Callan

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

Performance Summary

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Macroeconomic Environment

Recession – Are We There Yet?

GDP in 2Q22 fell 0.9%, after declining 1.6% in 1Q—so are we already in a recession? If so, that was fast; growth in 4Q21 was a rocking 6.9%. The stock market already thinks so; investors fully priced in a recession during the first half of 2022, with particularly large declines in April and June and a bear market by midyear. Over history, the stock market moves to price in a recession well before the economic data begin to show a decline.

It turns out two consecutive quarters of falling GDP is a nice rule of thumb, but it is not the official definition of recession. So what is, and who gets to decide? First, the decider: the rather grandly named National Bureau of Economic Research Business Cycle Dating Committee. Second, the definition: "a significant decline in economic activity that is spread across the country and lasts more than a few months." The committee uses a number of measures of economic activity, and leans particularly hard on real personal income and nonfarm payroll employment. Interestingly, GDP is used sparingly; the focus of recession dating is typically on a monthly determination of peaks and troughs, while GDP is reported only quarterly.

Data preferences from this arcane Dating Committee aside, two consecutive quarters of GDP decline is still news, even if it does not necessarily indicate recession. The sources of the decline in 2Q GDP included a large decrease in private inventory investment, which subtracted 2 percentage points from GDP. The inventory drop was led by a decrease in retail trade, mainly general merchandise stores, along with motor vehicle dealers. Other detractors to growth were both residential and non-residential fixed investment; and federal, state, and local government spending.

Offsetting the declines were increases in exports and personal consumption expenditures (PCE). The rise in PCE reflected an increase in services (food services, accommodations, and health care) that was partly offset by a decrease in spending on goods (led by food and beverages). More spending on restaurants and hotels and Airbnbs, and less food at home, even with the sharp rise in prices at the grocery store. Exports fell sharply in 1Q as Russia invaded Ukraine, yet as the war intensified, exports shot back up in 2Q, growing by 18% and contributing almost 2 percentage points to GDP growth. Returning to the premise of the Dating Committee, that much more than GDP growth should define a recession, somewhat anomalous components of GDP accounted for the declines in 1Q and 2Q. Both quarters were driven by huge changes in exports and inventories, neither of which are usually so important to a given quarter's GDP growth, and do not often reverse the course of growth coming from the rest of the economy.

Other Data on the Economy Not as Grim

Other data on the broad economy during the first half of 2022 do not necessarily point to a recession, at least not yet. The job market was very robust through both 1Q and 2Q, as the U.S. economy added more than 2.7 million new jobs; since the invasion of Ukraine in February, the job market averaged almost 400,000 new jobs per month, substantially above the 200,000-250,000 rate that indicates an expanding economy. We still have room to recover from the pandemic, however, as we are half a million jobs short of the level set in February 2020.

Disposable personal income increased 6.6% in 2Q, in contrast to a decline of 1.3% in 1Q. Despite this robust growth, incomes could not keep up with inflation, which began ramping up in April 2021. After kicking off the year at 7.5% in January, inflation as measured by the CPI-U index has only gone up each month, reaching 9.1% in the June report. As a result, real disposable personal income (take-home pay, adjusted for inflation) decreased 0.5% in 2Q; while disappointing, this report was substantially better than in 1Q, when real disposable income fell an alarming 7.8%.

The mayhem in the capital markets continued during 2Q, as both stocks and bonds responded to the Fed and the ECB aggressively raising interest rates, Russia's war in Ukraine, concerns about an incipient recession, another COVID surge, and global economic weakness. However, the U.S. economy is still growing robustly. There may be something to this Dating Committee's methodical approach. The caveat to its work is that calling turning points relies on government data reported with lags, so the Committee can only designate a recession after it starts. We may be "there," but we will not know until the Committee decides.

Global Equities

The S&P 500 Index sank 16.1% in 2Q22 on concerns over rising rates and a slowing economy; the Index is down 20.0% YTD. All sectors posted negative returns, but the worst were Consumer Discretionary (-26%), Communication Services (-21%), and Technology (-20%). Energy, Utilities, and Consumer Staples each lost roughly 5%. Value outperformed growth by a substantial margin (Russell 1000 Value: -12.2%; Russell 1000 Growth: -20.9%) and the YTD differential is more than 15 percentage points.

The MSCI ACWI ex USA Index sank 13.7% (Local: -8.3%), bringing its YTD loss to 18.4% (Local: -11.9%). The U.S. dollar continued to strengthen, benefiting from its "safe haven" status as well as attractive interest rates relative to other developed markets. The yen lost 11% versus the dollar, the euro 6%, and the British pound 8%. Across developed market countries, losses were broad-based, with nearly all posting double-digit declines. As in the U.S., Value (MSCI ACWI ex USA Value: -11.9%) outperformed Growth (MSCI ACWI ex USA Growth: -15.7%). Technology (MSCI ACWI ex USA Technology: -23%) fared the worst with Energy (MSCI ACWI ex USA Energy: -5%) being the relative outperformer.

Emerging markets (MSCI Emerging Markets: -11.4%; Local: -8.1%) outperformed developed markets for the quarter, led by China (MSCI China: +3%), which was helped by improving data as lockdowns ended, as well as promises of government stimulus. Returns were mixed but negative across regions: Latin America (-22%), Emerging Europe (-21%), and Emerging Asia (-9%).

Global Fixed Income

The Bloomberg US Aggregate Bond Index fell 4.7% in 2Q as rates rose sharply and spreads widened. Mortgages and corporates underperformed U.S. Treasuries, and the yield-to-worst of the Aggregate Index climbed to 3.7%. High yield corporates (Bloomberg High Yield: -9.8%) underperformed investment grade, and the Index is down 14.2% YTD. Rates were volatile during the quarter; the 10-year U.S. Treasury hit an intra-quarter high of 3.49% in June, the highest since 2011, before closing the quarter at 2.98%. TIPS (Bloomberg TIPS: -6.1%; -8.9% YTD) sharply underperformed nominal U.S. Treasuries for the quarter as longer-term inflation expectations declined. The 10-year breakeven spread was 2.3% at the end of the quarter, down from 2.8% on 3/31/22.

Interest rates also rose overseas and the U.S. dollar continued to strengthen, hurting unhedged fixed income returns. The Bloomberg Global Aggregate ex USD fell 11.0% (hedged: -4.0%). Losses were broad-based with double-digit declines across Europe, in Japan, and in the U.K. Emerging market debt was hurt by rising rates; the JPM EMBI Global Diversified fell 11.4% and the local currency JPM GBI-EM Global Diversified was off 8.6%.

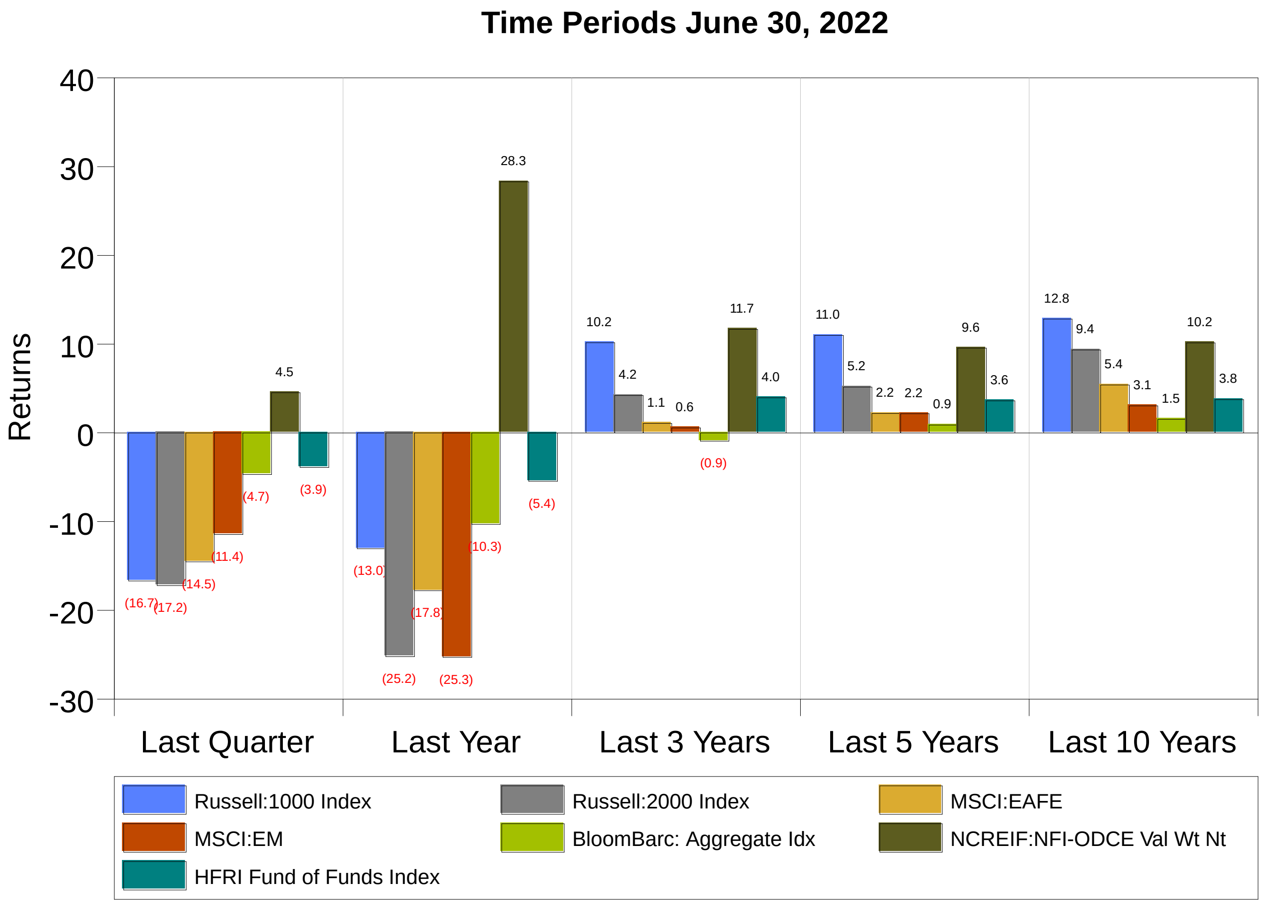
Real Assets

Following very strong 1Q results, real assets as a group posted negative returns in 2Q as concerns over slowing global growth mounted. A lone exception was the energy-heavy S&P GSCI Index, which eked out a 2.0% gain during the quarter while the Bloomberg Commodity TR Index fell 5.7%. WTI Crude closed the quarter at $106/barrel, up from $100 on 3/31/22 and $76 at year-end. Gold (S&P Gold Spot Price Index: -7.5%), listed infrastructure (DJB Global Infrastructure: -7.1%), REITs (MSCI US REIT: -16.9%), and TIPS (Bloomberg TIPS: -6.1%) declined.

Closing Thoughts

This market is very challenging for investors as traditional correlations between asset classes—especially bonds and stocks—have broken down when investors need them the most. It is during times like these that our advice to clients, to focus on the long run and adhere to a prudent long-term investment program, matters most. Despite the recent market declines, it bears repeating that investors have benefitted from the strong capital markets in the post-GFC era, growing wealth at an unprecedented rate.

Second Quarter 2022 Market Performance



The Callan Periodic Table of Investment Returns
Second Quarter 2022

2013	2014	2015	2016	2017	2018	2019	2020	2021	2 Qtrs. 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 **36.3%**	NCREIF:NFI-ODCE Val Wt Nt **12.0%**
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 (6.5%)
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%**	BC Aggregate **(10.3%)**
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:EM **(17.6%)**
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%	MSCI:EAFE **11.3%**	MSCI:EAFE **(19.6%)**
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%	Russell:1000 Index **(20.9%)**
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 **(23.4%)**
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**

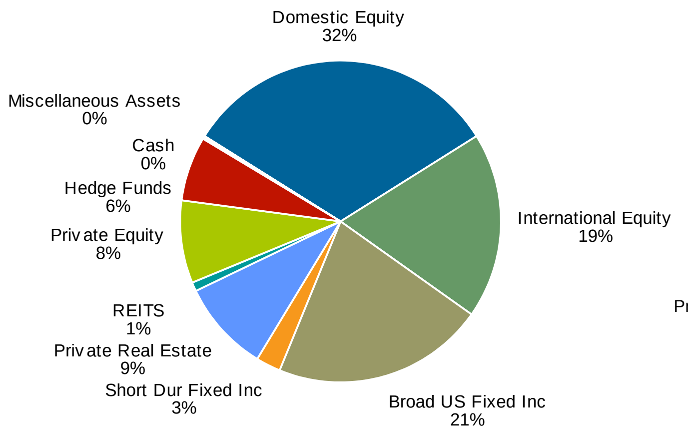
Through the second quarter of 2022, Real Estate was the top performing asset class (NCREIF: NFI-ODCE Value Weighted Net Index: +12.0%), leading Hedge Funds (HFRI Fund of Funds Index: -6.5%). Fixed Income (Bloomberg Aggregate Index: -10.3%) posted its worst six-month return in history. Emerging Markets Equities (MSCI Emerging Markets: -17.6%) outperformed Developed International Equities (MSCI EAFE Index: -19.6%). Large Cap Equities (Russell 1000 Index: -20.9%) fared better than Small Cap (Russell 2000 Index: -23.4%).

Cook County Pension Fund Commentary

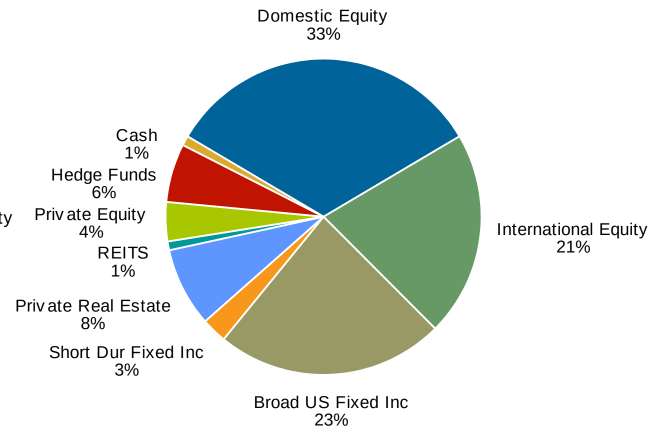
Asset Allocation

The Cook County Fund ("Fund") ended June with a market value of $12.0 billion, a $1.4 billion decline from the first quarter-end value of $13.4 billion. The Fund lost $1.3 billion from investment returns and experienced outflows of $152 million for the second quarter. The illiquid Private Equity allocation is overweighted versus its target by 4.3%. All other allocations are within their target ranges. Underweight positions in International Equity (-2.3%) and Domestic Equity (-0.7%) mitigate the Private Equity overweight.

Actual Asset Allocation



Target Asset Allocation



Asset Class	$000s Actual	Weight Actual	Min Target	Target	Max Target	Percent Difference	$000s Difference
Domestic Equity	3,876,545	32.3%	29.0%	33.0%	37.0%	(0.7%)	(87,585)
International Equity	2,244,211	18.7%	17.0%	21.0%	25.0%	(2.3%)	(278,418)
Broad US Fixed Inc	2,565,233	21.4%	19.4%	23.4%	27.4%	(2.0%)	(245,696)
Short Dur Fixed Inc	302,672	2.5%	0.0%	2.6%	6.6%	(0.1%)	(9,653)
Private Real Estate	1,101,710	9.2%	5.0%	8.1%	13.0%	1.1%	132,300
REITS	110,673	0.9%	0.0%	0.9%	2.6%	(0.0%)	(1,044)
Private Equity	991,433	8.3%	0.0%	4.0%	8.0%	4.3%	510,933
Hedge Funds	779,436	6.5%	0.0%	6.0%	10.0%	0.5%	58,685
Cash	40,535	0.3%	0.0%	1.0%	5.0%	(0.7%)	(79,590)
Miscellaneous Assets	68	0.0%	0.0%	0.0%	0.0%	0.0%	68
Total	12,012,516	100.0%		100.0%			

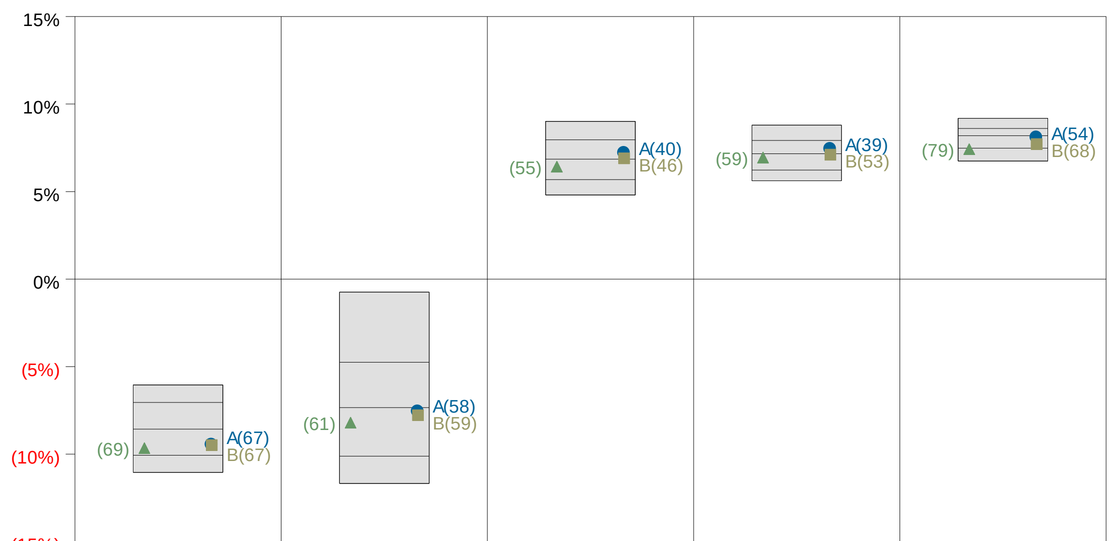
Cook County Performance vs. Target

The Cook County Pension Fund returned -9.48% (Net of Fees) and outperformed its custom benchmark by 0.17% during the second quarter. The Fund benefited from active management in Domestic Equity, International Equity, and Private Real Estate, while Fixed Income managers detracted.

Over the trailing year, the Fund returned the Fund returned -7.78% (Net of Fees) versus the -8.20% benchmark return. Over the trailing three- and five-year periods, the Fund has outperformed its benchmark on an annualized basis and ranks at or above the 40th percentile of peers (GOF basis). Strong results over these periods can be are largely attributable to an overweight to Private Equity and active management in Private Real Estate. Over the last ten years, the Fund has outperformed its custom benchmark and ranks just below the peer group 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	(6.05)	(0.74)	9.01	8.79	9.19
25th Percentile	(7.05)	(4.75)	7.95	7.92	8.61
Median	(8.57)	(7.34)	6.85	7.16	8.19
75th Percentile	(10.06)	(10.12)	5.68	6.23	7.48
90th Percentile	(11.04)	(11.68)	4.80	5.62	6.74
Total Cook (Gross) ● A	(9.47)	(7.57)	7.20	7.43	8.08
Total Cook County (Net) ■ B	(9.48)	(7.78)	6.90	7.11	7.71
Total Fund Benchmark ▲	(9.65)	(8.20)	6.42	6.94	7.43

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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	**$3,876,545,470**	**32.27%**	**(16.37%)**	**(12.80%)**	**9.40%**	**9.99%**	**12.00%**
Domestic Equity Benchmark (2)	-	-	(16.70%)	(13.87%)	9.77%	10.60%	12.57%
International Equity	**$2,244,210,708**	**18.68%**	**(13.32%)**	**(21.74%)**	**0.49%**	**2.22%**	**5.30%**
International Equity Benchmark (3)	-	-	(14.28%)	(19.86%)	1.55%	2.44%	4.79%
Fixed Income	**$2,867,904,864**	**23.87%**	**(5.20%)**	**(10.75%)**	**(1.09%)**	**0.67%**	**1.60%**
Fixed Income Benchmark (4)	-	-	(4.29%)	(9.63%)	(0.77%)	0.98%	1.61%
REITS	**$110,672,600**	**0.92%**	**(17.92%)**	**(5.48%)**	**5.69%**	**6.41%**	**7.36%**
NAREIT Equity Index	-	-	(17.00%)	(6.27%)	4.00%	5.30%	7.39%
****Private Real Estate**	**$1,101,709,817**	**9.17%**	**6.25%**	**31.03%**	**13.02%**	**10.66%**	**10.54%**
NFI-ODCE Value Weight Net	-	-	4.54%	28.31%	11.66%	9.55%	10.15%
****Private Equity**	**$991,433,262**	**8.25%**	**(4.02%)**	**30.79%**	**39.25%**	**32.39%**	**16.32%**
****Hedge Funds**	**$779,435,911**	**6.49%**	**0.26%**	**1.00%**	**4.01%**	**3.86%**	**4.89%**
LIBOR + 4%	-	-	1.41%	4.66%	4.81%	5.35%	4.91%
HFRI Fund of Funds Index (5)	-	-	(2.41%)	(3.83%)	4.89%	3.86%	3.84%
Cash Equivalents	**$40,535,301**	**0.34%**	**0.16%**	**0.40%**	**0.72%**	**1.34%**	**0.82%**
3-month Treasury Bill	-	-	0.10%	0.17%	0.63%	1.11%	0.64%
Total Cook County Fund	**$12,012,516,060**	**100.00%**	**(9.48%)**	**(7.78%)**	**6.90%**	**7.11%**	**7.71%**
Total Fund Benchmark (1)	-	-	(9.65%)	(8.20%)	6.42%	6.94%	7.43%

**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 fell 16.37% in the second quarter, but outperformed its benchmark by 0.33%. Domestic Equity trails its benchmark over longer periods.

International Equity (-13.32%) beat its benchmark return of -14.28% for the quarter, and leads the benchmark on a trailing ten-year basis.

The Fixed Income allocation finished the second quarter down 5.20%, trailing the benchmark by 0.91%. Underperformance in recent periods has weighed on longer-term results, as Fixed Income is lagging the 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. Private Real Estate was the bright spot for the quarter, gaining 6.25% versus the 4.54% return of the benchmark. Private Real Estate has outperformed over all periods shown in the table above.

REITS (-17.92%) trailed the benchmark return by 0.92% in the second quarter, but generated excess returns over the benchmark over longer periods.

The Private Equity allocation is 4.3% above its target weight due to strong historical performance, but the streak of positive returns came to an end in the second quarter, as Private Equity lost 4.02%. The asset class has seen double digit returns over longer periods shown above.

Hedge Funds underperformed for the quarter, returning 0.26% versus its absolute return benchmark (+1.41%). Over longer periods shown above, the Hedge Fund allocation trails its benchmark.

Benchmarks

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	2Q 2022 Target
Russell 3000	33.0%	33.0%
MSCI ACWI ex US	21.0	21.0
Bloomberg Aggregate	23.4	23.4
Bloomberg Gov/Credit	2.6	2.6
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.