BenchmarkDC Presentation

for North Carolina Retirement Systems (for the year ending December 31, 2012)



August 30, 2013

Benefits of the Report

This report compares:

- The effectiveness of the services being provided to the plan and participants
- The cost-effectiveness of the plan and its investment alternatives
- The investment value-add
- The fiduciary processes needed for continual plan improvement

The report also serves as a decision-support tool for:

- The negotiation of services and expenses
- Expanded education efforts and communication strategies
- The retention, addition or replacement of plan vendors
- The enhancement of plan features, supported by research on trends, education and plan design of other leading plan sponsors

Note: page references throughout this presentation refer to the full BenchmarkDC report.

Peer and Universe Characteristics 2012

Characteristic	Your Plan	Peers	U.S. Universe
# of plan sponsors	1	13	167
Plan assets			
- Smallest to largest	\$7.0 BN	\$1.6 BN - \$14.1 BN	\$40 mil - \$40.8 BN
- Median	\$7.0 BN	\$5.3 BN	\$3.0 BN
Account balance of average participant			
- Median	\$26,000	\$48,000	\$99,000
# of plan participants	272,206	123,573	48,653
% of plan assets in employer stock	0%	0%	11%
% of indexable assets indexed	40%	49%	48%
# of investment options	12	16	16
Corporate, Public	Public	0 Corp, 13 Public	140 Corp, 27 Public

* Peer and universe figures are averages if not specified otherwise.

Peer Group

Your peer group is comprised of 13 DC plans, with assets ranging from \$1.6 billion to \$14.1 billion versus your \$7.0 billion. Your peer group is used to benchmark your costs.

Peers

City of Los Angeles City of New York Def. Comp. Plan County of Los Angeles (457) Florida State Board of Administration Maryland Supplemental Retirement Plans Michigan Office of Retirement Services Minnesota State RS New York State North Carolina RSs Ohio Public Employees Def. Comp. Pennsylvania State ERS State of Tennessee Virginia RS

Overall Plan Success

The table below summarizes the average return, net value added and cost performance of participants in your plan. As fiduciaries, you should particularly seek to understand outlier performance. Outliers are defined as (i) costs in the highest 10% of the universe, (ii) returns and net value added in the bottom 10% of the universe. Outliers, if any, are shown in red on the '% Rank' graphs in the table below. Blue is used for the ranking of non-outliers.

	Your	Peer	Univ.	Rank vs. Peers
Performance Measure	Plan	Median	Median	%ile Low Avg High
Cost Excess/-Savings vs. Benchmark ¹	0.04%	0.02%	-0.02%	42%
5-yr Total Return (participant avg) ²	n/a	2.43%	2.33%	n/a
5-yr Net Value Added (participant avg) ³	n/a	0.07%	-0.02%	n/a
2012 Total Return (participant avg) ²	11.89%	10.76%	11.62%	92%
2012 Net Value Added (participant avg) ³	1.46%	0.82%	0.51%	100%

1. Benchmark cost analysis is on page 26.

2. Total return is on page 23.

3. Net value added is on page 22. Employer stock's value added impact was neutralized by setting its benchmark return equal to its actual total return.

Average Total Return of Plan Participants



1. Annual history is available in Appendix B.

2. Returns excluding the impact of employer stock are shown on page 21.

Why was your 2012 total return above average?

Asset class performance



Why was your 2012 total return above average?

Asset mix differences

Asset Category	2012	avg Asse	et Mix ¹	2012 Returns
(Ranked by Univ. Returns)	Your	Peer	Univ.	Your Peer Univ.
Stock Non U.S. & Global	12%	7%	7%	18.3% 19.4% 19.4%
Employer Stock	0%	0%	12%	n/a n/a 17.7%
Stock U.S.	42%	34%	30%	18.5% 17.1% 16.8%
Priv Eq, REIT, Other	0%	1%	1%	n/a 12.7% 13.7%
Target & Balanced	0%	14%	19%	n/a 13.2% 13.3%
Bonds	11%	7%	9%	6.9% 7.4% 7.1%
Stable Value	34%	35%	19%	3.1% 2.9% 2.6%
Cash, Money Market	0%	3%	4%	n/a 0.3% 0.5%
Total	100%	100%	100%	11.9% 10.6% 11.8%

1. Asset mix shown is beginning of year (b.o.y.) holdings because annual returns are earned on b.o.y holdings. Thus b.o.y holdings are the most relevant for understanding why your total returns differ from peers and universe plans. Options discontinued during the year, loans and self-directed windows are excluded from b.o.y holdings because return data was unavailable for these options.

Why was your 2012 total return above average?

Summary

Reason	+Increased/ -Decreased Your Return
Asset mix. On average, your participants were in more of the poorer performing asset categories of 2012 and fewer of the better performing asset categories	-1.0%
Better asset category returns on average. Asset category returns reflect investment option performance and the mix of investment option styles in the category.	0.7%
Other. Caused by using the universe averages to explain instead of the less intuitive average of you versus each plan	0.3%
Total (equals your participants' return minus the universe average)	0.1%

Total Plan Net Value Added

Your plan's total net value added from all investment options was 1.46% in 2012 and 1.46% for the 1-year period ending 2012.



1. Employer stock's value added impact was neutralized by setting its benchmark return equal to its actual total return.

	2012	5 year
U.S. Universe		
90th %ile	1.5%	0.7%
75th %ile	0.9%	0.3%
Median	0.5%	0.0%
25th %ile	0.1%	-0.2%
10th %ile	-0.1%	-0.5%
Count	167	98
—Average	0.6%	0.0%
—Peer Average	0.7%	0.1%
North Carolina Retire	ement Syste	ms
Your plan	1.5%	#N/A

Total plan net value added shows how your plan's investment options performed on an overall basis. Positive net value added indicates that, on average, your plan's investment options are outperforming their benchmark indices after fees, whereas negative net value added indicates that they are underperforming.

Total Plan Cost





Trend analysis is based on 98 universe funds and 6 peers with 5 consecutive years of data.

Are your total plan costs reasonable?

CEM calculates a benchmark cost for your plan based on the median cost that your peers pay for your plan participants' mix of investment options. Your total plan cost was 0.46%. This was 0.04% above your peer-based benchmark cost of 0.42%.

Being high or low cost is neither good nor bad in and of itself. But as fiduciaries you should understand where and why you are paying more (or less) than peers and be comfortable that you are receiving value for what you are paying. Reasons for your plan's 0.04% cost excess are summarized in the following table.

Total Plan Cost versus Benchmark

North Carolina Retirement Systems	\$000s	%
Total plan cost	\$30,400	0.46%
Peer-based benchmark cost	\$27,551	0.42%
Excess Cost/-Savings	\$2,850	0.04%

Reasons for Your Plan's Higher Cost

Reason	+Excess/-Savings
Paying more for similar-style investment options	0.02%
Added cost from more active options	0.02%
Higher administration and fiduciary costs	0.01%
Same assets in mutual fund windows	0.00%
Size versus peers adjustment	-0.01%
Total excess cost	0.04%

Reason 1: Paying more for similar-style investment options

Cost Impact of Paying More/-Less for Your Plan's Investment Options

			Cost ¹		Average	Cost/
	Asset Class ² &	Your	Peer	More/	Assets	-Savings
Provider - Option Name	Implementation Style	Plan	Median	-Less	\$mills	in \$000s
				(A)	(B)	(A X B X 1000)
Multi-Mgr - North Carolina Large Cap Value	Stock U.S. Large Cap	0.57%	0.67%	-0.10%	648	-673
Multi-Mgr - North Carolina Large Cap Growth	Stock U.S. Large Cap	0.58%	0.67%	-0.09%	632	-586
BlackRock - North Carolina Large Cap Passive	Stock U.S. Large Cap - indexed	0.20%	0.15%	0.05%	957	491
BlackRock - North Carolina SMID Cap Passive	Stock U.S. Mid Cap - indexed	0.23%	0.18%	0.04%	327	146
Multi-Mgr - North Carolina SMID Growth	Stock U.S. Mid Cap	1.00%	0.62%	0.37%	130	482
Multi-Mgr - North Carolina SMID Value	Stock U.S. Mid Cap	0.91%	0.62%	0.29%	207	596
Multi-Mgr - North Carolina Int'l Equity	Stock Global	0.70%	0.72%	-0.01%	403	-60
Multi-Mgr - North Carolina Global Equity	Stock Global	0.84%	0.72%	0.12%	150	175
BlackRock - North Carolina Int'l Passive fund	Stock Global - indexed	0.32%	0.31%	0.01%	267	15
Multi-Mgr - North Carolina Fixed Income	Bonds Other	0.42%	0.39%	0.03%	492	143
BlackRock - North Carolina Fixed Income Passive fu	Bonds Other - indexed	0.25%	0.26%	-0.01%	237	-34
Galliard - North Carolina Stable Value	Stable Value (ex GIC)	0.44%	0.41%	0.03%	2,180	737
Total				0.02%	6,628	1,431

1. Administration and fiduciary costs have been added pro rata to investment option costs to permit comparison between bundled and unbundled peers. To avoid double counting, the peer median cost has also been adjusted by (i) (0.11% for economies of scale due to differences in plan size and average account balance, and (ii) differences in unbundled administrative costs (0.01% adjustment). The costs are also net of any rebates.

2. The stock asset classes combine the styles: growth, value, broad. Therefore, one reason costs may be higher or lower is differences in proportions of these styles. Starting on page 32 costs are compared on an uncombined basis by style.

Reason 2: Added cost from more active options

		% Active	ly Managed	Average	Cost/
	Active	Your	Peer	Assets	-Savings
Indexable Option Types ¹	Premium ²	Plan	Average ³	\$mills	in \$000s ⁴
	(A)	(B)	(C)	(D)	A x (B-C) x D
Stock U.S. Broad or Large Cap	0.52%	57%	44%	2,237	1,492
Stock U.S. Mid Cap	0.44%	51%	60%	663	-284
Stock Global	0.41%	67%	65%	819	95
Bonds Other	0.13%	68%	72%	729	-38
Total		60%	55%	4,448	1,265
Total as a % of plan assets					0.02%

Cost Impact of Investment Options Being More/-Less Actively Managed

1. Only option types where both indexed and active management styles are relevant are shown. Thus employer stock, stable value funds and loans, are excluded from assets for the purpose of this comparison.

2. The active premium is the additional cost of external active management relative to passive management for each asset class (based on the peer universe).

3. The total peer average is weighted by your plan's assets in indexable options. The total peer average is 51% when weighted by each peer's assets in indexable options.

4. Cost/-Savings for each option type equals the amount by which you are more/-less actively managed than the peer average, multiplied by the active premium multiplied by your plan's average assets in the option type.

Reason 3: Higher administrative and fiduciary costs

		# able to report 100% separately		Cost as a % of plan assets			
	Your		Your	Peer	More/		
Cost	Plan	Peers	Plan	Median	-Less		
Recordkeeping	Yes	12	0.10%	0.09%	0.01%		
Custody	No	6	n/a	0.01%	n/a		
Communication/Education	No	5	n/a	0.03%	n/a		
Oversight (Internal)	Yes	13	0.02%	0.02%	0.01%		
Consulting	No	7	n/a	0.00%	n/a		
Other	No	7	n/a	0.00%	n/a		
Total of costs you can report separately		0.12%	0.11%	0.01%			

Administrative and Fiduciary Costs (unbundled and/or able to report 100% separately)

Fee Allocation

Revenue Sharing

	••	-	
	You	Peer	Universe
% using revenue sharing to reduce admin fees	No	38% Yes	40% Yes

Bundled Arrangements

	You	Peer	Universe
% of plans that are partly or fully bundled	No	31% Yes	47% Yes

How are recordkeeping and administration fees paid?

	You	Peer	Universe
Are any recordkeeping or administration costs			
allocated to participants via fee allocation or wraps?	Yes	85% Yes	63% Yes
a. An asset based fee	Yes	36% Yes	46% Yes
b. A flat fee per participant		9% Yes	27% Yes
c. A combination of asset based fee and flat fee		55% Yes	22% Yes
d. Other (describe)		0% Yes	5% Yes

Investment Option Monitoring - One Year

The investment options that you should pay the closest attention to are those with 'outlier' performance or costs relative to similar style options. In the table below, outliers are highlighted in red. They are defined as costs in the highest 10% of your peers, and returns and value added in the bottom 10% of the U.S. universe.

Investment Option	Cost 2012					Gross Total Return 2012					Net Value Added 2012					
		Peer	R	ank ¹ vs. P	eer		Univ		<u>Rank v</u>	s. Un	iv		Univ	R	ank vs. U	niv
	Your	Med	Low	Avg	High	Your	Med	Low	A	vg	High	Your	Med	Low	Avg	High
Multi-Mgr - North Carolina Large Ca	0.57%	0.63%				18.8%	17.0%					0.7%	0.2%			
Multi-Mgr - North Carolina Large Ca	0.58%	0.63%				19.9%	17.0%					4.0%	0.2%			
BlackRock - North Carolina Large Ca	0.20%	0.14%				16.2%	16.1%					0.0%	0.0%			
BlackRock - North Carolina SMID Ca	0.23%	0.17%				18.2%	17.9%					0.1%	0.0%			
Multi-Mgr - North Carolina SMID Gi	1.00%	0.88%				19.0%	17.1%					1.9%	-0.2%			
Multi-Mgr - North Carolina SMID Va	0.91%	0.88%				24.2%	18.7%					4.1%	0.0%			
Multi-Mgr - North Carolina Int'l Equ	0.70%	0.70%				18.0%	20.4%					-0.1%	2.9%			
Multi-Mgr - North Carolina Global E	0.84%	0.70%				19.7%	20.4%					2.1%	2.9%			
BlackRock - North Carolina Int'l Pas:	0.32%	0.30%				18.0%	18.3%					0.3%	1.0%			
Multi-Mgr - North Carolina Fixed In	0.42%	0.37%				8.1%	7.1%					3.5%	-0.4%			
BlackRock - North Carolina Fixed Inc	0.25%	0.19%				4.3%	4.3%					-0.1%	-0.1%			
Galliard - North Carolina Stable Valı	0.44%	0.37%				3.1%	2.7%					1.6%	0.9%			

1. In the "Rank" charts above, bottom 10% is Low, next 15% is below average, middle 50% is Average, next 15% is above average, top 10% is High.

Investment Option Monitoring - Additional Details (example)

	Your		Rank	vs. Peers			Rank vs.	Universe				Peers				U	J.S. Univer	se	
Investment Option	Plan	%ile	Low	Avg	High	%ile	Low	Avg	High	10th	25th	Med	75th	90th	10th	25th	Med	75th	90th
Multi-Mgr - North Car	rolina La	rge Cap Va	alue									9	stock U.S.	Broad or L	arge Cap B	road Activ	/e		
2012 Cost	0.57%	11%				45%				0.56%	0.59%	0.63%	0.84%	0.91%	0.38%	0.47%	0.62%	0.80%	0.97%
2012 Total Return	18.77%	78%				79%				12.1%	13.9%	16.6%	18.3%	19.0%	13.2%	15.7%	17.0%	18.1%	19.9%
2012 Net Value Added	0.69%	78%				60%				-5.9%	-2.6%	-0.1%	0.6%	2.1%	-3.5%	-1.2%	0.2%	1.4%	3.4%
5-yr Total Return	n/a	n/a				n/a				1.1%	1.1%	1.1%	1.1%	1.1%	0.3%	1.1%	2.0%	3.0%	3.9%
5-yr Net Value Added	n/a	n/a				n/a				-1.5%	-1.5%	-1.5%	-1.5%	-1.5%	-2.2%	-1.5%	-0.3%	0.4%	1.4%
Multi-Mgr - North Car	rolina La	rge Cap G	rowth									5	Stock U.S.	Broad or L	arge Cap B	road Activ	/e		
2012 Cost	0.58%	22%				46%				0.56%	0.59%	0.63%	0.84%	0.91%	0.38%	0.47%	0.62%	0.80%	0.97%
2012 Total Return	19.88%	100%				89%				12.1%	13.9%	16.6%	18.3%	19.0%	13.2%	15.7%	17.0%	18.1%	19.9%
2012 Net Value Added	4.04%	100%				94%				-5.9%	-2.6%	-0.1%	0.6%	2.1%	-3.5%	-1.2%	0.2%	1.4%	3.4%
5-yr Total Return	n/a	n/a				n/a				1.1%	1.1%	1.1%	1.1%	1.1%	0.3%	1.1%	2.0%	3.0%	3.9%
5-yr Net Value Added	n/a	n/a				n/a				-1.5%	-1.5%	-1.5%	-1.5%	-1.5%	-2.2%	-1.5%	-0.3%	0.4%	1.4%
BlackRock - North Car	olina La	rge Cap Pa	assive									St	ock U.S. B	road or La	rge Cap Br	oad Index	ed		
2012 Cost	0.20%	69%				78%				0.05%	0.11%	0.14%	0.20%	0.25%	0.04%	0.07%	0.12%	0.19%	0.30%
2012 Total Return	16.20%	92%				73%				16.0%	16.0%	16.0%	16.1%	16.2%	15.5%	16.0%	16.1%	16.3%	17.1%
2012 Net Value Added	0.00%	54%				70%				-0.2%	-0.2%	0.0%	0.0%	0.0%	-0.3%	-0.2%	0.0%	0.0%	0.0%
5-yr Total Return	n/a	n/a				n/a				1.7%	1.8%	1.8%	1.8%	2.1%	0.8%	1.7%	1.8%	2.2%	3.1%
5-yr Net Value Added	n/a	n/a				n/a				0.0%	0.0%	0.0%	0.0%	0.0%	-0.4%	-0.1%	0.0%	0.0%	0.1%
BlackRock - North Ca	rolina SN	VID Cap Pa	assive										Stock	U.S. Mid C	ap Broad I	ndexed			
2012 Cost	0.23%	80%				81%				0.11%	0.15%	0.17%	0.21%	0.24%	0.08%	0.11%	0.14%	0.19%	0.27%
2012 Total Return	18.23%	100%				94%				16.1%	16.1%	16.2%	17.5%	18.1%	16.1%	16.2%	17.9%	18.0%	18.1%
2012 Net Value Added	0.12%	100%				92%				-1.0%	-0.2%	-0.1%	0.0%	0.0%	-0.4%	-0.2%	0.0%	0.0%	0.1%
5-yr Total Return	n/a	n/a				n/a				5.2%	5.2%	5.2%	5.2%	5.2%	3.2%	3.3%	5.2%	5.2%	5.3%
5-yr Net Value Added	n/a	n/a				n/a				-0.1%	-0.1%	-0.1%	-0.1%	-0.1%	-0.4%	-0.2%	-0.1%	0.0%	0.0%

Plan Investment Options

Too many investment options can increase plan costs, increase participant confusion and decrease participation rates.

Type and Number of Investment Options

	Your	Peer	Universe
Type of Investment Option	plan	Average	Average
Employer Stock Discretionary	0	0.0	0.7
Stock U.S.	6	6.7	6.5
Stock Non U.S. & Global	3	2.2	2.3
Bonds	2	2.1	2.4
Stable Value	1	1.2	0.8
Cash, Money Market	0	0.5	0.6
Target Retirement Date		0.7	0.8
Balanced	0	1.5	1.2
Mutual Fund Window	0	0.3	0.2
Participant Brokerage Account	0	0.4	0.3
Priv Eq, REIT, Other	0	0.3	0.4
Total	12	16.1	16.1

Default Option

Default Option Type Balanced Target retirement date Managed accounts Stable Value Money Market	Your plan Yes	Peer Average 15% 46% 0% 8% 8%	Universe Average 11% 72% 2% 1% 2%
			_/-
No default option Total		<u>23%</u> 100%	<u>8%</u> 100%

Diversification - Average Participant Asset Mix



Monitoring asset mix is important because it is often the biggest reason for differences in the total returns of plan participants. You should review the allocation to the following options on a regular basis:

Employer stock - Employer stock can substantially increase the volatility of the average participant's returns (i.e., it increases risk). This is not an issue for your plan because it does not offer an employer stock option.

Stable value and cash - on average your plan participants had a combined 32% of their assets in stable value and/or cash options. This was above the U.S. universe average of 20%. Professionally managed defined benefit plans typically have less than 1% of their assets in these options.

Indexed Options

Indexed Options by Asset Class

Does your plan offer an			
indexed option for:	Your Plan	Peer	Universe
Stock U.S. Broad or Large Cap	Yes	100% Yes	96% Yes
Stock U.S. Small Cap		46% Yes	52% Yes
Stock Non U.S. & Global	Yes	77% Yes	65% Yes
Bonds	Yes	85% Yes	67% Yes
Target & Balanced		54% Yes	55% Yes

Cost Savings from Indexed Options

	Universe Average Cost ¹				
Asset Class	Indexed	Active	Savings		
Stock U.S. Broad or Large Cap	0.16%	0.63%	0.47%		
Stock U.S. Small Cap	0.19%	0.89%	0.70%		
Stock Non U.S. & Global	0.24%	0.77%	0.53%		
Bonds	0.16%	0.50%	0.33%		
Target & Balanced	0.24%	0.54%	0.30%		

Performance of Indexed vs. Active Options

	5y Net Value Added ²				
	Universe Average				
Asset Class	Indexed	Active			
Stock U.S. Broad or Large Cap	-0.06%	-0.37%			
Stock U.S. Small Cap	0.04%	0.71%			
Stock Non U.S. & Global	0.07%	0.69%			
Bonds	-0.32%	0.88%			
Target & Balanced	-0.14%	-0.19%			

1. Indexed costs include management fees and administration, etc.

2. To reduce survivorship bias, 5-year net value added equals the average of annual averages.

Participant Success Measures

Participant Success Measures

	Your	Peer		Rank vs. Peers		
	Plan	Median	%ile	Low	Avg	High
% of eligible employees that participate	27%	42%	18%			
% making voluntary contributions	n/a¹	100%	n/a			
% receiving maximum employer match	n/a	80%	n/a			
Average account balance per participant	\$25,716	\$48,017	17%			
Employer contributions per active participant	\$358²	\$3	67%			
Employee contributions per active participant	\$1,642	\$3,078	20%			

¹ The 401(k) and 457 plans have different voluntary contribution percentage rates. The % making voluntary contributions to the 401(k) plan is 62%, to the 457 plan 68.5% make voluntary contributions.

² Law Enforcement Officers receive employer contributions by state statute.

Fiduciary Structure, Process and Documentation

	You	Peers	Universe
When we the fiduciation named in the plan document as having control over the plan's energian (If the			
Who are the fiduciaries named in the plan document as having control over the plan's operation (If the employer sponsoring the plan is named, indicate who currently acts as the internal fiduciary on behalf of			
the employer): a. The Board of Directors of the plan sponsor?		58% yes	14% yes
b. A specified title or person such as the CEO or CFO?		8% yes	4% yes
c. A committee	Yes	17% yes	76% yes
d. Other	105	17% yes	6% yes
f a committee is the named fiduciary:			
a. Number of committee members?	9	9.0	5.8
o. Number of committee meetings in the past year?	8	9.5	4.9
c. Are the minutes of each meeting documented?	Yes	100% yes	99% yes
Are the 'named' fiduciaries:			
a. Provided formal training as to their role and responsibilities?	Yes	67% yes	76% yes
D. Required to sign an 'acknowledgement of responsibility' form?	No	27% yes	21% yes
Have third-parties been appointed as fiduciaries to serve as:			
a. Investment manager with full discretionary powers for selecting, monitoring and replacing the			
plan's investment options?	No	33% yes	11% yes
D. Investment advisor to provide advice regarding the selection and retention of plan investment	Yes	92% yes	57% yes
2. Plan administrator responsible for regulatory filings, disclosures to participants and hiring plan			
service providers if no other fiduciary has that responsibility?	Yes	64% yes	30% yes
s there documentation that identifies the process for:			
a. Selection and monitoring of third-party fiduciaries and other plan service providers	No	83% yes	72% yes
p. Investment policy	Yes	100% yes	97% yes
C. Oversight of internal employees involved in operating the plan (i.e., internal fiduciaries, HR staff			
enrolling employees in the plan, posting deferrals, etc)	Yes	73% yes	75% yes
d. Fulfilling administration responsibilities (regulatory filings, disclosures to participants)	Yes	75% yes	79% yes