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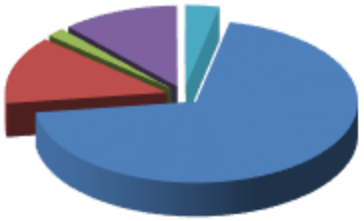
COUNTY OF SAN BERNARDINO
EXECUTIVE SUMMARY
DEFINED CONTRIBUTION PLANS
2ND QUARTER 2018

	2ND QUARTER %	1 YEAR %	3 YEAR %	5 YEAR %
457(b) Plan Performance	2.75	13.47	9.96	11.67
Customized Benchmark	3.48	12.89	9.78	11.26
DIFFERENCE	-0.72	0.57	0.17	0.41
401(k) Plan Performance	2.98	13.96	10.29	11.92
Customized Benchmark	3.49	12.63	10.14	11.82
DIFFERENCE	-0.51	1.33	0.14	0.10
Retirement Medical Trust	1.35	9.60	7.78	10.52
Customized Benchmark	2.28	9.46	8.17	9.38
DIFFERENCE	-0.93	0.14	-0.39	1.13

PORTFOLIO COMPOSITION AND ANALYSIS

The total assets in the County of San Bernardino's defined contribution plans increased from $1.033 billion as of March 31, 2018 to $1.053 billion as of June 30, 2018, an increase of 1.9%. The 457(b) assets in the Ameritrade Self-Directed Brokerage Account (SDBA) increased slightly from $2.02 million to $2.06 million with participants remaining at 31. The 401(k) assets in the SDBA increased from $490,000 to $504,000 with 6 participants.



457(b) Assets $731,952,390
401(k) Assets $142,833,027
401(a) Assets $18,859,100
RMT Assets $123,568,913
3121 Assets $35,781,312

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457(b) PLAN CASH POSITION:

The assets in the Stabilizer decreased slightly as a percentage of total assets from 25.5 to 25.1% of the portfolio. The decrease is largely a function of the marginal performance of the mutual fund portfolio in the quarter. 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 98.25% to 97.60% at the end of the second quarter 2018.

401(k) PLAN CASH POSITION:

The assets in the Stabilizer decreased from 27.4% to 27.0%.

RETIREMENT MEDICAL TRUST CASH POSITION:

Interest bearing assets in the RMT remained somewhat stable with the percentage of assets in the fixed interest account increasing from 57.8% in the Voya General account to 58.0%.

457(b) PLAN MUTUAL FUNDS POSITION:

The mutual fund portfolio was positive for the one (1) year period with a gain of 13.47%. The portfolio outperformed the customized benchmark by 0.57%. There was continued strong performance from American Funds Growth Fund of America up over 22% and Baron Growth up over 20% for the one (1) year period. All funds (with the exception of 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 0.87 to 0.96, 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 9.59, which is higher than the benchmark of 8.84.

The Alpha, a measurement of the value added by the investment manager is -0.30. 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 1.06 over three (3) years.

The top 25 stocks in the mutual fund portfolio represent 17.10% of the portfolio led by Amazon.com with 2.02% of assets followed by Microsoft Corp. with 1.52% of assets.

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

401(k) MUTUAL FUNDS POSITION:

The Sharpe Ratio for the 401(k) portfolio is 0.98. The three (3) year Standard Deviation for the portfolio is 9.77 which is slightly higher than the benchmark of 9.39. The Alpha is 0.01 and the Beta is 1.02.

The top 25 stocks in the mutual fund portfolio represent 17.90% of the portfolio led by Amazon.com with 2.18% of assets followed by Microsoft Corp. with 1.60% 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 0.90. The three (3) year Standard Deviation for the portfolio is 7.81, which is higher than the benchmark of 6.78. The Alpha is -1.21 and the Beta is 1.12.

The top 25 stocks in the mutual fund portfolio represent 12.17% of the portfolio led by Amazon.com with 1.23% of assets followed by Microsoft Corp. with 1.16% 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.

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PERFORMANCE OF INDEX FUNDS VS. ACTIVELY MANAGED FUNDS	2ND QTR %	1 YEAR %	3 YEAR %	5 YEAR %
LARGE CAP				
Vanguard Institutional Index	**3.43**	**14.36**	**11.92**	**13.41**
American Funds Growth Fund of America	5.97	22.76	14.81	15.83
MID CAP				
Vanguard Mid Cap Index	**2.57**	**12.10**	**9.22**	**12.31**
Baron Growth	8.01	20.37	11.54	12.55
SMALL CAP				
Vanguard Small Cap Index	**6.21**	**16.51**	**10.47**	**12.41**
Invesco Small Cap Value	1.40	11.62	6.65	10.47
INTERNATIONAL				
Vanguard Total International Stock Index	**-3.17**	**7.12**	**5.35**	**6.44**
American Funds Capital World Growth & Income	0.18	11.18	8.58	9.92
Dodge & Cox International Stock	-5.12	0.50	2.06	5.78

In the 2nd quarter, three (3) out five (5) actively managed funds outperformed their benchmark index.

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MUTUAL FUND NARRATIVE

LARGE GROWTH:

FUND # 1	AMERICAN FUNDS GROWTH FUND OF AMERICA	RGAGX

IMPLEMENTATION: MAR 2003 ASSETS: $ 105,116,242 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	22.76	14.81	15.83	20.58	12.21	14.37	2.18	2.60	1.46

	M*	MGR TENURE	BETA	ALPHA	SHARPE	3 YR STD DEV	EXP RATIO
FUND STATISTICS	4	24.7	0.97	0.57	1.22	11.26	0.33%
PEER AVERAGES		7.7	1.04	-0.08	0.98	11.80	1.11%

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-Jun 2018	31-Mar 2018	31-Dec 2017	30-Sep 2017
	RGAGX	1	1	1	0	0	0	1	1	2	7	8	7	10
		73.5/ 80.2	10.4	91.9	10.5/ 15.8	96.8/ 97.4	-0.17	19	20		LCG	LCG	LCG	LCG

GFA is beating both the peer and index year to date by a healthy margin, though its score dropped by one point to 7.

The fund is heavily invested in the FAANG stocks (Facebook, Apple, Amazon, Netflix and Google) with the exception of Apple and those holdings have buoyed the fund this year and account for nearly 20% of the portfolio. The notable absence of Apple hasn't affected returns this year as the other FAANG stocks have all outperformed. Apple makes up 7% of the Russell 1000 and the other FAANG stocks make up 16%.

While the percentage in stocks is still around 90%, the split among domestic and foreign stocks is now 75/15. Emerging markets makes up 5% of the equity portion, mainly due to investment in China. Foreign stocks have had a tough 2018 after a great 2017, though this hasn't affected performance versus the peer or index.

Morningstar reports that despite the fund having outflows in all months except one (1) over the past five (5) years, the fund is still 50% larger than it was at that point with assets now nearing $200 billion.

Recommendation: No action at this time.

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LARGE BLEND:

FUND # 2	VANGUARD INSTITUTIONAL INDEX	VIIIX

IMPLEMENTATION: MAY 2008 ASSETS: $ 103,678,666 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	14.36	11.92	13.41	14.37	11.93	13.42	-0.01	-0.01	-0.01

	M*	MGR TENURE	BETA	ALPHA	SHARPE	3 YR STD DEV	EXP RATIO
FUND STATISTICS	5	17.6	1.00	-0.01	1.09	10.16	0.02%
PEER AVERAGES		N/A	1.00	N/A	1.10	10.16	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-Jun 2018	31-Mar 2018	31-Dec 2017	30-Sep 2017
	VIIIX	1	1	1	1	1	1	1	1	2	10	10	10	10
		4.6/ 99	1.9	99.7	0.5	35	2	4	4		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.

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MID CAP GROWTH:

FUND # 3	BARON GROWTH			BGRIX
IMPLEMENTATION: MAR 2003	ASSETS: $ 27,299,019	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	20.37	11.54	12.55	18.06	9.68	12.31	2.31	1.86	0.24

	M*	MGR TENURE	BETA	ALPHA	SHARPE	3 YR STD DEV	EXP RATIO
FUND STATISTICS	3	23.6	0.92	1.59	0.95	11.45	1.04%
PEER AVERAGES		7.8	1.00	-1.90	0.78	11.96	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-Jun 2018	31-Mar 2018	31-Dec 2017	30-Sep 2017
	BGRIX	1	1	1	0	0	0	0	1	2	6	6	5	5
		66.8/ -16.2	18.1	82.5	11.3/ 12.6	95.4/ 98.1	-0.17	51	48		MCG	MCG	MCG	MCG

This fund continues to be an anomaly. It is no longer a small cap growth fund, but on a weighted-average market cap, not big enough to be a solid mid cap growth fund either. From a long-term return perspective, the returns have essentially mirrored the returns of both small and mid-cap peer and indexes over 10 and 15 years (only underperforming the small index by one basis point (0.01%) and the mid by 13 basis points (0.13%) with similar risk. So it appears over the long term, being a small or mid cap fund hasn't mattered much as long as it was playing in that space. Over shorter periods of time though the returns do differ.

Small cap growth outperformed mid cap growth by a wide margin year-to-date, yet this fund, which is predominantly mid growth, nearly beat the small cap growth peer and did outperform the Russell 2000 Growth index. This is not something one would expect given the allocation.

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Despite the continued strength of the fund, it still only scores a six (6) and for that reason, will remain on watch. If the lineup didn't have both a small and mid cap index option available we would be more concerned about the drift, but participants have all they need to build a diversified portfolio and can use this fund to compliment.

Baron Return Comparison

	YTD	1 Year	3 Year	5 Year	10 Year	15 Year
BGRIX	**10.68**	**20.37**	**11.54**	**12.55**	**10.71**	**10.94**
Russell 2000 Gr	9.70	21.86	10.60	13.65	11.24	10.95
Peer SG	11.05	22.70	11.04	12.76	10.85	10.60
Russell MC Gr	5.40	18.52	10.73	13.37	10.45	11.07
Peer MG	6.39	18.06	9.68	12.31	9.45	10.06

Recommendation: Remain on Watch List due to risk/return characteristics and peer group return rank.

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MID CAP BLEND:

FUND # 4	VANGUARD MID CAP INDEX			VMCIX
IMPLEMENTATION: MAY 2008	ASSETS: $ 57,203,602	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	12.10	9.22	12.31	12.12	9.25	12.35	-0.02	-0.03	-0.04

	M*	MGR TENURE	BETA	ALPHA	SHARPE	3 YR STD DEV	EXP RATIO
FUND STATISTICS	3	20.2	0.99	-0.90	0.82	10.51	0.04%
PEER AVERAGES		N/A	1.00	N/A	0.82	10.51	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-Jun 2018	31-Mar 2018	31-Dec 2017	30-Sep 2017
	VMCIX	1	0	1	1	1	1	1	1	2	9	9	9	8
		8.2/ 9.4	11.5	98.6	1.2	9	3	62	46		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.

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SMALL BLEND:

FUND # 5	VANGUARD SMALL CAP INDEX			VSCIX
IMPLEMENTATION: MAY 2008	ASSETS: $ 38,425,788	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	16.51	10.47	12.41	16.47	10.43	12.39	0.04	0.04	0.02

	M*	MGR TENURE	BETA	ALPHA	SHARPE	3 YR STD DEV	EXP RATIO
FUND STATISTICS	4	2.3	0.92	0.90	0.82	12.25	0.04%
PEER AVERAGES		N/A	1.00	N/A	0.80	12.24	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-Jun 2018	31-Mar 2018	31-Dec 2017	30-Sep 2017
	VSCIX	1	0	1	1	0	1	1	1	2	8	9	9	8
		-5.3/ -56.9	7.8	96.6	3	85	3	39	17		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.

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SMALL VALUE:

FUND # 6	INVESCO SMALL CAP VALUE			VSMIX
IMPLEMENTATION: MAY 2011	ASSETS: $ 8,341,146	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	11.62	6.65	10.47	12.44	9.13	9.87	-0.82	-2.48	0.60

	M*	MGR TENURE	BETA	ALPHA	SHARPE	3 YR STD DEV	EXP RATIO
FUND STATISTICS	3	8.1	1.19	-3.46	0.40	18.17	0.86%
PEER AVERAGES		7.5	0.96	-1.55	0.64	14.52	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-Jun 2018	31-Mar 2018	31-Dec 2017	30-Sep 2017
	VSMIX	1	1	0	0	0	0	0	0	2	4	9	9	7
		-36.9/ -81.5	19.3	79.7	16.7/ 10.5	99.3/ 103.2	-0.09	74	52		SCV	SCV	SCV	SCV

Last quarter we wrote "this fund finished 2017 in the top 1% of small value funds, it has a history of being at the very top or the very bottom of the category (it finished in the bottom 13% in 2016)." And true to form, in 2018 the fund is in the bottom 2%. The volatility of the fund is also showing up in its score, dropping from a 9 to a 4, which is not a normal occurrence.

In a year where small cap funds are doing well, the fund is negative year to date. Real estate, which did poorly in the first quarter (down 8%) was up 8% in the second quarter. The underperformance of real estate helped the fund in the first quarter as Small Cap Value has a significant underweight (2% versus 14%) to the index, however, this hurt in the second quarter.

Given the out of benchmark style of this fund, we would continue to expect it to swing wildly against the benchmarks. Lead manager Canon Coleman has officially retired.

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

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INTERNATIONAL STOCK:

FUND # 7	AMERICAN FUNDS CAPITAL WORLD GROWTH & INCOME		RWIGX
IMPLEMENTATION: MAY 2008	ASSETS: $ 47,841,386	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	11.18	8.58	9.92	10.28	7.91	9.21	0.90	0.67	0.71

	M*	MGR TENURE	BETA	ALPHA	SHARPE	3 YR STD DEV	EXP RATIO
FUND STATISTICS	3	25.3	0.96	0.67	0.78	10.31	0.45%
PEER AVERAGES		5.1	0.79	3.56	0.69	10.82	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-Jun 2018	31-Mar 2018	31-Dec 2017	30-Sep 2017
	RWIGX	1	1	1	1	1	0	1	1	2	9	10	9	10
		17.6/ 75.9	15	95.4	9.8/ 9.9	97.3/ 95.4	-0.01	36	39		GE	GE	GE	GE

The U.S. Stock portion is now 37% up from 33% last quarter, foreign developed is about 50% and emerging markets make up close to 10% (nearly 20% if you include South Korea and Taiwan).

Despite the foreign stocks underperforming, CWGI is outperforming the index and peer over all time periods.

Recommendation: No action at this time.

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FUND # 8	DODGE & COX INTERNATIONAL STOCK			DODFX
IMPLEMENTATION: MAY 2008	ASSETS: $ 13,527,344	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	0.50	2.06	5.78	6.08	4.56	5.92	-5.58	-2.50	-0.14

	M*	MGR TENURE	BETA	ALPHA	SHARPE	3 YR STD DEV	EXP RATIO
FUND STATISTICS	2	17.2	1.11	-1.54	0.16	14.99	0.63%
PEER AVERAGES		5.5	0.90	-0.05	0.39	11.50	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-Jun 2018	31-Mar 2018	31-Dec 2017	30-Sep 2017
	DODFX	0	1	1	0	0	0	0	0	2	4	7	7	7
		-92.5/ 87.5	9.4	88.3	13.8/ 5.8	106.0/ 111.8	-0.13	65	60		ILCB	ILCB	ILCB	ILCB

Dodge & Cox International Stock's struggles continue in the second quarter. The large allocation to financial services and specifically banking seems to be part of the issue. Five (5) stocks in the top 11 are down more than 1%; all of them are banking related. The technology stocks are also not performing well.

The RPAG score has also dropped significantly from a 7 to a 4, though the lost point for style doesn't really bother us.

As we have mentioned in many previous commentaries, this fund is volatile and spends much of its time at either the top of the heap or the bottom. Patient participants have been rewarded in the past.

The fund continues to have significant overweights to Financial Services, Technology and Healthcare; the converse is that many sectors are underweight. The biggest focus of Financial Services is Commercial Banks while the biggest focus of Healthcare is Pharmaceuticals.

Emerging markets continue to make up over 20% of assets focused mostly in Latin America and Asia.

Recommendation: Place 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.

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FUND # 9	VANGUARD TOTAL INTERNATIONAL STOCK INDEX			VTSNX
IMPLEMENTATION: APRIL 2015	ASSETS: $ 20,975,999	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	7.12	5.35	6.44	7.58	5.47	6.54	-0.46	-0.12	-0.10

	M*	MGR TENURE	BETA	ALPHA	SHARPE	3 YR STD DEV	EXP RATIO
FUND STATISTICS	3	9.9	0.93	0.53	0.45	11.43	0.09%
PEER AVERAGES		N/A	0.94	N/A	0.40	12.02	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-Jun 2018	31-Mar 2018	31-Dec 2017	30-Sep 2017
	VTSNX	1	1	1	1	1	1	1	1	2	10	10	10	9
		20.7/ 34.7	6.3	98	1.8	29	17	8	6		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.

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BONDS:

FUND # 10	LOOMIS SAYLES INVESTMENT GRADE BOND		LSIIX
IMPLEMENTATION: MAY 2008	ASSETS: $ 20,952,852	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	1.16	2.98	3.04	1.22	3.17	3.23	-0.06	-0.19	-0.19

	M*	MGR TENURE	BETA	ALPHA	SHARPE	3 YR STD DEV	EXP RATIO
FUND STATISTICS	5	21.6	1.20	-0.72	0.58	3.92	0.53%
PEER AVERAGES		5.5	0.53	1.90	0.80	3.28	1.01%

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-Jun 2018	31-Mar 2018	31-Dec 2017	30-Sep 2017
	LSIIX	1	1	0	1	1	1	0	1	1	7	7	7	5
		-3.2/ -0.5	15	20	4.0/ 3	101.7/ 74.5	0.21	72	45	S	CFI	CFI	CFI	CFI

High yield added to performance while non-dollar holdings detracted. Loomis believes the strength in the dollar is temporary and observes reasonable value in emerging markets. Conversely, they believe U.S. corporate bonds are slightly expensive.

Overall, this fund continues to be well managed and for those participants who understand the risks, serves as a reasonable choice for those looking to take risk in the bond market.

Recommendation: No action at this time.

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FUND # 11	OPPENHEIMER INTERNATIONAL BOND		OIBIX
IMPLEMENTATION: MAY 2008	ASSETS: $ 4,236,934	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	-0.59	3.50	2.41	0.64	2.25	1.48	-1.23	1.25	0.93

	M*	MGR TENURE	BETA	ALPHA	SHARPE	3 YR STD DEV	EXP RATIO
FUND STATISTICS	4	5.5	0.81	-0.09	0.49	5.81	0.61%
PEER AVERAGES		6.5	0.99	0.63	0.40	5.00	0.95%

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-Jun 2018	31-Mar 2018	31-Dec 2017	30-Sep 2017
	OIBIX	0	0	0	1	1	1	1	1	0	5	8	8	8
		19.4/ -1.9	42.6	54.3	5.1/ 2.4	98.5/ 83.2	0.22	18	18	S	GFI	GFI	GFI	GFI

This funds RPAG number dropped sharply from an 8 to a 5, mostly due losing points for style. We have discussed the style issues in the past.

After two years of blowing out the index, the fund has come back down to earth in 2018, losing a little over 4%. With a significant allocation to emerging markets, and weakness in those markets due to US tariffs and rising interest rates (leading to a stronger dollar), it is not a surprise to see a loss.

For participants looking to diversify with non-dollar exposure and active international bond management, this fund will suffice.

Recommendation: No action at this time.

SST BENEFITS CONSULTING

FUND # 12	PIONEER GLOBAL HIGH YIELD		GHYYX
IMPLEMENTATION: MAY 2008	ASSETS: $ 5,373,374	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	1.39	3.62	3.31	2.23	4.20	4.36	-0.84	-0.58	-1.05

	M*	MGR TENURE	BETA	ALPHA	SHARPE	3 YR STD DEV	EXP RATIO
FUND STATISTICS	2	16.9	0.96	-1.67	0.53	5.58	0.91%
PEER AVERAGES		6.8	0.27	3.24	0.76	4.92	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-Jun 2018	31-Mar 2018	31-Dec 2017	30-Sep 2017
	GHYYX	1	1	1	0	0	0	0	0	2	5	5	5	5
		87.5/ -87.5	7.6	85.1	5.3/ 3.3	84.6/ 114.1	-1.07	88	71		HY	HY	HY	HY

With international high yield down about 5% and domestic about 1%, it is no surprise to see this fund down about 2.5% year to date. The rising dollar hurt international high yield, but since this fund has domestic exposure as well, the pain was reduced. This fund likely won't see the highs or lows of either domestic or international high yield on their own, but having exposure to both should provide a good dose of diversification for the portion participants allocate to risky bonds.

This fund was discussed and taken off of the Watch List at the fourth quarter 2016 meeting.

Recommendation: No action at this time.

SST BENEFITS CONSULTING

TARGET FUNDS:

FUND # 13	VANGUARD TARGET RETIREMENT INCOME			VITRX
IMPLEMENTATION: DEC 2009	ASSETS: $ 5,585,365	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	4.00	4.19	N/A	4.20	4.33	N/A	-0.20	-0.14	N/A

	M*	MGR TENURE	BETA	ALPHA	SHARPE	3 YR STD DEV	EXP RATIO
FUND STATISTICS	4	3.1	0.79	0.12	1.01	3.39	0.09%
PEER AVERAGES		N/A	0.99	N/A	1.08	3.42	0.42%

Target Date fund review summary follows fund #17.

FUND # 14	VANGUARD TARGET RETIREMENT 2020			VITWX
IMPLEMENTATION: DEC 2009	ASSETS: $ 22,938,368	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	6.71	6.11	N/A	6.97	6.29	N/A	-0.26	-0.18	N/A

	M*	MGR TENURE	BETA	ALPHA	SHARPE	3 YR STD DEV	EXP RATIO
FUND STATISTICS	5	3.1	0.95	-0.04	0.91	5.93	0.09%
PEER AVERAGES		N/A	0.97	N/A	0.93	6.07	0.42%

Target Date fund review summary follows fund #17.

SST BENEFITS CONSULTING

FUND # 15	VANGUARD TARGET RETIREMENT 2030			VTTWX
IMPLEMENTATION: DEC 2009	ASSETS: $ 30,620,244	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	8.51	7.21	N/A	8.80	7.41	N/A	-0.29	-0.20	N/A

	M*	MGR TENURE	BETA	ALPHA	SHARPE	3 YR STD DEV	EXP RATIO
FUND STATISTICS	4	3.1	0.91	0.01	0.87	7.51	0.09%
PEER AVERAGES		N/A	0.98	N/A	0.89	7.65	0.43%

Target Date fund review summary follows fund #17.

FUND # 16	VANGUARD TARGET RETIREMENT 2040			VIRSX
IMPLEMENTATION: DEC 2009	ASSETS: $ 25,662,167	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	10.15	8.17	N/A	10.51	8.40	N/A	-0.36	-0.23	N/A

	M*	MGR TENURE	BETA	ALPHA	SHARPE	3 YR STD DEV	EXP RATIO
FUND STATISTICS	4	3.1	0.92	-0.14	0.84	9.01	0.09%
PEER AVERAGES		N/A	0.98	N/A	0.84	9.22	0.43%

Target Date fund review summary follows fund #17.

SST BENEFITS CONSULTING

FUND # 17	VANGUARD TARGET RETIREMENT 2050			VTRLX
IMPLEMENTATION: DEC 2009	ASSETS: $ 15,926,288	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	10.58	8.44	N/A	10.93	8.68	N/A	-0.35	-0.24	N/A

	M*	MGR TENURE	BETA	ALPHA	SHARPE	3 YR STD DEV	EXP RATIO
FUND STATISTICS	4	3.1	0.93	-0.02	0.85	9.19	0.09%
PEER AVERAGES		N/A	0.98	N/A	0.86	9.39	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. A recent study by Vanguard showed that roughly half of retirement savers invest their entire account in a single target date fund, up from essentially zero back in 2004. Vanguard estimates this number will reach 70% within five (5) years.

Recommendation: No action at this time.

SST BENEFITS CONSULTING

SPECIALTY:

FUND # 18	VOYA GLOBAL REAL ESTATE			IGLIX
IMPLEMENTATION: MAY 2008	ASSETS: $ 7,032,676	BEST FIT INDEX: S&P DEVELOPED PROPERTY	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	3.86	3.48	4.63	6.79	5.45	5.94	-2.93	-1.97	-1.31

	M*	MGR TENURE	BETA	ALPHA	SHARPE	3 YR STD DEV	EXP RATIO
FUND STATISTICS	3	16.7	0.96	-3.09	0.29	11.51	1.05%
PEER AVERAGES		6.7	0.79	-0.88	0.46	11.31	1.33%

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-Jun 2018	31-Mar 2018	31-Dec 2017	30-Sep 2017
	IGLIX	1	1	1	1	0	0	0	0	2	6	6	6	6
		-1.7/ 97.4	6.6	92	11.4/ 4.6	83.2/ 93.3	-0.65	84	91		GRE	GRE	GRE	GRE

This fund is being removed and not replaced.

Recommendation: Delete and map to the age appropriate target date fund (QDIA).

SST BENEFITS CONSULTING

ASSET ALLOCATION:

FUND # 19	ASSET ALLOCATION FUNDS AGGRESSIVE		
IMPLEMENTATION: MAY 2008	ASSETS: $ 52,979,220	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	7.66	7.10	8.70	9.03	7.50	8.87	-1.37	-0.40	-0.17

FUND # 20	ASSET ALLOCATION FUNDS MODERATE		
IMPLEMENTATION: MAY 2008	ASSETS: $ 76,497,193	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	6.24	6.23	7.64	7.36	6.66	7.87	-1.12	-0.43	-0.23

FUND # 21	ASSET ALLOCATION FUNDS CONSERVATIVE		
IMPLEMENTATION: MAY 2008	ASSETS: $ 25,816,859	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	5.22	4.73	5.30	3.35	4.06	4.93	1.87	0.67	0.37

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 2Q 2018:

ACTION	FUND #	TICKER	FUND NAME	INVESTMENT POLICY	QUARTER ADDED
⚠	3	**BGRIX**	BARON GROWTH	Remain on Watch List due to risk/return characteristics and peer group return rank. The 3/5 Information Ratios changed from -0.41 / -0.33 to -0.07 / -0.14.	1Q 2018
⚠	6	**VSMIX**	INVESCO SMALL CAP VALUE	Place on Watch List due to style, risk/return characteristics, peer group rank and one (1) and three (3) investment performance vs. peers. The 3/5 Information Ratios are -0.42 / -0.27.	2Q 2018
⚠	8	**DODFX**	DODGE & COX INTERNATIONAL STOCK	Place 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 are -0.59 / -0.05.	2Q 2018
⛔	18	**IGLIX**	VOYA GLOBAL REAL ESTATE	Delete and map to the age appropriate target date fund (QDIA).	4Q 2016

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	Voya Global Real Est	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.