Callan

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

Performance Summary

December 31, 2021

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Macroeconomic Environment

Cautiously Optimistic Forecast on the Economy, Tempered by Clouds

While a number of challenges loomed as we closed out 2021, prospects remain relatively good for the U.S. economy going into 2022. Consensus estimates for GDP growth in 2022 hover around a healthy 4% rate. Consumers and corporations are both in relatively good shape, job openings are more than plentiful, and wages are growing. Supply chain issues have abated (though not disappeared), averting a holiday crisis. Yet the outlook is somewhat clouded by uncertainty regarding the pace and degree of tighter fiscal and monetary policy, the path of inflation, lofty valuations across markets, and, of course, COVID.

Stimulus measures, which have made a significant contribution to the economic recovery, are dwindling. Stimulus checks have stopped, unemployment benefits have faded, and bond purchases are ending over the next few months. President Biden's nearly $2 trillion Build Back Better plan waits in the wings, having stalled in the Senate at the end of the year. Child tax credits, which were received by more than 35 million families in 2021, stopped as of January 1 and remain a controversial part of this plan. Further, rate hikes are all but assured in 2022.

A relatively unusual disconnect between consumer sentiment and stock market gains / job availability was evident as we closed the year. While the S&P 500 Index was up 28.7% in 2021, the University of Michigan Consumer Sentiment Index sank 13%. What gives? Inflation worries, perhaps. Inflation has proven to be sticky, and the consumer has noticed. It remains to be seen if the 5.9% cost-of-living adjustment in Social Security benefits (the highest since 1982) will assuage these concerns. COVID-related fatigue has also taken a toll on sentiment. Just when society was beginning to enjoy a more "normal" existence—preparing to head back to work, to travel, and to attend concerts and other large gatherings—the Omicron variant thwarted many of these plans. While thought to be mild in relative terms, cases are surging and causing renewed angst. Growth will likely be impacted. GDP for 3Q21 rose at an annualized 2.3% rate, hampered by the impact of the Delta variant on consumer spending over the summer. Growth is widely expected to rebound in 4Q, with expectations ranging from 6%-8%, but 1Q22 growth is expected to fall closer to 2%, thanks to Omicron.

The Federal Open Market Committee (FOMC) left rates on hold at its December meeting, but there was a notable pivot in rhetoric around inflation, with the word "transitory" officially retired. The taper of bond purchases was accelerated as anticipated and is now expected to end by March 2022. All FOMC members now project at least one rate hike in 2022, with the majority expecting three hikes. The shift is notable given that at the September meeting roughly half of the members expected no hikes in 2022. Several new regional bank presidents will be voting in 2022, replacing outgoing voting members. Some view the new members as more inclined to support higher rates than the members who are leaving the Committee.

The FOMC lowered real growth expectations from 5.9% to 5.5% for 2021 but raised its 2021 forecast for the Personal Consumption Expenditures index, its preferred inflation gauge, from 4.2% to 5.3%, while projecting it to fall to 2.6% in 2022. As of November, the U.S. headline Consumer Price Index was up 6.8% year-over-year (+4.9% ex food and energy), with energy up 33% over the period. The 6.8% increase was the largest one-year gain since 1982. The Producer Price Index soared 9.6% (+7.7% ex food and energy).

Job openings remain at record levels. According to the U.S. JOLTS report, there were 11 million openings as of October 2021. The unemployment rate dropped to 4.2% in November. The "Great Resignation" phenomenon gained media attention, with a record 4.5 million leaving their jobs in November. Food service, retail, and health care are among the hardest-hit industries; the pandemic, work conditions, and shifting long-term goals are the key reasons cited. While some of these workers jumped to new jobs rather than left the workforce, hiring remains a problem for many organizations. The most recent National Federation of Independent Business (NFIB) Small Business Jobs Report found that 48% of owners had job openings they could not fill, more than double the 22% average over the report's 48-year history. Further, labor costs are the chief concern for these employers, and increasingly owners are passing on these costs to consumers. Average hourly earnings grew 4.8% YOY as of November, and that is expected to trend higher as companies are raising wages and offering bonuses to attract workers.

As a final "cloud" on the horizon, valuations across asset classes remain quite full. The S&P 500 posted 70 record highs in 2021, and its nearly 30% jump marked the third consecutive year of double-digit gains (and the fifth in the past six years). Stock prices were bolstered by strong earnings as well as record-breaking share repurchases ($1 trillion). While revenues for companies in the S&P 500 grew roughly 17% in 2021, margins improved by 55% and the number of shares outstanding declined modestly. Yields in fixed income remain ultra-low, and given the uptick in inflation, real yields are negative across many sectors (including "high yield" corporates). Spreads are also below historical averages, and while corporate fundamentals are strong, it is reasonable to expect muted returns from both equity and fixed income in coming quarters.

Global Equities

The S&P 500 Index was one of the best-performing major indices for the quarter (+11.0%) and the year (+28.7%). While every sector posted double-digit results for the year, returns were mixed in 4Q. For the quarter, Communication Services (0%) was the laggard, while Real Estate (+18%) and Tech (+17%) took the top slots. For the year, the worst sector was Utilities (+18%) and the best was Energy (+55%). Since the market low in March 2020, the S&P 500 is up over 100%. Growth stocks outperformed value for the quarter and the year in the large cap space, but mid cap and small cap growth underperformed value for both periods. The difference in full-year performance across market cap and styles is especially stark. From a pure capitalization standpoint, small cap (Russell 2000: +14.8%) underperformed large (Russell 1000: +26.5%). Even more pronounced was the difference between small cap value and small cap growth (Russell 2000 Growth: +2.8%; Russell 2000 Value: +28.3%).

Global ex-U.S. stocks were hurt by U.S. dollar strength; the MSCI ACWI ex-USA Index was up 1.8% for the quarter and 7.8% for the year but in local terms it was up 13.0% for the year. The yen sank 10% in 2021 vs. the U.S. dollar, the largest drop since 2014. Japan was up nearly 14% in local terms in 2021 but only 2% in dollar terms. Emerging markets (MSCI EM: -1.3%; -2.5%) did not participate in the stock rally the rest of the world enjoyed. China's weight in the Index (35%) and poor performance (-6%; -22%) was a key driver. China stocks were hurt by slowing growth and heightened regulation. Brazil (-6%; -17%) was also a notable underperformer. India (-0.2%; +26%) and Russia (-9%; +19%) fell in 4Q but were up for the year. Turkey (-11%; -28%) was the worst performer and the 44% decline in the Turkish lira was also notable. The country is battling high inflation (36% in December) with unconventional monetary policy (lowering rates).

Global Fixed Income

U.S. fixed income returns were literally flat in 4Q (0.0%) and the Bloomberg US Aggregate Bond Index posted an unusual negative result for the calendar year (-1.5%), for only the fourth time since the inception of the Index in 1976. The 10-year U.S. Treasury yield closed the year at 1.52%, up from 0.93% on 12/31/20 but flat over the course of the quarter. TIPS sharply outperformed the Aggregate for the quarter and the year (Bloomberg US TIPS Index: +2.4%; +6.0%) as expectations for inflation rose. The yield-to-worst for the Aggregate Index ended the year at 1.75%. High yield corporates were top performers for the quarter and the year (Bloomberg US High Yield: +0.7%; +5.3%) and the yield-to-worst for this Index was 4.21% as of year-end. Real yields, it goes without saying, are negative for the Aggregate and High Yield indices given the recent surge in inflation. In general, lower-quality securities outperformed in 2021 across the fixed income spectrum.

Developed ex-U.S. market returns were hurt primarily by U.S. dollar strength for the quarter and the year (Bloomberg Global Aggregate ex-US: -1.2%; -7.0%). On a hedged basis (+0.1%; -1.4%), returns were similar to those in the U.S. Emerging market debt indices posted negative returns for the quarter and year. The JPM EMBI Global Diversified Index (-0.4%; -1.8%) performed better than the local currency JPM GBI-EM Global Diversified Index (-2.5%; -8.7%) as emerging market currencies suffered relative to the U.S. dollar.

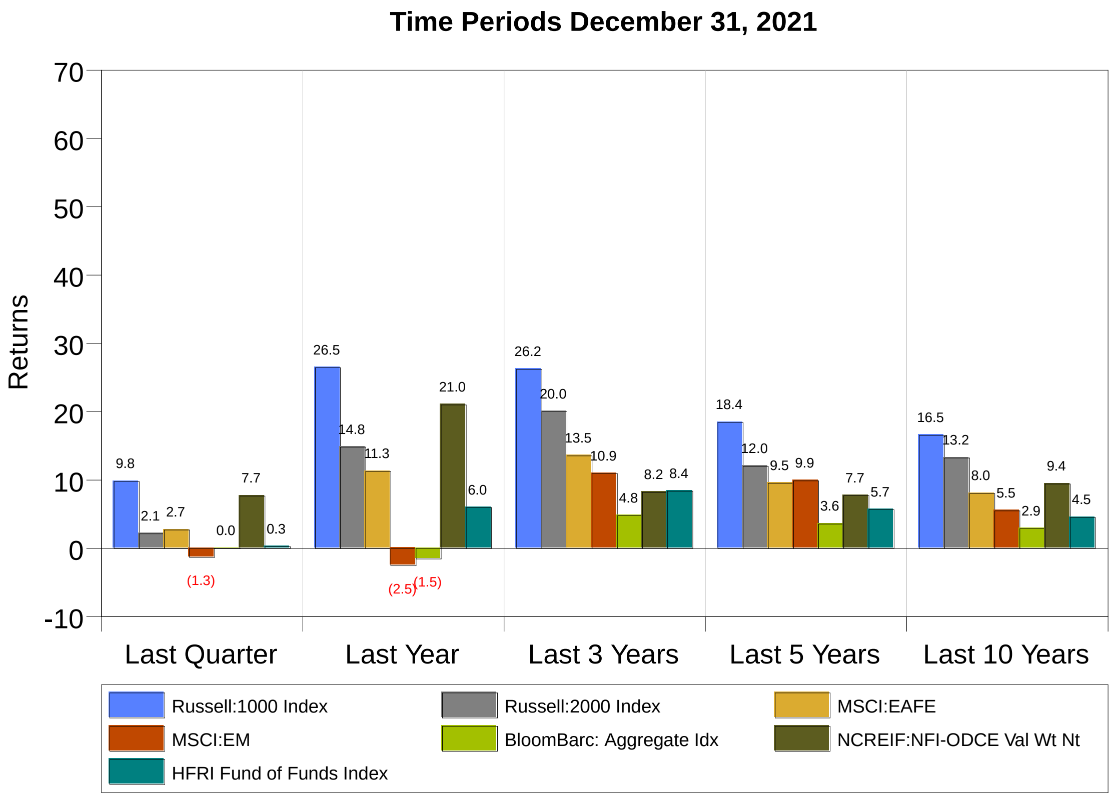
Real Assets

Broadly, real assets performed well in 2021. The Bloomberg Commodity Index declined 1.6% for the quarter but was up 27.1% for the year. WTI Crude Oil closed at roughly $75/barrel (the low was $12 in April 2020!) and was about flat for the quarter but up over 50% for the year. TIPS (Bloomberg TIPS Index: +2.4%; +6.0%) performed relatively well for both the quarter and the year. REITS (MSCI US REIT: +16.3%; +43.1%) and infrastructure (DJB Global Infrastructure: +7.5%; +19.9%) were up sharply for the quarter and the year. Gold (S&P Gold Spot Price Index: +4.1%; -3.5%) was up for the quarter but down for the year.

Closing Thoughts

While the economy is doing well on many fronts, hurdles lie ahead that may thwart expectations for a solid year of growth. Valuations, inflation, Fed tightening, and a seemingly unending battle with COVID top the list. As the year closes, we are mindful of the many things to be thankful for, and our clients, colleagues, and families top that list. We hope that 2022 will allow more in-person contact and that the "clouds" on the horizon do not storm. It will come as no surprise that Callan continues to advise adherence to a disciplined investment process that includes a well-defined long-term asset-allocation policy.

Fourth Quarter 2021 Market Performance



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The Callan Periodic Table of Investment Returns
Fourth Quarter 2021

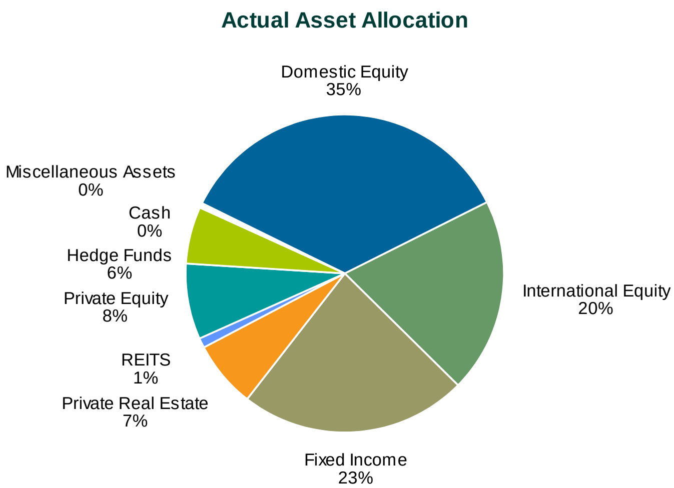
2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
MSCI:EM **18.2%**	Russell:2000 Index **38.8%**	Russell:1000 Index **13.2%**	NCREIF:NFI-ODCE Val Wt Nt **14.0%**	Russell:2000 Index **21.3%**	MSCI:EM **37.3%**	Cambridge:PE Idx **10.3%**	Russell:1000 Index **31.4%**	Cambridge:PE Idx **30.2%**	Russell:1000 Index **26.5%**
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%**	NCREIF:NFI-ODCE Val Wt Nt **21.0%**
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%**	Russell:2000 Index **14.8%**
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 **19.7%**	HFRI Fund of Funds Index (4.0%)	MSCI:EM **18.4%**	MSCI:EM **18.3%**	MSCI:EAFE **11.3%**
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 **16.3%**	HFRI Fund of Funds Index 10.9%	HFRI Fund of Funds Index 6.0%
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%**	BC Aggregate **(1.5%)**
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%**	MSCI:EM **(2.5%)**
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%**	**PE Idx Not Yet Reported**

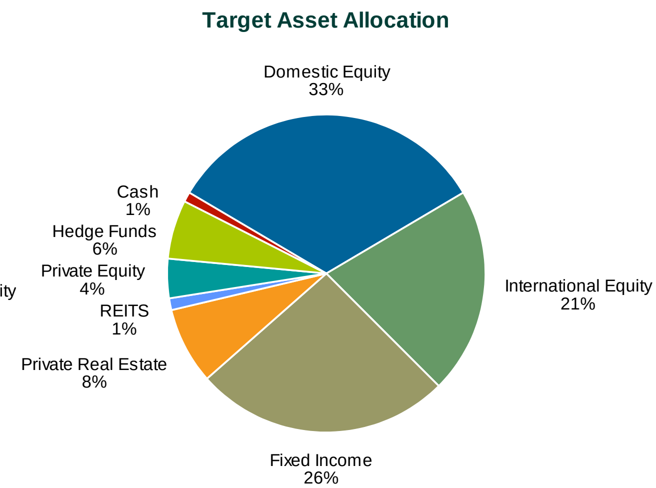
Through the fourth quarter of 2021, Large Cap Equity was the top performing asset class (Russell 1000 Index: +26.5%), leading Small Cap Equity (Russell 2000 Index: +14.8%). Developed International Equities (MSCI EAFE Index: +11.3%) outperformed Emerging Markets (MSCI Emerging Markets: -2.5%). Real Estate (NCREIF: NFI-ODCE Value Weighted Net Index: +21.0%) outperformed Hedge Funds (HFRI Fund of Funds Index: +6.0%). Fixed Income (Bloomberg US Aggregate Bond Index: -1.5%) and Emerging Markets are the two asset classes appearing above to earn negative returns over the period.

Cook County Pension Fund Commentary

Asset Allocation

The Cook County Fund ("Fund") ended December with a market value of $14.03 billion, a $598 million increase from the third quarter ending value of $13.43 billion. During the quarter, the Fund gained $698 million from investment returns and experienced net outflows of $100 million. The asset allocation was in line with strategic targets. Private Equity was the largest overweight asset class (+3.7%) for the fourth quarter.





Asset Class	$000s Actual	Weight Actual	Min Target	Target	Max Target	Percent Difference	$000s Difference
Domestic Equity	4,956,203	35.3%	29.0%	33.0%	37.0%	2.3%	326,375
International Equity	2,783,658	19.8%	17.0%	21.0%	25.0%	(1.2%)	(162,596)
Fixed Income	3,247,291	23.1%	22.0%	26.0%	30.0%	(2.9%)	(400,452)
Private Real Estate	953,588	6.8%	5.0%	7.8%	13.0%	(1.0%)	(140,735)
REITS	139,781	1.0%	0.0%	1.2%	2.6%	(0.2%)	(28,576)
Private Equity	1,082,071	7.7%	0.0%	4.0%	8.0%	3.7%	520,880
Hedge Funds	814,714	5.8%	0.0%	6.0%	10.0%	(0.2%)	(27,073)
Cash	52,403	0.4%	0.0%	1.0%	5.0%	(0.6%)	(87,895)
Miscellaneous Assets	72	0.0%	0.0%	0.0%	0.0%	0.0%	72
Total	14,029,780	100.0%		100.0%			

Cook County Performance vs. Target

The Cook County Pension Fund generated a return of 5.25% in the fourth quarter, leading its custom benchmark and ranking in the top quartile of peers. Fixed Income posted negative returns for the quarter while other asset classes were positive. Domestic Equity returned 9.40% for the quarter, leading the benchmark return of 9.28%. International Equity (+0.38%) trailed the benchmark return of 1.64% for the quarter. Fixed Income (-0.07%) was in line with its benchmark for the quarter. REITS posted the highest absolute return (16.54%), leading the benchmark (+16.31%). Private Real Estate returned 15.20%, outperforming its benchmark by over 7%. Private Equity returned 11.01% for the quarter. Hedge Funds (+0.85%) lagged the absolute return benchmark of 1.03%. Active management and asset allocation decisions were beneficial in the quarter.

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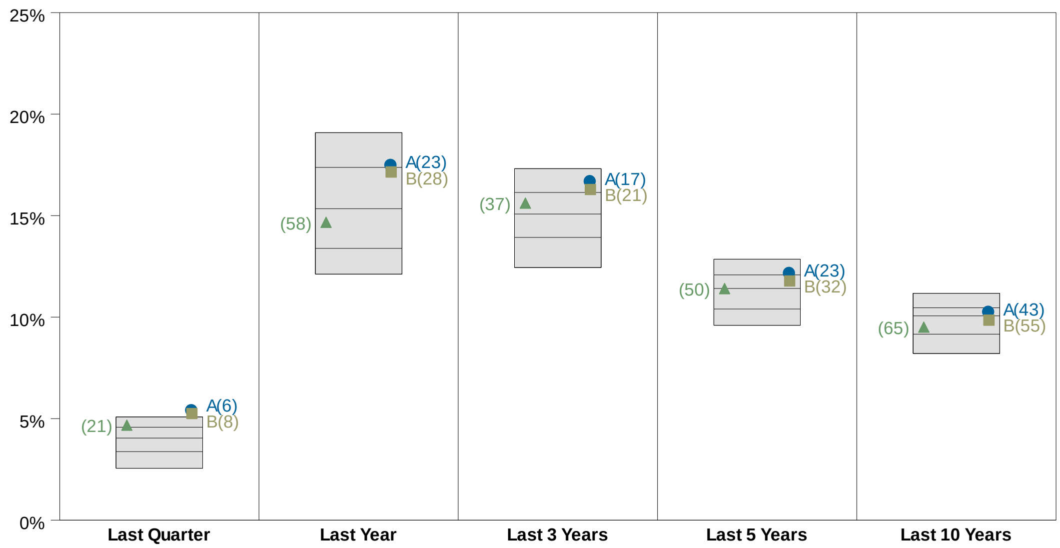
Over the trailing year, the Fund returned 17.15% (Net of Fees) and led its benchmark return (+14.67%). Additionally, the Fund leads its custom benchmark (+11.41%) over the last five-year period with an annualized net of fee return of 11.78%. Over the trailing five years, active management in International Equity and Private Real Estate has added the most relative value, while an underweight to Fixed Income and an overweight to Private Equity has also contributed to strong relative performance. In relation to peers, the Fund ranks in the top quartile of peers over the trailing quarter and one-, three-, and five-year periods (GOF basis). Over the trailing ten years, the Fund's gross return of 10.23% ranks above its peer median.

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		5.09	19.09	17.31	12.85	11.17
25th Percentile		4.58	17.38	16.15	12.08	10.46
Median		4.05	15.35	15.08	11.41	10.06
75th Percentile		3.38	13.39	13.93	10.40	9.16
90th Percentile		2.55	12.12	12.45	9.59	8.21
Total Cook (Gross)	● A	5.38	17.46	16.66	12.14	10.23
Total Cook County (Net)	■ B	5.25	17.15	16.29	11.78	9.85
Total Fund Benchmark	▲	4.68	14.67	15.62	11.41	9.51

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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	**$4,956,202,948**	**35.33%**	**9.40%**	**25.40%**	**24.91%**	**16.82%**	**15.39%**
Domestic Equity Benchmark (2)	-	-	9.28%	25.66%	25.79%	17.97%	16.30%
International Equity	**$2,783,658,008**	**19.84%**	**0.38%**	**6.00%**	**12.86%**	**9.83%**	**8.15%**
International Equity Benchmark (3)	-	-	1.64%	8.53%	13.62%	9.72%	7.35%
Fixed Income	**$3,247,290,674**	**23.15%**	**(0.07%)**	**(0.47%)**	**4.77%**	**3.57%**	**3.06%**
Fixed Income Benchmark (4)	-	-	(0.05%)	(1.43%)	4.69%	3.51%	2.90%
REITS	**$139,781,343**	**1.00%**	**16.54%**	**47.47%**	**21.20%**	**12.49%**	**11.40%**
NAREIT Equity Index	-	-	16.31%	43.24%	18.41%	10.75%	11.38%
****Private Real Estate**	**$953,587,603**	**6.80%**	**15.20%**	**25.59%**	**11.17%**	**9.46%**	**10.38%**
NFI-ODCE Value Weight Net	-	-	7.66%	21.02%	8.23%	7.74%	9.43%
****Private Equity**	**$1,082,071,021**	**7.71%**	**11.01%**	**83.76%**	**43.74%**	**34.23%**	**16.64%**
****Hedge Funds**	**$814,714,127**	**5.81%**	**0.85%**	**6.42%**	**5.39%**	**4.98%**	**-**
LIBOR + 4%	-	-	1.03%	4.16%	5.05%	5.35%	4.88%
HFRI Fund of Funds Index (5)	-	-	0.14%	9.65%	7.71%	5.81%	4.46%
Cash Equivalents	**$52,402,953**	**0.37%**	**0.21%**	**0.25%**	**1.14%**	**1.41%**	**0.81%**
3-month Treasury Bill	-	-	0.01%	0.05%	0.99%	1.14%	0.63%
Total Cook County Fund	**$14,029,780,305**	**100.00%**	**5.25%**	**17.15%**	**16.29%**	**11.78%**	**9.85%**
Total Fund Benchmark (1)	-	-	4.68%	14.67%	15.62%	11.41%	9.51%

**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 led its benchmark in the fourth quarter but has underperformed over longer periods. International Equity trailed its benchmark return of 1.64% for the quarter, but has enjoyed success over longer periods, outperforming the benchmark on a trailing five- and ten-year basis.

During the fourth quarter, the Fixed Income allocation returned -0.07%, keeping pace with the Bloomberg Aggregate Index. The allocation leads its benchmark over the trailing one-, three-, 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 fourth quarter, Private Real Estate posted a return of 15.20%, outpacing its benchmark return of 7.66%. The Private Real Estate allocation's strong relative performance has been consistent, as it leads the benchmark return over the trailing one-, three-, five-, and ten-year periods.

REITS returned 16.54% and led the benchmark by 0.23% for the fourth quarter. The REITS allocation has consistently beaten the benchmark return over longer periods.

Private Equity continues to sit above its strategic target allocation due to strong performance. For the quarter, the Private Equity allocation posted a return of 11.01%. Over the trailing year, the Private Equity allocation returned 83.76%. 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 (+0.85%) lagged its absolute return benchmark (+1.03%) for the quarter. In the last year, it returned 6.42%, 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
Bloomberg 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% Bloomberg Aggregate Index and 10% Bloomberg Gov/Credit 1-3 Year Index; Prior to 12/31/2019 Bloomberg Aggregate Index; Prior to 12/31/2012 Blend of 62.5% Bloomberg Aggregate Index, 12.5% Bloomberg US TIPs Index, and 25% Bloomberg 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.