WELLS FARGO
Investment Institute

Asset Allocation Strategy

August 16, 2021

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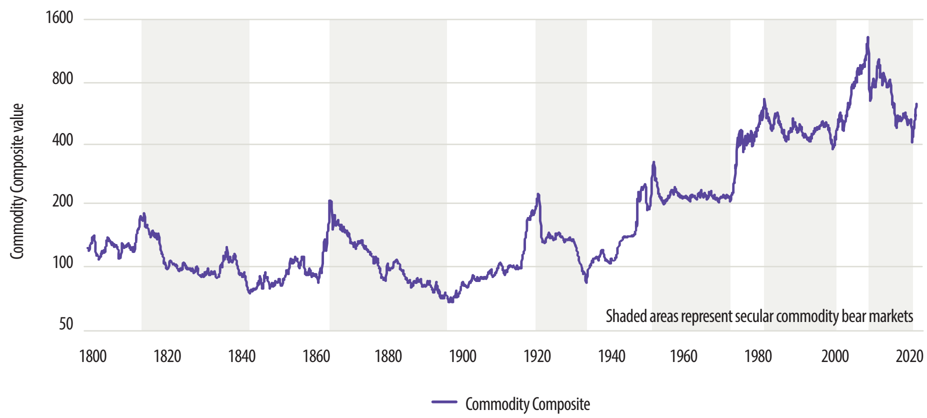
The commodity super-cycle bull is here

After a decade of poor performance, commodity prices bottomed in March 2020. We believe this nadir marked the start of a new bull super-cycle; commodities could be poised to enter a long-term period of outperformance over other asset classes, possibly for a decade or more.

Despite the differences among various individual commodities, commodities as a whole have historically tended to move together through long boom (bull markets) and bust (bear markets) cycles. Because each cycle has historically lasted between 15 and 20 years, we call them "super-cycles." These super-cycles tend to be longer than cycles for stock markets. While price collapses in both stocks and commodities can be swift, stocks often recover relatively quickly. On the other hand, it can take commodities years before excess supplies built up during the bull years are worked off. The trajectory of commodity super-cycle bears is remarkably consistent; once prices start to fall, a new bull market has often been more than a decade away.

Commodity bear market super-cycles



Sources: Bloomberg, Prices by G.F. Warren and F.A. Pearson, Bureau of Labor Statistics (BLS), Bureau of Economic Research (NBER), Wells Fargo Investment Institute. Monthly data: January 31, 1800 to July 31, 2021. An index is unmanaged and not available for direct investment. **Past performance is no guarantee of future results.**

Commodity composite blends the historical commodity index introduced by George F. Warren & Frank A. Pearson, former academics at Cornell, collected and published commodity price data in their book, Prices, and the producer price index for commodities (PPI-Commodities), and the National Bureau of Economic Research (NBER) Index of Wholesale Prices of 15 Commodities, **the Reuters Continuous Commodity Index**, and the Bloomberg Commodity Index Total Return. The Commodity Composite connects the aforementioned components at the following years: Warren and Pearson – Prices: 1803–1932, BLS PPI-Commodities: 1933–1946, NBER: 1946–1956, Reuters Continuous Commodity Index: 1956–1999, **Bloomberg Commodity Index** Total Return: 1999– current. The Reuters Continuous Commodity Index is an equal-weighted geometric average of commodity price levels relative to the base-year average price. Bloomberg Commodity Index is calculated on an excess return basis and reflects commodity futures price movements. The index rebalances annually, weighted two-thirds by trading volume and one-third by world production, and weight-caps are applied at the commodity, sector, and group level for diversification.

Super-cycles have historically exhibited signs that they are shifting, and key ones are signaling that the bear market is ending. Some signs we look for early in a bull, while others we use later on for confirmation. Technical angles are particularly important in the beginning of the cycle — factors like washed-out prices, bottoming price action, and strong breadth are critical to help pinpoint a turn. We watch technical indicators first because price often leads fundamentals at major turns. Technical indicators can act like an early warning system of sorts. They can give us an early "heads-up" that the underlying fundamentals are beginning to shift. Fundamentals, such as "restrained supply response" or "rising costs," can take years to evolve into new secular trends. If we relied on them exclusively, we could end up years behind in calling the bull. The bottom line is that we believe the early technical indicators are signaling that a new super-cycle likely began in 2020.

(Continued on the next page.)

The commodity super-cycle bull is here

(continued)

Potential bull super-cycle conditions we consider

Condition	Comment	Condition met	Early or later bull sign
Duration	Current bear matches shortest record (12 years).	Yes	Early
Washed-out prices	Poor absolute and relative performance versus other assets has been typical this cycle (-73%* versus -60% average bear performance).	Yes	Early
Washed-out sentiment	Underinvestment and fund outflows have been rampant.	Yes	Early
Strong breadth	Nearly all commodities have participated in the rally since the 2020 low.	Yes	Early
Key commodity leadership	Gold broke out to all-time high in 2020, while others like silver, corn, copper, and soybeans have broken out to cycle highs.	Yes	Early
Price firming	Will prices hold consistently above long-term averages?	TBD	Later
Rising production costs	Will production costs increase after years of efficiency gains?	TBD	Later
Slow persistent investment flows	After over a decade of outflows, will the money start trickling back?	TBD	Later
New demand	China, infrastructure spending, and the global green energy transition are candidates that may drive demand over the next bull supercycle.	TBD	Later
Restrained supply response	Will demand be able to overwhelm the supply response to spark a new bull supercycle?	TBD	Later

Source: Wells Fargo Investment Institute. *The previous bear was 7/2/2008 to 3/18/2020.

One key indicator we follow that may signal the start of a new bull is "washed-out" sentiment. Near the end of commodity bull super-cycles, prices climb so high that oversupplies become rampant and must be worked off. Investment dollars stop flowing into commodity production. After several years, supplies eventually decline. By this point, though, prices have stayed too low for too long, and investors have lost interest in investing. Now, many years into this process, possibly a decade, commodities become prone to supply shortages, with no quick way to bring production back. A new commodity bull super-cycle can be sparked this way; we are observing similar broad supply-growth issues in 2021.

Investment implications

Commodities can play an important role in portfolio diversification. We believe this asset class can help improve returns and lower risk as they are less correlated to other commonly held assets, like stocks and bonds. We believe the ideal investment portfolio holds a mix of assets that are not highly correlated. In other words, assets that do not necessarily move together over time. Diversification, historically speaking, can lead to better portfolio returns with lower risk. Of course, past performance is not an indication of future results.

To coincide with our expectation for commodities to perform well over the strategic, 10- to 15-year time frame, we have reintroduced exposure to commodities in our strategic asset allocation recommendations for certain investment objectives. We expect the commodity bounce to continue through 2022 and remain favorable over the tactical, 6- to 18-month time frame. We encourage tactical investors to hold more than the strategic recommendation for commodities.

For additional, in depth analysis on commodities super-cycles and the factors contributing to the most recent cycle, see the July 22, 2021 *Real Assets In Depth* report titled "The new commodity super cycle bull."

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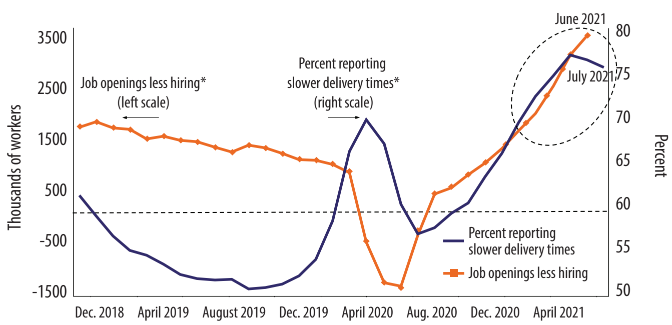
Global economic summary

United States

Two intertwined messages have emerged from recent economic data: inflation stoked by supply shortages restraining an already impressive "boom" created headwinds for housing and consumer demand by squeezing home "affordability" and households' purchasing power. Supply shortages apparent in recent economic data included a sizeable drawdown in business inventories behind slower-than-expected second-quarter growth of 6.5%. Additional evidence came from a July survey of manufacturing and services firms, revealing slow delivery times and a surge in order backlogs. A widening gap between job openings and hiring through the spring signaled labor shortages capable of restraining growth. Nonetheless, the survey also showed the economy's reopening overcame those restraints by propelling strong growth in labor-intensive services activity last month.

No shortage of supply shortages



* Three-month moving average data.

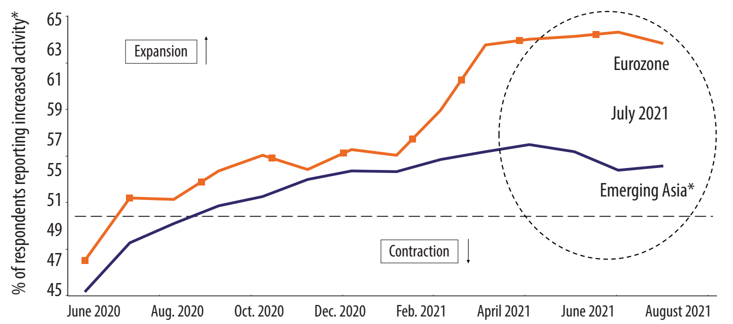
Sources: U.S. Labor Department, Institute of Supply Management, IHS Markit, Inc., Wells Fargo Investment Institute

Growth may be slowing now that economic activity has entered a mature expansion phase of the growth cycle, after exceeding its prerecession peak in June. Historically, that typically marks the transition from a high-powered recovery to a more sustainable expansion-phase pace. The difference with this cycle is that growth remains well above its long-term average, supported by the release of pent-up demand for services hit hard during the pandemic. Unusually early support also is coming from traditionally late-cycle business investment, countering a slowdown in housing construction. Solid, consumer-led growth is overcoming pressure on inflation-adjusted incomes, financed by still-ample credit, excess savings, and double-digit gains in household wealth thanks to rising home and stock prices. Businesses have sidestepped disruptions from shortages and bottlenecks typical of a highly charged growth cycle with risks compounded by a robust financial market. Risks aside, a powerful U.S. rebound is fueling global growth, with a helping hand from a European recovery that appears nearly as strong.

Europe

Second-quarter data for the eurozone showed a solid recovery from its "double dip" recession earlier this year. The eurozone's 8.3% top-line growth rate bested an understated U.S. rate, propelled by the release of pent-up demand. German and other regional exporters managed to overcome supply-chain disruptions, benefiting from the powerful recovery of world trade even as growth in China moderated. Southern Europe was supported, as well, by a partial reopening during the spring, before prospects were clouded, again, by the latest wave of coronavirus infections. Eurozone business surveys showed more momentum in July, building on solid readings in manufacturing and services industries, and led by German manufacturing. At issue through year-end is the extent to which coronavirus caseloads disrupt the reopening otherwise expected to return European growth to pre-pandemic highs later this year or early next year.

A struggling Emerging Asia no match for the pandemic



* Simple average of manufacturing surveys from China, Japan, South Korea, and Taiwan.

Sources: IHS Markit, Inc., Wells Fargo Investment Institute.

Asia

Asian economies struggling with the pandemic's latest wave at the start of the third quarter left North Asia's manufacturing powerhouses in the uncommon position of lagging European factory growth. Taiwan and South Korea were supported by strong global demand for semiconductors and, in the case of South Korea, for autos cushioning the local economy from deleterious effects of the lockdown on domestic spending. China's slowdown in July was largely due to a further export-led decline in manufacturing, despite the solid recovery in world trade. Policymakers in Beijing likely will endeavor to balance the need to support growth against efforts to control debt and improve financial stability. Rising coronavirus caseloads are having an even more noticeable impact on Japan, where moderate growth in manufacturing in July was overshadowed by lockdowns steepening the decline in frontline services activity. And Southeast Asia suffered a double whammy from the pandemic's latest wave on both domestic spending and the tourist industry.

Key economic statistics

Global growth rates (%; annualized)	2Q21	1Q21	4Q20
U.S. real economic growth[1]	6.5	-5.1	4.5
Eurozone real economic growth[2]	13.7	-3.2	-4.6
Japanese real economic growth[1]	–	-2.0	11.7
Chinese real economic growth[2]	7.9	-6.8	6.5

U.S. economic data	07/21	06/21	07/20
Unemployment rate (%)	5.4	5.9	10.2
Manufacturing Purchasing Managers' Index (PMI)	59.5	60.6	53.7
Services PMI	64.1	60.1	56.6
Retail sales (%)	–	0.6	1.4
Consumer confidence (1985 = 100)	129.1	128.9	91.7
Housing starts (millions; annualized)	–	1.64	1.50
U.S. Dollar Index[3]	92.2	92.4	93.3
U.S. Consumer Price Index (CPI) (%)[2]	5.4	5.4	1.0
U.S. core CPI (%)[2]	4.2	4.5	1.6
Personal consumption expenditures (PCE) deflator (%)[2]	–	4.0	1.0

Sources: Bloomberg, July 31, 2021. [1]Annualized quarter-to-quarter percent change; [2]Year-ago percent change; [3]Weighted exchange rate against 6 major currencies, 1973=100.

See end of report for important definitions and disclosures.

Global economic summary

Economic forecasts

Gross domestic product (GDP) growth: The pandemic's latest wave risks sidetracking a promising convergence of global growth rates during the balance of the year and into 2022. At issue is the extent to which fault lines heal. Geographically, the divide is most apparent between largely well-vaccinated Europe and the U.S. compared to more-exposed developed Asia and emerging markets worldwide. By sector, the gap persists in many countries between close-contact services industries and trade-oriented manufacturing. Our view is that healing on both counts will be sufficient to propel global growth by 6.3% in 2021, its strongest pace since 1973. The U.S. and Europe are positioned as global growth "locomotives," benefiting from high vaccination rates limiting the extent of government lockdowns. The real test will come as vaccine efficacy diminishes just as colder weather drives people indoors later this year.

Moderating growth is typical during the more mature expansion phase of the business cycle in which the U.S. economy entered at midyear. The economy also can count on less fiscal and monetary stimulus heading into 2022, as deficits narrow and the Federal Reserve (Fed) likely begins to rein in aggressive monetary policy. We also expect supply issues to become more supportive of manufacturing and overall growth as shortages ease and inventory building picks up. On balance, we expect the U.S. economy's growth pace during the second half of this year to be nearly triple its long-term norm, reinforcing the "V"-shaped pattern of this powerful economic recovery. Consumer spending is beginning a rotation from big-ticket and other goods to travel, entertainment, and services spending suppressed during the worst of the lockdowns. And business investment likely will remain solid in coming months judging from still-elevated capital spending plans of businesses.

Inflation: We have raised our 2021 inflation forecast to a 13-year high of 3.8% and to 2.8% in 2022, as labor and material shortages appear more acute than we had anticipated. Fuel costs may steady from earlier increases. However, supply-chain disruptions likely will keep goods' prices elevated. Equally important, higher rents and wage pressures in a tight job market likely will amplify inflationary pressures on the labor-intensive services sector. The good news is that much of inflation's rise is centered on industries most exposed to pandemic-related dislocations. Inflation in less-exposed sectors of the economy has been considerably more restrained. We believe that will allow inflation to settle somewhere between the extraordinarily low 1.8% average of the decade before the pandemic and the economy's long-term, 3.6% average annual rate.

Labor market conditions: The labor market's odd combination of elevated unemployment and manpower shortages continued to through midyear. Unemployment of nearly 9.5 million in June was nearly four times its pre-pandemic level in February 2020, despite signs of labor shortages punctuated by an unusually wide gap between job openings and hiring and accelerated wage and benefits increases to a 13-year high in the second quarter. We expect labor shortages to ease, but to do so slowly, if the economy continues to expand at an above-average pace through the middle of next year. Coronavirus infections could delay the reopening of schools otherwise encouraging parents to return to the workforce. And worries over variants and new waves of infection may discourage workers from returning to the job market despite an end to unemployment insurance enhancements. More fundamentally, the pandemic and its effect on labor's market power have prompted increased turnover by many workers rethinking employment and their desired career path. We expect high labor turnover plus an aging population weighing on labor-force growth to keep the job market tight and wage gains elevated, at least until economic growth eases to the more moderate rate we expect next year.

Global economy

	2020 actual (%)	2021 YE targets (%)	2022 YE targets (%)
U.S. GDP growth[1]	-3.5	7.0	5.3
U.S. inflation[1]	1.3	3.8	2.8
U.S. unemployment rate[2]	6.8	4.7	4.1
Global GDP growth[1]	-3.5[3]	6.3	5.1
Developed market GDP growth[1]	-4.5	4.9	4.6
Developed market inflation[1]	1.0	2.2	2.0
Emerging market GDP growth[1]	-0.8[3]	6.2	5.5
Emerging market inflation[1]	3.4[3]	4.2	4.4
Eurozone GDP growth[1]	-4.9	3.7	3.9
Eurozone inflation[1]	-0.3	1.3	1.5

Sources: Bloomberg, Wells Fargo Investment Institute, as of July 31, 2021.
The 2020 year-end estimate for emerging market inflation is based on forecasts by Wells Fargo Securities as of August 16, 2021. The year-end estimates for 2020 and targets for 2021 and 2022 are based on forecasts by Wells Fargo Investment Institute as of August 16, 2021. YE = year-end.

[1]Year-ago percent change.
[2]Fourth-quarter average.
[3]Year-end estimate.

Forecasts are not guaranteed and based on certain assumptions and on views of market and economic conditions which are subject to change.

Fixed income

Market observations

Most major fixed-income classes performed well in July as yields continued to decline. Long-term investment grade (IG) fixed income benefited the most (+2.78%) given the longer duration (a measure of a bond's sensitivity to interest rates). Year-to-date (YTD), preferred stock (+5.6%), Treasury Inflation-Protected Securities (TIPS) (+4.4%), and high-yield (HY) bonds (+4.0%), have performed best given the preference for credit risk exposure and inflation protection. International bond markets gained in July but have struggled YTD mostly due to the stronger dollar.

The Fed remains committed to accommodative monetary policy. At the July 28 meeting, the Fed had a deep conversation about the timing and makeup of a potential tapering of bond buying, but no further decisions were made. For now, the Fed has maintained its pace of Treasury bond and mortgage-backed securities (MBS) purchases and has pledged to keep rates low until it achieves its average inflation target. We maintain that investors should consider exposure to higher-yielding fixed-income classes while financial conditions remain benign.

U.S. fixed income: Rising concerns about the COVID-19 Delta variant along with worries that economic growth may have peaked caused U.S. Treasury yields to decline. The 10-year Treasury yield fell below 1.20% by July 19 and was still hovering near those levels in early August. Although we expect yields to climb further in the second half, this will be a function of how the recovery continues to unfold coupled with periods of technical consolidation between supply and demand.

Investor appetite for riskier credit has allowed HY to outperform IG corporates (+4.0% versus +0.1%) YTD. Still, demand for both IG and HY corporate bonds remained strong as investors continued to seek yield. IG and HY corporate credit spreads (over Treasury yields) widened slightly during the month but remain close to all-time lows. We recommend a neutral exposure to IG and HY corporates. However, we believe selectivity and thorough credit research remain crucial.

Municipals also enjoyed positive returns last month (+0.8%) and YTD (+1.9%), largely driven by strong supply and demand imbalances. Declining municipal bond yields in the long end of the curve also contributed to positive performance. Municipal yields, especially in the short end of the curve, remain attractive for high-tax margin investors. We remain favorable, but believe selectivity and thorough credit research are essential.

Developed markets: The decline in U.S. Treasury yields also sparked a decline in developed market (DM) sovereign bond yields, and this was the defining influence on the month's returns, with unhedged DM bonds increasing 1.8% while hedged managed a 1.5% gain. In dollar terms, no market outperformed U.K. Gilts. Eurozone markets saw gains above 1.4% while Japanese government bonds also held up well at 1.7%. Australia's dollar bonds declined slightly.

Emerging markets: The relatively flat dollar provided support to emerging market (EM) debt, taking monthly returns on local-currency-denominated debt to +0.2% in dollar terms (-1.5% YTD). Argentinian local bonds performed best during the month while Peruvian bonds struggled. Lower U.S. Treasury yields and a lack of currency exposure drove positive +0.5% monthly returns for USD-denominated EM debt, although this still left YTD returns at -0.5%. USD-denominated gains were once again broad-based, as larger index constituents such as Mexico, China, and Turkey, led the advance.

Fixed income index total returns (%)

	MTD	QTD	YTD	1 year	3 year	5 year
U.S. Taxable Inv Grade Fixed Income	1.1	1.1	-0.5	-0.7	5.7	3.1
U.S. Short Term Taxable	0.2	0.2	0.1	0.4	2.9	1.9
U.S. Intermediate Term Taxable	1.0	1.0	-0.9	-0.4	5.4	3.0
U.S. Long Term Taxable	2.8	2.8	-2.0	-4.2	10.9	5.5
U.S. Treasury Bills	0.0	0.0	0.0	0.1	1.2	1.1
U.S. Municipal Bonds	0.8	0.8	1.9	3.3	5.3	3.4
High Yield Taxable Fixed Income	0.4	0.4	4.0	10.6	7.2	7.0
DM Ex.-U.S. Fixed Income (Unhedged)	1.8	1.8	-4.3	-0.4	3.5	1.4
DM Ex.-U.S. Fixed Income (Hedged)	1.5	1.5	-0.8	0.1	4.5	2.9
EM Fixed Income (U.S. dollar)	0.5	0.5	-0.5	3.6	5.9	4.2
EM Fixed Income (Local currency)[1]	0.2	0.2	-1.5	5.6	3.9	3.5

Sources: Bloomberg Barclays, J.P. Morgan, July 31, 2021. MTD = month to date. QTD = quarter to date. YTD = year to date. Inv Grade indicates Investment Grade; DM indicates Developed Market; EM indicates Emerging Market. Returns over one year are annualized. [1]Returns are converted to dollars for U.S. investors. An index is unmanaged and not available for direct investment. **Past performance is no guarantee of future results.** See end of report for important definitions and disclosures.

Wells Fargo Investment Institute perspective

Although we expect interest rates will continue to rise, in the near term we believe they will remain at relatively low levels when compared to history. We continue to prefer credit exposure through a neutral allocation to IG and HY corporates, but believe selectivity and active management are key. We recommend exposure in preferred securities and municipal bonds. We believe these sectors are positioned to offer investors sustainable yield potential, which we view as a key driver of fixed-income performance.

After some stability this year, our currency forecasts through year-end 2022 anticipate renewed dollar depreciation, which would boost currency returns to DM sovereign bonds. However, outside of currencies, we do not expect strong DM-debt returns as yields are generally lower than U.S. Treasury yields. Despite recent rises, they remain near zero or negative in much of the eurozone and Japan. Given our expectation of currency gains, we are neutral on DM ex-U.S. Fixed Income (although with a zero strategic allocation we do not favor tactically allocating to this class at this time).

Despite its longer duration making it potentially vulnerable to further near-term rises in U.S. Treasury yields, U.S. dollar-denominated EM sovereign debt should remain well supported by investors' search for yield, which is keeping spreads relatively tight. Vaccine optimism and an outlook of global recovery should also be supportive of credit conditions in emerging markets; we remain neutral for now.

Asset class guidance

	Guidance
Cash Alternatives	Neutral
U.S. Taxable Investment Grade Fixed Income	Unfavorable
U.S. Short Term Taxable	Most unfavorable
U.S. Intermediate Term Taxable	Neutral
U.S. Long Term Taxable	Unfavorable
High Yield Taxable Fixed Income	Neutral
DM Ex.-U.S. Fixed Income	Neutral
EM Fixed Income	Neutral

Source: Wells Fargo Investment Institute, August 16, 2021.

Fixed income

Wells Fargo Investment Institute forecasts

Interest rates: The Fed will likely keep financial conditions easy until it achieves its goals or at least until significant progress is made toward them. To this end, the Fed will not hike its target federal funds rate through 2022, in our view. Our federal funds rate target remains unchanged from current levels at 0.00% to 0.25%. Although we believe short-term rates will remain anchored, we do expect stronger U.S. inflation expectations and economic growth to push longer-term rates higher. Our 10-year target range is 2.00% to 2.50% for year-end 2021 and 2.25% to 2.75% for year-end 2022. Our 30-year target range is 2.75% to 3.25% for year-end 2021 and 2.75% to 3.25% for year-end 2022, a meaningful increase from today's levels.

Eventually, we believe strong economic growth is likely to give policymakers enough assurance to begin reducing policy stimulus. Yet, in the meantime, we believe the Fed will remain accommodative. We also expect the increase in long-term rates will continue to be orderly, coupled with periods of consolidation. Still, the potential for volatility in interest rate markets exists as economic figures, coronavirus developments, and fiscal spending developments continue to unfold.

Global fixed income (%)

	Latest	2021 YE target	2022 YE target
10-year U.S. Treasury yield	1.22	2.00–2.50	2.25–2.75
30-year U.S. Treasury yield	1.89	2.75–3.25	2.75–3.25
Fed funds rate	0.25	0.00–0.25	0.00–0.25

Sources: Bloomberg, Wells Fargo Investment Institute, as of July 31, 2021.
The targets are Wells Fargo Investment Institute forecasts, as of August 16, 2021.
Forecasts are not guaranteed and based on certain assumptions and on our views of market and economic conditions, which are subject to change.

Fixed income

Sector strategy: U.S. investment-grade securities

Sector guidance

Sector	Guidance
Duration	Neutral
U.S. Government	Unfavorable
Treasury Securities	Unfavorable
Agencies	Neutral
Inflation-Linked Fixed Income	Neutral
Credit	Neutral
Corporate Securities	Neutral
Preferred Securities	Favorable
Securitized	Favorable
Residential MBS	Favorable
Commercial MBS	Neutral
Asset Backed Securities	Neutral
U.S. Municipal Bonds	Favorable
Taxable Municipal	Favorable
State and Local General Obligation	Neutral
Essential Service Revenue	Favorable
Pre-Refunded	Unfavorable

Source: Wells Fargo Investment Institute, August 16, 2021.
See end of report for important definitions and disclosures.

Total sector returns (%)

Sector	1 month	Year to date	12 months
U.S. Government	1.3	-1.2	-2.9
Credit	1.3	0.0	1.2
Securitized	0.6	-0.1	0.0
U.S. Municipal Bonds	0.8	1.9	3.3

Source: FactSet, July 31, 2021.
An index is unmanaged and not available for direct investment. **Past performance is no guarantee of future results.** See end of report for important definitions and disclosures.

Duration (Neutral): Our duration guidance is neutral for both taxable and tax-exempt (municipal) bond sectors. U.S. interest rates declined following the coronavirus' spread and the consequent economic headwinds. Although rates have managed to increase over the past year, they remain at relatively low levels. Given the continued low-yield environment and the current stage of the recovery, we do not believe that the risk/reward profile merits positioning duration above or below benchmark levels at this time.

U.S. Government (Unfavorable): Interest rates fell to new, generational lows; we see limited return potential going forward as they begin to climb again. Further, we believe that the imbalance between supply and demand in the U.S. Treasury market is set to widen as the Treasury Department funds federal stimulus spending. We also do not expect the Fed to increase Treasury market intervention over the medium term.

Investment-Grade (IG) Credit (Neutral): We have a neutral view of IG credit (and IG corporate bonds). High-quality IG credit can allow portfolios to generate excess yield through spread premium (also known as carry) that is meant to compensate investors for perceived issuer credit risk. However, spread compression has reduced some of the attractiveness of this sector. Furthermore, IG credit indexes tend to have longer durations than most benchmarks, which could further hamper performance as rates continue to rise. Still, the higher yields available in these sectors relative to many other investment-grade fixed income options support a neutral recommendation. We reiterate our bias toward selectivity.

Investment-Grade Securitized (Favorable): We believe that yield is an important component of sector selection; the securitized sector can offer investors potential income opportunities that cannot be found in many other highly rated, fixed-income securities. This sector can add diversification benefits to a fixed-income portfolio and generally has a lower duration and correlation to other sectors.

U.S. Municipal Bonds (Favorable): Municipal markets displayed positive performance in July (+0.8%) as municipal yields across the curve declined. In addition, technicals remained favorable given the seasonal imbalance between demand and supply. Also, municipal bonds continue to enjoy strong investor appetite given the expectation of higher tax rates under the Biden administration. Municipal-to-Treasury yield ratios remained fairly flat across the curve during July. In early August, they stood at 71% for 10-year issues and at 77% for 30-year bonds, still close to all-time lows. From a valuation perspective, municipal bonds appear somewhat rich. Although valuations signal caution, municipals may offer relative value (particularly) in the intermediate portion of the curve.[1]

We currently favor the three- to nine-year maturity range. We expect the negative trend of overall municipal supply that we saw in 2020 to remain in 2021 as taxable municipal issuance has taken a larger share of all issuance. We anticipate continued strong demand, particularly given the potential for federal tax changes. We currently favor 3%–4% coupons in the municipal bond space. While economic headwinds remain, we see opportunities for long-term investors in this sector. Yet, we believe that an emphasis on quality and selectivity remains essential. We believe that municipal investors should undertake meticulous credit research or access professional management. While downgrade pressure on the municipal market could occur, we do not fear widespread defaults as the default percentage of the total market remains extremely low (under 0.50%) and largely involves nonrated credits.

[1] Bloomberg, Thompson Municipal Market Monitor, July 30, 2021.

For more information, please request our most recent *Investment Strategy* report or our *Quarterly Fixed Income Guidance* report.

Equities

Market observations

U.S. equities: The S&P 500 Index posted seven new closing highs in July before ending the month up 2.4% and +18.0% YTD. Market breadth improved for the month as 290 issues gained.

U.S. large-cap equities outperformed U.S. mid-cap and U.S. small-cap equities for the month (+0.8% and -3.6%, respectively). Nine out of the 11 S&P 500 Index sectors ended positive for July. Health Care and Real Estate were the outperformers (+4.9% and +4.6%, respectively). COVID-19 Delta variant concerns contributed to the lift in the defensive Health Care sector, while Real Estate outperformance was supported by lower interest rates. Energy and Financials were the worst performers for the month (-8.2% and -0.4%, respectively).

Real Estate and Health Care were the best-performing sectors for U.S. mid-cap equities with returns of +5.6% and +3.4%, respectively. The best performers for U.S. small-cap equities were Utilities followed by Real Estate (+2.6% and +1.8%, respectively).

International equities: U.S. dollar-denominated DM equities (0.8%) outperformed EM equities (-6.7%), as earnings revisions improved across Europe. The strongest DM equity markets were MSCI Israel and Sweden Indexes, which returned +4.9% and +4.8%, respectively. The weakest DM equity market for the month was MSCI Hong Kong Index (-2.9%).The market suffered as regulators in Beijing increased restrictions on technology companies.

MSCI Turkey was the best-performing EM index, returning +6.6%. The worst EM performer was the MSCI China Index (-13.8%) as investors grew concerned that government regulation may strain firms' profitability.

Wells Fargo Investment Institute perspective

Worldwide reopenings bolstered by advancements in COVID-19 testing, treatments, and vaccines are expected to boost economic growth in 2021. The Fed's accommodative stance is expected to last at least through 2021, which we believe will support equities. We expect a broader trade recovery, a weakening U.S. dollar, higher commodity prices, and COVID-19 vaccines to provide tailwinds for EM equities over the next 12 months. We reiterate our favorable view on U.S. Large Cap, U.S. Small Cap, and Emerging Market Equities. For 2022, we see the pace of earnings growth slowing for all equity classes. We also assume that higher corporate tax rates in the U.S. will reduce earnings growth modestly. Rising interest rates could put downward pressure on price/earnings ratios in 2022. This, combined with higher tax rates, could limit the potential upside in equity prices.

Equity index total returns (%)

	MTD	QTD	YTD	1 year	3 year	5 year
U.S. Large Cap Equities	2.4	2.4	18.0	36.4	18.2	17.3
U.S. Large Cap (Growth)	3.3	3.3	16.7	36.7	25.3	23.3
U.S. Large Cap (Value)	0.8	0.8	18.0	39.3	11.3	11.4
U.S. Mid Cap Equities	0.8	0.8	17.1	42.6	15.8	14.8
U.S. Mid Cap (Growth)	1.0	1.0	11.6	34.5	21.9	19.6
U.S. Mid Cap (Value)	0.6	0.6	20.2	47.1	11.1	11.0
U.S. Small Cap Equities	-3.6	-3.6	13.3	52.0	11.5	14.3
U.S. Small Cap (Growth)	-3.6	-3.6	5.0	41.0	13.9	16.4
U.S. Small Cap (Value)	-3.6	-3.6	22.2	63.7	8.3	11.6
DM Equities Ex-U.S. (USD)	0.8	0.8	10.0	30.9	8.2	9.9
DM Equities Ex-U.S. (Local)[1]	0.4	0.4	13.6	30.5	7.2	9.6
DM Small Cap Equity (USD)	1.7	1.7	11.2	39.2	9.2	11.5
DM Small Cap Equity (Local)[1]	1.5	1.5	14.7	38.2	8.1	11.3
EM Equities (USD)	-6.7	-6.7	0.4	21.0	8.3	10.8
EM Equities (Local)[1]	-6.0	-6.0	1.5	18.5	9.4	11.6
FM Equities (USD)	-0.3	-0.3	14.9	39.4	7.7	9.3
FM Equities (Local)[1]	-0.3	-0.3	16.0	39.5	8.2	10.0

Sources: Standard & Poor's, Russell Indexes, MSCI Inc., July 31, 2021. DM indicates Developed Market; EM indicates Emerging Market; FM indicates Frontier Market; USD indicates U.S. dollar. Returns over one year are annualized.[1] Returns are in local currencies as experienced by local investors. U.S. investors would experience gains or losses on currency conversion. An index is unmanaged and not available for direct investment.
Past performance is no guarantee of future results.
See end of report for important definitions and disclosures.

Asset class guidance

	Guidance
U.S. Large Cap Equities	Favorable
U.S. Mid Cap Equities	Neutral
U.S. Small Cap Equities	Favorable
DM Equities Ex-U.S.	Most unfavorable
EM Equities	Favorable

Source: Wells Fargo Investment Institute, August 16, 2021.

International equity guidance by region

Region	Benchmark weight (%)*	Regional guidance
DM Equities Ex.-U.S.		Most unfavorable
Europe	65	Unfavorable
Pacific	35	Favorable
EM Equities		Favorable
Asia	78	Favorable
Europe, Middle East, and Africa	14	Unfavorable
Latin America	8	Neutral

Source: Wells Fargo Investment Institute, July 31, 2021.
* Benchmarks are MSCI EAFE Index for DM and MSCI Emerging Markets Index for EM.

Please see the end of the report for the definitions of the representative indexes.

Equities

Wells Fargo Investment Institute forecasts

U.S. equities: We anticipate higher equity markets over the next 18 months as we expect strong U.S. economic growth to boost corporate earnings above prerecession levels. We also expect operating margins to climb, as labor productivity improves and corporate pricing power firms. Even as corporate taxes rise in 2022, we expect supportive monetary policy, along with public and private spending, to push equity markets higher through the year. Our 2021 year-end earnings per share (EPS) target for the S&P 500 Index is $200 with a 2021 year-end price target range midpoint of 4500. Our 2022 year-end EPS target is $220 with a price target range midpoint of 4900. Our 2021 full-year earnings targets for the Russell Midcap and Russell 2000 (small-cap) Indexes are $130 and $72, respectively. Our 2022 full-year earnings targets for the Russell Midcap and Russell 2000 (small-cap) Indexes are $155 and $95, respectively. These figures reflect our expectations for improved profitability due to stronger U.S. growth. Our price target ranges for the Russell Midcap Index are 3200–3400 for 2021 and 3500–3700 for 2022. Our price target ranges for the Russell 2000 Index are 2450–2650 for 2021 and 2650–2850 for 2022.

We believe a robust U.S. economic rebound likely will continue to support outperformance of small-cap equities. However, to counter small-cap volatility, we continue to favor large caps, as they are higher quality, tend to be less volatile, and have more potential for stable earnings power.

International equities: We believe that overseas firms will find additional support from the broader economic expansion and modest U.S. dollar weakness. However, Developed Market ex-U.S. Equities may be restrained by a moderate recovery in Japan. Nevertheless we believe our MSCI Emerging Markets and MSCI EAFE Index targets have reasonable upside potential at current price levels. We expect earnings to continue to improve in 2021, with an earnings target of $130 for the MSCI EAFE Index and $88 for the MSCI Emerging Markets Index. Our 2022 EPS targets are $145 for MSCI EAFE and $105 for MSCI Emerging Markets. Our 2021 year-end price targets ranges are 2300–2500 and 1400–1600 for EAFE and Emerging Markets, respectively. Finally our 2022 year-end price targets ranges are 2400–2600 and 1500–1700 for EAFE and Emerging Markets, respectively.

The global economic boom we expect over the next 12 months should drive strong emerging markets' earnings growth. We believe this linkage between the global economy and Emerging Market Equities should support outperformance relative to Developed Market ex-U.S. Equities in the early innings of the recovery.

Global equities

	Latest	2021 YE target	2022 YE target
S&P 500 Index	4395	4400–4600	4800–5000
S&P 500 earnings per share ($)	–	200	220
Russell Midcap® Index	3192	3200–3400	3500–3700
Russell Midcap earnings per share ($)	–	130	155
Russell 2000 Index	2226	2450–2650	2650–2850
Russell 2000 earnings per share ($)	–	72	95
MSCI EAFE Index	2321	2300–2500	2400–2600
MSCI EAFE earnings per share ($)	–	130	145
MSCI Emerging Markets (EM) Index	1278	1400–1600	1500–1700
MSCI EM earnings per share ($)	–	88	105

Sources: FactSet, Bloomberg, Wells Fargo Investment Institute, as of July 31, 2021. The targets are Wells Fargo Investment Institute forecasts, as of August 16, 2021. Forecasts are based on certain assumptions and on our views of market and economic conditions, which are subject to change. See end of report for important definitions and disclosures.

Equities

U.S. equity sector strategy

WFII sector guidance

Sector	S&P 500 Index weight (%)*	Guidance ranges (%)**	Guidance
Communication Services	11.2	+2% to +4%	Favorable
Consumer Discretionary	12.1	-2% to +2%	Neutral
Consumer Staples	5.9	-4% to -6%	Most unfavorable
Energy	2.5	+2% to +4%	Favorable
Financials	10.9	+2% to +4%	Favorable
Health Care	13.4	-2% to +2%	Neutral
Industrials	8.4	+2% to +4%	Favorable
Information Technology	27.8	-2% to +2%	Neutral
Materials	2.6	+2% to +4%	Favorable
Real Estate	2.6	-2% to +2%	Neutral
Utilities	2.5	-2% to -3%	Most unfavorable
Total	100.0		

Sources: FactSet, Wells Fargo Investment Institute (WFII). Weightings are as of July 31, 2021. WFII guidance is as of August 16, 2021.
*Sector weightings may not add to 100% due to rounding.

Total returns (%): S&P 500 Index sectors

Sector	1 month	Year to date	12 months
Communication Services	3.6	23.9	43.9
Consumer Discretionary	0.5	10.8	26.4
Consumer Staples	2.6	7.7	18.2
Energy	-8.3	33.6	44.4
Financials	-0.4	25.1	55.2
Health Care	4.9	17.3	27.3
Industrials	0.9	17.4	46.4
Information Technology	3.9	18.2	40.0
Materials	2.0	16.8	41.5
Real Estate	4.6	29.0	32.7
Utilities	4.3	6.8	12.0
S&P 500 Index	2.4	18.0	36.4

Source: FactSet, July 31, 2021.
An index is unmanaged and not available for direct investment.
Past performance is no guarantee of future results.

**We now provide ranges of recommended weights instead of specific percentages. The ranges allow flexibility in sizing transactions and may require less rebalancing as markets fluctuate.

Communication Services (Favorable): Internet and media industry groups currently represent 87% of the Communication Services sector — the largest firms in the sector have proven to be pandemic/recession-proof, as media- and work-from-home-related entertainment continue to be strong drivers. Our expectations for strong profitability and earnings growth, along with relatively low debt levels, can provide a good source of quality for investors.

Consumer Discretionary (Neutral): Earnings expectations are softening, and higher wage inflation in the coming quarters could weigh on margins. We believe this is an ideal time to take gains, but recommend investors maintain a full allocation to the sector, bringing us to our neutral rating.

Consumer Staples (Most unfavorable): Changing consumer preferences and higher input prices could weigh on margins. In addition, an expected rotation out of defensives into cyclicals supports our rationale for most unfavorable.

Energy (Favorable): Despite strong 2021 outperformance, the sector boasts attractive valuations relative to its history and the S&P 500 Index. The sector still faces secular challenges as the world shifts to clean energy. Also, with high debt levels, the sector is vulnerable to rising interest rates. Even so, we believe the risk/reward trade-off has improved, and cyclical tailwinds should boost performance over the next 12 months.

Financials (Favorable): While interest rates remain low, longer-dated yields have risen along with the yield curve. Higher long-term rates should provide relief to margin pressure. Relative and absolute valuations also look attractive for the sector.

Health Care (Neutral): Solid fundamentals and reasonable valuations are countered by legislative uncertainty and a pronounced rotation out of defensive sectors in favor of cyclicals. Increased funding to help combat COVID-19 could be offset by proposed legislation aimed at reducing drug prices potentially costing the industry billions of dollars. While the sector has many positives, we believe the risks are balanced, supporting our neutral rating.

Industrials (Favorable): Production growth has advanced to the point that demand is outstripping supply. This imbalance has increased pricing power of industrial firms, which we believe should support higher margins and free cash flow[1] over the next 12 months.

Information Technology (Neutral): Fundamentals remain strong for the sector with earnings expected to grow by double digits over the next 12 months. However, as economic growth accelerates, secular growers such as technology firms, tend to underperform cyclically oriented sectors. We remain neutral.

Materials (Favorable): We expect sales and EPS to grow by double digits in 2021. Some modest cost pressures are accompanying the economic recovery; however, margins should expand as global demand firms.

Real Estate (Neutral): Transaction volumes, rent and mortgage payments, and relatively weak earnings have reversed course through 2021. We expect these factors to remain tailwinds as we navigate the second half of 2021 into 2022.

Utilities (Most unfavorable): Fundamentals have weakened recently with debt levels rising and interest coverage ratios declining. Rising Treasury yields make the sector's dividend yield advantage less attractive. Furthermore, high fixed costs and limited pricing power could pressure earnings this year.

Growth versus Value (Favor Value): Our sector guidance leans toward value, while maintaining full exposure to growth sectors.

[1] Measure of financial performance calculated as operating cash flow minus capital expenditures. Free cash flow represents the cash that a company is able to generate after laying out the money required to maintain or expand its asset base.

For more information, please request our most recent Investment Strategy report.

Real assets

Master limited partnerships (MLPs)

Market observations

MLPs pulled back in July after an impressive first half of the year. MLPs are still one of the top-performing assets, posting a +38.5% YTD gain (as measured by the Alerian MLP Index). Midstream MLPs continue to be the outperformer, benefiting from strong natural gas prices and strong demand. The group continues to benefit from increasingly optimistic economic growth and oil demand; investor rotation into previously beaten-down areas of the market; and elevated oil prices. Supply restraint on the part of U.S. oil producers as well as coordinated production cuts by Saudi Arabia, Russia, and other members of OPEC+[1] have been integral in levitating oil prices, which has pulled along MLPs and other oil-related companies.

Our view is that, given revised production forecasts, current traditional energy infrastructure is overbuilt, which puts pressure on volumes and tariffs on existing pipelines. Investor concern over ESG (environmental, social, and governance) issues and the group's ability to adapt to the accelerating transition away from fossil fuels are headwinds as well. Yet, MLPs have made tremendous strides in improving business models, reducing leverage, and embracing capital discipline. Additionally, after years of numerous distribution cuts, payouts now appear to be more sustainable. We believe high-quality midstream MLPs should benefit from the above-mentioned improvements as well as reasonable valuations, the continued economic reopening, and investor rotation into previously beaten-down areas of the market.

Wells Fargo Investment Institute perspective

We expect recent measures taken by midstream c-corporations and MLPs to improve balance sheets and reduce leverage — along with the steadier nature of cash flows — to help them attract investors better than some of their energy-sector peers. For investors looking to wade into the group, we prefer the large, high-quality names that are well-capitalized. We generally prefer midstream c-corporations over MLPs, as we believe they are more likely to attract flows.

Commodities

Market observations

Energy: Energy commodities ended July modestly higher after some weakness in the first half of the month. WTI (West Texas Intermediate) crude oil (+1.6%) lagged other energy commodities, but still managed to post a positive return for the month. Oil supplies have tightened, and strong demand for oil and its refined products, like gasoline, helped to support prices in the latter half of the month. Natural gas (+8.0%) led the way for energy commodities supported by increased weather-related cooling demand and tighter supplies. Prices could continue to be supported as excess supplies are used. Energy prices may continue to fluctuate based on news regarding travel demand, coronavirus developments, and particularly the return of oil supplies from OPEC+.

Metals: Precious metal prices were up modestly for July, led by gold (+2.3%), supported by dovish comments from the Fed. We expect gold and other precious metals to benefit from low real interest rates, accommodative monetary and fiscal policy, and a weaker U.S. dollar. Base metal prices also rose, led by copper (+7.3%) and nickel (+4.5%). China's announcement last month that it would be selling some of its metals reserves capped gains, but the dollar weakness and pullback in interest rates provided support. We expect base metal prices to continue to gradually improve into year-end, as global growth, manufacturing, and demand grows.

Agriculture: Agriculture commodities were down again in July but with wide dispersion in performance based on the individual commodity. Agricultural commodities have still had a good year, up over 19%, as demand improvements and some supply disruptions benefited prices. We expect better-balanced supply and demand in 2021 to support agriculture commodities as demand improves and inventories decline.

[1] The Organization of the Petroleum Exporting Countries and others such as Russia.

Real assets index total returns

	MTD	QTD	YTD	1 year	3 year	5 year
Public Real Estate	3.9	3.9	20.6	36.2	8.4	5.7
U.S. REITs	4.4	4.4	26.6	33.5	13.3	8.2
International REITs	2.4	2.4	12.1	30.2	5.9	5.8
Master Limited Partnerships	-6.3	-6.3	38.5	59.3	-4.5	-2.4
Global Infrastructure	1.0	1.0	6.4	20.7	5.3	5.8
Commodities (BCOM)	1.8	1.8	23.4	40.3	5.3	3.9
Agriculture	-1.0	-1.0	19.3	58.0	9.2	1.7
Energy	3.8	3.8	50.1	56.9	-8.0	-0.9
Industrial Metals	4.0	4.0	22.2	45.2	10.7	11.2
Precious Metals	1.2	1.2	-4.6	-6.5	13.1	4.2
Commodities (S&P GSCI)	1.6	1.6	33.5	54.0	-1.0	4.1
Commodities (RICI)	1.7	1.7	30.6	53.9	5.7	6.6

Sources: Bloomberg, July 31, 2021. REITs = real estate investment trusts. Returns over one year are annualized. An index is unmanaged and not available for direct investment. **Past performance is no guarantee of future results.** See end of report for important definitions and disclosures.

Wells Fargo Investment Institute perspective

Commodity prices continued moving higher in July extending on the rally since March 2020 lows. YTD, commodities are one of the best-performing major asset classes with three of the four major commodity sectors showing double-digit returns, led by energy commodities. Improving economic activity and global demand prospects should continue to be positive for commodity prices. We expect supply and demand to be better balanced in 2021, and view current commodity price levels as attractive.

Private Real Estate: To align with changing trends in real estate, we recently upgraded our guidance on private real estate from an unfavorable to neutral. Similar to the upgrade in public real estate investment trusts (REITs), we believe an upgrade is warranted for the private real estate sector as many of our concerns for the initial downgrade have abated. We also believe there are tailwinds for the private real estate space as we navigate the next three to five years. Commercial real estate (CRE) prices fell far less than after the 2008 financial crisis and are already rising again, while the number of foreclosures barely increased. While the outlook for real estate varies by sector, we believe there are opportunities across the board. In general, core/core+ real estate should continue to see a transformation driven by megatrends and the COVID-19 pandemic. Some assets — like those in the industrial and multifamily sectors — we expect to continue to thrive, whereas others — such as those in the retail and office space — will need to adapt. CRE assets also should continue to provide more attractive income streams than many fixed-income investments. Finally, we view value-add and opportunistic strategies (particularly in industrial and multifamily assets) as the private real estate strategies best positioned enjoy a rich multiyear opportunity set going forward.

Asset class guidance

	Guidance
Private Real Estate	Neutral
Commodities	Favorable

Source: Wells Fargo Investment Institute, August 16, 2021.

Real assets

Wells Fargo Investment Institute forecasts

Commodities: We expect the commodity bounce to continue through 2022. While commodity prices are no longer cheap, still-developing strength in global spending provides more potential upside. Positive market action, a weaker U.S. dollar forecast, and commodity supply constraints give us further confidence.

Oil prices have bounced substantially off the 2020 lows to levels that better reflect current supply and demand. Reduced oil supply in the U.S. and elsewhere, as well as coordinated OPEC+ supply cuts, have helped buoy prices as demand continues to rebound from the lows of the pandemic. We expect a disciplined supply response as well as accelerating demand to continue to support oil prices. We believe WTI crude oil prices will end the year between $70 and $80, and Brent crude will end the year between $75 and $85. Our new 2022 year-end targets for oil are $75–$85 and $80–$90 for WTI and Brent, respectively.

In our view, gold should benefit from low real interest rates, accommodative monetary and fiscal policy, and a weaker U.S. dollar. Our 2021 year-end target is $2,000–$2,100. And our 2022 year-end target is $2,100–$2,200.

Global real assets

	Latest	2021 YE target	2022 YE target
WTI crude oil price ($ per barrel)	$74	$70–$80	$75–$85
Brent crude oil price ($ per barrel)	$76	$75–$85	$80–$90
Gold price ($ per troy ounce)	$1,813	$2,000–$2,100	$2,100–$2,200
Commodities	$206	210–220	225–235

Sources: Bloomberg, Wells Fargo Investment Institute, as of July 31, 2021.
The targets are Wells Fargo Investment Institute forecasts, as of August 16, 2021. Forecasts are based on certain assumptions and on our views of market and economic conditions, which are subject to change. See end of report for important definitions and disclosures. WTI is a grade of crude oil used as a benchmark in oil pricing.

Alternative investments*

Market observations

As spreads across corporate and structured credit hover near historically tight levels, there appears to be a dearth of true "value" within fixed income. Small pockets of opportunity exist in leveraged loans and collateralized loan obligations (CLOs), but for the most part, July, again, saw muted trading activity within credit markets. Convertible bonds are one area of increased focus for **Relative Value** managers. Though traders expect issuance to slow during the last weeks of summer, a robust pipeline is in place for the second half of the year, which should support valuations. Furthermore, given their hybrid structure of equity and debt, convertibles may perform better in periods of equity market declines (given their bond floor) and higher volatility. 2020 was a strong year for convertible bond arbitrage, and we are optimistic that the second half of 2021 and 2022 could prove just as robust. **Macro** again saw positive performance in July, reversing June's losses. Currency trading was problematic, especially via short Yen, Franc, and Canadian Dollar positions, but trading in other sectors fared much better. Commodity trading continues to be a strong source of return for trend-following strategies, especially via long futures positions in the energy complex. We continue to believe that the broad move in commodities is a strong fundamental driver for better Macro returns. Long equity index positions also drove gains in July, followed by long fixed income futures position in the middle and longer end of the curve. Short-term rates trading was volatile in July with only modest gains. Record levels of merger and acquisition (M&A) volume coupled with the return of SPACs (Special Purpose Acquisition Companies) in July served as further fundamental support for **Event Driven** strategies. According to Dealogic, global M&A volume reached $3.4 trillion through July, marking the highest year-to-date level ever. Moreover, July saw the return of SPAC-led deals and became the second-strongest month on record. While deal volume remains robust, it is also noteworthy that merger arbitrage spreads have widened on the announcement that Lina Kahn would serve as Chairwoman of the Federal Trade Commission (FTC).[1] There is also growing concern that the Biden administration will take a closer look at antitrust issues. For merger arbitrage strategies, this poses both risks but also higher potential returns should their deal analysis and position sizing prove correct. Though **Equity Hedge** funds posted positive returns in July, they still lag their equity benchmarks by a significant margin YTD. Shorting equities remains challenging, though we have seen modest improvement in short alpha (excess return) in recent weeks, which is encouraging as we head into the second half of the year. But we continue to be wary of macro hurdles, with the most recent being China's crackdown on technology companies. Gross and net leverage remains at high levels historically, as correlations continue to decline.

Wells Fargo Investment Institute perspective

Relative Value: Most structured credit spreads have normalized and are not presenting a compelling value currently. However, they do provide incremental yield over traditional fixed income, and offer diversification benefits and lower duration. Therefore, we maintain our neutral view.

Alternative investments index/strategy total returns (%)

	MTD	QTD	YTD	1 year	3 year	5 year
Global Hedge Funds	-0.6	-0.6	9.4	23.1	8.3	7.4
Relative Value	-0.8	-0.8	5.7	12.7	4.4	4.9
Arbitrage	0.4	0.4	2.3	7.0	3.7	3.9
Long/Short Credit	0.2	0.2	6.9	15.8	6.8	6.8
Struct. Credit/Asset-Backed	0.1	0.1	5.6	12.2	3.5	5.2
Macro	-0.1	-0.1	8.2	11.8	5.9	3.0
Systematic	0.6	0.6	8.4	11.3	5.3	1.3
Discretionary	-1.0	-1.0	7.7	15.0	8.3	5.4
Event Driven	-0.8	-0.8	10.8	27.1	7.5	7.8
Activist	0.1	0.1	14.4	39.2	9.2	8.6
Distressed Credit	-0.3	-0.3	13.9	30.7	7.4	8.3
Merger Arbitrage	-1.8	-1.8	6.5	18.3	6.5	5.8
Equity Hedge	-0.8	-0.8	11.1	30.4	10.8	10.1
Directional Equity	0.9	0.9	14.5	38.4	14.5	11.4
Equity Market Neutral	0.7	0.7	5.8	6.9	2.0	2.6

Source: Hedge Fund Research, Inc., July 31, 2021. Returns over one year are annualized.
An index is unmanaged and not available for direct investment.
Past performance is no guarantee of future results.
See end of report for important definitions and disclosures.

Macro: While we remain neutral on Systematic Macro, we are cautiously optimistic that trends in commodities, bonds, and currencies will continue in 2021, potentially leading to better performance from Trend-Following strategies.

Event Driven: We are neutral on Event Driven, driven by a strong environment for both Activist and Merger Arbitrage. We anticipate significant deal volume this year, especially given the abundance of cash on corporate balance sheets. Liquid distressed credit opportunities are difficult to source, limiting the opportunity set currently.

Equity Hedge: Though correlations continue to decline among equities, so too is dispersion, which is making for a more challenging environment for stock selection, specifically on the short side. While we currently remain favorable on Equity Hedge and prefer strategies with more directional equity exposure, we would like to see a better environment for alpha in the second half of 2021.

Private Equity: While we are neutral on Private Equity, we have high conviction in certain strategies and geographies where valuations are more attractive and capital-market funding is tighter. We believe that opportunities do exist — especially in secondary and infrastructure investing — but not indiscriminately.

Private Debt: We remain favorable on Private Debt funds as we anticipate growing opportunities for direct lending strategies. There are indications that market conditions for direct lending strategies may have meaningfully improved; managers with ample dry powder that have avoided troubled sectors, we believe, may have an expanded opportunity set going forward.

* Alternative investments are not appropriate for all investors. They are speculative and involve a high degree of risk that is appropriate only for those investors who have the financial sophistication and expertise to evaluate the merits and risks of an investment in a fund and for which the fund does not represent a complete investment program. Please see end of this report for important definitions and disclosures.

[1] Citi Event Driven, Global Executive M&A Summary, July 2021

Alternative investments*

Private placements and liquid alternatives

Alternative investment strategies outlook*

Private placements	Guidance
Relative Value	Neutral
Arbitrage	Neutral
Long/Short Credit	Favorable
Structured Credit/Asset-Backed	Neutral
Macro	Neutral
Systematic	Neutral
Discretionary	Favorable
Event Driven	Neutral
Activist	Neutral
Distressed Credit	Favorable
Merger Arbitrage	Neutral
Equity Hedge	Favorable
Directional	Favorable
Equity Market Neutral	Neutral
Private Equity	Neutral
Private Debt	Favorable

Liquid alternatives	Guidance
Relative Value	Neutral
Macro	Neutral
Event Driven	Neutral
Equity Hedge	Neutral

Sources: Wells Fargo Investment Institute, Wilshire Liquid Alternative Index family, August 16, 2021.

Notes on alternative investment structures

The core differences between our guidance for private placements versus liquid alternative mutual funds centers on the expected illiquidity premium and the expected complexity premium often associated with private placements. The illiquidity premium refers to the potential for incremental return or yield generated by owning securities that cannot be sold quickly without affecting the price. Certain securities may be illiquid for one month, quarter, several years or longer. This illiquidity may provide investment managers enhanced flexibility which may result in higher long-term returns. Illiquidity may be experienced in public and private credit securities that can include loans, securitized credit, and stressed and distressed corporate credit. However, equity strategies may also be illiquid for periods of time, especially after a corporate restructuring when debt is converted to equity or within strategies that require significant equity ownership such as Activism. A complexity premium may also be associated with illiquid securities as they often require specialized origination, underwriting and investing strategies. Because private placements do not offer daily liquidity to their investors, they potentially provide greater flexibility to invest in securities that may offer an illiquidity premium. Furthermore, private placements can have a larger concentration in illiquid securities.

The complexity premium potentially offered with private placements results from several structural limitations associated with mutual funds, including provisions of the Investment Company Act of 1940, as amended (1940 Act), that apply at the fund level and not the individual strategy level. The 1940 Act requires, among others, the following:

- Regular liquidity — Redemptions must be paid within seven calendar days
- Regular transparency
- Limits on leverage — 300% asset coverage limits leverage to 33%; making loans; or investing in real estate or commodities
- Limits on concentration — 75% of the value of its total assets cannot be invested more than 5% in any one issuer, 25% in one industry or 10% of the outstanding voting securities of the issuer
- Limits on illiquidity — No more than 15% can be invested in illiquid assets

In addition, under the Investment Advisers Act of 1940, performance-based fees must be symmetric.

As a result of the illiquidity and complexity premiums, performance returns and characteristics are expected to vary between liquid alternative mutual funds and private placements. In our view, when implementing liquid alternatives in a diversified portfolio, they should not be considered a one-to-one substitute for traditional hedge funds. Our new guidance will reflect these differences in product types.

It is important to remember that only "accredited investors" or "qualified purchasers" within the meaning of U.S. securities laws can invest in private placements. This means investors must have a minimum level of income, assets, or net worth to be eligible. They may also need to meet other qualification requirements. Like all mutual funds, liquid alternative funds are regulated under the 1940 Act, and are open to all investors. As such, they are regulated in their use of leverage and have required levels of liquidity and diversification. Mutual funds must value their portfolios and price their securities daily using fair value guidelines. Hedge funds, on the other hand, face less regulation and are not required to provide investors with periodic pricing or valuation. This allows them a great deal of flexibility but may increase the risks for investors. It is also important to note that liquid alternative mutual funds typically have higher fees than traditional mutual funds but their fees are lower than those of private placement hedge funds.

Liquid alternatives are designed to provide retail investors access to strategies utilized by hedge funds and provide investors an "alternative" way to add returns less correlated to traditional assets such as stock, bonds and cash and improve diversification. Relative to broad, long-only traditional asset class mutual funds, liquid alternatives may employ more complex strategies including hedging and leveraging through short selling and derivatives and might invest in assets such as global real estate, commodities, leveraged loans, start-up companies and unlisted securities. Although liquid alternatives may seek to mimic hedge fund strategies, these funds cannot fully duplicate the broad hedge fund industry. Moreover, the regulatory structure under which liquid alternatives are governed may affect their return potential. As noted above, among other things, their use of leverage, investments in illiquid securities and concentration limits are curtailed and thus they are not able to employ hedge fund strategies as fully as private placement vehicles.

Investors should fully understand the strategies and risks of any liquid alternative mutual fund they are considering and keep in mind that many of them have limited performance histories so it is not known how they might perform in a down market. Please see the end of this report for other risks associated with these funds and for a description of the hedge fund and liquid alternative hedge fund replication strategies.

Because of the illiquid and complex nature of private placement hedge funds, Wells Fargo Investment Institute will no longer provide tactical percentage guidance for these asset classes. We will instead provide guidance that may be incorporated into portfolios over a longer period of time.

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For more information, please request our most recent Global Alternatives Outlook or our Investment Strategy report.

Currency guidance

The U.S. dollar versus developed market currencies

Market observations and outlook

Concerns around the COVID-19 Delta variant coupled with the decline in U.S. yields reinforced a holding pattern for the U.S. dollar in July. The U.S. Dollar Index (DXY) ended the month at 92.17, remaining relatively flat. The euro and the pound gained 0.1% and 0.5% respectively on the month, though the yen held up better at 1.3%. While our year-end 2021 target ranges (1.17–1.25 for the euro and 105–115 for the yen) anticipate a steady dollar for the rest of the year, our 2022 targets (1.25–1.33 for the euro and 102–112 for the yen) look for resumed weakness, which would take the dollar index down toward a mid-80s range.

Year-end currency targets

	Latest	2021 YE forecasts	2022 YE target
Dollars per euro	$1.19	$1.17–$1.25	$1.25–$1.33
Yen per dollar	¥110	¥105–¥115	¥102–¥112

Source: Bloomberg, as of July 30, 2021. The targets are Wells Fargo Investment Institute forecasts, as of August 16, 2021. Forecasts are based on certain assumptions and on our views of market and economic conditions, which are subject to change. See end of report for important definitions and disclosures.

The U.S. dollar versus emerging market currencies

Market observations and outlook

EM currencies were slightly weaker, with the J.P. Morgan Emerging Markets Currency Index (EMCI) falling 1%, and the MSCI Emerging Markets Currency Index (an index of currencies mirroring the weighting of the more manufacturing-based MSCI Emerging Markets Index) down 0.45%. Although DM foreign exchange outperformed EM in July, there were notable winners in EM currencies where central banks had already started to make changes in policy — most notably Turkey. We believe that a global growth recovery and a slowing of the deglobalization trend of recent years should remain supportive of EM currencies into 2022, especially in the context of a steady-to-weaker dollar versus DM currencies.

Currency hedging

Based on our views on the direction of the dollar, we provide our currency-hedging guidance in the matrix below. We no longer recommend strategic allocations to DM fixed income in local currency, and we do not favor taking tactical positions at this time. For those who wish to hold DM fixed-income positions, we do not recommend hedging any portion of these holdings, since our outlook for DM currencies over the coming year is moderately constructive. While we acknowledge that wide currency swings remain possible in the currently uncertain environment, our strategic benchmark is unhedged (that is, taking the exposure to DM currencies). Consequently, we would require greater conviction that the U.S. dollar would appreciate strongly before suggesting hedging some of this currency risk. For EM fixed income, the strategic benchmark consists exclusively of dollar-denominated sovereign EM bonds, so we currently believe hedging is unnecessary.

Hedging matrix

Asset class	Strategic benchmark	Currency advice
Developed Market Ex-U.S. Fixed Income	N/A*	No hedge
Developed Market Ex-U.S. Equities	Local currency	No hedge
Emerging Market Fixed Income	U.S. dollar	No hedge
Emerging Market Equities	Local currency	No hedge

Source: Wells Fargo Investment Institute, August 16, 2021. The table above provides guidance for investors who want and are able to hedge against currency losses, or to take advantage of the dollar's move in either direction. Please note that implementation may vary according to the hedging instruments available to investors.

*We no longer recommend strategic allocations and do not favor tactical allocations at this time to Developed Market Ex-U.S. Fixed Income. Hedging guidance applies to those who wish to hold these assets.

We do not favor hedging currency risk for equities at this time. The hurdle to hedging currency risk is higher for equities than for bonds because in equity markets, currency movements have had a smaller influence on total return than for fixed income. Further, the cost and complexity of currency hedging for equities may be greater. It is important to consider that many actively managed mutual funds already may incorporate an element of currency hedging. In addition, the cost of hedging against losses from EM currencies is far higher than for those of DMs, and the availability of efficient hedging instruments is limited.

Tactical guidance

Recommended tactical guidance

No changes this month

The strategic (neutral) asset allocations are based on long-term strategies. However, capital markets tend to move in cycles, and there may be short-term opportunities to enhance the risk/return relationship within a portfolio by temporarily adjusting the strategic allocations. The tactical asset allocation adjustments are designed to provide guidance on shorter-term (6–18 months) weightings in the portfolio. The minimum position of any asset class is zero, meaning that no short selling is permitted. The maximum position of all asset classes together is 100%, meaning that no leverage is permitted. The actual extent of the recommended tactical adjustments is a judgment call. It should be enough to make a difference without crowding out other assets or creating a vacuum. Also, all the tactical recommendations have to be considered together. It would not be mathematically possible to underallocate two asset groups while maintaining over-allocations in the other two. Adjustments must be made to bring all the broad asset classes into a proper relationship. These are guidelines to be used prudently for investors with temperaments that agree with a more aggressive, tactical investment style.

Additional asset class guidance

Consider long/short equity strategies: These strategies can provide diversification in an equity portfolio by utilizing both long and short exposures to the asset class. While they can provide diversification, investors should expect higher tracking error (extent to which the strategy's returns have differed from its benchmark) to traditional benchmarks from these strategies. Prudent use through controlled allocations is recommended.

Cash Alternatives and Fixed Income

Most Unfavorable	Unfavorable	Neutral	Favorable	Most Favorable
U.S. Short Term Taxable Fixed Income	U.S. Taxable Investment Grade Fixed Income U.S. Long Term Taxable Fixed Income	Cash Alternatives Emerging Market Fixed Income U.S. Intermediate Term Taxable Fixed Income Developed Market Ex.-U.S. Fixed Income High Yield Taxable Fixed Income		

Equities

Most Unfavorable	Unfavorable	Neutral	Favorable	Most Favorable
Developed Market Ex.-U.S. Equities		U.S. Mid Cap Equities	Emerging Market Equities U.S. Large Cap Equities U.S. Small Cap Equities	

Real Assets

Most Unfavorable	Unfavorable	Neutral	Favorable	Most Favorable
		Private Real Estate	Commodities	

Alternative Investments*

Most Unfavorable	Unfavorable	Neutral	Favorable	Most Favorable
		Hedge Funds–Macro Hedge Funds–Event Driven Hedge Funds–Relative Value Private Equity	Hedge Funds–Equity Hedge Private Debt	

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Tactical guidance

Tactical guidance summary

FIXED INCOME	U.S. Taxable Investment Grade Fixed Income	Unfavorable	We expect the economy to continue to improve in the second half of 2021. Yet, we believe that interest rates will remain relatively low for the next few years. We currently favor reallocating toward more risk-oriented asset classes (equities) over U.S. Taxable Investment Grade Fixed Income, and thus have an unfavorable view.
	U.S. Short Term Taxable	Most unfavorable	Fed inflation expectations and a federal funds rate level of 0.00%–0.25%, suggests that short-term rates will remain low for the foreseeable future, and that returns will remain exceptionally low. We expect short-term fixed income to underperform most other fixed-income classes going forward and favor reducing short-term fixed income positions.
	U.S. Intermediate Term Taxable	Neutral	Modest economic and inflation expectations support our neutral view on intermediate-term bonds. We believe they are better positioned to take advantage of yield curve steepness without taking on too much interest-rate risk.
	U.S. Long Term Taxable	Unfavorable	Although long-term, high-quality fixed income can be an important portfolio diversifier, we believe modestly higher interest-rate expectations indicate that some reallocation to more risk-oriented asset classes may be warranted as the expansion continues.
	High Yield Taxable Fixed Income	Neutral	HY credit spreads (over Treasury yields) have tightened significantly on our improving economic outlook. Although we do not anticipate a meaningful sell-off in the HY sector, we believe better return opportunities exist in equity markets for risk-oriented investors. Still, we believe that this sector offers strong yield potential ("carry income") for fixed-income investors, which is compelling in this low-rate environment. We believe selectivity and thorough credit research remain essential.
	Developed Market Ex-U.S. Fixed Income	Neutral	We are neutral as we expect renewed currency gains to offset near-zero or negative yields outside the U.S. We no longer recommend strategic allocations to this bond class. In this context, a rating of neutral means that we do not favor tactically allocating to this fixed-income class at this time.
	Emerging Market Fixed Income	Neutral	Dollar-denominated debt is a small portion of sovereign borrowing and is insulated from EM currency volatility. We believe that this structural advantage makes it more defensive than other EM asset classes.
EQUITIES	U.S. Large Cap Equities	Favorable	We view U.S. Large Cap Equities as the highest quality major equity class, with stronger company balance sheets and greater earnings power over other equity classes.
	U.S. Mid Cap Equities	Neutral	We recommend a full allocation to Mid Cap Equities, but we believe there are greater opportunities for outperformance in Small Cap Equities.
	U.S. Small Cap Equities	Favorable	We believe small caps should continue to outperform as the U.S. economy recovers, the Fed reinforces its commitment to accommodative monetary policies, the Biden administration plans for additional fiscal spending, and COVID-19 vaccines roll out across the country.
	Developed Market (DM) Ex.-U.S. Equities	Most unfavorable	Weakness in developed international economies compared to the rest of the world, coupled with lower earnings growth potential, will likely be a drag on developed market performance.
	Emerging Market Equities	Favorable	We believe recently released vaccines, improving consumer sentiment, and the global economic recovery should boost EM performance.
REAL ASSETS	Commodities	Favorable	We believe that commodity prices bottomed in March 2020, providing an attractive tactical opportunity. We upgraded commodities from neutral to favorable on March 12, 2020.
	Private Real Estate*	Neutral	We upgraded our guidance on Private Real Estate from an unfavorable to neutral, consistent with improving real estate trends and in alignment with our neutral rating on public real estate.
ALTERNATIVE INVESTMENTS*	Hedge Funds–Relative Value*	Neutral	We see a supportive backdrop for securitized credit in 2021 led by improving real GDP, lower unemployment, and easy monetary policy.
	Hedge Funds–Macro*	Neutral	Trend-following strategies continued to post strong returns in 2021, primarily from commodity and fixed income trading. But given their inconsistent returns, we remain neutral and prefer Discretionary Macro portfolios.
	Hedge Funds–Event Driven*	Neutral	2021 continues to be an active year for Event Driven managers — especially those focused on Merger Arbitrage and Activism — as corporate deal volume continues its torrid pace.
	Hedge Funds–Equity Hedge*	Favorable	We see correlations continuing to decline and further rotation into value versus growth; it remains a stockpicker's environment.
	Private Equity*	Neutral	We maintain our neutral cyclical guidance for private equity. While valuations remain rich, we believe the effects of the pandemic have created nuanced opportunities for managers focused on small- to mid-size companies and strategies such as venture capital or growth equity.
	Private Debt*	Favorable	We have a favorable outlook on Distressed and Special Situations Private Debt strategies and are favorable on direct lending strategies.

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Capital market assumptions

Fixed income, equities, real assets, and alternative investments

Annual update; as of July 2021

Capital market and asset class assumptions are estimates of how asset classes may respond during various market environments. For example, **downside risk** is based on our assumptions about average returns and the variability of returns. It represents the minimum return that would be statistically likely in 95% of annual returns. In other words, in 19 out of 20 years, performance would likely be better than this figure and in the twentieth year it would likely be worse. There is no guarantee that any particular 20-year period would follow this pattern. **Hypothetical returns** represent our estimate of likely average returns over the next several market cycles. They do not represent the returns that an investor should expect in any particular year. **Geometric return** is the compounded annual growth rate of an investment (asset class or portfolio) over a specified period of time longer than one year. **Standard deviation** is a measure of volatility. It reflects the degree of variability surrounding the outcome of an investment decision; the higher the standard deviation, the greater the risk. **Yield** on a bond assumes constant maturity. **Dividend yield** on an equity or real-asset investment represents the projected dividend as a percentage of the purchase price. The assumptions are not designed to predict actual performance, and there are no assurances that any estimates used will be achieved. The information given has been provided as a guide to help with investment planning and does not represent the maximum loss a portfolio could experience.

Capital market assumptions (%)

	Asset class	Hypothetical arithmetic return	Hypothetical geometric return	Hypothetical standard deviation or risk	Yield or dividend yield	Downside risk
	Inflation	2.0				
	Cash Alternatives	1.5	1.5	1.0	1.5	-0.1
FIXED INCOME	U.S. Investment Grade Taxable Fixed Income	3.2	3.1	3.8	3.1	-2.9
	U.S. Short Term Taxable Fixed Income	2.1	2.1	1.5	2.1	-0.3
	U.S. Intermediate Term Taxable Fixed Income	3.2	3.1	3.8	3.1	-2.9
	U.S. Long Term Taxable Fixed Income	3.8	3.3	9.5	3.3	-11.1
	High Yield Taxable Fixed Income	5.9	5.4	10.0	5.4	-9.7
	U.S. Investment Grade Tax Exempt Fixed Income	2.5	2.4	4.3	2.4	-4.3
	Short Term Tax Exempt Fixed Income	1.9	1.8	1.8	1.8	-1.0
	Intermediate Term Tax Exempt Fixed Income	2.4	2.3	4.3	2.3	-4.5
	Long Term Tax Exempt Fixed Income	3.1	2.9	5.5	2.9	-5.7
	High Yield Tax Exempt Fixed Income	4.4	4.1	8.3	4.1	-8.6
	Developed Market Ex-U.S. Fixed Income	2.3	2.0	8.3	2.0	-10.7
	Emerging Market Fixed Income	6.4	5.9	10.5	5.9	-9.9
	Inflation-Linked Fixed Income	2.7	2.5	6.5	2.5	-7.7
	Preferred Stock	4.0	3.3	12.0	3.3	-14.5
EQUITIES	U.S. Large Cap Equities	8.3	7.1	16.0	1.9	-15.9
	U.S. Mid Cap Equities	9.1	7.8	17.0	1.6	-16.4
	U.S. Small Cap Equities	9.8	8.0	20.0	1.3	-19.7
	Developed Market Ex-U.S. Equities	7.7	6.4	17.0	2.8	-17.8
	Developed Market Ex- U.S. Small Cap Equities	8.7	6.9	20.0	2.3	-20.8
	Emerging Market Equities	10.0	7.9	22.0	2.2	-22.1
	Frontier Market Equities	8.9	7.1	20.0	3.3	-20.6
REAL ASSETS	Public Real Estate	7.9	6.5	17.5	4.0	-18.3
	Private Real Estate	8.7	7.7	15.0	5.5	-14.1
	Infrastructure	8.3	7.1	16.0	4.3	-15.9
	Master Limited Partnerships	8.5	7.2	17.0	6.2	-17.0
	Timberland	4.7	4.5	7.5	3.0	-7.1
	Commodities	7.3	6.2	16.0	0.0	-16.8
ALTERNATIVE INVESTMENTS*	Global Hedge Funds	5.4	5.2	6.5	0.0	-4.9
	Hedge Funds - Relative Value	5.1	4.8	7.0	0.0	-6.0
	Hedge Funds - Macro	4.5	4.1	8.0	0.0	-8.2
	Hedge Funds – Event Driven	5.6	5.4	7.2	0.0	-5.7
	Hedge Funds – Equity Hedge	6.9	6.5	8.5	0.0	-6.5
	Global Liquid Alternatives	2.7	2.6	4.0	0.0	-3.7
	Private Equity	11.9	10.1	20.0	0.0	-17.7
	Private Debt	8.0	7.2	13.0	6.8	-12.0

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Strategic asset allocation

Client goals	INCOME			GROWTH & INCOME			GROWTH		
Risk Tolerance	Conservative	Moderate	Aggressive	Conservative	Moderate	Aggressive	Conservative	Moderate	Aggressive

Efficient frontier

An efficient frontier represents the theoretical set of diversified portfolios that attempt to maximize return given a specific level of risk.

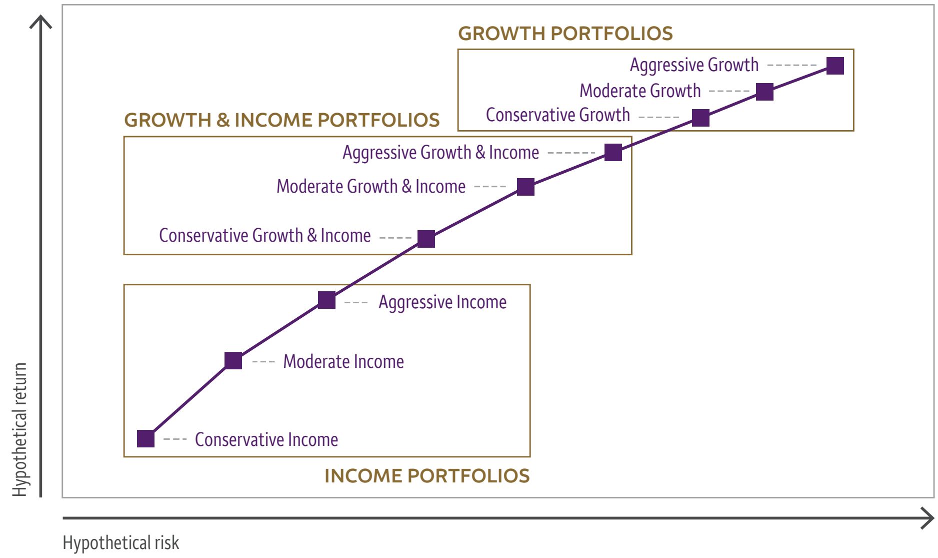


Chart is conceptual and is not meant to reflect any actual returns or represent any specific asset classifications.

Source: Wells Fargo Investment Institute, July 2021

Hedge fund allocations are based on private hedge fund capital market assumptions.

Investment objectives definitions

INCOME

Income portfolios emphasize current income with minimal consideration for capital appreciation and usually have less exposure to more volatile growth assets but can still experience losses.

Conservative Income investors generally assume lower risk, but may still experience losses or have lower expected income returns.

Moderate Income investors are willing to accept a modest level of risk that may result in increased losses in exchange for the potential to receive modest income returns.

Aggressive Income investors seek a higher level of returns and are willing to accept a higher level of risk that may result in greater losses.

GROWTH & INCOME

Growth & Income portfolios emphasize a blend of current income and capital appreciation and usually have some exposure to more volatile growth assets.

Conservative Growth & Income investors generally assume a lower amount of risk, but may still experience losses or have lower expected returns.

Moderate Growth & Income investors are willing to accept a modest level of risk that may result in increased losses in exchange for the potential to receive modest returns.

Aggressive Growth & Income investors seek a higher level of returns and are willing to accept a higher level of risk that may result in greater losses.

GROWTH

Growth portfolios emphasize capital appreciation with minimal consideration for current income and usually have significant exposure to more volatile growth assets.

Conservative Growth investors generally assume a lower amount of risk, but may still experience increased losses or have lower expected growth returns.

Moderate Growth investors are willing to accept a modest level of risk that may result in significant losses in exchange for the potential to receive higher returns.

Aggressive Growth investors seek a higher level of returns and are willing to accept a higher level of risk that may result in more significant losses.

Strategic and tactical asset allocation: Liquid (three-asset-group)

May include fixed income, equities, and real assets

		CONSERVATIVE			MODERATE			AGGRESSIVE		
		Strategic (%)	Tactical (%)	Difference (%)	Strategic (%)	Tactical (%)	Difference (%)	Strategic (%)	Tactical (%)	Difference (%)
INCOME	CASH ALTERNATIVES	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
	TOTAL GLOBAL FIXED INCOME	80.0	78.0	-2.0	69.0	65.0	-4.0	61.0	56.0	-5.0
	U.S. Taxable Investment Grade Fixed Income	72.0	70.0	-2.0	58.0	53.0	-5.0	45.0	40.0	-5.0
	Short Term Taxable*	19.0	17.0	-2.0	15.0	12.0	-3.0	12.0	9.0	-3.0
	Intermediate Term Taxable*	37.0	37.0	0.0	30.0	30.0	0.0	23.0	23.0	0.0
	Long Term Taxable*	16.0	16.0	0.0	13.0	11.0	-2.0	10.0	8.0	-2.0
	High Yield Taxable Fixed Income	5.0	5.0	0.0	6.0	7.0	1.0	8.0	8.0	0.0
	Developed Market Ex-U.S. Fixed Income	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Emerging Market Fixed Income	3.0	3.0	0.0	5.0	5.0	0.0	8.0	8.0	0.0
	TOTAL GLOBAL EQUITIES	18.0	18.0	0.0	29.0	31.0	2.0	37.0	40.0	3.0
	U.S. Large Cap Equities	12.0	14.0	2.0	16.0	20.0	4.0	19.0	23.0	4.0
	U.S. Mid Cap Equities	4.0	4.0	0.0	5.0	5.0	0.0	7.0	7.0	0.0
	U.S. Small Cap Equities	0.0	0.0	0.0	4.0	6.0	2.0	4.0	8.0	4.0
	Developed Market Ex-U.S. Equities	2.0	0.0	-2.0	4.0	0.0	-4.0	7.0	2.0	-5.0
	Emerging Market Equities	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	TOTAL GLOBAL REAL ASSETS	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0
	Commodities	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0
GROWTH AND INCOME	CASH ALTERNATIVES	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
	TOTAL GLOBAL FIXED INCOME	50.0	43.0	-7.0	41.0	34.0	-7.0	33.0	25.0	-8.0
	U.S. Taxable Investment Grade Fixed Income	39.0	32.0	-7.0	*30.0	23.0	-7.0	20.0	12.0	-8.0
	Short Term Taxable*	10.0	6.0	-4.0	8.0	4.0	-4.0	5.0	0.0	-5.0
	Intermediate Term Taxable*	20.0	20.0	0.0	15.0	15.0	0.0	10.0	10.0	0.0
	Long Term Taxable*	9.0	6.0	-3.0	7.0	4.0	-3.0	5.0	2.0	-3.0
	High Yield Taxable Fixed Income	6.0	6.0	0.0	6.0	6.0	0.0	7.0	7.0	0.0
	Developed Market Ex-U.S. Fixed Income	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Emerging Market Fixed Income	5.0	5.0	0.0	5.0	5.0	0.0	6.0	6.0	0.0
	TOTAL GLOBAL EQUITIES	46.0	51.0	5.0	55.0	60.0	5.0	63.0	69.0	6.0
	U.S. Large Cap Equities	20.0	22.0	2.0	24.0	27.0	3.0	28.0	32.0	4.0
	U.S. Mid Cap Equities	8.0	8.0	0.0	10.0	10.0	0.0	12.0	13.0	1.0
	U.S. Small Cap Equities	5.0	9.0	4.0	6.0	10.0	4.0	6.0	10.0	4.0
	Developed Market Ex-U.S. Equities	7.0	2.0	-5.0	8.0	2.0	-6.0	9.0	2.0	-7.0
	Emerging Market Equities	6.0	10.0	4.0	7.0	11.0	4.0	8.0	12.0	4.0
	TOTAL GLOBAL REAL ASSETS	2.0	4.0	2.0	2.0	4.0	2.0	2.0	4.0	2.0
	Commodities	2.0	4.0	2.0	2.0	4.0	2.0	2.0	4.0	2.0
GROWTH	CASH ALTERNATIVES	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
	TOTAL GLOBAL FIXED INCOME	22.0	14.0	-8.0	14.0	6.0	-8.0	5.0	0.0	-5.0
	U.S. Taxable Investment Grade Fixed Income	16.0	7.0	-9.0	8.0	3.0	-5.0	3.0	0.0	-3.0
	Short Term Taxable*	4.0	0.0	-4.0	2.0	0.0	-2.0	0.0	0.0	0.0
	Intermediate Term Taxable*	8.0	7.0	-1.0	4.0	3.0	-1.0	3.0	0.0	-3.0
	Long Term Taxable*	4.0	0.0	-4.0	2.0	0.0	-2.0	0.0	0.0	0.0
	High Yield Taxable Fixed Income	3.0	4.0	1.0	3.0	3.0	0.0	0.0	0.0	0.0
	Developed Market Ex-U.S. Fixed Income	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Emerging Market Fixed Income	3.0	3.0	0.0	3.0	0.0	-3.0	2.0	0.0	-2.0
	TOTAL GLOBAL EQUITIES	74.0	80.0	6.0	82.0	88.0	6.0	91.0	94.0	3.0
	U.S. Large Cap Equities	30.0	34.0	4.0	31.0	35.0	4.0	28.0	30.0	2.0
	U.S. Mid Cap Equities	13.0	13.0	0.0	14.0	15.0	1.0	16.0	16.0	0.0
	U.S. Small Cap Equities	8.0	12.0	4.0	10.0	14.0	4.0	13.0	17.0	4.0
	Developed Market Ex-U.S. Equities	11.0	5.0	-6.0	12.0	6.0	-6.0	16.0	10.0	-6.0
	Emerging Market Equities	12.0	16.0	4.0	15.0	18.0	3.0	18.0	21.0	3.0
	TOTAL GLOBAL REAL ASSETS	2.0	4.0	2.0	2.0	4.0	2.0	2.0	4.0	2.0
	Commodities	2.0	4.0	2.0	2.0	4.0	2.0	2.0	4.0	2.0

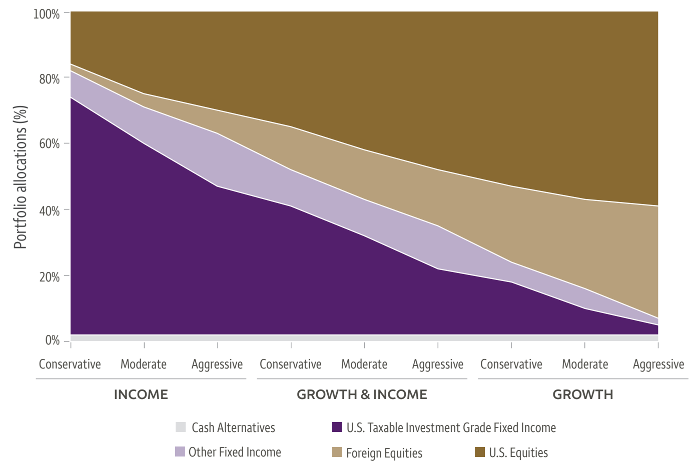
Strategic allocations are updated annually; last update was July 19, 2021. Tactical allocations are updated periodically; last update was July 19, 2021.
The U.S. Taxable Investment Grade Fixed Income encompasses the allocations to Short Term, Intermediate Term, and Long Term. *Wells Fargo Advisors only.
See next page for Portfolio allocations across the efficient frontier, strategic and tactical.

Strategic and tactical asset allocation: Liquid (three-asset-group)

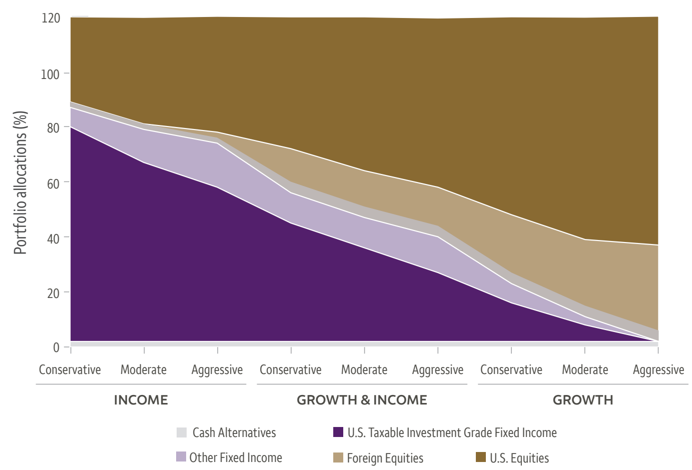
May include fixed income, equities, and real assets (continued)

These allocations span the set of liquid investments available to investors, utilizing broad diversification to help manage portfolio risk. Special issues such as liquidity, cash flow, and taxability would be taken into consideration in the choice of investment vehicles for certain asset classes. Depending on their tax circumstances, investors may wish to utilize the tax-efficient asset allocation guidance. The tactical asset allocation overweights and underweights are designed to provide guidance on shorter-term (6–18 months) weightings in the portfolio.

Portfolio allocations across the efficient frontier–strategic



Portfolio allocations across the efficient frontier–tactical



Strategic and tactical asset allocation: Illiquid (four-asset-group)

May include fixed income, equities, real assets, and alternative investments

		CONSERVATIVE			MODERATE			AGGRESSIVE		
		Strategic (%)	Tactical (%)	Difference (%)	Strategic (%)	Tactical (%)	Difference (%)	Strategic (%)	Tactical (%)	Difference (%)
INCOME	CASH ALTERNATIVES	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
	TOTAL GLOBAL FIXED INCOME	66.0	64.0	-2.0	55.0	51.0	-4.0	47.0	43.0	-4.0
	U.S. Taxable Investment Grade Fixed Income	59.0	57.0	-2.0	46.0	42.0	-4.0	33.0	29.0	-4.0
	Short Term Taxable*	16.0	14.0	-2.0	12.0	8.0	-4.0	9.0	5.0	-4.0
	Intermediate Term Taxable*	30.0	30.0	0.0	23.0	23.0	0.0	16.0	16.0	0.0
	Long Term Taxable*	13.0	13.0	0.0	11.0	11.0	0.0	8.0	8.0	0.0
	High Yield Taxable Fixed Income	4.0	4.0	0.0	4.0	4.0	0.0	6.0	6.0	0.0
	Developed Market Ex-U.S. Fixed Income	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Emerging Market Fixed Income	3.0	3.0	0.0	5.0	5.0	0.0	8.0	8.0	0.0
	TOTAL GLOBAL EQUITIES	12.0	12.0	0.0	22.0	24.0	2.0	27.0	29.0	2.0
	U.S. Large Cap Equities	8.0	10.0	2.0	12.0	16.0	4.0	15.0	17.0	2.0
	U.S. Mid Cap Equities	2.0	2.0	0.0	4.0	4.0	0.0	6.0	6.0	0.0
	U.S. Small Cap Equities	0.0	0.0	0.0	2.0	4.0	2.0	2.0	6.0	4.0
	Developed Market Ex-U.S. Equities	2.0	0.0	-2.0	4.0	0.0	-4.0	4.0	0.0	-4.0
	Emerging Market Equities	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	TOTAL GLOBAL REAL ASSETS	5.0	7.0	2.0	6.0	8.0	2.0	7.0	9.0	2.0
	Private Real Estate**	5.0	5.0	0.0	6.0	6.0	0.0	7.0	7.0	0.0
	Commodities	0.0	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0
	TOTAL ALTERNATIVE INVESTMENTS**	15.0	15.0	0.0	15.0	15.0	0.0	17.0	17.0	0.0
	Global Hedge Funds	11.0	11.0	0.0	11.0	11.0	0.0	11.0	11.0	0.0
	Private Equity	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Private Debt	4.0	4.0	0.0	4.0	4.0	0.0	6.0	6.0	0.0
GROWTH AND INCOME	CASH ALTERNATIVES	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
	TOTAL GLOBAL FIXED INCOME	38.0	32.0	-6.0	29.0	23.0	-6.0	23.0	16.0	-7.0
	U.S. Taxable Investment Grade Fixed Income	31.0	25.0	-6.0	21.0	15.0	-6.0	14.0	7.0	-7.0
	Short Term Taxable*	8.0	4.0	-4.0	6.0	3.0	-3.0	4.0	0.0	-4.0
	Intermediate Term Taxable*	16.0	16.0	0.0	10.0	10.0	0.0	7.0	7.0	0.0
	Long Term Taxable*	7.0	5.0	-2.0	5.0	2.0	-3.0	3.0	0.0	-3.0
	High Yield Taxable Fixed Income	4.0	4.0	0.0	4.0	4.0	0.0	3.0	3.0	0.0
	Developed Market Ex-U.S. Fixed Income	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Emerging Market Fixed Income	3.0	3.0	0.0	4.0	4.0	0.0	6.0	6.0	0.0
	TOTAL GLOBAL EQUITIES	34.0	38.0	4.0	41.0	45.0	4.0	48.0	53.0	5.0
	U.S. Large Cap Equities	16.0	19.0	3.0	18.0	22.0	4.0	22.0	26.0	4.0
	U.S. Mid Cap Equities	6.0	6.0	0.0	8.0	8.0	0.0	8.0	9.0	1.0
	U.S. Small Cap Equities	2.0	6.0	4.0	3.0	7.0	4.0	4.0	8.0	4.0
	Developed Market Ex-U.S. Equities	5.0	0.0	-5.0	6.0	0.0	-6.0	7.0	0.0	-7.0
	Emerging Market Equities	5.0	7.0	2.0	6.0	8.0	2.0	7.0	10.0	3.0
	TOTAL GLOBAL REAL ASSETS	7.0	9.0	2.0	8.0	10.0	2.0	8.0	10.0	2.0
	Private Real Estate**	5.0	5.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0
	Commodities	2.0	4.0	2.0	2.0	4.0	2.0	2.0	4.0	2.0
	TOTAL ALTERNATIVE INVESTMENTS**	19.0	19.0	0.0	20.0	20.0	0.0	19.0	19.0	0.0
	Global Hedge Funds	10.0	10.0	0.0	10.0	10.0	0.0	7.0	7.0	0.0
	Private Equity	6.0	6.0	0.0	7.0	7.0	0.0	9.0	9.0	0.0
	Private Debt	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0

Strategic allocations are updated annually; last update was July 19, 2021. Tactical allocations are updated periodically; last update was July 19, 2021. The U.S. Taxable Investment Grade Fixed Income encompasses the allocations to Short Term, Intermediate Term, and Long Term. Hedge fund allocations are based on private hedge fund capital market assumptions.
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See next page for Growth data and Portfolio allocations across the efficient frontier, strategic and tactical.

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Strategic and tactical asset allocation: Illiquid (four-asset-group)

May include fixed income, equities, real assets, and alternative investments (continued)

		CONSERVATIVE			MODERATE			AGGRESSIVE		
		Strategic (%)	Tactical (%)	Difference (%)	Strategic (%)	Tactical (%)	Difference (%)	Strategic (%)	Tactical (%)	Difference (%)
GROWTH	CASH ALTERNATIVES	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	0.0
	TOTAL GLOBAL FIXED INCOME	15.0	10.0	-5.0	9.0	4.0	-5.0	0.0	0.0	0.0
	U.S. Taxable Investment Grade Fixed Income	9.0	4.0	-5.0	4.0	0.0	-4.0	0.0	0.0	0.0
	Short Term Taxable*	2.0	0.0	-2.0	0.0	0.0	0.0	0.0	0.0	0.0
	Intermediate Term Taxable*	5.0	4.0	-1.0	4.0	0.0	-4.0	0.0	0.0	0.0
	Long Term Taxable*	2.0	0.0	-2.0	0.0	0.0	0.0	0.0	0.0	0.0
	High Yield Taxable Fixed Income	3.0	3.0	0.0	2.0	2.0	0.0	0.0	0.0	0.0
	Developed Market Ex-U.S. Fixed Income	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Emerging Market Fixed Income	3.0	3.0	0.0	3.0	2.0	-1.0	0.0	0.0	0.0
	TOTAL GLOBAL EQUITIES	56.0	59.0	3.0	66.0	69.0	3.0	73.0	73.0	0.0
	U.S. Large Cap Equities	24.0	25.0	1.0	24.0	25.0	1.0	24.0	25.0	1.0
	U.S. Mid Cap Equities	9.0	9.0	0.0	13.0	13.0	0.0	15.0	15.0	0.0
	U.S. Small Cap Equities	5.0	9.0	4.0	6.0	10.0	4.0	7.0	11.0	4.0
	Developed Market Ex-U.S. Equities	9.0	3.0	-6.0	11.0	5.0	-6.0	12.0	6.0	-6.0
	Emerging Market Equities	9.0	13.0	4.0	12.0	16.0	4.0	15.0	16.0	1.0
	TOTAL GLOBAL REAL ASSETS	7.0	9.0	2.0	7.0	9.0	2.0	8.0	8.0	0.0
	Private Real Estate**	5.0	5.0	0.0	5.0	5.0	0.0	6.0	6.0	0.0
	Commodities	2.0	4.0	2.0	2.0	4.0	2.0	2.0	2.0	0.0
	TOTAL ALTERNATIVE INVESTMENTS**	21.0	21.0	0.0	17.0	17.0	0.0	18.0	18.0	0.0
	Global Hedge Funds	7.0	7.0	0.0	2.0	2.0	0.0	0.0	0.0	0.0
	Private Equity	11.0	11.0	0.0	12.0	12.0	0.0	15.0	15.0	0.0
	Private Debt	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0

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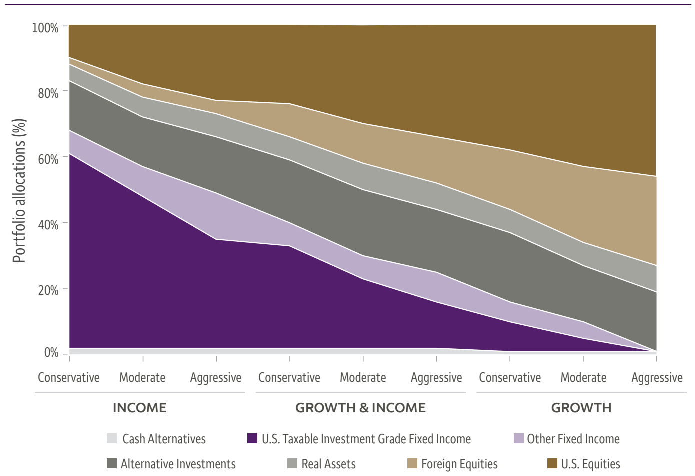
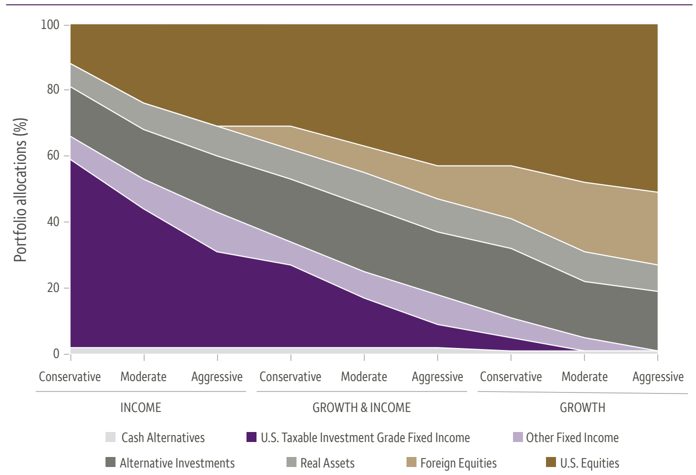
Portfolio allocations across the efficient frontier–strategic



Portfolio allocations across the efficient frontier–tactical



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Strategic asset allocation: Tax-efficient illiquid

May include fixed income, equities, real assets, and alternative investments

		CONSERVATIVE Strategic (%)	MODERATE Strategic (%)	AGGRESSIVE Strategic (%)
INCOME	CASH ALTERNATIVES	2.0	2.0	2.0
	TOTAL GLOBAL FIXED INCOME	77.0	62.0	54.0
	U.S. Investment Grade Tax Exempt FI	77.0	55.0	40.0
	Short Term Tax Exempt*	20.0	15.0	11.0
	Intermediate Term Tax Exempt*	39.0	27.0	20.0
	Long Term Tax Exempt*	18.0	13.0	9.0
	High Yield Tax Exempt Fixed Income	0.0	7.0	14.0
	Developed Market Ex-U.S. Fixed Income	0.0	0.0	0.0
	Emerging Market Fixed Income	0.0	0.0	0.0
	TOTAL GLOBAL EQUITIES	9.0	24.0	33.0
	U.S. Large Cap Equities	6.0	16.0	19.0
	U.S. Mid Cap Equities	3.0	5.0	6.0
	U.S. Small Cap Equities	0.0	3.0	3.0
	Developed Market Ex-U.S. Equities	0.0	0.0	5.0
	Emerging Market Equities	0.0	0.0	0.0
	TOTAL GLOBAL REAL ASSETS	7.0	7.0	7.0
	Private Real Estate**	7.0	7.0	7.0
	Commodities	0.0	0.0	0.0
	TOTAL ALTERNATIVE INVESTMENTS**	5.0	5.0	4.0
	Global Hedge Funds	5.0	5.0	4.0
	Private Equity	0.0	0.0	0.0
	Private Debt	0.0	0.0	0.0
GROWTH AND INCOME	CASH ALTERNATIVES	2.0	1.0	1.0
	TOTAL GLOBAL FIXED INCOME	42.0	33.0	27.0
	U.S. Investment Grade Tax Exempt FI	35.0	28.0	21.0
	Short Term Tax Exempt*	9.0	7.0	6.0
	Intermediate Term Tax Exempt*	18.0	15.0	10.0
	Long Term Tax Exempt*	8.0	6.0	5.0
	High Yield Tax Exempt Fixed Income	7.0	5.0	6.0
	Developed Market Ex-U.S. Fixed Income	0.0	0.0	0.0
	Emerging Market Fixed Income	0.0	0.0	0.0
	TOTAL GLOBAL EQUITIES	38.0	45.0	53.0
	U.S. Large Cap Equities	19.0	22.0	25.0
	U.S. Mid Cap Equities	6.0	7.0	9.0
	U.S. Small Cap Equities	3.0	3.0	4.0
	Developed Market Ex-U.S. Equities	7.0	9.0	10.0
	Emerging Market Equities	3.0	4.0	5.0
	TOTAL GLOBAL REAL ASSETS	7.0	7.0	7.0
	Private Real Estate**	7.0	7.0	7.0
	Commodities	0.0	0.0	0.0
	TOTAL ALTERNATIVE INVESTMENTS**	11.0	14.0	12.0
	Global Hedge Funds	4.0	4.0	0.0
	Private Equity	7.0	10.0	12.0
	Private Debt	0.0	0.0	0.0

Tax-efficient strategic allocations are updated annually; last update was July 19, 2021. Tactical allocations are updated periodically. The U.S. Taxable Investment Grade Fixed Income encompasses the allocations to Short Term, Intermediate Term, and Long Term. Hedge fund allocations are based on private hedge fund capital market assumptions. *Wells Fargo Advisors only.

See next page for Growth data and portfolio allocations across the efficient frontier, strategic.

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Strategic asset allocation: Tax-efficient illiquid

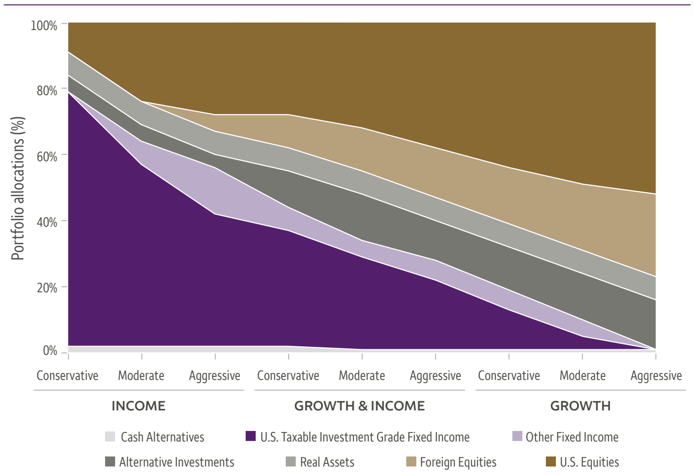
May include fixed income, equities, real assets, and alternative investments (continued)

		CONSERVATIVE	MODERATE	AGGRESSIVE
		Strategic (%)	Strategic (%)	Strategic (%)
GROWTH	CASH ALTERNATIVES	1.0	1.0	1.0
	TOTAL GLOBAL FIXED INCOME	18.0	9.0	0.0
	U.S. Investment Grade Tax Exempt FI	12.0	4.0	0.0
	Short Term Tax Exempt*	3.0	0.0	0.0
	Intermediate Term Tax Exempt*	6.0	4.0	0.0
	Long Term Tax Exempt*	3.0	0.0	0.0
	High Yield Tax Exempt Fixed Income	6.0	5.0	0.0
	Developed Market Ex-U.S. Fixed Income	0.0	0.0	0.0
	Emerging Market Fixed Income	0.0	0.0	0.0
	TOTAL GLOBAL EQUITIES	61.0	69.0	77.0
	U.S. Large Cap Equities	28.0	32.0	33.0
	U.S. Mid Cap Equities	11.0	11.0	13.0
	U.S. Small Cap Equities	5.0	6.0	6.0
	Developed Market Ex-U.S. Equities	11.0	12.0	12.0
	Emerging Market Equities	6.0	8.0	13.0
	TOTAL GLOBAL REAL ASSETS	7.0	7.0	7.0
	Private Real Estate**	7.0	7.0	7.0
	Commodities	0.0	0.0	0.0
	TOTAL ALTERNATIVE INVESTMENTS**	13.0	14.0	15.0
	Global Hedge Funds	0.0	0.0	0.0
	Private Equity	13.0	14.0	15.0
	Private Debt	0.0	0.0	0.0

Tax-efficient strategic allocations are updated annually; last update was July 19, 2021. Tactical allocations are updated periodically. The U.S. Taxable Investment Grade Fixed Income encompasses the allocations to Short Term, Intermediate Term, and Long Term. Hedge fund allocations are based on private hedge fund capital market assumptions. The tactical asset allocation overweights and underweights are designed to provide guidance on shorter-term (6–18 months) weightings in the portfolio. *Wells Fargo Advisors only.

These allocations span the set of investments available to investors, utilizing broad diversification to help manage portfolio risk. Special consideration is given to the taxable implications of investing in various asset classes. Taxability may also be taken into consideration in determining the choice of investment vehicles for certain asset classes. Liquidity and cash flow preferences may also be reflected in the choice of investment vehicles for certain asset classes. We suggest that investors who are highly tax-sensitive generally should elect municipal bonds to implement their fixed income allocation. The tactical asset allocation overweights and underweights are designed to provide guidance on shorter-term (6–18 months) weightings in the portfolio and also take taxation into consideration, therefore, some tactical ideas may not be implemented in these allocations.

Portfolio allocations across the efficient frontier–strategic



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Strategic asset allocation: Tax-efficient liquid

May include fixed income, equities, and real assets

		CONSERVATIVE	MODERATE	AGGRESSIVE
		Strategic (%)	Strategic (%)	Strategic (%)
INCOME	CASH ALTERNATIVES	3.0	3.0	2.0
	TOTAL GLOBAL FIXED INCOME	85.0	70.0	62.0
	U.S. Investment Grade Tax Exempt FI	85.0	64.0	48.0
	Short Term Tax Exempt*	23.0	17.0	13.0
	Intermediate Term Tax Exempt*	43.0	32.0	24.0
	Long Term Tax Exempt*	19.0	15.0	11.0
	High Yield Tax Exempt Fixed Income	0.0	6.0	14.0
	Developed Market Ex-U.S. Fixed Income	0.0	0.0	0.0
	Emerging Market Fixed Income	0.0	0.0	0.0
	TOTAL GLOBAL EQUITIES	12.0	27.0	36.0
	U.S. Large Cap Equities	6.0	14.0	17.0
	U.S. Mid Cap Equities	4.0	5.0	7.0
	U.S. Small Cap Equities	0.0	4.0	4.0
	Developed Market Ex-U.S. Equities	2.0	4.0	8.0
	Emerging Market Equities	0.0	0.0	0.0
	TOTAL GLOBAL REAL ASSETS	0.0	0.0	0.0
	Commodities	0.0	0.0	0.0
GROWTH AND INCOME	CASH ALTERNATIVES	2.0	2.0	2.0
	TOTAL GLOBAL FIXED INCOME	51.0	41.0	32.0
	U.S. Investment Grade Tax Exempt FI	45.0	35.0	25.0
	Short Term Tax Exempt*	12.0	9.0	7.0
	Intermediate Term Tax Exempt*	23.0	18.0	12.0
	Long Term Tax Exempt*	10.0	8.0	6.0
	High Yield Tax Exempt Fixed Income	6.0	6.0	7.0
	Developed Market Ex-U.S. Fixed Income	0.0	0.0	0.0
	Emerging Market Fixed Income	0.0	0.0	0.0
	TOTAL GLOBAL EQUITIES	47.0	57.0	66.0
	U.S. Large Cap Equities	17.0	23.0	27.0
	U.S. Mid Cap Equities	10.0	12.0	14.0
	U.S. Small Cap Equities	6.0	6.0	6.0
	Developed Market Ex-U.S. Equities	8.0	9.0	11.0
	Emerging Market Equities	6.0	7.0	8.0
	TOTAL GLOBAL REAL ASSETS	0.0	0.0	0.0
	Commodities	0.0	0.0	0.0

Tax-efficient strategic allocations are updated annually; last update was July 19, 2021. Tactical allocations are updated periodically. The U.S. Taxable Investment Grade Fixed Income encompasses the allocations to Short Term, Intermediate Term, and Long Term. *Wells Fargo Advisors only.

See next page for Growth data and portfolio allocations across the efficient frontier, strategic.

Strategic asset allocation: Tax-efficient liquid

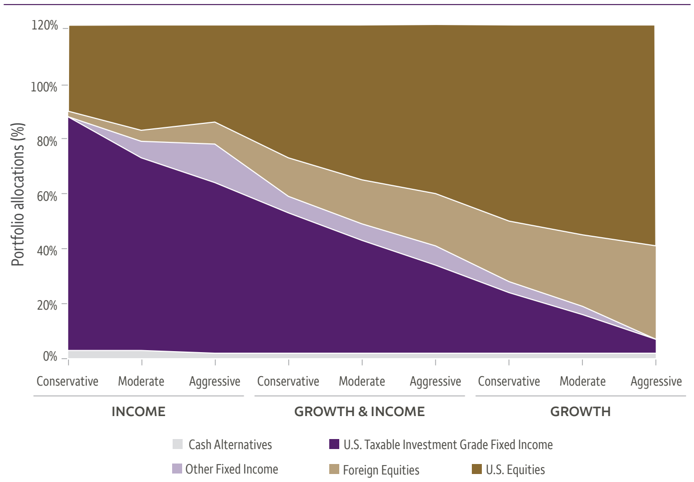
May include fixed income, equities, and real assets (continued)

		CONSERVATIVE	MODERATE	AGGRESSIVE
		Strategic (%)	Strategic (%)	Strategic (%)
GROWTH	CASH ALTERNATIVES	2.0	2.0	2.0
	TOTAL GLOBAL FIXED INCOME	22.0	14.0	5.0
	U.S. Investment Grade Tax Exempt FI	18.0	11.0	5.0
	Short Term Tax Exempt*	5.0	3.0	0.0
	Intermediate Term Tax Exempt*	9.0	5.0	5.0
	Long Term Tax Exempt*	4.0	3.0	0.0
	High Yield Tax Exempt Fixed Income	4.0	3.0	0.0
	Developed Market Ex-U.S. Fixed Income	0.0	0.0	0.0
	Emerging Market Fixed Income	0.0	0.0	0.0
	TOTAL GLOBAL EQUITIES	76.0	84.0	93.0
	U.S. Large Cap Equities	31.0	31.0	27.0
	U.S. Mid Cap Equities	15.0	16.0	18.0
	U.S. Small Cap Equities	8.0	11.0	14.0
	Developed Market Ex-U.S. Equities	12.0	13.0	18.0
	Emerging Market Equities	10.0	13.0	16.0
	TOTAL GLOBAL REAL ASSETS	0.0	0.0	0.0
	Commodities	0.0	0.0	0.0

Tax-efficient strategic allocations are updated annually; last update was July 19, 2021. Tactical allocations are updated periodically. The U.S. Taxable Investment Grade Fixed Income encompasses the allocations to Short Term, Intermediate Term, and Long Term. The tactical asset allocation overweights and underweights are designed to provide guidance on shorter-term (6–18 months) weightings in the portfolio. *Wells Fargo Advisors only.

These allocations span the set of liquid investments available to investors, utilizing broad diversification to help manage portfolio risk. Special consideration is given to the taxable implications of investing in various asset classes. Taxability may also be taken into consideration in determining the choice of investment vehicles for certain asset classes. Liquidity and cash flow preferences may also be reflected in the choice of investment vehicles for certain asset classes. We suggest that investors who are highly tax-sensitive generally should elect municipal bonds to implement their fixed income allocation. The tactical asset allocation overweights and underweights are designed to provide guidance on shorter-term (6–18 months) weightings in the portfolio and also take taxation into consideration, therefore, some tactical ideas may not be implemented in these allocations.

Portfolio allocations across the efficient frontier–strategic



Disclosures

Forecasts, targets, and estimates are not guaranteed and are based on certain assumptions and on our views of market and economic conditions which are subject to change.

Risk considerations

Past performance does not indicate future results. The value or income associated with a security or an investment may fluctuate. There is always the potential for loss as well as gain. Investments discussed in this report may be inappropriate for some investors depending on their specific investment objectives and financial position.

Asset allocation and diversification are investment methods used to manage risk. They do not assure or guarantee better performance and cannot eliminate the risk of investment losses. Your individual allocation may be different than the strategic long-term allocation above due to your unique individual circumstances, but is targeted to be in the allocation ranges detailed. The asset allocation reflected above may fluctuate based on asset values, portfolio decisions, and account needs.

Alternative investments, such as hedge funds, private capital funds, and private real estate funds, carry specific investor qualifications and involve the risk of investment loss, including the loss of the entire amount invested. While investors may potentially benefit from the ability of alternative investments to potentially improve the risk-reward profiles of their portfolios, the investments themselves can carry significant risks. Government regulation and monitoring of these types of investments may be minimal or nonexistent. There may be no secondary market for alternative investment interests and transferability may be limited or even prohibited.

Private debt strategies seek to actively improve the capital structure of a company often through debt restructuring and deleveraging measures. Such investments are subject to potential default, limited liquidity, the creditworthiness of the private company, and the infrequent availability of independent credit ratings for private companies.

The use of **alternative investment strategies**, such as Equity Hedge, Event Driven, Macro and Relative Value, are speculative and involve a high degree of risk. These strategies may expose investors to risks such as short selling, leverage risk, counterparty risk, liquidity risk, volatility risk, the use of derivatives and other significant risks. Distressed credit strategies invest in, and might sell short, the securities of companies where the security's price has been, or is expected to be, affected by a distressed situation. This may involve reorganizations, bankruptcies, distressed sales, and other corporate restructurings. Investing in distressed companies is speculative and involves a high degree of risk. Because of their distressed situation, these securities may be illiquid, have low trading volumes, and be subject to substantial interest rate and credit risks. Structured credit strategies aim to generate returns via positions in the credit sensitive area of the fixed income markets. The strategy generally involves the purchase of corporate bonds with hedging of interest rate exposure. The use of alternative investment strategies may require a manager's skill in assessing corporate events, the anticipation of future movements in securities prices, interest rates, or other economic factors. No assurance can be given that a manager's view of the economy will be correct which may result in lower investment returns or higher return volatility. Long/short credit strategies seek to mitigate interest rate and credit risks regardless of market environment through investment in credit-related and structured debt vehicles. These strategies involve the use of market hedges and involve risks associated with the use of derivatives, fixed income, foreign investment, currency, hedging, leverage, liquidity, short sales, loss of principal and other material risks.

Equity sector risks: *Communication services* companies are vulnerable to their products and services becoming outdated because of technological advancement and the innovation of competitors. Companies in the communication services sector may also be affected by rapid technology changes; pricing competition, large equipment upgrades, substantial capital requirements and government regulation and approval of products and services. In addition, companies within the industry may invest heavily in research and development which is not guaranteed to lead to successful implementation of the proposed product. Risks associated with the *Consumer Discretionary sector* include, among others, apparel price deflation due to low-cost entries, high inventory levels and pressure from e-commerce players; reduction in traditional advertising dollars; increasing household debt levels that could limit consumer appetite for discretionary purchases. *Consumer Staples industries* can be significantly affected by competitive pricing particularly with respect to the growth of low-cost emerging market production, government regulation, the performance of overall economy, interest rates, and consumer confidence. The *Energy sector* may be adversely affected by changes in worldwide energy prices, exploration, production spending, government regulation, and changes in exchange rates, depletion of natural resources and risks that arise from extreme weather conditions. Investing in *Financial Services companies* will subject a portfolio to adverse economic or regulatory occurrences affecting the sector. Some of the risks associated with investment in the *Health Care sector* include competition on branded products, sales erosion due to cheaper alternatives, research & development risk, government regulations and government approval of products anticipated to enter the market. Risks associated with investing in the *Industrial sector* include the possibility of a worsening in the global economy, acquisition integration risk, operational issues, failure to introduce to market new and innovative products, further weakening in the oil market, potential price wars due to any excesses industry capacity, and a sustained rise in the dollar relative to other currencies. *Materials industries* can be significantly affected by the volatility of commodity prices, the exchange rate between foreign currency and the dollar, export/import concerns, worldwide competition, procurement and manufacturing and cost containment issues. *Technology and Internet-related stocks*, especially of smaller, less-seasoned companies, tend to be more volatile than the overall market. *Real estate* has special risks including the possible illiquidity of underlying properties, credit risk, interest rate fluctuations and the impact of varied economic condition. *Utilities* are sensitive to changes in interest rates and the securities within the sector can be volatile and may underperform in a slow economy.

Investing in **commodities** is not appropriate for all investors. Exposure to the commodities markets may subject an investment to greater share price volatility than an investment in traditional equity or debt securities. Investments in commodities may be affected by changes in overall market movements, commodity index volatility, changes in interest rates or factors affecting a particular industry or commodity. Products that invest in commodities may employ more complex strategies which may expose investors to additional risks.

Investments in **fixed-income securities** are subject to market, interest rate, credit/default, liquidity, inflation and other risks. Bond prices fluctuate inversely to changes in interest rates. Therefore, a general rise in interest rates can result in the decline in the bond's price. Credit risk is the risk that an issuer will default on payments of interest and principal. **High yield** fixed income securities are considered speculative, involve greater risk of default, and tend to be more volatile than investment grade fixed income securities. **Municipal bonds** offer interest payments exempt from federal taxes, and potentially state and local income taxes. Municipal bonds are subject to credit risk and potentially the Alternative Minimum Tax (AMT). Municipal securities are also subject to legislative and regulatory risk which is the risk that a change in the tax code could affect the value of taxable or tax-exempt interest income.

Mortgage-related and asset-backed securities are subject to the risks associated with investment in debt securities. In addition, they are subject to prepayment and call risks. Changes in prepayments may significantly affect yield, average life and expected maturity. If called prior to maturity, similar yielding investments may not be available for the Fund to purchase. These risks may be heightened for longer maturity and duration securities.

Currency hedging is a technique used to seek to reduce the risk arising from the change in price of one currency against another. The use of hedging to manage currency exchange rate movements may not be successful and could produce disproportionate gains or losses in a portfolio and may increase volatility and costs.

Equity securities are subject to market risk which means their value may fluctuate in response to general economic and market conditions and the perception of individual issuers. Investments in equity securities are generally more volatile than other types of securities.

There is no guarantee that **dividend-paying stocks** will return more than the overall stock market. Dividends are not guaranteed and are subject to change or elimination. There are no guarantees that **growth** or **value** stocks will increase in value or that their intrinsic values will eventually be recognized by the overall market. The return and principal value of stocks fluctuate with changes in market conditions. The growth and value type of investing tends to shift in and out of favor.

Investing in **foreign securities** presents certain risks that may not be present in domestic securities. For example, investments in foreign, emerging and frontier markets present special risks, including currency fluctuation, the potential for diplomatic and potential instability, regulatory and liquidity risks, foreign taxation and differences in auditing and other financial standards.

Disclosures *(continued)*

Investing in **gold**, **silver** or other precious metals involves special risk considerations such as severe price fluctuations and adverse economic and regulatory developments affecting the sector or industry.

Investing in long/short strategies is not appropriate for all investors. Short selling involves sophisticated investment techniques that can add additional risk, and involves the risk of potentially unlimited increase in the market value of the security sold short, which could result in potentially unlimited loss for the Fund.

Master Limited Partnerships (MLPs) involves certain risks which differ from an investment in the securities of a corporation. MLPs may be sensitive to price changes in oil, natural gas, etc., regulatory risk, and rising interest rates. A change in the current tax law regarding MLPs could result in the MLP being treated as a corporation for federal income tax purposes which would reduce the amount of cash flows distributed by the MLP. Other risks include the volatility associated with the use of leverage; volatility of the commodities markets; market risks; supply and demand; natural and man-made catastrophes; competition; liquidity; market price discount from Net Asset Value and other material risks.

There are special risks associated with investing in **preferred securities**. Preferred securities are subject to interest rate and credit risks and are generally subordinated to bonds or other debt instruments in an issuer's capital structure, subjecting them to a greater risk of non-payment than more senior securities. In addition, the issue may be callable which may negatively impact the return of the security. Preferred dividends are not guaranteed and are subject to deferral or elimination.

Investing in **real estate** involves special risks, including the possible illiquidity of the underlying property, credit risk, interest rate fluctuations and the impact of varied economic conditions.

Privately offered **real estate** funds are speculative and involve a high degree of risk. Investments in real estate and real estate investments trusts have special risks, including the possible illiquidity of the underlying properties, credit risk, interest rate fluctuations, and the impact of varied economic conditions. There can be no assurance a secondary market will exist and there may be restrictions on transferring interests.

The prices of **small and mid-size company** stocks are generally more volatile than large company stocks. They often involve higher risks because smaller companies may lack the management expertise, financial resources, product diversification and competitive strengths to endure adverse economic conditions.

Sovereign debt are bonds issued by a national government in a foreign currency and are used to finance a country's growth. In addition to the risks associated with investing in international and emerging markets, sovereign debt involves the risk that the issuing entity may not be able or willing to repay principal and/or interest when due in accordance with the terms of the debt agreement.

Treasury Inflation-Protected Securities (TIPS) are subject to interest rate risk, especially when real interest rates rise. This may cause the underlying value of the bond to fluctuate more than other fixed income securities. TIPS have special tax consequences, generating phantom income on the "inflation compensation" component of the principal. A holder of TIPS may be required to report this income annually although no income related to "inflation compensation" is received until maturity.

Economic index definitions

An index is unmanaged and not available for direct investment.

Inflation is the change in the **Consumer Price Index (CPI)**. The CPI measures the price of a fixed basket of goods and services purchased by an average consumer.

Core inflation is the change in the core **Consumer Price Index (CPI)**. The core CPI measures the price of a fixed basket of goods and services — excluding the volatile food and energy components — purchased by an average consumer.

Special Purpose Acquisition Company (SPAC), a financial entity that utilizes funds raised in an Initial Public Offering (IPO) to merge with a target company.

Commodity Composite Price Index: Measures a basket of commodity prices as well as inflation. It blends the historical commodity index introduced by George F. Warren & Frank A. Pearson, former academics at Cornell, collected and published commodity price data in their book, Prices, and the producer price index for commodities (PPI-Commodities), and the National Bureau of Economic Research (NBER) Index of Spot Market Prices of 22 Commodities and the Reuters Continuous Commodity Index. The index components and weightings, from Warren and Pearson's Prices, change over time but the 11 commodity groups used from 1786-1932 are: Farm Products, Foods, Hides and Leather products, Textile Products, Fuel and Lighting, Metals and Metal Products, Building Materials, Chemicals and drugs, Spirits (stopped tracking 1890), House furnishing Goods, and Miscellaneous. The PPI-Commodities is compiled by the Bureau of Labor Statistics and shows the average price change from the previous month for commodities such as energy, coal, crude oil and the steel scrap. The NBER Index of Spot Market Prices of 22 Commodities is a measure of price movements of 22 sensitive basic commodities whose markets are presumed to be among the first to be influenced by changes in economic conditions. The Reuters Continuous Commodity Index comprises 17 commodity futures that are continuously rebalanced: cocoa, coffee, copper, corn, cotton, crude oil, gold, heating oil, live cattle, Live hogs, natural gas, orange juice, platinum, silver, soybeans, sugar no. 11, and wheat.

Consumer Confidence Index measures consumer confidence, which is defined as the degree of optimism on the state of the economy that consumers are expressing through their activities of savings and spending. The Present Situation Index is based on overall consumer assessment of current business and labor market conditions and present economic situation. It is a major determinant for the CCI.

JPMorgan Emerging Markets Currency Index tracks the performance of emerging-market currencies relative to the U.S. dollar.

MSCI Emerging Markets Currency Index is an index of emerging market currencies versus the dollar, where the weight of each currency within the index matches the relevant country weight within the Morgan Stanley Capital International (MSCI) Emerging Markets Equity Index.

Purchasing Managers' Index (PMI) is an indicator of the economic health of the manufacturing sector. The PMI index is based on five major indicators: new orders, inventory levels, production, supplier deliveries and the employment environment.

Institute of Supply Management (ISM) Purchasing Manager's Index gauges internal demand for raw materials/goods that go into end-production. An Index value over 50 indicates expansion; below 50 indicates contraction. The values for the index can be between 0 and 100.

US Dollar Index (USDX, DXY) is an index (or measure) of the value of the United States dollar relative to a basket of foreign currencies, often referred to as a basket of U.S. trade partners' currencies.

Institute for Supply Management (ISM) Manufacturing Index is based on surveys of more than 300 manufacturing firms by the Institute of Supply Management. The ISM Manufacturing Index monitors employment, production inventories, new orders and supplier deliveries.

Institute of Supply Management (ISM) Non-manufacturing Index (ISM Services Survey) measures the rate and direction of change in activity in the nonmanufacturing industries. An index with a score over 50 indicates that the industry is expanding, and a score below 50 shows a contraction. The values for the index can be between 0 and 100.

Personal consumption expenditures (PCE) is the primary measure of consumer spending on goods and services in the U.S. economy. It accounts for about two-thirds of domestic final spending, and thus it is the primary engine that drives future economic growth.

Alternative investments — strategy definitions

Private Equity. **Cambridge Associates LLC U.S. Private Equity Index®** uses a horizon calculation based on data compiled from more than 1,400 institutional-quality buyout, growth equity, private equity energy, and subordinated capital funds formed between 1986 and 2017. The funds included in the index report their performance voluntarily and therefore the index may reflect a bias towards funds with records of success. Funds report unaudited quarterly data to Cambridge and Associates when calculating the index. The index is not transparent and cannot be independently verified because Cambridge Associates does not identify the funds included in the index. Because Cambridge Associates recalculates the index each time a new fund is added, the historical performance of the index is not fixed, can't be replicated and will differ over time from the day presented. The returns shown are net of fees, expenses and carried interest. Index returns do not represent fund performance.

Global Hedge Funds. **HFRI Fund Weighted Composite Index.** A global, equal-weighted index of over 2,000 single-manager funds that report to HFR Database. Constituent funds report monthly net-of-all-fees performance in U.S. Dollars and have a minimum of $50 Million under management or a 12-month track record of active performance. The HFRI Fund Weighted Composite Index does not include Funds of Hedge Funds.

Relative Value. **HFRI Relative Value (Total) Index.** Strategy is predicated on realization of a valuation discrepancy in the relationship between multiple securities. Managers employ a variety of fundamental and quantitative techniques to establish

Disclosures *(continued)*

investment theses, and security types range broadly across equity, fixed income, derivative or other security types. Fixed income strategies are typically quantitatively driven to measure the existing relationship between instruments and, in some cases, identify attractive positions in which the risk adjusted spread between these instruments represents an attractive opportunity for the investment manager. Relative Value (RV) position may be involved in corporate transactions also, but as opposed to Event Driven (ED) exposures, the investment thesis is predicated on realization of a pricing discrepancy between related securities, as opposed to the outcome of the corporate transaction.

Arbitrage. **HFRI RV: Fixed Income Sovereign Index.** Includes strategies predicated on realization of a spread between related instruments in which one or multiple components of the spread is a sovereign fixed income instrument. Strategies employ an investment process designed to isolate attractive opportunities between a variety of fixed income instruments, typically realizing an attractive spread between multiple sovereign bonds or between a corporate and risk free government bond. Fixed Income Sovereign typically employ multiple investment processes including both quantitative and fundamental discretionary approaches and relative to other Relative Value Arbitrage sub-strategies, these have the most significant top-down macro influences, relative to the more idiosyncratic fundamental approaches employed.

Long/Short Credit. **HFRI RV: Fixed Income — Corporate Index.** Includes strategies predicated on realization of a spread between related instruments in which one or multiple components of the spread is a corporate fixed-income instrument. Strategies are designed to isolate attractive opportunities between a variety of fixed income instruments, typically realizing an attractive spread between multiple corporate bonds or between a corporate and risk free government bond. They typically involve arbitrage positions with little or no net credit market exposure, but are predicated on specific, anticipated idiosyncratic developments.

Structured Credit/Asset Backed. **HFRI RV: Fixed Income — Asset Backed Index.** Includes strategies predicated on realization of a spread between related instruments in which one or multiple components of the spread is a fixed-income instrument backed by physical collateral or other financial obligations (loans, credit cards) other than those of a specific corporation. Strategies are designed to isolate attractive opportunities between a variety of fixed income instruments specifically securitized by collateral commitments, which frequently include loans, pools and portfolios of loans, receivables, real estate, machinery or other tangible financial commitments. Investment thesis may be predicated on an attractive spread given the nature and quality of the collateral, the liquidity characteristics of the underlying instruments and on issuance and trends in collateralized fixed-income instruments, broadly speaking. In many cases, investment managers hedge, limit, or offset interest-rate exposure in the interest of isolating the risk of the position to strictly the disparity between the yield of the instrument and that of the lower-risk instruments.

Macro. **HFRI Macro (Total) Index.** Encompass a broad range of strategies predicated on movements in underlying economic variables and the impact these have on equity, fixed income, hard-currency, and commodity markets. Managers employ a variety of techniques, both discretionary and systematic analysis, combinations of top-down and bottom-up theses, quantitative and fundamental approaches and long- and short-term holding periods. Although some strategies employ RV techniques, Macro strategies are distinct from RV strategies in that the primary investment thesis is predicated on predicted or future movements in the underlying instruments rather than on realization of a valuation discrepancy between securities. In a similar way, while both Macro and equity hedge managers may hold equity securities, the overriding investment thesis is predicated on the impact movements in underlying macroeconomic variables may have on security prices, as opposed to Equity Hedge (EH), in which the fundamental characteristics on the company are the most significant are integral to investment thesis.

Systematic Macro. **HFRI Macro: Systematic Diversified Index.** Diversified strategies employing mathematical, algorithmic and technical models, with little or no influence of individuals over the portfolio positioning. Strategies are designed to identify opportunities in markets exhibiting trending or momentum characteristics across individual instruments or asset classes. Strategies typically employ quantitative processes which focus on statistically robust or technical patterns in the return series of the asset, and they typically focus on highly liquid instruments and maintain shorter holding periods than either discretionary or mean-reverting strategies. Although some strategies seek to employ counter-trend models, strategies benefit most from an environment characterized by persistent, discernible trending behavior. Typically have no greater than 35% of portfolio in either dedicated currency or commodity exposures over a given market cycle.

Discretionary Macro. **HFRI Macro: Discretionary Thematic Index.** Strategies primarily rely on the evaluation of market data, relationships and influences, as interpreted by individuals who make decisions on portfolio positions; strategies employ an investment process most heavily influenced by top-down analysis of macroeconomic variables. Investment Managers may trade actively in developed and emerging markets, focusing on both absolute and relative levels on equity markets, interest rates/fixed income markets, currency and commodity markets; they frequently employ spread trades to isolate a differential between instrument identified by the Investment Manager as being inconsistent with expected value. Portfolio positions typically are predicated on the evolution of investment themes the Manager expects to develop over a relevant time frame, which in many cases contain contrarian or volatility-focused components.

Event Driven. **HFRI Event Driven (Total) Index.** Maintains positions in companies currently or prospectively involved in corporate transactions of a wide variety including mergers, restructurings, financial distress, tender offers, shareholder buybacks, debt exchanges, security issuance or other capital structure adjustments. Security types can range from most senior in the capital structure to most junior or subordinated and frequently involve additional derivative securities. Exposure includes a combination of sensitivities to equity markets, credit markets and idiosyncratic, company-specific developments. Investment theses are typically predicated on fundamental (as opposed to quantitative) characteristics, with the realization of the thesis predicated on a specific development exogenous to the existing capital structure.

Activist. **HFRI ED: Activist Index.** Strategies may obtain or attempt to obtain representation on the company's board of directors in an effort to impact the firm's policies or strategic direction and in some cases may advocate activities such as division or asset sales, partial or complete corporate divestiture, dividends or share buybacks, and changes in management. Strategies employ an investment process primarily focused on opportunities in equity and equity-related instruments of companies that are currently or prospectively engaged in a corporate transaction, security issuance/repurchase, asset sales, division spin-off or other catalyst-oriented situation. These involve both announced transactions and situations in which no formal announcement is expected to occur. Activist strategies would expect to have greater than 50% of the portfolio in activist positions, as described.

Distressed Credit. **HFRI ED: Distressed/Restructuring Index.** Strategies focus on corporate fixed-income instruments, primarily corporate credit instruments of companies trading at significant discounts to their value at issuance or obliged (par value) at maturity as a result of either formal bankruptcy proceedings or financial-market perception of near-term proceedings. Managers are typically actively involved with the management of these companies; they are frequently involved on creditors' committees in negotiating the exchange of securities for alternative obligations, either swaps of debt, equity or hybrid securities. Managers employ fundamental credit processes focused on valuation and asset coverage of securities of distressed firms; in most cases portfolio exposures are concentrated in instruments that are publicly traded, in some cases actively and in others under reduced liquidity but in general for which a reasonable public market exists. Strategies employ primarily debt (greater than 60%) but also may maintain related equity exposure.

Merger Arbitrage. **HFRI ED: Merger Arbitrage Index.** Strategies primarily focus on opportunities in equity and equity-related instruments of companies that are currently engaged in a corporate transaction. Merger Arbitrage involves primarily announced transactions, typically with limited or no exposure to situations in which no formal announcement is expected to occur. Opportunities are frequently presented in cross-border, collared, and international transactions that incorporate multiple geographic regulatory institutions, typically with minimal exposure to corporate credits. Strategies typically have over 75% of positions in announced transactions over a given market cycle.

Equity Hedge. **HFRI Equity Hedge (Total) Index.** Equity Hedge: Investment Managers who maintain positions both long and short in primarily equity and equity derivative securities. A wide variety of investment processes can be employed to arrive at an investment decision, including both quantitative and fundamental techniques; strategies can be broadly diversified or narrowly focused on specific sectors and can range broadly in terms of levels of net exposure, leverage employed, holding period, concentrations of market capitalizations and valuation ranges of typical portfolios. EH managers would typically maintain at least 50% exposure to, and may in some cases be entirely invested in, equities, both long and short.

Directional Equity. **HFRX EH: Multi-Strategy Index.** Managers maintain positions both long and short in primarily equity and equity-derivative securities. A wide variety of investment processes can be employed to arrive at an investment decision, including both quantitative and fundamental techniques; strategies can be broadly diversified or narrowly focused on specific sectors and can range broadly in terms of levels of net exposure, leverage, holding period, concentrations of market capitalizations, and valuation ranges of typical portfolios. Managers typically do not maintain more than 50% exposure to any one Equity Hedge sub-strategy.

Disclosures *(continued)*

Equity Market Neutral. **HFRI EH: Equity Market Neutral Index.** Strategies employ sophisticated quantitative techniques to analyze price data to ascertain information about future price movement and relationships between securities. These can include both Factor-based and Statistical Arbitrage/Trading strategies. Factor-based investment strategies include strategies predicated on the systematic analysis of common relationships between securities. In many cases, portfolios are constructed to be neutral to one or multiple variables, such as broader equity markets in dollar or beta terms, and leverage is frequently employed to enhance the return profile of the positions identified. Statistical Arbitrage/Trading strategies consist of strategies predicated on exploiting pricing anomalies which may occur as a function of expected mean reversion inherent in security prices; high-frequency techniques may be employed; trading strategies may also be based on technical analysis or designed opportunistically to exploit new information that the investment manager believes has not been fully, completely, or accurately discounted into current security prices. Strategies typically maintain characteristic net equity market exposure no greater than 10% long or short.

Note: While the HFRI Indices are frequently used, they have limitations (some of which are typical of other widely used indexes). These limitations include survivorship bias (the returns of the indexes may not be representative of all the hedge funds in the universe because of the tendency of lower performing funds to leave the index); heterogeneity (not all hedge funds are alike or comparable to one another, and the index may not accurately reflect the performance of a described style); and limited data (many hedge funds do not report to indexes, and, therefore, the index may omit funds, the inclusion of which might significantly affect the performance shown. The HFRI Indices are based on information hedge fund managers decide on their own, at any time, whether or not they want to provide, or continue to provide, information to HFR Asset Management, L.L.C. Results for funds that go out of business are included in the index until the date that they cease operations. Therefore, these indexes may not be complete or accurate representations of the hedge fund universe, and may be biased in several ways. Returns of the underlying hedge funds are net of fees and are denominated in USD.

Liquid alternatives — index definitions

Liquid alternatives are represented by the **Wilshire Liquid Alternative Index**. The Wilshire Liquid Alternative Index measures the collective performance of the five Wilshire Liquid Alternative strategies that make up the Wilshire Liquid Alternative Universe. The Wilshire Liquid Alternative Index is designed to provide a broad measure of the liquid alternative market by combining the performance of the Wilshire Liquid Alternative Equity Hedge Index, Wilshire Liquid Alternative Global Macro Index, Wilshire Liquid Alternative Relative Value Index, Wilshire Liquid Alternative Multi-Strategy Index and the Wilshire Liquid Alternative Event Driven Index.

Wilshire Liquid Alternative Equity Hedge Index measures the performance of the equity hedge strategy component of the Wilshire Liquid Alternative Index. Equity hedge investment strategies predominantly invest in long and short equities.

Wilshire Liquid Alternative Event Driven Index measures the performance of the event driven strategy component of the Wilshire Liquid Alternative Index. Event driven strategies predominantly invest in companies involved in corporate transactions such as mergers, restructuring, distressed, buy backs, or other capital structure changes.

Wilshire Liquid Alternative Global Macro Index measures the performance of the global macro strategy component of the Wilshire Liquid Alternative Index. Global macro strategies predominantly invest in situations driven by the macro-economic environment across the capital structure as well as currencies and commodities.

Wilshire Liquid Alternative Relative Value Index measures the performance of the relative value strategy component of the Wilshire Liquid Alternative Index. Relative value strategies are focused on the valuation discrepancy in the relationships between markets or securities.

Asset class index definitions

Fixed income representative indexes

Bloomberg Barclays U.S. Corporate High Yield Index covers the universe of fixed-rate, noninvestment-grade debt.

U.S. Taxable Investment Grade Fixed Income. **Bloomberg Barclays US Aggregate Bond Index** is a broad-based measure of the investment grade, U.S. dollar-denominated, fixed-rate taxable bond market.

Short Term Taxable Fixed Income. **Bloomberg Barclays US Aggregate 1-3 Year Bond Index** is the one to three year component of the Barclays US Aggregate Index, which represents fixed-income securities that are SEC-registered, taxable, dollar-denominated, and investment-grade.

Intermediate Term Taxable Fixed Income. **Bloomberg Barclays US Aggregate 5-7 Year Bond Index** is composed of the Bloomberg Barclays US Government/Credit Index and the Bloomberg Barclays US Mortgage-Backed Securities Index, and includes Treasury issues, agency issues, corporate bond issues, and mortgage-backed securities with maturities of 5-7 years.

Long Term Taxable Fixed Income. **Bloomberg Barclays US Aggregate 10+ Year Bond Index** is composed of the Bloomberg Barclays US Government/Credit Index and the Bloomberg Barclays US Mortgage-Backed Securities Index, and includes Treasury issues, agency issues, corporate bond issues, and mortgage-backed securities with maturities of 10 years or more.

Cash Alternatives/Treasury Bills. **Bloomberg Barclays US Treasury Bills (1–3M) Index** is representative of money markets.

U.S. Treasury. **Bloomberg Barclays US Treasury Index** includes public obligations of the U.S. Treasury with a remaining maturity of one year or more.

U.S. Municipal Bond. **Bloomberg Barclays Municipal Index** is considered representative of the broad market for investment grade, tax-exempt bonds with a maturity of at least one year.

U.S. Commercial Mortgage Backed Securities. **Bloomberg Barclays US CMBS Index** measures the investment-grade market of US Agency and US Non-Agency conduit and fusion CMBS deals.

U.S. Investment Grade Corporate Fixed Income. **Bloomberg Barclays US Corporate Bond Index** measures the investment grade, fixed-rate, taxable corporate bond market. It includes USD denominated securities publicly issued by US and non-US industrial, utility and financial issuers.

U.S. TIPS. **Bloomberg Barclays US TIPS Index** represents Inflation-Protection securities issued by the U.S. Treasury.

U.S. Government Agencies. **Bloomberg Barclays US Agency Index** includes native currency agency debentures from issuers such as Fannie Mae, Freddie Mac, and Federal Home Loan Bank.

U.S. Government. **Bloomberg Barclays US Government Bond Index** includes U.S.-dollar-denominated, fixed-rate, nominal U.S. Treasury securities and U.S. agency debentures.

Credit. **Bloomberg Barclays US Credit Index** includes investment-grade, U.S.-dollar- denominated, fixed-rate, taxable corporate- and government-related bonds.

Securitized. **Bloomberg Barclays US Mortgage Backed Securities (MBS) Index** includes agency mortgage backed pass-through securities (both fixed-rate and hybrid ARM) guaranteed by Ginnie Mae (GNMA), Fannie Mae (FNMA), and Freddie Mac (FHLMC).

High Yield Taxable Fixed Income. **Bloomberg Barclays US Corporate High-Yield Index** covers the universe of fixed-rate, non-investment-grade debt.

Developed Market Ex-U.S. Fixed Income (Unhedged). **J.P. Morgan GBI Global ex-US Index (Unhedged)** in USD is an unmanaged index market representative of the total return performance in U.S. dollars on an unhedged basis of major non-U.S. bond markets.

Developed Market Ex-U.S. Fixed Income (Hedged). **J.P. Morgan Non-U.S. Global Government Bond Index (Hedged)** is an unmanaged market index representative of the total return performance, on a hedged basis, of major non-U.S. bond markets. It is calculated in U.S. dollars.

Emerging Market Fixed Income (U.S. dollar). **J.P. Morgan Emerging Markets Bond Index (EMBI Global)** currently covers more than 60 emerging market countries. Included in the EMBI Global are U.S.-dollar-denominated Brady bonds, Eurobonds, traded loans, and local market debt instruments issued by sovereign and quasi-sovereign entities.

Emerging Market Fixed Income (Local Currency). **J.P. Morgan Government Bond Index-Emerging Markets Global** is a comprehensive global local emerging markets index, and consists of regularly traded, liquid fixed-rate, domestic currency government bonds.

Preferred Stock. **S&P U.S. Preferred Stock Index** is designed to measure the performance of the U.S. preferred stock market. Preferred stocks pay dividends at a specified rate and receive preference over common stocks in terms of dividend payments and liquidation of assets.

Disclosures *(continued)*

Equity representative indexes

U.S. Large Cap Equities. **S&P 500 Index** is a capitalization-weighted index calculated on a total return basis with dividends reinvested. The index includes 500 widely held U.S. market industrial, utility, transportation and financial companies.

U.S. Large Cap Equities (Growth). **Russell 1000 Growth Index** measures the performance of the large-cap growth segment of the U.S. equity universe. It includes those Russell 1000 companies with higher price-to-book ratios and higher forecasted growth values.

U.S. Large Cap Equities (Value). **Russell 1000 Value Index** measures the performance of the large-cap value segment of the U.S. equity universe. It includes those Russell 1000 companies with lower price-to-book ratios and lower expected growth values.

U.S. Mid Cap Equities. **Russell Midcap Index** measures the performance of the mid-cap segment of the U.S. equity universe.

U.S. Mid Cap Equities (Growth). **Russell Midcap Growth Index** measures the performance of the mid-cap growth segment of the U.S. equity universe. It includes those Russell Midcap Index companies with higher price-to-book ratios and higher forecasted growth values.

U.S. Mid Cap Equities (Value). **Russell Midcap Value Index** measures the performance of the mid-cap value segment of the U.S. equity universe. It includes those Russell Midcap Index companies with lower price-to-book ratios and lower forecasted growth values.

Communication Services Index (Comm Svc): The Communication Services Index comprises those companies included in the S&P 500 that are classified as members of the GICS® communication services sector.

Consumer Discretionary Index (Cons Disc): The Consumer Discretionary Index comprises those companies included in the index that are classified as members of the GICS® consumer discretionary sector.

Consumer Staples Index (Cons Stap): The Consumer Staples Index comprises those companies included in the index that are classified as members of the GICS® consumer staples sector.

Energy Index: The Energy Index comprises those companies included in the index that are classified as members of the GICS® energy sector.

Financials Index (Fncls): The Financials Index comprises those companies included in the index that are classified as members of the GICS® financials sector.

Health Care Index (HC): The Health Care Index comprises those companies included in the index that are classified as members of the GICS® health care sector.

Industrials Index (Indust): The Industrials Index comprises those companies included in the index that are classified as members of the GICS® industrials sector.

Information Technology Index (IT): The Information Technology Index comprises those companies included in the index that are classified as members of the GICS® information technology sector.

Materials Index (Matrls): The Materials Index comprises those companies included in the index that are classified as members of the GICS® materials sector.

Utilities Index (Utils): The Utilities Index comprises those companies included in the index that are classified as members of the GICS® utilities sector.

Real Estate Index: The Real Estate Index comprises those companies included in the index that are classified as members of the GICS® real estate sector.

U.S. Small Cap Equities. **Russell 2000 Index** measures the performance of the 2,000 smallest companies in the Russell 3000® Index, which represents approximately 8% of the total market capitalization of the Russell 3000 Index.

U.S. Small Cap Equities (Growth). **Russell 2000 Growth Index** measures the performance of the small-cap growth segment of the U.S. equity universe. It includes those Russell 2000 companies with higher price-to-value ratios and higher forecasted growth values.

U.S. Small Cap Equities (Value). **Russell 2000 Value Index** measures the performance of the small-cap value segment of the U.S. equity universe. It includes those Russell 2000 companies with lower price-to-book ratios and lower forecasted growth values.

Developed Market Ex-U.S. Equities (U.S. dollar)/(Local). **MSCI EAFE Index** is a free float-adjusted market capitalization index that is designed to measure the equity market performance of 21 developed markets, excluding the U.S. and Canada.

Developed Market Small Cap Equity (U.S. Dollar). **MSCI EAFE Small Cap Gross Total Return USD (M2EASC Index)** is an equity index which captures small cap representation across developed markets countries around the world, excluding the U.S. and Canada. With 2,358 constituents, the index covers approximately 14% of the free float-adjusted market capitalization in each country. Returns measured in U.S. Dollars.

Developed Market Small Cap Equity (Local Currency). **MSCI EAFE Small Cap Gross Total Return Local Index (GCLDEAFE Index)** is an equity index which captures small cap representation across developed markets countries around the world, excluding the U.S. and Canada. With 2,358 constituents, the index covers approximately 14% of the free float-adjusted market capitalization in each country. Priced in MSCI LCL Currency.

Emerging Market Equities (U.S. dollar)/(Local). **MSCI Emerging Markets Index** is a free float-adjusted market capitalization index that is designed to measure equity market performance of 23 emerging markets.

Frontier Market Equities (U.S. dollar)/(Local). **MSCI Frontier Markets Index** is a free float-adjusted market capitalization index that is designed to measure equity market performance of 24 frontier (least developed) markets.

MSCI All Country World Index (MSCI ACWI) is a free float-adjusted market capitalization weighted index that is designed to measure the equity market performance of 23 developed and 23 emerging markets.

MSCI Israel Index is designed to measure the performance of the large and mid cap segments of the Israeli equity market. With 12 constituents, the index covers approximately 85% of the free float-adjusted market capitalization in Israel.

MSCI China Index captures large and mid cap representation across China A shares, H shares, B shares, Red chips, P chips and foreign listings (e.g. ADRs).

MSCI Hong Kong Index is designed to measure the performance of the large and mid cap segments of the Hong Kong market.

MSCI Sweden Index is designed to measure the performance of the large and mid cap segments of the Swedish market.

MSCI Turkey Index is designed to measure the performance of the large and mid cap segments of the Turkish market.

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Real assets representative indexes

Public Real Estate. **FTSE EPRA/NAREIT Developed Index** is designed to track the performance of listed real-estate companies and REITs in developed countries worldwide.

Private Real Estate. The **NCREIF Property Index** is a quarterly time series composite total rate of return measure of investment performance of a very large pool of individual commercial real estate properties acquired in the private market for investment purposes only.

Domestic REITs. **FTSE NAREIT US All Equity REITs Index** is designed to track the performance of REITs representing equity interests in (as opposed to mortgages on) properties. It represents all tax-qualified REITs with more than 50% of total assets in qualifying real estate assets, other than mortgages secured by real property that also meet minimum size and liquidity criteria.

International REITs. **FTSE EPRA/NAREIT Developed ex US Index** is designed to track the performance of listed real estate companies in developed countries worldwide other than the United States.

Infrastructure. The **S&P Global Infrastructure Index** is designed to track 75 companies from around the world chosen to represent the listed infrastructure industry while maintaining liquidity and tradability. To create diversified exposure, the index includes three distinct infrastructure clusters: energy, transportation, and utilities.

MLPs. **Alerian MLP Index** is a composite of the 50 most prominent energy Master Limited Partnerships (MLPs) that provides investors with an unbiased, comprehensive benchmark for this emerging asset class. The index, which is calculated using a float-adjusted, capitalization-weighted methodology, is disseminated real-time on a price-return basis and on a total-return basis.

Commodities (BCOM). **Bloomberg Commodity Index** is comprised of 23 exchange-traded futures on physical commodities weighted to account for economic significance and market liquidity.

Disclosures *(continued)*

Bloomberg Commodity Total Return Index is composed of futures contracts and reflects the returns on a fully collateralized investment in the Bloomberg Commodity Index (BCOM). This combines the returns of the BCOM with the returns on cash collateral invested in 13 week (3 Month) U.S. Treasury Bills.

Bloomberg Agriculture Subindex is a commodity group subindex of the Bloomberg Commodity Index. It is composed of futures contracts on coffee, corn, cotton, soybeans, soybean oil, soybean meal, sugar and wheat. It reflects the return of the underlying commodity futures and is quoted in USD.

Bloomberg Energy Subindex is a commodity group subindex of the Bloomberg Commodity Index. It is composed of futures contracts on crude oil, ultra-low sulfur diesel, unleaded gasoline, low sulphur gasoil, and natural gas. It reflects the return of the underlying commodity futures and is quoted in USD.

Bloomberg Industrial Metals Subindex is a commodity group subindex of the Bloomberg Commodity Index. It is composed of futures contracts on aluminum, copper, nickel and zinc. It reflects the return of the underlying commodity futures and is quoted in USD.

Bloomberg Precious Metals Subindex is a commodity group subindex of the Bloomberg Commodity Index. It is composed of futures contracts on gold and silver. It reflects the return of the underlying commodity futures and is quoted in USD.

Commodities (S&P GSCI). **S&P Goldman Sachs Commodity Index** serves as a benchmark for investment in the commodity markets and as a measure of commodity performance over time. It is a tradable index that is readily available to market participants of the Chicago Mercantile Exchange. The index was originally developed by Goldman Sachs.

Commodities (RICI). **Rogers International Commodity Index** is a U.S. dollar based index representing the value of a basket of commodities consumed in the global economy. Representing futures contracts on 37 physical commodities, it is designed to track prices of raw materials not just in the U.S. but around the world.

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