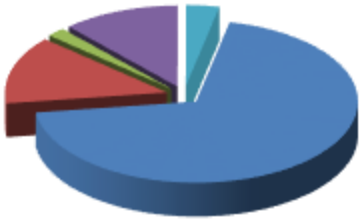
SST BENEFITS CONSULTING

COUNTY OF SAN BERNARDINO
EXECUTIVE SUMMARY
DEFINED CONTRIBUTION PLANS
3RD QUARTER 2018

	3RD QUARTER %	1 YEAR %	3 YEAR %	5 YEAR %
457(b) Plan Performance	4.46	13.67	14.62	11.09
Customized Benchmark	5.14	14.18	14.27	11.07
DIFFERENCE	-0.68	-0.50	0.34	0.01
401(k) Plan Performance	4.72	14.60	15.13	11.47
Customized Benchmark	5.47	14.39	15.03	11.76
DIFFERENCE	-0.75	0.21	0.10	-0.29
Retirement Medical Trust	3.45	9.24	11.57	9.74
Customized Benchmark	4.30	10.60	11.44	9.35
DIFFERENCE	-0.84	-1.36	0.13	0.38

PORTFOLIO COMPOSITION AND ANALYSIS

The total assets in the County of San Bernardino's defined contribution plans increased from $1.053 billion as of June 30, 2018 to $1.091 billion as of September 30, 2018, an increase of 3.6%. The 457(b) assets in the Ameritrade Self-Directed Brokerage Account (SDBA) increased slightly from $2.06 million to $2.13 million with participants remaining at 31. The 401(k) assets in the SDBA decreased from $504,286 to $474,222 with 6 participants.



457(b) Assets $758,069,743
401(k) Assets $148,097,859
401(a) Assets $20,062,833
RMT Assets $128,208,042
3121 Assets $36,292,234

SST BENEFITS CONSULTING

457(b) PLAN CASH POSITION:

The assets in the Stabilizer decreased slightly as a percentage of total assets from 25.1% to 24.1% of the portfolio. The interest crediting rate remains the same at 2.50%. The strategy is Intermediate Aggregate Plus which is designed to make the portfolio more responsive to short term fluctuations in the fixed income space. The market-to-book value decreased slightly from 97.60% to 97.26% at the end of the third quarter 2018.

401(k) PLAN CASH POSITION:

The assets in the Stabilizer decreased from 27.0% to 26.8%.

RETIREMENT MEDICAL TRUST CASH POSITION:

Interest bearing assets in the RMT remained stable with the percentage of assets in the fixed interest account at 56.8%.

457(b) PLAN MUTUAL FUNDS POSITION:

The mutual fund portfolio was positive for the one (1) year period with a gain of 13.67%. The portfolio underperformed the customized benchmark by -0.50%. There was continued strong performance from American Funds Growth Fund of America up 22.7% and Baron Growth up over 25.9% for the one (1) year period. All funds (with the exception of Dodge & Cox International and Oppenheimer International Bond) performed in positive territory for the one (1), three (3), five (5) and ten (10) year periods.

The Sharpe Ratio is a tool that helps determine if the risk the fund or portfolio is taking to achieve the performance is worthwhile. The Sharpe Ratio for the 457(b) increased from 0.96 to 1.55, still indicating that the returns have been worth the risk.

The Standard Deviation is a measurement of the volatility of the portfolio's short term return from the average long term return. The three (3) year Standard Deviation for the portfolio is 8.49, which is higher than the benchmark of 8.15.

The Alpha, a measurement of the value added by the investment manager is 0.24. Beta is a measure of the degree of change in value that can be expected given a change in value in the comparable index. The Beta is 1.01 over three (3) years. The top 25 stocks in the mutual fund portfolio represent 18.61% of the portfolio led by Amazon.com with 2.18% of assets followed by Microsoft Corp. with 1.77% of assets.

The dollar weighted net expense ratio remains very low at 0.25%.

SST BENEFITS CONSULTING

401(k) MUTUAL FUNDS POSITION:

The Sharpe Ratio for the 401(k) portfolio is 1.57. The three (3) year Standard Deviation for the portfolio is 8.70 which is slightly higher than the benchmark of 8.67. The Alpha is 0.47 and the Beta is 0.97.

The top 25 stocks in the mutual fund portfolio represent 19.70% of the portfolio led by Amazon.com with 2.36% of assets followed by Microsoft Corp. with 1.88% of assets.

The dollar weighted net expense ratio is very low at 0.26%.

RETIREMENT MEDICAL TRUST (RMT) MUTUAL FUNDS POSITION:

With the RMT heavily weighted to the Voya General Account, the gains or losses of any one fund has little effect on the total portfolio.

The Sharpe Ratio for the RMT portfolio is 1.50. The three (3) year Standard Deviation for the portfolio is 6.88, which is higher than the benchmark of 6.23. The Alpha is -0.52 and the Beta is 1.07.

The top 25 stocks in the mutual fund portfolio represent 12.76% of the portfolio led by Amazon.com with 1.36% of assets followed by Microsoft Corp. with 1.30% of assets.

The dollar weighted net expense ratio is extremely low at 0.14%.

The entire portfolio has been fee equalized with Voya receiving 0.12% in required revenue plus 0.06% in an Administrative Expense Reimbursement Allowance for the operation of the Plan by the County.

SST BENEFITS CONSULTING

PERFORMANCE OF INDEX FUNDS VS. ACTIVELY MANAGED FUNDS	3RD QTR %	1 YEAR %	3 YEAR %	5 YEAR %
LARGE CAP				
Vanguard Institutional Index	**7.71**	**17.89**	**17.30**	**13.94**
American Funds Growth Fund of America	5.05	22.70	19.41	14.91
MID CAP				
Vanguard Mid Cap Index	**4.68**	**13.45**	**13.79**	**11.68**
Baron Growth	7.94	25.86	17.93	11.90
SMALL CAP				
Vanguard Small Cap Index	**4.78**	**16.72**	**16.35**	**11.49**
Invesco Small Cap Value	-0.31	4.69	12.02	8.59
INTERNATIONAL				
Vanguard Total International Stock Index	**0.54**	**1.63**	**9.97**	**4.49**
American Funds Capital World Growth & Income	1.23	7.07	12.31	8.48
Dodge & Cox International Stock	0.81	-5.26	8.20	3.74

In the 3rd quarter, three (3) out five (5) actively managed funds outperformed their benchmark index.

SST BENEFITS CONSULTING

MUTUAL FUND NARRATIVE

LARGE GROWTH:

FUND # 1	AMERICAN FUNDS GROWTH FUND OF AMERICA	RGAGX

IMPLEMENTATION: MAR 2003 ASSETS: $ 109,964,723 BEST FIT INDEX: RUSSELL 1000 GROWTH M* ANALYST RATING: Bronze

	ACTUAL RETURN			PEER AVERAGE			DIFFERENCE		
	1 YR	3 YR	5 YR	1 YR	3 YR	5 YR	1 YR	3 YR	5 YR
RATES OF RETURN	22.70	19.41	14.91	23.18	17.68	14.02	-0.48	1.73	0.89

	M*	MGR TENURE	BETA	ALPHA	SHARPE	3 YR STD DEV	EXP RATIO
FUND STATISTICS	3	24.9	0.84	2.23	1.72	10.14	0.33%
PEER AVERAGES		7.9	1.03	0.03	1.49	10.87	1.10%

Active	Ticker/ ID	Style			Risk/Return			Peer Group		Qual.	Score			
		Style	Style Drift	R^2	Risk / Return	Up / Down	Info Ratio	Return Rank	Info Ratio Rank	(2pt. max)	30-Sep 2018	30-Jun 2018	31-Mar 2018	31-Dec 2017
	RGAGX	1	1	1	1	0	0	1	1	2	8	7	8	7
		67.5/ 80.6	10.6	89.8	10.1/ 14.9	92.1/ 97.5	-0.5	19	19		LCG	LCG	LCG	LCG

GFA is beating the S&P 500 over the three (3), five (5), ten (10) and fifteen (15) year periods but is trailing Russell 1000 Growth over all time periods except 15 years. Beating the large growth index has been tough for most growth fund managers and GFA has outperformed most large growth managers over every time period except the most recent one (1) year.

While the fund is heavy in Technology, it actually has an underweight (29% versus 36% for the index) versus the index. Consumer Cyclicals and Healthcare make up the next two (2) largest sectors. The portfolio still has over 6% in non-stock assets and a healthy allocation to international stocks (about 11%).

Recommendation: No action at this time.

SST BENEFITS CONSULTING

LARGE BLEND:

FUND # 2	VANGUARD INSTITUTIONAL INDEX	VIIIX

IMPLEMENTATION: MAY 2008 ASSETS: $ 111,080,698 BEST FIT INDEX: S&P 500 M* ANALYST RATING: Gold

	ACTUAL RETURN			PEER AVERAGE			DIFFERENCE		
	1 YR	3 YR	5 YR	1 YR	3 YR	5 YR	1 YR	3 YR	5 YR
RATES OF RETURN	17.89	17.30	13.94	17.91	17.31	13.95	-0.02	-0.01	-0.01

	M*	MGR TENURE	BETA	ALPHA	SHARPE	3 YR STD DEV	EXP RATIO
FUND STATISTICS	5	17.8	1.00	-0.01	1.69	9.18	0.02%
PEER AVERAGES		N/A	1.00	0.00	1.78	9.18	N/A

Passive	Ticker/ ID	Style				Peer Group				Qual.	Score			
		Style	Style Drift	R^2	Tracking Error	TE Rank	Expense Rank	Return Rank	SR Rank	(2pt. max)	30-Sep 2018	30-Jun 2018	31-Mar 2018	31-Dec 2017
	VIIIX	1	1	1	1	1	1	1	1	2	10	10	10	10
		1.7/ 99.4	2.7	99.7	0.5	40	3	4	3		LCB-P	LCB-P	LCB-P	LCB-P

This large cap blend index is performing as expected adjusted for expense and tracking error.

Recommendation: No action at this time.

SST BENEFITS CONSULTING

MID CAP GROWTH:

FUND # 3	BARON GROWTH		BGRIX
IMPLEMENTATION: MAR 2003	ASSETS: $ 32,348,122	BEST FIT INDEX: RUSSELL MID CAP GROWTH	M* ANALYST RATING: Bronze

	ACTUAL RETURN			PEER AVERAGE			DIFFERENCE		
	1 YR	3 YR	5 YR	1 YR	3 YR	5 YR	1 YR	3 YR	5 YR
RATES OF RETURN	25.86	17.93	11.90	20.31	15.81	11.68	5.55	2.12	0.22

	M*	MGR TENURE	BETA	ALPHA	SHARPE	3 YR STD DEV	EXP RATIO
FUND STATISTICS	3	23.8	0.93	1.87	1.49	10.94	1.04%
PEER AVERAGES		8.0	0.99	-0.95	1.31	11.15	1.20%

Active	Ticker/ ID	Style			Risk/Return			Peer Group		Qual.	Score			
		Style	Style Drift	R^2	Risk / Return	Up / Down	Info Ratio	Return Rank	Info Ratio Rank	(2pt. max)	30-Sep 2018	30-Jun 2018	31-Mar 2018	31-Dec 2017
	BGRIX	1	1	1	0	0	0	1	1	2	7	6	6	5
		77.9/ -18.9	17.2	82	11.3/ 11.9	96.8/ 103.7	-0.23	45	42		MCG	MCG	MCG	MCG

This fund holds a lot of stocks that are not small caps. The managers tend to hold onto their original stock picks even when they grow up to be larger companies, however, the performance of the fund, at least over the course of the last year is right in line with small cap growth funds and the Russell 2000 Growth (this doesn't always occur with this fund). You will find the returns nearly even with both the index and peer group over the past one (1), three (3), five (5) and 10 year periods.

This is encouraging from a style consistency perspective, but the fund is not a true small growth fund based on the holdings. This shouldn't disqualify it as an option in the lineup, but should be taken into account when making lineup decisions.

Baron's score has also been steadily improving. It is a company that has a long history of fundamental stock picking and has delivered on its promises over the long term. We do expect to see transition at this company over the next decade though.

Recommendation: Remove from Watch List due to improved peer group return rank.

SST BENEFITS CONSULTING

MID CAP BLEND:

FUND # 4	VANGUARD MID CAP INDEX			VMCIX
IMPLEMENTATION: MAY 2008	ASSETS: $ 58,025,267	BEST FIT INDEX: SPLICED MID CAP INDEX	M* ANALYST RATING:	Gold

	ACTUAL RETURN			PEER AVERAGE			DIFFERENCE		
	1 YR	3 YR	5 YR	1 YR	3 YR	5 YR	1 YR	3 YR	5 YR
RATES OF RETURN	13.45	13.79	11.68	13.44	13.81	11.71	0.01	-0.02	-0.03

	M*	MGR TENURE	BETA	ALPHA	SHARPE	3 YR STD DEV	EXP RATIO
FUND STATISTICS	4	20.4	0.99	-1.14	1.30	9.64	0.04%
PEER AVERAGES		N/A	1.00	N/A	1.19	N/A	N/A

Passive	Ticker/ ID	Style				Peer Group				Qual.	Score			
		Style	Style Drift	R^2	Tracking Error	TE Rank	Expense Rank	Return Rank	SR Rank	(2pt. max)	30-Sep 2018	30-Jun 2018	31-Mar 2018	31-Dec 2017
	VMCIX	1	0	1	1	1	1	1	1	2	9	9	9	9
		-3.5/ 12	12.9	98.3	1.2	12	3	65	37		MCB-P	MCB-P	MCB-P	MCB-P

This mid cap blend index is performing as expected adjusted for expense and tracking error.

Recommendation: No action at this time.

SST BENEFITS CONSULTING

SMALL BLEND:

FUND # 5	VANGUARD SMALL CAP INDEX			VSCIX
IMPLEMENTATION: MAY 2008	ASSETS: $ 41,678,664	BEST FIT INDEX: SPLICED SMALL CAP INDEX	M* ANALYST RATING:	Gold

	ACTUAL RETURN			PEER AVERAGE			DIFFERENCE		
	1 YR	3 YR	5 YR	1 YR	3 YR	5 YR	1 YR	3 YR	5 YR
RATES OF RETURN	16.72	16.35	11.49	16.68	16.31	11.46	0.04	0.04	0.03

	M*	MGR TENURE	BETA	ALPHA	SHARPE	3 YR STD DEV	EXP RATIO
FUND STATISTICS	4	2.5	0.91	1.53	1.32	11.34	0.04%
PEER AVERAGES		N/A	1.00	N/A	1.23	11.71	N/A

Passive	Ticker/ ID	Style				Peer Group				Qual.	Score			
		Style	Style Drift	R^2	Tracking Error	TE Rank	Expense Rank	Return Rank	SR Rank	(2pt. max)	30-Sep 2018	30-Jun 2018	31-Mar 2018	31-Dec 2017
	VSCIX	1	0	1	1	0	1	1	1	2	8	8	9	9
		1.3/ -59	9.1	96.1	3	85	4	57	5		SCB-P	SCB-P	SCB-P	SCB-P

This small cap blend index is performing as expected adjusted for expense and tracking error.

Recommendation: No action at this time.

SST BENEFITS CONSULTING

SMALL VALUE:

FUND # 6	INVESCO SMALL CAP VALUE			VSMIX
IMPLEMENTATION: MAY 2011	ASSETS: $ 8,292,755	BEST FIT INDEX: RUSSELL 2000 VALUE	M* ANALYST RATING:	Bronze

	ACTUAL RETURN			PEER AVERAGE			DIFFERENCE		
	1 YR	3 YR	5 YR	1 YR	3 YR	5 YR	1 YR	3 YR	5 YR
RATES OF RETURN	4.69	12.02	8.59	8.41	13.75	8.36	-3.72	-1.73	0.23

	M*	MGR TENURE	BETA	ALPHA	SHARPE	3 YR STD DEV	EXP RATIO
FUND STATISTICS	3	8.3	1.18	-3.35	0.69	17.34	0.87%
PEER AVERAGES		7.6	0.98	-2.37	0.95	13.76	1.26%

Active	Ticker/ ID	Style			Risk/Return			Peer Group		Qual.	Score			
		Style	Style Drift	R^2	Risk / Return	Up / Down	Info Ratio	Return Rank	Info Ratio Rank	(2pt. max)	30-Sep 2018	30-Jun 2018	31-Mar 2018	31-Dec 2017
	VSMIX	1	0	0	0	0	0	0	1	2	4	4	9	9
		-46.5/ -79.8	21.6	78.6	16.2/ 8.6	97.2/ 104.1	-0.18	77	49		SCV	SCV	SCV	SCV

This fund has always been volatile and is either at the top or bottom of the category rankings. In 2017 it was in the top 1%, in 2018 it is in the bottom 3%. In a year where most domestic stock funds are up, it is tough to imagine being negative, let alone double digits negative. While the lead manager retired, the system in place has not changed.

This is not the first time this sort of large divergence has happened, it has been the norm (the last time the fund was in the bottom quartile was 2015/2016). Historically, patience has been rewarded, but debating the merits of such a volatile fund within a plan lineup is certainly a discussion that should continue.

Some of the areas where the portfolio diverges from the index is with Real Estate (2% vs. 14%), Industrials (24% vs. 13%) and Healthcare (15% vs. 5%).

Recommendation: Remain on Watch List due to style, risk/return characteristics, peer group rank and one (1) and three (3) year investment performance versus peers.

SST BENEFITS CONSULTING

INTERNATIONAL STOCK:

FUND # 7	AMERICAN FUNDS CAPITAL WORLD GROWTH & INCOME		RWIGX
IMPLEMENTATION: MAY 2008	ASSETS: $ 50,356,439	BEST FIT INDEX: MSCI WORLD NR	M* ANALYST RATING: Gold

	ACTUAL RETURN			PEER AVERAGE			DIFFERENCE		
	1 YR	3 YR	5 YR	1 YR	3 YR	5 YR	1 YR	3 YR	5 YR
RATES OF RETURN	7.07	12.31	8.48	8.87	12.44	8.24	-1.80	-0.13	0.24

	M*	MGR TENURE	BETA	ALPHA	SHARPE	3 YR STD DEV	EXP RATIO
FUND STATISTICS	3	25.6	0.95	-0.33	1.23	9.04	0.45%
PEER AVERAGES		5.1	0.76	4.33	1.17	9.67	1.17%

Active	Ticker/ ID	Style			Risk/Return			Peer Group		Qual.	Score			
		Style	Style Drift	R^2	Risk / Return	Up / Down	Info Ratio	Return Rank	Info Ratio Rank	(2pt. max)	30-Sep 2018	30-Jun 2018	31-Mar 2018	31-Dec 2017
	RWIGX	1	0	1	1	0	0	1	1	2	7	9	10	9
		12.2/ 69.3	26.2	93.5	9.4/ 8.5	92.9/ 95.4	-0.33	35	39		GE	GE	GE	GE

For the first time in a very long time this fund is underperforming the index and peer group. Much of this can be attributed to the overweight to Emerging Markets and the underweight to U.S. stocks. While this combination didn't appear to hurt the fund much over the past few years, the more than 20% decline in Emerging Markets has taken its toll.

This fund still looks poised for reasonable long term growth as expected returns in emerging and foreign developed continue be higher than in the U.S. according to most valuation models. While a global portfolio has not looked good versus one invested purely in domestic stocks, the importance of diversifying across the globe cannot be understated.

Recommendation: No action at this time.

SST BENEFITS CONSULTING

FUND # 8	DODGE & COX INTERNATIONAL STOCK			DODFX
IMPLEMENTATION: MAY 2008	ASSETS: $ 12,097,110	BEST FIT INDEX: MSCI WORLD EX US NR	M* ANALYST RATING:	Gold

	ACTUAL RETURN			PEER AVERAGE			DIFFERENCE		
	1 YR	3 YR	5 YR	1 YR	3 YR	5 YR	1 YR	3 YR	5 YR
RATES OF RETURN	-5.26	8.20	3.74	1.55	8.71	4.05	-6.81	-0.51	-0.31

	M*	MGR TENURE	BETA	ALPHA	SHARPE	3 YR STD DEV	EXP RATIO
FUND STATISTICS	3	17.4	1.13	-1.87	0.57	13.96	0.63%
PEER AVERAGES		5.4	0.89	-0.24	0.78	10.35	1.03%

Active	Ticker/ ID	Style			Risk/Return			Peer Group		Qual.	Score			
		Style	Style Drift	R^2	Risk / Return	Up / Down	Info Ratio	Return Rank	Info Ratio Rank	(2pt. max)	30-Sep 2018	30-Jun 2018	31-Mar 2018	31-Dec 2017
	DODFX	0	1	1	0	0	0	0	0	2	4	4	7	7
		-93.5/ 88.7	5.7	86.7	13.4/ 3.7	107.2/ 112.6	-0.13	65	61		ILCB	ILCB	ILCB	ILCB

While this fund continued to struggle during the third quarter of 2018, looking beyond, the fourth quarter is showing signs of strength. The fund's score is still a 4, but the underperformance is largely due to Emerging Markets weakness. The team at International Stock has never been particularly concerned about the volatility of the fund and in the long term, patient investors have been rewarded for staying put through the difficult times.

The fund finished the one (1) year period in the bottom 1% of international funds, the last time it did so it went on to finish in the top 2% the following year. There is a price to pay for active management in addition to the higher fees, that price is tracking error. As we mentioned with Invesco Small Cap Value, continuing the discussion of volatility and tracking error within the lineup is always a wise course.

Recommendation: Remain on Watch List due to style, risk/return characteristics, peer group rank and one (1), three (3) and five (5) year investment performance vs. peers.

SST BENEFITS CONSULTING

FUND # 9	VANGUARD TOTAL INTERNATIONAL STOCK INDEX			VTSNX
IMPLEMENTATION: APRIL 2015	ASSETS: $ 20,872,917	BEST FIT INDEX: SPLICED INTERNATIONAL INDEX	M* ANALYST RATING:	Gold

	ACTUAL RETURN			PEER AVERAGE			DIFFERENCE		
	1 YR	3 YR	5 YR	1 YR	3 YR	5 YR	1 YR	3 YR	5 YR
RATES OF RETURN	1.63	9.97	4.49	1.99	10.20	4.58	-0.36	-0.23	-0.09

	M*	MGR TENURE	BETA	ALPHA	SHARPE	3 YR STD DEV	EXP RATIO
FUND STATISTICS	3	10.2	0.93	0.56	0.89	10.27	0.09%
PEER AVERAGES		N/A	0.94	N/A	0.87	10.78	N/A

Passive	Ticker/ ID	Style				Peer Group				Qual.	Score			
		Style	Style Drift	R^2	Tracking Error	TE Rank	Expense Rank	Return Rank	SR Rank	(2pt. max)	30-Sep 2018	30-Jun 2018	31-Mar 2018	31-Dec 2017
	VTSNX	1	1	1	1	1	1	1	1	2	10	10	10	10
		16.5/ 35.9	6.8	97.6	1.8	25	22	13	10		IE-P	IE-P	IE-P	IE-P

This international/global index is performing as expected adjusted for expense and tracking error.

Recommendation: No action at this time.

SST BENEFITS CONSULTING

BONDS:

FUND # 10	LOOMIS SAYLES INVESTMENT GRADE BOND		LSIIX
IMPLEMENTATION: MAY 2008	ASSETS: $ 22,864,256	BEST FIT INDEX: BARCLAYS US CREDIT TR USD	M* ANALYST RATING: Gold

	ACTUAL RETURN			PEER AVERAGE			DIFFERENCE		
	1 YR	3 YR	5 YR	1 YR	3 YR	5 YR	1 YR	3 YR	5 YR
RATES OF RETURN	0.43	4.26	2.85	0.59	4.05	3.15	-0.16	0.21	-0.30

	M*	MGR TENURE	BETA	ALPHA	SHARPE	3 YR STD DEV	EXP RATIO
FUND STATISTICS	5	21.8	1.19	-0.25	0.89	3.72	0.53%
PEER AVERAGES		5.8	0.56	2.87	1.03	3.18	1.03%

Active	Ticker/ ID	Style			Risk/Return			Peer Group		Qual.	Score			
		Style	Style Drift	R^2	Risk / Return	Up / Down	Info Ratio	Return Rank	Info Ratio Rank	(2pt. max)	30-Sep 2018	30-Jun 2018	31-Mar 2018	31-Dec 2017
	LSIIX	1	1	0	1	1	1	1	1	1	8	7	7	7
		-3.7/ 3.5	11.8	17.2	3.8/ 2.9	91.8/ 60.2	0.19	45	40	S	CFI	CFI	CFI	CFI

In a year of multiple interest rate increases, this fund is still managing to stay positive (through 9/30/2018 the fund is up 0.28%). Given that there are many different pressures that this fund deals with (non-dollar exposure and Emerging Markets) and the volatility that this year has brought to most markets, the fund is performing better than we would have expected.

Recommendation: No action at this time.

SST BENEFITS CONSULTING

FUND # 11	OPPENHEIMER INTERNATIONAL BOND	OIBIX

IMPLEMENTATION: MAY 2008 ASSETS: $ 4,078,377 BEST FIT INDEX: MSTAR GLOBAL EX US GOV BOND M* ANALYST RATING: N/A

	ACTUAL RETURN			PEER AVERAGE			DIFFERENCE		
	1 YR	3 YR	5 YR	1 YR	3 YR	5 YR	1 YR	3 YR	5 YR
RATES OF RETURN	-3.83	3.74	2.04	-1.23	2.53	1.05	-2.60	1.21	0.99

	M*	MGR TENURE	BETA	ALPHA	SHARPE	3 YR STD DEV	EXP RATIO
FUND STATISTICS	4	5.8	0.21	-0.10	0.47	6.27	0.61%
PEER AVERAGES		6.5	0.98	1.30	0.41	4.97	0.96%

Active	Ticker/ ID	Style			Risk/Return			Peer Group		Qual.	Score			
		Style	Style Drift	R^2	Risk / Return	Up / Down	Info Ratio	Return Rank	Info Ratio Rank	(2pt. max)	30-Sep 2018	30-Jun 2018	31-Mar 2018	31-Dec 2017
	OIBIX	0	0	0	1	1	1	1	1	0	5	5	8	8
		34.1/ -13.3	40.6	42.7	5.3/ 2	84.3/ 60.8	0.28	13	17	S	GFI	GFI	GFI	GFI

As we mentioned last quarter, it is no surprise to see this fund down given its stated objective of providing access to international bonds, most of which are not hedged. With the dollar strengthening and turmoil in Emerging Markets, this fund is down for the year.

The point of the fund was to provide non-dollar exposure, and to the extent that a participant is looking for such exposure, this fund should continue to be a reasonable option.

Recommendation: No action at this time.

SST BENEFITS CONSULTING

FUND # 12	PIONEER GLOBAL HIGH YIELD		GHYYX
IMPLEMENTATION: MAY 2008	ASSETS: $ 5,516,596	BEST FIT INDEX: BARCLAYS GLOBAL HY	M* ANALYST RATING: N/A

	ACTUAL RETURN			PEER AVERAGE			DIFFERENCE		
	1 YR	3 YR	5 YR	1 YR	3 YR	5 YR	1 YR	3 YR	5 YR
RATES OF RETURN	0.55	6.70	3.38	2.36	6.41	4.31	-1.81	0.29	-0.93

	M*	MGR TENURE	BETA	ALPHA	SHARPE	3 YR STD DEV	EXP RATIO
FUND STATISTICS	2	17.2	0.92	-0.84	1.15	4.92	0.91%
PEER AVERAGES		6.9	0.35	5.27	1.27	4.43	1.03%

Active	Ticker/ ID	Style			Risk/Return			Peer Group		Qual.	Score			
		Style	Style Drift	R^2	Risk / Return	Up / Down	Info Ratio	Return Rank	Info Ratio Rank	(2pt. max)	30-Sep 2018	30-Jun 2018	31-Mar 2018	31-Dec 2017
	GHYYX	1	1	1	0	0	0	0	0	2	5	5	5	5
		86.2/ -86.2	7.4	83.5	5.2/ 3.4	83.6/ 112.1	-1.01	81	63		HY	HY	HY	HY

This fund continues to perform reasonably well given the disparity between domestic and foreign high yield. Over one (1) year the performance is still positive despite returns of around -2% from developed and emerging high yield bonds. The three (3) year returns outperform some U.S. high yield bond indices.

As we have discussed in the past, this is a non-traditional bond offering and is made even more so by its globally diversified portfolio of high yield bonds. A discussion of the type of diversity within bond funds within the lineup has been in the works for most of 2018 and the committee should continue these discussions.

Recommendation: No action at this time.

SST BENEFITS CONSULTING

TARGET FUNDS:

FUND # 13	VANGUARD TARGET RETIREMENT INCOME			VITRX
IMPLEMENTATION: DEC 2009	ASSETS: $ 5,803,787	BEST FIT INDEX: MORNINGSTAR CONSERVATIVE INC	M* ANALYST RATING:	Gold

	ACTUAL RETURN			PEER AVERAGE			DIFFERENCE		
	1 YR	3 YR	5 YR	1 YR	3 YR	5 YR	1 YR	3 YR	5 YR
RATES OF RETURN	3.34	5.42	N/A	3.47	5.55	N/A	-0.13	-0.13	N/A

	M*	MGR TENURE	BETA	ALPHA	SHARPE	3 YR STD DEV	EXP RATIO
FUND STATISTICS	3	3.3	0.77	0.07	1.45	3.01	0.09%
PEER AVERAGES		N/A	0.99	N/A	1.56	3.05	0.42%

Target Date fund review summary follows fund #17.

FUND # 14	VANGUARD TARGET RETIREMENT 2020			VITWX
IMPLEMENTATION: DEC 2009	ASSETS: $ 25,076,727	BEST FIT INDEX: MORNINGSTAR MODERATE 2020	M* ANALYST RATING:	Gold

	ACTUAL RETURN			PEER AVERAGE			DIFFERENCE		
	1 YR	3 YR	5 YR	1 YR	3 YR	5 YR	1 YR	3 YR	5 YR
RATES OF RETURN	5.92	8.73	N/A	6.11	8.93	N/A	-0.19	-0.20	N/A

	M*	MGR TENURE	BETA	ALPHA	SHARPE	3 YR STD DEV	EXP RATIO
FUND STATISTICS	4	3.3	0.93	0.10	1.47	5.17	0.09%
PEER AVERAGES		N/A	0.97	N/A	1.53	5.30	0.42%

Target Date fund review summary follows fund #17.

SST BENEFITS CONSULTING

FUND # 15	VANGUARD TARGET RETIREMENT 2030			VTTWX
IMPLEMENTATION: DEC 2009	ASSETS: $ 35,065,446	BEST FIT INDEX: MORNINGSTAR MODERATE 2030	M* ANALYST RATING:	Gold

	ACTUAL RETURN			PEER AVERAGE			DIFFERENCE		
	1 YR	3 YR	5 YR	1 YR	3 YR	5 YR	1 YR	3 YR	5 YR
RATES OF RETURN	7.73	10.74	N/A	7.94	10.95	N/A	-0.21	-0.21	N/A

	M*	MGR TENURE	BETA	ALPHA	SHARPE	3 YR STD DEV	EXP RATIO
FUND STATISTICS	4	3.3	0.90	0.10	1.45	6.55	0.09%
PEER AVERAGES		N/A	0.98	N/A	1.52	6.70	0.43%

Target Date fund review summary follows fund #17.

FUND # 16	VANGUARD TARGET RETIREMENT 2040			VIRSX
IMPLEMENTATION: DEC 2009	ASSETS: $ 30,367,553	BEST FIT INDEX: MORNINGSTAR MODERATE 2040	M* ANALYST RATING:	Gold

	ACTUAL RETURN			PEER AVERAGE			DIFFERENCE		
	1 YR	3 YR	5 YR	1 YR	3 YR	5 YR	1 YR	3 YR	5 YR
RATES OF RETURN	9.39	12.58	N/A	9.66	12.84	N/A	-0.27	-0.26	N/A

	M*	MGR TENURE	BETA	ALPHA	SHARPE	3 YR STD DEV	EXP RATIO
FUND STATISTICS	4	3.3	0.91	-0.04	1.43	7.88	0.09%
PEER AVERAGES		N/A	0.97	N/A	1.49	8.08	0.43%

Target Date fund review summary follows fund #17.

SST BENEFITS CONSULTING

FUND # 17	VANGUARD TARGET RETIREMENT 2050			VTRLX
IMPLEMENTATION: DEC 2009	ASSETS: $ 18,882,517	BEST FIT INDEX: MORNINGSTAR MODERATE 2050	M* ANALYST RATING:	Gold

	ACTUAL RETURN			PEER AVERAGE			DIFFERENCE		
	1 YR	3 YR	5 YR	1 YR	3 YR	5 YR	1 YR	3 YR	5 YR
RATES OF RETURN	9.88	12.97	N/A	10.15	13.22	N/A	-0.27	-0.25	N/A

	M*	MGR TENURE	BETA	ALPHA	SHARPE	3 YR STD DEV	EXP RATIO
FUND STATISTICS	4	3.3	0.93	0.07	1.44	8.06	0.09%
PEER AVERAGES		N/A	0.97	N/A	1.50	8.26	0.43%

The underlying funds have not changed, nor has the glide path. Vanguard continues to be the low-cost leader in target date funds.

Recommendation: No action at this time.

SST BENEFITS CONSULTING

ASSET ALLOCATION:

FUND # 18	ASSET ALLOCATION FUNDS AGGRESSIVE		
IMPLEMENTATION: MAY 2008	ASSETS: $ 54,006,174	BEST FIT INDEX: MORNINGSTAR AGGRESSIVE	M* ANALYST RATING: N/A

	ACTUAL RETURN			PEER AVERAGE			DIFFERENCE		
	1 YR	3 YR	5 YR	1 YR	3 YR	5 YR	1 YR	3 YR	5 YR
RATES OF RETURN	7.31	11.23	7.91	8.41	11.30	8.25	-1.10	-0.07	-0.34

FUND # 19	ASSET ALLOCATION FUNDS MODERATE		
IMPLEMENTATION: MAY 2008	ASSETS: $ 78,832,562	BEST FIT INDEX: MORNINGSTAR MODERATE	M* ANALYST RATING: N/A

	ACTUAL RETURN			PEER AVERAGE			DIFFERENCE		
	1 YR	3 YR	5 YR	1 YR	3 YR	5 YR	1 YR	3 YR	5 YR
RATES OF RETURN	6.04	9.17	7.05	7.21	9.45	7.51	-1.17	-0.28	-0.46

FUND # 20	ASSET ALLOCATION FUNDS CONSERVATIVE		
IMPLEMENTATION: MAY 2008	ASSETS: $ 26,449,192	BEST FIT INDEX: MORNINGSTAR CONSERVATIVE	M* ANALYST RATING: N/A

	ACTUAL RETURN			PEER AVERAGE			DIFFERENCE		
	1 YR	3 YR	5 YR	1 YR	3 YR	5 YR	1 YR	3 YR	5 YR
RATES OF RETURN	4.84	6.44	4.95	2.69	5.29	4.63	2.15	1.15	0.32

The asset allocation models are performing as expected.

Recommendation: No action at this time.

SST BENEFITS CONSULTING

WATCH LIST

The Watch List contains funds that did not meet the criteria outlined in the County of San Bernardino's Investment Policy. Specifically, "A quarterly investment review report shall be evaluated by the DC Committee to ensure that fund performance complies with the objectives outlined in this Policy. Tools and metrics shall be included within the report to assist the committee in the evaluation process. These tools include, but are not limited to, the following:

a. Scorecard System for actively managed funds (see addendum)
b. One, three and five year performance and benchmarking
c. Glide path suitability for Target-Date (age based) funds

The foregoing investment monitoring criteria shall not, under any circumstances, be taken as definitive, conclusive, or controlling for removal, termination, or continuation of an investment option. All determinations should be made by the DC Committee, in accordance with Plan objectives, taking into consideration all relevant facts and circumstances."

The following Watch List is recommended for **3Q 2018:**

ACTION	FUND #	TICKER	FUND NAME	INVESTMENT POLICY	QUARTER ADDED
✔	3	**BGRIX**	BARON GROWTH	Remove from Watch List due to improved peer group return rank. The 3/5 Information Ratios have changed from -0.07 / -0.14 to 0.10 / -0.31.	1Q 2018
⚠	6	**VSMIX**	INVESCO SMALL CAP VALUE	Remain on Watch List due to style, risk/return characteristics, peer group rank and one (1) and three (3) year investment performance versus peers. The 3/5 Information Ratios have changed from -0.42 / -0.27 to -0.44 / -0.49.	2Q 2018
⚠	8	**DODFX**	DODGE & COX INTERNATIONAL STOCK	Remain on Watch List due to style, risk/return characteristics, peer group rank and one (1), three (3) and five (5) year investment performance vs. peers. The 3/5 Information Ratios have changed from -0.59 / -0.05 to -0.33 / -0.08.	2Q 2018

SST BENEFITS CONSULTING

COUNTY OF SAN BERNARDINO
INVESTMENT OPTIONS SPECTRUM

TARGET ALLOCATION	ASSET ALLOCATION	SPECIALTY	BONDS	BALANCED ALLOCATION	DOMESTIC EQUITY			INTERNATIONAL - GLOBAL EQUITY
					LARGE VALUE	LARGE BLEND	LARGE GROWTH	
Vanguard Ret Inc	Aggressive Allocation		Loomis Sayles Inv					AmFunds Cap World
Vanguard Ret 2020	Moderate Allocation		Oppenheimer Intl			Vanguard Institutional Idx	AmFunds Growth Fund	Dodge & Cox Intl
Vanguard Ret 2030	Conservative Allocation		Pioneer Global HY					Vanguard Total Intl
Vanguard Ret 2040								
Vanguard Ret 2050								
					MID CAP VALUE	MID CAP BLEND	MID CAP GROWTH	
						Vanguard Mid Cap Idx	Baron Growth	
					SMALL VALUE	SMALL BLEND	SMALL GROWTH	
					Invesco SmCap Value	Vanguard SmCap Index		

Funds to the left have potentially more inflation risk and less investment risk

Funds to the right have potentially less inflation risk and more investment risk

MUTUAL FUND FORWARD LOOKING RATING SCALE

As mutual fund investors, we have received quantitative and qualitative analysis that provides investors with a look back at how and why a mutual fund performed as it did. Morningstar® is a dominant player in mutual fund analytics. Their quantitative star rating for funds is a backward looking achievement test. The star system takes into account performance category peers after adjusting for risk and sales charges over three (3), five (5) and ten (10) year periods with the greatest weight on the ten (10) year achievement.

Morningstar® has developed a more qualitative approach to evaluating the potential for funds to outperform their benchmarks and peer groups. This is a forward looking approach that uses a methodology based on five qualitative and numeric factors or pillars.

The five pillars are:

1. **PROCESS**
2. **PERFORMANCE**
3. **PEOPLE**
4. **PARENT**
5. **PRICE**

Performance is viewed in the context of risk taken, with a focus on downside risk. The Morningstar® analysts consider that the fundamentals and risks of a fund's holdings are as important as past performance, perhaps more so.

Morningstar® assigns three medal ratings, Gold, Silver and Bronze, along with a Neutral and Negative rating. Morningstar® has only completed 500-600 mutual fund assessments with this new process. So many funds will have an "N/A" instead of one of the five ratings. We expect that nearly all funds will have a rating by the end of 2012.

The ratings should be interpreted as follows:

GOLD Gold

A Gold rating indicates an expectation that the fund will outperform its relative performance benchmark and peer group within the context of the level of risk taken over the long term, (usually five years or a full market cycle). To earn a Gold rating a fund must distinguish itself across the five pillars.

SILVER Silver

Funds in this category have notable advantages across most, but perhaps not all of the five pillars. Funds that have a high price may be the reason for the Silver rating.

BRONZE Bronze

Funds with a Bronze rating have advantages that outweigh any disadvantages across the five pillars. Like Silver, Bronze rated funds may be working their way up or down the scale.

NEUTRAL

These are funds where the Morningstar analysts do not have a strong positive or negative conviction. For example, a fund that combines an overly benchmark conscious strategy with competitive fees could receive this rating because the strategy lends itself to average performance.

NEGATIVE

These funds have at least one major flaw that is likely to hamper future performance. For example, a fund that combines an overly benchmark conscious strategy with high fees could receive this rating because its strategy lends itself to underperformance.

N/A

Morningstar® analysts have not completed their evaluation of this particular fund.

CONCLUSION

- One caution is that a fund with a Gold rating is not necessarily suitable for all investors.
- The People pillar is more critical in concentrated funds whose success is tied to stock picking.
- The expense is a critical factor in all funds, but particularly index funds.
- This rating system does not replace the Morningstar® star system but rather supplements it.
- Finally, there are skeptics of this rating system. We think it may take some time to evaluate the effectiveness of this forward rating system.