Callan

County Employees' and Officers' Annuity and Benefit Fund of Cook County

Performance Summary

June 30, 2017

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General Market and Economic Conditions

What will thwart the "Goldilocks" environment?

"Not too hot, not too cold, but just right." This Goldilocks sentiment, fueled by years of central bank accommodation and tepid economic growth has kept volatility at multi-decade lows, interest rates range-bound, and propelled domestic stock markets to new highs. In the second quarter, the S&P 500 Index hit a record high, fueled by technology stocks, non-US equities outperformed domestic, and within bonds corporate credit and emerging markets debt posted the strongest returns as the "risk-on" theme continued unabated. The Treasury yield curve flattened, with short rates up and longer rates falling, but the broad bond market returned roughly 1.4%. The U.S. dollar weakened versus most currencies and, as in the first quarter, commodities were the lone area to deliver a negative return as oil prices continued to fall on supply concerns.

While the U.S. entered its 96th month of expansion, economic data was uninspiring. First quarter GDP growth was revised up to 1.4% (annualized) and was the weakest in three quarters. Personal consumption expenditures grew 1.1%, but this was the smallest advance since the second quarter of 2013. While unemployment fell to a 15-year low of 4.3%, declining workforce participation continues to play a role in that metric. Consumer spending continues to be a driver of growth, but its pace of growth has also slowed. Expectations for 2017 U.S. GDP growth were cut by the International Monetary Fund from 2.3% to 2.1% in response to lowered expectations for fiscal stimulus, including tax reform. Inflation remained stubbornly low. Headline CPI was 1.9% as of May (year-over-year) while Core was 1.7%. The Fed's favored measure, the PCE price index, gained 1.4% (year-over-year) still below the 2% target. While growth appears to have moderated, the Fed believes that the upward trajectory is intact and consequently raised the Fed Funds rate by 25 bps, as markets expected, to 1.0% - 1.25%. More significantly, however, was the Fed's announcement that it will begin to reduce the size of its $4.5 trillion balance sheet. While timing remains uncertain, the Fed made clear the process by which it intends to begin the tapering process.

A number of notable events occurred overseas on the political front. Populism appeared to lose favor as both the Netherlands and France declared centrist victories - Italy is up next with its election in spring of 2018. In the U.K., a surprising result came out of the snap election called by Prime Minister Theresa May; her Conservative Party lost its majority in the House of Commons, thus increasing the likelihood of a "softer" Brexit. First quarter GDP growth was 2.3% (annualized) for the euro zone, exceeding expectations and the best in two years. Unemployment dropped to 9.3%, the lowest since 2009. The European Central Bank kept rates unchanged, but it also removed language that suggested rates would continue to decline. Comments in late June by ECB President Mario Draghi hinted at a normalization/reduction of bond buying caused yields to rise; markets have priced in a near 100% probability of an ECB rate hike over the next twelve months. The euro and the pound strengthened significantly versus the U.S. dollar over the course of the quarter, up about 7% and 4%, respectively, on mixed economic data and uncertainty over the political climate. Inflation in the U.K. hit a four-year high of 2.9% (year-over-year) in May, leading to hawkish rhetoric from the Bank of England's chief economist. The post-Brexit decline in the pound has been a key culprit in rising inflation. Japan's first quarter GDP growth was 1.3% (annualized). While lower than expected it was the fifth quarter of economic expansion, the longest in more than a decade, and above Japan's long-range potential of roughly 0.7%. China exceeded expectations with a 6.9% annual growth pace in the first quarter and, more recently, unexpectedly strong manufacturing data.

Second Quarter 2017 Market Performance

In the U.S., pro-growth initiatives such as tax reform and infrastructure investment failed to materialize, and repeal/replacement of the Affordable Health Care Act has also stalled. Instead, Russia's alleged influence over the Presidential election and multiple corresponding investigations took center stage during the quarter. However, investors shrugged off political drama choosing instead to focus on climbing after-tax corporate profits. S&P 500 companies reported the strongest quarterly earnings growth in six years with more than 75% reporting earnings above expectations. The S&P 500 Index gained 3.1% in the second quarter as the bull market reached its 99^{th} month, nearly twice as long as the historical average of 54 months. Year-to-date, the Index is up 9.3%. Apple was added to "FANG" – now "FAANG" as this technology collective continue to fuel results in the large cap growth space. Technology stocks now comprise 22% of the S&P 500 Index and 36% of the Russell Growth Index. Growth stocks continued to solidly outperform Value (R1000G: +4.7% vs. R1000V: +1.3%). Along with Technology (+4.1%), Health Care (+7.1%) and Industrials (+4.7%) were strong performers. Large caps outperformed small caps across styles, but by a smaller margin (R1000: +3.1% vs. R2000: +2.5%). Telecomm, which includes only four companies (AT&T, Verizon, CenturyLink and Level3), sank 7% with AT&T and Verizon down over 8%. Energy returned -6.4% on falling oil prices. Financials got a June boost from the Fed's announcement that 34 of the largest U.S. banks had passed their stress tests; the sector was up 4.2% for the quarter.

Overseas, the MSCI EAFE Index (+6.1%) outperformed U.S. markets, bringing year-to-date returns to 13.8%. Gains were broad-based, though helped by U.S. dollar weakness. Within the MSCI, Europe ex-U.K. was up 8.4%, the U.K. gained 4.7% and Japan returned +5.2%. Emerging markets modestly outperformed developed (MSCI EM USD: +6.3%) and are up 18.4% year-to-date. Emerging Asia was the key driver in both the first and second quarters. Countries with the top performance in the second quarter included China (+10.6%), Greece (+33.8%), Korea (+10.2%), Turkey (+19.3%) and Poland (+13.6%). Elsewhere, Russia and Brazil posted sharp declines (-10.0% and -6.7%) and India's gain was muted at +2.9%. Brazil's president was implicated in country's wide-ranging corruption investigation and Russia suffered from falling oil prices and questions over US/Russian relations. In other news, MSCI announced that it would be adding China A-shares to its emerging markets indices, albeit in a fairly small sliver.

Intermediate and long U.S. Treasury yields fell modestly in the second quarter as inflation data releases were persistently weak. Short rates rose, consistent with the Fed hike, and thus the yield curve flattened. Risky assets continued their long streak of outperformance. The 10-year U.S. Treasury yield closed the quarter at 2.31%, down from 2.40% as of 3/31, though it hit a 2017 low of 2.12% earlier in June. The 2-year U.S. Treasury yield climbed 11 bps to close at 1.38%. As a result, short and intermediate maturity Treasuries underperformed; the Bloomberg Barclays Intermediate Treasury Index returned 0.7% while the Long Index gained 4.0%. The Bloomberg Barclays Aggregate Index earned 1.4% with corporate bonds performing the best on strong demand. The Bloomberg Barclays Corporate Index was up 2.5% for the quarter, outperforming the High Yield Index (+2.2%). TIPS underperformed as expectations for inflation sank. The Bloomberg Barclays TIPS Index lost 0.4% for the quarter. The 10-year breakeven spread (the difference between nominal and real yields) was 173 bps as of quarter-end, down from 1.97% at the end of the first quarter.

Overseas, broad-based dollar weakness boosted returns. The U.S. dollar lost nearly 7% versus the euro and almost 5% versus a broad basket of developed markets currencies. The Bloomberg Barclays Global Aggregate Index returned 2.6% (unhedged) versus 1.0% for the hedged version. Emerging markets debt posted solid returns. The JPM EMBI Global Diversified Index ($ denominated) was up 2.2% with broad-based gains across countries. The local currency JPM GBI-EM Global Diversified Index returned +3.6% with more divergent results. Russia, Brazil and Argentina lost over 2% while Mexico and Turkey were among the strongest performers with 7.5% gains.

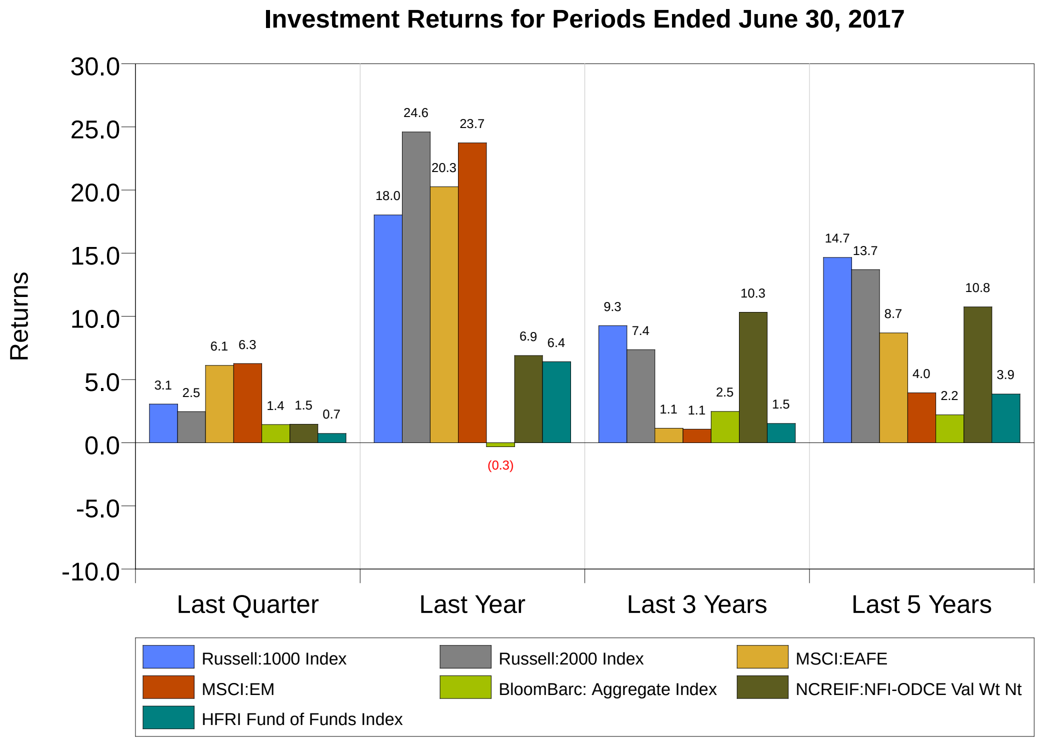
The Bloomberg Barclays Municipal Bond Index returned +2.0% in the second quarter and, generally, lower quality bonds outperformed. Results were bolstered by lowered investor expectations for meaningful tax reform, both in terms of scale and timing. Additional support came from favorable supply/demand technicals; supply declined roughly 14% year-over-year while investors put new money into the sector. Fundamentals remained broadly positive in spite of a few troubled credits making headlines. Illinois failed to pass a budget on the last day of the quarter (the end of its fiscal year) for the third consecutive calendar year, prompting threats of a downgrade to junk by S&P.

Real assets had a tough quarter with few exceptions. Brent crude oil prices fell 10% to $47 as of quarter-end. The energy-heavy S&P GSCI Commodity Index lost 5.5% while the more diversified Bloomberg Commodity Index fell 3.0%. MLPs suffered alongside oil; the Alerian MLP Index was down 6.4%. Gold was down nearly 1% and REITs were up only modestly (MSCI REIT: +1.7%). U.S. TIPS performed poorly as expectations for future inflation sank. The Barclays U.S. TIPS Index returned -0.4%. In a bright spot, global infrastructure (DJB Global Infrastructure Index) gained 3.7%.

Closing Thoughts

We entered 2017 with U.S. stock markets at record highs and historically low volatility. Not much has changed although geopolitical risks have not abated and the previously envisioned pro-growth policies sought by enthusiastic market participants remain elusive. That said, economic news has brightened outside of the U.S. with global economies seemingly on steadier footing and the prospect of reflation on the horizon. While consensus is that valuations remain stretched across asset classes, it is impossible to predict what will thwart this Goldilocks environment. We caution investors to temper return expectations and, as always, Callan encourages investors to maintain a long-term perspective and prudent asset allocation with appropriate levels of diversification.

County Employees' and Officers' Annuity & Benefit Fund of Cook County
Performance Evaluation Executive Summary
Second Quarter 2017



Returns were up across the board during the second quarter. Emerging markets (MSCI: EM) again outpaced the developed markets, propelled by Technology companies in China, South Korea, and Taiwan. Non-U.S. developed equity (MSCI: EAFE) outperformed U.S. equities for the second consecutive quarter, fueled by economic recovery in Europe and market-friendly outcomes in European elections. Domestic equity returns were led by large cap equities (Russell 1000 Index) as they continued to dominate small cap equities (Russell 2000). Fixed income returns (Bloomberg Aggregate) were positive as low rates kept pushing investors out on the risk spectrum for higher yields. Real estate (NFI-ODCE) and hedge funds (HFRI Fund of Funds) were positive as measured by the representative market indices.

The Callan Periodic Table of Investment Returns
Second Quarter 2017

2008	2009	2010	2011	2012	2013	2014	2015	2016	2 Qtrs. 2017
BC Aggregate 5.2%	MSCI:EM 78.5%	Russell:2000 Index 26.9%	NCREIF:NFI-ODCE Val Wt Nt 15.0%	MSCI:EM 18.2%	Russell:2000 Index 38.8%	Russell:1000 Index 13.2%	NCREIF:NFI-ODCE Val Wt Nt 14.0%	Russell:2000 Index 21.3%	MSCI:EM 18.4%
NCREIF:NFI-ODCE Val Wt Nt (10.7%)	MSCI:EAFE 31.8%	Cambridge:PE Index 19.3%	BC Aggregate 7.8%	MSCI:EAFE 17.3%	Russell:1000 Index 33.1%	Cambridge:PE Index 11.9%	Cambridge:PE Index 8.7%	Russell:1000 Index 12.1%	MSCI:EAFE 13.8%
HFRI Fund of Funds Index (21.4%)	Russell:1000 Index 28.4%	MSCI:EM 18.9%	Cambridge:PE Index 7.1%	Russell:1000 Index 16.4%	MSCI:EAFE 22.8%	NCREIF:NFI-ODCE Val Wt Nt 11.5%	Russell:1000 Index 0.9%	MSCI:EM 11.2%	Russell:1000 Index 9.3%
Cambridge:PE Index (26.6%)	Russell:2000 Index 27.2%	Russell:1000 Index 16.1%	Russell:1000 Index 1.5%	Russell:2000 Index 16.3%	Cambridge:PE Index 21.1%	BC Aggregate 6.0%	BC Aggregate 0.5%	Cambridge:PE Index 9.2%	Russell:2000 Index 5.0%
Russell:2000 Index (33.8%)	Cambridge:PE Index 17.3%	NCREIF:NFI-ODCE Val Wt Nt 15.3%	Russell:2000 Index (4.2%)	Cambridge:PE Index 13.5%	NCREIF:NFI-ODCE Val Wt Nt 12.9%	Russell:2000 Index 4.9%	HFRI Fund of Funds Index (0.3%)	NCREIF:NFI-ODCE Val Wt Nt 7.8%	HFRI Fund of Funds Index 3.1%
Russell:1000 Index (37.6%)	HFRI Fund of Funds Index 11.5%	MSCI:EAFE 7.8%	HFRI Fund of Funds Index (5.7%)	NCREIF:NFI-ODCE Val Wt Nt 9.8%	HFRI Fund of Funds Index 9.0%	HFRI Fund of Funds Index 3.4%	MSCI:EAFE (0.8%)	BC Aggregate 2.6%	NCREIF:NFI-ODCE Val Wt Nt 3.0%
MSCI:EAFE (43.4%)	BC Aggregate 5.9%	BC Aggregate 6.5%	MSCI:EAFE (12.1%)	HFRI Fund of Funds Index 4.8%	BC Aggregate (2.0%)	MSCI:EM (2.2%)	Russell:2000 Index (4.4%)	MSCI:EAFE 1.0%	BC Aggregate 2.3%
MSCI:EM (53.3%)	NCREIF:NFI-ODCE Val Wt Nt (30.4%)	HFRI Fund of Funds Index 5.7%	MSCI:EM (18.4%)	BC Aggregate 4.2%	MSCI:EM (2.6%)	MSCI:EAFE (4.9%)	MSCI:EM (14.9%)	HFRI Fund of Funds Index 0.5%	Private Equity Not yet available

Non-U.S. emerging markets, illustrated by the MSCI EM Index, and developed markets, measured by the EAFE Index, outperformed their U.S. counterparts, helped by a weak U.S. dollar. Continuing the trend from last quarter, the U.S. large cap equity index (Russell 1000) outperformed the U.S. small cap equity index (Russell 2000).

Cook County Pension Fund Commentary

Asset Allocation

The Cook County Fund ("Fund") increased in value during the second quarter from $9.29 billion to $9.52 billion. During the quarter, the Fund generated $311.7 million from investment returns and experienced net withdrawals of $75.1 million.

Asset Class	Mkt Value ($000s)	Percent of Total (%)	Interim Target*	Strategic Target
Domestic Equity	3,245,094	34.1%	33.8%	33.0%
International Equity	2,151,962	22.6%	21.0%	21.0%
Fixed income	2,182,972	22.9%	26.0%	26.0%
Real Estate	844,423	8.9%	9.0%	9.0%
Private Equity	314,661	3.3%	3.2%	4.0%
Hedge Funds	650,241	6.8%	6.0%	6.0%
Cash	132,935	1.4%	1.0%	1.0%
Miscellaneous Assets	17	0.0%	0.0%	0.0%
Total	9,522,305	100.0%	100.0%	100.0%

*Interim target reflect modifications for non-public asset classes such as private equity that cannot be funded or rebalanced as regularly as public market strategies due to the illiquid nature of the investments.

Cook County Performance vs. Target

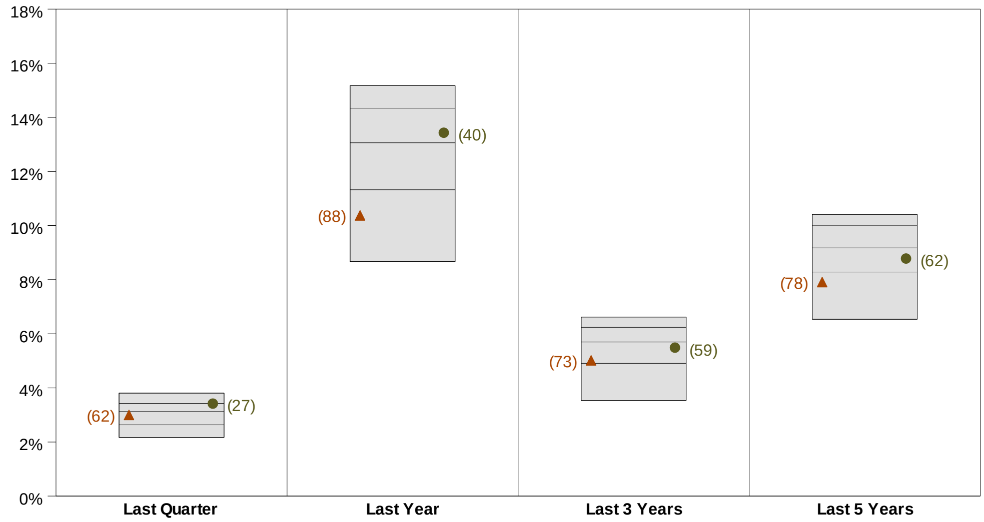
The Cook County Pension Fund generated a 3.38% return in the second quarter, outperforming its custom benchmark with a strong relative contribution from international equity. In the last twelve months, the Fund generated a 13.39% return, outpaced its benchmark, and outperformed 60% of its public fund peers (Table 1.0). Relative outperformance has been driven by asset allocation and active management outperformance.

The Fund has exceeded its custom benchmark over the last three- and five-year periods with annualized returns of 5.44% and 8.74%, respectively. Active management in international equity provided the strongest absolute return while an underweight to fixed income also contributed to positive relative performance.

County Employees' and Officers' Annuity & Benefit Fund of Cook County
Performance Evaluation Executive Summary
Second Quarter 2017

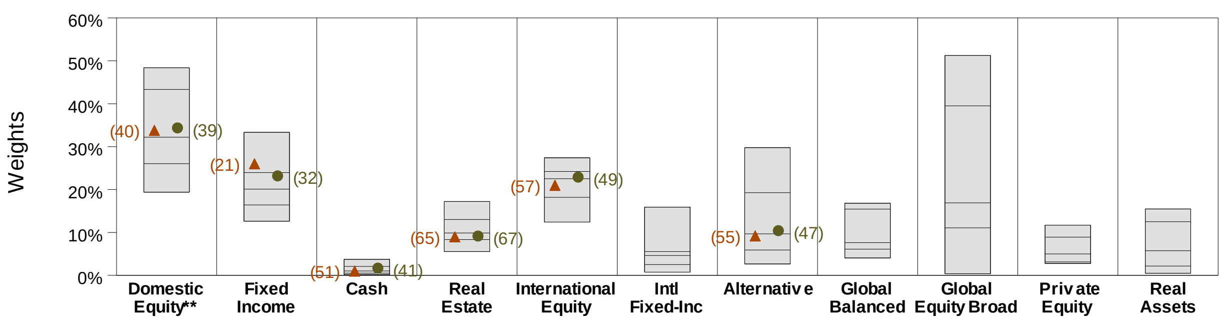
Table 1.0

Performance vs CAI Public Fund Sponsor - Large (>1B) (Gross)



	Last Quarter	Last Year	Last 3 Years	Last 5 Years
10th Percentile	3.81	15.17	6.62	10.41
25th Percentile	3.43	14.34	6.24	10.01
Median	3.13	13.06	5.70	9.17
75th Percentile	2.63	11.33	4.91	8.28
90th Percentile	2.17	8.67	3.54	6.54
Total Cook County Fund ●	3.38	13.39	5.44	8.74
Total Fund Benchmark ▲	3.00	10.38	5.02	7.91

Asset Class Weights vs CAI Public Fund Sponsor - Large (>1B)



	Domestic Equity**	Fixed Income	Cash	Real Estate	International Equity	Intl Fixed-Inc	Alternative	Global Balanced	Global Equity Broad	Private Equity	Real Assets
10th Percentile	48.37	33.33	3.76	17.21	27.39	15.91	29.78	16.81	51.25	11.70	15.47
25th Percentile	43.32	23.95	2.08	13.03	24.19	5.55	19.28	15.43	39.51	8.92	12.50
Median	32.19	20.09	1.04	9.87	22.52	4.63	9.68	7.62	16.91	5.01	5.74
75th Percentile	26.02	16.42	0.53	8.34	18.19	2.51	5.93	6.12	11.09	3.14	2.18
90th Percentile	19.40	12.63	0.17	5.53	12.41	0.74	2.65	4.05	0.39	2.78	0.48
Fund ●	34.08	22.92	1.40	8.87	22.60	-	10.13	-	-	-	-
Target ▲	33.80	26.00	1.00	9.00	21.00	-	9.20	-	-	-	-

** Adjusted to reflect actual investments in PE.

Table 1.1
Asset Class Performance vs. Target

	Market Value $(Dollars)	Ending Weight	Last Quarter	Last Year	Last 3 Years	Last 5 Years
Domestic Equity	**$3,245,093,570**	**34.08%**	**2.94%**	**20.73%**	**8.34%**	**14.33%**
Domestic Equity Benchmark (2)	-	-	3.02%	18.51%	9.10%	14.58%
International Equity	**$2,151,961,803**	**22.60%**	**6.78%**	**20.46%**	**2.73%**	**8.87%**
International Equity Benchmark (3)	-	-	5.78%	20.45%	0.80%	7.19%
Fixed Income	**$2,182,971,945**	**22.92%**	**1.32%**	**2.27%**	**2.59%**	**2.71%**
Fixed Income Benchmark (4)	-	-	1.45%	(0.31%)	2.48%	2.24%
REITS	**$260,907,356**	**2.74%**	**2.50%**	**0.24%**	**7.25%**	**8.39%**
NAREIT Equity Index	-	-	1.52%	(1.70%)	8.36%	9.52%
****Private Real Estate**	**$583,516,214**	**6.13%**	**2.47%**	**8.28%**	**12.59%**	**11.49%**
NFI-ODCE Value Weight Net	-	-	1.47%	6.90%	10.33%	10.76%
****Private Equity**	**$314,660,852**	**3.30%**	**5.73%**	**17.47%**	**9.06%**	**8.82%**
****Hedge Funds**	**$650,241,174**	**6.83%**	**2.43%**	**9.54%**	**4.59%**	**6.84%**
LIBOR + 4%	-	-	1.27%	4.98%	4.58%	4.46%
HFRI Fund of Funds Index	-	-	0.74%	6.41%	1.53%	3.86%
Cash Equivalents	**$132,934,548**	**1.40%**	**0.29%**	**0.85%**	**0.46%**	**0.33%**
3-month Treasury Bill	-	-	0.20%	0.49%	0.23%	0.17%
Total Cook County Fund	**$9,522,304,704**	**100.00%**	**3.38%**	**13.39%**	**5.44%**	**8.74%**
Total Fund Benchmark (1)	-	-	3.00%	10.38%	5.02%	7.91%

**Represents trailing data.

Footnotes found on the back page

Table 1.1 illustrates the Cook County Fund's asset class performance versus associated benchmarks. The Cook County Fund's International Equity allocation provided the highest absolute return, gaining 6.78% and outperforming by 1.00%. In addition, during the longer-term periods appearing above, active management in the International Equity allocation has been a key contributor to outperformance.

The Fixed Income allocation added 1.32% relative to the 1.45% return of the Bloomberg Barclays Aggregate Index. Over the trailing year, the Fixed Income allocation is outpacing the benchmark by 2.58%. Performance has been additive over the longer term as the allocation has exceeded the benchmark over the trailing three- and five-year periods by an annualized 0.11% and 0.47%, respectively.

Real estate has been one of the strongest performing asset classes over the last three and five years with returns in excess of 7.2% annualized for each respective period. The real estate allocation is comprised of investments in public real estate securities (REITS) and private real estate. The REIT allocation contributed 0.98% of value-added during the second quarter as its 2.50% return beat the 1.52% return of the NAREIT Equity Index. The REIT allocation has a 1.94% advantage over the benchmark over the trailing year. The Private Real Estate portfolio contains primarily core investments (income producing real estate), and a small allocation to non-core, closed-end funds. Private Real Estate posted a 2.47% return for the quarter which outperformed its benchmark by 1.00%. In the last year, this allocation returned 8.28% and exceeded its benchmark by 1.38%. In the last three- and five-year periods, this allocation has generated returns in excess of 11.4% annualized.

Presently, the Private Equity program is pursuing a fund-of-funds approach. Funds committed, but waiting investment have been invested in public equities as the program continues to be implemented. Private Equity received an additional investment during the quarter as it approached its strategic target.

The Hedge Fund allocation outperformed its absolute return benchmark for the quarter by 1.16%. In the last year, it has returned 9.54%, well ahead of its benchmark. In addition to exceeding its absolute return benchmark, the Hedge Fund allocation has also outperformed its industry peers as measured by the HFRI Fund-of-Funds Index and the Callan peer universe over the last one- and three-year periods.

Notes and Observations

Notes

1. **Total Fund Benchmark (Target):** Blend of asset class benchmarks at policy weights. The Domestic Equity and Private Equity target weights are adjusted each month such that the Private Equity Interim benchmark weight is set to approximate the invested capital. The uninvested capital is allocated to Domestic Equity. This process reflects the practical implementation of non-publically traded investments.

	Strategic Target	Interim Target
Russell 3000	33.0%	33.8%
MSCI ACWI ex US	21.0	21.0
BloomBarc Aggregate	26.0	26.0
Libor 3 Month + 4.0%	6.0	6.0
Real Estate	9.0	9.0
Private Equity	4.0	3.2
Cash	1.0	1.0
Total Target	100.0%	100.0%

2. **Domestic Equity Benchmark:** Blend of 17% S&P 500, 7% Russell 2000 Value, 7% Russell Mid Cap Growth, 6% Russell 1000 Growth, and 6% Russell 1000 Value through 9/31/2011; Russell 3000 thereafter.
3. **International Benchmark**: 12% MSCI ACWI ex-US, 3% Global ex US under $2 billion through 9/30/2011; then 17% MSCI ACWI ex-US, 3% Global ex US under $2 billion through 12/31/12; MSCI ACWI ex-US thereafter.
4. **Fixed Income Benchmark:** Blend of 25% BloomBarc Aggregate Index, 5% BloomBarc US TIPs Index, 10% BloomBarc Gov/Credit Intermediate Index through 12/31/2012; BloomBarc Aggregate Index thereafter.