WELLS FARGO
Investment Institute

Asset Allocation Strategy

April 18, 2022

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Preparing portfolios for higher interest rates

History does not always repeat itself, but the story often rhymes — the protagonist of this story is monetary policy. The impact of central bank intervention may not always be favorable for markets, particularly in the short-term, yet effective monetary policy is seen as essential in helping to guide economies back on course for growth and financial stability. Adjustments in interest rates, up or down, can cause immediate and enduring impacts to financial markets. Implications from changes in interest rates can be complex and confusing for investors to understand.

In uncertain times, people often become anxious. Information is a powerful tool, and for investors, gaining a better understanding of the current economic conditions and Federal Reserve (Fed) actions can help to assuage those worries. The Fed made a move to tighten monetary policy last month by raising interest rates by 0.25% for the first time since 2018. A rising interest-rate environment can prompt a series of questions for investors: *Why do interest rates need to rise? What are the economic and market implications of higher rates? Which investment strategies can help insulate a portfolio when rates begin to rise?*

March madness and Fed intervention

The Russia-Ukraine war is the latest uncertainty for investors to digest during the volatile opening quarter of 2022. The war in Ukraine has exacerbated inflation, supply chain uncertainty, energy prices, among other factors. These geopolitical and macroeconomic forces have fostered an unpredictable atmosphere, making the trajectory of the recovery uneven.

In the U.S., we are seeing an uncharacteristically hawkish Fed, sending signals to the market for more rate hikes and a swifter implementation of policy tightening. The market has responded to the possibility of a Fed policy mistake with large sell offs in the long-term bond market offset by sizeable amounts of money moving into short-term bonds. This has effectively flattened the yield curve. We have seen 2-year bond yields rise above 10-year bond yields (or invert) recently. While we do not think a recession is imminent, yield curve inversions have historically been strong predictors of recessions.

What do higher rates mean for consumers and investors?

During periods of low interest rates, the borrowing and spending activity of consumers tends to increase, potentially pushing up inflation. To combat this, central banks can raise their policy lending rates to help reduce borrowing, lending, and spending activity. From March 2020 to March 2022, the U.S. fed funds rate remained at historic lows (between 0.00%-0.25%). Today, the Fed has committed to using its tools to combat inflation, with the market pricing in at least seven rate hikes in 2022.

Rising interest rates can mean different things for investors with different investment philosophies or who are at different stages of their life. Fixed income investors will likely see performance dips when either short-term or long-term interest rates increase. Duration, a measure of the sensitivity of a bond's price to change in interest rates, is another key measure for bond investors to monitor during rising-rate environments. Prices of longer maturity bonds are generally more sensitive to increases in long-term interest rates. The graphic below illustrates the effects of interest rate rises on the duration of bonds.

Duration is one measure of the sensitivity of a bond's price to a change in interest-rate movements. The calculation can be used by investors to approximate the percentage change in price for instantaneous 1-percent parallel shift in the yield curve.

(Continued on the next page.)

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Preparing portfolios for higher interest rates (continued)

Proactively positioning your portfolio

Fixed income investors can position themselves more defensively in rising-rate environments by decreasing the duration of bonds in their portfolios, typically exchanging long-term maturity sensitivity for lower yield performance. Investors can also transition to premium bond holdings that historically have been less interest-rate sensitive, but have also tended to offer lower yields.

There is still much uncertainty ahead for the global economy as the effects of the pandemic linger and geopolitical tensions remain elevated. The impact of these influences on economic conditions can cause a shift in the Fed's outlook on U.S. monetary policy. Although the outlook of the global economy has become increasingly difficult to predict, we encourage long-term investors to remain invested and appropriately match their portfolio risk to their investment objective. We believe that diversifying across fixed-income classes, maturities, and sectors will help smooth out portfolio volatility in this rising interest-rate environment. As we navigate this shift in monetary policy, we encourage you to focus on what you can control and reach out to your investment professional with questions regarding the market conditions or your investment strategy.

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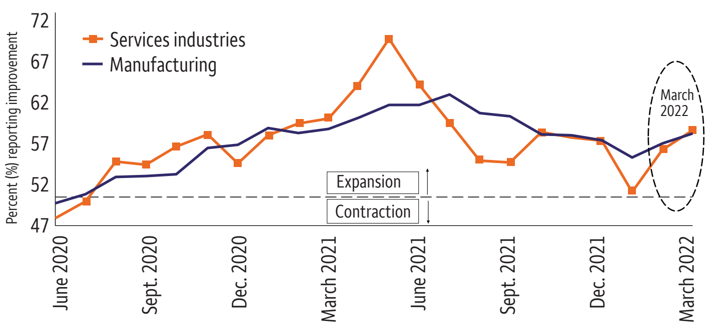
Global economic summary

United States

The U.S. economy's post-Omicron reopening was in full swing last month, judging from high-frequency data and March manufacturing and service-industry surveys. The expected springtime rebound started ahead of schedule, reinforced by ongoing strength in business investment. Strong capital-spending plans through March supporting the investment outlook are one indication that decelerating equipment orders more likely are a shift to a sustainable pace than an unwinding of the investment recovery. Support for the growth recovery has also come from reduced supply-chain disruptions during the opening months of the year. This has been signaled by declining freight rates and by solid growth of inventories and imports. Ample liquidity is another growth tailwind, propelled by rapid money growth, a low level of financial stress, and by historically low and negative inflation-adjusted interest rates gauging the true impact of borrowing costs on economic activity.

U.S. purchasing manager indexes still flashing growth in the first quarter



Sources: IHS Markit, Inc. and Wells Fargo Investment Institute. Data as of March 31, 2022.

Still, growth headwinds were becoming increasingly apparent late in the first quarter. Home sales through February and weekly mortgage applications show rising interest rates already weighing on housing activity. Supply-chain disruptions are set to intensify, again, due to Omicron-related lockdowns in China, the war in Ukraine, and the latest wave of the pandemic domestically and in Europe. Perhaps most importantly, inflation's near-8% rate in February compared to a year ago continued to outpace wage increases of less than 5.5% during the period. Solid job growth through March offset declines in households' inflation-adjusted incomes (or purchasing power), but consumer spending still was virtually flat in the three months to February after adjusting for inflation.

Europe

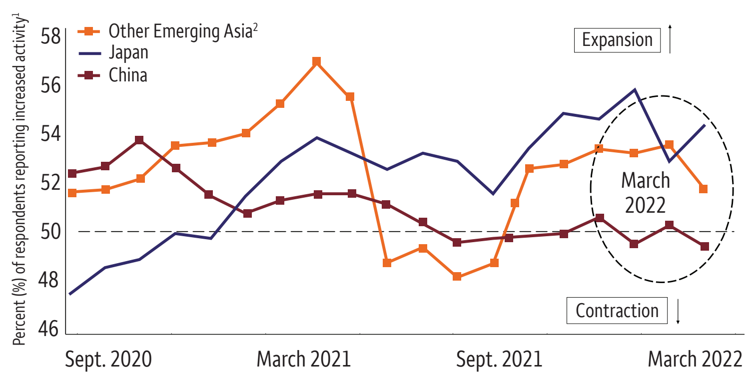
Cracks in Europe's growth recovery began to appear late in the first quarter, as the region dealt with a one-two punch from the war in Ukraine along with the latest wave of the pandemic on global supply chain disruptions and on exports to China. Slippage in March business surveys of manufacturing and services activity left the overall composite down from the previous month but still consistent with moderate economic growth. The region is at ground zero in exposure to energy and other commodities tied to the war and to sanctions on Russia, whose full impact has been anticipated by a deep dive in March business and consumer confidence and expectations. Mounting inflation pressures and supply-chain disruptions tied to the war and pandemic pose a threat to regional growth through their effect on household purchasing power and consumer spending and, less directly, by pressuring a still-"dovish" European Central Bank to move more aggressively toward interest-rate increases.

Asia

Trade-sensitive economies in Asia are struggling with the same growth headwinds as the rest of the world. In particular, exposure to China's lockdowns in key production and logistics centers slowed manufacturing and services activity in March, despite the start of monetary stimulus by the country's central bank.

Elsewhere in Asia, domestic activity is finding some support from reduced COVID-19 restrictions on services industries, though manufacturing growth in emerging Asian economies also slowed in response to global headwinds to trade. Taiwan's slowdown last month was limited by strong semiconductor exports, while South Korea was hurt by slumping auto sales abroad. Japan's economic reopening has cushioned a growth slowdown there, but not by enough to prevent a third straight month, of weakening business activity led by the services sector. The good news for emerging Asia is that currency declines against the dollar have been fairly modest, limiting the impact of imported inflation on local economies.

China's COVID-19 outbreak an added headwind for manufacturing



1. Purchasing managers' composite index of manufacturing activity.
2. Average of manufacturing indexes in Malaysia, South Korea, Taiwan, and Vietnam.
Sources: IHS Markit, Inc. and Wells Fargo Investment Institute. Data as of April 1, 2022.

Key economic statistics

Global growth rates[1]	4Q21	3Q21	2Q21
U.S. real economic growth	5.5	4.9	12.2
Eurozone real economic growth	4.6	4.0	14.6
Japanese real economic growth	0.4	1.2	7.3
Chinese real economic growth	4.0	4.9	7.9

U.S. economic data	03/22	02/22	03/21
Unemployment rate (%)	3.6	3.8	6.0
Manufacturing Purchasing Managers' Index (PMI) (%)	57.1	58.6	63.7
Services PMI (%)	58.3	56.5	62.2
Retail sales (month-to-month % change)	–	0.3	11.4
Consumer confidence (1985 = 100)	107.2	105.7	114.9
Housing starts (millions; annualized)	–	1.77	1.73
U.S. Dollar Index[2]	98.3	96.7	93.2
U.S. Consumer Price Index (CPI) (%)[1]	8.5	7.9	2.6
U.S. core CPI (%)[1]	6.4	6.4	1.7
Personal consumption expenditures (PCE) deflator (%)[1]	–	6.4	2.5

Sources: Bloomberg, March 31, 2022 [1]Year-ago percent change.; [2] Weighted exchange rate against 6 major currencies, March 1973=100.
See end of report for important definitions and disclosures.

Wells Fargo Investment Institute forecasts

Gross domestic product (GDP) growth: A more challenging economic outlook has prompted downward revisions to growth targets here and abroad, including a eurozone recession sometime during the second half of the year. The U.S. and global economies appear to have entered the late stage of an economic cycle that began just two years ago, or about half the average interval for economic growth. Credit that to bottlenecks created by a strong recovery along with a series of outside shocks from the virus and from the war in Ukraine aggravating inflation. COVID-19 poses a direct and indirect threat to economic growth, by disrupting economic activity, squeezing household purchasing power and by encouraging aggressive interest-rate increases by the Federal Reserve.

We expect economic growth to turn modest during the second half of the year following a moderate, second-quarter growth recovery. Why no recession in the U.S.? Lower exposure to the Russia-Ukraine war and less dependence on Russian trade distinguishes us from Europe. Rapid job growth, responding to labor shortages, will counter the squeeze on household purchasing power in supporting consumer-led increases in economic activity. We are also counting on still-ample funding in the financial market to lubricate economic growth, until interest-rate increases begin to bite. The principle risk to the economic outlook centers on interest-rate increases aggressive enough to trigger a hard landing by an economy that has grown increasingly interest-sensitive over the past 10-15 years in alignment with ultra-low financing costs.

Inflation: Disruptions from the pandemic and from the Russia-Ukraine war lifted inflation in March to a December 1981 high of 8.5%.Pressure on prices of food, fuel, and other commodities has aggravated goods inflation that was already feeling the effects of supply-chain disruptions and tight supply-demand conditions before the pandemic. Labor-intensive services inflation is feeling the heat from worker shortages pressuring wages in services industries. The services sector is already feeling the effects of the economy's reopening on prices in travel, entertainment, and other frontline industries. The accelerating rental inflation from the housing shortage is adding to inflation pressures through an accelerated rise in rents, accounting for nearly 30% of the CPI. We believe inflation will peak sometime during the summer and average close to 7% for 2022. Just when and at what level that peak will be depends on when outside shocks will subside and on the economy's growth trajectory affecting demand for goods and services.

Global economy

	Latest (%)	2022 YE targets (%)
U.S. GDP growth	5.7	▼ 2.6
U.S. inflation	8.5[2]	6.8
U.S. unemployment rate	3.6[2]	3.4
Global GDP growth	5.9	▼ 3.1
Developed market GDP growth	5.1	▼ 2.2
Developed market inflation	3.6	5.7
Emerging market GDP growth	6.5	3.8
Emerging market inflation	3.7	5.5
Eurozone GDP growth	4.6	2.0
Eurozone inflation	7.5[2]	6.0

Sources: Bloomberg, Wells Fargo Investment Institute. All latest numbers are year-to-year, except the unemployment rate, which is a level. The targets for 2022 are based on forecasts by Wells Fargo Investment Institute as of April 18, 2022. YE = year-end.

1. As of February 28, 2022.

2. As of March 31, 2022.

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

Labor market conditions: A red-hot labor market through the first quarter also provided hints that worker shortages are beginning to ease. Accelerating wage increases and a jobless rate of 3.6% in March left little doubt that labor supply remained tight. Still, labor supply is responding to increasingly attractive wage gains and to the reduced threat from the pandemic, judging from March increases in the labor force, employment and in the labor-force participation rate. (The participation rate measures the percent of the working-age population with a job or actively looking for one). Slippage in the average workweek last month also could be taken as a sign that employers were under less pressure to stretch existing employees to meet production goals. Our view, however, is that the recovery of labor-intensive services industries, as part of the economic reopening, will pressure labor demand and wages. Much like inflation, whether or not the unemployment rate breaks below our 3.4% target for the closing months of 2022 will depend on the extent to which labor demand slows with second-half growth.

Wells Fargo Investment Institute forecasts (continued)

Interest rates: Our economic outlook continues to suggest that a trend toward higher rates will continue throughout 2022. Central bank policy and inflation surprises are likely to be the most important drivers of rates during the year. We look for the Fed to hike rates six times in 2022, bringing our federal funds rate target range to be between 1.50% and 1.75%. We also expect stronger U.S. inflation expectations and economic growth to push longer-term rates higher from current levels. Our 10-year target range is 2.00% to 2.50% for year-end 2022. Our 30-year target range is 2.25% to 2.75% for year-end 2022.

We 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 data, coronavirus developments, and monetary policy tightening continue to unfold.

Equities: We are lowering our year-end 2022 earnings per share (EPS) and price targets for all equity benchmark indices. Our revised forecast for higher inflation and lower GDP growth is expected to put modest downward pressure on 2022 earnings growth estimates. Although the fourth quarter was solid from an EPS perspective, forward guidance was mixed with lingering concerns about supply chains, input costs, and the tight labor market. These factors are likely to weigh on margins in the coming quarters, leading to a forecast of moderately lower earnings growth than originally anticipated.

Our 2022 year-end EPS target is $225 with a price target range midpoint of 4800. Our 2022 full-year earnings targets for the Russell Midcap and Russell 2000 (small-cap) Indexes are $155 and $85, respectively. Our price midpoint for the Russell Midcap Index is 3300, and our midpoint is 2150 for the Russell 2000 Index.

A persistently firm dollar and the fallout from the war in Ukraine could be a headwind for international equities in 2022. We've reduced our earnings targets to $140 and $90 for the MSCI EAFE Index and the MSCI EM Index, respectively. Our 2022 year-end price targets midpoints are 2100 and 1150 for EAFE and Emerging Markets, respectively.

Commodities: Commodities' markets have tightened considerably and nearly across the board. Overall demand for commodities remains robust and supply constrained. The Russia-Ukraine war threatens to tighten the markets even further as the area is a key supplier of major energy, metals, and agriculture commodities. Yet, given the substantial rally in prices to date, we see the risk/reward profile as less attractive and have downgraded Commodities from favorable to neutral.

We have raised our year-end crude oil price target ranges to account for a widening imbalance between supply and demand. Demand already is strong and we expect it to strengthen as COVID restrictions ease further and travelers take to the skies. Supply, however, is likely to remain mostly unresponsive. Rather than maximizing production in this environment, U.S. drillers have shored up their balance sheets and returned cash to shareholders, as the industry has transitioned from the pump-at-will days in past cycles to now capital discipline. Meanwhile, Saudi Arabia, Russia, and the rest of OPEC+[1] are unlikely to risk pushing prices lower by aggressively adding new supply. Prices could overshoot our new targets if Russia, the world's second-leading oil producer, suffers production impairments. As prices venture further above $100/barrel, we do expect additional production activity, but in small increments by comparison with earlier cycles.

After facing numerous headwinds in 2021, gold's path higher looks clearer in 2022. Moderating equity market returns as well as investor concerns about inflation and volatility risks may bring the market's focus and flows back to the yellow metal in 2022. Our 2022 year-end target is $2,000–$2,100.

Global fixed income (%)	Latest	2022 YE target
10-year U.S. Treasury yield	2.34	2.00–2.50
30-year U.S. Treasury yield	2.45	2.25–2.75
Fed funds rate	0.25–0.50	1.50–1.75

Currencies	Latest	2022 YE target
Dollar/euro exchange rate	$1.11	$1.02–$1.10
Yen/dollar exchange rate	¥121.7	¥114–¥124

Global equities	Latest	2022 YE target
S&P 500 Index	4530	4700–4900
S&P 500 earnings per share ($)	210	225
Russell Midcap Index	3120	3200–3400
Russell Midcap earnings per share ($)	141	155
Russell 2000 Index	2070	2050–2250
Russell 2000 earnings per share ($)	70	85
MSCI EAFE Index	2182	2000–2200
MSCI EAFE earnings per share ($)	147	140
MSCI Emerging Markets (EM) Index	1142	1050–1250
MSCI EM earnings per share ($)	94	90

Global real assets	Latest	2022 YE target
WTI crude oil price ($ per barrel)	$100	$120–$140
Brent crude oil price ($ per barrel)	$108	$125–$145
Gold price ($ per troy ounce)	$1,949	$2,000–$2,100
Commodities	266	275–295

Sources: FactSet, Bloomberg, Wells Fargo Investment Institute, as of March 31, 2022. The targets are Wells Fargo Investment Institute forecasts, as of April 18, 2022. 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.

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

Fixed income

Market observations

Most fixed-income markets displayed negative performance in March, extending the decline experienced since the beginning of the year as the Federal Reserve's (Fed) pivot toward tightening caused yields to increase and credit spreads to widen. Leveraged loans (0.05%) was the only positive U.S. sector during the month. Long-term taxable fixed income was the worst performing asset class (-3.9%), followed by Treasuries (-3.1%), given their longer duration exposure.[1] Emerging market (EM) and developed market (DM) sovereign bonds displayed negative returns in March, mostly due to the stronger U.S. dollar.

Short-term U.S. Treasury yields continued to move higher during the month on the expectation that the Fed would continue to hike policy rates several times in 2022 in an effort to combat inflation. The Fed effectively finished with quantitative easing on March 11 and hiked its target rate by 25 basis points (0.25%) at the March 16 meeting. Expectations are building up for a 50 basis point rate hike at the May meeting.

U.S. fixed income: Yields of U.S. Treasury securities rose further across the board during the month. However, the faster increase on the short-end caused the yield curve to flatten. We believe that U.S. Treasury yields will continue to climb higher in 2022, supported by strong economic growth and higher inflation expectations. However, we expect yield volatility to remain a regular theme throughout 2022, especially as the Fed prepares to shrink its balance sheet.

Both high-yield (HY) (-1.15%) and investment-grade (IG) corporates (-2.5%) struggled in March, as risk appetite decreased. IG and HY credit spreads were volatile during the month; although spreads tightened in the second half of the month, they remain above the most recent lows. We recommend a neutral exposure to IG and HY corporates for investors seeking yield exposure, but believe selectivity and thorough credit research remain crucial.

Rising municipal bond yields across the curve were the main contributor to the negative performance for municipals (-3.25%) last month, coupled with a slight turn in sentiment as evidenced by outflows as well. Still, we remain favorable on municipals. For investors in higher effective tax brackets, we think municipal securities remain relevant and an important part of fixed-income positioning.

Developed markets: Higher U.S. Treasury yields and expectations of European Central Bank (ECB) tightening pushed yields up in March, so hedged returns were negative once again (-1.6%). Currency declines added to losses for unhedged DM bonds (-3.9%) as euro, pound, and especially the yen were weaker on fuel price vulnerability among other factors. Conversely, commodity exporters performed better, but only the New Zealand bond market saw positive returns in U.S. dollar terms.

Emerging markets: Firmer EM currencies, especially in Latin America, limited losses on local-currency denominated bonds to just -0.7% for the dollar-based investor (-2.6% year-to-date). Commodity exporters saw currencies appreciate thanks to a terms-of-trade boost from higher prices, while Eastern European countries, and economies vulnerable to higher fuel and food prices underperformed (Egypt was a notable example). Dollar-denominated debt did better than in February, as narrowing spreads partially offset the higher underlying U.S. Treasury yields, but returns were still negative, -1.1% on the month, taking year-to-date losses to -9.3%.

1. Duration is a measure of interest-rate sensitivity.

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

Fixed income index total returns (%)

	MTD	QTD	YTD	1 year	3 year	5 year
U.S. Taxable Inv Grade Fixed Income	-2.8	-5.9	-5.9	-4.2	1.7	2.1
U.S. Short Term Taxable	-1.4	-2.5	-2.5	-2.9	0.9	1.2
U.S. Intermediate Term Taxable	-2.9	-5.2	-5.2	-4.6	1.5	2.0
U.S. Long Term Taxable	-3.9	-11.0	-11.0	-3.1	4.2	4.6
U.S. Treasury Bills	0.0	0.0	0.0	0.1	0.7	1.1
U.S. Municipal Bonds	-3.2	-6.2	-6.2	-4.5	1.5	2.5
High Yield Taxable Fixed Income	-1.1	-4.8	-4.8	-0.7	4.6	4.7
DM Ex.-U.S. Fixed Income (Unhedged)	-3.9	-7.1	-7.1	-10.2	-1.3	0.7
DM Ex.-U.S. Fixed Income (Hedged)	-1.6	-4.1	-4.1	-3.8	0.9	2.3
EM Fixed Income (U.S. dollar)	-1.1	-9.3	-9.3	-6.2	0.5	1.7
EM Fixed Income (Local currency)[1]	-0.7	-2.6	-2.6	-1.3	1.6	1.7

Sources: Bloomberg, J.P. Morgan, March 31, 2022. 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 that 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 intermediate taxable fixed income 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.

The Russia-Ukraine war will likely exacerbate stagflationary pressures within Europe. With inflation remaining elevated, this may slow, but not derail, ECB policy normalization and rate rises elsewhere. Yields should, in our view, remain under upward pressure. Given this, we do not expect strong DM debt returns, especially as yields are generally lower than U.S. Treasury yields, and remain near zero or negative in much of the eurozone and Japan. 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).

Spreads over Treasuries for U.S. dollar-denominated EM sovereign debt have narrowed back from the widest points, and index yields have fallen back to levels only slightly higher than those prevailing before the Russia-Ukraine war. With Russia now removed from the index, and with underlying U.S. Treasury yields having risen significantly, both credit and duration risks for the asset class are reduced, and further losses should be limited. However, higher yields and limited contagion are offset by the broader EM environment: pre-existing headwinds of slowing global growth, higher inflation, reduced trade, and re-shoring of supply chains. These uncertainties and offsetting pressures keep us neutral for now.

Asset class guidance

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

Source: Wells Fargo Investment Institute, April 18, 2022. ▲: recent 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	Neutral
Securitized	Unfavorable
Residential MBS	Unfavorable
Commercial MBS	Favorable
Asset Backed Securities	Neutral
U.S. Municipal Bonds	Favorable
Taxable Municipal	Neutral
State and Local General Obligation	Neutral
Essential Service Revenue	Favorable
Pre-Refunded	Neutral

Source: Wells Fargo Investment Institute, April 18, 2022. MBS = mortgage-backed securities. See end of report for important definitions and disclosures.

Total sector returns (%)

Sector	1 month	Year to date	12 months
U.S. Government	-3.1	-5.5	-3.7
Credit	-2.5	-7.4	-4.2
Securitized	-2.6	-5.0	-4.9
U.S. Municipal Bonds	-3.2	-6.2	-4.5

Source: FactSet, March 31, 2022.
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. Although rates have managed to increase over the past two years, they remain at relatively low historical levels. We expect an increase in yield volatility throughout 2022 as the Fed begins to tighten monetary policy. We do not believe that the risk/reward profile merits positioning duration above or below benchmark levels at this time, especially given the uncertainty about prolonged wars or higher energy prices which could cause rapid swings in yields.

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 remain as the Fed prepares to shrink its balance sheet and the Treasury reduces issuance.

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, credit spreads remain well below long-term average levels, which 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 (Unfavorable): We believe that the strong pivot from the Fed toward a faster removal of accommodation coupled with the expectation for higher yields will remain a headwind for this sector. Still, 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 negative performance last month, as municipal yields increased across the curve and outflows continued. Still, we maintain a favorable view of municipal bonds and continue to believe that recent weakness in technical factors have created an opportunity for long term investors. Municipal-to-Treasury yield ratios widened significantly over the month as Treasury yields climbed. In early April, they stood at 89% for 10-year issues and at 102% for 30-year bonds. From a valuation perspective, municipal bonds appear slightly rich relative to history, but currently display better entry points as yield ratios have widened.

We currently favor a 2- to 11-year maturity range where investors can potentially pick up the greatest amount of incremental yield. We favor premium coupon structure, and we find value in the additional spread pickup offered in 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.

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

Equities

Market observations

U.S. equities: Equities experienced their worst quarter since 2020 as investors evaluated the economic outlook amid tightening monetary policy and the Russia-Ukraine war. Despite the tumultuous start to the year, the S&P 500 Index was able to produce positive returns in March, returning 3.7% (-4.6% YTD).

Strong free cash flow[1] helped to propel the acceleration of dividend increases. U.S. common stock dividend increases were $27.7 billion, up 34.8% from $20.6 billion in the fourth quarter of 2021 and up 36.3% from $20.3 billion a year ago.[2] Breadth improved in March but was largely negative for the rest of the quarter.

U.S. large-cap equities were the best performing U.S. equity class for the month, with 10 of 11 S&P 500 Index sectors ending the month positive. Utilities was the top performer for the month (+10.4%), benefitting from higher commodity prices. Financials was the only negative sector (-0.2%) as two-year yields outpaced the 30-year for the first time since 2007.

U.S. mid-cap (+2.6%) and small-cap (+1.2%) equities were the next two best performing equity classes. Energy led for both indexes, returning 11.2% for mid-cap and 16.7% for small-cap. Consumer Discretionary was the worst performing sector for the Russell Midcap (-3.0%) and Russell 2000 (-5.9%) Indexes.

International equities: U.S. dollar-denominated DM equities (+0.8%) outpaced EM (-2.2%) but still underperformed U.S. equities. The MSCI Australia Index (+11.1%) was the best performing DM index for another consecutive month. Business activity expanded in both the manufacturing and service sectors as restrictions related to COVID-19 eased. The MSCI Italy Index was the worst performer (-3.0%).

The MSCI Brazil Index was the best-performing EM index, returning 14.9% as commodity prices rallied and foreign investors piled in. The MSCI China Index (-8.0%) was the worst EM performer as China's ongoing lockdowns weighed on investor and consumer sentiment.

Wells Fargo Investment Institute perspective

As the markets digest transitioning Fed policy, slowing economic growth, and rising geopolitical tensions, we recommend focusing on quality in investment portfolios. This includes maintaining a bias toward U.S. equities over international equities. Within the U.S., we favor higher quality, large- and mid-cap companies with consistent earnings growth and low leverage. We are most favorable on U.S. Large Cap Equities, favorable on U.S. Mid Cap Equities, and recently downgraded U.S. Small Cap Equities to unfavorable.

For 2022, we see the pace of earnings growth slowing for all equity classes. However, we estimate U.S. large-, mid-, and small-cap earnings will outpace international (developed and emerging) earnings for the year. Our forecast for a higher rate of inflation this year and more aggressive Fed tightening, has reduced our valuation expectations.

We recently reduced our view to unfavorable for EM Equities and remain most unfavorable on DM Equities ex. U.S. While we continue to expect broad economic growth, geopolitical concerns will weigh on sentiment in the near-to-intermediate term, capping the multiple at which investors are willing to pay for modest earnings growth. We continue to prefer equities over fixed income, and U.S. equities over international equities (with an emphasis on quality and higher market capitalization).

Equity index total returns (%)

	MTD	QTD	YTD	1 year	3 year	5 year
U.S. Large Cap Equities	3.7	-4.6	-4.6	15.6	18.9	16.0
U.S. Large Cap (Growth)	3.9	-9.0	-9.0	15.0	23.6	20.9
U.S. Large Cap (Value)	2.8	-0.7	-0.7	11.7	13.0	10.3
U.S. Mid Cap Equities	2.6	-5.7	-5.7	6.9	14.9	12.6
U.S. Mid Cap (Growth)	1.6	-12.6	-12.6	-0.9	14.8	15.1
U.S. Mid Cap (Value)	3.0	-1.8	-1.8	11.5	13.7	10.0
U.S. Small Cap Equities	1.2	-7.5	-7.5	-5.8	11.7	9.7
U.S. Small Cap (Growth)	0.5	-12.6	-12.6	-14.3	9.9	10.3
U.S. Small Cap (Value)	2.0	-2.4	-2.4	3.3	12.7	8.6
DM Equities Ex-U.S. (USD)	0.8	-5.8	-5.8	1.6	8.3	7.2
DM Equities Ex-U.S. (Local)[1]	2.3	-3.6	-3.6	6.7	8.7	7.1
DM Small Cap Equity (USD)	0.0	-8.4	-8.4	-3.3	8.9	7.8
DM Small Cap Equity (Local)[1]	1.5	-6.3	-6.3	1.6	9.3	7.7
EM Equities (USD)	-2.2	-6.9	-6.9	-11.1	5.3	6.4
EM Equities (Local)[1]	-2.0	-6.1	-6.1	-9.6	6.6	7.9
FM Equities (USD)	-0.1	-7.8	-7.8	9.8	7.6	6.2
FM Equities (Local)[1]	0.8	-6.6	-6.6	12.6	8.8	7.3

Sources: Standard & Poor's, Russell Indexes, MSCI Inc.,March 31, 2022. 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	Most favorable
U.S. Mid Cap Equities	Favorable
U.S. Small Cap Equities	▼ Unfavorable
DM Equities Ex-U.S.	Most unfavorable
EM Equities	Unfavorable

Source: Wells Fargo Investment Institute, April 18, 2022. ▼: recent change.

International equity guidance by region

Region	Benchmark weight (%)*	Regional guidance
DM Equities Ex.-U.S.		Most unfavorable
Europe	64	Unfavorable
Pacific	36	Favorable
EM Equities		Unfavorable
Asia	78	Neutral
Europe, Middle East, and Africa	13	Most unfavorable
Latin America	9	Neutral

Source: Wells Fargo Investment Institute, March 31, 2022. WFII regional guidance is as of April 18, 2022.
* Benchmarks are MSCI EAFE Index for DM and MSCI Emerging Markets Index for EM.

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.
2. Source: S&P Global, as of March 31, 2022.
Please see the end of the report for the definitions of the representative indexes.

Equities

U.S. equity sector strategy

WFII sector guidance

Sector	S&P 500 Index weight (%)*	Guidance ranges (%)**	Guidance
Communication Services	9.6	-2% to +2%	▼ Neutral
Consumer Discretionary	12.1	-2% to +2%	Neutral
Consumer Staples	6.1	-4% to -6%	Most unfavorable
Energy	3.8	-2% to +2%	Neutral
Financials	10.9	-2% to +2%	▼ Neutral
Health Care	13.5	+2% to +4%	▲ Favorable
Industrials	7.7	-2% to +2%	Neutral
Information Technology	28.2	+2% to +4%	Favorable
Materials	2.6	-2% to +2%	Neutral
Real Estate	2.8	-2% to -3%	Unfavorable
Utilities	2.7	-2% to -3%	Most unfavorable
Total	100.0		

Sources: FactSet, Wells Fargo Investment Institute (WFII). Weightings are as of March 31, 2022. WFII guidance is as of April 18, 2022.
*Sector weightings may not add to 100% due to rounding. ▲/▼: recent change.

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

Sector	1 month	Year to date	12 months
Communication Services	1.0	-11.9	-0.9
Consumer Discretionary	4.9	-9.0	9.8
Consumer Staples	1.8	-1.0	16.1
Energy	9.0	39.0	64.3
Financials	-0.2	-1.5	14.7
Health Care	5.6	-2.6	19.1
Industrials	3.4	-2.4	6.1
Information Technology	3.5	-8.4	20.9
Materials	6.1	-2.4	13.9
Real Estate	7.8	-6.2	25.8
Utilities	10.4	4.8	19.9
S&P 500 Index	3.7	-4.6	15.6

Source: FactSet, March 31, 2022.
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 (Neutral): Streaming competition has become more fierce limiting growth, not only in streaming but in telecom/cable companies. Even so, the positives also are significant. Digital content and advertising has strong secular tailwinds and should benefit from the upcoming election cycle. We believe the risks are balanced, supporting our neutral rating.

Consumer Discretionary (Neutral): Earnings expectations are improving, despite the potential for higher wage inflation in the coming quarters to weigh on margins. We recommend investors maintain a full allocation to the sector.

Consumer Staples (Most unfavorable): Undifferentiated products and higher input prices could weigh on margins as firms struggle to pass cost to consumers.

Energy (Neutral): Fundamentals remain supportive for the sector with strong earnings growth prospects, improving earnings revisions, and still reasonable valuations. These positive attributes are balanced with potential regulatory risk, sensitivity to slowing global growth, headwinds from green energy initiatives, and a strengthening U.S. dollar.

Financials (Neutral): The sector has been a leader in buybacks and has outperformed the S&P 500 Index year-to-date and over the past year. Yet, Financials historically has been more of a market-performer as the cycle matures, the Fed tightens monetary policy, and the yield curve flattens.

Health Care (Favorable): We believe that the sector's low leverage and high return on equity fit nicely into our quality theme. The sector's fundamentals appear solid, notably as strong pent-up demand and earnings likely will outpace those of the broader S&P 500 Index in 2022. Valuations are attractive on an absolute basis and compared to the S&P 500 Index.

Industrials (Neutral): We are downgrading our view on the Industrials sector from favorable to neutral. Surveys of manufacturers show peak production. While manufacturing is still growing, we expect slower rates, as consumers switch to services later in 2022.

Information Technology (Favorable): Information Technology leads all sectors in quality metrics such as return on equity and (low) leverage. While valuations are above historic averages, we believe investors likely will continue to pay a premium for consistently growing, high-quality companies insulated from cyclical slowdowns.

Materials (Neutral): The sector has benefited from a rebound in economic and industrial activity. However, 2022 could be more challenging for the sector as economic growth slows and cost pressures mount, likely leading to lower profit margins — potentially limiting earnings growth.

Real Estate (Unfavorable): Real Estate relative performance has been strongly — and negatively — tied to interest rates. An increasingly hawkish Fed and our outlook for higher rates suggest that Real Estate returns will face headwinds over the tactical time horizon, leading to our recent downgrade to unfavorable.

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 (Balanced): Our sector guidance continues to emphasize a balance between growth and cyclicals as the cycle matures, while remaining unfavorable toward defensive sectors.

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

Real assets

Master limited partnerships (MLPs)

Market observations

MLPs continued their outperformance in March and turned in a monthly total return of 2% (as measured by the Alerian MLP Index) versus an S&P 500 Index total return of 3.7%. Oil's run higher — driven by market concerns over supply disruptions stemming from the Russia-Ukraine war — was a potent tailwind.

We believe investor concern over ESG (environmental, social, and governance) issues, and the slow transition away from fossil fuels, is the most persistent headwind. Yet, many MLPs appear prepared for this change. We believe 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 more sustainable. We believe that high-quality midstream MLPs should benefit from the above-mentioned improvements, the continued economic recovery, as well as valuations that remain below historical averages.

Wells Fargo Investment Institute perspective

We expect continued measures taken by midstream C-corporations[1] and MLPs to improve balance sheets and reduce leverage to help them attract investors. 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 based on a variety of factors, including stronger corporate governance and the ability to attract fund flows from institutional investors.

Commodities

Market observations

Energy: Energy commodities continued moving higher in March, showing impressive gains in the first quarter as West Texas Intermediate (WTI) crude oil prices remained well above $100 per barrel for the majority of the month. Energy prices, especially crude oil prices, have been propelled by supply disruptions stemming from the Russia-Ukraine war and the sanctions imposed on Russian banks. Additionally, global demand is expected to stay strong over the coming months for both oil and natural gas. We expect further gains in energy commodities in the near term, albeit with relatively high levels of volatility and supply disruptions.

Metals: Precious metal prices also extended their year to date gains in March, with increases in gold and silver prices outweighing the losses in platinum and palladium with the Bloomberg Commodity Precious Metals subindex. Gold's use as a perceived safe haven during times of high uncertainty and volatility in equities markets has contributed to the recent boost in prices. Meanwhile, platinum and palladium have given back some gains this month, after an impressive start to the year. Over the tactical time frame, we expect gold and other precious metals to benefit from relatively low real interest rates and moderating equity market returns as well as investor concerns about inflation and volatility risks. Continued strength in demand amid supply chain disruptions contributed to the rise in base metal prices last month, with an especially strong increase in nickel prices. We expect base metal prices to gradually improve this year, if global growth, manufacturing, and demand grow as we expect.

Real assets index total returns (%)

	MTD	QTD	YTD	1 year	3 year	5 year
Public Real Estate	4.6	-3.8	-3.8	15.4	6.4	7.5
U.S. REITs	7.1	-5.3	-5.3	23.6	11.7	10.7
International REITs	1.8	-3.2	-3.2	3.0	1.7	5.4
Master Limited Partnerships	2.0	18.8	18.8	36.6	2.7	-0.1
Global Infrastructure	5.9	7.5	7.5	16.7	8.0	7.7
Commodities (BCOM)	8.6	25.5	25.5	49.3	16.1	9.0
Agriculture	4.1	19.9	19.9	42.2	23.0	8.0
Energy	16.1	47.9	47.9	91.8	7.5	6.3
Industrial Metals	12.1	22.7	22.7	48.8	20.8	14.0
Precious Metals	2.8	6.9	6.9	10.6	13.8	7.3
Commodities (S&P GSCI)	9.6	33.1	33.1	64.6	13.4	10.0
Commodities (RICI)	8.3	26.9	26.9	61.2	19.1	12.4

Sources: Bloomberg, March 31, 2022. MTD = month to date. QTD = quarter to date. 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.

Agriculture: Agriculture commodities moved higher in March, as well, led by gains in cotton, sugar, and corn prices. Supply disruption concerns due to the Russia-Ukraine war have been the main contributor to higher prices since February, but strengthening demand has also been a strong tailwind for agriculture commodities prices. We expect demand improvements and persistent supply disruptions to continue to benefit prices. We believe better-balanced supply and demand over the next year should continue to support agriculture commodities as demand improves and inventories decline.

Wells Fargo Investment Institute perspective

Commodities continue to move higher, bolstered by higher inflation, concerns of supply disruptions across many commodities, and strength in demand. Commodities were one of the best-performing major asset classes in 2021, and performance has continued on that path so far in 2022 with all four commodity sectors posting positive returns for the year. The significant run up in commodity prices have shifted the risk/return dynamic and warrants a downgrade to neutral in our view.

Private Real Estate: We maintain a neutral view on private real estate. We 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. Although 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 thriving, whereas others — such as those in the retail and office space — will need to adapt. We believe CRE assets also should continue to provide more attractive income streams than 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 to enjoy a rich multiyear opportunity set going forward.

Asset class guidance

	Guidance
Private Real Estate	Neutral
Commodities	Neutral

Source: Wells Fargo Investment Institute, April 18, 2022.

1. A C-corporation is a legal structure for a corporation in which the owners, or shareholders, are taxed separately from the entity.

Alternative investments*

Market observations

A negative quarterly return for both stocks and bonds is rare, yet it underscores the unique environment facing investors. The MSCI ACWI Index was down -5.3% in the first quarter, with the Bloomberg Global Aggregate Index posting a bigger loss of -6.2%. Hedge funds were not immune to the challenging backdrop, but on average, they navigated the macro narrative better than traditional assets. **Relative Value** strategies continued to capitalize on a modest increase in credit dispersion as well as heightened fixed income volatility. In a rising rate environment, managing duration risk is paramount and relative value managers — on average — did a good job neutralizing duration with interest rate hedges. One area of disappointment so far this year is convertible bond arbitrage, where issuance has declined given the risk-off tone and the heavy linkage to growth equities. We still think convertible bond arbitrage is an attractive strategy in the current environment, but would anticipate less issuance and more modest returns this year. **Macro** managers continue to thrive in a market defined by multiple cross-asset trends. The first quarter of 2022 was one of the best quarters for Macro returns on record, and we have little reason to see an immediate change. Interest rate volatility remains high, and the curve remains heavily influenced by telegraphed monetary policy and inflation data, so the risk of a trend reversal seems low presently. Equity trends are less stable, which poses the greatest risk to Macro returns in our view. Regardless, we continue to find the current environment favorable for Macro. **Event Driven** strategy returns are surprising to the upside, given distressed debt opportunities remain rare for now, and corporate deal volume has declined given the geopolitical uncertainty. While distress and default ratios are still near cyclical lows, we would expect them to increase as economic growth subsides and inflation increases. It is certainly possible that the credit cycle begins in earnest later this year. As for **Equity Hedge**, the environment remains challenging, especially for funds with a growth bias. Returns from long positions are disappointing, while short positions helped minimize losses. Geographically, we continue to see funds reduce emerging market exposure.

Alternative investments index/strategy total returns (%)

	MTD	QTD	YTD	1 year	3 year	5 year
Global Hedge Funds	1.9	-0.3	-0.3	3.9	8.8	6.5
Relative Value	0.4	0.5	0.5	4.3	5.0	4.2
Arbitrage	0.5	0.8	0.8	3.7	5.6	4.3
Long/Short Credit	-0.1	-1.1	-1.1	0.9	5.6	5.0
Struct. Credit/Asset-Backed	0.0	0.8	0.8	5.2	3.9	4.4
Macro	5.5	7.7	7.7	11.4	8.4	5.0
Systematic	6.4	9.9	9.9	12.3	8.0	4.4
Discretionary	1.4	0.5	0.5	-0.7	6.8	4.2
Event Driven	0.8	-1.2	-1.2	3.3	7.8	6.0
Activist	0.3	-4.4	-4.4	2.0	9.6	5.9
Distressed Credit	1.3	1.1	1.1	7.4	9.3	6.5
Merger Arbitrage	0.8	1.3	1.3	7.2	7.1	6.1
Equity Hedge	0.8	-3.9	-3.9	0.5	10.2	7.8
Directional Equity	2.8	-4.9	-4.9	0.0	13.5	8.9
Equity Market Neutral	1.5	0.4	0.4	5.4	2.7	2.4

Source: Hedge Fund Research, Inc., March 31, 2022. 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

Relative Value: We recently upgraded our cyclical guidance on Relative Value to favorable based on an improved opportunity set for convertible arbitrage and the defensive benefits of long/short credit strategies. We expect convertible bond issuance to remain robust in 2022. Moreover, while we anticipate muted defaults in 2022, we expect credit dispersion to increase.

Macro: In recognition of the better opportunity set for Macro — driven by stronger, more stable trends in commodities and currencies — we recently upgraded our cyclical guidance to favorable. Additionally, macro strategies have historically been the least correlated to global risky assets, which we believe can be additive to portfolios as the cycle matures.

Event Driven: Given the reduced opportunity set for distressed debt investing, coupled with our desire to focus on strategies with less directional risk, we recently downgraded our cyclical guidance from neutral to unfavorable. However, for investors wanting event driven exposure, we think merger arbitrage is a better avenue given high levels of cash on balance sheets and wider deal spreads.

Equity Hedge: We recently downgraded our cyclical guidance on Equity Hedge from favorable to neutral based primarily on more muted return expectations compared with recent years. As the cycle matures, we anticipate managers will take a more defensive bias, which should help mitigate downside risk, but will likely also limit upside.

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 growth equity and infrastructure investing.

Private Debt: We recently downgraded our guidance to neutral from favorable based on a dwindling opportunity set in the distressed debt strategy. Fiscal stimulus and monetary policy support has helped keep capital flowing to troubled companies. We believe investors looking for non-traditional income can still consider direct-lending strategies a viable option.

* 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.

Alternative investments*

Private placements and liquid alternatives

Alternative investment strategies outlook*

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

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

Sources: Wells Fargo Investment Institute, Wilshire Liquid Alternative Index family, April 18, 2022.

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.

*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.

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

Currency guidance

The U.S. dollar versus developed market currencies

Market observations and outlook

March saw the dollar rising to its highest levels since early 2020, with the U.S. Dollar Index (DXY) ending the month 1.7% stronger at 98.31. The euro bounced from its weakest levels but still ended -1.4%. The yen finished the month exceptionally weak, -5.5%, undercut both by fuel-import vulnerability and by the Bank of Japan's persistently dovish low-interest rate policy. The pound was also weaker. Only commodity exporters such as the Australian and Canadian dollars saw gains. For year-end 2022, we expect a target range for the dollar of $1.02–1.10 versus the euro and a yen range of 114–124.

Year-end currency targets

	Latest	2022 YE target	Expected return vs. U.S. dollar
Dollars per euro	$1.11	$1.02–$1.10	-4.2%
Yen per dollar	¥122	¥114–¥124	2.3%

Source: Bloomberg, as of March 31, 2022. The targets are Wells Fargo Investment Institute forecasts, as of April 18, 2022. 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

Emerging market (EM) currencies have performed much better versus the U.S. dollar and their DM counterparts in the aftermath of the Russian invasion of Ukraine. The J.P. Morgan Emerging Markets Currency Index (EMCI) rose 3.2%, as the Russian ruble (albeit very thinly traded) recovered from February's huge losses and Latin-American commodities exporters, benefiting from a terms-of-trade boost, built on last month's gains. Even the MSCI Emerging Markets Currency Index (an index of currencies mirroring the weighting of the more manufacturing-based MSCI Emerging Markets Index) rose by 0.9%. We continue to expect a mixed performance from EM currencies in 2022, in aggregate showing losses if the DXY remains firm, but likely outperforming other 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 the dollar over the coming year, while positive, does not envisage stellar gains. 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, April 18, 2022. 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

U.S. Intermediate Term Taxable Fixed Income upgraded to most favorable. U.S. Taxable Investment Grade Fixed Income upgraded from unfavorable to neutral. U.S. Small Cap Equities downgraded from neutral to unfavorable.

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

Equities

Most Unfavorable	Unfavorable	Neutral	Favorable	Most Favorable
Developed Market Ex.-U.S. Equities	Emerging Market Equities U.S. Small Cap Equities**		U.S. Mid Cap Equities	U.S. Large 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–Event Driven	Hedge Funds–Equity Hedge Private Debt Private Equity	Hedge Funds–Macro Hedge Funds–Relative Value	

*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 the end of the report for important definitions and disclosures.

**Changed in March 2022.

Tactical guidance

Tactical guidance summary

FIXED INCOME	U.S. Taxable Investment Grade Fixed Income	▲ Neutral	We expect inflation to remain elevated throughout 2022, which will cause interest rates to climb further. We currently favor a more balanced approach between risk-oriented asset classes (equities) and U.S. Taxable Investment Grade Fixed Income, and thus have a neutral view.
	U.S. Short Term Taxable	Neutral	Short-term rates are increasing, and with a Fed tightening cycle already on the way, we look for short-term rates to continue to increase. Short-term bond prices are less sensitive to rising rates given their low duration, while rising short-term rates should add to income generation over time.
	U.S. Intermediate Term Taxable	▲ Most favorable	The intermediate part of the yield curve (4–7 year maturities) continues to offer value, in our opinion, as investors can pick up yield over short-term fixed income with only modest duration risk.
	U.S. Long Term Taxable	Most unfavorable	Although long-term, high-quality fixed income can be an important portfolio diversifier, we believe modestly higher interest-rate expectations may cause this asset class to underperform given their longer duration exposure.
	High Yield Taxable Fixed Income	Neutral	Although HY credit spreads (over Treasury yields) have widened recently, they remain well below long-term averages. We do not anticipate a meaningful sell-off in HY, and believe that this sector offers strong yield potential ("carry income") for fixed-income investors, which is compelling in this relatively low-rate environment. We believe selectivity and thorough credit research remain essential.
	Developed Market Ex-U.S. Fixed Income	Neutral	We expect stable or moderately higher yields in major markets outside the U.S. to keep returns relatively low. 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	Most favorable	We view U.S. Large Cap Equities as the highest quality major equity class, with stronger company balance sheets compared to other equity classes. We believe the equity class is also well positioned to withstand volatility as the Federal Reserve raises rates.
	U.S. Mid Cap Equities	Favorable	Mid-cap equities offer investors higher quality and a reasonable amount of exposure to many economically sensitive sectors that can allow investors to participate in cyclical rallies.
	U.S. Small Cap Equities	▼ Unfavorable	The Russell 2000 Index (a benchmark for U.S. Small Cap Equities) has struggled with persistently elevated non-earning firms. As the economy slows, we believe these firms will be challenged to maintain profitability and healthy cash positions.
	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, a resilient dollar, and lingering COVID-19 concerns will likely be a drag on developed market performance.
	Emerging Market Equities	Unfavorable	We believe the Chinese economy will slow to below its pre-COVID pace, insufficient to support the other emerging markets. Furthermore, we expect the ramifications of sanctions on Russia to spillover to emerging Europe at large.
REAL ASSETS	Commodities	Neutral	Supply issues and continued economic growth are supportive. Yet, the spectacular increase in commodity prices has shifted the risk/return dynamic for this asset class, which warrants a downgrade to neutral in our view.
	Private Real Estate*	Neutral	We maintain a neutral view on Private Real Estate, consistent with improving real estate trends across several key sectors. However, certain areas may remain under pandemic-related pressure.
ALTERNATIVE INVESTMENTS*	Hedge Funds–Relative Value*	Favorable	The broader weakness in growth has put pressure on convertible bonds, which has presented compelling short opportunities for managers. We still like the defensive benefit for convertible arbitrage and long/short credit.
	Hedge Funds–Macro*	Favorable	We anticipate an improvement in both trend and non-trend following systematic macro strategies, driven largely by commodity and foreign exchange (FX) markets.
	Hedge Funds–Event Driven*	Unfavorable	Default rates and distress ratios are near cycle lows, limiting the opportunity set for distressed debt investing. We believe merger arbitrage remains attractive though.
	Hedge Funds–Equity Hedge*	Neutral	Performance is likely to moderate as we enter the mid-to-late cycle period and managers shift to a more defensive bias.
	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*	Neutral	We anticipate a reduced opportunity set for the distressed and special situations strategy as long as defaults remain low. We believe direct lending strategies are still attractive for investors looking for income.

*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.

▲/▼: recent change.

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

*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.

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.

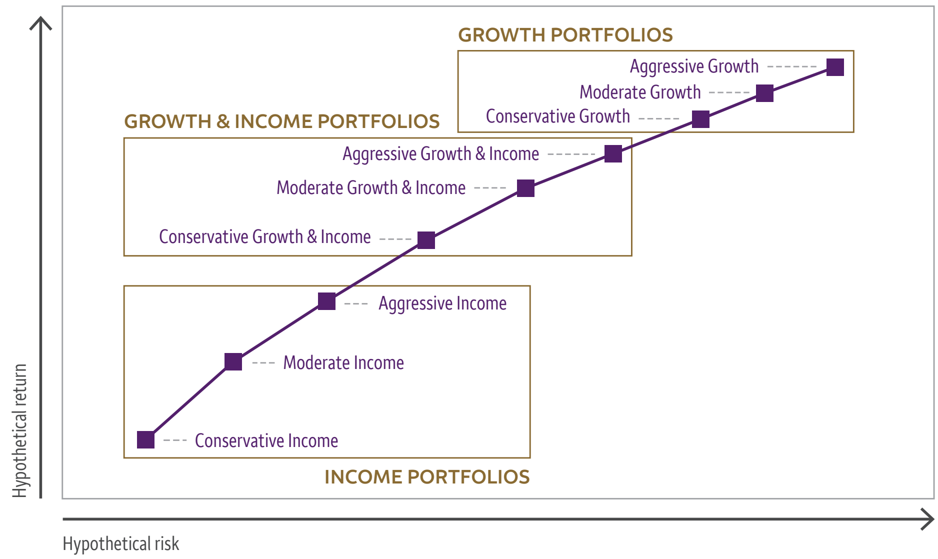


Chart is conceptual and is not meant to reflect any actual returns or represent any specific asset classifications.

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	80.0	0.0	69.0	69.0	0.0	61.0	62.0	1.0
	U.S. Taxable Investment Grade Fixed Income	72.0	72.0	0.0	58.0	57.0	-1.0	45.0	46.0	1.0
	Short Term Taxable*	19.0	19.0	0.0	15.0	14.0	-1.0	12.0	11.0	-1.0
	Intermediate Term Taxable*	37.0	39.0	2.0	30.0	34.0	4.0	23.0	29.0	6.0
	Long Term Taxable*	16.0	14.0	-2.0	13.0	9.0	-4.0	10.0	6.0	-4.0
	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	29.0	0.0	37.0	36.0	-1.0
	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	7.0	2.0	7.0	11.0	4.0
	U.S. Small Cap Equities	0.0	0.0	0.0	4.0	2.0	-2.0	4.0	0.0	-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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Commodities	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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	50.0	52.0	2.0	41.0	43.0	2.0	33.0	34.0	1.0
	U.S. Taxable Investment Grade Fixed Income	39.0	41.0	2.0	30.0	32.0	2.0	20.0	21.0	1.0
	Short Term Taxable*	10.0	10.0	0.0	8.0	8.0	0.0	5.0	4.0	-1.0
	Intermediate Term Taxable*	20.0	27.0	7.0	15.0	22.0	7.0	10.0	17.0	7.0
	Long Term Taxable*	9.0	4.0	-5.0	7.0	2.0	-5.0	5.0	0.0	-5.0
	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	44.0	-2.0	55.0	53.0	-2.0	63.0	62.0	-1.0
	U.S. Large Cap Equities	20.0	26.0	6.0	24.0	31.0	7.0	28.0	36.0	8.0
	U.S. Mid Cap Equities	8.0	12.0	4.0	10.0	14.0	4.0	12.0	17.0	5.0
	U.S. Small Cap Equities	5.0	2.0	-3.0	6.0	3.0	-3.0	6.0	3.0	-3.0
	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	2.0	-4.0	7.0	3.0	-4.0	8.0	4.0	-4.0
	TOTAL GLOBAL REAL ASSETS	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
	Commodities	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
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	23.0	1.0	14.0	15.0	1.0	5.0	6.0	1.0
	U.S. Taxable Investment Grade Fixed Income	16.0	16.0	0.0	8.0	12.0	4.0	3.0	6.0	3.0
	Short Term Taxable*	4.0	2.0	-2.0	2.0	2.0	0.0	0.0	2.0	2.0
	Intermediate Term Taxable*	8.0	14.0	6.0	4.0	10.0	6.0	3.0	4.0	1.0
	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	73.0	-1.0	82.0	81.0	-1.0	91.0	90.0	-1.0
	U.S. Large Cap Equities	30.0	38.0	8.0	31.0	38.0	7.0	28.0	33.0	5.0
	U.S. Mid Cap Equities	13.0	17.0	4.0	14.0	19.0	5.0	16.0	20.0	4.0
	U.S. Small Cap Equities	8.0	5.0	-3.0	10.0	7.0	-3.0	13.0	13.0	0.0
	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	8.0	-4.0	15.0	11.0	-4.0	18.0	14.0	-4.0
	TOTAL GLOBAL REAL ASSETS	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
	Commodities	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0

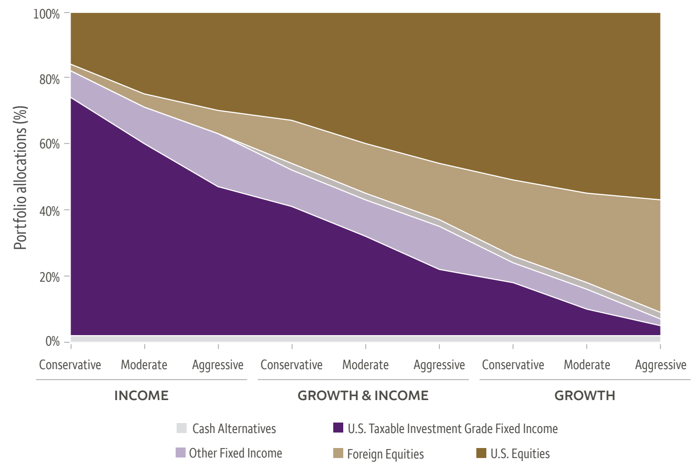
Strategic allocations are updated annually; last update was July 19, 2021. Tactical allocations are updated periodically; last update was March 30, 2022.
The U.S. Taxable Investment Grade Fixed Income encompasses the allocations to Short Term, Intermediate Term, and Long Term. *Wells Fargo Advisors only.
See next page for Portfolio allocations across the efficient frontier, strategic and tactical.

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

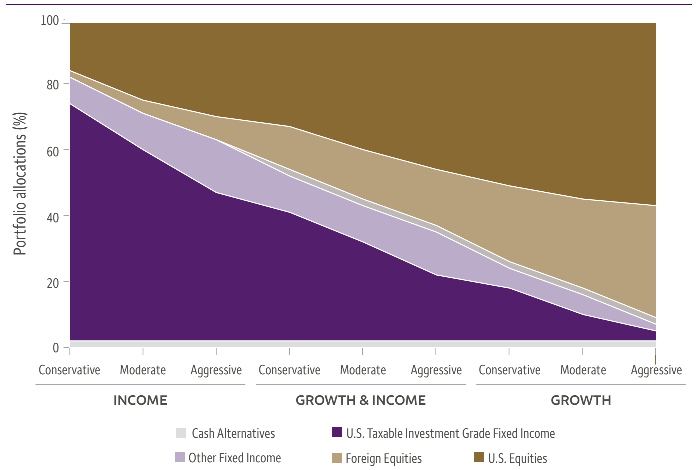
May include fixed income, equities, and real assets (continued)

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	66.0	0.0	55.0	55.0	0.0	47.0	47.0	0.0
	U.S. Taxable Investment Grade Fixed Income	59.0	59.0	0.0	46.0	46.0	0.0	33.0	33.0	0.0
	Short Term Taxable*	16.0	16.0	0.0	12.0	10.0	-2.0	9.0	7.0	-2.0
	Intermediate Term Taxable*	30.0	32.0	2.0	23.0	27.0	4.0	16.0	20.0	4.0
	Long Term Taxable*	13.0	11.0	-2.0	11.0	9.0	-2.0	8.0	6.0	-2.0
	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	22.0	0.0	27.0	27.0	0.0
	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	6.0	2.0	6.0	10.0	4.0
	U.S. Small Cap Equities	0.0	0.0	0.0	2.0	0.0	-2.0	2.0	0.0	-2.0
	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	5.0	0.0	6.0	6.0	0.0	7.0	7.0	0.0
	Private Real Estate**	5.0	5.0	0.0	6.0	6.0	0.0	7.0	7.0	0.0
	Commodities	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	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	39.0	1.0	29.0	32.0	3.0	23.0	26.0	3.0
	U.S. Taxable Investment Grade Fixed Income	31.0	32.0	1.0	21.0	24.0	3.0	14.0	17.0	3.0
	Short Term Taxable*	8.0	8.0	0.0	6.0	7.0	1.0	4.0	2.0	-2.0
	Intermediate Term Taxable*	16.0	21.0	5.0	10.0	17.0	7.0	7.0	15.0	8.0
	Long Term Taxable*	7.0	3.0	-4.0	5.0	0.0	-5.0	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	33.0	-1.0	41.0	38.0	-3.0	48.0	45.0	-3.0
	U.S. Large Cap Equities	16.0	21.0	5.0	18.0	24.0	6.0	22.0	29.0	7.0
	U.S. Mid Cap Equities	6.0	10.0	4.0	8.0	12.0	4.0	8.0	13.0	5.0
	U.S. Small Cap Equities	2.0	0.0	-2.0	3.0	0.0	-3.0	4.0	0.0	-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	2.0	-3.0	6.0	2.0	-4.0	7.0	3.0	-4.0
	TOTAL GLOBAL REAL ASSETS	7.0	7.0	0.0	8.0	8.0	0.0	8.0	8.0	0.0
	Private Real Estate**	5.0	5.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0
	Commodities	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
	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 March 30, 2022. 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	18.0	3.0	9.0	12.0	3.0	0.0	4.0	4.0
	U.S. Taxable Investment Grade Fixed Income	9.0	12.0	3.0	4.0	8.0	4.0	0.0	4.0	4.0
	Short Term Taxable*	2.0	2.0	0.0	0.0	2.0	2.0	0.0	0.0	0.0
	Intermediate Term Taxable*	5.0	10.0	5.0	4.0	6.0	2.0	0.0	4.0	4.0
	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	53.0	-3.0	66.0	63.0	-3.0	73.0	69.0	-4.0
	U.S. Large Cap Equities	24.0	29.0	5.0	24.0	29.0	5.0	24.0	25.0	1.0
	U.S. Mid Cap Equities	9.0	13.0	4.0	13.0	17.0	4.0	15.0	19.0	4.0
	U.S. Small Cap Equities	5.0	3.0	-2.0	6.0	4.0	-2.0	7.0	7.0	0.0
	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	5.0	-4.0	12.0	8.0	-4.0	15.0	12.0	-3.0
	TOTAL GLOBAL REAL ASSETS	7.0	7.0	0.0	7.0	7.0	0.0	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	2.0	0.0	2.0	2.0	0.0	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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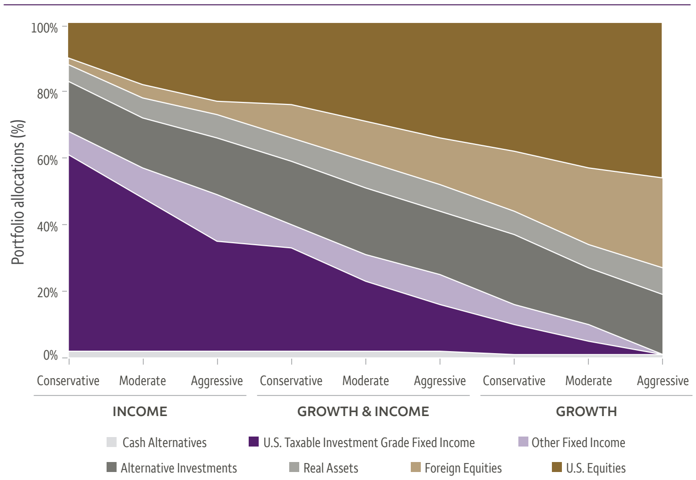
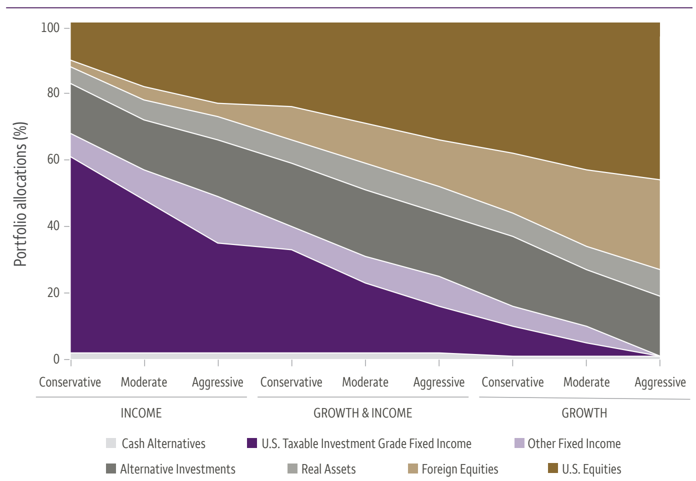
These allocations span the set of investments available to investors, utilizing broad diversification to help manage portfolio risk. Special issues such as liquidity, cash flow, and taxability would be taken into consideration in the choice of investment vehicles for certain asset classes. Depending on their tax circumstances, investors may wish to utilize the liquid 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



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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.

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Strategic asset allocation: Tax-efficient illiquid

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

GROWTH	CONSERVATIVE Strategic (%)	MODERATE Strategic (%)	AGGRESSIVE Strategic (%)
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

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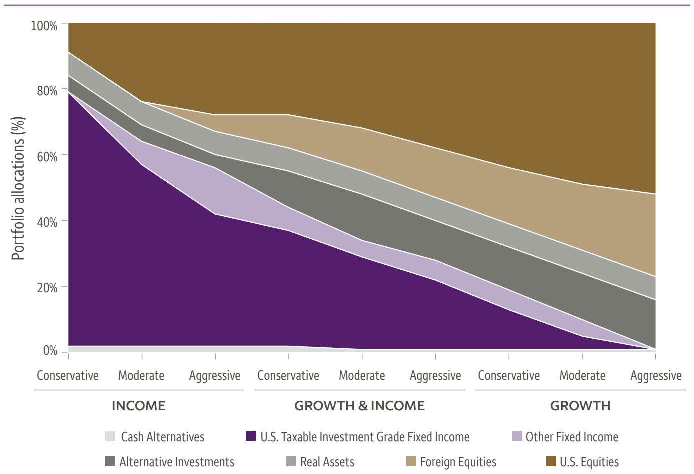
These allocations span the set of investments available to investors, utilizing broad diversification to help manage portfolio risk. Special consideration is given to the taxable implications of investing in various asset classes. Taxability may also be taken into consideration in determining the choice 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

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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 Strategic (%)	MODERATE Strategic (%)	AGGRESSIVE 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

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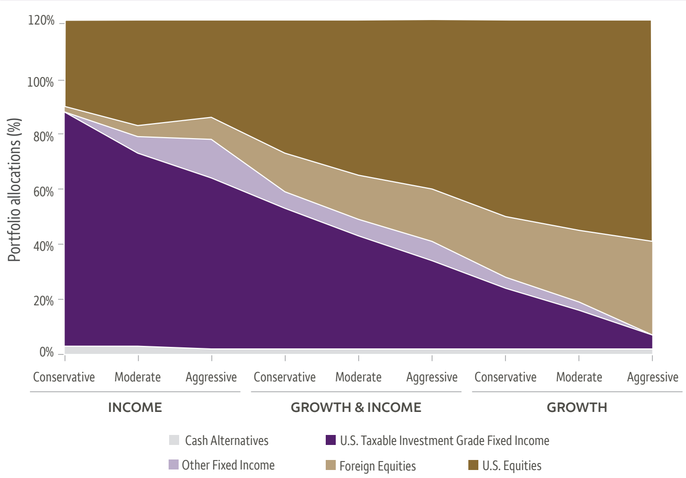
Portfolio allocations across the efficient frontier–strategic



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.

Convertible bonds have complex exposures to interest rates, the issuer's credit quality, liquidity spreads, the issuer's stock price and the implied volatility of the embedded option. This makes them difficult to price since their price is affected by both interest rates and share prices. They may be subordinate to other securities if the issuer declares bankruptcy which means the holder of the bond has a lower claim on the company's assets. Convertible bonds may also include call provisions which give the issuer the right to "force" the holder to redeem the bonds at face value or convert them to common shares. The call feature decreases the value of the convertible bond, limits an investor's gain and generally results in reinvestment risk. This means the proceeds from the sale will generally be reinvested in a less favorable environment. The stock feature is derived from the embedded call option that allows the convertible bond to participate in stock appreciation. As such, the option value is tied to factors affecting the underlying stock price and the amount of the time left on the option. Since a convertible bond derives a portion of its value from the common stock to which it may be converted, it is subject to the risks associated with common stocks including market risk. Stock values may fluctuate in response to general economic and market conditions, the prospects of individual companies, and industry sectors.

Leveraged loans are generally below investment grade quality ("high-yield" securities or "junk" bonds). Investing in such securities should be viewed as speculative and investors should review their ability to assume the risks associated with investments which utilize such securities.

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.

Disclosures *(continued)*

Convertible arbitrage is a market-neutral investment strategy often employed by hedge funds. It involves the simultaneous purchase of convertible securities and the short sale of the same issuer's common stock.

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.

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.

Merger arbitrage involves investing in event driven situations such as reorganizations, spin-offs, mergers, and bankruptcies, and involves the risks that the proposed opportunities in which the fund may invest may not materialized as planned or may be renegotiated or terminated which can result in losses to the fund.

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.

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.

Disclosures *(continued)*

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 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: Multi-Strategy Index:** multi-strategies employ an investment thesis predicated on realization of a spread between related yield instruments in which one or multiple components of the spread contains a fixed income, derivative, equity, real estate, MLP or combination of these or other instruments. 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.

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.

Disclosures *(continued)*

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.

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

Bloomberg Global Aggregate Index is a flagship measure of global investment grade debt from twenty-four local currency markets. This multi-currency benchmark includes treasury, government-related, corporate and securitized fixed-rate bonds from both developed and emerging markets issuers.

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

Intermediate Term Taxable Fixed Income. **Bloomberg U.S. Aggregate 5-7 Year Bond Index** is composed of the Bloomberg U.S. Government/Credit Index and the Bloomberg U.S. 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 U.S. Aggregate 10+ Year Bond Index** is composed of the Bloomberg U.S. Government/Credit Index and the Bloomberg U.S. 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 U.S. Treasury Bills (1–3M) Index** is representative of money markets.

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

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

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

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

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

Securitized. **Bloomberg U.S. 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 U.S. 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-U.S. 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.

Disclosures *(continued)*

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.

Leveraged Loans. **S&P/LSTA Leveraged Loan Index** is a market value-weighted index designed to measure the performance of the U.S. leveraged loan market based upon market weightings, spreads and interest payments.

Bloomberg Global Aggregate Sovereign Total Return Index is a measure of investment grade rated debt from 25 local currency markets. This multi-currency benchmark includes government-related fixed-rate bonds from both developed and emerging markets issuers.

Bloomberg Global Aggregate Credit Total Return Index measures the credit sector of the global investment grade fixed-rate bond market, including corporate, government, and agency securities.

Bloomberg Global Aggregate Bond Index provides a broad-based measure of the global investment grade fixed-rate debt markets. It is comprised of the U.S. Aggregate, Pan-European Aggregate, and the Asian-Pacific Aggregate Indexes. It also includes a wide range of standard and customized subindices by liquidity constraint, sector, quality and maturity.

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.

The **S&P 500 ESG Index** is a broad-based, market-cap-weighted index that is designed to measure the performance of securities meeting sustainability criteria while maintaining similar overall industry group weights as the S&P 500 Index.

The **MSCI ACWI ESG Leaders Index** is a capitalization-weighted index that provides exposure to companies with high environmental, social, and governance (ESG) performance relative to their sector peers. The MSCI ACWI ESG Leaders Index consists of large- and mid-cap companies across 23 developed market and 26 emerging market countries.

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.

The **MSCI Australia Index** is a free-float weighted equity index. It was developed with a base value of 100 as of December 31 1969.

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The **MSCI Brazil Index** is a free-float weighted equity index. It was developed with a base value of 100 as of December 31, 1987.

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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 U.S. 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 U.S. 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.

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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