



State of Wisconsin
Department of Employee Trust Funds
Robert J. Conlin
SECRETARY

801 W Badger Road
PO Box 7931
Madison WI 53707-7931

1-877-533-5020 (toll free)
Fax 608-267-4549
etf.wi.gov

Correspondence Memorandum

Date: October 5, 2016
To: Deferred Compensation Board
From: Shelly Schueller, Director
Wisconsin Deferred Compensation Program (WDC)
Subject: Large Cap Value Options

Staff recommends the Board review three funds that meet the Board's criteria as specified in the Investment Policy Statement and determine whether to add a large cap value fund to the core WDC lineup.

The Board has been evaluating the idea of adding an actively-managed large cap value fund to the core options provided by the WDC Program. A large cap value fund would complement the existing large cap index and actively managed large cap growth funds currently in the lineup.

At the direction of the Board, on August 23, 2016, the Deferred Compensation Investment Committee (DCIC) reviewed the results of a large cap value fund option search completed by Bill Thornton of Great-West Financial. This search was completed using the criteria stated in the Board's Investment Policy Statement (see below) and additional screening criteria identified by Mr. Thornton. Mr. Thornton's criteria included funds with assets over \$1 billion, manager tenure five years or greater, total returns at or above the 30th percentile for 3, 5 and 10 year returns, and calendar year returns equal to or better than the category average for seven of the last 10 years. The search yielded 10 funds comprising 42 share classes, as shown in the attached report.

In reviewing the available options, Mr. Thornton noted that some options are more pure value while others are a blend of equity and income. At the August 23, 2016 meeting, the DCIC requested that Mr. Thornton provide the Board with three recommended options and an explanation on how these were chosen. The options include one fund on the pure value side, one on the equity income side and one in the middle.

Reviewed and approved by Matt Stohr, Administrator
Division of Retirement Services

Electronically Signed 10/13/16

Board	Mtg Date	Item #
DC	11.1.16	7

Mr. Thornton will share his analysis at the meeting so the Board can determine whether to pursue adding a large cap value fund to the WDC and hearing finalist presentations in 2017.

Staff from Great-West Financial and ETF will be at the Board meeting to answer any questions.

WDC Investment Policy Statement: Minimum Criteria for Selecting and Evaluating Mutual Fund and Institutional Investment Product Options

- Minimum 5 year operating history – may be waived for index funds
- Expense ratio [internal expense charge plus any 12(b)1 fee] not greater than the mean for the appropriate peer group
- 5-year rolling average performance must equal or exceed appropriate benchmark or index
- Minimum total asset size of \$400 million – may be waived for certain categories of funds
- Anticipated WDC assets not greater than 5% of total fund (determined by comparing current WDC asset levels in a comparable fund)
- No loads or sales charges unless they are waived for the WDC
- Not a sector fund

Attachment: Large Cap Value Search, September 2016



Large Cap Value Search

September 2016

Contents

- I. **Search Criteria**

- II. **Search Results – Large Cap Value Funds**
 - I. Criteria Used
 - II. Initial Search Results
 - III. Final Search Results
 - IV. Fund Analytics

- III. **Appendix**



Search Criteria

Investment Option Criteria

From Wisconsin Deferred Compensation Program Deferred Compensation Board Investment Policy Statement (dated November 4, 2014)

Minimum Criteria for Selecting and Evaluating Mutual Fund and Institutional Product Options

- Minimum 5 year operating history – may be waived for index funds
- Expense ratio (internal expense charge plus any 12(b)1 fee) not greater than the mean for the appropriate peer group
- 5-year rolling average performance must equal or exceed appropriate benchmark or index
- Minimum total asset size of \$400 million – may be waived for certain categories of funds
- Anticipated WDC assets not greater than 5% of total fund (determined by comparing current WDC asset levels in a comparable fund)
- No loads of sales charges
- Not a sector fund



Initial Results

Initial Criteria – per IPS

- | | | | |
|----|----------------------|----|------------------|
| 1. | Morningstar Category | = | Large Value |
| 2. | Inception Date | <= | 6/30/2011 |
| 3. | Expense Ratio | <= | Category Average |
| 4. | 5 Year Total Return | >= | Category Average |
| 5. | Total Assets | >= | \$400 million |

Results: **101 Funds comprising 293 share classes**

Additional Criteria

1.	<i>Morningstar Category</i>	=	<i>Short Government</i>
2.	<i>Inception Date</i>	<=	<i>6/30/2011</i>
3.	<i>Expense Ratio</i>	<=	<i>Category Average</i>
4.	<i>5 Year Total Return</i>	>=	<i>Category Average</i>
5.	<i>Total Assets</i>	>=	<i>\$400 million</i>
6.	Manager Tenure	>=	5 years
7.	Standard Deviation	<=	Category Average
8.	Total Assets	>=	\$1 billion
9.	3 Year Total Return	<=	30 th percentile
10.	5 Year Total Return	<=	30 th Percentile
11.	10 Year Total Return	<=	30 th Percentile
12.	Calendar Year Returns	>=	Category Avg 7 of Last 10 Years

Results:

10 Funds comprising 42 share classes

Initial Search Results

Performance Summary: Large Value Fund Options

period ended 6/30/2016

Morningstar Category	Fund Complex Rating	Ticker Symbol	Fund Name	Overall Rating ¹					Long-Term Rolling Analysis ²		
				Composite %'s			Mstar Rating		Consecutive Quarters Below	# of Quarters out of trailing 12	
				Overall	Return	Sharpe					
Large-Cap	Large Value	DDVIX	Delaware Value® Inst	96.9	97.3	96.5	5	Above	0	0 out of 12	Pass
	Large Value	DDFIX	Invesco Diversified Dividend R5	96.7	96.3	97.0	5	Above	0	0 out of 12	Pass
	Large Value	VEIRX	Vanguard Equity-Income Adm	94.7	95.3	94.0	5	Above	0	0 out of 12	Pass
	Large Value	OIERX	JPMorgan Equity Income R5	92.3	92.7	92.0	5	Above	0	0 out of 12	Pass
	Large Value	BRLVX	American Beacon Bridgeway Lg Cp Val Inst	92.3	93.7	91.0	5	Above	0	0 out of 12	Pass
	Large Value	RWMGX	American Funds Washington Mutual R6	90.0	88.0	92.0	5	Above	0	0 out of 12	Pass
	Large Value	MEIKX	MFS Value R5	89.3	92.0	86.5	5	Above	0	0 out of 12	Pass
	Large Value	RSOIX	Columbia Dividend Opportunity I	86.8	86.7	87.0	5	Above	0	0 out of 12	Pass
	Large Value	HDBGY	Hartford Dividend and Growth Y	81.2	82.3	80.0	5	Above	0	0 out of 12	Pass
Index Funds ⁶	Large Value	VIVIX	Vanguard Value Index I (idx)	84.8	82.7	87.0	4	N/A	N/A	0 out of 12	Pass

1.The Overall Rating is derived from the 3, 5 and 10 year net-of-fee performance figures, the 3 and 5 year Sharpe Ratios and the Morningstar Rating™.

2.The Long-Term Rolling Analysis accumulates the trailing 12 quarter Overall Ratings and determines a pass/fail designation accordingly.

Data Source: Morningstar Direct®

Please refer to the Appendix page for additional footnotes

Qualitative Review

The ten funds included in the search results are all high quality options. To narrow the list to a few choices, we examine each fund a little closer.

- Delaware Value Fund
 - somewhat concentrated portfolio with 43 holdings
 - 32% in Top 10 holdings
- Invesco Diversified Dividend
 - primary prospectus benchmark is S&P 500
 - 3 year R-squared is 86, so fund may not qualify for Managed Accounts
 - 31% of portfolio is in Consumer Defensive and 15% in Utility stocks
 - sector allocation very different from benchmark and peers
- American Funds Washington Mutual
 - primary prospectus benchmark is S&P 500
 - trailed Russell 1000 Value Index 4 of last 5 calendar years

Qualitative Review

- MFS Value Fund
 - highest standard deviation of the group
 - returns-based analysis shows as more Core-oriented than Value-oriented
- Columbia Dividend Opportunity
 - 41% of the portfolio held in the Top 10 holdings
 - turnover ratio is 78, which is the highest of the group.
 - can add to the expenses of the fund
- Hartford Dividend & Growth
 - benchmarked to S&P 500
- Vanguard Value Index
 - the Plan already has a large cap index fund, so adding a large value index fund could be redundant

Final Search Results

Final Search Results

Vanguard Equity-Income

- lowest expense ratio of the group – 17 bps
- highest 12 month yield – 2.84%
- top decile performance for 1, 3, 5, and 10 year time periods
- co-managed by Vanguard and Wellington Mgmt Group

JP Morgan Equity Income

- seeks balance of income and total return
- 12 month yield - 2.09%
- top quintile performance for 1 and 3 year periods, top decile 5 and 10 year time periods
- tenured management – lead manager in place over 12 years

American Beacon Bridgeway Large Cap Value

- less income-oriented
- 12 month yield – 1.16%
- top decile performance for 3, 5, and 10 year time periods
- has outperformed large value peer group each of last 10 calendar years
- tenured management – founder of sub-advisor Bridgeway Capital Management has led the fund since its inception in 2003

Final Search Results

Performance Summary: Large Value Fund Options

period ended 6/30/2016

Morningstar Category	Fund Complex Rating	Ticker Symbol	Fund Name	Overall Rating ¹					Long-Term Rolling Analysis ²		
				Composite %'s			Mstar Rating		Consecutive Quarters Below	# of Quarters Below out of trailing 12	
				Overall	Return	Sharpe					
Large-Cap	Large Value	VEIRX	Vanguard Equity-Income Adm	94.7	95.3	94.0	5	Above	0	0 out of 12	Pass
	Large Value	OIERX	JPMorgan Equity Income R5	92.3	92.7	92.0	5	Above	0	0 out of 12	Pass
	Large Value	BRLVX	American Beacon Bridgeway Lg Cp Val Inst	92.3	93.7	91.0	5	Above	0	0 out of 12	Pass

1. The Overall Rating is derived from the 3, 5 and 10 year net-of-fee performance figures, the 3 and 5 year Sharpe Ratios and the Morningstar Rating™.

2. The Long-Term Rolling Analysis accumulates the trailing 12 quarter Overall Ratings and determines a pass/fail designation accordingly.

Data Source: Morningstar Direct®

Please refer to the Appendix page for additional footnotes

Final Search Results

Return Analysis: Large Value Fund Options

period ended 6/30/2016

	Fund Name	2nd Qtr	2nd Qtr	Performance vs. Benchmark (Annualized Returns and Return Percentiles %)								Incept. Date
		2016	2016	1 Year	1 Year	3 Year	3 Year	5 Year	5 Year	10 Year	10 Year	
		Return	Percentile	Return	Percentile	Return	Percentile	Return	Percentile	Return	Percentile	
Large-Cap	Large Value Peer Group	2.96	50	-0.33	50	8.26	50	9.62	50	5.62	50	
	Vanguard Equity-Income Adm	4.02	76	9.05	93	10.97	93	12.72	97	8.21	96	8/13/2001
	JPMorgan Equity Income R5	3.48	63	4.96	82	10.45	88	12.15	94	8.14	96	2/28/2011
	American Beacon Bridgeway Lg Cp Val Inst	2.59	44	1.46	66	11.55	95	12.75	97	7.55	89	10/31/2003

A Percentile Ranking of 100% represents the best in class performance whereas 0% represents the low est.

Investment options available in the plan may be through mutual funds and/or a group fixed annuity contract. Total return performance shown above represents that of the underlying fund and does not include a deduction for any applicable annuity contract of administrative fees/expenses. Performance numbers shown above would be less after applicable fee/expenses are deducted.

Data Source: Morningstar Direct®

Please refer to the Appendix page for additional disclosures

Final Search Results

Sharpe Ratio and Expense Analysis: Large Value Fund Options

period ended 6/30/2016

Fund Name	Sharpe Ratios and Percentiles %				Standard Deviation		Expense	Expense	Manager	Fund Size
	3 Yr Ratio	3 Yr %	5 Yr Ratio	5 Yr %	3 Yr	5 Yr	Ratio	Percentile %	Tenure (yrs)	\$MM
Large-Cap Large Value Peer Group	0.73	50	0.77	50	11.53	12.75	1.00	50		
Vanguard Equity-Income Adm	1.03	92	1.16	96	10.59	10.77	0.17	99	13	22,207
JPMorgan Equity Income R5	0.98	90	1.09	94	10.64	10.99	0.59	91	12	12,225
American Beacon Bridgeway Lg Cp Val Inst	1.01	92	1.02	90	11.45	12.47	0.79	73	13	3,183

A Percentile Ranking of 100% represents the best in class performance whereas 0% represents the low est.
Expense refers to the Prospectus Net Expense Ratio

Data Source: Morningstar Direct®
Please refer to the Appendix page for additional disclosures

Final Search Results

Annual Returns and Statistics: Large Value Fund Options

period ended 6/30/2016

Fund Name	Calendar Year Returns					MPT Statistics (3 year)			Portfolio Construction		
	2015	2014	2013	2012	2011	Alpha	Beta	R2	Turnover Ratio	Number of Holdings	% in top 10 holdings
Large-Cap Large Value Peer Group	-3.60	10.80	31.70	15.18	-0.37						
Vanguard Equity-Income Adm	0.86	11.38	30.19	13.58	10.69	1.82	0.91	95	32	218	29%
JPMorgan Equity Income R5	-2.05	13.97	31.85	13.65	7.76	1.53	0.92	97	22	103	24%
American Beacon Bridgeway Lg Cp Val Inst	-1.24	14.17	37.77	18.06	2.33	1.99	0.98	96	43	111	15%

A Percentile Ranking of 100% represents the best in class performance whereas 0% represents the lowest.

The Fund Performance Review is a proprietary high level analytical tool that is used to evaluate fund performance and is not intended as an offer or solicitation of securities, or as investment advice.

Investment options available in the plan may be through mutual funds and/or a group fixed annuity contract. Total return performance shown above represents that of the underlying fund and does not include a deduction for any applicable annuity contract of administrative fees/expenses. Performance numbers shown above would be less after applicable fee/expenses are deducted.

Data Source: Morningstar Direct®

Please refer to the Appendix page for additional disclosures

Final Search Results

Index Performance

period ending 6/30/2016

Index		Total Return 1 Year	Total Return Annlzd 3 Year	Total Return Annlzd 5 Year	Total Return Annlzd 10 Year	Annual Return 2015	Annual Return 2014	Annual Return 2013	Annual Return 2012	Annual Return 2011
International³	MSCI EMF ID	-14.21	-3.92	-6.16	1.10	-16.96	-4.63	-4.98	15.15	-20.41
	MSCI Eafe Ndrtr_D	-10.16	2.06	1.68	1.58	-0.81	-4.90	22.78	17.32	-12.14
	MSCI World Ndrtr_D	-2.78	6.95	6.63	4.43	-0.87	4.94	26.68	15.83	-5.54
Small-Cap⁵	Russell 2000 Growth	-10.75	7.74	8.51	7.14	-1.38	5.60	43.30	14.59	-2.91
	Russell 2000	-6.73	7.09	8.35	6.20	-4.41	4.89	38.82	16.35	-4.18
	Russell 2000 Value	-2.58	6.36	8.15	5.15	-7.47	4.22	34.52	18.05	-5.50
Mid-Cap⁸	Russell Midcap Growth	-2.14	10.52	9.98	8.12	-0.20	11.90	35.74	15.81	-1.65
	Standard & Poor's Midcap 400	1.33	10.53	10.55	8.55	-2.18	9.77	33.50	17.88	-1.73
	Russell Midcap Value	3.25	11.00	11.70	7.79	-4.78	14.75	33.46	18.51	-1.38
Large-Cap	Russell 1000 Growth	3.02	13.07	12.35	8.78	5.67	13.05	33.48	15.26	2.64
	Standard & Poor's 500 TR	3.99	11.66	12.10	7.42	1.38	13.69	32.39	16.00	2.11
	Russell 1000 Value	2.86	9.87	11.35	6.13	-3.83	13.45	32.53	17.51	0.39
Bond⁹	Barclays Capital Aggregate Bond	6.00	4.06	3.76	5.13	0.55	5.97	-2.02	4.21	7.84
	Barclays Capital Credit	7.55	5.26	5.20	6.11	-0.77	7.53	-2.01	9.37	8.35
	Barclays Capital Mortgage-Backed	4.34	3.76	3.01	4.96	1.51	6.08	-1.41	2.59	6.23
	Barclays Capital Government Bond	6.04	3.45	3.38	4.73	0.86	4.92	-2.60	2.02	9.02
	Barclays Capital 1-3 Year Governm	1.31	1.00	0.84	2.54	0.57	0.64	0.37	0.51	1.56

MSCI EMF ID A capitalization-weighted index of stocks from 26 emerging markets that only includes issues that may be traded by foreign investors. The reported returns reflect equities priced in US dollars and do not include the effects of reinvested dividends.

MSCI EAFE Ndrtr_D Widely accepted as a benchmark for intl stock performance, the EAFE Index is an aggregate of 21 individual country indexes that collectively represent many of the major markets of the world.

MSCI World Ndrtr_D Includes all 23 MSCI developed mkt countries. Ndrtr_D indexes are calculated daily and take into account actual dividends reinvested daily before withholding taxes, but exclude special tax credits declared by companies.

Russell 2000 Growth Market-weighted total return index that measures the performance of companies within the Russell 2000 Index having higher price-to-book ratios and higher forecasted growth values.

Russell 2000 Consists of the smallest 2000 companies in the Russell 3000 Index, representing approximately 7% of the Russell 3000 total market capitalization.

Russell 2000 Value Market-weighted total return index that measures the performance of companies within the Russell 2000 Index having lower price-to-book ratios and lower forecasted growth values.

Russell Mid Cap Growth Market-weighted total return index that measures the performance of companies within the Russell Midcap Index having higher price-to-book ratios and higher forecasted growth values.

Standard & Poor's Midcap 400 Includes approximately 10% of the capitalization of U.S. equity securities. These are comprised of stocks in the middle capitalization range.

Russell Mid Cap Value Market-weighted total return index that measures the performance of companies within the Russell Midcap Index having lower price-to-book ratios and lower forecasted growth values.

Russell 1000 Growth Market-weighted total return index that measures the performance of companies within the Russell 1000 Index having higher price-to-book ratios and higher forecasted growth values.

Standard & Poor's 500 A market capitalization-weighted index of 500 widely held stocks often used as a proxy for the stock market. It measures the movement of the largest issues.

Russell 1000 Value Market-weighted total return index that measures the performance of companies within the Russell 1000 Index having lower price-to-book ratios and lower forecasted growth values.

BarCap US Aggregate Bond Composed of the Barclays Capital Govt/Credit Index, the Mortgage-Backed Securities Index, and the Asset-Backed Securities Index.

BarCap US Credit Listed for corp bond-general and high-quality funds. This index tracks the returns of all publicly issued, fixed-rate, nonconvertible, dollar-denominated, SEC-registered, inv-grade corp debt.

BarCap US MBS Includes 15- and 30-year fixed-rate securities backed by mortgage pools of the Government National Mortgage Association (GNMA).

BarCap US Government Bond Listed for government-bond general and Treasury funds because it tracks the returns of U.S. Treasuries, agency bonds, and one- to three-year U.S. government obligations. This index is effective for tracking portfolios holding non-mortgage government securities.

BarCap US Govt 1-3 Yr Comprised of both the Treasury Bond index (all public obligations of the U.S. Treasury, excluding flower bonds and foreign-targeted issues) and the Agency Bond Index (all publicly issued debt of U.S. Government agencies and quasi-federal corporations and corporate-debt guaranteed by the U.S. Government).

A benchmark index is not actively managed, does not have a defined investment objective, and does not incur fees or expenses. Therefore, performance of an Index Fund will generally be less than its benchmark index. You cannot invest directly in a benchmark index.

Source: Morningstar Direct

Fund Analytics

Fund Analytics - Active Mutual Funds

Fund Facts

	Ticker	Morningstar Category	Morningstar Institutional Category	Primary Prospectus Benchmark	Manager Name	Manager Tenure (Longest)	Fund Size	Fund Size Date	Inception Date
American Beacon Bridgeway Lg Cp Val Inst	BRLVX	US OE Large Value	Large Deep Value	Russell 1000 Value TR USD	Multiple	12.92	3,211,967,070	9/20/2016	10/31/2003
JPMorgan Equity Income R5	OIERX	US OE Large Value	Large Core Value	Russell 1000 Value TR USD	Multiple	12.08	12,532,355,050	9/20/2016	2/28/2011
Vanguard Equity-Income Adm	VEIRX	US OE Large Value	Giant Value	Russell 1000 Value TR USD	Multiple	12.75	23,430,203,770	8/31/2016	8/13/2001
US OE Large Value		Large Value							5/1/1931

	# of Holdings	% Asset in Top 10 Holdings	Market Cap Giant %	Market Cap Large %	Market Cap Mid %	Market Cap Small %	Market Cap Micro %
American Beacon Bridgeway Lg Cp Val Inst	109	14.31	12.90	47.00	36.71	0.00	0.00
JPMorgan Equity Income R5	102	23.18	37.96	45.61	13.78	0.10	0.00
Vanguard Equity-Income Adm	228	28.39	60.84	23.72	7.97	2.55	0.28
US OE Large Value	522	32.73	58.82	17.04	17.05	3.09	0.04

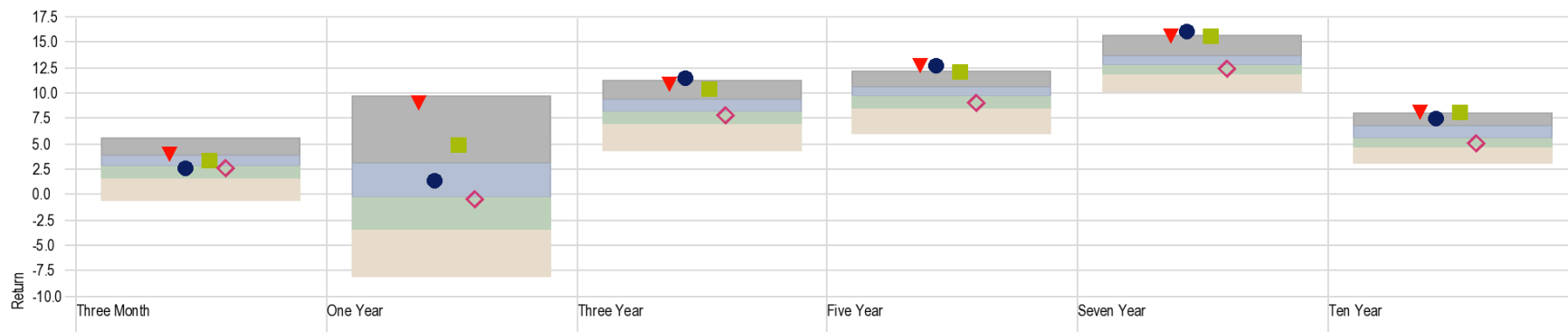
	Asset Alloc Cash %	Asset Alloc US Equity %	Asset Alloc Non-US Equity %	Asset Alloc US Bond %	Asset Alloc Non-US Bond %	Asset Alloc Other %	Portfolio Date
American Beacon Bridgeway Lg Cp Val Inst	1.36	96.73	1.91	0.00	0.00	0.00	6/30/2016
JPMorgan Equity Income R5	2.54	96.64	0.82	0.00	0.00	0.00	7/31/2016
Vanguard Equity-Income Adm	1.57	87.32	9.32	0.00	0.00	1.78	6/30/2016
US OE Large Value	1.15	91.93	5.17	1.16	-0.15	0.74	8/31/2016

Fund Analytics - Active Mutual Funds

Trailing Returns

Peer Group (5-95%): Open End Funds - U.S. - Large Value

■ Top Quartile ■ 2nd Quartile ■ 3rd Quartile ■ Bottom Quartile



● American Beacon Bridgeway Lg Cp Val Inst
◆ US OE Large Value

■ JPMorgan Equity Income R5

▼ Vanguard Equity-Income Adm

Trailing Returns

As of Date: 6/30/2016 Source Data: Monthly Return Peer Group: Open End Funds - U.S. - Large Value

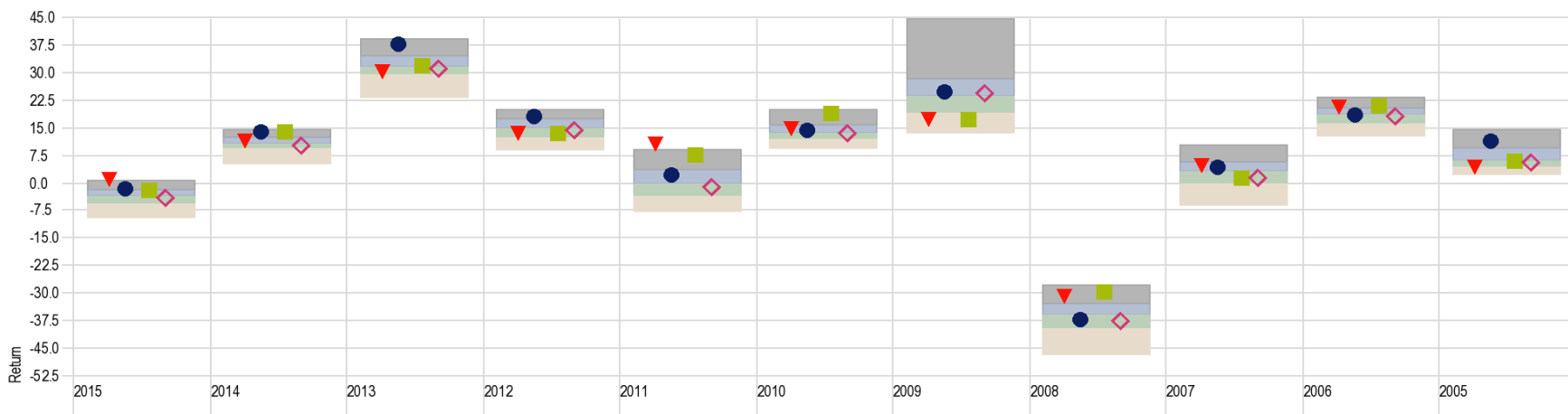
	Three Month	% rank	One Year	% rank	Three Year	% rank	Five Year	% rank	Seven Year	% rank	Ten Year	% rank
American Beacon Bridgeway Lg Cp Val Inst	2.59	55	1.46	34	11.55	4	12.75	3	16.05	3	7.55	11
JPMorgan Equity Income R5	3.48	35	4.96	18	10.45	11	12.15	5	15.60	6	8.14	5
Vanguard Equity-Income Adm	4.02	22	9.05	7	10.97	7	12.72	3	15.71	5	8.21	4
Russell 1000 Value TR USD	4.58	12	2.86	27	9.87	16	11.35	14	14.50	13	6.13	38
US OE Large Value	2.64	54	-0.36	51	7.83	58	9.13	61	12.41	60	5.15	62
25th Percentile	3.87		3.15		9.37		10.63		13.66		6.76	
50th Percentile	2.86		-0.26		8.23		9.62		12.72		5.61	
75th Percentile	1.57		-3.47		6.89		8.48		11.80		4.66	

Fund Analytics - Active Mutual Funds

Calendar Year Returns

Peer Group (5-95%): Open End Funds - U.S. - Large Value

■ Top Quartile ■ 2nd Quartile ■ 3rd Quartile ■ Bottom Quartile



● American Beacon Bridgeway Lg Cp Val Inst
 ◆ US OE Large Value
 ■ JPMorgan Equity Income R5
 ▼ Vanguard Equity-Income Adm

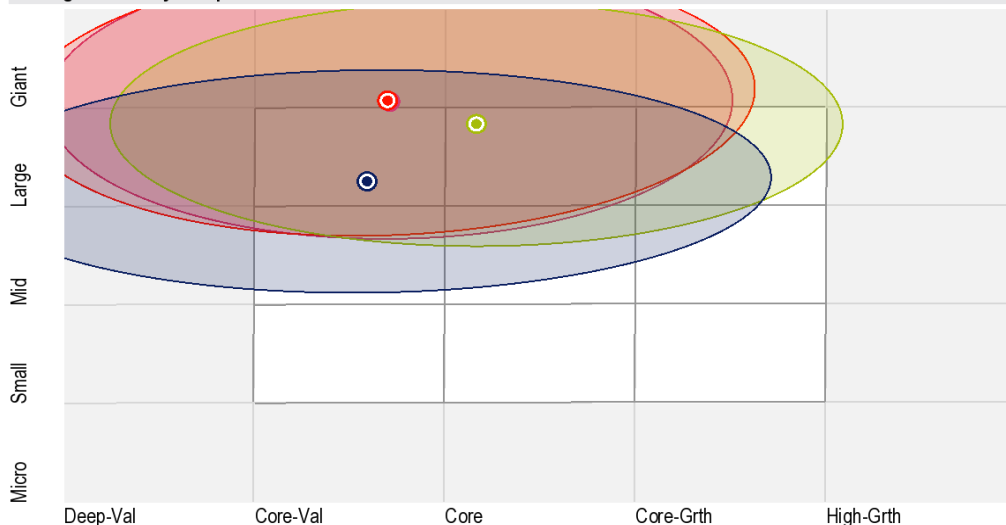
Calendar Year Returns

Peer Group: Open End Funds - U.S. - Large Value

	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005
American Beacon Bridgeway Lg Cp Val Inst	-1.24	14.17	37.77	18.06	2.33	14.51	24.92	-36.83	4.49	18.52	11.62
JPMorgan Equity Income R5	-2.05	13.97	31.85	13.65	7.76	18.92	17.50	-29.67	1.60	21.00	6.13
Vanguard Equity-Income Adm	0.86	11.38	30.19	13.58	10.69	14.99	17.26	-30.86	4.99	20.77	4.52
Russell 1000 Value TR USD	-3.83	13.45	32.53	17.51	0.39	15.51	19.69	-36.85	-0.17	22.25	7.05
US OE Large Value	-4.08	10.15	31.15	14.55	-0.84	13.59	24.34	-37.38	1.30	18.05	5.86
25th Percentile	-1.96	12.23	34.44	17.18	3.45	15.74	28.10	-32.79	5.75	20.43	9.46
50th Percentile	-3.58	10.85	31.62	14.92	-0.27	13.54	23.82	-35.91	3.11	18.44	6.22
75th Percentile	-5.55	9.25	29.41	12.43	-3.71	12.03	19.03	-39.73	-0.37	16.02	4.31

Fund Analytics - Active Mutual Funds

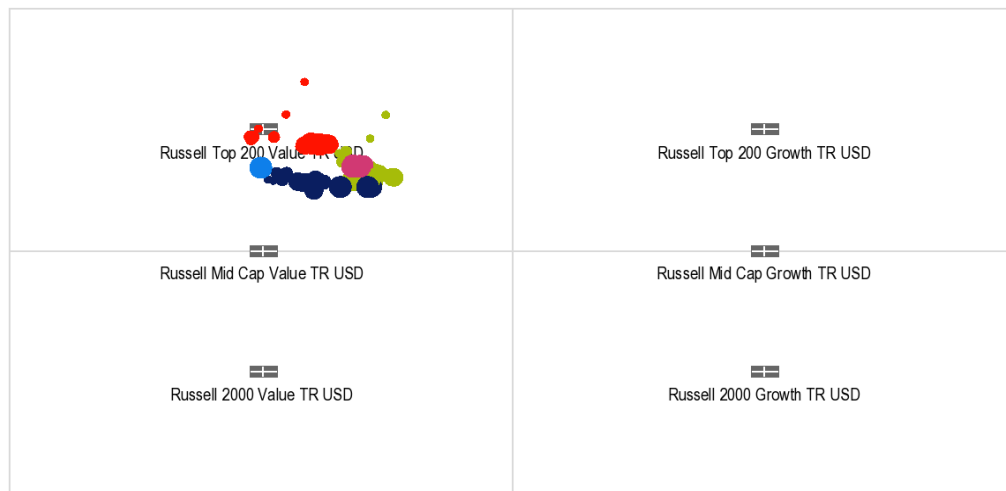
Holdings-Based Style Map



● American Beacon Bridgeway Lg Cp Val Inst	6/30/2016
● JPMorgan Equity Income R5	7/31/2016
● Vanguard Equity-Income Adm	6/30/2016
● Russell 1000 Value TR USD	8/31/2016
● US OE Large Value	8/31/2016

Returns-Based Style Map

Time Period: 7/1/2011 to 6/30/2016



● American Beacon Bridgeway Lg Cp Val Inst
● JPMorgan Equity Income R5
● Vanguard Equity-Income Adm
● Russell 1000 Value TR USD
● US OE Large Value

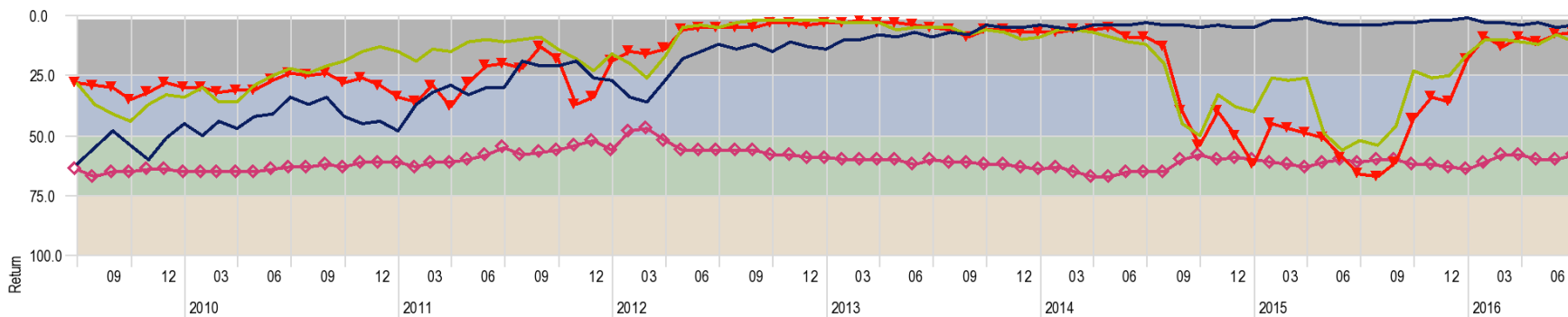
Fund Analytics - Active Mutual Funds

3 Year Rolling Returns

Time Period: 7/1/2006 to 6/30/2016

Peer Group (5-95%): Open End Funds - U.S. - Large Value Rolling Window: 3 Years 1 Month shift

1st to 25th Percentile 26th to Median 51st to 75th Percentile 76th to 100th Percentile



American Beacon Bridgeway Lg Cp Val Inst
US OE Large Value

JPMorgan Equity Income R5

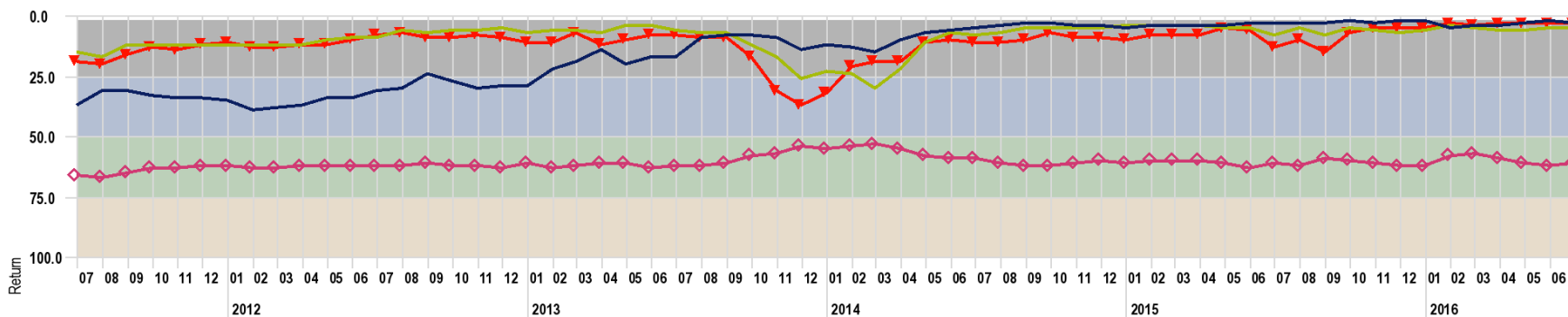
Vanguard Equity-Income Adm

5 Year Rolling Returns

Time Period: 7/1/2006 to 6/30/2016

Peer Group (5-95%): Open End Funds - U.S. - Large Value Rolling Window: 5 Years 1 Month shift

1st to 25th Percentile 26th to Median 51st to 75th Percentile 76th to 100th Percentile



American Beacon Bridgeway Lg Cp Val Inst
US OE Large Value

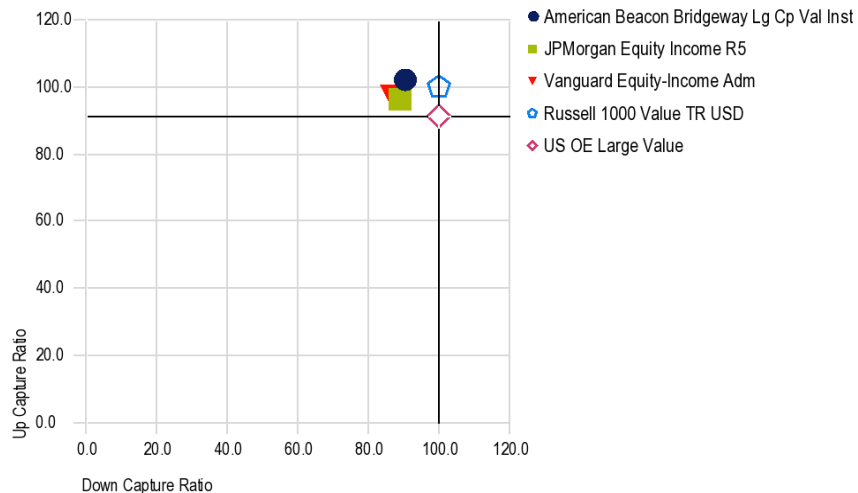
JPMorgan Equity Income R5

Vanguard Equity-Income Adm

Fund Analytics - Active Mutual Funds

3 Year Upside-Downside Capture

Time Period: 7/1/2013 to 6/30/2016



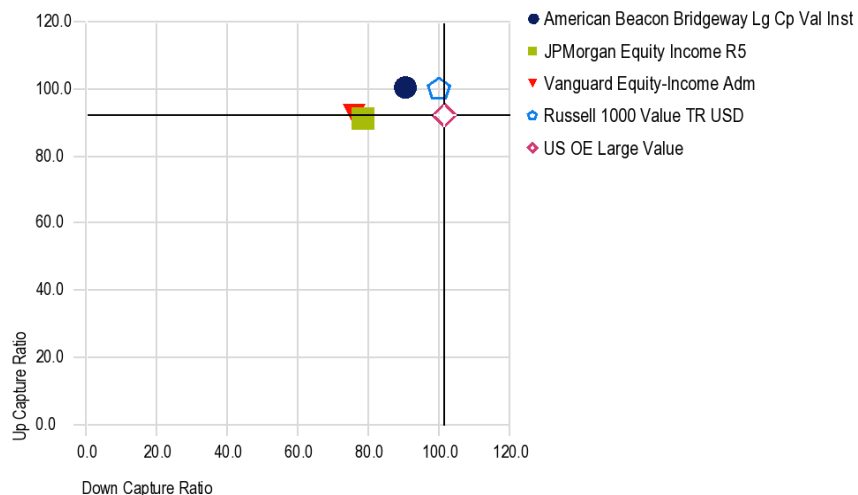
3 Year Upside-Downside Statistics

Time Period: 6/1/2013 to 6/30/2016 Calculation Benchmark: Russell 1000 Value TR USD

	Up Period Percent	Down Period Percent	Up Capture Ratio	Down Capture Ratio
American Beacon Bridgeway Lg Cp Val Inst	64.86	35.14	101.81	91.61
JPMorgan Equity Income R5	64.86	35.14	96.39	87.27
Vanguard Equity-Income Adm	64.86	35.14	97.23	85.82
Russell 1000 Value TR USD	64.86	35.14	100.00	100.00
US OE Large Value	64.86	35.14	91.19	100.55
25th Percentile	48.65	54.05	63.65	138.69
50th Percentile	48.65	51.35	58.03	130.84
75th Percentile	45.95	51.35	51.27	118.43

5 Year Upside-Downside Capture

Time Period: 7/1/2011 to 6/30/2016



5 Year Upside-Downside Statistics

Time Period: 6/1/2011 to 6/30/2016 Calculation Benchmark: Russell 1000 Value TR USD

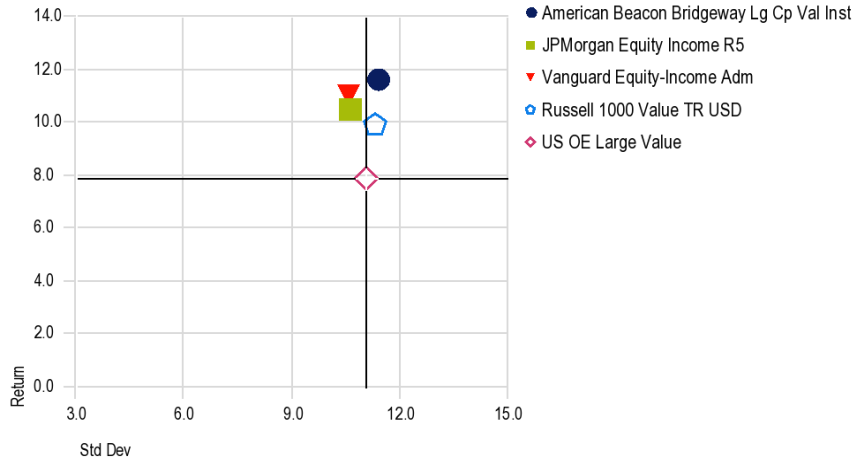
	Up Period Percent	Down Period Percent	Up Capture Ratio	Down Capture Ratio
American Beacon Bridgeway Lg Cp Val Inst	65.57	34.43	100.34	90.60
JPMorgan Equity Income R5	68.85	31.15	91.29	77.98
Vanguard Equity-Income Adm	68.85	31.15	92.16	75.92
Russell 1000 Value TR USD	63.93	36.07	100.00	100.00
US OE Large Value	65.57	34.43	92.16	101.35
25th Percentile	52.46	54.10	66.74	148.77
50th Percentile	47.54	52.46	62.89	140.75
75th Percentile	45.90	47.54	56.85	129.31

Fund Analytics - Active Mutual Funds

3 Year Risk-Reward

Time Period: 7/1/2013 to 6/30/2016

Peer Group (5-95%): Open End Funds - U.S. - Large Value



3 Year Risk Statistics

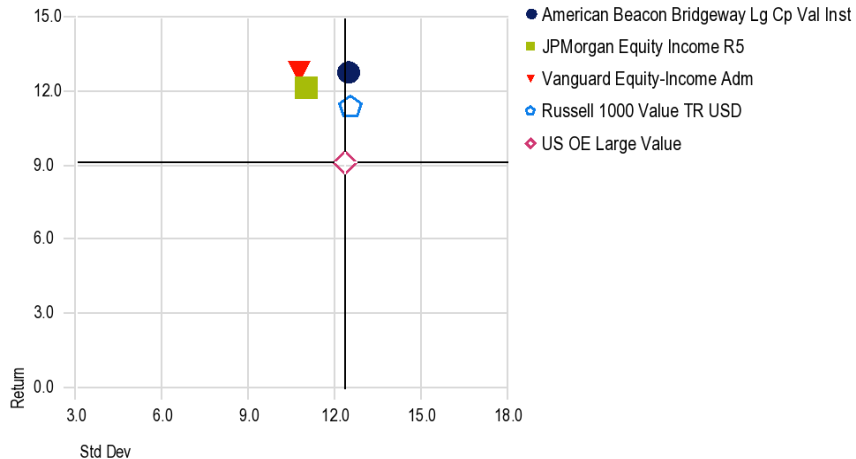
Time Period: 6/1/2013 to 6/30/2016 Peer Group: Open End Funds - U.S. - Large Value

	Return	Std Dev	Alpha	Beta	Sharpe Ratio	Tracking Error
American Beacon Bridgeway Lg Cp Val Inst	10.78	11.36	1.49	0.99	0.95	2.33
JPMorgan Equity Income R5	10.13	10.51	1.47	0.92	0.96	2.18
Vanguard Equity-Income Adm	10.51	10.47	1.90	0.91	1.00	2.52
Russell 1000 Value TR USD	9.27	11.23	0.00	1.00	0.84	0.00
US OE Large Value	7.25	10.99	-1.66	0.97	0.68	1.13
25th Percentile	8.73	12.25	-0.06	1.06	0.81	3.89
50th Percentile	7.61	11.37	-1.43	1.00	0.69	2.90
75th Percentile	6.33	10.68	-2.99	0.92	0.56	2.21

5 Year Risk-Reward

Time Period: 7/1/2011 to 6/30/2016

Peer Group (5-95%): Open End Funds - U.S. - Large Value



5 Year Risk Statistics

Time Period: 7/1/2011 to 6/30/2016 Peer Group: Open End Funds - U.S. - Large Value

	Return	Std Dev	Alpha	Beta	Sharpe Ratio	Tracking Error
American Beacon Bridgeway Lg Cp Val Inst	12.75	12.47	1.52	0.98	1.02	2.20
JPMorgan Equity Income R5	12.15	10.99	2.23	0.85	1.09	3.07
Vanguard Equity-Income Adm	12.72	10.77	3.01	0.83	1.16	3.57
Russell 1000 Value TR USD	11.35	12.57	0.00	1.00	0.91	0.00
US OE Large Value	9.13	12.39	-1.84	0.98	0.76	1.18
25th Percentile	10.63	13.79	-0.08	1.07	0.88	4.07
50th Percentile	9.62	12.72	-1.51	0.99	0.77	3.08
75th Percentile	8.48	11.76	-2.90	0.91	0.68	2.35

Appendix

Fund Performance Report Overview

ADVISED ASSETS
GROUP

FUND PERFORMANCE REVIEW

IMPORTANT DISCLOSURES:

The Fund Performance Review is compiled at the request of the Plan Sponsor and/or broker. It is designed as a high level analytical tool to aide plan sponsors in carrying out their fiduciary responsibilities; it is not intended as investment advice. Plan Sponsors may wish to review the enclosed material with their investment adviser, consultant or broker, if necessary, prior to making final investment decisions.

Funds listed on the Fund Performance Review are designed to meet stated investment objectives and risk profiles. Risks associated with the investment options can vary significantly and the relative risks of investment categories may change under certain economic conditions. The investment return and principal value of an investment will fluctuate so that an investor's shares, when redeemed, may be more or less than their original cost. Current performance may be lower or higher than performance data shown due to market activity. Past performance is not a guarantee of future results.

Fund Performance Report Overview

ADVISED ASSETS
GROUP

FUND PERFORMANCE REVIEW: OVERVIEW

- OBJECTIVE:**
- * To quantify historical fund performance relative to peer group benchmarks.
 - * To identify funds that have consistently underperformed over the long-term.
 - * To assist in identifying style drift and discern gaps within the plan portfolio.

- FUNDAMENTALS:**
- * An objective analysis based on set criteria.
 - * Based on long-term and risk-adjusted performance.
 - * Comparison against peer group of similar funds as determined by *Morningstar, Inc.*®

- SOURCE:**
- * Statistics are derived from an independent third-party: primarily *Morningstar Direct*®

- SCOPE:**
- * The Fund Performance Review is designed as a high level analytical tool to aide plan sponsors in carrying out their fiduciary responsibilities; it is not intended as investment advice.

The purpose of this document is to provide investment-related information only for the plan sponsor in its role as a fiduciary to the Plan, not as investment advice for plans or plan participants. Although the data contained in this report is from reliable sources, Advised Assets Group, LLC cannot guarantee its completeness or accuracy. Risks associated with investment options can vary significantly with each particular investment category and the relative risks of categories may change under certain economic conditions. The investment return and principal of an investment will fluctuate so that an investor's shares, when redeemed, may be more or less

Current performance may be lower or higher than performance data shown due to market volatility. Past performance is no guarantee of future returns.

2015 Morningstar, Inc. © All Rights Reserved. Use of the content requires expert knowledge. It is to be used by specialist institutions only. The information contained herein; (1) is proprietary to Morningstar and/or its content providers; (2) may not be copied, adapted or distributed; and (3) is not warranted to be accurate, complete or timely. Neither Morningstar nor its content providers are responsible for any damages or losses arising from the use of this information, except where such damages or losses cannot be limited or excluded by law in your jurisdiction.

Fund Performance Report Overview

ADVISED ASSETS
GROUP

FUND PERFORMANCE REVIEW: CRITERIA

OVERALL RATING: Based on performance, risk-adjusted performance and the Overall Morningstar Rating.

Return Composite: Determined by taking the equal-weighted average of the 3-, 5- and 10-year category return percentiles.

Sharpe Composite: Calculated by averaging the 3- and 5-year category sharpe percentiles.

Overall Composite: The equally-weighted average of the Return Composite and Sharpe Composite.

Overall Morningstar Rating: Represents a measure of an investment's risk-adjusted return, relative to similar investments.

The Overall Composite is the sole determinate for the Overall Rating for funds that do not have an Overall Morningstar Category Rating.

Overall Composite		Overall Morningstar Rating	Overall Rating
≥ 50.0%	AND	③, ④, or ⑤	Above
< 50.0%	OR	③, ④, or ⑤	Neutral
< 50.0%	AND	①, or ②	Below
≤ 25.0%			Below

LONG-TERM ROLLING ANALYSIS: Based on the accumulated trailing 12 quarter "Overall Ratings".

Consecutive number of Quarters Receiving a Below Rating		Total number of Quarters Below out of trailing 12 quarters	Long-Term Rolling Analysis
< 4 Quarters	AND	< 7 Quarters	Pass
≥ 4 Quarters	OR	≥ 7 Quarters	Fail
OR			
Overall Rating: ≤ 25.0%			Fail

For expanded definitions of the Composites, Sharpe Ratio and Ratings, please refer to the corresponding glossary. Information for this fund evaluation was received from what we believe to be reliable sources, but we cannot absolutely guarantee accuracy. The performance data quoted within represents past performance and is not a guarantee or indication of future investment results. For each fund with at least a three-year history, Morningstar calculates a Morningstar Rating based on a Morningstar Risk-Adjusted Return measure that accounts for variation in a fund's monthly performance (including the effects of sales charges, loads, and redemption fees), placing more emphasis on downward variations and rewarding consistent performance. The top 10% of the funds in each category receive 5 stars, the next 22.5% receive 4 stars, the next 35% receive 3 stars, the next 22.5% receive 2 stars and the bottom 10% receive 1 star. (Each share class is counted as a fraction of one fund within this scale and rated separately, which may cause slight variations in the distribution percentages). The Overall Morningstar Rating for a fund is derived from a weighted average of the performance figures with its three -, five -, and then-year (if-applicable) Morningstar Rating metrics. Past Performance is no guarantee of future results.

Fund Performance Report Overview

FUND COMPLEX RATING

ADVISED ASSETS
GROUP

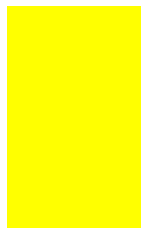
OVERVIEW:

Due to the issues involving mutual fund complexes and their compliance with security laws and regulations, Great-West FinancialSM developed a ratings system for funds involved in its packaged products. Mutual fund complexes are assigned a rank of red, yellow or green.



RED RATING:

A fund complex or any of its respective funds may be placed on the Red Fund Complex Corporate Rating and may be terminated or disqualified from participating in the packaged products if that fund complex is determined by a court or appropriate regulatory agency or the fund complex admits to having allowed regulatory violations or corporate infractions in its funds by its employees (officers or portfolio managers) of the complex. In such event, depending on the severity of the violation or infraction, the fund(s) may be terminated even if such activity was not found to have occurred in a fund used by Great-West FinancialSM but elsewhere in the fund complex.



YELLOW RATING:

A fund or fund complex will be put on the Yellow Fund Complex Corporate Rating if that fund complex is charged by a court or appropriate regulatory agency or admits to having allowed regulatory violations or corporate infractions in its funds. While a fund is on the Yellow Fund Complex Corporate Rating, no action shall be taken to terminate or replace the fund.



GREEN RATING:

A fund or fund complex that has not been implicated in any regulatory violations or infractions nor has admitted to committing such activities.

Glossary

- **Alpha** - Risk-adjusted excess return of a fund over its benchmark. A positive alpha number means that the fund is generating excess return relative to its expected excess return.
- **Beta** - A measure of a fund's volatility compared to its benchmark. A beta of 1.1 indicates that the fund is 10% more volatile than its benchmark.
- **Duration** - A common gauge of the price sensitivity of a fixed income asset or portfolio to a change in interest rates.
- **Expense ratio** - A measure of a fund's overall expenses.
- **Investment policy** - A fund's stated investment objectives and operating policy.
- **R²** - The percentage of the variability in the returns of one investment that can be associated with the variability in the returns of its applicable benchmark.
- **Risk** - Refers to performance volatility, or the probability of not meeting the specified investment objectives.
- **Sharpe Ratio** - Measures return per unit of risk assumed. It is calculated by subtracting the risk free return from the total return of the fund and dividing it by the fund's risk level (standard deviation).
- **Standard Deviation** - A measure of dispersion which determines how much the values within it differ from the mean.
- **Trailing Period** - A snap shot of a specific period of time. A 1-year trailing return represents the previous 12-month period.

Disclosures

For more complete information about any of the mutual funds available within the retirement plan, please call 800-345-2345. Investors should carefully consider the investment objectives, risks, charges and expenses of the funds. Please carefully read the prospectus, which contains this and other important information, before you invest or send money.

An investment in a Money Market Fund is not insured or guaranteed by the Federal Deposit Insurance Corporation or any other government agency. Although the fund seeks to preserve the value of your investment at \$1.00 per share, it is possible to lose money by investing in the Fund.

The performance data contained herein represents past performance and does not guarantee future results. Investment return and principal value of an investment will fluctuate so that shares or units when redeemed may be worth less than their original cost. Current performance may be lower or higher than the return data quoted herein. For more current fund performance, including the most recent completed calendar month, please call 800-345-2345.

Empower Retirement refers to the products and services offered in the retirement markets by Great-West Life & Annuity Insurance Company (GWL&A), Corporate Headquarters: Greenwood Village, CO; Great-West Life & Annuity Insurance Company of New York, Home Office: NY, NY; and their subsidiaries and affiliates. The trademarks, logos, service marks, and design elements used are owned by their respective owners and are used by permission.

Core securities, when offered, are offered through GWFS Equities, Inc. and/or other broker dealers. GWFS Equities, Inc., Member FINRA/SIPC, is a wholly owned subsidiary of Great-West Life & Annuity Insurance Company. Investment return and principal value of security investments will fluctuate.

GWFS Equities, Inc., or one or more of its affiliates, may receive a fee from the investment option provider for providing certain recordkeeping, distribution and administrative services.

Although data is gathered from reliable sources, the completeness or accuracy of the data shown cannot be guaranteed.

This material has been prepared for informational and educational purposes only. It is not intended to provide, and should not be relied upon for, investment, accounting, legal or tax advice.

Dollar cost averaging does not ensure a profit and does not protect against loss in declining markets.

Rebalancing does not ensure a profit and does not protect against loss in declining markets. Asset allocation does not ensure a profit and does not protect against loss in declining markets.

Diversification does not ensure a profit and does not protect against loss in declining markets.

Cash alternatives are not federally guaranteed and may lose value. Cash alternative portfolios have interest rate, inflation, and credit risks that are associated with the underlying assets owned by the portfolio.

Compared to higher rated securities, high yield bond investment options are subject to greater risk, including the risk of default.

A bond fund's yield, share price and total return change daily and are based on changes in interest rates, market conditions, economic and political news, and the quality and maturity of its investments. In general, bond prices fall when interest rates rise and vice versa.

Certain underlying funds invest in inflation protected bonds ("TIPS"). Unlike conventional bonds, the principal or interest of TIPS is adjusted periodically to a specified rate of inflation (e.g., Consumer Price Index for all Urban Consumers [CPI-U]). There can be no assurance that the inflation index used will accurately measure the actual rate of inflation.

Separate accounts are not registered investment products but separate accounts created specifically for the Plan. Separate accounts are not required to file a prospectus or registration statement with the SEC and accordingly neither is available.

A collective fund is not a mutual fund and is exempt from SEC registration. Designed for and exclusively sold to qualified retirement plans and their participants, the funds are not available to individual retail investors.

Foreign investments involve special risks, including currency fluctuations, taxation differences and political developments.

Equity securities of companies located in emerging markets involve greater risks than investing in more established markets, including currency fluctuations, political developments and share illiquidity.

Copyright ©2015 Citigroup Index LLC ("Citi Index"). All rights reserved. "Citigroup" is a registered trademark and service mark of Citigroup Inc. or its affiliates, is used and registered throughout the world. Citi Index data and information is the property of Citi Index or its licensors, and reproduction in any form is prohibited except with the prior written permission of Citi Index. Because of the possibility of human or mechanical error, Citi Index does not guarantee the accuracy, adequacy, timeliness, completeness or availability of any data and information and is not responsible for any errors or omissions or for the results obtained from the use of such data and information. CITI INDEX GIVES NO EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, ANY WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR USE. In no event shall Citi Index be liable for damages of any kind in connection with any use of the Citi Index data and information.

The quoted mutual fund performance may include performance of a predecessor fund/share class prior to the share class commencement of operations. Please refer to the current prospectus for further information.

FOR ILLUSTRATIVE PURPOSES ONLY

Disclosures

Funds may impose redemption fees and/or transfer restrictions if assets are held for less than the published holding period. For more information, see the fund's prospectus and/or disclosure documents.

Putnam funds are managed by Putnam Investment Management. Putnam mutual funds are distributed by Putnam Retail Management. Putnam is affiliated with GWL&A and GWL&A of NY and its subsidiaries.

The net expense ratio is the expense ratio after the application of any waivers or reimbursement. Please note the expenses take into consideration a voluntary or contractual waiver that expires as disclosed by the fund prospectus.

Morningstar rankings are based on total return and do not reflect of sales charges, which, if reflected, would reduce returns.

The date in a target date fund's name represents an approximate date when an investor is expected to retire (which is assumed to be at age 65) and/or begins withdrawing money. The principal value of the funds is not guaranteed at any time, including the target date. For more information, please refer to the fund prospectus and/or disclosure document. A target date fund will gradually shift its emphasis from more aggressive investments to more conservative ones based on its target date (which is the assumed retirement date for an investor).

Asset allocation and balanced investment options and models are subject to the risks of the underlying funds, which can be a mix of stocks/stock funds and bonds/bond funds. For more information, see the prospectus and/or disclosure documents.

The value of commodity-linked investments may be affected by financial factors, political developments and natural disasters. As such, investment options that invest primarily in commodities may experience greater volatility than investments in traditional securities.

Equity securities of small and mid-sized companies may be more volatile than securities of larger, more established companies.

Real estate securities and trusts involve greater risks than other non-diversified investments, including but not limited to: declining property values, varying economic conditions, changes in zoning laws, or losses from casualty. Real estate securities that invest in foreign real estate involve additional risk, including currency fluctuations and political developments.

Investment return and principal value of a variable investment will fluctuate so that an investor's shares when redeemed, may be worth more or less than the original cost.

There is no guarantee that companies that can issue dividends will declare, continue to pay, or increase dividends.

The JPMCB SmartRetirement Funds indirectly bear their proportionate share of the operating expenses of any underlying funds in which they may invest (excluding management fees and service fees).

The Trustee of the JPMCB SmartRetirement Funds agrees to reimburse the Fund for such fund operating expenses, and/or to waive a portion of the Trustee's management fee, to the extent that the fund's total annual operating expenses (excluding management fees, service fees, underlying fund fees attributable to dividend and interest expenses on short sales, interest, expenses related to litigation and potential litigation, and extraordinary expenses not incurred in the ordinary course of the Fund's business) exceeds 0.04% of the Fund's average daily new assets through the expense cap expiration date.

The price of equity securities may rise or fall because of changes in the broad market or changes in a company's financial condition, sometimes rapidly or unpredictably. These price movements may result from factors affecting individual companies, sectors or industries selected for the Fund's portfolio or the securities market as a whole, such as changes in economic or political conditions. Equity securities are subject to "stock market risk" meaning that stock prices in general (or in particular, the prices of the types of securities in which a fund invests) may decline over short or extended periods of time. When the value of a fund's securities goes down, an investment in a fund decreases in value.

Some of the data may have been obtained from Standard & Poor's ("S&P") © 2015 The McGraw-Hill Companies, Inc. S&P is a division of The McGraw-Hill Companies, Inc.

A benchmark index is not actively managed, does not have a defined investment objective, and does not incur fees or expenses. Therefore, performance of a fund will generally be less than its benchmark index. You cannot invest directly in a benchmark index.

Services offered by Advised Assets Group, LLC (AAG), a federally registered investment adviser. More information can be found at www.adviserinfo.sec.gov. All rights reserved.

Empower Retirement is not acting as an investment advisor for the plan. The information, analyses and fund alternatives described in this material are intended to provide assistance to the plan sponsor or other fiduciary responsible for plan investments and should not be relied upon as the sole basis for any investment decision. GWFS Equities, LLC and its affiliates may receive compensation with respect to proprietary investments and may receive compensation with respect to other plan investments. Other share classes may be available for the investment products described, and the plan sponsor is welcome to request more information on the options available.

**Unless otherwise noted: Not a Deposit | Not FDIC Insured | Not Bank Guaranteed | Funds May Lose
Value | Not Insured by Any Federal Government Agency**



EMPOWER

RETIREMENT™