

PLAN INVESTMENT REVIEW | PERFORMANCE SUMMARY
 THE UNIVERSITY OF NORTH CAROLINA
 FOR THE PERIOD ENDING 12.31.15

INVESTMENT NAME	PROVIDER	Q4 '15	1 YEAR*	3 YEAR*	5 YEAR*	10 YEAR*	Exp Ratio
MONEY MARKET							
Fidelity Retirement Money Market	Fidelity	0.01%	0.01%	0.01%	0.01%	1.34%	0.42
CREF Money Market R3	TIAA-CREF	0.00%	0.00%	0.00%	0.00%	1.20%	0.32
BofA Merrill Lynch 3-month U.S. T-Bill	Benchmark	0.03%	0.05%	0.05%	0.07%	1.24%	
STABLE VALUE							
Fidelity Managed Income Portfolio	Fidelity	0.30%	1.16%	1.03%	1.14%	2.08%	0.79
Principal Fixed Annuity**	Fidelity	-	-	-	-	-	-
TIAA Traditional Annuity - RA	TIAA-CREF	0.96%	3.91%	4.02%	4.06%	4.48%	
TIAA Traditional Annuity - GSRA	TIAA-CREF	0.80%	3.23%	3.35%	3.36%	3.76%	-
Hueler Stable Value Index (gross)	Peer Group	0.44%	1.77%	1.76%	2.05%	3.07%	
BofA Merrill Lynch 3-month U.S. T-Bill	Benchmark	0.03%	0.05%	0.05%	0.07%	1.24%	
SHORT TERM BOND							
Vanguard Short Term Bond Index Adm	Fidelity/TIAA-CREF	-0.64%	0.95%	0.81%	1.50%	3.22%	0.07
Morningstar Short Term Bond Universe	Peer Group	-0.41%	0.20%	0.54%	1.50%	2.88%	
Barclays Government/Credit 1-3 Yr	Benchmark	-0.36%	0.65%	0.69%	0.98%	2.74%	
INTERMEDIATE TERM BOND							
JPMorgan Core Bond R5	Fidelity	-0.75%	1.01%	1.56%	3.45%	5.00%	0.55
Vanguard Total Bond Market Index Inst	TIAA-CREF/Fidelity	-0.60%	0.41%	1.34%	3.15%	4.50%	0.06
MetWest Total Return Bond	TIAA-CREF/Fidelity	-0.44%	0.25%	2.25%	4.58%	6.23%	0.4
JPMorgan Core Bond R6	TIAA-CREF	-0.75%	1.01%	1.56%	3.45%	5.00%	0.36
Morningstar Intermediate Term Bond Universe	Peer Group	-0.60%	-0.25%	1.16%	3.25%	4.25%	
Barclays Aggregate Bond Index	Benchmark	-0.57%	0.55%	1.44%	3.25%	4.51%	
MODERATE ALLOCATION							
Fidelity Balanced K	Fidelity	4.37%	0.50%	10.25%	9.04%	6.55%	0.46
Morningstar Moderate Allocation Universe	Peer Group	2.59%	-1.92%	6.89%	6.53%	5.31%	
60% S&P 500 40% BC Agg	Benchmark	4.01%	1.28%	9.62%	8.95%	6.48%	
WORLD ALLOCATION							
CREF Social Choice Account R3	TIAA-CREF	3.00%	-0.87%	7.31%	6.90%	5.39%	0.33
Morningstar World Allocation Universe	Peer Group	1.53%	-4.13%	2.90%	3.54%	4.48%	
60% MSCI World 40% BC Agg Index	Benchmark	3.18%	0.26%	6.79%	6.41%	5.49%	
LARGE COMPANY VALUE							
JHancock Disciplined Value R5	TIAA-CREF/Fidelity	4.53%	-4.93%	12.82%	11.57%	7.53%	0.77
Morningstar Large Value Universe	Peer Group	4.74%	-4.03%	11.69%	9.84%	5.69%	
Russell 1000 Value	Benchmark	5.64%	-3.83%	13.08%	11.27%	6.16%	
LARGE COMPANY BLEND							
Vanguard Instl Index Fund	TIAA-CREF/Fidelity	7.05%	1.37%	15.10%	12.54%	7.31%	0.04
CREF Stock R3	TIAA-CREF	5.00%	-0.84%	10.49%	8.50%	5.78%	0.37
Morningstar Large Blend Universe	Peer Group	5.57%	-1.04%	13.22%	10.79%	6.49%	
S&P 500 Index	Benchmark	7.04%	1.38%	15.13%	12.57%	7.31%	

Shading highlights performance at or above median for peer group if available, otherwise at or above benchmark

**403(b) Plan only; the Principal Fixed Annuity is currently crediting 1.00% for 2015

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LARGE COMPANY GROWTH							
Vanguard FTSE Social Index Inv	Fidelity	6.36%	1.17%	17.02%	13.38%	6.31%	0.25
Fidelity Contrafund K	Fidelity	6.36%	6.60%	16.23%	12.81%	8.81%	0.54
T Rowe Price Instl Large Cap Growth	TIAA-CREF/Fidelity	8.81%	10.08%	20.01%	14.91%	9.34%	0.56
Morningstar Large Growth Universe	Peer Group	6.74%	3.66%	15.31%	11.72%	7.38%	
Russell 1000 Growth	Benchmark	7.32%	5.67%	16.83%	13.53%	8.53%	
MEDIUM COMPANY VALUE							
MFS Mid Cap Value R4	Fidelity	2.83%	-2.31%	13.71%	11.41%	7.30%	0.96
MFS Mid Cap Value R5	TIAA-CREF	2.86%	-2.14%	13.82%	11.35%	7.13%	0.84
Morningstar Mid Value Universe	Peer Group	2.68%	-5.42%	11.55%	9.17%	6.73%	
Russell MidCap Value	Benchmark	3.12%	-4.78%	13.40%	11.25%	7.61%	
MEDIUM COMPANY BLEND							
Vanguard Ext Mkt Idx Inst	TIAA-CREF/Fidelity	3.17%	-3.24%	12.94%	10.48%	7.83%	0.08
Morningstar Mid Blend Universe	Peer Group	2.38%	-4.68%	11.52%	9.12%	6.50%	
Russell MidCap	Benchmark	3.62%	-2.44%	14.18%	11.44%	8.00%	
MEDIUM COMPANY GROWTH							
MassMutual Select Mid Cap Gr Eq II	TIAA-CREF/Fidelity	4.67%	5.95%	17.74%	12.96%	9.42%	0.75
Morningstar Mid Growth Universe	Peer Group	3.31%	-0.92%	12.84%	9.60%	7.32%	
Russell MidCap Growth	Benchmark	4.12%	-0.20%	14.88%	11.54%	8.16%	
FOREIGN LARGE VALUE							
MFS International Value R4	Fidelity	5.45%	6.73%	11.43%	9.56%	7.27%	0.84
MFS International Value R5	TIAA-CREF	5.52%	6.85%	11.51%	9.61%	7.35%	0.69
Morningstar Foreign Large Value Universe	Peer Group	2.72%	-3.09%	3.03%	2.20%	2.02%	
MSCI EAFE	Benchmark	4.75%	-0.39%	5.46%	4.07%	3.50%	
FOREIGN LARGE BLEND							
Amer Funds EuroPac R6	TIAA-CREF	2.97%	-0.48%	5.45%	3.99%	4.84%	0.49
Amer Funds EuroPac R4	Fidelity	2.87%	-0.82%	5.08%	3.62%	4.58%	0.84
Vanguard Total Intl Stock Index Inst	TIAA-CREF/Fidelity	2.75%	-4.24%	1.86%	1.34%	2.87%	0.12
Morningstar Foreign Large Blend Universe	Peer Group	3.58%	-1.54%	3.76%	2.64%	2.82%	
MSCI EAFE	Benchmark	4.75%	-0.39%	5.46%	4.07%	3.50%	
FOREIGN SMALL/MID GROWTH							
Columbia Acorn International Y	TIAA-CREF/Fidelity	4.29%	-1.23%	5.02%	3.90%	6.71%	0.85
Morningstar Foreign Small/Mid Growth Universe	Peer Group	5.34%	7.07%	8.78%	6.33%	5.78%	
MSCI World ex USA Smid Cap USD	Benchmark	5.42%	3.52%	7.41%	4.54%	4.62%	
SMALL COMPANY VALUE							
Goldman Sachs Small Value Inst	TIAA-CREF/Fidelity	2.89%	-5.39%	12.11%	10.60%	8.14%	0.99
Morningstar Small Value Universe	Peer Group	2.02%	-6.66%	9.47%	7.71%	6.11%	
Russell 2000 Value	Benchmark	2.88%	-7.47%	9.06%	7.67%	5.57%	
SMALL COMPANY GROWTH							
Eagle Small Cap Growth R5	Fidelity	4.49%	-0.50%	12.18%	9.80%	8.95%	0.77
Eagle Small Cap Growth R6	TIAA-CREF	4.53%	-0.39%	12.32%	9.86%	8.79%	0.66
Morningstar Small Growth Universe	Peer Group	2.85%	-2.42%	12.19%	9.42%	7.29%	
Russell 2000 Growth	Benchmark	4.32%	-1.38%	14.28%	10.67%	7.95%	

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SPECIALTY-REAL ESTATE							
Cohen & Steers Realty Shares	Fidelity	7.84%	5.00%	12.11%	11.60%	7.80%	0.97
Cohen & Steers Instl Realty Shares	TIAA-CREF	7.86%	5.23%	12.33%	11.78%	8.01%	0.75
Morningstar Specialty-Real Estate Universe	Peer Group	6.61%	2.43%	10.24%	11.12%	6.60%	
Dow Jones US Select REIT	Benchmark	7.54%	4.48%	11.76%	12.32%	7.20%	
SPECIALTY-REAL ESTATE							
TIAA-CREF Real Estate Account	TIAA-CREF	1.63%	8.16%	10.00%	10.60%	4.22%	0.87
Morningstar Specialty-Real Estate Universe	Peer Group	6.61%	2.43%	10.24%	11.12%	6.60%	
NCREIF Property Index	Benchmark	2.91%	13.33%	12.04%	12.18%	7.75%	
TARGET DATE (TIAA-CREF/Fidelity)							
Vanguard Target Retirement Income Inv	TIAA-CREF/Fidelity	1.16%	-0.17%	3.71%	4.90%	4.99%	0.16
Retirement Income Moderate	Peer Group	1.14%	-1.42%	3.19%	4.13%	4.04%	
Morningstar Lifetime Moderate Income Index	Benchmark	0.83%	-1.30%	3.03%	4.38%	5.03%	
Vanguard Target Retirement 2010 Inv	TIAA-CREF/Fidelity	1.42%	-0.20%	4.87%	5.60%	-	0.16
2000-2010 Conservative	Peer Group	0.95%	-0.88%	2.36%	3.28%	3.46%	
Morningstar Lifetime Conservative 2010 Index	Benchmark	0.26%	-1.48%	2.27%	4.23%	5.18%	
Vanguard Target Retirement 2015 Inv	TIAA-CREF/Fidelity	2.14%	-0.46%	6.22%	6.31%	5.36%	0.16
2011-2015 Moderate	Peer Group	1.87%	-1.42%	4.96%	5.33%	4.27%	
Morningstar Lifetime Moderate 2015 Index	Benchmark	1.38%	-1.73%	4.65%	5.63%	5.72%	
Vanguard Target Retirement 2020 Inv	TIAA-CREF/Fidelity	2.71%	-0.68%	7.21%	6.85%	-	0.16
2016-2020 Moderate	Peer Group	2.45%	-1.42%	6.36%	6.18%	4.42%	
Morningstar Lifetime Moderate 2020 Index	Benchmark	1.73%	-1.88%	5.48%	6.09%	5.86%	
Vanguard Target Retirement 2025 Inv	TIAA-CREF/Fidelity	3.08%	-0.85%	7.87%	7.22%	5.55%	0.17
2021-2025 Moderate	Peer Group	2.84%	-1.41%	6.87%	6.71%	4.88%	
Morningstar Lifetime Moderate 2025 Index	Benchmark	2.23%	-2.06%	6.49%	6.59%	5.98%	
Vanguard Target Retirement 2030 Inv	TIAA-CREF/Fidelity	3.49%	-1.03%	8.52%	7.59%	-	0.17
2026-2030 Moderate	Peer Group	2.76%	-2.03%	5.82%	5.65%	4.25%	
Morningstar Lifetime Moderate 2030 Index	Benchmark	1.52%	-2.06%	5.25%	6.03%	5.96%	
Vanguard Target Retirement 2035 Inv	TIAA-CREF/Fidelity	3.93%	-1.26%	9.16%	7.92%	5.75%	0.18
2031-2035 Moderate	Peer Group	3.85%	-1.33%	8.22%	7.85%	5.61%	
Morningstar Lifetime Moderate 2035 Index	Benchmark	3.31%	-2.58%	7.95%	7.24%	6.17%	
Vanguard Target Retirement 2040 Inv	TIAA-CREF/Fidelity	4.26%	-1.59%	9.46%	8.11%	-	0.18
2036-2040 Moderate	Peer Group	4.04%	-1.42%	8.75%	7.50%	5.25%	
Morningstar Lifetime Moderate 2040 Index	Benchmark	3.59%	-2.83%	8.05%	7.24%	6.19%	
Vanguard Target Retirement 2045 Inv	TIAA-CREF/Fidelity	4.30%	-1.57%	9.47%	8.13%	5.93%	0.18
2041-2045 Moderate	Peer Group	3.87%	-2.04%	7.65%	7.11%	5.16%	
Morningstar Lifetime Moderate 2045 Index	Benchmark	3.66%	-3.03%	7.89%	7.09%	6.16%	
Vanguard Target Retirement 2050 Inv	TIAA-CREF/Fidelity	4.31%	-1.57%	9.47%	8.12%	-	0.18
Vanguard Target Retirement 2055 Inv	TIAA-CREF/Fidelity	4.28%	-1.72%	9.41%	8.15%	-	0.18
Vanguard Target Retirement 2060 Inv	TIAA-CREF/Fidelity	4.31%	-1.68%	9.42%	-	-	0.18
2050+ Moderate	Peer Group	4.06%	-1.86%	8.25%	7.18%	5.47%	
Morningstar Lifetime Moderate 2050 Index	Benchmark	3.64%	-3.19%	7.68%	6.92%	6.12%	

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