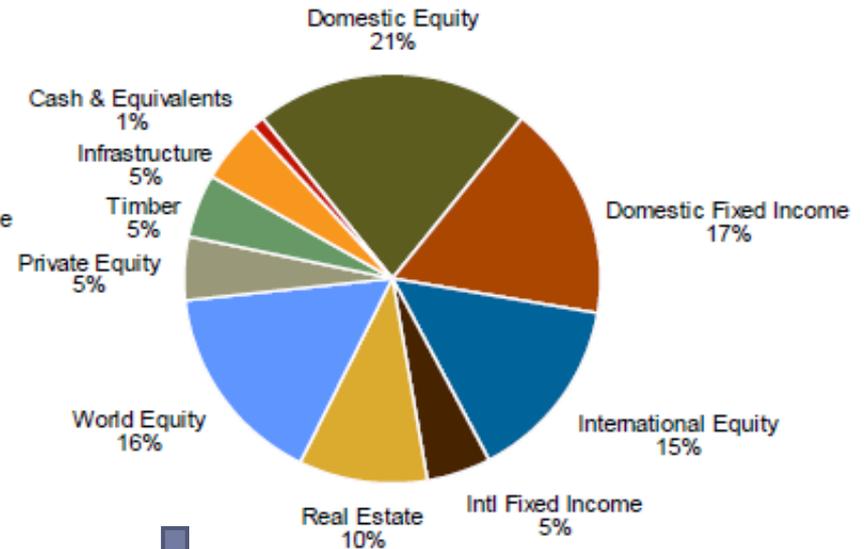
Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
BLMBRG:Commdty Idx 12.7%	Barclays:Aggregate Index 6.0%	S&P:500 11.7%	S&P:500 12.1%	S&P:500 7.4%
Russell:2000 Index 3.8%	S&P:500 4.0%	Russell:2000 Index 7.1%	Russell:2000 Index 8.4%	Russell:2000 Index 6.2%
S&P:500 2.5%	3 Month T-Bill 0.2%	Barclays:Aggregate Index 4.1%	Barclays:Aggregate Index 3.8%	Barclays:Aggregate Index 5.1%
Barclays:Aggregate Index 2.2%	Russell:2000 Index (6.7%)	MSCI:EAFE 2.1%	MSCI:EAFE 1.7%	MSCI:EM Gross 3.9%
MSCI:EM Gross 0.8%	MSCI:EAFE (10.2%)	3 Month T-Bill 0.1%	3 Month T-Bill 0.1%	MSCI:EAFE 1.6%
3 Month T-Bill 0.1%	MSCI:EM Gross (11.7%)	MSCI:EM Gross (1.2%)	MSCI:EM Gross (3.4%)	3 Month T-Bill 1.0%
MSCI:EAFE (1.5%)	BLMBRG:Commdty Idx (13.5%)	BLMBRG:Commdty Idx (10.6%)	BLMBRG:Commdty Idx (10.9%)	BLMBRG:Commdty Idx (6.5%)

PERS Actual Allocations are within 1% to 2% of Target Allocations

Actual Asset Allocation



Target Asset Allocation



Asset Class	\$000s Actual	Actual (%)	Target (%)	Percent Difference	\$000s Difference
Domestic Equity	546,892	22.2%	21.4%	0.8%	20,609
Domestic Fixed Income	433,307	17.6%	17.0%	0.6%	15,232
International Equity	367,297	14.9%	14.6%	0.3%	8,244
Intl Fixed Income	128,666	5.2%	5.0%	0.2%	5,702
Real Estate	275,539	11.2%	10.0%	1.2%	29,612
World Equity	402,558	16.4%	16.0%	0.4%	9,075
Private Equity	79,938	3.3%	5.0%	(1.7%)	(43,025)
Timber	77,460	3.1%	5.0%	(1.9%)	(45,504)
Infrastructure	108,994	4.4%	5.0%	(0.6%)	(13,969)
Cash & Equivalents	38,615	1.6%	1.0%	0.6%	14,023
Total	2,459,266	100.0%	100.0%		

PERS – Net Investment Returns – June 30, 2016

	Market Value as of June 30, 2016	Fiscal Year Ended 6/30/2016	3 Years Ended 6/30/2016	5 Years Ended 6/30/2016
TOTAL FUND	2,459,388,086	0.28%	6.51%	6.49%
<i>Benchmark</i>		0.56%	5.92%	6.08%
NET EXCESS RETURN		-0.28%	0.59%	0.41%
GLOBAL EQUITIES	1,396,685,126	-3.90%	6.53%	7.50%
<i>Benchmark</i>	57%	-3.86%	5.98%	7.00%
GLOBAL FIXED INCOME	562,072,624	4.50%	4.19%	3.63%
<i>Benchmark</i>	23%	6.21%	3.63%	2.35%
GLOBAL REAL ASSETS	462,014,998	7.99%	9.34%	7.11%
<i>Benchmark</i>	19%	6.28%	7.86%	6.28%
CASH EQUIVALENTS	38,615,338	0.29%	0.13%	0.12%
<i>Benchmark</i>	< 2%	0.19%	0.09%	0.09%

PERS New Target Asset Allocation:

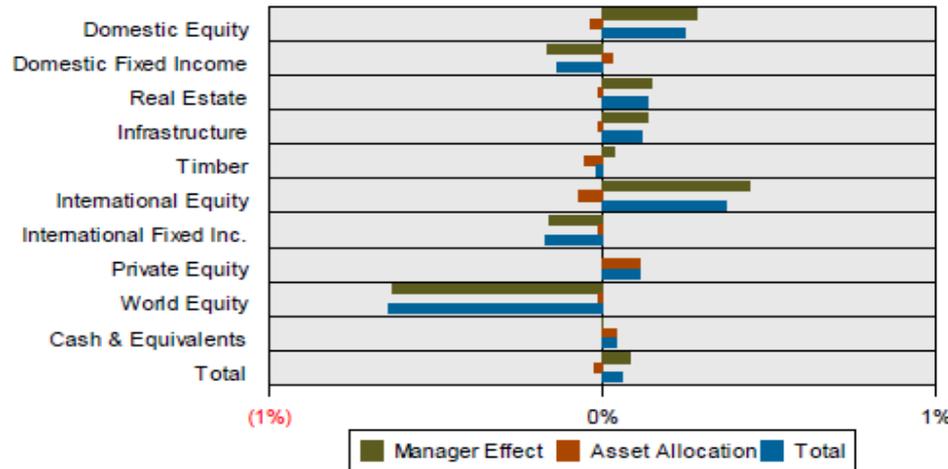
Global Equity	58%
Fixed Income	23%
Real Assets	19%
Cash Equiv.	< 1%
Total	<u>100%</u>

For the current fiscal year ended June 30, 2016, PERS generated a net return of 0.28%, largely due to slowing global growth rates and significant political uncertainty in many markets. As a result, Global Equities, with a 57% allocation, declined by **3.9%** last year. On a positive note, Fixed Income and Real Assets displayed strong gains as both benchmarks increased by over **6.2%** in the last fiscal year. PERS Fixed Income (with a 23% allocation) underperformed as the portfolio was positioned for a gradual rise in rates during a period when rates declined, while Real Assets (up **7.99%**) was PERS top asset class.

PERS Performance and Attribution

As of June 30, 2016

One Year Relative Attribution Effects



1 Year Ended 6/30/2016

Gross: 0.61%

Net of fees: 0.28%

Target: 0.56%

Net Added: -0.28%

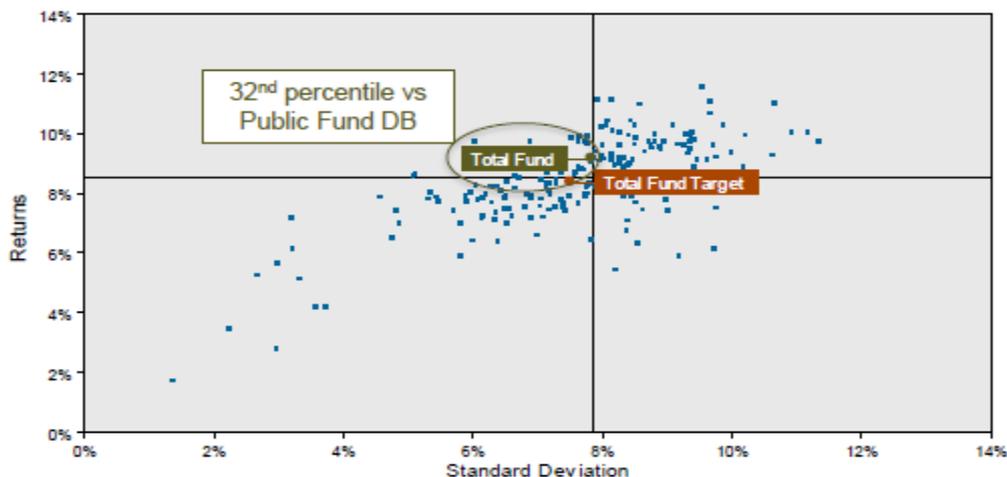
One Year Relative Attribution Effects

Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Domestic Equity	23%	21%	2.03%	0.73%	0.28%	(0.03%)	0.25%
Domestic Fixed Income	18%	17%	3.85%	4.77%	(0.17%)	0.03%	(0.14%)
Real Estate	11%	10%	11.96%	10.64%	0.15%	(0.01%)	0.13%
Infrastructure	5%	5%	3.65%	0.64%	0.13%	(0.01%)	0.12%
Timber	3%	5%	4.34%	3.49%	0.03%	(0.05%)	(0.02%)
International Equity	15%	15%	(7.76%)	(10.45%)	0.44%	(0.07%)	0.37%
International Fixed Inc.	5%	5%	7.88%	11.24%	(0.16%)	(0.01%)	(0.17%)
Private Equity	4%	5%	(7.19%)	(7.19%)	0.00%	0.11%	0.11%
World Equity	16%	16%	(6.53%)	(2.78%)	(0.63%)	(0.01%)	(0.64%)
Cash & Equivalents	1%	1%	0.29%	0.19%	0.00%	0.04%	0.04%
Total			0.61%	0.56%	+ 0.08%	+ (0.02%)	0.06%

PERS Performance and Attribution

As of June 30, 2016

Six Year Annualized Risk vs Return



Squares represent membership of the CAI Public Fund Sponsor Database

6 Years Ended 6/30/2016

Gross: 9.17%
 Net of fees: 8.82%
 Target: 8.37%
 Net Added: 0.45%



Six Year Annualized Relative Attribution Effects

Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Domestic Equity	28%	27%	15.13%	14.52%	0.08%	0.10%	0.18%
Domestic Fixed Income	20%	20%	6.18%	4.86%	0.21%	(0.04%)	0.17%
Real Estate	9%	9%	15.46%	12.37%	0.24%	0.01%	0.25%
Timber	4%	4%	-	-	(0.24%)	(0.05%)	(0.29%)
Infrastructure	3%	4%	-	-	0.15%	0.08%	0.23%
International Equity	16%	16%	6.41%	4.14%	0.35%	(0.07%)	0.28%
International Fixed Inc.	5%	5%	4.43%	2.71%	0.09%	(0.01%)	0.08%
Private Equity	5%	5%	2.76%	2.76%	0.00%	(0.03%)	(0.03%)
World Equity	10%	10%	-	-	(0.03%)	(0.04%)	(0.07%)
Cash & Equivalents	1%	1%	0.12%	0.10%	0.00%	(0.01%)	(0.01%)
Total			9.17%	8.37%	+ 0.85%	+ (0.06%)	0.80%

PERS Net Investment Return was 0.28% and 6.49% for the 1- and 5-year periods ended June 30, 2016, respectively.

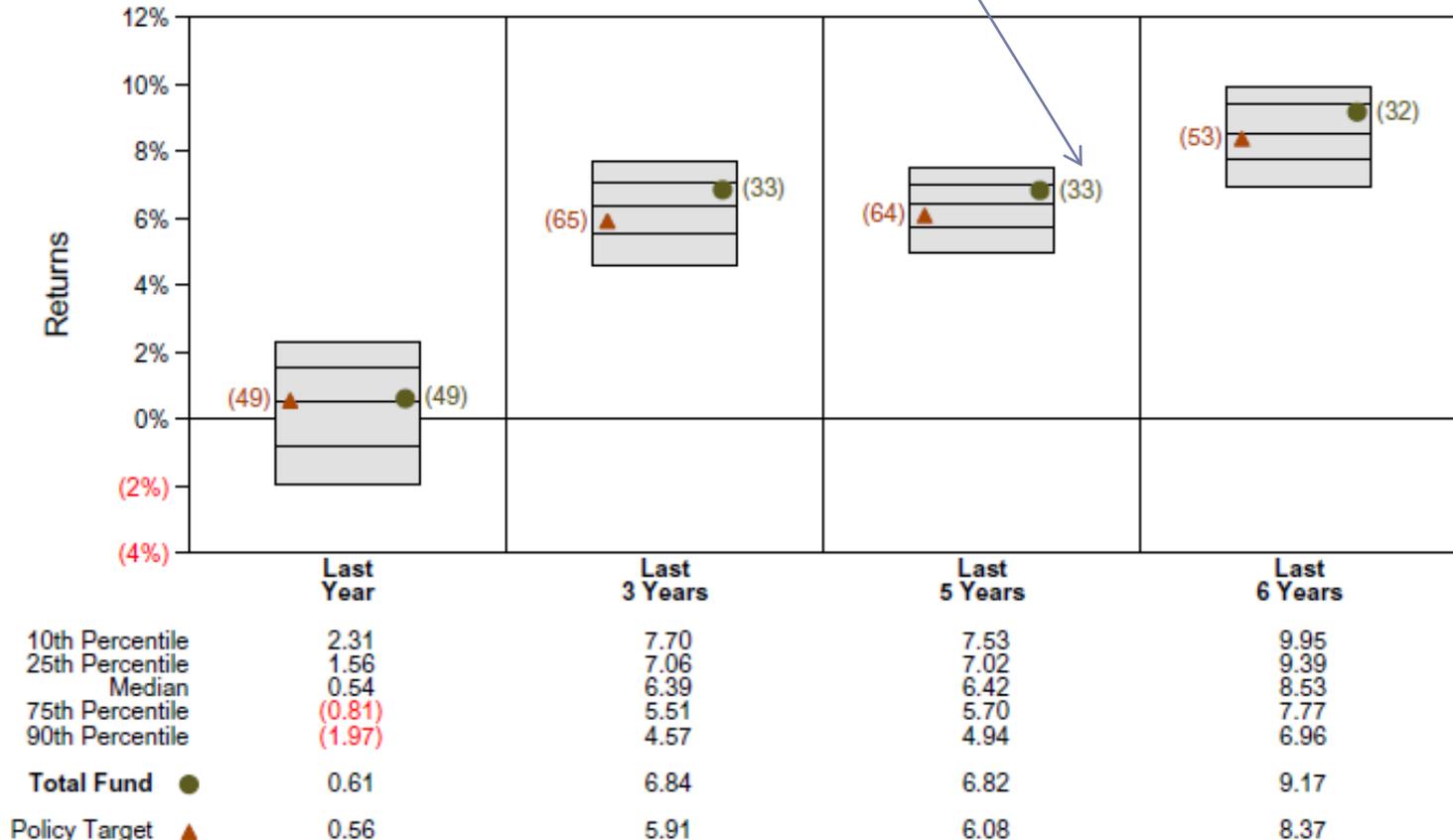
	<u>1 Yr Ended 6/30/2016</u>	<u>3 Yrs Ended 6/30/2016</u>	<u>5 Yrs Ended 6/30/2016</u>	Risk 5 Yrs Ended 6/30/2016
PERS (Main Plan)				
\$ 2,459,388,086				
Total Fund Return - Net	0.28%	6.51%	6.49%	7.7%
Policy Benchmark Return	0.56%	5.92%	6.08%	7.4%
Excess Return	-0.28%	0.59%	0.41%	105%

One-Year Returns: PERS posted a net investment return of **0.28%** for the year ended June 30, 2016, which trailed its performance benchmark of 0.56%. Two large global equity managers were responsible for 0.63% of negative attribution. Fixed Income was also responsible for 0.33% of negative attribution as the portfolio was positioned for a gradual rise in interest rates. In contrast, 10-year U.S. Treasury rates fell from 2.35% at June 30, 2015, to less than 1.50% at June 30, 2016.

Five-Year Returns: PERS posted a net investment return of **6.49%** for the 5-years ended June 30, 2016, largely due to strong results in real estate (up 13%) and U.S. public equities (up 11%). Despite the disappointing results last year, active management generated **\$46 million of incremental income for PERS** for the 5-year period ended June 30, 2016.

PERS “gross” returns were ranked in the 33rd percentile for the 5-years ended June 30, 2016, based on Callan’s “Public Fund Sponsor Database”.

CAI Public Fund Sponsor Database

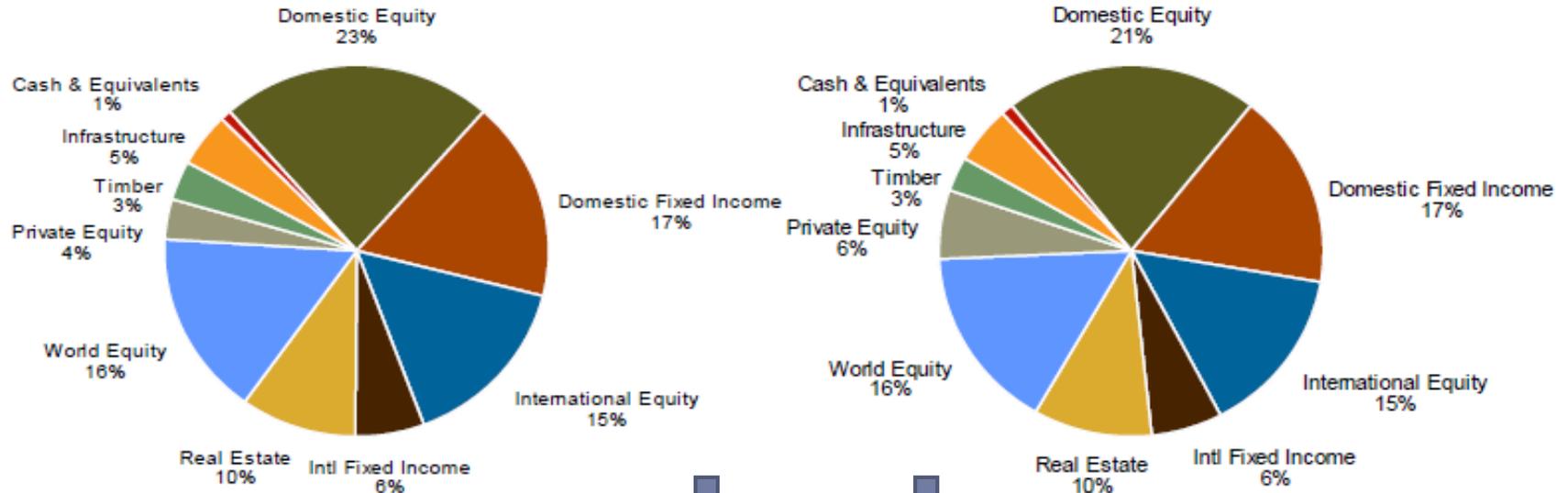


* Current Quarter Target = 16.6% Russell 1000 Index, 16.0% MSCI World, 12.0% Barclays Aggregate Index, 11.1% MSCI EAFE, 10.0% NCREIF Total Index, 5.0% CPI-W, 5.0% Barclays US HY Corp 2% Cp, 5.0% NDSIB PERS - Private Equity, 5.0% Barclays Global Agg ex-US, 5.0% NCREIF Timberland Index, 4.8% Russell 2000 Index, 3.5% MSCI EM and 1.0% 3-month Treasury Bill.

TFFR Actual Allocations are within 1% to 3% of Target Allocations

Actual Asset Allocation

Target Asset Allocation



Asset Class	\$000s Actual	Actual	Target	Percent Difference	\$000s Difference
Domestic Equity	478,122	23.0%	21.4%	1.6%	32,554
Domestic Fixed Income	361,707	17.4%	17.0%	0.4%	7,751
International Equity	321,177	15.4%	14.6%	0.8%	17,192
Intl Fixed Income	121,443	5.8%	6.0%	(0.2%)	(3,483)
Real Estate	204,184	9.8%	10.0%	(0.2%)	(4,025)
World Equity	335,715	16.1%	16.0%	0.1%	2,580
Private Equity	73,374	3.5%	6.0%	(2.5%)	(51,551)
Timber	70,258	3.4%	3.0%	0.4%	7,796
Infrastructure	97,588	4.7%	5.0%	(0.3%)	(6,517)
Cash & Equivalents	18,522	0.9%	1.0%	(0.1%)	(2,299)
Total	2,082,090	100.0%	100.0%		

TFFR – Net Investment Returns – June 30, 2016

	Market Value as of June 30, 2016	Fiscal Year Ended 6/30/2016	3 Years Ended 6/30/2016	5 Years Ended 6/30/2016
TOTAL FUND	2,082,183,640	0.28%	6.55%	6.32%
<i>Benchmark</i>		0.62%	5.96%	5.73%
NET EXCESS RETURN		-0.34%	0.59%	0.59%
GLOBAL EQUITIES	1,208,387,567	-3.93%	6.53%	7.53%
<i>Benchmark</i>	58%	-3.76%	6.05%	7.08%
GLOBAL FIXED INCOME	483,243,200	4.49%	4.15%	3.61%
<i>Benchmark</i>	23%	6.36%	3.68%	2.38%
GLOBAL REAL ASSETS	372,030,580	7.83%	9.30%	7.10%
<i>Benchmark</i>	18%	6.29%	7.87%	6.29%
CASH EQUIVALENTS	18,522,293	0.29%	0.13%	0.12%
<i>Benchmark</i>	1%	0.19%	0.09%	0.09%

TFFR New Target Asset Allocation:

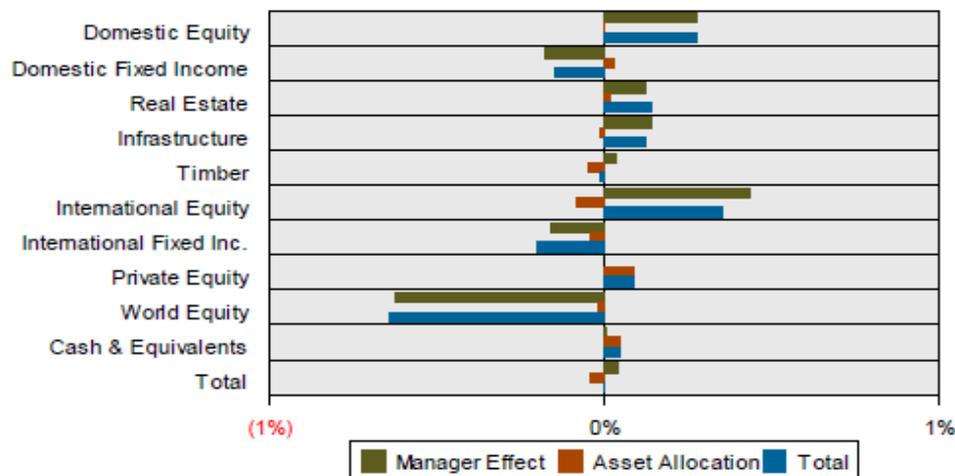
Global Equity	58%
Fixed Income	23%
Real Assets	18%
Cash Equiv.	1%
Total	<u>100%</u>

For the current fiscal year ended June 30, 2016, TFFR generated a net return of 0.28%, largely due to slowing global growth rates and significant political uncertainty in many markets. As a result, Global Equities, with a 58% allocation, declined by **3.9%** last year. On a positive note, Fixed Income and Real Assets displayed strong gains as both benchmarks increased by **6.3%** in the last fiscal year. TFFR Fixed Income (with a 23% allocation) underperformed as the portfolio was positioned for a gradual rise in rates during a period when rates declined, while Real Assets (up **7.83%**) was TFFR's top asset class.

TFFR Performance and Attribution

As of June 30, 2016

One Year Relative Attribution Effects



1 Year Ended 6/30/16
 Gross: 0.61%
 Net of fees: 0.28% ←
 Target: 0.61%
 Net Added: -0.33%

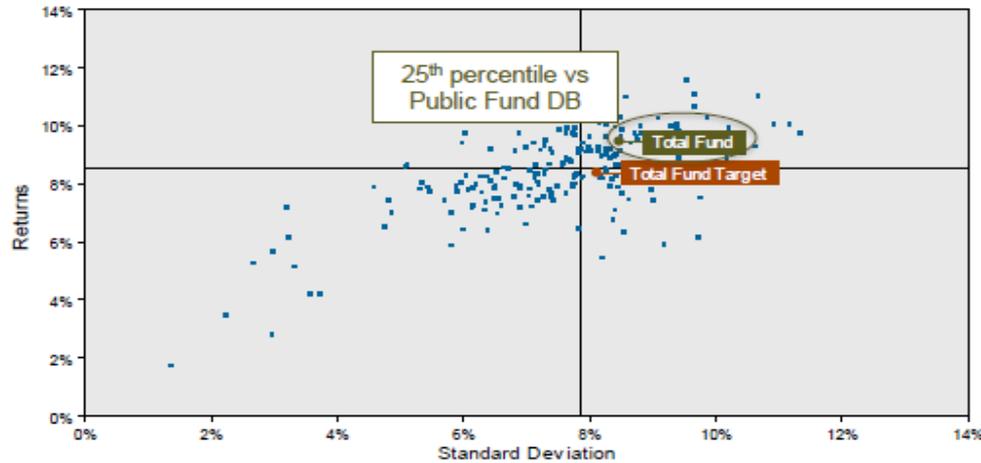
One Year Relative Attribution Effects

Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Domestic Equity	22%	21%	2.02%	0.73%	0.28%	(0.00%)	0.27%
Domestic Fixed Income	18%	17%	3.82%	4.83%	(0.18%)	0.03%	(0.15%)
Real Estate	11%	10%	11.96%	10.64%	0.12%	0.02%	0.14%
Infrastructure	5%	5%	3.65%	0.64%	0.14%	(0.02%)	0.12%
Timber	4%	5%	4.34%	3.49%	0.03%	(0.05%)	(0.01%)
International Equity	15%	15%	(7.71%)	(10.39%)	0.43%	(0.08%)	0.35%
International Fixed Inc.	5%	5%	7.88%	11.24%	(0.16%)	(0.04%)	(0.20%)
Private Equity	4%	5%	(7.19%)	(7.19%)	0.00%	0.08%	0.08%
World Equity	16%	16%	(6.53%)	(2.78%)	(0.62%)	(0.02%)	(0.64%)
Cash & Equivalents	1%	1%	0.29%	0.19%	0.00%	0.04%	0.05%
Total			0.61%	0.61%	+ 0.04%	+ (0.04%)	(0.00%)

TFFR Performance and Attribution

As of June 30, 2016

Six Year Annualized Risk vs Return



6 Years Ended 6/30/2016

Gross: 9.44%
 Net of fees: 9.09% ←
 Target: 8.36%
 Net Added: 0.73%

Squares represent membership of the CAI Public Fund Sponsor Database

Six Year Annualized Relative Attribution Effects

Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Domestic Equity	27%	26%	15.13%	14.51%	0.10%	0.09%	0.19%
Domestic Fixed Income	18%	17%	6.20%	4.90%	0.22%	(0.02%)	0.20%
Real Estate	10%	10%	15.46%	12.37%	0.29%	0.03%	0.31%
Timber	4%	4%	-	-	(0.23%)	(0.00%)	(0.24%)
Infrastructure	3%	4%	-	-	0.15%	0.10%	0.25%
International Equity	17%	17%	6.57%	4.33%	0.41%	(0.03%)	0.38%
International Fixed Inc.	5%	5%	4.43%	2.71%	0.09%	(0.02%)	0.08%
Private Equity	5%	5%	2.78%	2.78%	0.00%	(0.02%)	(0.02%)
World Equity	10%	10%	-	-	(0.03%)	(0.04%)	(0.07%)
Cash & Equivalents	1%	1%	0.12%	0.10%	0.00%	(0.01%)	(0.00%)
Total			9.44%	8.36%	+ 1.00%	+ 0.08%	1.08%

TFFR's Net Investment Return was 0.28% and 6.32% for the 1- and 5-year periods ended June 30, 2016, respectively.

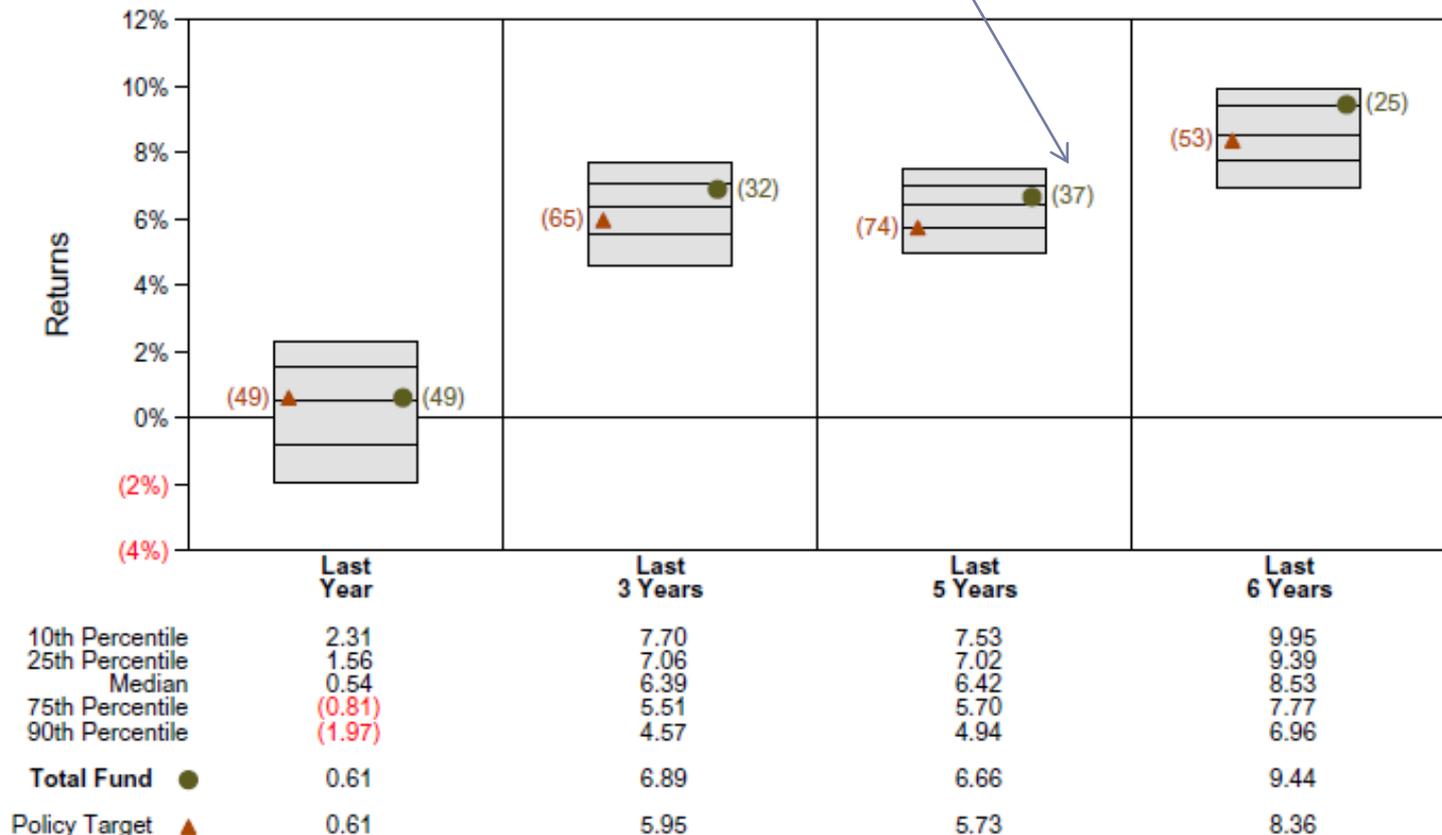
	<u>1 Yr Ended 6/30/2016</u>	<u>3 Yrs Ended 6/30/2016</u>	<u>5 Yrs Ended 6/30/2016</u>	Risk 5 Yrs Ended 6/30/2016
TFFR				
\$ 2,082,183,640				
Total Fund Return - Net	0.28%	6.55%	6.32%	8.2%
Policy Benchmark Return	0.62%	5.95%	5.73%	7.9%
Excess Return	-0.34%	0.60%	0.59%	105%

One-Year Returns: TFFR posted a net investment return of **0.28%** for the year ended June 30, 2016, which trailed its performance benchmark of 0.62%. Two large global equity managers were responsible for 0.62% of negative attribution. Fixed Income was also responsible for 0.34% of negative attribution as the portfolio was positioned for a gradual rise in interest rates. In contrast, 10-year U.S. Treasury rates fell from 2.35% at June 30, 2015, to less than 1.50% at June 30, 2016.

Five-Year Returns: TFFR posted a net investment return of **6.32%** for the 5-years ended June 30, 2016, largely due to strong results in real estate (up 13%) and U.S. public equities (up 11%). Despite the disappointing results last year, active management generated **\$44 million of incremental income for TFFR** for the 5-year period ended June 30, 2016.

TFFR's "gross" returns were ranked in the 37th percentile for the 5-years ended June 30, 2016, based on Callan's "Public Fund Sponsor Database".

CAI Public Fund Sponsor Database



* Current Quarter Target = 16.6% Russell 1000 Index, 16.0% MSCI World, 13.0% Barclays Aggregate Index, 11.8% MSCI EAFE, 10.0% NCREIF Total Index, 6.0% NDSIB TFFR - Private Equity, 6.0% Barclays Global Agg ex-US, 5.0% CPI-W, 4.8% Russell 2000 Index, 4.0% Barclays US HY Corp 2% Cp, 3.0% NCREIF Timberland Index, 2.8% MSCI EM and 1.0% 3-month Treasury Bill.

PERS & TFFR – June 2016 Performance Update

	<u>1 Yr Ended 6/30/2016</u>	<u>3 Yrs Ended 6/30/2016</u>	<u>5 Yrs Ended 6/30/2016</u>	Risk 5 Yrs Ended 6/30/2016
PERS (Main Plan)				
\$ 2,459,388,086				
Total Fund Return - Net	0.28%	6.51%	6.49%	7.7%
Policy Benchmark Return	0.56%	5.92%	6.08%	7.4%
Excess Return	-0.28%	0.59%	0.41%	105%
TFFR				
\$ 2,082,183,640				
Total Fund Return - Net	0.28%	6.55%	6.32%	8.2%
Policy Benchmark Return	0.62%	5.95%	5.73%	7.9%
Excess Return	-0.34%	0.60%	0.59%	105%

PERS and TFFR:

- **“Excess Return”** is defined as the actual investment return (after deducting investment fees) over the expected return of the underlying investment policy or benchmark (i.e. a passive index).
- **Active management has generated \$90 million of incremental income** (after fees) for PERS & TFFR in the last 5-years. Based on \$4 billion of assets and **Excess Return of 0.45%** (\$4 billion x 0.45% x 5 years).
- **These strong returns have been achieved while reducing overall investment risk**, as measured by standard deviation, during the past 10 years. Standard deviation measures the amount of variation or dispersion from the average.

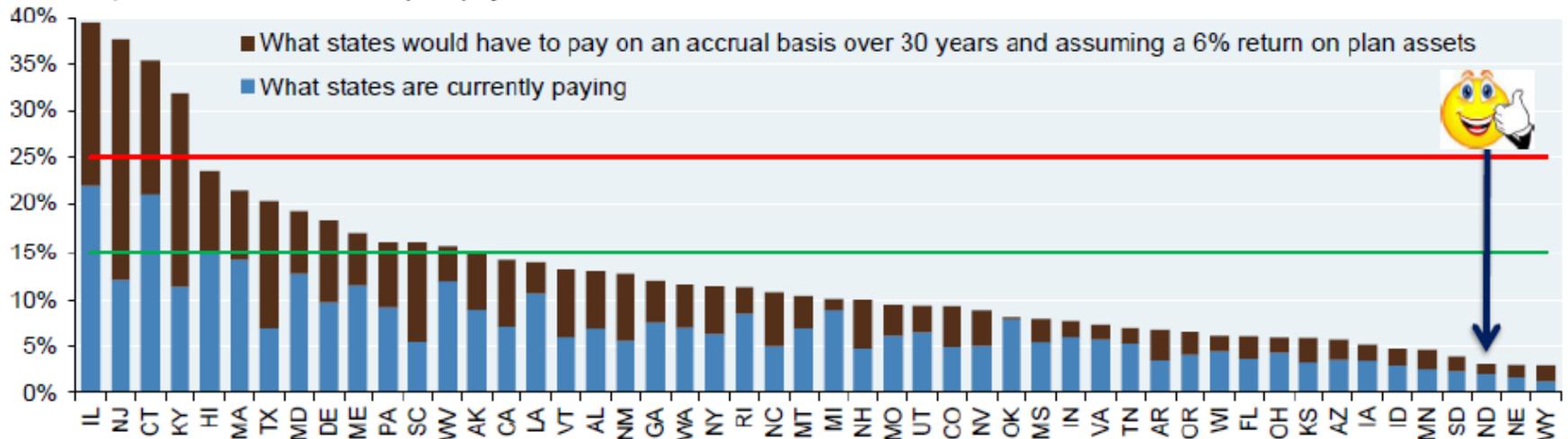
Note: Data as of June 30, 2016, is unaudited and subject to change.

How big is the post-retirement bill?

A relative comparison of the 50 states' payment obligations

The state of the states: how much states spend on debt, pensions and retiree healthcare

% of state revenue collections required to pay the sum of interest on bonds, the state's share of unfunded pension and retiree healthcare liabilities, and defined contribution plan payments



Source: J.P. Morgan Asset Management, state/pension plan Comprehensive Annual Financial Reports, Census, Loop Capital Markets. FY 2015.

- Bars that appear above the **red line** indicate a level at which states face critical challenges in meeting an ability to service their debt and post-retirement benefit obligations.
- Bars that appear below the **green line** identify states that one might view not requiring “a disproportionate share of revenues to service their debts.”
- Note that North Dakota’s overall funding obligations are comparatively low (third from the right).

Appendix – EBPC Presentation (August 2016)

- ▶ State Investment Board Members
- ▶ Retirement and Investment Office Background
- ▶ State Investment Board Process
- ▶ North Dakota Century Code 21-10 State Investment Board
- ▶ SIB Client Assets and Investment Performance – June 30, 2016
- ▶ Listing of Consulting and Professional Service Firms
- ▶ Transparency Enhancement Update (RIO Website)
- ▶ PERS and TFFR Asset Allocation Policies

State Investment Board Members – August 31, 2016

The SIB includes 11 members with Lieutenant Governor Drew Wrigley serving as Chairman and includes State Treasurer Kelly Schmidt, the Commissioner of University and School Lands Lance Gaebe, the Director of Workforce Safety and Insurance designee Cindy Ternes, the Insurance Commissioner Adam Hamm, plus three TFFR board members and three PERS board members.

The TFFR representatives include Michael Gessner, Rob Lech and Mel Olson noting that Mr. Lech also serves as the board parliamentarian.

The PERS representatives include Mike Sandal, Tom Trenbeath and Yvonne Smith noting that Mr. Sandal also serves as *Vice Chairman* of the SIB.

North Dakota Retirement & Investment Office – Background

RIO is an agency of the State of North Dakota. The agency was created by the 1989 Legislative Assembly to capture administrative and investment cost savings in the management of two important long-standing state programs – the retirement program of the Teachers' Fund for Retirement (TFFR) and the investment program of the State Investment Board (SIB).

The SIB is responsible for setting policies and procedures guiding the investment of over \$10.7 billion in assets for seven pension funds and 16 other insurance-type funds. Their investments are divided into two investment trust funds and two individual investment accounts. Individual investment guidelines for each fund can be found in the Investment Section. These guidelines include goals and objectives, risk tolerance, liquidity constraints, asset allocation and portfolio restrictions specific to each fund's unique circumstances. When creating investment pools to implement the asset allocations for each client fund, the SIB takes all of these guidelines into consideration in order to best meet the objectives of each fund and safeguard fund assets.

The pension investment pool is made up of only qualified pension funds whose monies must be invested exclusively for the benefit of their participants. The insurance investment pool is made up of mainly insurance-type funds, but also includes other funds that do not qualify as pension funds and would like to benefit from the cost savings of being pooled with other funds' assets. All of these funds are invested in accordance with the "Prudent Investor Rule."

An important aspect of the prudent investor rule is that individual investments are considered not in isolation but in the context of the trust portfolio as a whole. Some new opportunities may appear risky when viewed alone. However, when part of a diversified mix of investments in stocks, bonds and other assets, they can increase returns often without increasing the overall portfolio risk and, in some cases, may help decrease the overall portfolio's risk.

North Dakota Retirement & Investment Office – Pools

The pension investment pool was created in July 1989 with the pooling of selected investments of TFFR and the Public Employees Retirement System (PERS). Assets from the City of Bismarck Employees and Police pension funds were added later that same fiscal year. In April 1994, Job Service of North Dakota made their initial contribution to the pool. The City of Fargo Employees pension plan joined the pension pool in December 2007 and the City of Grand Forks Employees pension plan in May 2009. Most recently, the Grand Forks Park District pension plan began participating in the pension pool in December 2009. The City of Fargo Employees pension plan withdrew the bulk of their assets from the SIB in December 2013. Their balance at June 30, 2015, represents residual cash needed to pay final expenses.

The insurance investment pool began in December 1993 with the pooling of the assets of the WSI, Fire and Tornado, Bonding, Insurance Regulatory, and Petroleum Tank Release funds.

Other additions to this pool have occurred as follows:

- The Risk Management Fund was added in October 1996.
 - Two North Dakota Association of Counties (NDACo) funds were added during fiscal year 1999, in January and March.
 - The City of Bismarck Deferred Sick Leave and PERS Group Insurance funds were both added in July 1999.
 - The City of Fargo FargoDome Permanent Fund was added in October 2002.
 - The Risk Management Workers Compensation Fund was added in October 2003.
 - The Cultural Endowment Fund was added by the 2005 legislature and funded in July 2005.
 - The Budget Stabilization Fund joined the pool in September 2005 upon reaching statutorily designated levels.
 - The State Board of Medical Examiners Fund joined the pool in April, 2014.
-

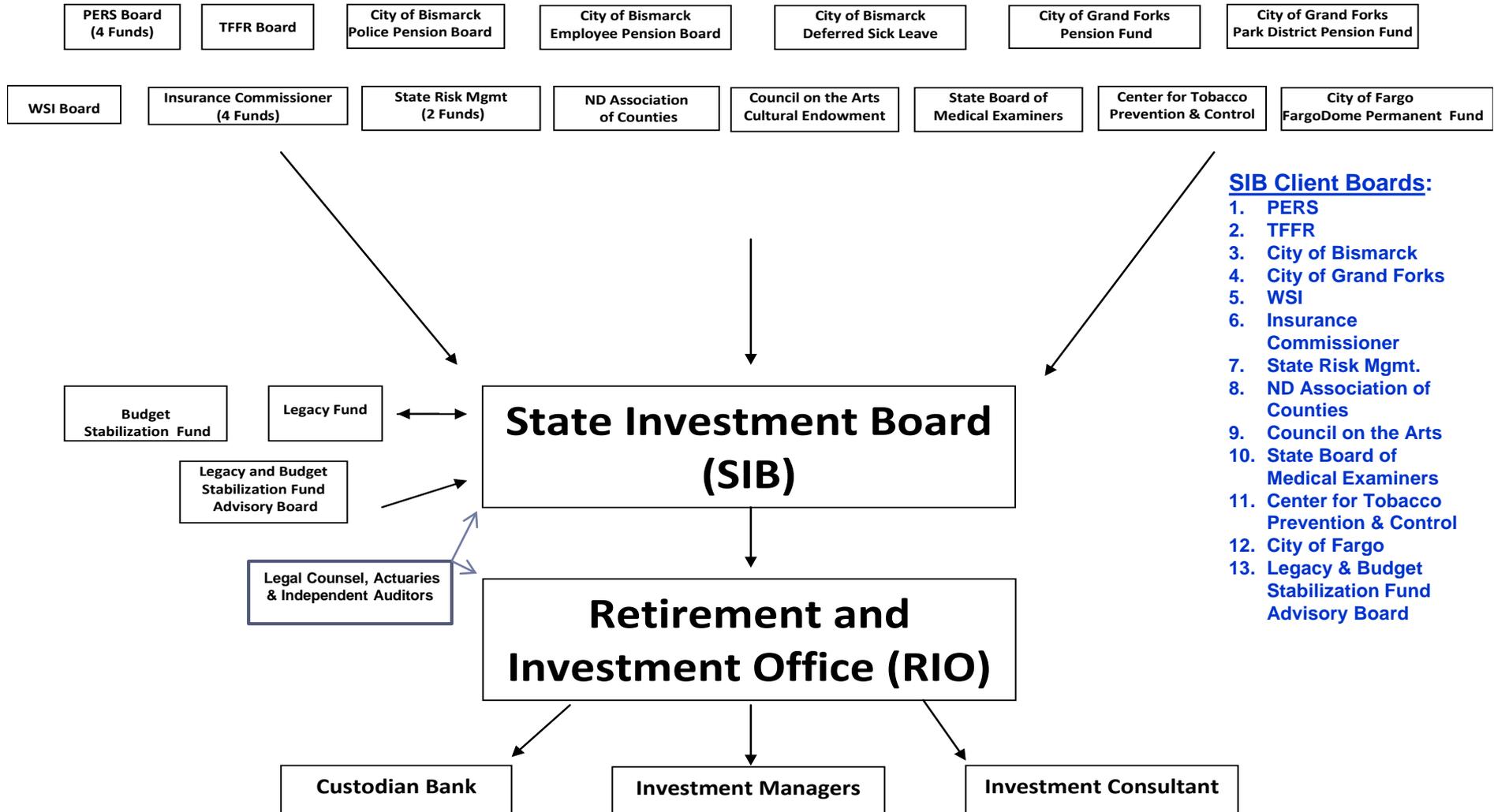
North Dakota Retirement & Investment Office – Awards

The Government Finance Officers Association of the United States and Canada (GFOA) awarded a Certificate of Achievement for Excellence in Financial Reporting to RIO for its comprehensive annual financial report for the fiscal year ended June 30, 2015. This was the eighteenth consecutive year that RIO has achieved this prestigious award. In order to be awarded a Certificate of Achievement, a government must publish an easily readable and efficiently organized comprehensive annual financial report. This report must satisfy both generally accepted accounting principles and applicable legal requirements.

A Certificate of Achievement is valid for a period of one year only. We believe that our current comprehensive annual financial report continues to meet the Certificate of Achievement Program's requirements and we are submitting it to the GFOA to determine its eligibility for another certificate.

TFFR also received the 2015 Public Pension Standards Award for Funding and Administration from the Public Pension Coordinating Council. To receive the award, the retirement system must certify that it meets specific professional standards for a comprehensive benefit program, actuarial valuations, financial reporting, investments, communications to members, and funding adequacy.

State Investment Board Process



State Investment Board Process

Client Responsibilities: (Per NDCC 21-10-02.1) The governing body of each fund (client) shall establish policies on investment goals and objectives and asset allocation that must include:

- Acceptable rates of return, liquidity and levels of risk
- Long-range asset allocation goals

State Investment Board Responsibilities: (Per NDCC 21-10):

- Accept and implement client asset allocations
- Apply Prudent Investor Rule when investing for fund under its supervision
- Approve general types of securities for investment
- Set policies and procedures regulating securities transactions on behalf of the clients
- Select custodian servicer
- Select investment director and/or investment consulting service
- Create investment pools

State Investment Board Process

Retirement and Investment Office Staff Responsibilities (on behalf of SIB):

- Administer overall investment strategy
- Advise SIB on ways to maximize risk/return opportunities within each asset class
- Act as liaison between SIB and managers, consultant and custodian
- Monitor individual clients' investment guidelines and asset allocations
- Maintain separate accounting for client accounts

Investment Manager Responsibilities:

- Accept and implement specific mandates or “investment missions”
- Make buy/sell decisions based on investment guidelines
- Report to RIO Staff on regular basis
- Provide education to SIB

State Investment Board Process

Custodian Bank Responsibilities:

- Safe-keep assets
- Settle trades
- Record-keeper

Investment Consultant Responsibilities:

- Performance measurement of investment managers
- Manager search assistance
- Provide education to SIB
- Special projects

Others Experts:

- Legal Counsel
- Independent Actuaries and Auditors
- Specialists in custody and fee reviews and/or transaction cost analyses

NDCC Chapter 21-10 State Investment Board

21-10-01. State investment board - Membership - Term - Compensation – Advisory council.

The North Dakota state investment board consists of the governor, the state treasurer, the commissioner of university and school lands, the director of workforce safety and insurance, the insurance commissioner, three members of the teachers' fund for retirement board or the board's designees who need not be members of the fund as selected by that board, two of the elected members of the public employees retirement system board as selected by that board, and one member of the public employees retirement system board as selected by that board. The director of workforce safety and insurance may appoint a designee, subject to approval by the workforce safety and insurance board of directors, to attend the meetings, participate, and vote when the director is unable to attend. The teachers' fund for retirement board may appoint an alternate designee with full voting privileges to attend meetings of the state investment board when a selected member is unable to attend. The public employees retirement system board may appoint an alternate designee with full voting privileges from the public employees retirement system board to attend meetings of the state investment board when a selected member is unable to attend. The members of the state investment board, except elected and appointed officials and the director of workforce safety and insurance or the director's designee, are entitled to receive as compensation one hundred forty-eight dollars per day and necessary mileage and travel expenses as provided in sections 44-08-04 and 54-06-09 for attending meetings of the state investment board.

The state investment board may establish an advisory council composed of individuals who are experienced and knowledgeable in the field of investments. The state investment board shall determine the responsibilities of the advisory council. Members of the advisory council are entitled to receive the same compensation as provided the members of the advisory board of the Bank of North Dakota and necessary mileage and travel expenses as provided in sections 44-08-04 and 54-06-09.

21-10-02. Board - Powers and duties.

The board is charged with the investment of the funds enumerated in section 21-10-06. It shall approve general types of securities for investment by these funds and set policies and procedures regulating securities transactions on behalf of the various funds. Representatives of the funds enumerated in section 21-10-06 may make recommendations to the board in regard to investments. The board or its designated agents must be custodian of securities purchased on behalf of funds under the management of the board. The board may appoint an investment director or advisory service, or both, who must be experienced in, and hold considerable knowledge of, the field of investments. The investment director or advisory service shall serve at the pleasure of the board. The investment director or advisory service may be an individual, corporation, limited liability company, partnership, or any legal entity which meets the qualifications established herein. The board may authorize the investment director to lend securities held by the funds. These securities must be collateralized as directed by the board. The board may create investment fund pools in which the funds identified in section 21-10-06 may invest.

NDCC Chapter 21-10 State Investment Board

21-10-02.1. Board - Policies on investment goals and objectives and asset allocation.

1. The governing body of each fund enumerated in section 21-10-06 shall establish policies on investment goals and objectives and asset allocation for each respective fund. The policies must provide for:
 - a. The definition and assignment of duties and responsibilities to advisory services and persons employed by the board.
 - b. Rate of return objectives, including liquidity requirements and acceptable levels of risk.
 - c. Long-range asset allocation goals.
 - d. Guidelines for the selection and redemption of investments.
 - e. Investment diversification, investment quality, qualification of advisory services, and amounts to be invested by advisory services.
 - f. The type of reports and procedures to be used in evaluating performance.
2. The asset allocation and any subsequent allocation changes for each fund must be approved by the governing body of that fund and the state investment board. The governing body of each fund shall use the staff and consultants of the retirement and investment office in developing asset allocation and investment policies.

21-10-03. Cooperation with Bank of North Dakota.

Repealed by S.L. 1987, ch. 190, § 14.

21-10-04. Board - Meetings.

The state investment board shall select one of its members to serve as chair, one to serve as vice chair, and shall meet at the call of the chair or upon written notice signed by two members of the board.

21-10-05. Investment director - Powers and duties.

Subject to the limitations contained in the law or the policymaking regulations or resolutions adopted by the board, the investment director may sign and execute all contracts and agreements to make purchases, sales, exchanges, investments, and reinvestments relating to the funds under the management of the board. This section is a continuing appropriation of all moneys required for the making of investments of funds under the management of the board. The investment director shall see that moneys invested are at all times handled in the best interests of the funds. Securities or investments may be sold or exchanged for other securities or investments.

The investment director shall formulate and recommend to the investment board for approval investment regulations or resolutions pertaining to the kind or nature of investments and limitations, conditions, and restrictions upon the methods, practices, or procedures for investment, reinvestment, purchase, sale, or exchange transactions that should govern the investment of funds under this chapter.

NDCC Chapter 21-10 State Investment Board

21-10-06. Funds under management of board - Accounts.

1. Subject to the provisions of section 21-10-02, the board shall invest the following funds:
 - a. State bonding fund.
 - b. Teachers' fund for retirement.
 - c. State fire and tornado fund.
 - d. Workforce safety and insurance fund.
 - e. Public employees retirement system.
 - f. Insurance regulatory trust fund.
 - g. State risk management fund.
 - h. Budget stabilization fund.
 - i. Health care trust fund.
 - j. Cultural endowment fund.
 - k. Petroleum tank release compensation fund.
 - l. Legacy fund.
 - m. A fund under contract with the board pursuant to subsection 3.
2. Separate accounting must be maintained for each of the funds listed in subsection 1. The moneys of the individual funds may be commingled for investment purposes when determined advantageous.
3. The state investment board may provide investment services to, and manage the money of, any agency, institution, or political subdivision of the state, subject to agreement with the industrial commission. The scope of services to be provided by the state investment board to the agency, institution, or political subdivision must be specified in a written contract. The state investment board may charge a fee for providing investment services and any revenue collected must be deposited in the state retirement and investment fund.

21-10-06.1. Board - Investment reports.

The board shall annually prepare reports on the investment performance of each fund under its control. The reports must be uniform and must include:

1. A list of the advisory services managing investments for the board.
2. A list of investments at market value, compared to previous reporting period, of each fund managed by each advisory service.
3. Earnings, percentage earned, and change in market value of each fund's investments.
4. Comparison of the performance of each fund managed by each advisory service to other funds under the board's control and to generally accepted market indicators.

NDCC Chapter 21-10 State Investment Board

21-10-06.2. Investment costs.

The amounts necessary to pay for investment costs, such as investment counseling fees, trustee fees, custodial fees, performance measurement fees, expenses associated with money manager searches, expenses associated with onsite audits and reviews of investment managers, and asset allocation expenses, incurred by the state investment board are hereby appropriated and must be paid directly out of the funds listed in section 21-10-06 by the fund incurring the expense.

21-10-07. Legal investments.

The state investment board shall apply the prudent investor rule in investing for funds under its supervision. The "prudent investor rule" means that in making investments the fiduciaries shall exercise the judgment and care, under the circumstances then prevailing, that an institutional investor of ordinary prudence, discretion, and intelligence exercises in the management of large investments entrusted to it, not in regard to speculation but in regard to the permanent disposition of funds, considering probable safety of capital as well as probable income. The retirement funds belonging to the teachers' fund for retirement and the public employees retirement system must be invested exclusively for the benefit of their members and in accordance with the respective funds' investment goals and objectives.

21-10-08. Reserves - Percentage limitations.

In order to meet claims and liabilities, reserves must be established and maintained in each of the funds in accordance with the investment policy and asset allocation established for each fund.

21-10-09. Personal profit prohibited - Penalty.

No member, officer, agent, or employee of the state investment board may profit in any manner from transactions on behalf of the funds. Any person violating any of the provisions of this section is guilty of a class A misdemeanor.

21-10-10. State investment board fund - Cost of operation of board.

Repealed by S.L. 1989, ch. 667, § 13.

NDCC Chapter 21-10 State Investment Board

21-10-11. Legacy and budget stabilization fund advisory board.

The legacy and budget stabilization fund advisory board is created to develop recommendations for the investment of funds in the legacy fund and the budget stabilization fund to present to the state investment board. The goal of investment for the legacy fund is principal preservation while maximizing total return. The board consists of two members of the senate appointed by the senate majority leader, two members of the house of representatives appointed by the house majority leader, the director of the office of management and budget or designee, the president of the Bank of North Dakota or designee, and the tax commissioner or designee. The board shall select a chairman and must meet at the call of the chairman. The board shall report at least semiannually to the budget section. Legislative members are entitled to receive compensation and expense reimbursement as provided under section 54-03-20 and reimbursement for mileage as provided by law for state officers. The legislative council shall pay the compensation and expense reimbursement for the legislative members. The legislative council shall provide staff services to the legacy and budget stabilization fund advisory board. The staff and consultants of the state retirement and investment office shall advise the board in developing asset allocation and investment policies.

21-10-12. Legacy fund - Earnings defined.

For the purposes of section 26 of article X of the Constitution of North Dakota, the term "earnings" means net income in accordance with generally accepted accounting principles, excluding any unrealized gains or losses.

State Investment Board – Client Assets Under Management

Fund Name	Market Values as of 6/30/16 ⁽¹⁾	Market Values as of 6/30/15 ⁽²⁾
Pension Trust Fund		
Public Employees Retirement System (PERS)	2,459,388,086	2,422,579,595
Teachers' Fund for Retirement (TFFR)	2,082,183,640	2,103,807,355
Job Service of North Dakota Pension		96,392,560
City of Bismarck Employees Pension	82,441,003	81,745,817
City of Grand Forks Employees Pension	57,975,758	59,232,375
City of Bismarck Police Pension	33,983,598	35,889,940
Grand Forks Park District	5,720,245	6,035,136
City of Fargo Employees Pension		1,461
Subtotal Pension Trust Fund	4,721,692,330	4,805,684,242
Insurance Trust Fund		
Workforce Safety & Insurance (WSI)	1,832,104,203	1,762,659,138
Budget Stabilization Fund	575,918,381	574,011,151
ND Tobacco Control and Prevention	54,366,538	
PERS Group Insurance Account	37,715,356	39,653,686
City of Fargo FargoDome Permanent Fund	38,782,721	41,007,046
State Fire and Tornado Fund	24,091,203	23,416,232
Petroleum Tank Release Compensation Fund	7,149,512	7,162,837
State Risk Management Fund	6,534,801	6,849,214
State Risk Management Workers Comp Fund	5,516,177	6,224,542
ND Association of Counties (NDACo) Fund	4,048,863	3,833,500
State Bonding Fund	3,296,372	3,180,023
ND Board of Medical Examiners	2,208,667	2,174,703
Insurance Regulatory Trust Fund	1,085,836	2,636,662
Bismarck Deferred Sick Leave Account	642,265	872,177
Cultural Endowment Fund	386,452	383,049
Subtotal Insurance Trust Fund	2,593,847,347	2,474,063,959
Legacy Trust Fund		
Legacy Fund	3,809,485,177	3,328,631,303
PERS Retiree Insurance Credit Fund	101,623,224	97,671,060
Job Service of North Dakota Pension	96,588,333	
Total Assets Under SIB Management	11,323,236,411	10,706,050,563

⁽¹⁾ 6/30/16 market values are unaudited and subject to change.

⁽²⁾ 6/30/15 market values as stated in the Comprehensive Annual Financial Report.

- ▶ SIB client assets grew by approximately 6% (or \$617 million) in the last year with the Legacy Fund creating the largest asset growth of \$481 million primarily due to tax collections.
- ▶ The Legacy Fund generated a net investment gain of 1.06% for the year ended June 30, 2016, slightly exceeding its performance benchmark. Since inception, the Legacy Fund has generated a net annualized return of 2.78% (over the last 4.75 years) exceeding the performance benchmark of 2.05%.
- ▶ The Pension Trust posted a net return of 0.31% in the last year. During the last 5-years, the Pension Trust generated a net annualized return of 6.35%, exceeding the performance benchmark of 5.99%.
- ▶ The Insurance Trust generated a net return of 3.12% in the last year. During the last 5-years, the Insurance Trust posted a net annualized return of 4.83%, exceeding the performance benchmark of 3.81%.
- ▶ SIB client assets exceeded \$11.3 billion as of June 30, 2016, based on unaudited valuations.

**ND RETIREMENT AND INVESTMENT OFFICE
ND STATE INVESTMENT BOARD
INVESTMENT PERFORMANCE SUMMARY
AS OF JUNE 30, 2016**

Investment Performance (net of fees)

Fund Name	Market Values as of 6/30/16	Quarter Ended				FYTD 2016	Fiscal Years ended June 30					Periods ended 6/30/16 (annualized)						
		9/30/15	12/31/15	3/31/16	6/30/16		2015	2014	2013	2012	2011	3 Years	5 Years	10 Years	15 Years	20 Years	25 Years	30 Years
Pension Trust Fund																		
Teachers' Fund for Retirement (TFFR)	2,082,183,640	-4.98%	2.72%	1.31%	1.41%	0.28%	3.52%	16.53%	13.57%	-1.12%	24.05%	6.55%	6.32%	4.45%	5.51%	6.48%	7.48%	7.73%
Public Employees Retirement System (PERS)	2,459,388,086	-5.04%	2.71%	1.33%	1.47%	0.28%	3.53%	16.38%	13.44%	-0.12%	21.27%	6.51%	6.48%	4.81%	5.84%	6.88%	7.86%	7.89%
City of Bismarck Employees Pension	82,441,003	-4.25%	2.17%	1.34%	1.70%	0.82%	3.69%	14.56%	12.41%	1.57%	20.32%	6.20%	6.46%	5.16%	5.84%	6.86%	7.79%	*
City of Bismarck Police Pension	33,983,598	-4.76%	2.34%	1.25%	1.66%	0.32%	3.56%	15.27%	13.03%	1.31%	21.10%	6.19%	6.52%	5.02%	5.73%	6.71%	7.68%	*
Job Service of North Dakota Pension	96,588,333	-3.12%	3.38%	2.95%	2.27%	5.45%	3.30%	13.54%	11.71%	3.09%	16.39%	7.34%	7.33%	6.00%	6.11%	7.57%	*	*
City of Grand Forks Employees Pension	57,975,758	-5.32%	2.80%	1.26%	1.58%	0.11%	3.53%	16.33%	14.01%	1.09%	21.64%	6.43%	6.80%	*	*	*	*	*
Park District of the City of Grand Forks Pension	5,720,245	-4.89%	3.32%	0.88%	1.24%	0.36%	4.22%	16.44%	14.43%	0.86%	20.98%	6.80%	7.05%	*	*	*	*	*
Subtotal Pension Trust Fund	4,818,280,663																	
Insurance Trust Fund																		
Workforce Safety & Insurance (WSI)	1,832,104,203	-1.92%	1.18%	2.04%	2.29%	3.58%	3.26%	11.71%	8.31%	6.17%	13.23%	6.11%	6.56%	5.66%	5.58%	6.78%	7.39%	*
State Fire and Tomado Fund	24,091,203	-2.89%	1.76%	1.79%	2.07%	2.67%	3.16%	12.78%	10.59%	4.93%	14.52%	6.10%	6.75%	5.87%	5.65%	6.43%	6.58%	*
State Bonding Fund	3,296,372	0.21%	-0.11%	1.57%	1.78%	3.48%	1.25%	4.06%	2.96%	5.31%	5.01%	2.92%	3.40%	2.07%	3.24%	4.60%	5.17%	*
Petroleum Tank Release Compensation Fund	7,149,512	0.20%	-0.10%	1.43%	1.62%	3.17%	1.13%	3.68%	2.47%	4.84%	4.97%	2.65%	3.05%	1.82%	2.97%	4.47%	*	*
Insurance Regulatory Trust Fund	1,085,836	-2.58%	1.53%	1.22%	1.33%	1.46%	2.04%	9.88%	8.49%	2.82%	11.61%	4.39%	4.88%	4.63%	4.75%	5.67%	5.68%	*
State Risk Management Fund	6,534,801	-2.08%	1.50%	2.26%	2.78%	4.46%	4.08%	12.29%	10.19%	7.63%	14.36%	6.88%	7.68%	6.59%	5.86%	*	*	*
State Risk Management Workers Comp Fund	5,516,177	-2.65%	1.90%	2.20%	2.78%	4.21%	4.57%	13.68%	11.61%	7.40%	16.23%	7.40%	8.23%	6.74%	*	*	*	*
Cultural Endowment Fund	386,452	-4.39%	3.00%	1.59%	2.14%	2.18%	5.22%	16.94%	15.58%	4.65%	21.33%	7.93%	8.75%	6.33%	*	*	*	*
Budget Stabilization Fund	575,918,381	0.27%	-0.34%	1.06%	0.82%	1.82%	1.86%	1.94%	1.87%	2.03%	3.73%	1.88%	1.91%	2.11%	*	*	*	*
ND Association of Counties (NDACo) Fund	4,048,863	-2.50%	1.49%	1.79%	2.02%	2.76%	2.77%	11.61%	9.46%	1.69%	17.73%	5.63%	5.58%	4.73%	4.97%	*	*	*
Bismarck Deferred Sick Leave Account	642,265	-2.48%	1.47%	2.04%	2.27%	3.26%	2.95%	12.32%	9.83%	5.69%	13.80%	6.09%	6.75%	6.08%	5.86%	*	*	*
City of Fargo FargoDome Permanent Fund	38,782,721	-4.50%	2.40%	1.60%	1.84%	1.19%	3.38%	16.34%	13.46%	3.14%	19.16%	6.76%	7.33%	5.97%	*	*	*	*
State Board of Medicine Fund	2,208,667	-1.66%	0.88%	1.26%	1.16%	1.63%	2.70%	*	*	*	*	*	*	*	*	*	*	*
PERS Group Insurance Account	37,715,356	0.00%	-0.08%	0.94%	0.62%	1.49%	0.01%	0.06%	0.27%	0.24%	0.31%	0.52%	0.41%	1.25%	1.64%	*	*	*
Subtotal Insurance Trust Fund	2,539,480,809																	
Legacy Fund	3,809,485,177	-4.42%	2.46%	1.55%	1.62%	1.06%	3.31%	6.64%	1.15%	*	*	3.65%	*	*	*	*	*	*
Tobacco Control and Prevention Fund	54,366,538	*	*	*	0.65%	*	*	*	*	*	*	*	*	*	*	*	*	*
PERS Retiree Insurance Credit Fund	101,623,224	-5.59%	2.82%	1.56%	2.17%	0.72%	3.06%	16.53%	12.71%	2.62%	21.65%	6.55%	6.95%	5.13%	5.23%	6.40%	7.17%	*
Total Assets Under SIB Management	11,323,236,410																	

* These funds do not have the specified periods of history under SIB management.

Note: Asset allocation largely drives investment performance. Each fund has a unique allocation that takes into consideration return objectives, risk tolerance, liquidity constraints, and unique circumstances. Such considerations must be taken into account when comparing investment returns. All figures are preliminary and subject to revision.

NDRIO – Consulting and Professional Services (June 30, 2016)

Actuary

The Segal Company
Chicago, Illinois

Auditor

CliftonLarsonAllen LLP
Baltimore, Maryland

Legal Counsel

Attorney General's Office
Bismarck, North Dakota

Ice Miller
Chicago, Illinois

K&L Gates
Boston, Massachusetts

Information Technology

Advent Software, Inc.
San Francisco, CA

CPAS Systems Inc.
Toronto, Ontario

Master Custodian

The Northern Trust Company
Chicago, Illinois

Investment Consultant and Performance Measurement

Callan Associates Inc.
San Francisco, California

Mercer LLC
Chicago, Illinois

Novarca North America LLC
Palo Alto, California

Adams Street Partners, LLC
Chicago, Illinois

Investment Managers

Adams Street Partners, LLC
Chicago, Illinois

Investment Managers (cont.)

Axiom International Investors
Greenwich, Connecticut

Babson Capital Management LLC Boston,
Massachusetts

Brandywine Asset Management
Wilmington, Delaware

Callan Associates
San Francisco, California

Capital Group
Los Angeles, California

Corsair Capital
New York, New York

Declaration Mgmt & Research, LLC
McLean, Virginia

Dimensional Fund Advisors
Chicago, Illinois

EIG Energy Partners
Los Angeles, California

Epoch Investment Partners, Inc.
New York, New York

Goldman Sachs Asset Mgmt
New York, New York

Grosvenor Capital Management
New York, NY

Hearthstone Homebuilding Investors, LLC
Encino, California

INVESCO Realty Advisors
Dallas, Texas

InvestAmerica L&C, LLC
Cedar Rapids, Iowa

J.P. Morgan Invest. Mgmt, Inc.
New York, New York

Loomis Sayles & Company
Boston, Massachusetts

Los Angeles Capital Management
Los Angeles, California

LSV Asset Management
Chicago, Illinois

Matlin Patterson Global Advisers LLC
New York, New York

Investment Managers (cont.)

Northern Trust Asset Management
Chicago, Illinois

Parametric Portfolio Associates
DBA The Clifton Group
Minneapolis, Minnesota

PIMCO
Newport Beach, California

Prudential Investment Management
Newark, New Jersey

Quantum Energy Partners
Houston, Texas

Quantum Resources Mgmt, LLC
Denver, Colorado

Research Affiliates, LLC
Newport Beach, California

SEI Investments Management Co.
Oaks, Pennsylvania

State Street Global Advisors
Boston, Massachusetts

Timberland Investment
Resources, LLC
Atlanta, Georgia

UBS Global Asset Management
Chicago, Illinois

The Vanguard Group
Valley Forge, Pennsylvania

Wellington Trust Company, NA
Boston, Massachusetts

Wells Capital Management, Inc.
Menomonee Falls, Wisconsin

Western Asset Management Co.
Pasadena, California

Transparency Enhancement Update – 2016

Strategic Investment Belief / Goal:

Although SIB meetings are open to the public and RIO is committed to adhering to all applicable open records laws, a transparency enhancement initiative was commenced in mid-2015 in order to make it easier for interested parties to gain access to information on RIO's website. RIO believes these actions support our desire to foster trust, understanding and support within our community.

RIO's Stated Action Plan (as stated in our SIB Meeting Materials in 2015 and 2016):

- 1) Enhance public access to our SIB Governance Manual by adding a new hyperlink on our RIO website (hyperlink accessed by clicking on "SIB Governance Manual" under the "SIB / Board" section); <http://www.nd.gov/rio/SIB/Board/GovernanceManual/default.htm>
- 2) Enhance public access to our SIB Meeting Materials by adding a new hyperlink on our RIO website (hyperlink accessed by clicking on "Meeting Materials" under the "SIB / Board" section); <http://www.nd.gov/rio/SIB/Board/SIB%20Meeting%20Materials/default.htm>
- 3) Enhance public access to our SIB's Audit Committee Charter and Meeting Materials by adding a new hyperlink on our RIO website (hyperlinks accessed by clicking on "SIB Audit Charter" or "Meeting Materials" under the "SIB Audit" section).
<http://www.nd.gov/rio/SIB%20Audit/Board/default.htm>

Callan's 10-Year "Expectations" Converted to "Long-Term Returns" plus a Higher Expected Inflation Rate in North Dakota

PERS and TFFR Asset Allocation Policies for 2016 to 2020

Asset Class	Prior Targets	PERS Approved	TFFR Approved
Global Equity	57%	58%	58%
Public	52%	51%	52%
Private	5%	7%	6%
Global Fixed Income	22%	23%	23%
Investment Grade	17%	18%	19%
Non-Investment Grade	5%	5%	4%
Global Real Assets	20%	19%	18%
Real Estate	10%	11%	10%
Infrastructure & Timber	10%	8%	8%
Cash Equivalents	1%	0%	1%
Totals	100%	100%	100%
Expected Return	6.8%	7.0%	7.0%
Standard Deviation	14.5%	14.8%	14.7%

	PERS	TFFR
1.) Expected Return based on Callan's 2016 Capital Market Expectations	7.00%	7.00%
2.) Adjustment to convert Callan's 10-Year Returns to Long-Term Expectations	0.50%	0.50%
3.) Adjustment for higher inflation assumption (PERS 0.50% or TFFR 0.25%)	0.50%	0.25%
4.) Client Long-Term Return Expectation with a higher inflation assumption	8.00%	7.75%

Note: Client returns have benefitted from active management by 40 to 60 basis points (approximately 0.50%) annualized during the past 5-years which is not incorporated in the above analysis.

2016 Capital Market Expectations

Return and Risk

- Public market expectations represent passive exposure (beta only).
- Return expectations for private market investments such as real estate and private equity reflect active management premiums.
- Return expectations are net of fees.

Summary of Callan's Long-Term Capital Market Projections (2016 - 2025)

Asset Class	Index	Projected Return*	Projected Risk
Equities			
Broad Domestic Equity	Russell 3000	7.35%	18.70%
Large Cap	S&P 500	7.25%	17.95%
Small/Mid Cap	Russell 2500	7.55%	22.75%
Global ex-US Equity	MSCI ACWI ex USA	7.55%	21.30%
International Equity	MSCI World ex USA	7.25%	20.05%
Emerging Markets Equity	MSCI Emerging Markets	7.60%	27.85%
Fixed Income			
Domestic Fixed	Barclays Aggregate	3.00%	3.75%
TIPS	Barclays TIPS	3.00%	5.30%
High Yield	Barclays High Yield	5.00%	10.50%
Non-US Fixed	Barclays Global Aggregate ex-USD	1.40%	9.20%
Emerging Market Debt	EMBI Global Diversified	4.60%	9.90%
Other			
Real Estate	Callan Real Estate Database	6.00%	16.45%
Timberland	NCREIF Timberland	6.20%	17.50%
Infrastructure	S&P Global Infr / JPM Infr	6.60%	19.00%
Private Equity	TR Post Venture Capital	8.15%	32.80%
Hedge Funds	Callan Hedge FoF Database	5.25%	9.30%
Commodities	Bloomberg Commodity	2.75%	18.50%
Cash Equivalents	90-Day T-Bill	2.25%	0.90%
Inflation	CPI-U	2.25%	1.50%

* Geometric returns are derived from arithmetic returns and the associated risk (standard deviation).