Callan

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

Performance Summary

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Table of Contents

General Market and Economic Conditions

The year 2016 turned out to be a tumultuous one, with essentially two non-economic events jolting the capital markets: the U.K. Brexit vote in June and the U.S presidential election in November. Markets rebounded quickly after the surprising outcome of the Brexit vote, and investors have embraced Trump's anticipated business-friendly ambitions on taxes, trade and regulations and have driven U.S. stocks to record highs. The S&P 500 Index gained 3.8% for the fourth quarter of 2016 and 12% for the year. Small stocks, as measured by the Russell 2000, roared 8.8% for the quarter and surged 21.3% for the year. The bond market did not fare as well, especially post-election. The prospect of increased fiscal spending sparked concerns over higher inflation and tighter monetary policy, leading to a sharp sell-off in U.S. Treasuries. The 10-year Treasury yield climbed 85 bps, the largest quarterly increase since 1994. The year was a volatile one for bonds; the 10-year Treasury yield started the year at 2.27%, hit an all-time low of 1.37% in July (post-Brexit) and ended the year sharply higher at 2.45%.

Fourth quarter real GDP growth in the U.S. came in at a modest 1.9%, down from the fourth quarter GDP that was revised up to 3.5% (1.7% year-over-year), the sharpest quarterly increase in two years. The U.S. dollar strengthened by approximately 7% against a basket of currencies, thus raising the cost of exports. The U.S. dollar hit a multi-year high versus the euro and the yen. Net exports detracted approximately 1.7% from GDP growth in the fourth quarter. Unemployment was near a nine-year low with a 4.7% in December and jobless claims remained relatively muted. Initial jobless claims fell to less than 300,000 in early 2015 and remained below this key level for more than 90 weeks, the longest streak since 1970. The Atlanta Fed's wage growth tracker index showed that wages advanced 3.9% in October, the fastest since November of 2008. Home prices hit a record high in October; the S&P CoreLogic Case-Shiller U.S. National Home Price Index rose 5.6% in October for the trailing 12-month period. Consumer confidence, as measured by the Conference Board Consumer Confidence Index, hit its highest level in 15 years in December. Even the manufacturing sector showed signs of improvement with the ISM Composite Index of factory sector activity showing consistent gains through the quarter.

Inflation, while still benign, is rising. For the trailing 12-month period, core CPI was up 2.2% year-over-year, in line with the GDP deflator. Oil prices surged to their highest level in 17 months to close the year at $54 per barrel.

The Fed, in a widely anticipated move, raised the Fed Funds rate 25 bps to a range of 0.50% – 0.75% in December. This turned out to be the Fed's only move for the year although at the end of 2015 it had projected four hikes in 2016. As communicated in its "dot plot," the Fed expects three additional hikes in 2017, though the markets expect fewer. Interest rates began to creep up early in the fourth quarter as investors gained confidence that the Fed would make a move in response to encouraging U.S. economic data. Trump's win propelled rates sharply higher fueled by expectations for escalating inflation in tandem with more debt. The 10-year U.S. Treasury closed the year at 2.45% but hit an intra-quarter high of 2.60%, the highest since September 2014.

During the fourth quarter, foreign developed and emerging markets floundered in U.S. dollar terms despite hearty local returns. The U.S. dollar hit a multi-year high versus the euro and yen, and appreciated roughly 7% compared to a basket of currencies. The European Central Bank announced that it would extend its asset purchase program beyond March, 2017 when it was set to expire, but purchases will be lower (€60 billion per month down from €80 billion per month). The unemployment rate in the euro zone declined to 9.8%, the lowest since July, 2009; it has been falling since reaching a record high of 12.1% in April, 2013. Consumer prices in the euro zone increased 0.6% year-over-year in November, the highest since April 2014, but well below the 2% target. GDP is expected to have picked up in the final months of the year from the 0.3% (1.6% year-over-year) pace registered in the fourth quarter to 0.4% – 0.5%.

In Asia, the Japanese economy advanced 0.3% (1.0% year-over-year) in the fourth quarter, below the preliminary estimate of 0.5%. The economy continues to struggle in spite of aggressive stimulus measures. The Bank of Japan made no changes to its monetary policy but upgraded the outlook for 2017 given the yen's weakness versus the U.S. dollar, which should provide a boost to exports. The dollar reached a 14-year high versus the yen.

Despite the decline in the fourth quarter, emerging market equities enjoyed a significant rebound from 2015, and experienced a robust 11.2% return for the year, buttressed by strengthening commodity prices and as well as accommodative monetary policies.

Fourth Quarter 2016 Market Performance

Equities posted strong returns in the fourth quarter, cheered by relatively good economic data, a rebound in corporate earnings, and speculation that Trump's presidency will bring lower taxes, lighter regulation and increased spending. The S&P 500 climbed to an all-time high of 2,239 on December 30 and closed up 3.8% for the quarter. However, there were stark differences in sector returns. Financials (+21.1%) were beneficiaries of "Trumponomics," riding expectations for a more lenient regulatory environment and higher interest rates while Health Care (-4.0%) was one of the worst performing sectors. While smaller cap bio tech stocks performed well, uncertainty over the future of Obamacare hurt hospitals. The newly established REIT sector (-4.4%) was punished by rising interest rates. Small capitalization stocks outperformed large by a wide margin; the Russell 2000 rose 8.8% in the quarter and is up 21.3% for the year while the Russell 1000 gained 3.8% and 12.1% for the same periods. Value gained favor after prolonged underperformance. While this trend was in place before the election, Trump's win boosted Financials and Energy stocks, which make up a significant portion of the value indices. The largest difference between growth and value was in small caps. The Russell 2000 Value outperformed its Growth counterpart by 10.5% (+14.1% versus +3.6%) in the quarter and by double that amount, 20.4%, over the year (+31.7% versus +11.3%).

Foreign developed and emerging market indices trailed the S&P 500. The MSCI ACWI ex-US Index (a non-U.S. equity market index) fell 1.3% during the fourth quarter. Dollar strength was broad-based and thus detracted from returns for U.S. investors. In developed markets, Italy (+11%) was the top performer in the fourth quarter, although it remains at the bottom of the pack for the year (-11%). The MSCI Emerging Markets Index dropped 4.2% for the quarter. Among emerging markets, Russia posted the best return (+19%) while Turkey (-14%) sank. Turkey's economy shrank 1.8% in the third quarter, its first year-over-year decline since 2009. Mexico, hurt by Trumponomic concerns, was down 8%.

Interest rates in the U.S. rose sharply in the fourth quarter, driven both by encouraging economic data and worries that the pro-growth agenda put forth by President-elect Donald Trump will have an inflationary effect. The 10-year U.S. Treasury yield rose 85 bps and returned -6.8% for the quarter in the sharpest quarterly selloff in more than two decades. TIPS outperformed nominal Treasuries, bolstered by rising expectations for inflation. The

Bloomberg Barclays TIPS Index returned -2.4% for the quarter but ended the year up 4.7%. The 10-year inflation breakeven rate was 1.95% as of December 30th.

The Bloomberg Barclays U.S. Aggregate returned -3.0% for the quarter, but was up 2.6% for the year. The Corporate sector returned -2.8% and +6.1% for the same periods. Issuance by U.S. corporations hit another record high in 2016 at roughly $1.3 trillion. Long-maturity bonds performed the best, in relative terms, with long corporates outperforming like-duration Treasuries by 436 bps. Mortgages underperformed Treasuries as durations extended with the increase in interest rates. The Bloomberg Barclays High Yield Index gained 1.8% in the quarter and more than 17% for the year.

Overseas, yields were also higher though dollar strength was the primary driver of sharply negative returns for unhedged indices. The Bloomberg Barclays Global Aggregate ex-US Index fell 10.3% for the quarter (-1.9% on a hedged basis). The U.S. dollar benefited from higher interest rates as well as prospects for growth. The yen lost more than 13% versus the dollar over the course of the quarter and the euro depreciated by more than 6%. Emerging markets debt underperformed developed markets. The JP Morgan EMBI Global Diversified Index dropped 4.0% for the quarter and the local currency GBI-EM Global Diversified lost 6.1%.

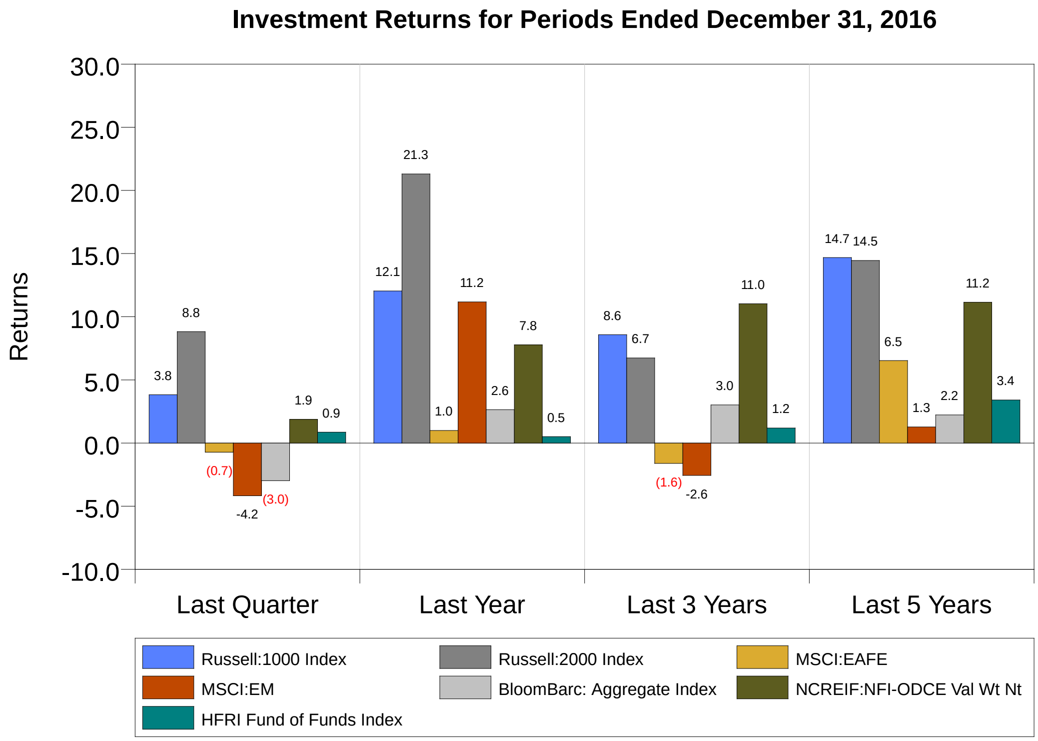
In the wake of the U.S. presidential elections, the reflation trade exploded as U.S. stocks jumped and Treasuries were dumped. During this rapid paradigm shift, the average hedge fund appeared to gain little over embedded betas, as most conservatively positioned their gross exposures going into the election. The Credit Suisse Hedge Fund Index (CS HFI) gained 1.15% while the median manager in the Callan Hedge Fund-of-Funds Database edged ahead at 1.64%, net of fees. As measured by the CS Hedge Fund Indices, returns across the underlying strategies were varied. The strongest performing strategy was Global Macro (+4.59%) aided by a stronger dollar while Managed Futures (-5.65%) appeared to have been hurt by the sharp reversal in markets due to U.S. election results.

Private real estate investments posted another steady return for the quarter. As measured by the NFI-ODCE Index, real estate gained 1.88% (0.84% from income and 1.04% from appreciation). This represented a .05% increase over last quarter. Publicly traded U.S. REITS as measured by the FTSE NAREIT Equity Index lost 2.89% during the quarter due to the sharp increase in interest rates.

Private equity fundraising increased significantly from the third quarter as commitments rose to $86.9 billion from $38.6 billion in the previous quarter. Private equity firms purchased 1,728 companies in 2016, down 14% from 2015 according to *Buyouts* newsletter. Investments in venture capital in 2016 also trailed that of 2015. Venture-backed exits declined 22% in 2016 versus 2015.

Closing Thoughts

We enter 2017 with U.S. stock markets at new highs, rising interest rates and historically low volatility. The U.S. economy continues to gain traction and there are glimmers of hope that a bottom has been reached overseas. However, a whole host of geopolitical challenges continue to cause angst. Further, the election of Donald Trump has resulted in widespread speculation as to the impact his policies will have on markets, but much uncertainty remains with respect to the scope, implementation and timing of these policies.



Domestic equities were positive, and small cap equities as measured by the Russell 2000 Index surged in the fourth quarter. Non-U.S. equities floundered for U.S. investors as a strengthening dollar hurt returns for U.S. investors. Fixed income returns were negative as interest rates rose. Real estate and hedge funds were positive as measured by the representative market indices.

The Callan Periodic Table of Investment Returns
Fourth Quarter 2016

2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
MSCI:EM **39.4%**	BC Aggregate **5.2%**	MSCI:EM **78.5%**	Russell:2000 Index **26.9%**	NCREIF:NFI-ODCE Eq Wt Net **15.0%**	MSCI:EM **18.2%**	Russell:2000 Index **38.8%**	Russell:1000 Index **13.2%**	NCREIF:NFI-ODCE Eq Wt Net **14.2%**	Russell:2000 Index **21.3%**
Cambridge:PE Index **22.6%**	NCREIF:NFI-ODCE Eq Wt Net **(11.1%)**	MSCI:EAFE **31.8%**	MSCI:EM **18.9%**	BC Aggregate **7.8%**	MSCI:EAFE **17.3%**	Russell:1000 Index **33.1%**	Cambridge:PE Index **11.8%**	Cambridge:PE Index **8.5%**	Russell:1000 Index **12.1%**
NCREIF:NFI-ODCE Eq Wt Net **15.0%**	HFRI Fund of Funds Index (21.4%)	Russell:1000 Index **28.4%**	Cambridge:PE Index **18.8%**	Cambridge:PE Index **7.1%**	Russell:1000 Index **16.4%**	MSCI:EAFE **22.8%**	NCREIF:NFI-ODCE Eq Wt Net **11.4%**	Russell:1000 Index **0.9%**	MSCI:EM **11.2%**
MSCI:EAFE **11.2%**	Cambridge:PE Index **(26.7%)**	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%**	NCREIF:NFI-ODCE Eq Wt Net **8.4%**
HFRI Fund of Funds Index 10.3%	Russell:2000 Index **(33.8%)**	Cambridge:PE Index **17.3%**	NCREIF:NFI-ODCE Eq Wt Net **15.1%**	Russell:2000 Index **(4.2%)**	Cambridge:PE Index **14.0%**	NCREIF:NFI-ODCE Eq Wt Net **12.4%**	Russell:2000 Index **4.9%**	HFRI Fund of Funds Index (0.3%)	BC Aggregate **2.6%**
BC Aggregate **7.0%**	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 Eq Wt Net **9.9%**	HFRI Fund of Funds Index 9.0%	HFRI Fund of Funds Index 3.4%	MSCI:EAFE **(0.8%)**	MSCI:EAFE **1.0%**
Russell:1000 Index **5.8%**	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%)**	HFRI Fund of Funds Index 0.5%
Russell:2000 Index **(1.6%)**	MSCI:EM **(53.3%)**	NCREIF:NFI-ODCE Eq Wt Net **(31.3%)**	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%)**	**Private Equity not yet available**

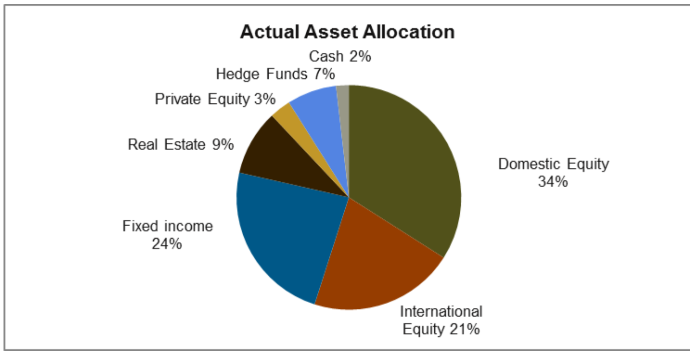
U.S. equities enjoyed strong returns in 2016. Assisted by a strong quarter where small caps surged by 8.8%, the U.S. Small Cap Index (Russell 2000) returned 21.3% in 2016. The U.S. Large Cap Index (Russell 1000) increased by 12.1% in 2016. Emerging Market equities (MSCI EM) have staged an impressive turnaround from a dismal 2013-2015 period with an 11.2% in 2016.

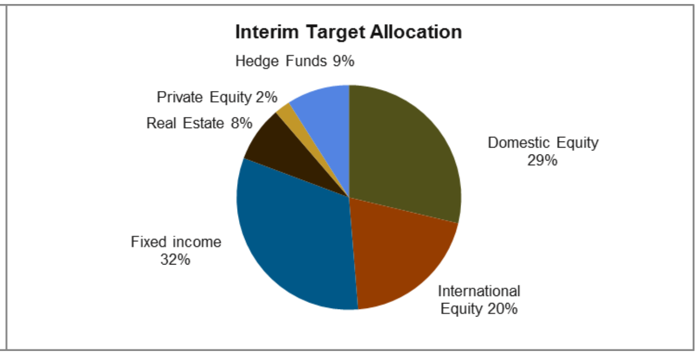
Cook County Pension Fund Commentary

Asset Allocation

The Cook County Pension Fund value at the end of December 2016 was $8.9 billion, representing a net increase of $36.0 million from the prior quarter end. Investments returned $99.1 million for the quarter while net flows to fund benefit payments were $63.1 million.

Currently, assets are overweight to public equities and underweight to fixed income. The fund continued its progress toward its target allocation to private equity with a net investment of approximately $27.8 million in the fourth quarter.





Asset Class	12/31 Actual Allocation (%)	Interim Target (%)*	Strategic Target (%)
Domestic Equity	34.0%	28.7%	25.0%
International Equity	20.9%	20.0%	20.0%
Fixed income	23.6%	32.0%	32.0%
Real Estate	9.4%	8.0%	8.0%
Private Equity	3.0%	2.3%	6.0%
Hedge Funds	7.1%	9.0%	9.0%
Cash	1.8%	0.0%	0.0%
Misc.	0.0%	0.0%	0.0%
Total	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

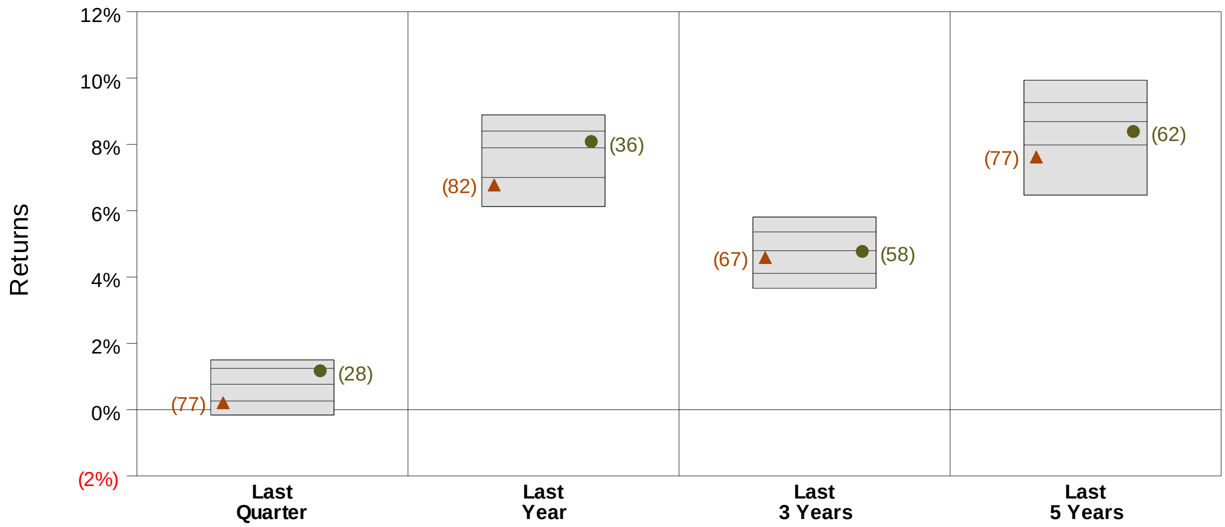
The Cook County Pension Fund generated a 1.13% return in the fourth quarter, outperforming its custom benchmark and peers with strong contributions from equities. In 2016, the Fund has generated an 8.04% return which exceeded its benchmark by 1.26% and outperformed 64% of its public fund peers. The Fund has exceeded its custom benchmark over the last three- and five-year periods with annualized returns of 4.73% and 8.34%, respectively. Active management in international equity and fixed income coupled with an overweight to domestic equities provided the largest contributions to outperformance in the last five years.

County Employees’ and Officers’ Annuity & Benefit Fund of Cook County
Performance Evaluation Executive Summary
Fourth Quarter 2016

In the last twelve months, the fund generated an 8.04% return, beat its benchmark, and outperformed 64% of its public fund peers (Table 1.0). Relative outperformance over the last twelve months has been driven largely by Domestic Equities and Fixed Income.

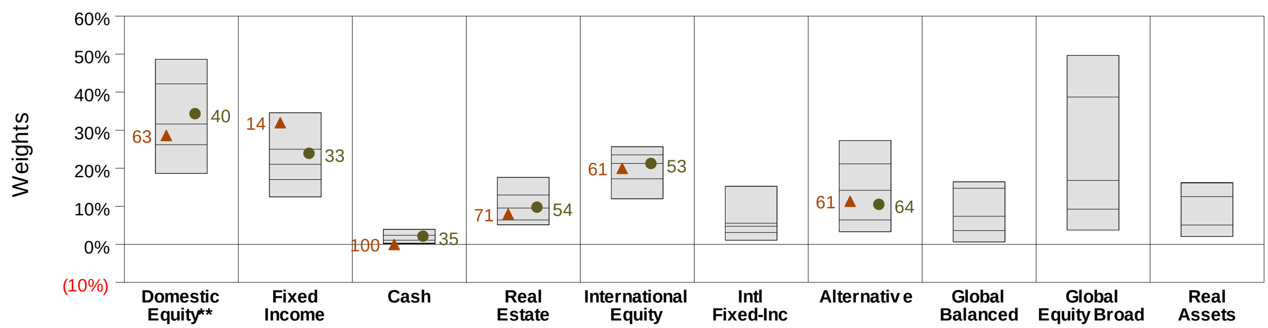
Table 1.0

CAI Public Fund Sponsor - Large (>1B)



	Last Quarter	Last Year	Last 3 Years	Last 5 Years
10th Percentile	1.50	8.89	5.81	9.94
25th Percentile	1.25	8.40	5.36	9.26
Median	0.77	7.90	4.79	8.69
75th Percentile	0.26	7.00	4.11	7.98
90th Percentile	(0.16)	6.12	3.66	6.47
Total Fund ●	1.13	8.04	4.73	8.34
Policy Target ▲	0.21	6.78	4.59	7.62

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	Real Assets
10th Percentile	48.64	34.58	3.95	17.62	25.67	15.28	27.30	16.44	49.69	16.24
25th Percentile	42.17	24.99	2.40	12.98	23.53	5.56	21.16	14.75	38.73	16.14
Median	31.63	21.05	1.10	9.54	21.27	4.76	14.22	7.40	16.81	12.55
75th Percentile	26.20	17.05	0.33	6.42	17.23	3.11	6.42	3.63	9.27	5.08
90th Percentile	18.65	12.46	0.15	5.17	11.98	1.09	3.32	0.62	3.77	2.06
Fund ●	34.01	23.60	1.83	9.45	20.92	-	10.18	-	-	-
Target ▲	28.65	32.00	0.00	8.00	20.00	-	11.35	-	-	-

** Adjusted to reflect actual investments in PE.

County Employees' and Officers' Annuity & Benefit Fund of Cook County
Performance Evaluation Executive Summary
Fourth Quarter 2016

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	**$3,025,045,857**	**34.01%**	**5.58%**	**14.88%**	**7.65%**	**14.23%**
Domestic Equity Benchmark (2)	-	-	4.21%	12.74%	8.43%	14.67%
International Equity	**$1,860,954,161**	**20.92%**	**(2.32%)**	**3.30%**	**(0.64%)**	**6.87%**
International Equity Benchmark (3)	-	-	(1.25%)	4.50%	(1.78%)	5.03%
Fixed Income	**$2,099,236,627**	**23.60%**	**(1.63%)**	**4.28%**	**3.17%**	**2.70%**
Fixed Income Benchmark (4)	-	-	(2.98%)	2.65%	3.03%	2.28%
REITS	**$249,666,161**	**2.81%**	**(2.95%)**	**6.51%**	**11.09%**	**10.36%**
NAREIT Equity Index	-	-	(2.89%)	8.52%	13.38%	12.01%
****Private Real Estate**	**$590,416,838**	**6.64%**	**1.29%**	**9.67%**	**12.53%**	**12.09%**
NFI-ODCE Value Weight Net	-	-	1.88%	7.79%	11.04%	11.16%
****Private Equity**	**$271,235,914**	**3.05%**	**2.53%**	**7.84%**	**8.23%**	**7.16%**
****Hedge Funds**	**$633,952,779**	**7.13%**	**1.81%**	**2.76%**	**4.15%**	**-**
LIBOR + 4%	-	-	1.21%	4.75%	4.42%	4.40%
HFRI Fund of Funds Index	-	-	0.87%	0.52%	1.19%	3.42%
Cash Equivalents	**$163,007,560**	**1.83%**	**0.19%**	**0.54%**	**0.30%**	**0.24%**
3-month Treasury Bill	-	-	0.09%	0.33%	0.14%	0.12%
Total Cook County Fund	**$8,893,516,276**	**100.00%**	**1.13%**	**8.04%**	**4.73%**	**8.34%**
Total Fund Benchmark (1)	-	-	0.21%	6.78%	4.59%	7.62%

**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 Domestic Equity allocation outperformed the benchmark by 1.37% for the quarter, thus providing the largest contribution to the Fund's excess return over the benchmark.

The International Equity allocation trailed the composite benchmark for the quarter. During the longer-term periods appearing above, active management in the International Equity allocation has outperformed its passive benchmark. In the past five years, Cook County's International Equity allocation exceeded the passive benchmark index by approximately 1.85% per annum. Active management in emerging market equities was additive for the year with a 13.99% return.

The Fixed Income allocation exceeded the return of the Bloomberg Barclays Aggregate Index for the quarter by 1.35%. The Global allocation was additive with a 6.56% return for the quarter. Core Plus strategies were additive as this group added approximately 0.70% over the Index. Portfolios with an overweight to asset-backed securities, higher-yield securities and shorter-duration portfolios outperformed.

Real estate has been one of the best performing asset classes over the last three and five years with returns in excess of 11% 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 posted a negative return of 2.95% which was in line with its benchmark during the quarter. REITS are sensitive to increases in interest rates. In the last year, the REIT allocation was up 6.51%. The Private Real Estate portfolio contains primarily core, (income producing real estate), and a small allocation to non-core, closed-end funds. Private Real Estate posted a 1.29% return for the quarter which trailed its benchmark by 0.59%. In the last year, the allocation returned 9.67% and exceeded its benchmark by almost 2%. In the last three- and five-year periods, this allocation has generated returns in excess of 12%.

Presently, the Private Equity program is pursuing a fund-of-funds approach. The current investment of 3.0% is below its long-term strategic target allocation of 6%. Funds committed, but waiting investment have been invested in public equities as the program continues to be implemented. During the quarter, a net investment of $29.5 million was made in funds-of-funds' investments while net distributions of $1.7 million were returned from legacy partnerships.

The Hedge Fund allocation outperformed its absolute return benchmark for the quarter. Although trailing for the last year, it has performed in line with the benchmark over the last three years. The Hedge Fund allocation 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

Hedge Fund of Funds manager DGAM has continued its wind-down and stands at approximately $16.5 million at the end of the fourth quarter. This represents 0.19% of the total fund.

In the last twelve months, the fund generated a 8.04% return, beat its benchmark, and outperformed 64% of its public fund peers (Table 1.0). An overweight allocation to equities has contributed to performance over the last one-, three-, and five-year time periods.

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	25.0%	28.7%
MSCI ACWI ex US	20.0	20.0
BloomBarc Aggregate	32.0	32.0
Libor 3 Month + 4.0%	9.0	9.0
Real Estate	8.0	8.0
Private Equity	6.0	2.3
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.