

11/28/2017

BOARD OF REGENTS OF THE UNIVERSITY OF WISCONSIN SYSTEM

I.2-1 Business and Finance Committee
Subcommittee on Investments

Thursday, December 7, 2017
8:00 a.m. – 8:30 a.m.
Gordon Dining & Event Center
770 W. Dayton Street, 2nd Floor
Overture Room
Madison, Wisconsin

- a. Approval of the minutes of the April 13, 2017 meeting of the Subcommittee on Investments
- b. Quarterly Investment Review (Quarter ended September 30, 2017)
- c. Report of the Vice President and Trust Funds Director
 - Update on Discussions with State of Wisconsin Investment Board

UNIVERSITY OF WISCONSIN SYSTEM TRUST FUNDS QUARTERLY INVESTMENT REVIEW AS OF SEPTEMBER 30, 2017

EXECUTIVE SUMMARY

BACKGROUND

The Quarterly Investment Reviews provide the following detailed information: 1) financial market overviews, including investment returns for different asset classes and markets for current and longer-term periods; 2) Fund overviews, which include changes in net assets for the current quarter, asset allocations versus targets and ranges, and Fund-level transactions conducted during the quarter; 3) performance analysis, which includes Fund-level and investment manager-level investment performance for current and longer-term periods; and 4) risk analysis, which includes various measures of Fund and portfolio risk and risk-adjusted returns.

REQUESTED ACTION

This item is for informational purposes only.

DISCUSSION

For the 3rd quarter and year-to-date in calendar year 2017, risk assets of virtually all stripes performed strongly, continuing a long bull run that have left most such assets richly valued. Higher quality fixed income, including inflation-protected bonds, performed modestly as interest rates changed little and credit spreads tightened a bit further. Total Trust Funds net assets increased by \$9.6 million during the quarter, ending the period at \$559.2 million.

Regarding investment performance, the Long Term (endowment) Fund returned +3.2 percent for the quarter and +12.2 percent for the calendar year-to-date, while its primary benchmark, the Global 70/30 Benchmark (70 percent global equities/30 percent global bonds), returned +4.2 percent and +14.2 percent, respectively. Over a longer time period – in this case, the prior ten years, which includes the market run-up just prior to the 2008 financial crisis and the subsequent market meltdown – the Fund provided an annualized return of +5.0 percent, while the Global 70/30 Benchmark returned +4.4 percent.

The Intermediate Term returned +1.3 percent for the quarter and +4.4 percent for the calendar year-to-date, while its primary benchmark, the Barclay's Intermediate Aggregate Bond Index, returned +0.7 percent and +2.3 percent, respectively. Over the prior ten years, the Fund provided

an annualized return of +5.1 percent, versus +3.8 percent for its primary benchmark. Finally, the Income Cash Fund returned +0.11 percent for the quarter and +0.42 percent year-to-date.

Regarding risk and compliance, the Long Term Fund continued to exhibit lower volatility of returns than its Global 70/30 Benchmark and greater returns per unit of risk. The Intermediate Term Fund (with some equity and high yield exposures) continued to exhibit volatilities and returns per unit of risk similar to its all-investment grade bond index benchmark, while providing significantly greater absolute returns over longer periods versus both its all-bond index and “policy portfolio” benchmarks.

RELATED REGENT POLICIES

None.



**UNIVERSITY OF WISCONSIN SYSTEM
TRUST FUNDS**

**Quarterly Investment Review
September 30, 2017**

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SECTION 1: MARKET OVERVIEW

MARKET OVERVIEW

Financial Market Developments and Performance

Growth and High-Yielding Assets

The table that follows provides recent as well as longer-term performance for asset classes and markets within the general category of higher risk “growth and high-yielding assets,” which includes public and private equities and lower-quality, higher-yielding fixed income.

Investment Performance – Periods Ended September 30, 2017

<u>Growth and High-Yielding Assets</u>	Quarter	YTD	1 Year	3 Years	5 Years	10 Years	Risk ¹
U.S. Large Cap Equity (S&P 500)	4.5%	14.2%	18.6%	10.8%	14.2%	7.4%	9.5%
U.S. Small Cap Equity (Russell 2000)	5.7%	10.9%	20.7%	12.2%	13.8%	7.8%	13.9%
Non-U.S. Equity – Dev Markets (MSCI EAFE)	5.5%	20.5%	19.7%	5.5%	8.9%	1.8%	11.7%
Non-U.S. Equity – Emerging Mkts (S&P/IFCI)	7.9%	28.1%	22.6%	5.9%	5.2%	2.1%	14.1%
Private Equity (Cambridge Private Equity) ²	3.6%	12.4%	16.8%	9.5%	13.2%	9.3%	N/A ²
Venture Capital (Cambridge Venture Capital) ²	1.4%	4.6%	8.1%	10.2%	13.6%	8.8%	N/A ²
U.S. High Yield (Barclays Corp. High Yield)	2.0%	7.0%	8.9%	5.8%	6.4%	7.8%	5.2%
Emerging Markets Debt (JPM EMBI Plus)	2.2%	8.6%	2.9%	6.3%	4.0%	7.1%	7.1%

¹ Risk is measured by the annualized standard deviation of monthly returns over the past five years.

² Private equity and venture capital returns are for periods ended one quarter earlier; standard deviations are not provided.

Event Risk- and Deflation-Hedge Assets

The following table provides performance data on asset classes and markets falling within the broad category of “event risk- and deflation-hedge assets,” which includes high-quality bonds, cash, and hedge funds.

Investment Performance – Periods Ended September 30, 2017

<u>Event Risk- and Deflation-Hedge Assets</u>	Quarter	YTD	1 Year	3 Years	5 Years	10 Years	Risk ¹
U.S. Broad Market Bonds (Barclay's Aggregate)	0.8%	3.1%	0.1%	2.7%	2.1%	4.3%	2.8%
U.S. Treasurys (Citigroup Treasury 1-10 Year)	0.3%	1.5%	-0.7%	1.6%	1.0%	3.1%	2.0%
Non-U.S. Bonds (JPM Global Govt.)	1.7%	5.8%	-3.0%	1.2%	-0.3%	3.3%	5.1%
U.S. Cash (CG 1-month U.S. Treasury Bill)	0.2%	0.5%	0.6%	0.3%	0.2%	0.3%	0.0%
Hedge Funds (HFRX Absolute Return)	1.8%	3.3%	2.9%	1.8%	2.3%	-0.9%	3.3%
Hedge Funds (MSCI Diversified Hedge Funds)	1.2%	1.6%	1.3%	2.3%	2.9%	3.4%	4.3%

¹ Risk is measured by the annualized standard deviation of monthly returns over the past five years.

Real and Inflation-Hedge Assets

The table that follows presents performance data for asset classes categorized as “real and inflation-hedge assets,” which includes Treasury Inflation Protection Securities (TIPS), public and private real estate, timber, and commodities. Inflation as measured by “headline” CPI, which includes energy and food, is also shown.

Investment Performance – Periods Ended September 30, 2017

<u>Real and Inflation-Hedge Assets</u>	Quarter	YTD	1 Year	3 Years	5 Years	10 Years	Risk ¹
U.S. TIPS (Citigroup Inflation Linked)	0.9%	1.9%	-0.8%	1.7%	0.0%	4.0%	4.7%
U.S. TIPS 0-5 Year (Barclays TIPS 0-5 Year)	0.5%	0.7%	0.5%	0.6%	0.2%	2.3%	1.6%
Commodities (Bloomberg Commodity)	2.5%	-2.9%	-0.3%	-10.4%	-10.5%	-6.8%	11.8%
Private Real Estate (NCREIF Property)	1.7%	5.1%	6.9%	9.8%	10.4%	6.2%	N/A ²
Public Real Estate (MSCI U.S. REIT)	0.9%	3.6%	0.5%	9.7%	9.6%	5.8%	13.6%
Timber (NCREIF Timberland)	0.6%	2.1%	3.3%	5.2%	7.1%	5.2%	N/A ²
U.S. Consumer Price Index	1.1%	1.5%	2.2%	1.2%	1.3%	1.7%	N/A

¹ Risk is measured by the annualized standard deviation of monthly returns over the past five years.

² Due to the infrequency of market-based valuations of these asset classes, standard deviations of monthly returns are not meaningful.

SECTION 2: FUND OVERVIEWS

FUND OVERVIEWS

Total Trust Fund Assets		
<i>Quarter Ended September 30, 2017</i>		
	<i>As of September 30, 2017</i>	<i>As of June 30, 2017</i>
Long Term Fund	\$ 412,022,636	\$ 401,749,869
Intermediate Term Fund	\$ 88,139,744	\$ 86,838,014
Income/Principal Cash Fund	<u>\$ 59,032,502</u>	<u>\$ 60,980,390</u>
	\$ 559,194,882	\$ 549,568,273

Long Term Fund

The change in the net assets of the Long Term Fund is summarized below.

Long Term Fund:	
Change in Net Assets	
<i>Quarter Ended June 30, 2017</i>	
Beginning Market Value (6/30/17)	\$ 401,749,869
Net Contributions/(Withdrawals)	(2,110,297)
Investment Management and Admin. Expense Drawdown	(395,241)
Investment Management Fees Wired	(64,988)
Realized Investment Gains/(Losses)	4,753,730
Unrealized Gains/(Losses)	<u>8,089,563</u>
Ending Market Value (9/30/17)*	\$ 412,022,636

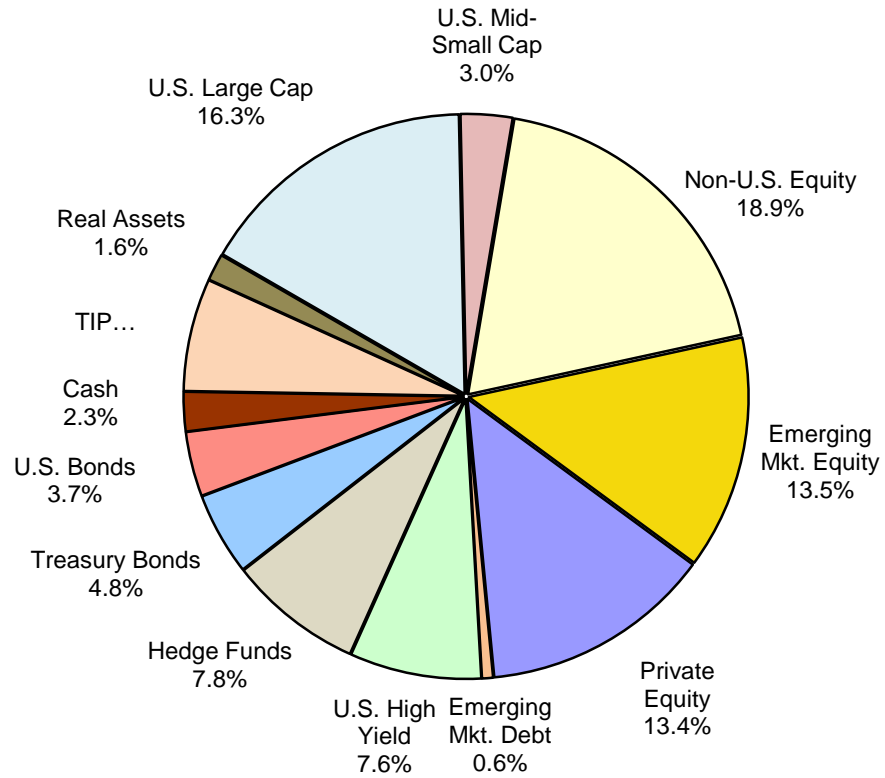
**Note: Net contributions/withdrawals and investment management expenses are those processed "as of" the prior quarter-end but processed early in the current quarter; therefore the ending market value shown equals the custodian's market value and does not reflect net contributions/distributions and expenses to be processed "as of" the current quarter-end.*

Long Term Fund: Asset/Strategy Allocations

Quarter Ended September 30, 2017

Total Effective Portfolio Asset Allocation

(Note: Global Tactical Asset Allocation portfolio is broken out into its component asset classes.)



Long Term Fund: Actual Versus Target Asset/Strategy Allocation				
<i>Quarter Ended September 30, 2017</i>				
Asset Class/Strategy	Target Allocation (%)	Min./Max. Guidelines	Current Allocation (%)	Current Allocation (\$MM)
Global Tactical Asset Allocation	25.0%	20% - 30%	27.8%	\$114.7
Growth/High Yield Assets				
Global Developed Market Equities	18.0%	15% - 35%	28.7%	\$118.4
Emerging Market Equities	5.0%	0% - 10%	9.0%	\$36.9
Private Equity	10.0%	5% - 15%	13.4%	\$55.1
High Yield Debt/Credit	<u>7.0%</u>	<u>0% - 15%</u>	<u>7.6%</u>	<u>\$31.3</u>
	40.0%	20% - 60%	58.7%	\$241.7
Event Risk- and Deflation-Hedge Assets				
U.S. High Quality Debt/Credit	10.0%	5% - 35%	4.8%	\$19.7
U.S. Cash	0.0%	0% - 10%	2.3%	\$9.4
Absolute Return	<u>7.0%</u>	<u>0% - 15%</u>	<u>0.0%</u>	<u>\$0.0</u>
	17.0%	5% - 35%	7.1%	\$29.1
Real and Inflation-Hedge Assets				
U.S. TIPS	3.0%	0% - 10%	4.9%	\$20.1
Real Assets	<u>15.0%</u>	<u>5% - 25%</u>	<u>1.6%</u>	<u>\$6.4</u>
	18.0%	5% - 25%	6.5%	\$26.5
TOTALS	100%		100%	\$412.0

3rd Quarter 2017 Fund-Level Transactions

The net cash drawdown requirement for the Fund to cover the 2nd quarter 2017 spending distribution, net of new gifts/withdrawals and expenses, was \$2,505,538. This net withdrawal was initially taken from the Long Term Mellon U.S. Cash account on July 14, 2017. A follow-up reallocation was then conducted, comprised of a \$4,000,000 withdrawal from the UBS U.S. Equity account and the transfer of this amount to the Long Term Mellon U.S. Cash account on July 21, 2017.

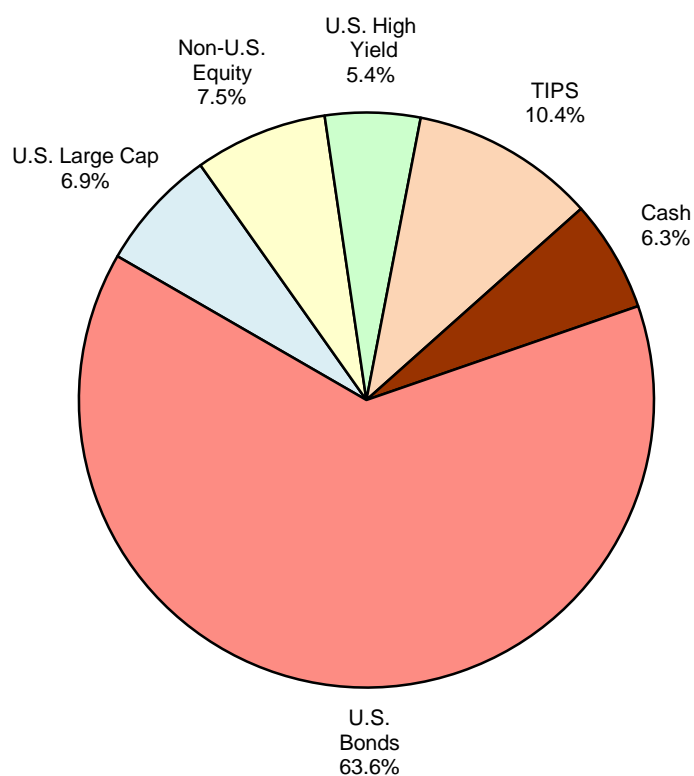
Intermediate Term Fund

The change in the net assets of the Intermediate Term Fund is summarized below.

Intermediate Term Fund: Change in Net Assets <i>Quarter Ended September 30, 2017</i>		
Beginning Market Value (6/30/17)	\$	86,838,014
Quarterly Interest Drawdown (Net of Expenses)		(355,488)
Net Contributions/(Withdrawals)		613,854
Investment Management and Administrative Expenses		(40,155)
Realized Investment Gains/(Losses)		466,030
Unrealized Gains/(Losses)		<u>617,489</u>
Ending Market Value (9/30/17)*	\$	88,139,744

**Note: Net contributions/withdrawals and investment management expenses are those processed "as of" the prior quarter-end but processed early in the current quarter; therefore the ending market value shown equals the custodian's market value and does not reflect net contributions/distributions and expenses to be processed "as of" the current quarter-end. Expenses are netted out from the interest drawdown.*

Intermediate Term Fund: Asset Allocation <i>Quarter Ended September 30, 2017</i>
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Intermediate Term Fund: Actual Versus Target Asset/Strategy Allocation				
<i>Quarter Ended September 30, 2017</i>				
Asset Class/Strategy	Target Allocation (%)	Min./Max. Guidelines	Current Allocation (%)	Current Allocation (\$MM)
Growth/High Yield Assets				
Global Developed Market Equities	15%	5% - 20%	14.3%	\$12.6
Emerging Market Equities	0%	0% - 5%	0.0%	\$0.0
High Yield Debt/Credit	<u>5%</u>	<u>0% - 10%</u>	<u>5.4%</u>	<u>\$4.7</u>
	20%	5% - 25%	19.7%	\$17.3
Event Risk- and Deflation-Hedge Assets				
U.S. High Quality Debt/Credit	50%	40% - 75%	63.6%	\$56.1
U.S. Cash	5%	0% - 15%	6.2%	\$5.5
Absolute Return	<u>10%</u>	<u>5% - 15%</u>	<u>0.0%</u>	<u>\$0.0</u>
	65%	45% - 80%	69.8%	\$61.6
Real and Inflation-Hedge Assets				
U.S. TIPS	<u>15%</u>	<u>5% - 30%</u>	<u>10.4%</u>	<u>\$9.2</u>
	15%	15% - 25%	10.4%	\$9.2
TOTALS	100%	100%	100%	\$88.1

3rd Quarter 2017 Fund-Level Transactions

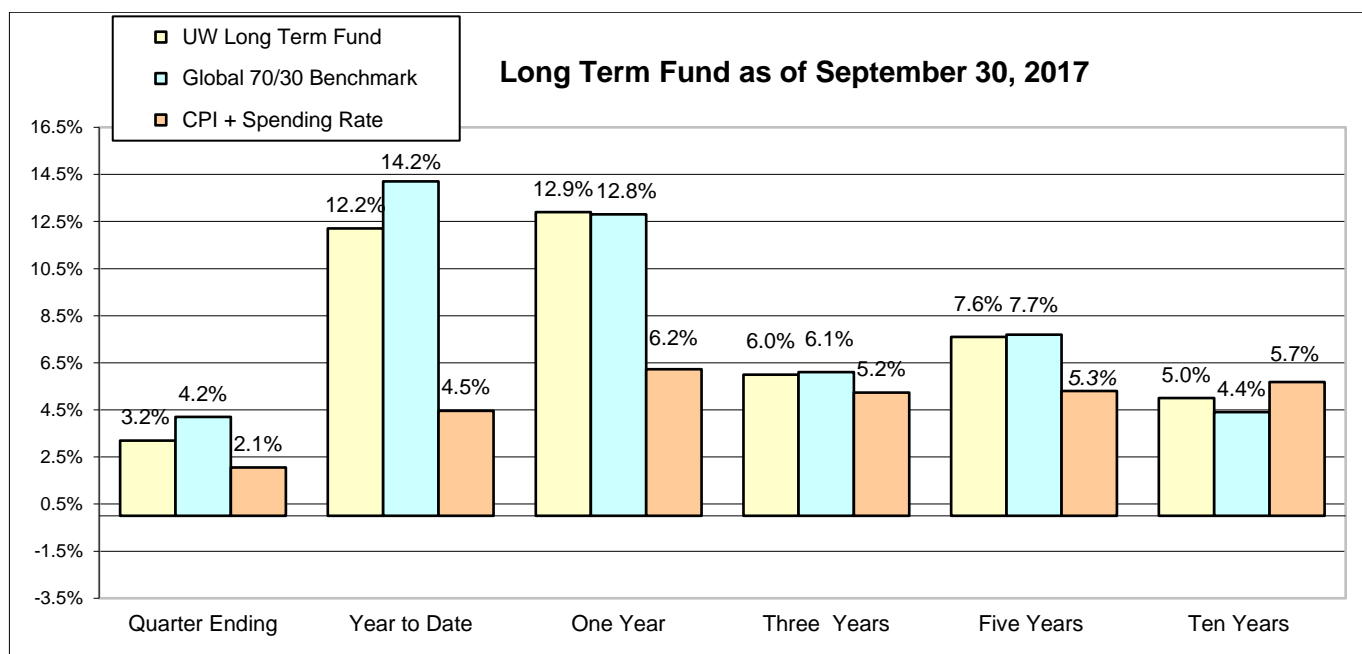
The transactions required as of the end of the 2nd quarter of 2017 and conducted during the 3rd quarter of 2017 were as follows: \$395,643 in interest and dividends were drawn down on July 5, 2017, out of which prior quarter expenses of \$40,155 were paid. New Fund contributions/withdrawals resulted in a net contribution of \$613,854, which was wired to BNY Mellon on July 19, 2017. This net new contribution amount was directed to the Intermediate Term Cash account. No other reallocations/re-balancings were conducted as of this quarter-end.

SECTION 3: PERFORMANCE ANALYSIS

INVESTMENT PERFORMANCE ANALYSIS

Long Term Fund: Composite

Performance results for the Long Term Fund are shown below, both graphically and in table format.



Long Term Fund: Composite								
<i>Investment Performance: Periods Ended September 30, 2017</i>								
	Quarter Ending	Year To Date	One Year	Three Years	Five Years	Ten Years	"Since Inception" April 1996 ¹	Risk ²
Long Term Fund	3.2%	12.2%	12.9%	6.0%	7.6%	5.0%	7.6%	9.3%
Global 70/30 Benchmark ³	4.2%	14.2%	12.8%	6.1%	7.7%	4.4%	6.5%	12.6%
CPI + Spending Rate ⁵	2.1%	4.5%	6.2%	5.2%	5.3%	5.7%	N/A	N/A

¹ "Since inception" of recording monthly data for the Fund, or April 1996.

² Risk is measured by the annualized standard deviation of monthly returns over the past ten years.

³ The "Global 70/30 benchmark" is comprised of 70% MSCI All Country World (equity) and 30% Barclay's Global Aggregate Bond indexes.

⁵ The annual spending rate is 4.0%, and the change in CPI is used as the inflation indicator.

Long Term Fund: Growth and High-Yielding Assets

The tables that follow provide investment performance data by individual investment manager/portfolio.

Long Term Fund: Growth and High-Yielding Assets						
<i>Investment Performance: Periods Ended September 30, 2017</i>						
Asset Class/Strategy	Quarter Ending	Year To Date	One Year	Three Years	Five Years	Since Inception
Global Tactical Asset Allocation						
GMO Real Return Global Balanced¹	3.1%	11.9%	11.2%	4.2%	6.6%	6.3%
GMO Benchmark	3.1%	10.2%	10.7%	5.3%	7.1%	4.9%
Global 70/30 Benchmark ²	4.2%	14.2%	12.8%	6.1%	7.7%	5.9%
U.S. Large-Cap Equity						
UBS Global Asset Mgt³	4.8%	16.6%	20.4%	11.8%	15.9%	8.2%
S&P 500	4.5%	14.2%	18.6%	10.8%	14.2%	7.0%
U.S. Mid/Small-Cap Equity						
Russell Mid-Cap ETF⁴	3.5%	11.5%	15.1%	9.4%	14.0%	7.5%
Russell Mid-Cap	3.5%	11.7%	15.3%	9.5%	14.3%	7.7%
Developed Market Non-U.S. Equity						
UBS International Fund⁵	7.8%	22.6%	23.2%	4.3%	8.1%	5.5%
MSCI World Free ex-U.S. (Unhedged)	5.7%	19.7%	19.3%	4.8%	7.9%	5.2%
Emerging Market Equity						
GMO Emerging Markets Fund⁶	3.6%	23.7%	17.9%	4.5%	2.4%	8.9%
MSCI Emerging Markets	8.0%	28.1%	22.9%	5.2%	4.3%	10.2%
S&P/IFC Investable Composite	7.9%	28.1%	22.6%	5.9%	5.2%	10.9%
U.S. High Yield						
Seix Advisors U.S. High Yield⁷	2.0%	6.1%	7.5%	4.0%	5.4%	6.3%
BoA ML U.S. High Yield BB/B	1.9%	6.6%	7.9%	5.8%	6.1%	N/A

¹ The inception date for the GMO Real Return Global Balanced Fund is February 1, 2006. The benchmark consists of 60% MSCI World, 20% Citigroup 3 month T-Bill, and 20% Barclay's U.S. Aggregate.

² The "Global 70/30 benchmark" consists of 70% MSCI ACWI and 30% Barclay's Global Aggregate Bond indexes, and is also used as a benchmark for the Long Term Fund as a whole.

³ The inception date for UBS Global Asset Management is December 1, 1997.

⁴ The inception date for the Russell Mid-Cap ETF is May 4, 2007.

⁵ The inception date for the UBS International Fund is December 1, 1997.

⁶ The inception date for the GMO Emerging Markets Fund is November 1, 2003.

⁷ The inception date for the Seix Advisors U.S. High Yield Fund is April 17, 2006.

Long Term Fund: U.S. Equity Composite						
<i>Investment Performance: Periods Ended September 30, 2017¹</i>						
	Quarter Ending	Year To Date	One Year	Three Years	Five Years	Since Inception
Long Term Fund U.S. Equity²	4.6%	15.6%	19.5%	11.4%	15.7%	8.0%
Russell 3000 Index	4.6%	13.9%	18.7%	10.7%	14.2%	6.8%

¹ As the Long Term Fund's allocation to U.S. Equity is comprised of allocations to various equity subclasses (e.g., large-, mid-, small-cap), performance and risk data are also shown for a composite of the Fund's U.S. equity exposure versus a broader market benchmark.

² The inception date for the Long Term Fund U.S. Equity composite is February 28, 1998. The U.S. Equity composite does not include equities held within the GMO Global Tactical Asset Allocation strategy.

Performance data on Private Equity, presented in a different fashion and lagged by one quarter due to the nature of this unique asset class, is provided below. Note too that each of the investment managers and “funds” listed below are in fact “funds-of-funds,” comprised of many underlying private equity limited partnerships/funds.

Private Equity						
<i>Investment Results: As of June 30, 2017</i>						
Fund of Funds	Commitments	Dollars Drawn	Remaining Unfunded Commitments	Dollars Returned	Investment Value (Equity)	Equity + Dollars Returned
Adams Street Partners						
2002 Funds	\$10,000,000	\$9,533,500	\$466,500	\$13,561,834	\$2,062,964	\$15,624,798
2004 Funds	15,000,000	14,261,625	738,375	16,627,014	4,372,852	20,999,866
2008 Funds	5,000,000	4,541,250	458,750	3,786,527	3,863,840	7,650,367
2009 Funds	4,000,000	3,443,400	556,600	1,850,968	3,303,072	5,154,040
2010 Funds	3,500,000	2,882,180	617,820	1,344,091	2,816,677	4,160,768
2012 Global Fund	3,500,000	2,358,650	1,141,350	289,006	2,568,940	2,857,946
2013 Global Fund	4,000,000	2,500,000	1,500,000	186,940	2,673,779	2,860,719
2014 Global Fund	5,000,000	2,570,000	2,430,000	260,256	2,612,869	2,873,125
2015 Global Fund	6,000,000	1,563,000	4,437,000	320,675	1,611,642	1,932,317
2016 Global Fund	5,000,000	295,000	4,705,000	0	348,820	348,820
	\$61,000,000	\$43,948,605	\$17,051,395	\$38,227,311	\$26,235,455	\$64,462,766
J.P. Morgan						
Corporate Finance II (2002)	9,944,000	9,570,729	373,271	16,303,429	1,653,055	17,956,484
Corporate Finance III (2006)	1,975,000	1,921,968	53,032	2,839,414	737,631	3,577,045
Venture Capital III (2006)	7,904,000	7,876,799	27,201	6,173,743	6,797,271	12,971,014
Corporate Finance IV (2008)	9,000,000	7,891,011	1,108,989	6,079,432	7,388,892	13,468,324
Venture Capital IV (2008)	3,000,000	2,849,390	150,610	1,667,364	3,320,159	4,987,523
Global Private Equity V (2013)	10,000,000	6,327,869	3,672,131	720,135	7,671,008	8,391,143
Global Private Equity VI (2017)	10,000,000	752,211	9,247,789	0	730,971	730,971
	\$51,823,000	\$37,189,977	\$14,633,023	\$33,783,517	\$28,298,987	\$62,082,604
TOTALS	\$112,823,000	\$81,138,582	\$31,684,418	\$72,010,828	\$54,534,442	\$126,545,270

The performance numbers shown below are intra-period internal rates of return (IRR) for each manager’s entire portfolio, as calculated by the managers.

Private Equity				
<i>Investment Performance: As of June 30, 2017</i>				
	One Year	Three Years	Five Years	Since Manager Inception ¹
Adams Street Partners¹	15.2%	10.0%	12.6%	11.0%
Burgiss Benchmark ²	14.3%	8.7%	12.6%	10.4%
Public Markets Benchmark ³	19.4%	5.0%	11.5%	6.8%
J.P. Morgan¹	N/A	N/A	N/A	N/A

¹ The inception date for Adams Street Partners is June 21, 2003; the inception date for JP Morgan is January 14, 2003. Manager returns are net of underlying partnership fees and expenses, but gross of fund-of-funds manager fees.

² Burgiss Benchmark utilizes pooled Burgiss private equity cash flows for vintage years 2002 through 2016.

³ The Public Markets Benchmark for Adams Street Partners is calculated using the MSCI World index. The benchmark returns are derived by assuming cash flows in/out of Trust Funds’ private equity portfolios are instead made in/out of global public equities.

Long Term Fund: Event-Risk and Deflation-Hedge Assets

Long Term Fund: Event-Risk and Deflation-Hedge Assets						
<i>Investment Performance: Periods Ended September 30, 2017</i>						
Asset Class/Strategy	Quarter Ending	Year To Date	One Year	Three Years	Five Years	Since Inception
U.S. Treasuries						
Applied Security Analysis Program¹	0.2%	0.5%	0.6%	0.3%	0.2%	1.1%
Citigroup U.S. Treasury 1-10 Year	0.3%	1.5%	-0.7%	1.6%	1.0%	3.3%
Cash (1 month Treasury Bill)	0.2%	0.5%	0.6%	0.3%	0.2%	1.0%

¹ This portfolio has been maintained in "cash" since former portfolio holdings were liquidated in the transition away from a broad-market bond portfolio benchmarked to the Lehman Aggregate Bond Index. This portfolio transition was largely completed by September 2006. The portfolio will be restructured as a passive, laddered portfolio of U.S. Treasuries once interest rates have at least begun to "normalize." In the meantime, "cash" also provides an event-risk/deflation-hedge element to the overall Fund.

Long Term Fund: Real and Inflation-Hedge Assets

Long Term Fund: Real and Inflation-Hedge Assets						
<i>Investment Performance: Periods Ended September 30, 2017</i>						
Asset Class/Strategy	Quarter Ending	Year To Date	One Year	Three Years	Five Years	Since Inception
U.S. TIPS						
Applied Security Analysis Program¹	0.8%	1.8%	-0.7%	1.8%	0.1%	3.9%
Citigroup Inflation Linked Securities	0.9%	1.9%	-0.8%	1.7%	0.0%	4.0%

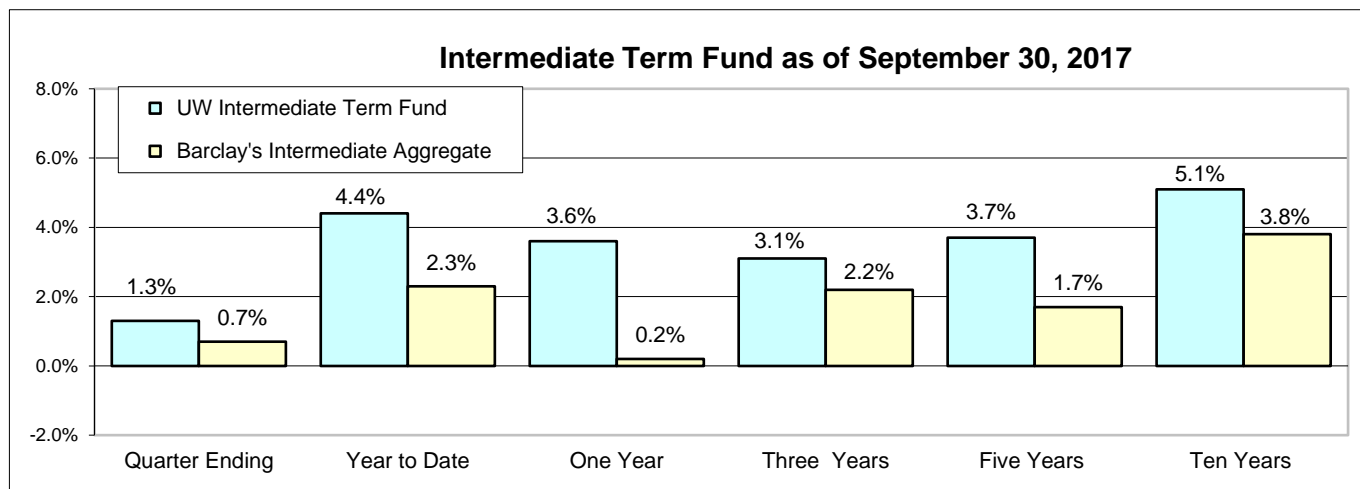
¹ This portfolio was transitioned away from a broad-market bond portfolio benchmarked to the Lehman Aggregate Bond Index beginning on December 1, 2005. The portfolio is now structured as a passive, laddered portfolio of U.S. TIPS.

Long Term Fund: Real and Inflation-Hedge Assets						
<i>Investment Performance: Periods Ended September 30, 2017</i>						
Fund	Commitments	Dollars Drawn	Remaining Unfunded Commitments	Dollars Returned	Investment Value (Equity)	Equity + Dollars Returned
GMO						
Forestry Fund 9 ¹	\$ 6,000,000	\$6,000,000	\$0	\$0	\$6,450,405	\$6,450,405

¹ The inception date for the GMO Forestry Fund 9 is August 10, 2010.

Intermediate Term and Income Funds

Returns for the Intermediate Term Fund overall and by individual manager are provided below.



Intermediate Term Fund: Composite

Investment Performance: Periods Ended September 30, 2017

	Quarter Ending	Year To Date	One Year	Three Years	Five Years	Ten Years	Risk ²
Intermediate Term Fund	1.3%	4.4%	3.6%	3.1%	3.7%	5.1%	4.3%
Barclay's Intermediate Aggregate ¹	0.7%	2.3%	0.2%	2.2%	1.7%	3.8%	2.5%
Policy Portfolio Benchmark ²	1.5%	4.6%	3.9%	2.9%	3.1%	3.0%	N/A
U.S. Consumer Price Index	1.1%	1.5%	2.2%	1.2%	1.3%	1.7%	N/A

¹ The Barclay's Intermediate Aggregate benchmark consisting of 100% investment-grade bonds represents a more "traditional" asset allocation for a portfolio with an intermediate investment "duration."

² Risk is measured by the annualized standard deviation of monthly returns over the past ten years.

³ The Policy Portfolio benchmark consists of the following indexes: 15% MSCI World, 5% Barclay's Corporate High Yield, 50% Barclay's U.S. Intermediate Aggregate Bond Index, 5% 1-month U.S. T-Bill, 10% HFRX Absolute Return, and 15% Barclay's 0-5 Year TIPS.

The following table provides performance data by individual investment manager/portfolio.

Intermediate Term Fund						
Investment Performance: Periods Ended September 30, 2017						
Asset Class/Strategy	Quarter Ending	Year To Date	One Year	Three Years	Five Years	Since Inception*
Intermediate U.S. Fixed Income						
Reams Asset Management¹	0.6%	2.7%	1.1%	2.5%	2.3%	5.2%
Applied Security Program¹	0.7%	2.2%	0.2%	2.2%	1.8%	4.7%
Barclay's Intermediate Aggregate	0.7%	2.3%	0.2%	2.2%	1.7%	4.7%
Multi-Asset Portfolio²	2.8%	9.1%	10.0%	4.7%	6.3%	4.9%

¹ Inception date for Reams and Applied Securities is February 1998.

² The Intermediate Term Fund's "Multi-Asset Portfolio", which began June 30, 2008, consists of U.S. and Non-U.S. Equities, U.S. TIPS, and High Yield Debt. These investments are primarily managed through ETFs.

The Income Cash Fund, which is SWIB's short-term investment fund for the State, performed as follows:

Income Cash Fund						
<i>Investment Performance: Periods Ended September 30, 2017</i>						
	Quarter Ending	Year To Date	One Year	Three Years	Five Years	Ten Years
Income Cash Fund	0.25%	0.57%	0.68%	0.38%	0.27%	0.59%
Cash (1 month Treasury Bill)	0.24%	0.54%	0.60%	0.26%	0.17%	0.34%

The current *annualized yield* for the Income Fund is **1.02%**.

SECTION 4: RISK ANALYSIS

REVIEW OF PORTFOLIO CHARACTERISTICS, RISK AND COMPLIANCE

Long Term Fund: Composite

Fund-Level Constraints

One fund-level constraint is set by statute. Compliance with this statute is demonstrated below. Fund-level asset allocation constraints are given in the “Fund Overviews” section.

	Maximum Permitted	Allocation as of September 30, 2017
Allocation to public equities:	85%	51.8% ¹
Allocation to public and private equities:	N/A	65.1%

¹ Note: This percent does not include Private Equity or any net long equity position within GMO's Multi-Strategy hedge fund-of-funds.

Risk Measures

Currently, the only statistical measurement made of overall risk is annualized standard deviation of monthly returns. Standard deviations of overall Fund returns for various timeframes are shown below. Also shown are the resulting Sharpe ratios, or return per unit of risk, a common measurement of portfolio efficiency.

Standard Deviation: <i>Periods Ended September 30, 2017</i>				
	1 year	3 year	5 year	10 year
Long Term Fund	2.9%	6.6%	6.4%	9.3%
Global 70/30 Benchmark ¹	4.4%	7.7%	7.5%	12.6%

¹ The “Global 70/30 benchmark” is comprised of 70% MSCI ACWI and 30% Barclay's Global Aggregate Bond indexes.

² The “U.S.-centric 70/30 benchmark” is comprised of 55% S&P 500, 15% MSCI EAFE (unhedged), and 30% Barclay's U.S. Aggregate Bond indexes.

Modified Sharpe Ratio¹: <i>Periods Ended September 30, 2017</i>				
	1 year	3 year	5 year	10 year
Long Term Fund	4.46	0.91	1.19	0.54
Global 70/30 Benchmark	2.93	0.79	1.03	0.35

¹ Note: The modified Sharpe Ratio is a measure of risk-adjusted performance and is calculated by dividing the return of a portfolio by the standard deviation of its monthly returns. The ratio can be thought of as “return per unit of risk.” The greater a portfolio's Sharpe ratio, the better is its risk-adjusted performance.

Long Term Fund: Individual Manager Portfolios

For separately-managed accounts within the Long Term Fund, the following investment guideline constraints apply:

Equity Separate Accounts:

- Maximum of 5% in cash
- Maximum of 15% in any one industry (SIC Classification)
- Maximum of 7% in any one company

Fixed Income Separate Accounts (Investment-Grade):

- The only fixed income separate accounts managed within the Long Term Fund currently are the U.S. Treasuries and U.S. TIPS portfolios. These portfolios are being managed passively to mirror their respective market benchmarks.

Comments

As of the current quarter-end, no separate account managers were in violation of their constraints.

Intermediate Term Fund: Composite

Fund-Level Constraints

There are currently no fund-level constraints for the Intermediate Term Fund other than asset allocation constraints described in the “Fund Overviews” section.

Risk Measures

Currently, the only statistical measurement made of overall risk is annualized standard deviation of monthly returns. Standard deviations of overall Fund returns for various timeframes are shown below. Also shown are the resulting Sharpe ratios, or return per unit of risk, a common measurement of portfolio efficiency.

Standard Deviation: <i>Periods Ended September 30, 2017</i>				
	1 year	3 year	5 year	10 year
Intermediate Term Fund	1.7%	2.2%	2.5%	4.3%
Barclay's Intermediate Aggregate ¹	2.2%	2.1%	2.0%	2.5%

¹ The Barclay's Intermediate Aggregate benchmark, consisting of 100% investment-grade bonds, represents a more “traditional” asset allocation for a portfolio with an intermediate investment “duration.”

Modified Sharpe Ratio¹: <i>Periods Ended September 30, 2017</i>				
	1 year	3 year	5 year	10 year
Intermediate Term Fund	1.88	1.37	1.50	1.17
Barclay's Intermediate Aggregate ¹	0.11	1.12	0.87	1.51

¹ Note: The modified Sharpe Ratio is a measure of risk-adjusted performance and is calculated by dividing the return of a portfolio by the standard deviation of its monthly returns. The ratio can be thought of as “return per unit of risk.” The greater a portfolio's Sharpe ratio, the better is its risk-adjusted performance.

Intermediate Term Fund: Individual Manager Portfolios

For separately-managed accounts within the Intermediate Term Fund, the following investment guideline constraints apply:

The investment constraints for Reams Asset Management are as follows:

- Average portfolio modified duration within +/- two years from the benchmark's duration. There is no duration restriction on individual holdings.
- Minimum of 85% of portfolio holdings shall be rated BBB or higher (investment grade) by one of the major rating agencies at purchase. There are no quality restrictions on individual holdings.
- Average portfolio quality of A or higher.
- Maximum of 15% in dollar-denominated issues of foreign issuers (“Yankees”). Non-U.S. dollar-denominated securities are prohibited.
- Maximum of 15% in any single credit industry at time of purchase, U.S. Government/Agency sectors exempted.
- Maximum of 3% in any one issuer at time of purchase, U.S. Government/Agency issues exempted.
- Use of derivatives is prohibited.
- Private Placements (Rule 144A) securities are permitted, subject to the foregoing quality and diversification guidelines.

The investment constraints for Applied Securities are as follows:

- Average portfolio modified duration within +/- one year from the benchmark's duration.
- All securities must have a minimum quality rating of BBB (investment grade).
- Average portfolio quality of AA.
- Maximum of 15% in dollar-denominated issues of foreign issuers (“Yankees”).
- Maximum of 25% in any one broad-market bond sector, U.S. Government/Agency sectors exempted (if an index has more than 25%, then up to 110% of the index weight).
- Maximum of 7% in any one issuer, U.S. Government/Agency issues exempted.

Comments

As of the current quarter-end, no separate account managers were in violation of their constraints.