Callan Institute

Third Quarter 2021

Capital Markets Review

Is 2% GDP Growth Good or Bad?

ECONOMY

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A drop to 2% growth for GDP in 3Q21 after a 6.7% gain in 2Q is well within expectations for this lurching path toward normally functioning markets. So what about 4Q21? Do we face more of the 2% solution or a rebound? Signs so far point to a rebound.

Flat Returns Now, but Strong Longer Term

INSTITUTIONAL INVESTORS

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While all investor types saw returns hover around 0% in 3Q21, their results over longer periods continue to be robust. And many saw the best fiscal year returns (ending June) in a generation. But there is great unease about the future of portfolios amid lower return expectations.

Indices Stall Over Mounting Worries

EQUITY

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Slowing economic growth, supply chain disruptions, and inflationary pressure, as well as uncertainty around monetary policy, decreased U.S. investors' risk appetite. And in global ex-U.S. markets, Delta variant flare-ups and a slowdown in China weighed on stocks.

Yields Slightly Up; Aggregate Is Flat

FIXED INCOME

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Yields ended a volatile quarter only slightly higher after the Fed signaled it may soon begin tapering its bond buying program. For the Aggregate, minor gains in Treasuries and agency MBS were offset by declines in government-related, CMBS, and corporates.

Best Quarter for ODCE Ever; REITs Are Mixed

REAL ESTATE/REAL ASSETS

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The NFI-ODCE Index posted its strongest return ever in 3Q21; Industrial was the best performer. Vacancy rates kept compressing in Industrial and Multifamily as demand continued. Global REITs underperformed equities; U.S. REITs rose 1.0%, topping the S&P 500 Index.

Activity Dips in 3Q21 but Strong Gains YTD

PRIVATE EQUITY

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Most private equity activity measures dipped in 3Q21 compared to the previous quarter; however, all year-to-date comparisons are strongly up. A rough averaging across fundraising and private investments and exits indicates big jumps in transaction count and dollar volume.

Strong Fundraising Buoys Asset Class

PRIVATE CREDIT

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Investors appreciate the yield- and income-generating features of private credit in this low-rate environment. Private credit vintages 2008-18 generated an 8.3% median net IRR with a standard deviation of 6.1%. Fundraising continues to be active given investor interest.

Mixed Results as Volatility Returned

HEDGE FUNDS/MACs

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Hedge funds as a whole ended the quarter higher, driven by commodities-oriented relative value, event-driven, and sector-focused strategies, as well as macro managers with short positions in U.S. interest rates. But credit-focused managers had a more challenging time.

Index Posts Fifth Straight Quarterly Gain

DEFINED CONTRIBUTION

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The Callan DC Index gained 5.8% in 2Q21. Investors continued to transfer assets out of relatively safer asset classes. The index's allocation to equity (72.2%) increased by more than a full percentage point from 1Q21, to its highest level since 4Q07 (72.9%).

Broad Market Quarterly Returns

U.S. Equity
Russell 3000

▼ -0.1%

Global ex-U.S. Equity
MSCI ACWI ex USA

▼ -3.0%

U.S. Fixed Income
Bloomberg Agg

▲ 0.1%

Global ex-U.S. Fixed Income
Bloomberg Global Agg ex US

▼ -1.6%

Sources: Bloomberg, FTSE Russell, MSCI

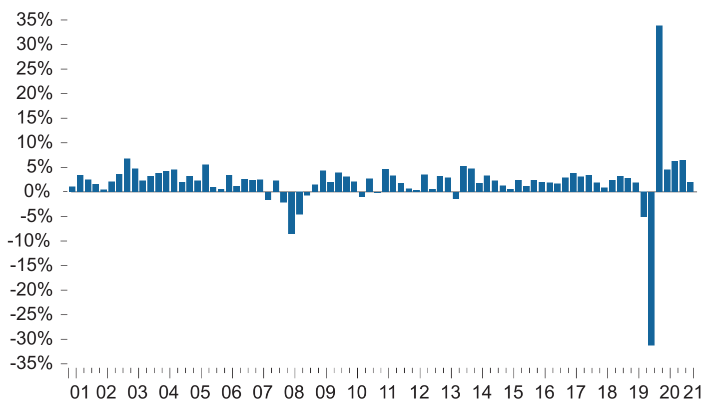
Is 2% Growth Good or Bad?

ECONOMY | Jay Kloepfer

Global equity markets hit the pause button in 3Q21. Investors watched nervously as the economic data showed signs of softening: weaker job gains, slower output growth strangled by supply chain issues, a drop in income growth, and signs of waning consumer sentiment. As the quarter unfolded, supply chain issues and fears surrounding the end of fiscal stimulus, the surge in the Delta variant, and the return to a Fed taper slowed economic activity. Spiking inflation stirred even more anxiety, and the equity markets pulled back sharply in September in anticipation of weak reports for the economy. The market's concerns appeared to be well-founded, as U.S. GDP came in at 2% growth for 3Q, down from the torrid 6.7% pace in 2Q and very much in line with reports of growth stalling in the euro zone and in Asia, particularly China.

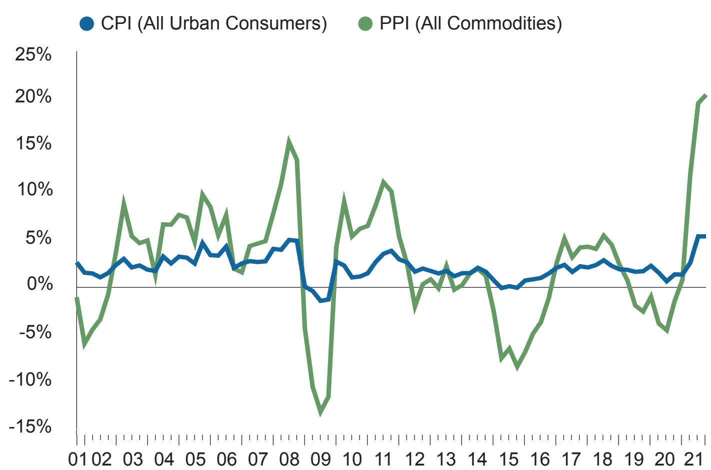
Does the drop to 2% mean the recovery from the pandemic has been thrown off track? Recall that the global economy suffered disruption and volatility unprecedented in modern times: a stock market decline in the U.S. of 34% in just a handful of trading days, and the complete shutdown of industries such as hospitality, passenger transportation, in-person retail trade, and personal services. Global supply chains ground to a halt, and restarting everything was fully expected to result in a herky-jerky pattern of growth. That the recovery has gone as well as it has is a testament to the impact of the monetary and fiscal policy lavished during the upheaval by countries around the globe. That we are as far along as we are was not really considered likely just a year ago—vaccines were yet to be released; a second, much larger surge in COVID infections was spreading; and the notion of travel, of job recovery, and of a resumption of trade was a pipe dream. All of the supply/demand issues within almost every market—labor, raw materials, commodities, energy, intermediate and finished goods, services, travel capacity, shipping—were fully expected. Price dislocations were also expected, and we have come to see them in goods as disparate as timber products, gasoline, computer chips, automobiles, and consumer goods. A drop to 2%

Quarterly Real GDP Growth (20 Years)



Source: Bureau of Economic Analysis

Inflation Year-Over-Year



Source: Bureau of Labor Statistics

growth in 3Q following a robust 6.7% gain in 2Q is well within expectations for this lurching stop/start path toward normally functioning markets.

Unemployment in the U.S. dropped to 4.8% in September, but it is still above the pre-COVID rate of 3.5%. The economy added 194,000 jobs in September, down from 336,000 in August and a whopping 1,091,000 in July, and just one-third of the monthly average of 560,000 during 2021. The dislocation between employers looking for employees and those looking for work has become extreme. The job market is still almost 5 million jobs below the pre-pandemic peak. Yet employers across sectors and regions of the country struggle to fill positions, particularly in services, retail trade, and hospitality, but also in basic labor within manufacturing, wholesale trade, transportation, and distribution. The end of pandemic unemployment support in September means workers will soon be forced back into the labor market, which may help alleviate its kinks. Uncertainty about the future for those about to lose benefits certainly fed into consumer sentiment in 3Q. Personal income declined in September, even though wages and salaries rose a solid 0.8% in just one month. The rise in wage and salary payments was not enough to offset the loss of social benefits.

So what about 4Q21? Do we face more of the 2% solution or a rebound in growth? Signs point to a rebound: inventory investment has yet to take place, which could be a major driver of growth; the toll from the Delta surge has fallen sharply. High-frequency data in September and into the first month of 4Q suggest robust credit card spending, a renewed surge in air travel, and a rise in gasoline consumption to pre-pandemic seasonal levels. However, hotel revenues and restaurant spending have yet to recover from the flattening that occurred as the Delta variant hit in mid-summer—more fits and starts. The inflation surge that began in early 2021 continued through 3Q with a 5.7% rise; while disconcerting to many, the surge was completely expected. Going back to 4Q19, which takes out the base effect from the low readings in 2020, the price index rose at a 3.1% annual rate. Aggregate demand appears to have regained some strength at the very end of 3Q, as evidenced by a rise in real imports to levels above pre-pandemic levels. Overall, consensus estimates place 4Q GDP back at a 5% annual growth rate.

The Long-Term View

		Periods Ended 9/30/21			
Index	**3Q21**	**1 Yr**	**5 Yrs**	**10 Yrs**	**25 Yrs**
U.S. Equity					
Russell 3000	-0.1	31.9	16.9	16.6	9.7
S&P 500	0.6	30.0	16.9	16.6	9.7
Russell 2000	-4.4	47.7	13.5	14.6	9.1
Global ex-U.S. Equity					
MSCI EAFE	-0.4	25.7	8.8	8.1	5.2
MSCI ACWI ex USA	-3.0	23.9	8.9	7.5	--
MSCI Emerging Markets	-8.1	18.2	9.2	6.1	--
MSCI ACWI ex USA Small Cap	0.0	33.1	10.3	9.4	6.8
Fixed Income					
Bloomberg Agg	0.1	-0.9	2.9	3.0	5.1
90-Day T-Bill	0.0	0.1	1.2	0.6	2.1
Bloomberg Long G/C	0.1	-3.0	5.2	5.8	7.4
Bloomberg Gl Agg ex US	-1.6	-1.2	1.1	0.9	3.6
Real Estate					
NCREIF Property	5.2	12.1	6.8	9.0	9.2
FTSE Nareit Equity	1.0	37.4	6.8	11.3	10.0
Alternatives					
CS Hedge Fund	1.2	14.1	5.5	4.9	7.1
Cambridge PE*	11.5	56.9	21.0	15.8	15.6
Bloomberg Commodity	6.6	42.3	4.5	-2.7	1.4
Gold Spot Price	-0.8	-7.3	5.9	0.8	6.3
Inflation – CPI-U	1.0	5.4	2.6	1.9	2.2

*Data for most recent period lags by a quarter. Data as of 6/30/21.
Sources: Bloomberg, Bureau of Economic Analysis, Credit Suisse, FTSE Russell, MSCI, NCREIF, Refinitiv/Cambridge, S&P Dow Jones Indices

Recent Quarterly Economic Indicators

	3Q21	2Q21	1Q21	4Q20	3Q20	2Q20	1Q20	4Q19
Employment Cost–Total Compensation Growth	3.7%	2.9%	2.6%	2.5%	2.4%	2.7%	2.8%	2.7%
Nonfarm Business–Productivity Growth	-5.0%	2.4%	4.3%	-3.4%	4.6%	11.2%	-0.8%	1.6%
GDP Growth	2.0%	6.7%	6.3%	4.5%	33.8%	-31.2%	-5.1%	1.9%
Manufacturing Capacity Utilization	76.4%	75.4%	74.5%	74.0%	71.9%	64.3%	74.4%	75.4%
Consumer Sentiment Index (1966=100)	74.8	85.6	80.2	79.8	75.6	74.0	96.4	97.2

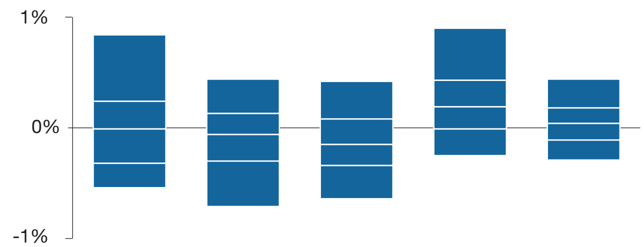
Sources: Bureau of Economic Analysis, Bureau of Labor Statistics, Federal Reserve, IHS Economics, Reuters/University of Michigan

Flat Returns in 3Q21, but Continued Strong Gains Over the Longer Term

INSTITUTIONAL INVESTORS

- Institutional investors saw essentially flat returns in 3Q21, either slightly above or slightly below 0%.
- By plan size, larger investors outperformed smaller ones.
- Year-to-date and trailing one-year returns are much stronger, reflecting the rebound in the equity markets since the March 2020 pandemic depths.
- All investor types and sizes have shown strong returns over long time periods.
- Through June, many investors had enjoyed the best fiscal year returns in a generation, but their elation is tempered by sobering capital markets assumptions.
- There is also growing concern about a market drawdown, given the heady valuations relative to historical averages.
- As a result, clients are reevaluating the purpose and future of all asset classes, but fixed income remains the primary focus.
- For all the talk about inflation spiking, few investors have taken steps to address it in their portfolios.
- Hedge funds and other absolute return strategies have gained a new appreciation when compared to dismal fixed income expectations as a way to diversify growth risk with less of a return penalty.
- Investors have demonstrated remarkable discipline in rebalancing between growth and value managers, and U.S. and global ex-U.S. equity.
- Fixed income structures focus on the role of the asset class—to diversify equity, as a flight to quality, for liquidity, to help with interest rate exposure—balanced against the desire for return in a very low-yield environment.
- Real assets are under review with the growing concern for inflation. Investors question the inclusion of past real assets stalwarts: natural resources, energy, MLPs, and commodities.

Quarterly Returns, Callan Database Groups



	Public	Corporate	Nonprofit	Taft-Hartley	Insurance Assets
10th Percentile	0.8	0.4	0.4	0.9	0.4
25th Percentile	0.2	0.1	0.1	0.4	0.2
Median	0.0	-0.1	-0.2	0.2	0.0
75th Percentile	-0.3	-0.3	-0.3	0.0	-0.1
90th Percentile	-0.5	-0.7	-0.6	-0.3	-0.3

Source: Callan

Callan Database Median and Index Returns* for Periods Ended 9/30/21

Database Group	Quarter	Year-to-Date	1 Year	3 Years	5 Years	10 Years
Public Database	**0.0**	**9.0**	**20.2**	**10.2**	**10.0**	**9.7**
Corporate Database	**-0.1**	**5.8**	**14.9**	**10.6**	**9.4**	**9.4**
Nonprofit Database	**-0.2**	**9.0**	**21.5**	**10.6**	**10.4**	**9.6**
Taft-Hartley Database	**0.2**	**9.4**	**20.0**	**10.0**	**10.1**	**10.0**
Insurance Assets Database	**0.0**	**3.7**	**8.7**	**7.0**	**5.7**	**5.4**
All Institutional Investors	**0.0**	**8.5**	**19.8**	**10.4**	**10.0**	**9.7**
Large (>$1 billion)	**0.2**	**9.3**	**20.7**	**10.9**	**10.3**	**9.9**
Medium ($100mm - $1bn)	**0.0**	**8.2**	**19.4**	**10.4**	**10.1**	**9.6**
Small (<$100 million)	**-0.1**	**8.5**	**19.7**	**10.1**	**9.8**	**9.5**

*Returns less than one year are not annualized.

Source: Callan. Callan's database includes the following groups: public defined benefit (DB) plans, corporate DB plans, nonprofits, insurance assets, and Taft-Hartley plans. Approximately 10% to 15% of the database constituents are Callan's clients. All database group returns presented gross of fees. Past performance is no guarantee of future results. Reference to or inclusion in this report of any product, service, or entity should not be construed as a recommendation, approval, affiliation, or endorsement of such product, service, or entity by Callan.

– In general, plans to return to offices have been delayed amid the Delta variant surge.

Defined Benefit (DB) Plans

– An increasing number of corporate and public DB plans have conducted or are starting to conduct asset/liability studies.
– Lower return expectations stress return-on-asset assumptions.
– The American Rescue Plan Act (ARPA) provides a shot in the arm to corporate plans: lower liabilities, higher funded status, and lower required contributions.
– Low projected returns mean ROA assumptions for public DB plans face downward pressure. Weaker return assumptions may derail the expressed desire to bring in risk, spurring further demand for alts exposures and discussions of total fund leverage.
– There is growing interest in 20- and 30-year assumptions to justify more balanced portfolios and lessen pressure to risk up.

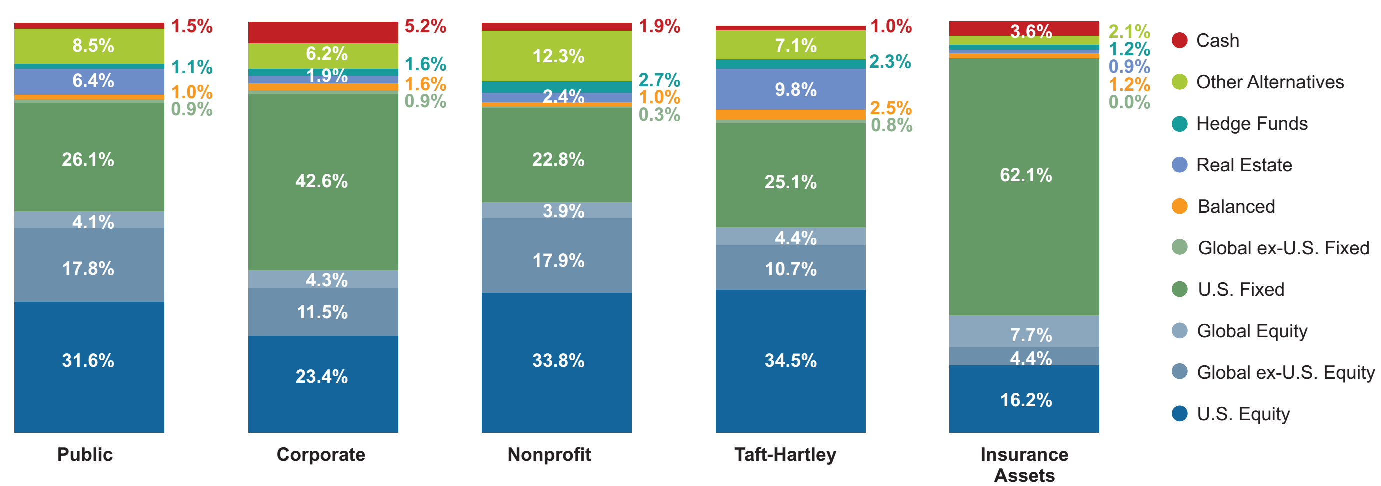
Defined Contribution (DC) Plans

– Glidepaths continue to be reassessed in light of lower short-term CMAs.
– Some sponsors are taking a harder look at the diversified real assets option in their plans.
– DC plan litigation remains very active, and plaintiffs continue to identify novel allegations.
– Retirement income, managed accounts, and financial wellness continue to be topical discussion points for plan sponsors.
– With the potential of heightened inflation, a recent topic of discussion with investment structure evaluations involves the possibility of adding an inflation-sensitive fund, either in the form of a diversified real assets (DRA) fund or stand-alone TIPS fund.

Nonprofits

– They are focused on meeting return targets.
– Subdued expectations for capital markets returns are challenging their risk tolerance.
– They continue to be dissatisfied with private real assets, hedge funds, and fixed income.

Average Asset Allocation, Callan Database Groups



Note: charts may not sum to 100% due to rounding. Other alternatives include but is not limited to: diversified multi-asset, private debt, private equity, and real assets.
Source: Callan

Equity

U.S. Equities

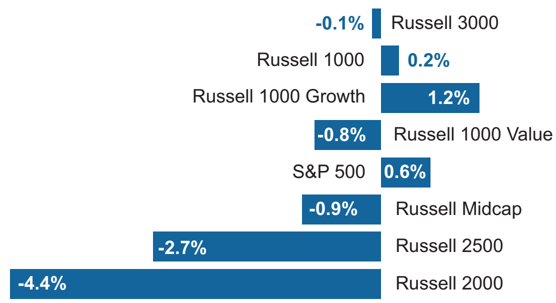
Returns compress over mounting concerns

- The S&P 500 Index rose 0.6% in 3Q21, and smaller cap growth indices posted their first negative quarter since the March 2020 low.
- Slowing economic growth, supply chain disruptions, and inflationary pressure, as well as uncertainty around monetary policy, decreased investors' risk appetite.
- In general, higher quality topped lower quality in large cap.
- Economically sensitive sectors such as Industrials (-4.2%) lagged; Financials (+2.7%) benefited.
- Growth outperformed value in large cap, and value outperformed growth in small cap.
- YTD, small value outperformed small growth by a whopping 2,000 bps (Russell 2000 Value: 22.9% vs. Russell 2000 Growth: 2.8%), a stark reversal from the prior year.

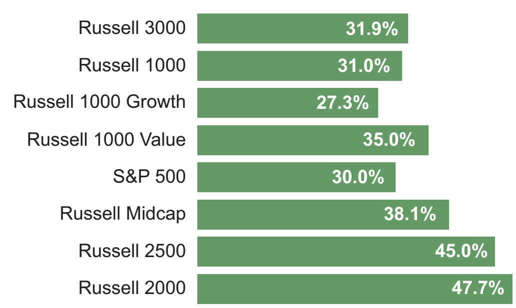
Diversification and rebalancing are best defense

- Few if any pockets of opportunity remain in the equity markets as valuations have hit or exceeded long-term averages given the recent market run.
- Investors are grappling with exposures to risk assets: What to do? Where to go?
- The whipsaw effect over the last two years illustrates the need to remain committed to a long-term plan that emphasizes diversification and disciplined rebalancing.

U.S. Equity: Quarterly Returns



U.S. Equity: One-Year Returns

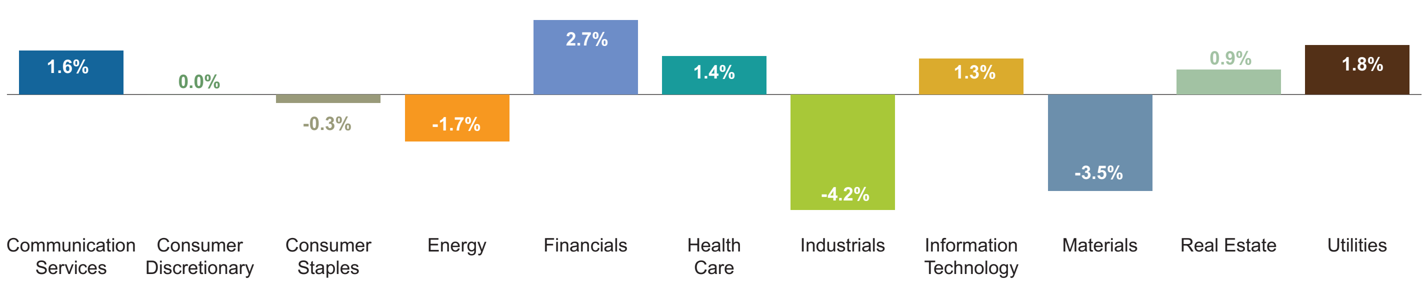


Sources: FTSE Russell and S&P Dow Jones Indices

Inflation and equity: not so bad, up to a point

- Investors typically fare OK with expected inflation levels but are negatively impacted when inflation is unexpectedly higher.
- Pre-GFC, stocks and interest rate movements (proxy for inflation) were highly correlated until 10-year U.S. Treasury yields reached 4.5%.

Quarterly Performance of Industry Sectors



Source: S&P Dow Jones Indices

- Post-GFC, stocks and interest rate movements were highly correlated until 10-year yields reached 3.5%.
- The current 10-Year Treasury yield is 1.5%.

Global Equity

Fears of stagflation stoke market volatility

- Delta variant flare-ups and slowdown in China weighed on global recovery.
- COVID-driven supply chain disruption continues to push inflation higher.
- Small cap outpaced large as global recovery concerns disproportionately punished large cap companies.
- Emerging markets struggled relative to developed markets as growth prospects were under pressure for China and Brazil.

Market pivots to cyclicals

- Energy crunch fueled the sector to the highest return in the quarter as demand outstripped supply.
- Financials outperformed; Real Estate and Utilities generally underperformed with higher interest rate expectations.
- Sentiment and momentum signals added value in developed markets but not in emerging markets.

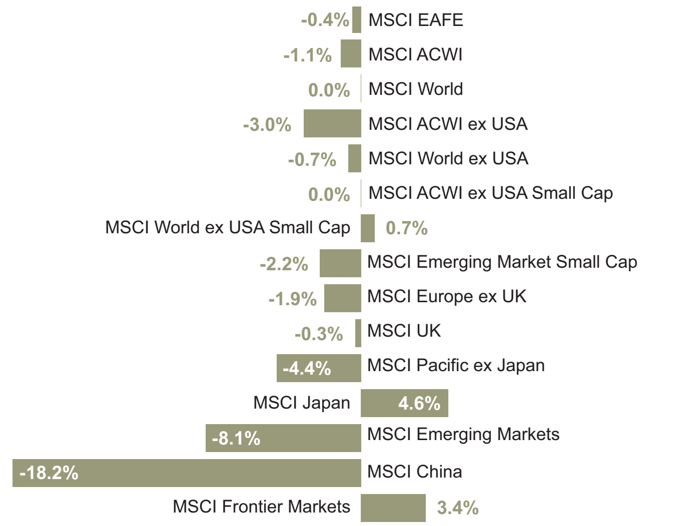
U.S. dollar vs. other currencies

- The U.S. dollar rose against other major currencies as the Fed signaled tapering is imminent, which notably detracted from global ex-U.S. results.

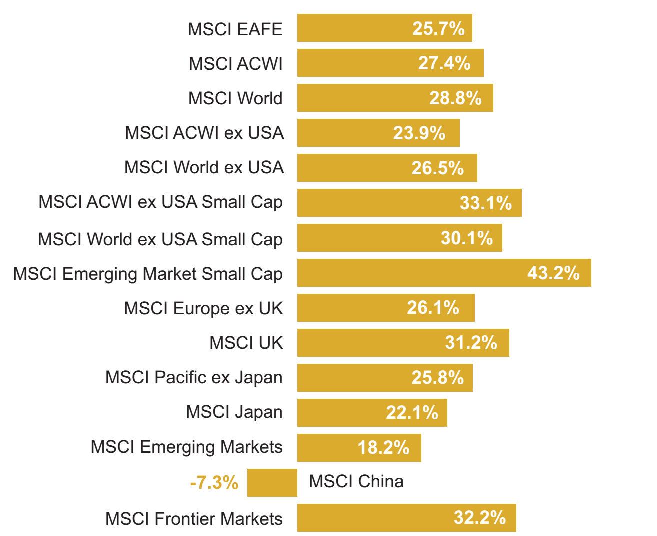
Growth vs. value

- Value outpaced growth in emerging markets due to the Energy rally, while both were relatively flat in developed markets.

Global ex-U.S. Equity: Quarterly Returns (U.S. Dollar)



Global ex-U.S. Equity: One-Year Returns (U.S. Dollar)



Source: MSCI

Fixed Income

U.S. Fixed Income

Treasury yields largely unchanged from 2Q21

- Yields ended a volatile quarter only slightly higher after the Fed signaled it may soon begin tapering its bond buying program.
- 2-year and 10-year Treasury yields rose 3 and 7 bps, respectively.
- TIPS outperformed nominal Treasuries, and 10-year break-even spreads widened 5 bps to 2.37%.

Bloomberg Aggregate flat as spreads widened

- Minor gains in Treasuries and agency MBS were offset by declines in government-related, CMBS, and corporates.
- IG corporate trailed Treasuries by 15 bps (duration-adjusted) as spreads widened within long bonds.

High yield and leveraged loans continue rally

- Leveraged loans (+1.1%) outperformed high yield, driven by favorable supply/demand dynamics.
- High yield issuers' default rate declined to 0.9% in September, the lowest since March 2014.

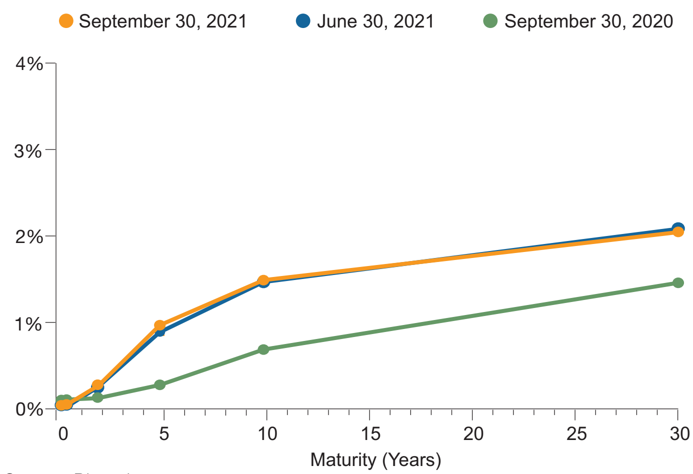
Munis underperform Treasuries

- Supply was modest and demand was fueled by expectations for higher tax rates and strong credit fundamentals.
- Lower-quality bonds continued their trend of outperformance as investors sought yield.

Fed reiterates that current price pressures are transitory

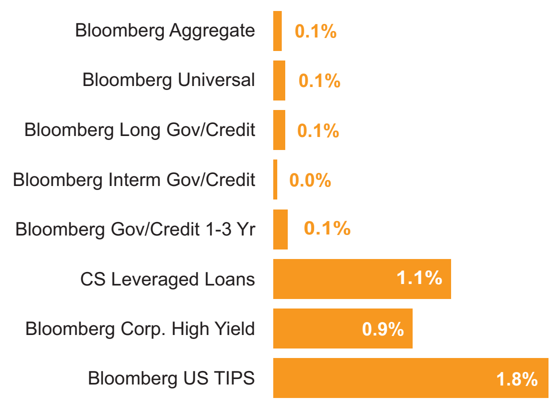
- Inflation is being temporarily influenced by pandemic-related supply bottlenecks (e.g., used cars and housing).
- Used autos spiked (+32% YOY), but rents (with a greater weight in the index) have started to apply price pressure.
- Fed's flexible average inflation targeting (FAIT) allows inflation to overshoot the 2% neutral rate; PCE (Fed's preferred inflation measure) rose 4.3% in August.

U.S. Treasury Yield Curves



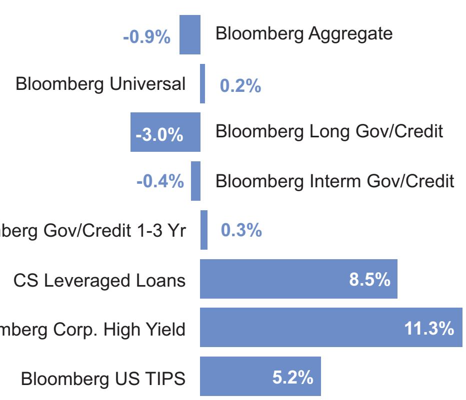
Source: Bloomberg

U.S. Fixed Income: Quarterly Returns



Sources: Bloomberg and Credit Suisse

U.S. Fixed Income: One-Year Returns



Sources: Bloomberg and Credit Suisse

Policy adjustments may be on the horizon

- Fed signaled it would move up its taper announcement.
- Sep '21 Fed Funds rate forecast illustrated a potential rate hike in 2022, with a 25 bps increase; the previous dot plot had no hikes until 2023.

Global Fixed Income

Flat on a hedged basis

- Returns were muted and U.S. dollar strength eroded returns for unhedged U.S. investors.
- The dollar gained roughly 2% vs. a basket of developed market currencies.

Emerging market debt falls

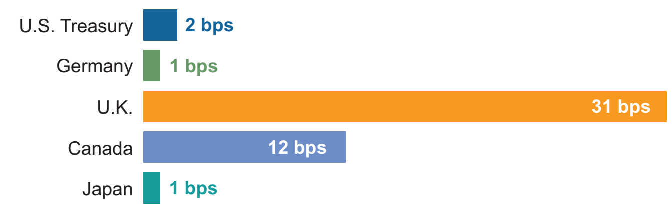
- The U.S. dollar-denominated index (EMBI Global Diversified) declined as the Delta variant in some countries raised concerns, and the local Index (JPM GBI-EM Global Diversified) lost further ground due to currency depreciation.
- Most emerging currencies depreciated versus the dollar. Notables included the Brazil real (-7.9%) and South Africa rand (-5.1%).
- EM corporates fared better amid improving corporate fundamentals and the global economic recovery.

Inflation overseas

- Yields have increased as non-U.S. developed market countries also deal with supply bottlenecks and pressure from energy prices.
- Euro zone inflation has been elevated, but not at same level as the U.S.
- Central bank policy is mixed.
- The U.K.'s Bank of England has signaled a potential tightening of its monetary policy by the end of 2021.
- The European Central Bank remains on hold.

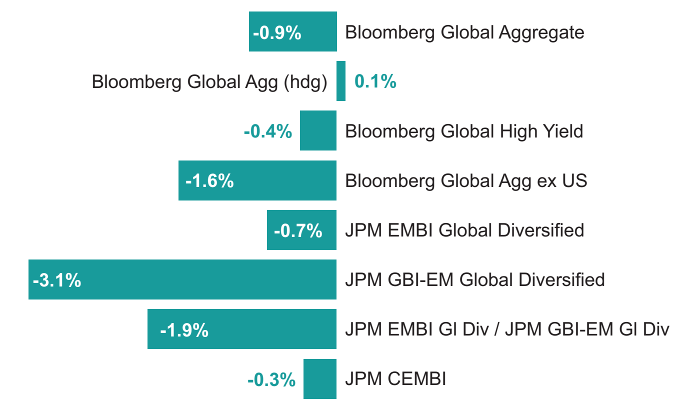
Change in 10-Year Global Government Bond Yields

2Q21 to 3Q21



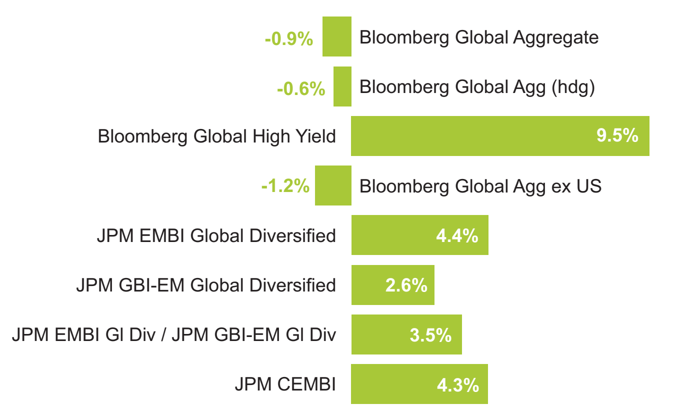
Source: Bloomberg

Global Fixed Income: Quarterly Returns



Sources: Bloomberg and JPMorgan Chase

Global Fixed Income: One-Year Returns



Sources: Bloomberg and JPMorgan Chase

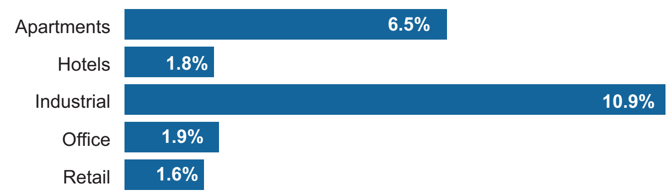
Best Quarter for ODCE Ever; REITs Are Mixed

REAL ESTATE/REAL ASSETS | Munir Iman

Strongest gains for ODCE in history

– The NFI-ODCE Index posted its best return ever in 3Q21; Industrial was the top performer.
– Income returns were positive except for the Hotel and Retail sectors.
– Appraisers are pricing in a recovery due to strong fundamentals in Industrial and Multifamily.
– Return dispersion by manager within the ODCE Index was due to the composition of underlying portfolios.

Sector Quarterly Returns by Property Type



Source: NCREIF

Compression in vacancy rates

– Vacancy rates kept compressing in Industrial and Multifamily as demand continued.
– Net operating income remained negative for Retail but its recovery continued; pent-up demand is evident through foot traffic in retail centers.
– 3Q21 rent collections have stabilized across all sectors.
– Demand outpaced supply as new construction of preleased Industrial and Multifamily occurred.

Gains in transaction volume

– Transaction volume increased quarter over quarter led by Multifamily and Industrial assets with strong credit tenants, which are trading at higher values than pre-COVID-19 levels.

Global REITs trailed equities; U.S. REITs outperformed

– Global REITs underperformed in 3Q21, falling 0.9% compared to 0.0% for global equities (MSCI World).
– U.S. REITs rose 1.0% in 3Q21, beating the S&P 500 Index, which gained 0.6%.
– Global REITs were trading below NAV, except for those in Singapore, Japan, the United States, and Canada.
– Property sectors were mixed between trading at a discount or premium.
– Ongoing volatility in REIT share prices offers opportunities to purchase mispriced securities, individual assets from REIT owners, and discounted debt, as well as to lend to companies and/or execute take-privates of public companies.

Callan Database Median and Index Returns* for Periods Ended 9/30/21

Private Real Assets	Quarter	Year to Date	1 Year	3 Years	5 Years	10 Years	15 Years
Real Estate ODCE Style	**3.2**	**10.5**	**11.5**	**6.3**	**6.9**	**9.1**	**5.6**
NFI-ODCE (value wt net)	6.4	12.4	13.6	6.1	6.6	8.9	5.5
NCREIF Property	5.2	10.9	12.1	6.7	6.8	9.0	7.1
NCREIF Farmland	1.5	3.9	5.5	4.9	5.5	10.2	11.1
NCREIF Timberland	1.9	4.4	5.0	2.4	2.9	4.9	5.2
Public Real Estate							
Global Real Estate Style	**-0.2**	**16.0**	**29.1**	**9.5**	**7.6**	**10.6**	**5.6**
FTSE EPRA Nareit Developed	-0.9	14.5	29.6	6.2	4.5	8.3	3.8
Global ex-U.S. Real Estate Style	**-2.2**	**7.4**	**22.3**	**8.4**	**6.9**	**10.3**	**4.9**
FTSE EPRA Nareit Dev ex US	-2.7	6.1	20.8	4.2	4.3	7.1	2.9
U.S. REIT Style	**1.3**	**22.8**	**34.8**	**12.5**	**8.4**	**12.3**	**7.4**
EPRA Nareit Equity REITs	1.0	23.1	37.4	10.0	6.8	11.3	6.5

*Returns less than one year are not annualized.
Sources: Callan, FTSE Russell, NCREIF

Pandemic's Impact Muted

PRIVATE EQUITY | Gary Robertson

Private equity activity measures in 3Q21 backed down slightly from 2Q, although totals were still strong. The IPO market for both venture capital and buyouts showed the largest declines as public equity flattened in 3Q. So far this year, private equity activity has been vigorous, fueled by rapidly rising public equity valuations and very liquid capital markets.

Private equity partnerships holding final closes in 3Q totaled $165 billion, with 398 new partnerships formed (unless otherwise noted, all data are from PitchBook). The dollar volume fell 32% from 2Q21, and the number of funds holding final closes declined 28%. So far, capital raised is running 24% ahead of YTD 2020. Venture capital and growth equity have been garnering a larger share of overall commitments, while overall private equity commitments continued to rise.

The number of new buyout transactions and dollar volume fell minutely. Funds closed 2,615 company investments with $160 billion of disclosed deal value, a 7% decrease in count and a 2% drop in dollar value from 2Q21. New financing rounds in venture capital companies totaled 10,208, with $180 billion of announced value. The number of investments was down 5% from the prior quarter, but announced value rose 8%. The median pre-money valuations of Seed through Series D rounds continued to increase in YTD 2021 over 2020.

Funds Closed 1/1/21 to 9/30/21

Strategy	No. of Funds	Amt ($mm)	Share
Venture Capital	871	166,920	26%
Growth Equity	129	65,232	10%
Buyouts	329	321,149	50%
Mezzanine Debt	16	12,690	2%
Distressed	21	27,852	4%
Energy	4	1,967	0%
Secondary and Other	66	43,340	7%
Fund-of-Funds	22	5,432	1%
Totals	**1,458**	**644,582**	**100%**

Source: PitchBook (Figures may not total due to rounding.)

There were 348 private M&A exits of private equity-backed companies (excluding venture capital), with disclosed values totaling $174 billion. Exits were down 44% from the prior quarter but announced dollar volume leaped 29%. The year-to-date exit count is up 10%. There were 104 private equity-backed IPOs in 3Q raising $32 billion, down from 112 totaling $39 billion in 2Q.

Venture-backed M&A exits totaled 735 transactions with disclosed value of $57 billion. The number of sales increased 5% and announced dollar volume rose 10%. The year-to-date exit count rose 43%. There were 119 VC-backed IPOs with a combined float of $43 billion. For comparison, 2Q had 171 IPOs and total issuance of $73 billion.

Private Equity Performance (%) (Pooled Horizon IRRs through 6/30/21*)

Strategy	Quarter	1 Year	3 Years	5 Years	10 Years	15 Years	20 Years	25 Years
All Venture	11.1	82.2	35.0	26.3	19.4	15.2	10.4	23.1
Growth Equity	12.1	64.0	28.6	24.3	16.9	15.7	14.0	16.4
All Buyouts	12.6	51.7	21.2	19.9	14.1	12.5	13.6	13.7
Mezzanine	6.3	24.9	11.6	12.4	11.6	11.0	9.8	10.3
Credit Opportunities	5.8	23.3	6.5	8.9	8.2	9.0	9.9	9.9
Control Distressed	10.2	43.3	14.0	13.8	11.6	10.6	11.5	11.8
All Private Equity	**11.6**	**57.7**	**24.0**	**21.0**	**15.0**	**13.1**	**12.5**	**14.7**
S&P 500	8.6	40.8	18.7	17.7	14.8	10.7	8.6	9.8
Russell 3000	-0.1	31.9	16.0	16.9	16.6	10.4	9.8	9.7

Note: Private equity returns are net of fees. Sources: Refinitiv/Cambridge and S&P Dow Jones Indices
*Most recent data available at time of publication

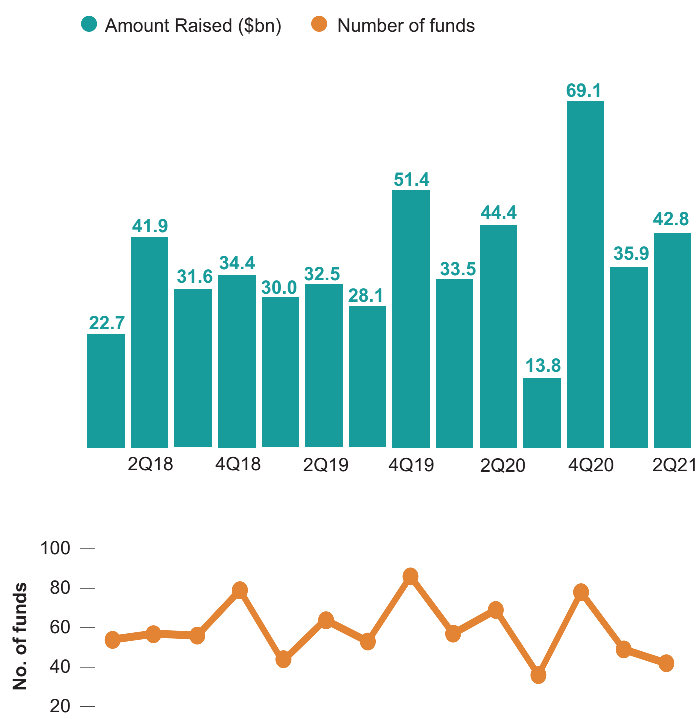
Note: Transaction count and dollar volume figures across all private equity measures are preliminary figures and are subject to update in subsequent versions of the *Capital Markets Review* and other Callan publications.

Asset Class Remains Attractive and Fundraising Stays Strong

PRIVATE CREDIT | Catherine Beard

- The yield- and income-generating characteristics of private credit remain attractive to institutional investors in a low-rate environment.
  - Private credit vintages 2008-18 generated an 8.3% median net IRR with a standard deviation of 6.1%.
  - Private credit is seen as fairly valued with a view that we are in a rising market.
- Direct lending portfolios proved resilient during the COVID dislocation due to the liquidity injected into the economy.
  - While pricing widened in the early stages of the dislocation, pricing and structures are back to pre-pandemic levels.
  - Direct lending portfolio valuations are back to 2019 levels.
  - New sponsor-backed lending deal flow has been at record levels through 3Q21.
  - Key industries of focus include technology, health care, and business services.
  - The balance has shifted back to borrowers with a return to covenant-lite structures, high leverage, and compressed pricing.
  - Downside has been limited by strong portfolio management during the dislocation coupled with capital available to shore up liquidity for troubled companies.
- Liquidity flowing into the U.S. economy has limited U.S. corporate stress and has muted the corporate distressed opportunity set.
- Areas of opportunity include those that offer diversification through differentiated collateral and/or areas of low correlation to public markets, including specialty finance, asset-backed lending, and niche areas (life sciences lending and artificial intelligence).
- 35% of investors polled by Preqin say they are allocating to private credit. The average target allocation is 6.2%.
- A majority of investors polled say private credit returns have met expectations. 40% intend to commit more capital to private credit over the next 12 months.
- Senior debt and mezzanine capital continue to see strong 2021 fundraising activity.
- There is also a ramp up of fundraising in specialty finance, asset-backed lending, and niche areas such as venture debt.

Private Credit Fundraising ($bn)



Source: Preqin

Mixed Results as Volatility Returned to Markets

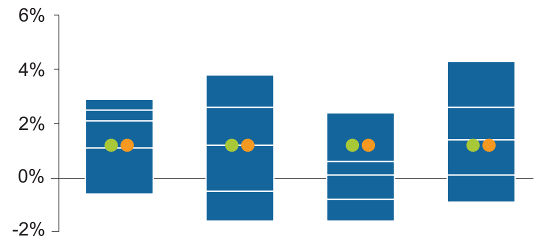
HEDGE FUNDS/MACs | Joe McGuane

A variety of macro concerns, including China, inflation, interest rates, and the Delta variant, led to a volatile 3Q21 for financial markets, as investors took chips off the table toward the end of September.

While global markets all suffered a late-quarter drawdown, the S&P 500 (+0.6%) managed to produce a gain, as corporate earnings came in ahead of expectations. The Bloomberg High Yield Index rose 0.8%, as U.S. credit markets remained resilient despite the potential default of China's Evergrande. The MSCI Emerging Markets Index lost 8.1%.

Hedge funds as a whole ended the quarter higher, driven by commodities-oriented relative value, event-driven, and sector-focused strategies, as well as macro managers with short positions in U.S. interest rates. Representing hedge funds reporting performance without implementation costs,

Hedge Fund Style Group Returns



	Absolute Return FOF	Core Div. FOF	Long/Short Equity FOF	Institutional Hedge Funds
10th Percentile	2.9	3.8	2.4	4.3
25th Percentile	2.5	2.6	0.6	2.6
Median	2.1	1.2	0.1	1.4
75th Percentile	1.1	-0.5	-0.8	0.1
90th Percentile	-0.6	-1.6	-1.6	-0.9
CS Hedge Fund	1.2	1.2	1.2	1.2
90-Day T-Bill +5%	1.2	1.2	1.2	1.2

Sources: Callan, Credit Suisse, Federal Reserve

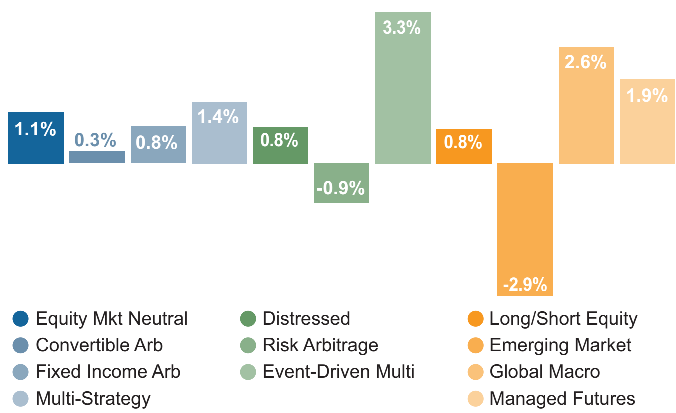
Callan Peer Group Median and Index Returns* for Periods Ended 9/30/21

Hedge Fund Universe	Quarter	Year-to-Date	1 Year	3 Years	5 Years	10 Years
Callan Institutional Hedge Fund Peer Group	**1.4**	**7.4**	**11.8**	**6.0**	**5.8**	**6.5**
Callan Fund-of-Funds Peer Group	**0.9**	**5.6**	**15.0**	**6.6**	**6.1**	**5.6**
Callan Absolute Return FOF Style	**2.1**	**7.1**	**14.6**	**5.1**	**4.9**	**4.9**
Callan Core Diversified FOF Style	**1.2**	**5.3**	**13.3**	**6.8**	**6.1**	**5.6**
Callan Long/Short Equity FOF Style	**0.1**	**5.1**	**17.0**	**10.1**	**8.7**	**7.5**
BB GS Cross Asset Risk Premia 6% Vol Idx	1.3	2.3	3.5	1.6	2.0	4.2
Credit Suisse Hedge Fund	1.2	7.2	14.1	6.1	5.5	4.9
CS Convertible Arbitrage	0.3	4.5	8.9	6.5	5.1	4.6
CS Distressed	0.8	11.3	21.5	4.3	5.1	5.3
CS Emerging Markets	-2.9	4.7	10.5	8.8	6.9	5.9
CS Equity Market Neutral	1.1	4.2	4.9	0.8	1.5	1.8
CS Event-Driven Multi	3.3	14.3	26.6	7.9	6.8	5.3
CS Fixed Income Arb	0.8	4.7	8.1	4.3	4.8	4.7
CS Global Macro	2.6	8.9	15.4	8.0	6.5	4.4
CS Long/Short Equity	0.8	6.1	14.2	6.2	6.7	6.7
CS Managed Futures	1.9	8.2	14.6	5.0	1.8	1.4
CS Multi-Strategy	1.4	5.9	11.2	4.9	5.1	6.2
CS Risk Arbitrage	-0.9	4.3	16.0	7.9	6.3	4.4
HFRI Asset Wtd Composite	0.0	6.2	13.5	4.5	4.8	4.5
90-Day T-Bill + 5%	1.2	3.8	5.1	6.2	6.2	5.6

*Net of fees. Sources: Bloomberg GSAM, Callan, Credit Suisse, Hedge Fund Research the Credit Suisse Hedge Fund Index (CS HFI) gained 1.2% in 3Q. As an actual hedge fund portfolio net of all fees, the median manager in the Callan Hedge Fund-of-Funds (FOF) Database Group added 0.9%.

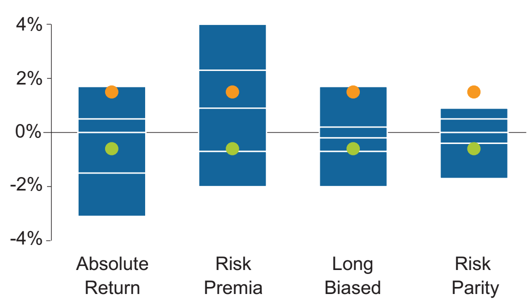
Serving as a proxy for large, broadly diversified hedge funds with low-beta exposure to equity markets, the median Callan Institutional Hedge Fund Peer Group added 1.4%. Within this style group, the average Hedged Equity manager gained the most at 3.7%, driven by managers focused on tech/media/technology (TMT) and event-related deals. Hedged Rates edged ahead only 0.02% as it navigated a bear flattening across the yield curves in the U.S., U.K., and Continental Europe. The average Hedged Credit manager added 1.2%.

Credit Suisse Hedge Fund Strategy Returns



Source: Credit Suisse

MAC Style Group Returns



	Absolute Return	Risk Premia	Long Biased	Risk Parity
10th Percentile	1.7	4.0	1.7	0.9
25th Percentile	0.5	2.3	0.2	0.5
Median	0.0	0.9	-0.2	0.0
75th Percentile	-1.5	-0.7	-0.7	-0.4
90th Percentile	-3.1	-2.0	-2.0	-1.7
BB GS Cross Asset Risk Premia (6%v)	1.3	1.3	1.3	1.3
60% MSCI ACWI/ 40% Bloomberg Agg	-0.6	-0.6	-0.6	-0.6

Sources: Bloomberg, Callan, Eurekahedge, S&P Dow Jones Indices

Within CS HFI, the best-performing strategy was Event Driven (+3.3%), aided by its exposure to corporate activity. Volatility across interest rates and equities helped Macro funds advance 2.6%. Multi-Strategy funds ended up 1.4%, with gains coming within credit and equity strategies. The laggard was Emerging Market (-2.9%).

Across the Callan Hedge FOF Database, the median Absolute Return FOF gained 2.1%. With exposures to non-directional and directional styles, the Core Diversified FOF rose 1.2%. Long/Short Equity FOF was slightly positive at 0.06%, after a tough September as mega cap tech exposure negatively impacted some managers.

Since the Global Financial Crisis, liquid alternatives to hedge funds have become popular for their attractive risk-adjusted returns uncorrelated with stock and bond investments but offered at a lower cost. Much of that interest is focused on rules-based, long-short strategies that isolate risk premia such as value, momentum, and carry. These alternative risk premia are often embedded in hedge funds as well as other actively managed investment products.

In 3Q, the Bloomberg GSAM Risk Premia Index increased 1.3% based upon a 6% volatility target. Within the underlying styles of the index, Commodity Carry (+2.9%) and Equity Quality (+2.1%) profited off strength in the energy and equity markets. The weakest risk premia was Equity Value L/S (-2.1%), as interest rate volatility and value equities detracted.

The median managers of the Callan Multi-Asset Class (MAC) Style Groups generated mixed returns gross of fees. The Callan Risk Premia MAC rose 0.9% based on its exposures to uncorrelated style premia targeting 5% to 15% portfolio volatility. The Callan Risk Parity MAC, which typically targets an equal risk-weighted allocation to the major asset classes with leverage, was flat. As the most conservative MAC style focused on non-directional strategies of long and short asset class exposures, the Callan Absolute Return MAC was also flat.

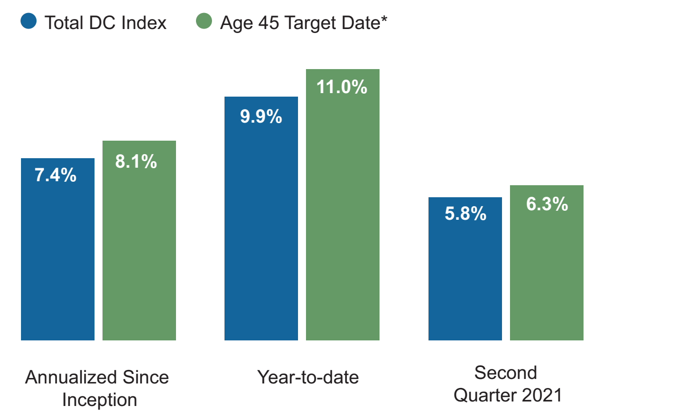
Index Posts Fifth Straight Quarterly Gain

DEFINED CONTRIBUTION | Patrick Wisdom

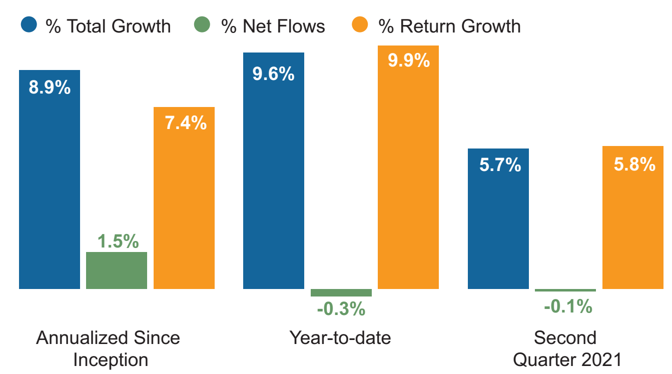
- The Callan DC Index™ rose 5.8% in 2Q21, marking a fifth straight quarter of gains. The Age 45 Target Date Fund posted a larger quarterly gain (6.3%), attributable to its higher allocation to equity, which outperformed fixed income during the quarter.
- Balances within the DC Index rose by 5.7%, the fifth straight quarterly gain.
- For the second straight quarter, target date funds (TDFs) placed atop the leaderboard, receiving 78.0% of net inflows.
- In a continuation from 1Q21, investors transferred assets out of relatively safer asset classes, as stable value (-28.1%) and U.S. fixed income (-17.7%) had sizable net outflows.
- U.S. large cap (-27.5%) also saw net outflows. In contrast, global ex-U.S. equity (8.6%) had the second-largest net inflows for the second straight quarter.
- Turnover (i.e., net transfer activity levels within DC plans) in the DC Index fell to 0.37% from the previous quarter's 0.42%.
- The Index's overall allocation to equity (72.2%) increased by more than a full percentage point from the previous quarter, bringing it to its highest level since 4Q07 (72.9%).
- In a continuation from the previous quarter, U.S. large cap (27.5%) had the largest percentage increase in allocation.
- Stable value (8.1%) saw the largest decrease in allocation, driven by material net outflows and relative underperformance.
- The prevalence of a high yield fixed income offering (7.9%) increased to its highest mark since 3Q16 (14.1%).

The Callan DC Index is an equally weighted index tracking the cash flows and performance of over 100 plans, representing nearly $300 billion in assets. The Index is updated quarterly and is available on Callan's website.

Investment Performance



Growth Sources



Net Cash Flow Analysis (2Q21)
(Top Two and Bottom Two Asset Gatherers)

Asset Class	Flows as % of Total Net Flows
Target Date Funds	78.09%
Global ex-U.S. Equity	8.06%
U.S. Large Cap	-27.54%
Stable Value	-28.12%
Total Turnover**	**0.37%**

Data provided here is the most recent available at time of publication.

Source: Callan DC Index

Note: DC Index inception date is January 2006.

* The Age 45 Fund transitioned from the average 2035 TDF to the 2040 TDF in June 2018.

** Total Index "turnover" measures the percentage of total invested assets (transfers only, excluding contributions and withdrawals) that moved between asset classes.

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The *Capital Markets Review* is a quarterly macroeconomic indicator newsletter that provides thoughtful insights on the economy and recent performance in the equity, fixed income, alternatives, real estate, and other capital markets.

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Callan was founded as an employee-owned investment consulting firm in 1973. Ever since, we have empowered institutional clients with creative, customized investment solutions that are backed by proprietary research, exclusive data, and ongoing education. Today, Callan advises on more than $3 trillion in total fund sponsor assets, which makes it among the largest independently owned investment consulting firms in the U.S. Callan uses a client-focused consulting model to serve pension and defined contribution plan sponsors, endowments, foundations, independent investment advisers, investment managers, and other asset owners. Callan has six offices throughout the U.S. For more information, please visit www.callan.com.

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