Callan

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

Performance Summary

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Performance Evaluation Executive Summary
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Macroeconomic Environment

Geopolitical Upheaval and Unsettled Markets

Capital markets abhor uncertainty, and there is no greater human-generated uncertainty than war. The Russian invasion of Ukraine upended expectations for an orderly slowdown in economic growth from the surge in 2021, and for the spike in inflation to subside as pandemic-induced supply chain bottlenecks cleared.

Amid this geopolitical upheaval and humanitarian catastrophe, the equity and fixed income markets were both down in 1Q22. How often does that happen? More than we expected. Looking at data back to 1926, there have been 37 quarters in which returns on stocks and bonds were both negative, almost 10% of all quarters over that period. Before now, the most recent quarter was 1Q18, and before that, the 2nd and 3rd quarters of 2008, as the Global Financial Crisis (GFC) began unfolding. In case you were wondering, the S&P 500 plunged 19.6% in 1Q20, while the Bloomberg Aggregate rose 3.1%. The frequency of down quarters for both stocks and bonds has been much lower since 1990 than in the first 60 years of the data set.

Looking at annual returns, there have been only two calendar years when stocks and bonds were both down, 1931 and 1969 (with a near-miss in 2018). The point: Over more recent history, stocks and bonds down together is relatively unusual.

1Q22 Trends in the Economy

The war also hit business and consumer confidence, and the 1Q GDP report surprised all with a 1.4% drop, following a 6.9% surge in 4Q21. The 8.3% swing in growth came from a huge drop in inventory investment and net exports. Imports surged 17.7% while exports declined 5.9%, a sharp reversal from 22.4% growth in 4Q21. The drop in GDP is a surprise because the economy is otherwise healthy, with a strong job market. Final sales to the private sector grew 3.7% in 1Q, up from 2.6% in 4Q21, suggesting strength in aggregate demand.

The concern going forward is that the confidence to spend and invest will be tested by rising interest rates, skyrocketing inflation, war uncertainty, and the prospect of a recession.

The Fed raised rates at its March meeting, bringing the Fed Funds rate up to 0.25%-0.50%. The median projection by FOMC members for the Fed Funds rate was 1.90% at the end of 2022, rising to 2.80% in 2023. However, the range of projections (1.4% to 3.2% by year-end) from Committee members reflected a high degree of uncertainty. As of quarter-end, the market was anticipating nine hikes in 2022, three more than expected by the Fed.

The war in Ukraine and the sanctions imposed on Russia are now piling on to supply bottlenecks, with particular concerns about food and energy supplies, and putting into question the assumption that inflation would ease later in 2022 and into 2023. CPI-U for the U.S. hit 8.5% for the 12 months ending in March, the highest rate since the period ending December 1981. Driving the increase were prices for gasoline, shelter, and food. The energy index rose 32%, with gasoline prices up 48% year over year. The food price index rose 8.8%, and like the broad CPI, it was the biggest surge since 1981.

Russia and Ukraine are vital suppliers to regional and global food supplies. In addition to price inflation, the war has raised serious concerns about the 2022 spring planting and harvest later in the year, and the potential for disaster in food-insecure parts of the globe.

The impact of the war is most direct and dramatic in eastern Europe and central Asia (EECA). The economic ties with Russia and Ukraine are extensive for many countries in the EECA bloc. Russia is the largest market for some countries, and the largest source of goods and energy for others. Tourism and foreign direct investment from Russia is substantial, and salary remittances from foreign workers in Russia are a vital source of income for many EECA countries. Poland attracted a substantial number of Ukrainian workers.

Even without close ties, countries within the EECA, western Europe, Africa, and the Americas are vulnerable to disruptions in the flow of goods, services, and energy stemming from the conflict.

If recession is often identified by consecutive quarterly declines in GDP, why wouldn't the 1Q22 decline signal a potential downturn? First, aggregate demand remains robust. Second, household balance sheets are healthy. A labor market characterized by high employer demand, low unemployment (3.6% and falling), and rising compensation suggests continuing growth in consumer spending. Business investment will respond to this strong consumer demand. High frequency data show resilient growth in spending on travel and entertainment, and a recovery from the sharp drop in activity during the Omicron wave.

Global Equities

The S&P 500 Index fell 4.6% for the quarter, but it was down more than 12% early in March before staging a rally into quarter-end. Value stocks sharply outpaced growth across capitalizations, with the spread exceeding 10% in both mid and small caps and just over 8% in large caps. Not surprisingly, Energy (+39%) was the best-performing sector given a 33% spike in WTI crude oil prices. The defensive Utilities sector (+5%) also posted a positive result. Communication Services (-12%), Consumer Discretionary (-9%), and Information Technology (-8%) were the worst-performing sectors. Small cap stocks (Russell 2000: -7.5%) underperformed large (Russell 1000: -5.1%).

The MSCI ACWI ex-USA Index fell 5.4% for the quarter but saw mixed performance from its constituents. Norway (+10%), Australia (+7%), and Canada (+5%) were helped by soaring commodity prices while Japan (-7%) and Europe ex-U.K. (-10%) posted sharp declines. Europe was hit hard by the war in Ukraine, which led to higher energy prices and worries over the impact on its economic recovery. Japan suffered from higher import costs as a result of surging energy prices. As in the U.S., value outperformed growth by a wide margin (EAFE Value: +0.3%; EAFE Growth: -11.9%) and small cap (EAFE Small Cap: -8.5%) also underperformed. The yen (-5%), euro (-2%), and pound (-3%) weakened vs. the U.S. dollar. The MSCI Emerging Markets Index fell 7.0% for the quarter but results were mixed across regions. Latin America (+27%) fared well on the back of rising oil prices while Emerging Europe (-71%) plunged, reflecting Russia's -100% return before it was removed from the Index. As in developed markets, value outperformed growth (EM Value: -3.4%; EM Growth: -10.3%).

Global Fixed Income

The Bloomberg US Aggregate Bond Index sank 5.9% over the quarter, the third-worst quarter since the index's inception in 1976 (the other two being in 1980). Rates rose sharply on worries over inflation and expectations for Fed rate hikes. The 10-year U.S. Treasury closed the quarter at 2.32%, up from 1.52% at year-end. Notably, the yield curve flattened meaningfully and as of quarter-end the relationship between the 5-year yield (2.42%) and the 10-year yield (2.32%) was inverted. Against this backdrop, TIPS (Bloomberg TIPS: -3.0%) did relatively well as inflation expectations rose. High yield corporates (Bloomberg High Yield: -4.8%) outperformed investment grade corporates given less sensitivity to interest rates, and bank loans (S&P LSTA Leveraged Loan: -0.1%) were helped by their floating rate coupons and low duration.

Rates rose across most developed markets and led to broad-based negative returns. The U.S. dollar strengthened vs. most developed market currencies. The Bloomberg Global Aggregate ex-US Bond Index fell 6.1% unhedged and 4.1% hedged. The U.S. dollar-denominated JPM EMBI Global Diversified Index fell 10.0% over the quarter as rates in the U.S. rose. Latin America (-6%) and Africa (-4%) were among the better-performing regions as commodity prices soared. The local currency-denominated JPM GBI-EM Global Diversified fell 6.5%, helped in relative terms by currency appreciation from commodity exporters (Latin America: +7%; Middle East/Africa: +8%). Emerging Europe (-32%) reflected Russia's removal at $0 (-100%).

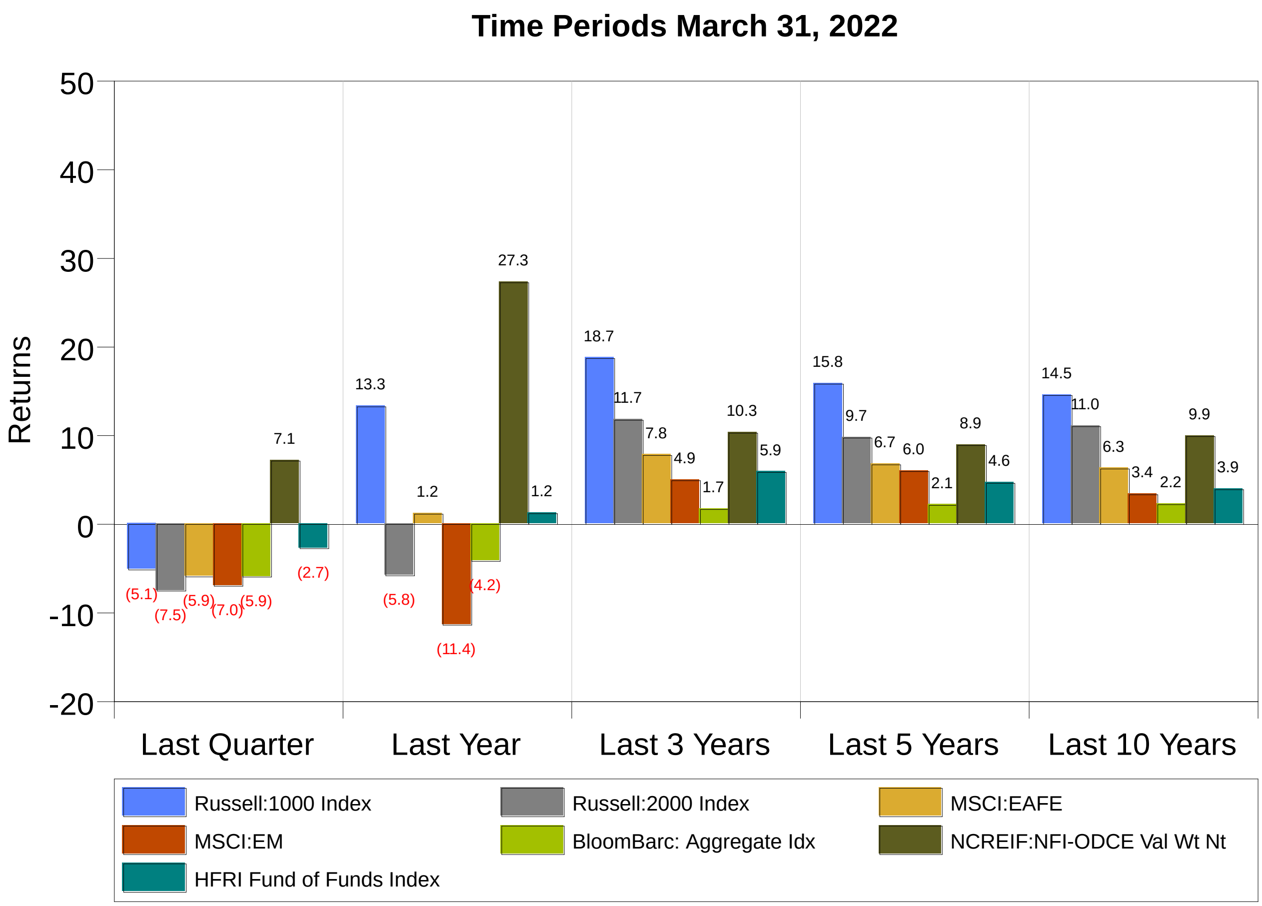
Real Assets

Commodities were a rare bright spot given their inflation-protection properties as well as war-induced supply concerns. The Bloomberg Commodity TR Index soared 25.5% and the energy-heavy S&P GSCI climbed 33.1%. Gold (S&P Gold Spot Price Index: +6.9%) and listed infrastructure (DJB Global Infrastructure: +3.2%) outperformed global stocks and bonds. TIPS (Bloomberg TIPS: -3.0%) fell but outpaced nominal U.S. Treasuries as inflation expectations rose.

Closing Thoughts

While expectations for economic growth in the U.S. are clearly lower since the Russian invasion, with GDP projections for 2022 down from 4% to 3% or lower, they are still positive. The impact of the war may be more consequential for Europe, with its greater dependence on energy imports. Risk of recession is higher, but not yet the expected case for 2022.

First Quarter 2022 Market Performance



The Callan Periodic Table of Investment Returns
First Quarter 2022

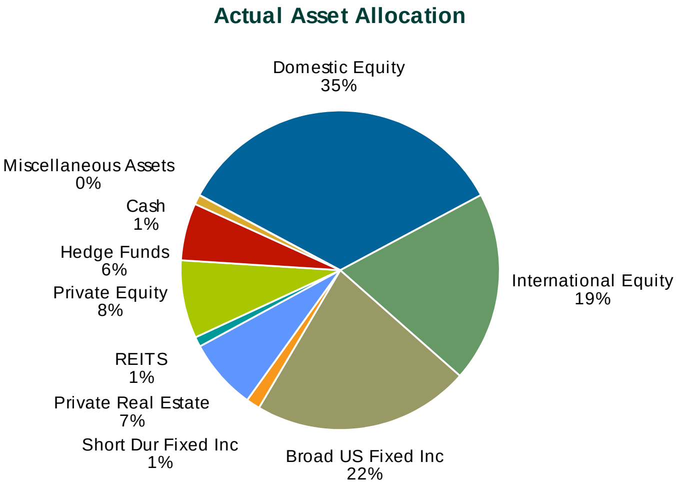
2013	2014	2015	2016	2017	2018	2019	2020	2021	1 Qtr. 2022
Russell:2000 Index **38.8%**	Russell:1000 Index **13.2%**	NCREIF:NFI-ODCE Val Wt Nt **14.0%**	Russell:2000 Index **21.3%**	MSCI:EM **37.3%**	Cambridge:PE Idx **10.0%**	Russell:1000 Index **31.4%**	Cambridge:PE Idx **29.4%**	Cambridge:PE Idx **36.0%**	NCREIF:NFI-ODCE Val Wt Nt **7.1%**
Russell:1000 Index **33.1%**	Cambridge:PE Idx **11.8%**	Cambridge:PE Idx **8.7%**	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 **26.5%**	HFRI Fund of Funds Index (2.7%)
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%**	NCREIF:NFI-ODCE Val Wt Nt **21.0%**	Russell:1000 Index **(5.1%)**
Cambridge:PE Idx **21.1%**	BC Aggregate **6.0%**	BC Aggregate **0.5%**	Cambridge:PE Idx **9.5%**	Cambridge:PE Idx **19.9%**	HFRI Fund of Funds Index (4.0%)	MSCI:EM **18.4%**	MSCI:EM **18.3%**	Russell:2000 Index **14.8%**	MSCI:EAFE **(5.9%)**
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 **16.1%**	HFRI Fund of Funds Index 10.9%	MSCI:EAFE **11.3%**	BC Aggregate **(5.9%)**
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%**	HFRI Fund of Funds Index 6.2%	MSCI:EM **(7.0%)**
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 **(1.5%)**	Russell:2000 Index **(7.5%)**
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%**	MSCI:EM **(2.5%)**	**PE Idx Not Yet Reported**

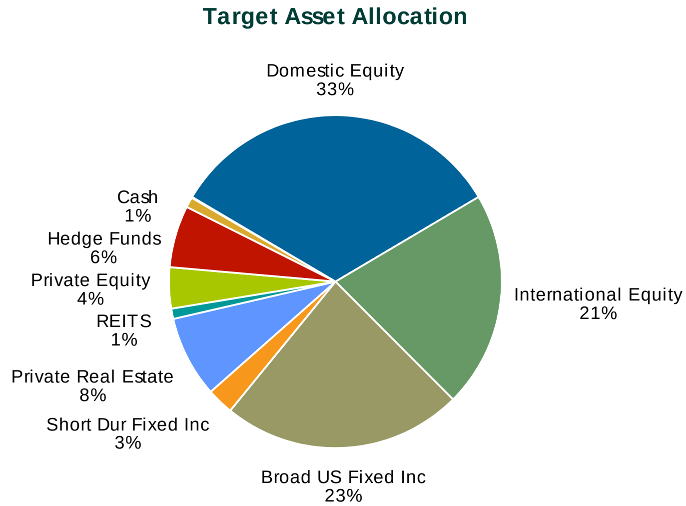
Through the first quarter of 2022, Real Estate was the top performing asset class (NCREIF: NFI-ODCE Value Weighted Net Index: +7.1%), leading Hedge Funds (HFRI Fund of Funds Index -2.7%). Developed International Equities (MSCI EAFE Index: -5.9%) outperformed Emerging Markets (MSCI Emerging Markets: 7.0%). Large Cap Equity (Russell 1000 Index: -5.1%) fared better than Small Cap Equity (Russell 2000 Index: -7.5%). Fixed Income was also negative for the quarter (Bloomberg Barclays US Aggregate Bond Index: -5.9%).

Cook County Pension Fund Commentary

Asset Allocation

The Cook County Fund ("Fund") ended March with a market value of $13.43 billion, a $603 million decrease from the 2021 year-end value of $14.03 billion. During the quarter, the Fund experienced investment losses of $582 million and net outflows of $21 million for the first quarter. The asset allocation was in line with strategic targets. Private Equity was the largest overweight asset class (+3.9%) for the first quarter.





Asset Class	$000s Actual	Weight Actual	Min Target	Target	Max Target	Percent Difference	$000s Difference
Domestic Equity	4,635,354	34.5%	29.0%	33.0%	37.0%	1.5%	204,476
International Equity	2,588,835	19.3%	17.0%	21.0%	25.0%	(1.7%)	(230,815)
Broad US Fixed Inc	2,948,637	22.0%	19.4%	23.4%	27.4%	(1.4%)	(193,258)
Short Dur Fixed Inc	191,963	1.4%	0.0%	2.6%	6.6%	(1.2%)	(157,136)
Private Real Estate	964,951	7.2%	5.0%	7.9%	13.0%	(0.8%)	(102,488)
REITS	134,836	1.0%	0.0%	1.0%	2.6%	(0.0%)	(6,147)
Private Equity	1,054,479	7.9%	0.0%	4.0%	8.0%	3.9%	517,403
Hedge Funds	778,933	5.8%	0.0%	6.0%	10.0%	(0.2%)	(26,681)
Cash	128,842	1.0%	0.0%	1.0%	5.0%	(0.0%)	(5,427)
Miscellaneous Assets	72	0.0%	0.0%	0.0%	0.0%	0.0%	72
Total	13,426,902	100.0%		100.0%			

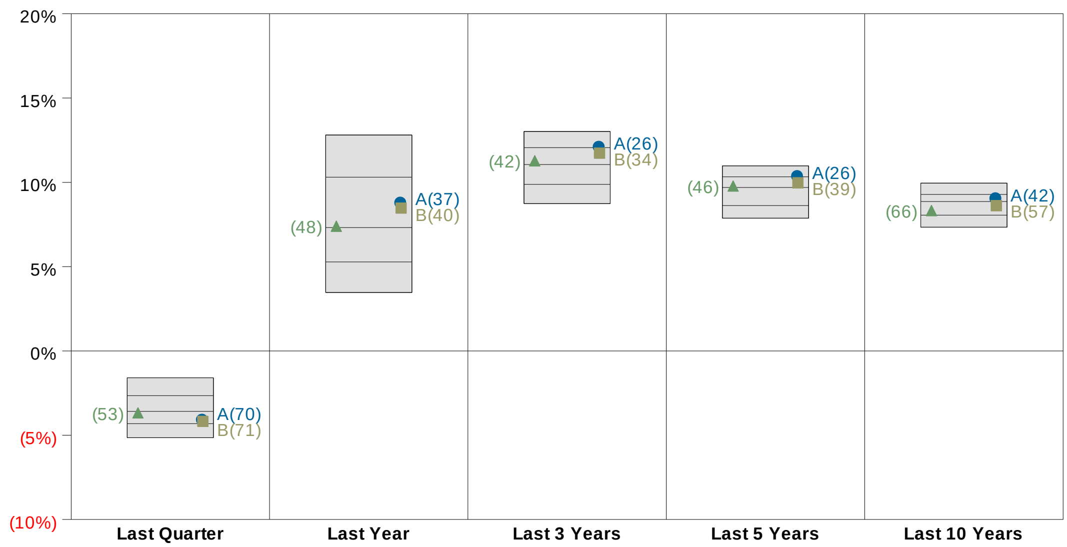
Cook County Performance vs. Target

The Cook County Pension Fund generated a return of -4.17% in the first quarter, trailing its custom benchmark and ranking in the third quartile of peers. Private Equity, Private Real Estate, and Cash posted positive absolute returns, while all other asset classes were negative. Domestic Equity returned -4.55% for the quarter, leading the benchmark return of -5.28%. International Equity (-7.07%) trailed the benchmark return of -5.60% for the quarter. Broad US Fixed Income returned -6.04% versus the benchmark return of -5.93%. Short Duration Fixed Income (-0.82%) outperformed its benchmark (-2.49%). REITS posted a -3.67% return, edging the benchmark (-3.86%). Private Real Estate returned 1.57%, trailing its benchmark by over 5%. Private Equity returned 2.94% for the quarter. Hedge Funds (-1.24%) lagged the absolute return benchmark of 1.13%. Asset allocation decisions added value while active management detracted for the quarter.

Over the trailing year, the Fund returned 8.47% (Net of Fees) and led its benchmark return (+7.40%). Additionally, the Fund leads its custom benchmark by 19 basis points over the last five-year period with an annualized net of fee return of 9.97%. Over the trailing five years, an overweight to Private Equity has been the largest source of outperformance. Active management in Private Real Estate also added significant value. In relation to peers, the Fund ranks at the 26th percentile of peers over the trailing three- and five-year periods (GOF basis). Over the trailing ten years, the Fund's gross return of 9.00% 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		(1.59)	12.81	13.02	10.98	9.95
25th Percentile		(2.65)	10.31	12.06	10.33	9.29
Median		(3.58)	7.32	11.06	9.69	8.86
75th Percentile		(4.32)	5.28	9.88	8.62	8.05
90th Percentile		(5.14)	3.47	8.74	7.87	7.34
Total Cook (Gross)	● A	(4.13)	8.74	12.06	10.32	9.00
Total Cook County (Net)	■ B	(4.17)	8.47	11.73	9.97	8.62
Total Fund Benchmark	▲	(3.67)	7.40	11.28	9.78	8.33

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	**$4,635,354,044**	**34.52%**	**(4.55%)**	**12.11%**	**17.74%**	**14.64%**	**13.66%**
Domestic Equity Benchmark (2)	-	-	(5.28%)	11.92%	18.24%	15.40%	14.28%
International Equity	**$2,588,834,562**	**19.28%**	**(7.07%)**	**(4.81%)**	**6.41%**	**6.55%**	**6.10%**
International Equity Benchmark (3)	-	-	(5.60%)	(1.27%)	7.87%	6.84%	5.55%
Broad US Fixed Income	**$2,948,636,514**	**21.96%**	**(6.04%)**	**(3.76%)**	**1.69%**	**2.07%**	**2.39%**
Bloombarg Aggregate Index	-	-	(5.93%)	(4.15%)	1.69%	2.14%	2.24%
Short Duration Fixed Income	**$191,963,225**	**1.43%**	**(0.82%)**	**(1.11%)**	**1.73%**	**-**	**-**
Blmbg Gov/Cred 1-3 Yr	-	-	(2.49%)	(2.91%)	1.02%	1.26%	1.09%
REITS	**$134,835,760**	**1.00%**	**(3.67%)**	**30.49%**	**13.52%**	**11.23%**	**9.88%**
NAREIT Equity Index	-	-	(3.86%)	26.49%	11.12%	9.63%	9.81%
****Private Real Estate**	**$964,950,708**	**7.19%**	**1.57%**	**27.46%**	**11.42%**	**9.80%**	**10.14%**
NFI-ODCE Value Weight Net	-	-	7.14%	27.26%	10.30%	8.90%	9.91%
****Private Equity**	**$1,054,479,266**	**7.85%**	**2.94%**	**68.04%**	**44.02%**	**34.93%**	**17.04%**
****Hedge Funds**	**$778,933,470**	**5.80%**	**(1.24%)**	**4.65%**	**4.34%**	**4.26%**	**-**
LIBOR + 4%	-	-	1.13%	4.27%	4.87%	5.33%	4.87%
HFRI Fund of Funds Index (5)	-	-	(2.94%)	0.55%	5.99%	4.61%	3.87%
Cash Equivalents	**$128,842,330**	**0.96%**	**0.03%**	**0.26%**	**0.89%**	**1.37%**	**0.81%**
3-month Treasury Bill	-	-	0.04%	0.06%	0.81%	1.13%	0.63%
Total Cook County Fund	**$13,426,901,661**	**100.00%**	**(4.17%)**	**8.47%**	**11.73%**	**9.97%**	**8.62%**
Total Fund Benchmark (1)	-	-	(3.67%)	7.40%	11.28%	9.78%	8.33%

**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 (-4.55%) led its benchmark in the first quarter but has underperformed over longer periods. International Equity (-7.07%) trailed its benchmark return of -5.60% for the quarter, but is outperforming the benchmark on a trailing ten-year basis.

During the first quarter, the Fixed Income allocation returned -5.85%, trailing the Bloomberg Aggregate Index. Long-term performance has been mixed, as the allocation leads its benchmark over the trailing one- and ten-year periods and has underperformed the benchmark over the trailing 3- and 5-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 posted a return of 1.57%, trailing its benchmark return of 7.14%. The Private Real Estate leads the benchmark return over the trailing one-, three-, five-, and ten-year periods.

REITS returned -3.67%, modestly outperforming the benchmark return of -3.86%. The REITS allocation has consistently outpaced the benchmark return over longer periods.

The Private Equity allocation remains above its target weight due to strong performance. For the quarter, the Private Equity allocation posted a return of 2.94%, the highest absolute return for any asset class. Over the trailing year, the Private Equity allocation returned 68.04%. 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 (-1.24%) lagged its absolute return benchmark (+1.13%) for the quarter. In the last year, it returned 4.65%, leading its absolute benchmark return by 38 basis points.

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.