Callan

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

Performance Summary

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Macroeconomic Environment

2021—Off with Gusto!

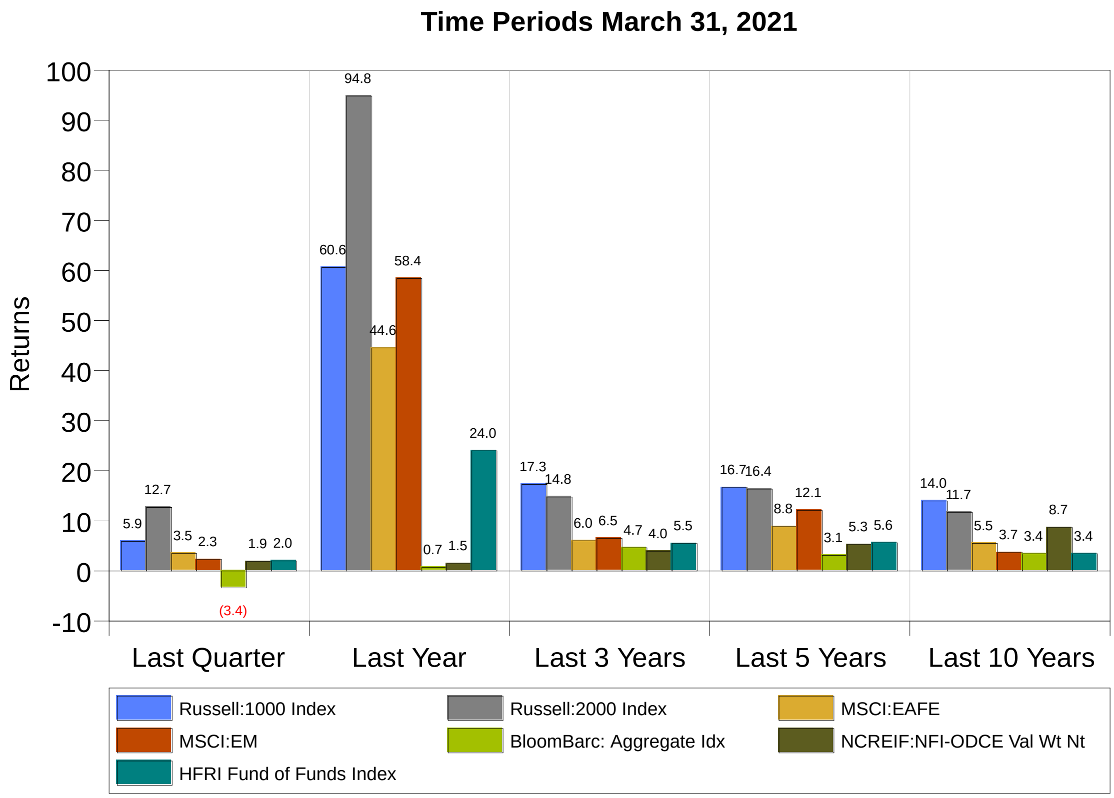
The roll-out of vaccines and ongoing central bank stimulus fueled optimism and drove equity prices higher during the quarter but also spurred concerns over inflation, pushing U.S. Treasury yields higher during the first three months of the year. A $1.9 trillion stimulus package was signed into law, and an additional $2-plus trillion infrastructure proposal lies in the wings. The S&P 500 Index hit an intra-day record high going into quarter-end and is in "overvalued" territory by a number of valuation metrics, reflecting robust earnings expectations. Overseas markets generally outperformed the U.S. in local terms, but a strengthening U.S. dollar eroded much of the relative gains. The U.S. Treasury 10-year yield closed the quarter at 1.74%, above the S&P 500 dividend yield (+1.5%) for the first time since mid-2019.

Employment gains, consumer spending and confidence, and housing were among the bright spots during the quarter. And on April 1 the ISM manufacturing print (64.7) was the highest since 1983 (a reading over 55 signals "exceptional growth"). Fourth quarter real GDP was revised up to 4.3%, bringing the 2020 figure to -3.5%. A survey of economists by *The Wall Street Journal* revealed that the average 2021 forecast was boosted to 6%, which would be the fastest pace since 1983. In further good news, the Conference Board's U.S. consumer confidence index hit a one-year high in March and posted the largest one-month gain in 18 years. As for housing, the S&P CoreLogic Case-Shiller National Home Price Index, which measures average home prices in major cities, gained just over 11% y-o-y as of Jan. 31, its highest annual rate since 2006. The surge in housing prices has been fueled by low mortgage rates and record low inventory.

The recently passed stimulus package represents roughly 10% of U.S. GDP; with last year's stimulus, the total is about $5 trillion or 25% of U.S. GDP. The recent package included $1,400 checks to qualified individuals, an extension of unemployment insurance, and aid to state and local governments. The Congressional Budget Office projects that the federal budget deficit will reach $2.3 trillion in 2021, just over 10% of GDP and the second highest level since 1945, exceeded only by last year's figure. In the 2020 fiscal year, which ended Sept. 30, the deficit hit a record $3 trillion. Note also that the CBO's 2021 projection does not include the recent $2 trillion stimulus package.

At its March meeting, the FOMC increased its GDP projection for 2021 from 4.2% to 6.5% (falling to 2.2% in 2023), and its median projection for year-end unemployment fell to 4.5%. However, expectations for PCE core inflation remain muted (2.2% in 2021; 2.0% in 2022). The Fed funds rate was kept on hold at close to 0%, and asset purchases are slated to continue. And, importantly, expectations for rate hikes remain on the distant horizon. The Fed's statement that "the ongoing public health crisis continues to weigh on economic activity, employment, and inflation and poses considerable risks to the economic outlook" indicated that it is in no rush to raise rates or taper its asset purchases and re-confirmed the view that is willing to let inflation run above its long-term target of 2%. It also acknowledges that full employment will take time to achieve. While market participants worry that rapid economic growth combined with prospects for increased Treasury supply to fund a growing deficit will lead to additional inflation, the numbers have yet to reflect that concern. As of February, headline CPI was 1.7% y-o-y and core CPI was 1.3% y-o-y in spite of higher energy and food prices. Some expect that any rise in inflation will be short-lived. The recent stimulus package is a one-time injection that is not expected to fuel long-term inflation; likewise, pent-up demand will likely have a short-term effect on price gains but not necessarily a protracted impact. Finally, secular changes including technology innovation and shifting demographics continue to temper inflationary pressures. As the Fed has repeatedly made clear, it is willing to accept inflation that runs above 2% in order to reach a longer-term average of its 2% target.

First Quarter 2021 Market Performance



U.S. equity indices delivered mostly positive results (Russell MidCap Growth was the lone exception with a 0.6% loss). The S&P 500 Index (+6.2%) was led by Energy (+30.9%) and Financials (+16.0%), while Information Technology (+2.0%) and Consumer Staples (+1.1%) lagged. Value sharply outperformed growth; R1000V: +11.3%; R1000G: +0.9%. Value stocks have underperformed growth since the market peak in February 2020, but the gap has narrowed significantly over the last two quarters. Small cap stocks sharply outperformed large cap during the quarter (R2000: +12.7%; R1000: +5.9%), benefiting from less exposure to the Technology sector as well as strong performance from Retail. Certain sectors have experienced sharp double-digit increases in recent months as vaccine-induced optimism has fueled a rebound. Data from JP Morgan shows that from Nov. 6, 2020 (reflecting the last business day before it was announced that a vaccine candidate had better than 90% efficacy against COVID-19), airlines, energy, retail REITs, and cruise lines/hotels/resorts have soared more than 50%.

Global ex-U.S. indices posted positive results but generally lagged the U.S., due largely to U.S. dollar strength. The MSCI ACWI ex-USA Index gained 3.5% but was up 6.5% in local currency terms. The greenback gained 6.6% vs. the yen and nearly 4% vs. the euro over the quarter on bright prospects for economic growth in the U.S. and rising interest rates. The U.K. (+6.2%) delivered relatively strong results while Europe (+3.5%) and Japan (+1.6%) lagged. As in the U.S., small cap stocks outperformed large; value outperformed growth; and Financials did especially well. Emerging markets lagged developed markets; the MSCI Emerging Markets Index gained 2.3% and 4.0% in local terms. China (-0.4%) and Brazil (-10.0%) were laggards as President Xi intensified regulation of China's tech sector, pressuring share prices, and Brazil struggled to contain COVID-19. Taiwan (+10.9%) was a top performer, and the country is up more than 90% over the last 12 months, boosted by its heavy weighting in and strong performance from Technology stocks. In contrast, South Korea posted a muted 1.6% gain.

Concerns over future inflation drove the 10-year U.S. Treasury yield to an intraday high of 1.77% in March, a 15-month high, before closing the quarter at 1.74%, up from 0.93% at year-end. The Bloomberg Barclays US Treasury Index fell 4.3%, and the long-term US Treasury Index (-13.5%) suffered its harshest decline since 1980. TIPS (-1.5%), outperformed nominal Treasuries as 10-year breakeven spreads widened from 1.99% at year-end to 2.37% as of March 31. The Bloomberg Barclays US Aggregate Bond Index fell 3.4%, with spread sectors outperforming Treasuries and lower quality faring the best. High yield corporates posted a 0.8% gain, as measured by Bloomberg Barclays, amid a record-making spate of issuance. The CCC-rated sector gained 3.6%, benefiting from risk-on sentiment, rising stock markets, and the recovery of some COVID-19 victims (airlines, retail, energy). Bank loans, which have floating rate coupons and a relatively short duration, gained 1.8% (S&P LSTA). Municipals outperformed U.S. Treasuries against a favorable supply/demand backdrop (Bloomberg Barclays Municipal Bond: -0.4%). In addition, the market was supported by the $350 billion allocated to support state and local governments in the recent stimulus package.

Rates also rose overseas and a strengthening U.S. dollar further eroded foreign bond returns for U.S. investors. The Bloomberg Barclays Global Aggregate ex-US Bond Index fell 5.3% (-1.9% hedged). The dollar gained nearly 4% versus a basket of currencies. Emerging market debt returns were also negative. The JP Morgan EMBI Global Diversified fell 4.5% and the local currency JP Morgan GBI-EM Global Diversified sank 6.7%.

Real assets posted strong returns in 1Q on prospects for a robust recovery as well as a potential hedge against coming inflation. Oil prices continue to climb with Brent Crude oil closing at over $60/barrel. The Alerian MLP Index was up 22% for the quarter. The S&P GSCI Index soared 13.5% although gold (spot price: -9.5%) declined. REITs, as measured by the MSCI U.S. REIT Index, rose 8.8%. The Bloomberg Barclays 1-10 Yr. US TIPS Index posted a muted 0.6% result, but outperformed nominal U.S. Treasuries as inflation expectations rose.

Closing Thoughts

What a difference a vaccine makes! Pent-up demand for restaurants, movies, travel, and shopping are expected to unleash consumer spending and support a robust economic recovery in 2021. Stock markets appear to be priced for this scenario. With that, rising rates and simmering concerns over inflation are clouds on the horizon. So far, the Fed is unwavering in its commitment to remain accommodative until it meets its full employment and inflation objectives. The 2021 path of the economy, the pandemic, and the markets is likely to provide some twists and turns, and while the start has been bright, Callan continues to advise adherence to a disciplined investment process that includes a well-defined long-term asset allocation policy and, if applicable, to understand the risks undertaken to improve expected investment returns.

The Callan Periodic Table of Investment Returns
First Quarter 2021

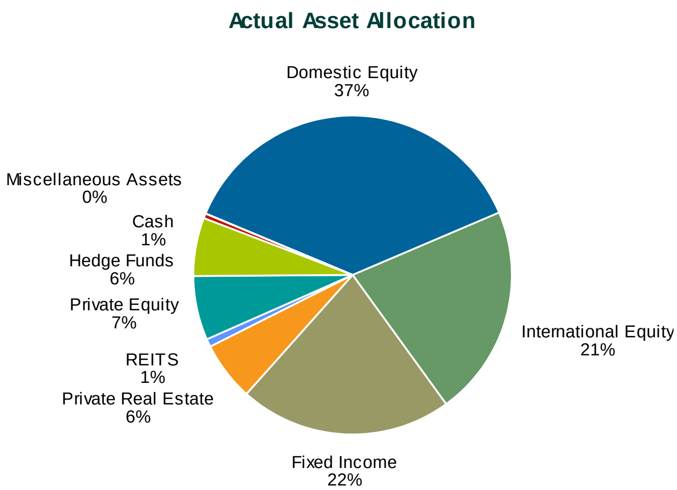
2012	2013	2014	2015	2016	2017	2018	2019	2020	1 Qtr. 2021
MSCI:EM **18.2%**	Russell:2000 Index **38.8%**	Russell:1000 Index **13.2%**	NCREIF:NFI-ODCE Val Wt Nt **14.0%**	Russell:2000 Index **21.3%**	MSCI:EM **37.3%**	Cambridge:PE Idx **9.8%**	Russell:1000 Index **31.4%**	Cambridge:PE Idx **28.9%**	Russell:2000 Index **12.7%**
MSCI:EAFE **17.3%**	Russell:1000 Index **33.1%**	Cambridge:PE Idx **11.8%**	Cambridge:PE Idx **8.6%**	Russell:1000 Index **12.1%**	MSCI:EAFE **25.0%**	NCREIF:NFI-ODCE Val Wt Nt **7.4%**	Russell:2000 Index **25.5%**	Russell:1000 Index **21.0%**	Russell:1000 Index **5.9%**
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 **21.7%**	BC Aggregate **0.0%**	MSCI:EAFE **22.0%**	Russell:2000 Index **20.0%**	MSCI:EAFE **3.5%**
Russell:2000 Index **16.3%**	Cambridge:PE Idx **21.2%**	BC Aggregate **6.0%**	BC Aggregate **0.5%**	Cambridge:PE Idx **9.5%**	Cambridge:PE Idx **19.6%**	HFRI Fund of Funds Index (4.0%)	MSCI:EM **18.4%**	MSCI:EM **18.3%**	MSCI:EM **2.3%**
Cambridge:PE Idx **13.7%**	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%**	Russell:2000 Index **14.6%**	Russell:1000 Index **(4.8%)**	Cambridge:PE Idx **16.2%**	HFRI Fund of Funds Index 10.9%	HFRI Fund of Funds Index 2.0%
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%**	HFRI Fund of Funds Index 7.8%	Russell:2000 Index **(11.0%)**	BC Aggregate **8.7%**	MSCI:EAFE **7.8%**	NCREIF:NFI-ODCE Val Wt Nt **1.9%**
HFRI Fund of Funds Index 4.8%	BC Aggregate **(2.0%)**	MSCI:EM **(2.2%)**	Russell:2000 Index **(4.4%)**	MSCI:EAFE **1.0%**	NCREIF:NFI-ODCE Val Wt Nt **6.7%**	MSCI:EAFE **(13.8%)**	HFRI Fund of Funds Index 8.4%	BC Aggregate **7.5%**	BC Aggregate **(3.4%)**
BC Aggregate **4.2%**	MSCI:EM **(2.6%)**	MSCI:EAFE **(4.9%)**	MSCI:EM **(14.9%)**	HFRI Fund of Funds Index 0.5%	BC Aggregate **3.5%**	MSCI:EM **(14.6%)**	NCREIF:NFI-ODCE Val Wt Nt **4.4%**	NCREIF:NFI-ODCE Val Wt Nt **0.3%**	Private Equity not yet available

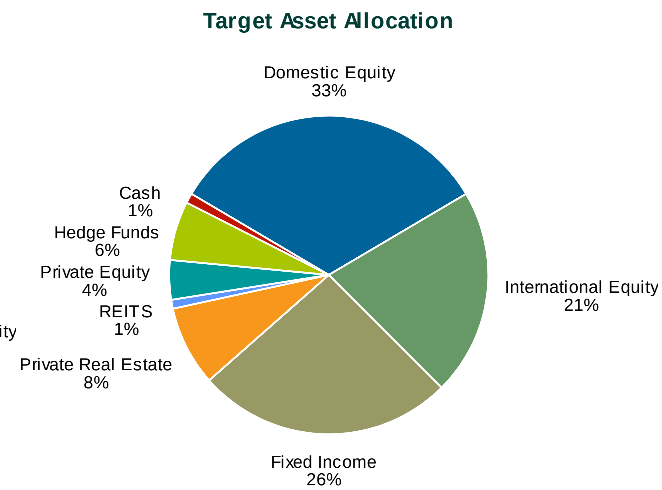
In the first quarter of 2021, Small Cap Equity was the top performing asset class (Russell 2000 Index: +12.7%), leading Large Cap Equity (Russell 1000 Index: +5.9%). Developed International Equities (MSCI EAFE Index: +3.5%) outperformed Emerging Markets (MSCI Emerging Markets: +2.3%). Hedge Funds (HFRI Fund of Funds Index: +2.0%) modestly outperformed Real Estate (NCREIF: NFI-ODCE Value Weighted Net Index: +1.9%). Fixed Income (Bloomberg Barclays US Aggregate Bond Index: -3.4%) was the only asset class to earn negative returns for the quarter.

Cook County Pension Fund Commentary

Asset Allocation

The Cook County Fund ("Fund") ended March with a market value of $12.68 billion, a $376 million increase from the fourth quarter value of $12.31 billion. During the quarter, the Fund gained $426 million from investment returns and experienced net outflows of $50 million.





Asset Class	$000s Actual	Weight Actual	Min Target	Target	Max Target	Percent Difference	$000s Difference
Domestic Equity	4,732,717	37.3%	29.0%	33.0%	37.0%	4.3%	546,909
International Equity	2,710,666	21.4%	17.0%	21.0%	25.0%	0.4%	46,970
Fixed Income	2,736,627	21.6%	22.0%	26.0%	30.0%	(4.4%)	(561,282)
Private Real Estate	761,358	6.0%	5.0%	8.0%	13.0%	(2.0%)	(250,847)
REITS	102,801	0.8%	0.0%	1.0%	2.6%	(0.2%)	(26,578)
Private Equity	830,619	6.5%	0.0%	4.0%	8.0%	2.5%	323,248
Hedge Funds	742,876	5.9%	0.0%	6.0%	10.0%	(0.1%)	(18,180)
Cash	66,552	0.5%	0.0%	1.0%	5.0%	(0.5%)	(60,291)
Miscellaneous Assets	52	0.0%	0.0%	0.0%	0.0%	0.0%	52
Total	12,684,268	100.0%		100.0%			

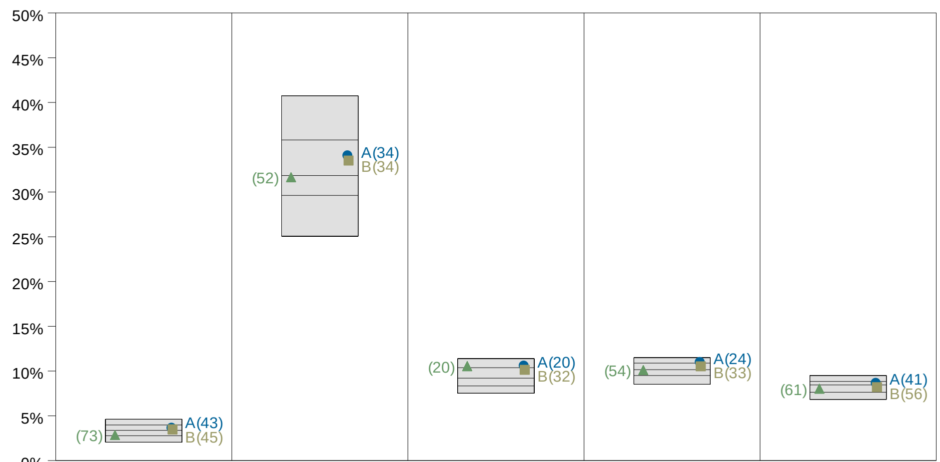
Cook County Performance vs. Target

The Cook County Pension Fund generated a return of 3.49% in the first quarter, leading its custom benchmark. Domestic Equity returned 6.76% for the quarter, leading the benchmark. International Equity (+3.47%) trailed its benchmark for the quarter. Fixed Income (-2.69%) posted the lowest absolute return for the quarter, but outperformed its benchmark. REITS (+8.86%) posted a strong absolute return for the quarter, but modestly trailed its benchmark. Private Real Estate and Hedge Funds underperformed their respective benchmarks for the quarter. Active management in Domestic Equity and Fixed Income added value for the quarter. An underweight to Fixed Income and an overweight to Domestic Equity and Private Equity also added value for the period.

Over the trailing year, the Fund returned 33.51% and led its benchmark return (+31.66%). Additionally, the Fund leads its custom benchmark (+10.11%) over the last five-year period with an annualized net of fee return of 10.53%. Over the trailing five years, active management in International Equity and Private Real Estate has added value. An underweight to Fixed Income has also added value. In relation to peers, the Fund ranks ahead of the peer group median over the trailing quarter and one-, three-, and five-year periods. Over the trailing ten years, the Fund's return of 8.20% leads its benchmark (+8.03%).

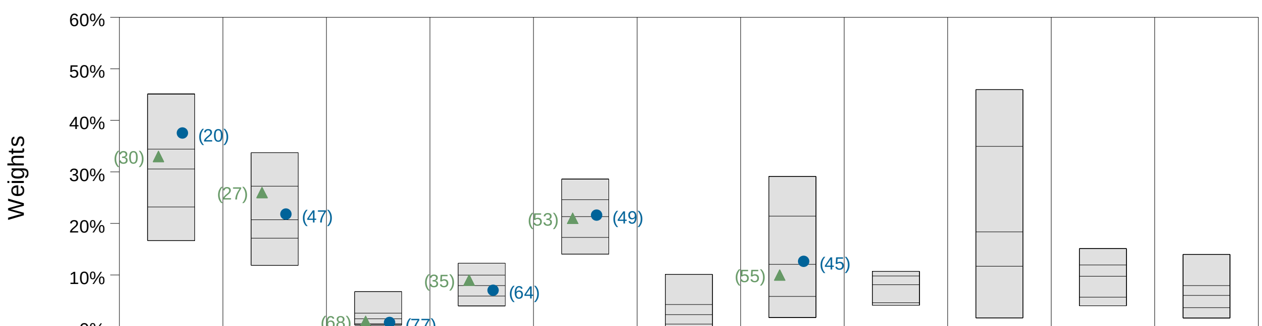
Table 1.0

Performance vs Callan Public Fund Spons - Large (>1B) (Gross)



	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
10th Percentile	4.61	40.75	11.39	11.50	9.50
25th Percentile	3.98	35.82	10.37	10.89	8.84
Median	3.38	31.85	9.21	10.15	8.44
75th Percentile	2.78	29.62	8.34	9.51	7.64
90th Percentile	2.06	25.06	7.53	8.52	6.83
Total Cook (Gross) ● A	3.55	33.99	10.51	10.90	8.57
Total Cook County (Net) ■ B	3.49	33.51	10.14	10.53	8.20
Total Fund Benchmark ▲	2.85	31.66	10.55	10.11	8.03

Asset Class Weights vs Callan Public Fund Spons - 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	45.12	33.71	6.77	12.27	28.60	10.12	29.11	10.70	45.96	15.12	14.00
25th Percentile	34.40	27.23	2.58	9.98	24.59	4.25	21.42	9.80	34.94	11.92	7.93
Median	30.56	20.71	1.49	7.94	21.31	2.31	12.06	8.12	18.34	9.74	6.03
75th Percentile	23.19	17.12	0.54	5.91	17.28	0.47	5.82	4.60	11.67	5.67	3.65
90th Percentile	16.67	11.85	0.28	3.98	14.05	0.01	1.75	4.11	1.67	4.00	1.64
Fund ●	37.31	21.57	0.52	6.81	21.37	-	12.41	-	-	-	-
Target ▲	33.00	26.00	1.00	9.00	21.00	-	10.00	-	-	-	-

County Employees' and Officers' Annuity & Benefit Fund of Cook County
Performance Evaluation Executive Summary
First Quarter 2021

Table 1.1
Asset Class Performance vs. Target (Net of Fees)

	Market Value $(Dollars)	Ending Weight	Last Quarter	Last Year	Last 3 Years	Last 5 Years	Last 10 Years
Domestic Equity	**$4,732,717,311**	**37.31%**	**6.76%**	**63.15%**	**15.84%**	**16.16%**	**12.78%**
Domestic Equity Benchmark (2)	-	-	6.35%	62.53%	17.12%	16.64%	13.65%
International Equity	**$2,710,666,088**	**21.37%**	**3.47%**	**50.94%**	**6.60%**	**9.98%**	**6.21%**
International Equity Benchmark (3)	-	-	3.77%	51.94%	6.51%	9.79%	4.86%
Fixed Income	**$2,736,627,254**	**21.57%**	**(2.69%)**	**5.03%**	**4.21%**	**3.39%**	**3.52%**
Fixed Income Benchmark (4)	-	-	(3.04%)	0.80%	4.64%	3.09%	3.46%
REITS	**$102,801,066**	**0.81%**	**8.86%**	**35.12%**	**9.67%**	**6.18%**	**-**
NAREIT Equity Index	-	-	8.87%	37.78%	9.45%	5.33%	8.56%
****Private Real Estate**	**$761,357,521**	**6.00%**	**0.09%**	**2.49%**	**5.37%**	**6.38%**	**9.07%**
NFI-ODCE Value Weight Net	-	-	1.89%	1.47%	3.96%	5.26%	8.67%
****Private Equity**	**$830,619,206**	**6.55%**	**12.58%**	**39.24%**	**28.87%**	**24.09%**	**11.37%**
****Hedge Funds**	**$742,876,250**	**5.86%**	**0.43%**	**4.50%**	**3.63%**	**5.05%**	**-**
LIBOR + 4%	-	-	1.03%	4.28%	5.64%	5.44%	4.89%
HFRI Fund of Funds Index (5)	-	-	5.83%	14.58%	5.32%	5.80%	3.43%
Cash Equivalents	**$66,551,974**	**0.52%**	**0.02%**	**0.19%**	**1.69%**	**1.45%**	**0.79%**
3-month Treasury Bill	-	-	0.02%	0.12%	1.49%	1.19%	0.63%
Total Cook County Fund	**$12,684,268,318**	**100.00%**	**3.49%**	**33.51%**	**10.14%**	**10.53%**	**8.20%**
Total Fund Benchmark (1)	-	-	2.85%	31.66%	10.55%	10.11%	8.03%

**Represents trailing data.
Footnotes found on the back page

Table 1.1 illustrates the Cook County Fund's asset class performance against associated benchmarks. The Cook County Fund's Domestic Equity allocation outperformed its benchmark for the quarter and trailing year. International Equity trailed its benchmark, but has enjoyed success over longer periods, outperforming the benchmark on a trailing three-, five-, and ten-year basis.

During the first quarter, the Fixed Income allocation returned -2.69% compared to the -3.04% return of the Bloomberg Barclays Aggregate Index. Active management, as well as an underweight to the asset class, added value in the first quarter. The allocation leads its benchmark over the trailing one-, five-, and ten-year periods.

The Real Estate allocation is comprised of investments in public real estate securities (REITS) and Private Real Estate. The Private Real Estate allocation contains primarily core investments (income producing real estate) and a small allocation to non-core, closed-end funds. In the first quarter, Private Real Estate underperformed its benchmark, returning 0.09%, compared to the benchmark return of 1.89%. Despite underperforming in the quarter, Private Real Estate has consistently bested its benchmark over longer periods.

REITS returned 8.86% and trailed its benchmark by one basis point in the first quarter. The REITS allocation has performed favorably versus its benchmark over longer periods, leading its benchmark over the trailing three-, and five-year periods.

Private Equity experienced net withdrawals for the quarter and the weight is currently above its strategic allocation target. For the quarter, the Private Equity allocation posted a return of 12.58%. Over the trailing year, the Private Equity allocation returned 39.24%. The Private Equity allocation has performed very well over longer periods, enjoying double-digit annualized returns over the trailing one-, three-, five-, and ten-year periods.

The Hedge Fund allocation (+0.43%) trailed its absolute return benchmark for the quarter. In the last year, it returned 4.50%, leading its absolute benchmark return.

Notes and Observations

Notes

1. **Total Fund Benchmark (Target):** Blend of asset class benchmarks at policy weights. The Domestic Equity and Private Equity policy weights are adjusted each month such that the Private Equity weight is set equal to the invested capital, up to the Long Term Target of 4%. The uninvested capital is allocated to Domestic Equity. This process reflects the practical implementation of non-publicly traded investments.

	Strategic Target	Interim Target
Russell 3000	33.0%	33.0%
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	4.0
Cash	1.0	1.0
Total Target	100.0%	100.0%

2. **Domestic Equity Benchmark:** Russell 3000 Index; Prior to 9/31/2011 Blend of 40% S&P 500, 16% Russell 2000 Value, 16% Russell Mid Cap Growth, 14% Russell 1000 Growth, and 14% Russell 1000 Value.

3. **International Benchmark:** MSCI ACWI ex-US IMI Index; Prior to 12/31/2017 MSCI ACWI ex-US Index; Prior to 12/31/2012 Blend of 85% MSCI ACWI ex-US, 15% Global ex US under $2 billion; Prior to 9/30/2011 Blend of 80% MSCI ACWI ex-US, 20% Global ex US under $2 billion.

4. **Fixed Income Benchmark:** Blend of 90% BloomBarc Aggregate Index and 10% BloomBarc Gov/Credit 1-3 Year Index; Prior to 12/31/2019 BloomBarc Aggregate Index; Prior to 12/31/2012 Blend of 62.5% BloomBarc Aggregate Index, 12.5% BloomBarc US TIPs Index, and 25% BloomBarc Gov/Credit Intermediate Index.

5. **HFRI Fund of Funds Composite Index:** Returns are lagged 1 month.

***Real Estate Benchmark:** Returns are calculated by weighting the benchmark return for each asset class (i.e. Private RE and Public RE). The Private RE benchmark is the NCREIF NFI-ODCE Value Weight Net Index and the Public RE benchmark is the FTSE NAREIT Equity Index.

****Private Equity Benchmark:** is set equal to actual returns.