Callan

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

Performance Summary

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General Market and Economic Conditions

Sanguine Sentiment Fuels Risk-on Rally

The "risk-on" theme persisted through the first quarter as improving economic data trumped elevated geopolitical uncertainty, both in the U.S. and abroad. Economies in the U.S. and Europe continued to gain traction and the U.S. entered its 93rd month of expansion. At the same time, important and potentially divisive elections in Europe, an impeachment in South Korea, heightened tensions with North Korea, innuendo around Russia, civil war in Syria, the Brexit trigger, and an unconventional and inexperienced administration in the U.S. did not rile investors. The S&P 500 surged 6.1%—its best quarterly performance since the fourth quarter of 2015—as expectations for lower taxes, reduced regulation, and other pro-growth reforms helped propel U.S. equity prices to new highs. Non-U.S. stocks also posted strong returns, and emerging market equities beat developed markets. U.S. Treasury yields were range-bound leading to fairly flat returns, and the riskier sectors in fixed income posted the best results. Commodities were the lone area to deliver a negative return, hurt mostly by oil prices falling due to concerns over stockpiles in the U.S.

Economic data in the U.S. were generally strong in the first quarter. Unemployment fell to 4.7% and private nonfarm payroll growth was robust. Consumer Confidence, as measured by the Conference Board, hit its highest level since December 2000. Fourth-quarter GDP was revised up to 2.1% (year-over-year). However, similar to each of the last four years, the first quarter GDP was disappointingly low (0.7%). Personal consumption expenditures growth was revised up to 3.5% and before-tax corporate profits grew 9.3% year-over-year. However, dollar strength was reflected in trade figures as exports fell 4.5%. Housing data also continued to show strength; U.S. single family home starts approached a 10-year high. The Composite Housing Market Index (National Association of Home Builders-Wells Fargo) jumped 9.2% during March, representing the largest gain since June 2005. Inflation edged up with February's headline CPI figure at 2.8% (year-over-year), the fastest rate in five years, and core CPI (excluding food and energy) at 2.2%. The Fed's favored measure, the Personal Consumption Expenditures Price Index, grew 2.1% year-over-year, the most since April 2012. Excluding food and energy, the Index was up 1.8% (year-over-year), nearing the Fed's 2.0% target. Wage growth also picked up; average hourly earnings grew 2.8% (year-over-year) as of February. In a widely expected move, the Fed raised rates in March by 25 bps, bringing the Fed Funds rate to 0.75% - 1.0%. The Federal Reserve Board expects two more rate hikes this year. Markets were unfazed and both stocks and bonds rallied.

The most notable events overseas were on the political front. On March 29, U.K. Prime Minister Theresa May officially notified the European Council of the U.K.'s intent to withdraw from the European Union (EU). Details of this withdrawal will be negotiated over the next two years. The U.K. has been part of the EU for more than 40 years and negotiating the terms of this "divorce" will not be straightforward. Trade and immigration are the thorniest issues and require resolution before the country's EU membership ends in March 2019. A high-profile election in the Netherlands ended with the mainstream ruling party retaining power and the anti-EU party falling short. Similarly, France's presidential elections will be held in April and May, with far-right contender Marine Le Pen making a bid for power. Additionally, the outcome of the German federal election to be held in September of this year is far from certain. Finally, South Korean President Park Geun-hye was impeached and removed from office in March; elections will be held in May.

Economic momentum appears to be picking up in the eurozone. Inflation has been rising and hit a four-year high (2%) at the February reading. Fourth quarter eurozone GDP was 1.7% (year-over-year) and, notably, positive in each country except Greece (-1.2%). Unemployment remained high at 9.5%, though down from its peak of 12.1% in July 2013. Outside of Europe, manufacturing growth in China was strong and its fourth quarter GDP came in at 6.8%, but concerns over excessive credit remain. In Japan, growth remained weak but positive at 1.2% year-over-year as of the fourth quarter.

First Quarter 2017 Market Performance

The S&P 500 Index has lodged gains for eight consecutive calendar years, and the first quarter continued on that trajectory. The Index climbed 6.1% while the tech-heavy NASDAQ gained 10%. In the Tech sector, the "FANG" collective drove results: Facebook (+24%), Amazon (+18%), Netflix (19%), and Google (+8%). Solid quarterly earnings and expectations that President Trump's pro-growth agenda will be executed translated into strong investor sentiment. Growth stocks outperformed value by a wide margin across the capitalization spectrum; the most pronounced difference was in large caps (R1000 G +8.9% vs. R1000 V +3.3%). Large cap stocks also broadly outperformed small (R1000 +6.0% vs. R2000 +2.5%). Small cap value was the only segment to post a negative return (R2000 V -0.1%) for the quarter after leading in 2016 (+31.7%). Within the S&P 500, the Tech sector performed the best (+12.6%). Health Care—the worst performer in 2016—rebounded with an 8.4% return. The worst performing sectors for the quarter were Energy (-6.7%) and Telecom (-4.0%). Pre-tax corporate profits grew sharply in the fourth quarter at 9.3% year-over-year, the fastest gain since 2012.

The equity market's subdued volatility in the first quarter was also noteworthy. The S&P 500 Index had more than 100 days without a 1% decline prior to March 21 when the Index sank 1.2%—the longest stretch since 1995—and only two days during the quarter saw such moves. The VIX, which measures the implied volatility of S&P 500 Index options, closed the quarter at 12, well below its long-term average (since 2004) of roughly 20. At the same time, valuations are lofty (as measured by several oft-cited metrics), potentially painting a scenario for rocky times ahead.

Overseas, the MSCI EAFE Index (+7.2%) modestly outperformed U.S. markets. Dollar weakness bolstered results; in local terms the Index gained just +4.7%. Gains spanned multiple countries including Spain (+14.8%), Germany (+8.4%), the U.K. (+5.0%), France (+7.3%), and Japan (+4.5%). Emerging markets bested developed (MSCI EM USD: +11.4%; MSCI EM Local: +7.8%) and were also helped by dollar weakness. Countries with the top performance included India (+17.1%), Mexico (+16.0%), Korea (+16.8%), China (+12.9%), and Brazil (+10.4%). Russia fared the worst (-4.6%), pulling back from a 55% gain in 2016.

U.S. Treasury yields were relatively range-bound in the first quarter despite a Fed hike in March. The 10-year U.S. Treasury hit an intra-quarter high of 2.62% on March 13 and closed the quarter at 2.40%, five basis points lower than at year-end. TIPS performed relatively well as expectations for future inflation climbed. The 10-year breakeven spread (the difference between nominal and real yields) was 197 bps as of quarter-end, and the Bloomberg Barclays TIPS Index gained 1.3% for the quarter. The Bloomberg Barclays Aggregate Index earned 0.8%; within the Index, corporate bonds outperformed like-duration Treasuries, with BBB-rated credit (+1.7%) posting the strongest returns. Mortgages underperformed Treasuries on a duration-adjusted basis, as expectations that the Fed would begin to trim its reinvestment in the sector weighed on the market. The

Bloomberg Barclays High Yield Index gained 2.7%, with lower-rated bonds again outperforming higher-rated issues.

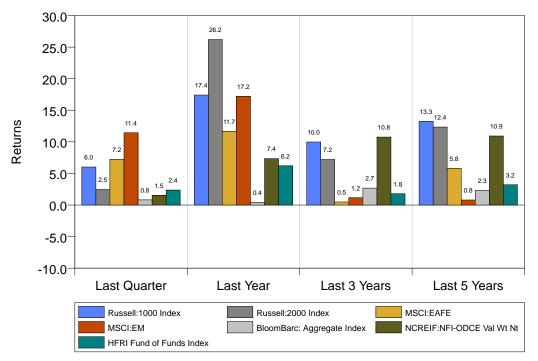
Overseas, rates were generally modestly higher. However, broad-based dollar weakness boosted returns. The U.S. dollar lost nearly 5% versus the yen and depreciated to a lesser extent versus other developed markets currencies. The Bloomberg Barclays Global Aggregate Index returned 1.8% (unhedged) versus 0.4% for the hedged version. Consistent with the risk-on theme evident across asset classes, emerging markets debt outperformed developed markets. The JPM EMBI Global Diversified Index (\$ denominated) gained 3.9% and the local currency JPM GBI-EM Global Diversified Index was up 6.5%.

After rising more than 50% in 2016, Brent crude prices fell 7% to \$52.83 in the first quarter. The S&P GSCI Commodity Index lost 5.1%. However, MLPs posted positive returns for the quarter (Alerian MLP Index +3.9%). REITs were essentially flat (MSCI REIT: +1.0%) and gold was up nearly 9%. U.S. TIPS also did well (relative to nominal U.S. Treasuries) as expectations for future inflation climbed. The Barclays U.S. TIPS Index returned 1.3% for the quarter.

Closing Thoughts

We entered 2017 with U.S. stock markets at record highs, interest rates rising, and historically low volatility. The first quarter saw a continuation of most of those themes, with rising interest rates being the exception. While economies in the U.S. and Europe continued to gain traction, investors exhibited a high degree of complacency. Valuations are stretched by many measures across asset classes and markets have experienced extraordinarily low volatility, relative to historical norms. However, many risks lurk and there is no certainty that the pro-growth policies envisioned by enthusiastic market participants will come to fruition. Given the sanguine view reflected in market prices, we encourage clients to temper expectations for returns and brace for more volatility, which we expect to increase from current levels. Much uncertainty remains with respect to the scope, implementation, and timing of Trump's agenda, and myriad other geopolitical issues are confronting the world, as well. As always, Callan encourages investors to maintain a long-term perspective and prudent asset allocation with appropriate levels of diversification.





Domestic equities were positive, and large cap equities as measured by the Russell 1000 Index posted a large premium over small caps as measured by the Russell 2000 Index. Non-U.S. equities, both emerging and developed, outperformed domestic equities with a boost from the weakening dollar. Fixed income returns were modestly positive. Real estate and hedge funds were positive as measured by the representative market indices.

The Callan Periodic Table of Investment Returns First Quarter 2017

2008	2009	2010	2011	2012	2013	2014	2015	2016	1 Qtr. 2017
BC Aggregate	MSCI:EM	Russell:2000 Index	NCREIF:NFI- ODCE Val Wt Nt	MSCI:EM	Russell:2000 Index	Russell:1000 Index	NCREIF:NFI- ODCE Val Wt Nt	Russell:2000 Index	MSCI:EM
5.2%	78.5%	26.9%	15.0%	18.2%	38.8%	13.2%	14.0%	21.3%	11.4%
NCREIF:NFI- ODCE Val Wt Nt	MSCI:EAFE	Cambridge:PE Index	BC Aggregate	MSCI:EAFE	Russell:1000 Index	Cambridge:PE Index	Cambridge:PE Index	Russell:1000 Index	MSCI:EAFE
(10.7%)	31.8%	19.3%	7.8%	17.3%	33.1%	11.9%	8.7%	12.1%	7.2%
HFRI Fund of Funds Index	Russell:1000 Index	MSCI:EM	Cambridge:PE Index	Russell:1000 Index	MSCI:EAFE	NCREIF:NFI- ODCE Val Wt	Russell:1000 Index	MSCI:EM	Russell:1000 Index
(21.4%)	28.4%	18.9%	7.1%	16.4%	22.8%	Nt 11.5 %	0.9%	11.2%	6.0%
Cambridge:PE Index	Russell:2000 Index	Russell:1000 Index	Russell:1000 Index	Russell:2000 Index	Cambridge:PE Index	BC Aggregate	BC Aggregate	Cambridge:PE Index	Cambridge:PE Index
(26.6%)	27.2%	16.1%	1.5%	16.3%	21.1%	6.0%	0.5%	9.2%	3.9%
Russell:2000 Index	Cambridge:PE Index	NCREIF:NFI- ODCE Val Wt	Russell:2000 Index	Cambridge:PE Index	NCREIF:NFI- ODCE Val Wt	Russell:2000 Index	HFRI Fund of Funds Index	NCREIF:NFI- ODCE Val Wt	Russell:2000 Index
(33.8%)	17.3%	Nt 15.3 %	(4.2%)	13.5%	Nt 12.9 %	4.9%	(0.3%)	Nt 7.8 %	2.5%
Russell:1000 Index	HFRI Fund of Funds Index	MSCI:EAFE	HFRI Fund of Funds Index	NCREIF:NFI- ODCE Val Wt	HFRI Fund of Funds Index	HFRI Fund of Funds Index	MSCI:EAFE	BC Aggregate	HFRI Fund of Funds Index
(37.6%)	11.5%	7.8%	(5.7%)	Nt 9.8 %	9.0%	3.4%	(0.8%)	2.6%	2.4%
MSCI:EAFE	BC Aggregate	BC Aggregate	MSCI:EAFE	HFRI Fund of Funds Index	BC Aggregate	MSCI:EM	Russell:2000 Index	MSCI:EAFE	NCREIF:NFI- ODCE Val Wt
(43.4%)	5.9%	6.5%	(12.1%)	4.8%	(2.0%)	(2.2%)	(4.4%)	1.0%	Nt 1.5 %
MSCI:EM	NCREIF:NFI- ODCE Val Wt	HFRI Fund of Funds Index	MSCI:EM	BC Aggregate	MSCI:EM	MSCI:EAFE	MSCI:EM	HFRI Fund of Funds Index	BC Aggregate
(53.3%)	Nt (30.4%)	5.7%	(18.4%)	4.2%	(2.6%)	(4.9%)	(14.9%)	0.5%	0.8%

As illustrated in the chart, emerging markets continued its strong rally with a weakening dollar as a tailwind. Developed markets as measured by the EAFE Index also fared well versus its domestic counterpart. In a reversal of the trend in 2016, 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 1st quarter from \$8.92 billion to \$9.29 billion. During the guarter, the Fund generated \$362.0 million from investment returns and experienced net additions of \$7.6 million.

The contribution from sales tax proceeds mitigated the need for cash from other funding sources to meet benefit obligations. The fund of funds investment received an additional \$1 million as the legacy private equity investments continued to unwind.



	Mkt Value	Percent of	Interim	Strategic
Asset Class	(\$000s)	Total (%)	Target*	Target
Domestic Equity	3,174,500	34.2%	28.5%	25.0%
International Equity	2,014,025	21.7%	20.0%	20.0%
Fixed income	2,133,340	23.0%	32.0%	32.0%
Real Estate	832,245	9.0%	8.0%	8.0%
Private Equity	280,470	3.0%	2.5%	6.0%
Hedge Funds	646,384	7.0%	9.0%	9.0%
Cash	204,729	2.2%	0.0%	0.0%
Miscellaneous Assets	-	0.0%	0.0%	0.0%
Total	9,285,693	100.0%	100.0%	100.0%

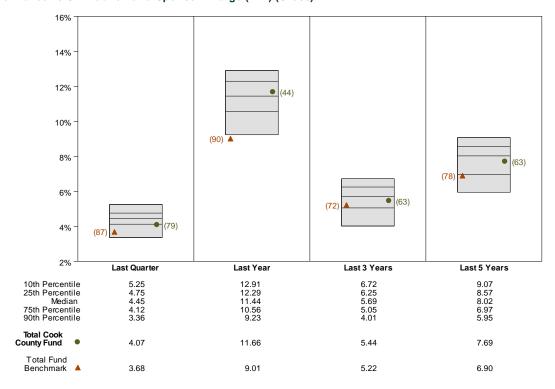
^{*}Interim target reflect modifications for non-public asset classes such as private equity that cannot be funded or rebalanced as regularly as public market strategies due to the illiquid nature of the investments.

Cook County Performance vs. Target

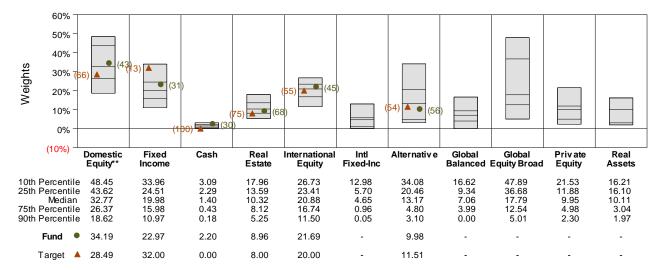
The Cook County Pension Fund generated a 4.07% return in the first quarter, outperforming its custom benchmark with a strong relative contribution from fixed income. In the last twelve months, the fund generated an 11.66% return, beat its benchmark, and outperformed 56% of its public fund peers (Table 1.0). Relative outperformance has been driven by 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 7.69%, respectively. Active management in international equity provided the strongest absolute return while an overweight to domestic equities (underweight to fixed income) also contributed to outperformance in the last five years.

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



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



^{**} Adjusted to reflect actual investments in PE.

Table 1.0

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	\$3,174,499,670	34.19%	4.94%	20.05%	8.72%	12.94%
Domestic Equity Benchmark (2)	-	-	5.74%	18.07%	9.76%	13.18%
International Equity	\$2,014,025,233	21.69%	8.23%	11.93%	2.02%	6.03%
International Equity Benchmark (3)	-	-	7.86%	13.13%	0.56%	4.28%
Fixed Income	\$2,133,340,041	22.97%	1.63%	3.17%	2.97%	2.87%
Fixed Income Benchmark (4)	-	-	0.82%	0.44%	2.68%	2.36%
REITS	\$254,545,745	2.74%	1.96%	3.60%	8.74%	8.60%
NAREIT Equity Index	-	-	1.16%	3.56%	10.26%	9.99%
**Priv ate Real Estate	\$577,698,569	6.22%	0.23%	9.78%	11.68%	11.54%
NFI-ODCE Value Weight Net	· · ·	-	1.54%	7.36%	10.77%	10.94%
**Priv ate Equity	\$280,470,478	3.02%	0.37%	10.97%	7.19%	8.09%
**Hedge Funds	\$646,383,870	6.96%	2.44%	9.68%	4.22%	-
LIBOR + 4%	-	-	1.24%	4.84%	4.49%	4.42%
HFRI Fund of Funds Index	-	-	2.38%	6.22%	1.80%	3.22%
Cash Equivalents	\$204,729,260	2.20%	0.23%	0.65%	0.37%	0.28%
3-month Treasury Bill	<u> </u>	-	0.10%	0.36%	0.17%	0.14%
Total Cook County Fund	\$9,285,693,247	100.00%	4.07%	11.66%	5.44%	7.69%
Total Fund Benchmark (1)		-	3.68%	9.01%	5.22%	6.90%

^{**}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 Fixed Income allocation outperformed its benchmark by 0.81% for the quarter, thus providing the largest contribution to the Fund's excess return over the benchmark.

The International Equity allocation exceeded the composite benchmark for the quarter. In addition, during the longer-term periods appearing above, active management in the International Equity allocation has been a key contributor to outperformance. In the past five years, Cook County's International Equity allocation exceeded the passive benchmark index by approximately 1.75% per annum.

The Fixed Income allocation exceeded the return of the Bloomberg Barclays Aggregate Index for the quarter by 0.81%. The Global allocation was additive with a 5.38% return for the quarter. Core Plus strategies were also additive as this group added approximately 0.80% over the Index.

Real estate has been one of the better performing asset classes over the last three and five years with returns in excess of 9.7% 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 strong return of 1.96% which exceeded its benchmark by 0.80% during the quarter. 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 0.23% return for the quarter which trailed its benchmark by 1.31%. In the last year, this allocation returned 9.78% and exceeded its benchmark by over 2.4%. In the last three- and five-year periods, this allocation has generated returns in excess of 11.5% annualized.

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.

The Hedge Fund allocation outperformed its absolute return benchmark for the quarter by 1.2%. In the last year, it has returned approximately 9.7%, 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 Fundof-Funds Index and the Callan peer universe over the last one- and three-year periods.

Notes and Observations

The Fund has modified its allocation targets which will be effective April 1, 2017.

Notes

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	Interim	
	<u>Target</u>	<u>Target</u>	
Russell 3000	25.0%	28.5%	
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	2.5	
Total Target	100.0%	100.0%	

- 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.
- 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. 3% Global ex US under \$2 billion through 12/31/12; MSCI ACWI ex-US thereafter.
- 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.