

PLAN INVESTMENT REVIEW | PERFORMANCE SUMMARY
 THE UNIVERSITY OF NORTH CAROLINA
 FOR THE PERIOD ENDING 12.31.19

INVESTMENT NAME	PROVIDER	Q4'19	1 YEAR*	3 YEAR*	5 YEAR*	10 YEAR*	Exp Ratio	
MONEY MARKET								
Fidelity Government Money Market	Fidelity	0.35%	1.84%	1.27%	0.77%	0.39%	0.42	
CREF Money Market R3	TIAA-CREF	0.40%	2.02%	1.32%	0.82%	0.41%	0.23	
Vanguard Federal Money Market	TIAA-CREF	0.43%	2.14%	1.58%	1.01%	0.51%	0.11	
BofA Merrill Lynch 3-month U.S. T-Bill	Benchmark	0.46%	2.28%	1.67%	1.07%	0.58%		
STABLE VALUE								
Fidelity Managed Income Portfolio	Fidelity	0.48%	1.92%	1.59%	1.44%	1.30%	0.77	
Lincoln Fixed Account*	Fidelity	0.52%	2.10%	2.03%	2.12%	2.36%	0.35	
TIAA Traditional Annuity - GRA	TIAA-CREF	Current Rate is 3.25%						
TIAA Traditional Annuity - GSRA	TIAA-CREF	Current Rate is 3.00%						
Hueler Stable Value Index (gross)	Peer Group	0.62%	2.52%	2.24%	2.06%	2.19%		
BofA Merrill Lynch 3-month U.S. T-Bill	Benchmark	0.46%	2.28%	1.67%	1.07%	0.58%		
SHORT TERM BOND								
Vanguard Short Term Bond Index I	Fidelity/TIAA-CREF	0.37%	4.88%	2.47%	1.97%	2.03%	0.05	
Short Term Bond Universe	Peer Group	0.57%	4.61%	2.37%	1.91%	2.14%		
Barclays Government/Credit 1-3 Yr	Benchmark	0.59%	4.03%	2.15%	1.67%	1.54%		
INTERMEDIATE TERM BOND								
JPMorgan Core Bond R5	Fidelity	-0.18%	8.50%	4.12%	3.11%	3.90%	0.45	
Vanguard Total Bond Mkt Index Inst	TIAA-CREF/Fidelity	0.03%	8.73%	4.03%	3.01%	3.70%	0.04	
JPMorgan Core Bond R6	TIAA-CREF	-0.16%	8.59%	4.21%	3.22%	3.99%	0.35	
Intermediate Core Bond Universe	Peer Group	0.09%	8.07%	3.57%	2.68%	3.55%		
Barclays Aggregate Bond Index	Benchmark	0.18%	8.72%	4.03%	3.05%	3.75%		
INTERMEDIATE CORE-PLUS BOND								
MetWest Total Return Bond	TIAA-CREF/Fidelity	0.28%	9.23%	4.27%	3.11%	4.96%	0.37	
Intermediate Core Plus Bond Universe	Peer Group	0.34%	8.99%	4.11%	3.14%	4.29%		
Barclays Aggregate Bond Index	Benchmark	0.18%	8.72%	4.03%	3.05%	3.75%		
ALLOCATION--50% TO 70% EQUITY								
Fidelity Balanced K	Fidelity	7.29%	24.48%	11.72%	8.46%	10.12%	0.46	
Allocation-50% to 70% Equity Universe	Peer Group	5.07%	19.23%	8.54%	6.23%	7.94%		
60% S&P 500 40% BC Agg	Benchmark	5.46%	22.18%	10.87%	8.37%	9.77%		
WORLD ALLOCATION								
CREF Social Choice Account R3	TIAA-CREF	5.14%	20.80%	9.73%	7.06%	8.29%	0.24	
World Allocation Universe	Peer Group	5.00%	16.80%	7.22%	4.63%	6.28%		
60% MSCI World 40% BC Agg Index	Benchmark	5.22%	20.42%	9.64%	6.99%	7.75%		
ALLOCATION--85%+ EQUITY								
CREF Stock R3	TIAA-CREF	8.90%	27.45%	12.44%	9.00%	10.44%	0.30	
Allocation--85%+ Equity Universe	Peer Group	7.73%	24.89%	10.59%	7.45%	9.56%		
85% S&P 500, 15% BBgBarc Agg	Benchmark	8.61%	30.19%	14.62%	11.18%	12.80%		
LARGE COMPANY VALUE								
JHancock Disciplined Value R6	TIAA-CREF	7.40%	22.79%	9.88%	7.57%	11.48%	0.71	
JHancock Disciplined Value R5	Fidelity	7.35%	22.73%	9.82%	7.50%	11.43%	0.11	
Large Value Universe	Peer Group	7.26%	25.00%	9.76%	7.82%	10.82%		
Russell 1000 Value	Benchmark	7.41%	26.54%	9.68%	8.29%	11.80%		
LARGE COMPANY BLEND								
Vanguard Instl Index PI Fund	TIAA-CREF/Fidelity	9.07%	31.48%	15.26%	11.69%	13.55%	0.02	
Large Blend Universe	Peer Group	8.28%	28.82%	13.13%	9.79%	11.98%		
S&P 500 Index	Benchmark	9.07%	31.49%	15.27%	11.70%	13.56%		
LARGE COMPANY GROWTH								
Vanguard FTSE Social Index I	Fidelity	10.59%	33.96%	17.14%	12.42%	14.38%	0.12	
Fidelity Contrafund K	Fidelity	10.29%	30.17%	19.04%	13.22%	14.08%	0.65	
T Rowe Price Instl Large Cap Gr	TIAA-CREF/Fidelity	10.00%	28.49%	22.70%	15.90%	16.04%	0.56	
Large Growth Universe	Peer Group	9.52%	32.23%	18.35%	12.22%	13.41%		
Russell 1000 Growth	Benchmark	10.62%	36.39%	20.49%	14.63%	15.22%		
MEDIUM COMPANY VALUE								
MFS Mid Cap Value R4	Fidelity	7.05%	30.90%	9.63%	8.29%	12.79%	0.86	
MFS Mid Cap Value R6	TIAA-CREF	7.08%	31.08%	9.79%	8.45%	12.80%	0.69	
Mid Value Universe	Peer Group	6.96%	26.04%	7.28%	6.88%	10.87%		
Russell MidCap Value	Benchmark	6.36%	27.06%	8.10%	7.62%	12.41%		

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*403(b) Plan only

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MEDIUM COMPANY BLEND							
Vanguard Ext Mkt Idx Instl Plus	TIAA-CREF/Fidelity	8.90%	28.07%	11.10%	9.05%	12.83%	0.05
Mid Blend Universe	Peer Group	7.26%	26.99%	8.97%	6.83%	10.87%	
Russell MidCap	Benchmark	7.06%	30.54%	12.06%	9.33%	13.19%	
MEDIUM COMPANY GROWTH							
MassMutual Sel Mid Cap Gr Eq II	TIAA-CREF/Fidelity	7.01%	32.22%	16.89%	12.44%	14.85%	0.71
Mid Growth Universe	Peer Group	7.95%	33.77%	16.51%	10.88%	13.04%	
Russell MidCap Growth	Benchmark	8.17%	35.47%	17.36%	11.60%	14.24%	
FOREIGN LARGE BLEND							
Amer Funds EuroPac R6	TIAA-CREF	10.09%	27.40%	12.45%	7.41%	6.73%	0.49
Amer Funds EuroPac R4	Fidelity	10.01%	26.98%	12.06%	7.04%	6.36%	0.83
Vanguard Total Intl Stock Index Inst	TIAA-CREF/Fidelity	9.05%	21.56%	9.90%	5.88%	5.13%	0.08
MFS International Intrinsic Value R4	Fidelity	7.47%	25.89%	13.36%	10.13%	10.12%	0.76
MFS International Intrinsic Value R6	TIAA-CREF	7.48%	25.99%	13.46%	10.24%	10.18%	0.63
Foreign Large Blend Universe	Peer Group	8.75%	22.28%	8.99%	5.21%	5.20%	
MSCI EAFE	Benchmark	8.21%	22.66%	10.11%	6.18%	6.00%	
FOREIGN SMALL/MID GROWTH							
T Rowe Price International Discovery	Fidelity	11.00%	24.60%	12.65%	9.66%	9.86%	1.19
T Rowe Price International Discovery I	TIAA-CREF	11.05%	24.78%	12.80%	9.78%	9.92%	1.07
Foreign Small/Mid Growth Universe	Peer Group	11.31%	27.01%	12.74%	8.52%	9.08%	
MSCI World ex USA Smid Cap USD	Benchmark	10.33%	25.39%	10.54%	7.77%	7.73%	
SMALL COMPANY VALUE							
Goldman Sachs Small Value Inst	Fidelity	7.05%	23.14%	5.95%	7.00%	11.98%	0.95
Goldman Sachs Small Value R6	TIAA-CREF	7.09%	23.19%	5.97%	6.97%	11.75%	0.96
Small Value Universe	Peer Group	7.88%	22.17%	4.02%	5.76%	9.95%	
Russell 2000 Value	Benchmark	8.49%	22.39%	4.77%	6.99%	10.56%	
SMALL COMPANY GROWTH							
Eagle Small Cap Growth R5	Fidelity	11.36%	25.75%	11.68%	8.86%	12.78%	0.77
Eagle Small Cap Growth R6	TIAA-CREF	11.39%	25.90%	11.80%	8.98%	12.81%	0.65
Small Growth Universe	Peer Group	9.49%	28.65%	14.26%	10.04%	12.89%	
Russell 2000 Growth	Benchmark	11.39%	28.48%	12.49%	9.34%	13.01%	
SPECIALTY-REAL ESTATE							
Cohen & Steers Realty Shares	Fidelity	0.23%	32.90%	10.89%	8.62%	12.23%	0.97
Cohen & Steers Instl Realty Shares	TIAA-CREF	0.37%	33.01%	11.12%	8.87%	12.47%	0.76
Specialty-Real Estate Universe	Peer Group	0.46%	27.76%	8.37%	6.75%	11.29%	
Dow Jones US Select REIT	Benchmark	-1.23%	23.10%	6.95%	6.40%	11.57%	
SPECIALTY-REAL ESTATE							
TIAA Real Estate Account	TIAA-CREF	1.19%	5.51%	4.89%	5.60%	8.58%	0.83
Specialty-Real Estate Universe	Peer Group	0.46%	27.76%	8.37%	6.75%	11.29%	
NCREIF Property Index	Benchmark	1.55%	6.42%	6.70%	8.25%	10.17%	
TARGET DATE							
Vanguard Target Retire Inc Tr Plus	TIAA-CREF/Fidelity	2.65%	13.31%	6.45%	4.88%	-	0.06
Retirement Income Moderate	Peer Group	2.71%	13.33%	6.06%	4.30%	5.21%	
Morningstar Lifetime Moderate Income Index	Benchmark	3.23%	13.27%	6.34%	4.70%	5.68%	
Vanguard Target Retire 2015 Tr Plus	TIAA-CREF/Fidelity	3.25%	14.94%	7.57%	5.68%	-	0.06
2015 Moderate	Peer Group	3.64%	15.19%	7.04%	5.13%	6.57%	
Morningstar Lifetime Moderate 2015 Index	Benchmark	3.57%	16.29%	7.71%	5.63%	7.11%	
Vanguard Target Retire 2020 Tr Plus	TIAA-CREF/Fidelity	4.48%	17.73%	8.81%	6.52%	-	0.06
2020 Moderate	Peer Group	4.18%	16.57%	7.87%	5.60%	7.27%	
Morningstar Lifetime Moderate 2020 Index	Benchmark	3.93%	17.73%	8.37%	6.10%	7.70%	
Vanguard Target Retire 2025 Tr Plus	TIAA-CREF/Fidelity	5.29%	19.78%	9.69%	7.11%	-	0.06
2025 Moderate	Peer Group	4.90%	18.34%	8.77%	6.26%	7.98%	
Morningstar Lifetime Conservative 2025 Index	Benchmark	4.50%	19.36%	9.14%	6.66%	8.36%	
Vanguard Target Retire 2030 Tr Plus	TIAA-CREF/Fidelity	6.00%	21.21%	10.34%	7.52%	-	0.06
2030 Moderate	Peer Group	5.79%	20.55%	9.77%	6.97%	8.60%	
Morningstar Lifetime Conservative 2030 Index	Benchmark	5.32%	21.24%	10.01%	7.28%	9.01%	

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Vanguard Target Retire 2035 Tr Plus	TIAA-CREF/Fidelity	6.71%	22.61%	10.97%	7.93%	-	0.06
2035 Moderate	Peer Group	6.74%	22.37%	10.53%	7.48%	9.05%	
Morningstar Lifetime Conservative 2035 Index	Benchmark	6.29%	23.04%	10.76%	7.82%	9.47%	
Vanguard Target Retire 2040 Tr Plus	TIAA-CREF/Fidelity	7.42%	23.99%	11.59%	8.30%	-	0.06
2040 Moderate	Peer Group	7.19%	23.69%	11.05%	7.77%	9.33%	
Morningstar Lifetime Moderate 2040 Index	Benchmark	7.10%	24.35%	11.24%	8.15%	9.68%	
Vanguard Target Retire 2045 Tr Plus	TIAA-CREF/Fidelity	8.04%	25.09%	11.89%	8.51%	-	0.06
2045 Moderate	Peer Group	7.64%	24.40%	11.18%	7.84%	9.26%	
Morningstar Lifetime Moderate 2045 Index	Benchmark	7.57%	24.97%	11.42%	8.26%	9.69%	
Vanguard Target Retire 2050 Tr Plus	TIAA-CREF/Fidelity	8.03%	25.08%	11.90%	8.50%	-	0.06
2050 Moderate	Peer Group	7.62%	24.67%	11.37%	7.95%	9.43%	
Morningstar Lifetime Moderate 2050 Index	Benchmark	7.73%	25.09%	11.43%	8.24%	9.61%	
Vanguard Target Retire 2055 Tr Plus	TIAA-CREF/Fidelity	8.04%	25.09%	11.90%	8.48%	-	0.06
2055 Moderate	Peer Group	7.76%	24.48%	11.02%	7.85%	9.57%	
Morningstar Lifetime Moderate 2055 Index	Benchmark	7.78%	25.05%	11.41%	8.19%	9.50%	
Vanguard Target Retire 2060 Tr Plus	TIAA-CREF/Fidelity	8.05%	25.10%	11.91%	8.48%	-	0.06
Vanguard Target Retire 2065 Tr Plus	TIAA-CREF/Fidelity	8.07%	25.16%	-	-	-	
2060+ Moderate	Peer Group	7.87%	25.06%	11.33%	8.34%	-	
Morningstar Lifetime Moderate 2060 Index	Benchmark	7.81%	24.96%	11.37%	8.13%	-	

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