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INVESTMENT INSTITUTE

Asset Allocation Strategy

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Forecast changes.
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Guidance changes.
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Darrell Cronk, CFA,
President, Wells Fargo Investment Institute and CIO, Wealth and Investment Management

Global Asset Allocation Team

Tracie McMillion, CFA,
Head of Global Asset Allocation

Chris Haverland, CFA,
Global Asset Allocation Strategist

Michael Taylor, CFA,
Investment Strategy Analyst

Veronica Willis,
Investment Strategy Analyst

Asset Class Strategists

Paul Christopher, CFA,
Head of Global Market Strategy

Brian Rehling, CFA,
Co-Head of Global Fixed Income Strategy

George Rusnak, CFA,
Co-Head of Global Fixed Income Strategy

Peter Wilson,
Global Fixed Income Strategist

Luis Alvarado,
Investment Strategy Analyst

Audrey Kaplan
Head of Global Equity Strategy

Scott Wren,
Senior Global Equity Strategist

Ken Johnson, CFA,
Investment Strategy Analyst

Sameer Samana, CFA,
Senior Global Market Strategist

Peter Donisanu,
Investment Strategy Analyst

Craig Holke,
Investment Strategy Analyst

Charlotte Woodhams
Investment Strategy Analyst

John LaForge,
Head of Real Asset Strategy

Austin Pickle, CFA,
Investment Strategy Analyst

Adam Taback,
Head of Global Alternative Investments

Jim Sweetman,
Global Alternative Investments Strategist

Justin Lenarcic,
Global Alternative Investments Strategist

Aligning Investments with Your Values

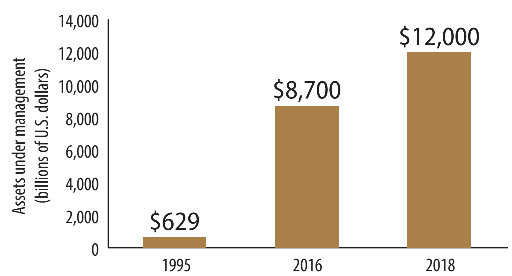
Socially Responsible Investing (SRI), Social Impact Investing (SII), and Sustainable Investing all are terms that are used interchangeably to describe an investment discipline that focuses on environmental, social, and corporate governance (ESG) criteria.

Socially conscious investors seek to invest with a purpose and to make a positive social impact. Socially responsible strategies seek returns that are comparable with those of traditional investments in similar asset classes—but they also target tangible outcomes or solutions to social and environmental issues. These investment strategies allow investors to align their personal values with investment objectives. Investors may choose strategies that exclude companies whose actions run counter to their values—and they also may invest in companies that aim to make a difference.

Investors incorporate socially responsible investments in portfolios for several reasons. Religious convictions were the impetus for the earliest social investors, and they continue to motivate some. Over time, responsible investors' scope grew across religious, political, environmental, and social concerns. Like individual investors, many colleges, universities, foundations, and faith-based institutions also choose to align investment strategies with their missions by investing in companies whose approach is consistent with their core values.

Today, the socially responsible investing industry is growing in size and becoming increasingly diverse. According to a recent study, assets under management in U.S. socially responsible vehicles grew to approximately $12 trillion in 2018 from $8.7 trillion in 2016—and just $629 billion in 1995. In fact, today, socially responsible investing accounts for about $1 out of every $4 that is professionally managed in the U.S.[1]

Socially responsible investments are growing rapidly



Source: U.S. SIF Foundation, "Report on U.S. Sustainable, Responsible and Impact Investing Trends: 2018", October 2019.

Demand is a key driver of this growth. There are four key drivers supporting demand for responsible investing: accessibility of information, strategy performance, breadth of investor values, and demographics. We anticipate that the volume and types of socially responsible investments will continue to grow.

There is a widely held misconception that responsible investing imposes hurdles on performance. In fact, studies suggest that, over the long term, socially responsible investment strategies historically have met or exceeded the performance of comparable traditional investments on an absolute basis and a risk-adjusted basis.[2]

(Continued on the next page.)

[1] Source: U.S. SIF Foundation, "Report on U.S. Sustainable, Responsible and Impact Investing Trends: 2018", October 2018.

[2] Sources: *Journal of Banking and Finance*, 2005; *Journal of Banking and Finance*, 2011; and *Journal of Investing*, 2011.

Aligning Investments with Your Values (continued)

Yet, responsible investing strategies, like any investment, do come with certain risks. An investment's social policy may mandate that it forgo exposure to certain industries, companies, sectors, or regions. This could cause near-term underperformance compared with similar investments that allow exposure. And certain strategies' style may shift in and out of favor over time. With that said, we expect the investment choices available for purpose-driven investors to continue expanding.

If investing means more than performance to you, and if you are genuinely concerned about where your money goes, we encourage you to speak with your investment professional about socially responsible strategies.

Global Economic Summary

United States

The advance look at first-quarter gross domestic product (GDP) solidly beat expectations at a 3.2% annualized, quarter-over-quarter (QoQ) expansion rate. Yet, personal consumption registered a weak 1.2% growth rate.

The nonfarm payroll report for April beat expectations, with 263,000 jobs added to the U.S. economy. The unemployment rate decreased to 3.6%, and labor-force participation declined to 62.8%. Wage growth slowed slightly to 3.2% on a year-over-year (YoY) basis.

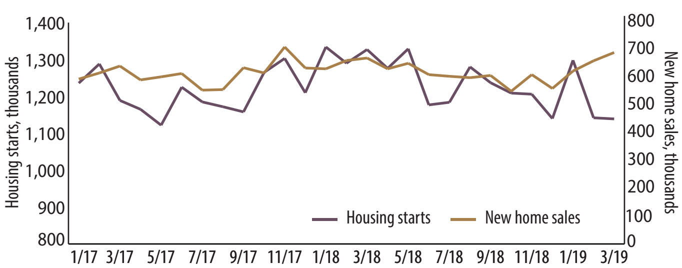
Inflation remains moderate, with the Consumer Price Index (CPI) rising 0.3% in April and 2.0% YoY. Excluding the more volatile food and energy components, CPI was up 0.1% for the month and 2.1% YoY.

The April Institute for Supply Management (ISM) manufacturing and services survey data softened. The manufacturing survey decreased from 55.3 to 52.8, while the services survey declined from 56.1 to 55.5. Both continue to signal future growth (a reading above 50 indicates expansion).

Consumer confidence improved in April to 129.2. Both the present situation index and expectations for the future turned higher.

Existing home sales for March declined by 4.9% month-over-month (MoM), to a seasonally adjusted 5.21-million-unit annual pace. New home sales increased 4.5%, to an annualized rate of 692,000 homes. However, housing starts declined 0.3% and building permits decreased 1.7%.

Will higher new home sales lead to more housing starts?



Sources: U.S. Census Bureau, Wells Fargo Investment Institute. Monthly data from January 2017 through March 2019.

Europe

A preliminary reading on first-quarter eurozone GDP growth showed that activity stabilized, even as confidence weakened. Tariff concerns, upcoming parliamentary elections, and ongoing Brexit uncertainty arguably have made it challenging for firms to plan for the long term, when these events may have adverse long-term impacts. This weaker outlook likely has curbed firms' willingness to invest in operations, thereby reducing the contribution of business investment to economic activity.

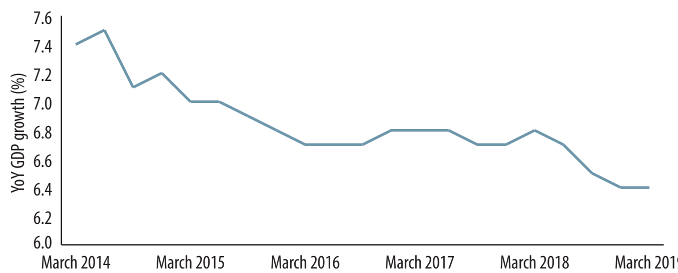
The accommodative monetary stance of the European Central Bank and the Bank of England likely have supported market sentiment. Time will tell whether this is enough to further buoy confidence, boost spending and investment activity, and stave off further deterioration in the European economy. Yet, recent reports showed a rebound in eurozone retail sales in February and stabilizing manufacturing purchasing manager index (PMI) data in April. Along with improved first-quarter labor-market conditions, this suggests that further stabilization could occur if this positive trend continues.

Asia

Chinese first-quarter GDP growth surprised to the upside, partly due to a rise in total social financing and improving business sentiment in sectors such as exports, manufacturing, and services. Beijing's recent policy responses suggest that the slowdown will further stabilize in 2019, assuming that U.S.-China trade negotiations are successful; household spending growth improves; and global trade activity stabilizes.

Outside of China, external factors, such as trade, point to positive, yet softer, economic activity across Asia. Trade activity recently has weakened for export economies like South Korea and Japan. This is important, because we view global trade activity as a coincidental measure of global economic growth. These data releases suggest that first-quarter global economic growth likely weakened further, while forward-looking indicators, like moderating PMI data, suggest that the trade slowdown could moderate in the second half of 2019.

China's economy showed signs of stability in the first quarter



Source: Wells Fargo Investment Institute, China National Bureau of Statistics, Bloomberg; May 6, 2019.

Key economic statistics

Global growth rates (%)	Q1 2019	Q4 2018	Q3 2018
U.S. real economic growth (GDP)[1]	3.2	2.2	3.4
Eurozone real economic growth[2]	1.2	1.2	1.6
Japanese real economic growth[1]	-0.3[a]	1.9	-2.4
Chinese real economic growth[2]	6.4	6.4	6.5
Key U.S. economic data	**4/19**	**3/19**	**4/18**
Unemployment rate (%)	3.6	3.8	3.9
Leading economic index (LEI) (%)	0.2[a]	0.4	0.6
Durable goods orders (%)	-1.8[a]	2.6	-1.0
ISM manufacturing	52.8	55.3	57.9
ISM service	55.5	56.1	57.2
Retail sales (%)	0.2[a]	1.6	0.3
Consumer confidence	129.2	124.2	125.6
New home sales (thousands)	668[a]	692	633
Existing home sales (millions)	5.26[a]	5.21	5.43
U.S. Dollar Index	97.48	97.28	91.84
U.S. inflation (%)	**4/19**	**3/19**	**YoY**
Consumer Price Index (CPI)	0.3	0.4	2.0
Core CPI	0.1	0.1	2.1
Producer Price Index (PPI)	0.2	0.6	2.2
Core PPI	0.1	0.3	2.4
Personal consumption expenditures (PCE)	0.3[a]	0.2	1.5[b]
Core PCE	0.2[a]	0.1	1.6[b]

Sources: Bloomberg, FactSet, April 30, 2019. [1] Annualized QoQ % change; [2] Year-over-year % change; [a] Bloomberg survey estimate; [b] As of March 31, 2019. See end of report for important definitions and disclosures.

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Global Economic Summary

Wells Fargo Investment Institute forecasts

GDP growth: Data reports indicate that global economic growth remains weak, given the ongoing global policy uncertainty, lower business and consumer confidence, and weaker global trade. First-quarter U.S. GDP growth, nevertheless, surprised to the upside, due largely to transitory factors. While the latest release is putting upward pressure on our recently revised 2019 U.S. GDP growth target, the assumptions underpinning our estimate still suggest that the U.S. economy may be near the early stage of a broader downturn from a business cycle perspective. Meanwhile, our work shows that a recession is unlikely this year, given our expectations for solid household spending, stabilizing business investment, and moderating trade activity.

Recently published eurozone GDP figures showed that growth stabilized in the first quarter. Economic indicators point to continued, slow eurozone growth in the second quarter as confidence remains subdued. We believe that the Japanese economy should expand moderately in 2019, yet prolonged domestic and policy concerns could lead to growth of less than 1% this year. The weaker-than-expected global trade environment also has lowered our growth expectations for trade-sensitive (and export-oriented) developed market locales, such as Hong Kong and Singapore.

We expect emerging markets to drive a significant portion of 2019 global growth. Several country-specific factors, along with generally weaker economic sentiment and trade activity, have contributed to this view. For China, better-than-expected first-quarter GDP growth likely reflects Beijing's strong policy response—a trend that should moderate throughout the year and contribute to a growth rate that is closer to policymakers' target of approximately 6% for this year.

Inflation: We expect 2019 headline inflation rates in the U.S. and developed markets to be lower than they were last year. We expect U.S. inflation growth in 2019 to be muted by a slower economic expansion, contained labor-cost pressure, and energy prices that have remained below last year's levels. Labor-market slack, contained wage growth, and weaker energy prices also are expected to be headwinds for inflation in international developed markets overall. Additionally, monetary policy in emerging markets is becoming less restrictive as regional inflationary pressures are easing.

Unemployment rate: The strong labor market is slowly raising wages and creating job openings broadly across the U.S. economy. This trend was reflected in the U.S. unemployment rate falling to multi-year lows last year. Looking forward, we expect growth in hiring activity to remain positive. Similar developments are underway in Europe and Japan, while labor-market conditions in China have softened recently.

Global economy

	2019 YE targets (%)	2018 (%)
Domestic GDP growth	2.1	3.0
Domestic inflation	1.7	1.9
Domestic unemployment rate	3.7	3.9
Global GDP growth	3.4	3.6
Developed market GDP growth	1.7	2.2
Developed market inflation	1.6	1.6
Emerging market GDP growth	4.6	4.5
Emerging market inflation	4.3	6.9
Eurozone GDP growth	1.2	1.2
Eurozone inflation	1.5	1.5

Sources: FactSet, Bloomberg, International Monetary Fund, April 30, 2019. The 2019 targets are Wells Fargo Investment Institute forecasts, as of May 15, 2019. All 2018 data is as of December 31, 2018. GDP = gross domestic product. See end of report for important definitions and disclosures.

Fixed Income

Market summary

In April, fixed-income markets mirrored equity markets' risk-on profile—as high-yield (HY) corporate debt (+1.4%) and investment-grade (IG) corporates (+0.5%) outperformed, along with preferred stock (+1.0%). The Federal Reserve (Fed) described U.S. economic growth as solid; the stronger-than-expected growth helped to fuel these classes' April gains.

These same classes also led U.S. year-to-date (YTD) fixed-income performance, with preferred stock returning 9.1%; HY corporates gaining 8.8%; and IG corporates up 5.7%. U.S.-dollar-denominated emerging market (EM) debt also outperformed YTD (+6.7%), supported by the Fed's dovish tone, improving Chinese growth, trade-talk progress, and the risk-on sentiment. Longer-maturity U.S. taxable issues also performed well YTD (+6.0%) as future inflation and economic-growth expectations remained modest.

Market observations

U.S. fixed income: U.S. bond markets were mixed in April. Monthly returns were generally flat, but, as noted, some classes gained. As U.S. economic growth surprised to the upside, the yield curve steepened slightly—causing longer-term issues (-0.4%) to give back some of their first-quarter gains.

Credit continued to lead U.S. bond-market returns last month. As noted, IG and HY corporates outperformed. HY valuations have continued to move to richer levels. We favor moving up in credit quality as we progress into the latter stages of the business cycle. We believe that the IG corporate Financials sector offers an attractive risk/reward scenario relative to other IG corporate sectors.

Municipals' 0.4% April return brought the YTD gain to 3.3%. Much of last month's gain came from the intermediate part of the yield curve. Although municipal-to-Treasury yield ratios are at low (rich) levels, we continue to anticipate strong demand and negative supply for this fixed-income class. We remain favorable on this bond class.

Developed markets: April saw continuing signs of global economic weakness, especially in the eurozone, and further dovish shifts from global central banks. However, core yields had started the month at ultra-low levels, and they fell no further. Thus, on a hedged basis (excluding the impact of currency weakness) developed bond returns were little changed last month (-0.1%). The dollar edged higher, so unhedged monthly returns were slightly weaker (-0.7%). Spain and Portugal were the best performers in dollar terms as spreads versus German bunds tightened after perceived Spanish election risks failed to materialize. Swedish bonds were among the poorest performers as a dovish central-bank meeting sharply weakened the krona.

Emerging markets: The early 2019 EM-debt advance remained stalled as April returns were mixed once again. Local-currency bonds saw small losses overall in dollar terms (-0.1%), bringing the YTD gain to 2.9%. Dollar-denominated sovereigns performed better in YTD terms (+6.7%) but this bond class also was little changed in April (+0.1%). In both markets, relatively flat monthly returns overall resulted from offsetting returns from the poorest performers, such as Argentina and Turkey (where policy failed to gain traction against inflation and currency headwinds) against still-strong performance from countries such as Mexico and Russia (where the high oil price provided support).

[1] Duration is a measure of interest-rate risk.

Fixed income index total returns (%)

	MTD	QTD	YTD	1 year	3 year	5 year
U.S. Taxable Inv Grade Fixed Income	0.0	0.0	3.0	5.3	1.9	2.6
U.S. Short Term Taxable	0.2	0.2	1.4	3.4	1.4	1.3
U.S. Intermediate Term Taxable	0.1	0.1	2.7	5.6	1.8	2.4
U.S. Long Term Taxable	-0.4	-0.4	6.0	7.0	3.2	4.8
U.S. Treasury Bills	0.2	0.2	0.8	2.1	1.2	0.7
U.S. Municipal Bonds	0.4	0.4	3.3	6.2	2.6	3.6
High Yield Taxable Fixed Income	1.4	1.4	8.8	6.7	7.7	4.8
DM Ex.-U.S. Fixed Income (Unhedged)	-0.7	-0.7	0.9	-2.7	-0.1	-0.3
DM Ex.-U.S. Fixed Income (Hedged)	-0.1	-0.1	3.0	5.3	3.3	4.5
EM Fixed Income (U.S. dollar)	0.1	0.1	6.7	5.2	4.6	4.5
EM Fixed Income (Local currency)[1]	0.1	0.1	2.9	4.3	6.9	7.4

Sources: Bloomberg Barclays, J.P. Morgan, April 30, 2019. 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

We recommend that investors maintain fixed-income exposure at targeted allocations and remain broadly and globally diversified. We favor raising average credit quality; we would use any periods of market weakness to add quality holdings to portfolios.

We believe that investors should position duration equal to that of their individually selected benchmarks.[1] We are neutral across the U.S. taxable investment-grade (IG) maturity spectrum; but we are favorable on short-term issues.

Aside from potential currency-appreciation gains, we see little prospect of strong developed market (DM) debt returns over the coming year. Yields have returned to 2016 levels (in many cases, negative), and they remain below Treasury yields. We do expect some modest currency appreciation, but given high foreign-exchange uncertainty, this does not significantly outweigh limited prospects from income and changes in capital values. We have an unfavorable DM-debt view, since the foreign-exchange risk is insufficiently compensated by income or capital-gain prospects (the strategic index is unhedged in terms of currency exposure).

We recently shifted our guidance on U.S.-dollar-denominated EM debt from favorable to neutral. Falling U.S. bond yields and tighter credit spreads have rapidly lowered EM index yields, resulting in strong performance and making valuations somewhat less attractive. Although fiscal and credit fundamentals in many major index constituents remain firm, slightly reduced EM growth expectations and a rise in global uncertainty mean that we see risks as more balanced for this asset class now.

Asset class guidance	Most unfavorable		Neutral		Most favorable
Cash Alternatives	☐	☐	■	☐	☐
U.S. Taxable Investment Grade Fixed Income	☐	☐	■	☐	☐
U.S. Short Term Taxable	☐	☐	☐	■	☐
U.S. Intermediate Term Taxable	☐	☐	■	☐	☐
U.S. Long Term Taxable	☐	☐	■	☐	☐
High Yield Taxable Fixed Income	☐	■	☐	☐	☐
DM Ex.-U.S. Fixed Income	☐	■	☐	☐	☐
EM Fixed Income	☐	☐	■	☐	☐

Source: Wells Fargo Investment Institute, May 15, 2019.

Fixed Income

Wells Fargo Investment Institute forecasts

Interest Rates: The Fed has turned decidedly dovish, and we expect that the current Fed rate-hike cycle has come to an end. The Treasury yield curve remains relatively flat, especially for maturities of 10 years and less. As we expect additional yield curve volatility, the risk of yield curve inversion remains heightened. We recommend that investors position portfolio duration at benchmark levels.

Global fixed income (%)

	2019 YE targets	Current
10-year U.S. Treasury yield	2.50 - 3.00	2.50
30-year U.S. Treasury yield	2.75 - 3.25	2.93
Fed funds rate	2.25 - 2.50	2.50

Sources: FactSet, Bloomberg, International Monetary Fund, as of April 30, 2019. The 2019 targets are Wells Fargo Investment Institute forecasts, as of May 15, 2019. 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.

Rolling 12-month forecasts

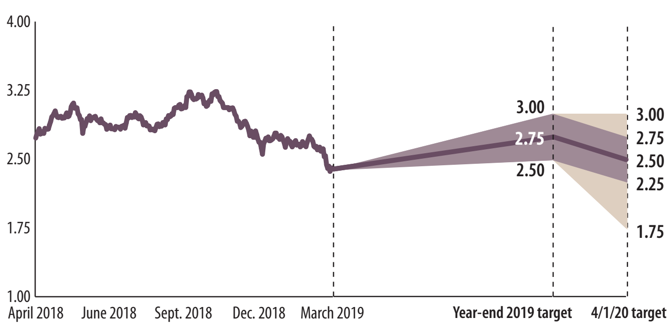
Conviction path definitions

Lower conviction range (upper): The upper range of the lower conviction path may occur if economic conditions surprise to the upside. Stronger-than-expected domestic growth occurs as a result of tax reform and fiscal stimulus drives confidence higher, leading to greater household spending and business investment. Global growth may exceed expectations, increasing trade and investment.

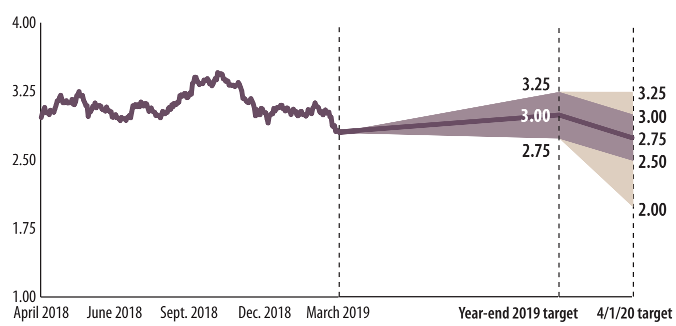
High conviction range: The high conviction middle path factors in our base-case economic forecasts through 2018 and into 2019. Domestic growth continues to be strong, supported by tax reform and fiscal stimulus, with inflation increasing moderately. Higher growth and a slight pickup in inflation is also expected in developed and emerging markets.

Lower conviction range (lower): The lower range of the lower conviction path may occur if events detrimental to the global economy occur. Further escalation of tariff activity, an unexpected surge in inflation, or more aggressive central bank policy would be detrimental to global growth. Eurozone political uncertainty or unexpected military action would also dampen growth prospects.

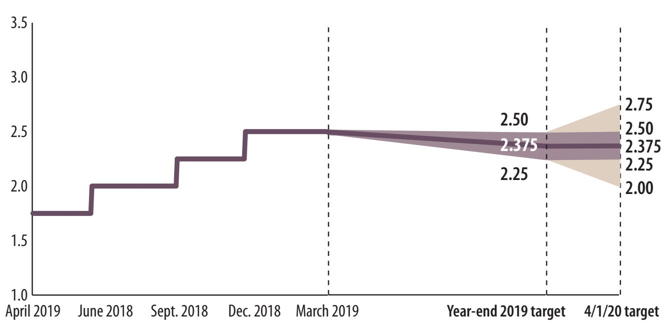
10-year Treasury yield (%)



30-year Treasury yield (%)



Fed funds rate (%)



Past performance is no guarantee of future results.

Fixed Income

Sector strategy: U.S. investment-grade securities

Sector guidance

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

Source: Wells Fargo Investment Institute, May 15, 2019.
See end of report for important definitions and disclosures.

Duration (Neutral): Duration positioning is important for fixed-income investors. Bonds with shorter duration are less sensitive to interest-rate changes (assuming a parallel shift in the yield curve on all maturities, with the same number of basis points). With the prospects of meaningfully higher U.S. long-term rates now unlikely, we have a neutral duration stance for both taxable and tax-exempt bond sectors. We believe that investors should position duration equal to that of their individually selected benchmarks. A neutral duration stance can better position portfolios should the economic slowdown deepen. It also could provide an opportunity to lengthen duration beyond that of benchmark (neutral) positioning should the 10-year Treasury yield move back near the midpoint of our year-end 2019 target range of 2.50%–3.00%.

U.S. Government (Unfavorable): The Fed recently announced plans to reduce its balance sheet roll-off and to end its balance-sheet normalization process at the end of September 2019. This should provide some stability to U.S. government securities. We recommend that investors consider government-security allocations for diversification, liquidity, and reducing risk in portfolios. Government securities may offer a hedge for unexpected geopolitical developments or an economic slowdown and generally benefit from risk-off market events.

Total sector returns (%)

Sector	1 month	Year to date	12 months
U.S. Government	-0.3	1.8	4.8
Credit	0.5	5.4	6.4
Securitized	-0.1	2.1	4.9
U.S. Municipal Bonds	0.4	3.3	6.2

Source: FactSet, April 30, 2019.
Past performance is no guarantee of future results.

Investment-Grade (IG) Credit (Neutral): 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. We believe that, at times, IG corporate debt offers investors better carry and liquidity per unit of risk than can be found in many other fixed-income credit offerings, such as HY debt or securitized investments. We reiterate our bias toward higher quality in the current market.

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

U.S. Municipal Bonds (Favorable): Municipal-to-Treasury yield ratios remain at multi-year lows, making valuations historically "rich" across a number of maturities. Yet, technical support continues (with a dovish Fed outlook and strong demand). This may continue to drive longer-term performance, despite somewhat lower relative value versus Treasury securities. The summer months historically are characterized by reduced municipal supply (along with increased maturities). This is expected again this year, and it could offer some seasonal market support.

We expect the net supply of municipals to remain negative in 2019, but to be less negative than it was last year. Fund inflows rose by $28 billion YTD and have surpassed last year's YTD total. The federal municipal tax exemption should remain valuable as several tax deductions have been eliminated or reduced. In-state bonds have become a higher priority for buyers in high-tax states, including California and New York—as the federal deduction for state income taxes has been capped. We favor selectivity and higher quality issues today.

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

Equities

Market summary

Equity markets continued their YTD rally in April as all of the major equity classes gained ground—while all were positive YTD. Investors' worries about the Fed have diminished, and hopes for a positive U.S.-China trade outcome fueled April's market uptrend. U.S. large caps (+4.0%) led April gains for major equity classes, followed by mid caps (+3.8%) and small caps (+3.4%). U.S.-dollar-denominated developed market and emerging market (DM and EM) equities returned 2.9% and 2.1%, respectively.

Valuation multiples continued to rebound from depressed year-end levels. The S&P 500 Index ended April close to our view of "fair value."

Equity index total returns (%)

	MTD	QTD	YTD	1 year	3 year	5 year
U.S. Large Cap Equities	4.0	4.0	18.2	13.5	14.9	11.6
U.S. Large Cap (Growth)	4.5	4.5	21.3	17.4	18.6	14.5
U.S. Large Cap (Value)	3.5	3.5	15.9	9.1	11.0	8.3
U.S. Mid Cap Equities	3.8	3.8	21.0	10.7	12.8	9.7
U.S. Mid Cap (Growth)	4.5	4.5	25.0	17.6	16.8	12.2
U.S. Mid Cap (Value)	3.3	3.3	18.1	5.8	9.9	7.8
U.S. Small Cap Equities	3.4	3.4	18.5	4.6	13.6	8.6
U.S. Small Cap (Growth)	3.0	3.0	20.7	6.9	15.6	10.2
U.S. Small Cap (Value)	3.8	3.8	16.2	2.2	11.5	6.9
DM Equities Ex-U.S. (USD)	2.9	2.9	13.3	-2.7	7.8	3.1
DM Equities Ex-U.S. (Local)[1]	3.5	3.5	14.6	2.2	9.8	7.0
DM Small Cap Equity (USD)	3.1	3.1	14.2	-7.5	8.2	5.6
DM Small Cap Equity (Local)[1]	3.7	3.7	15.3	-3.1	10.2	9.5
EM Equities (USD)	2.1	2.1	12.3	-4.7	11.7	4.4
EM Equities (Local)[1]	2.6	2.6	12.7	-0.2	12.6	8.1
FM Equities (USD)	0.2	0.2	7.2	-11.9	6.2	-0.1
FM Equities (Local)[1]	0.3	0.3	7.6	-9.9	9.0	3.4

Sources: Standard & Poor's, Russell Indexes, MSCI Inc., April 30, 2019. 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.

Market observations

U.S. equities: The S&P 500 Index reached new highs in April, after firms beat analyst earnings estimates. The Financials sector (+9.0%) had the largest monthly gains—as bank earnings bested analyst estimates and leadership offered more optimistic forward guidance. Communication Services (+6.5%) and Information Technology (+6.4%) rounded out the top three sectors. Health Care was the worst performer as concern rose over "Medicare for All" and possible drug-price legislation. As noted, the Russell Midcap and Russell 2000 (small cap) indices underperformed their large cap counterpart (+3.8% and +3.4%, respectively). For mid caps, Financials led monthly returns (+8.6%), while Health Care (-1.6%) was weakest. Industrials (+6.9%) outperformed for small caps, while Health Care (-3.6%) had the lowest month return.

International equities: Local-currency equities generally outperformed their dollar-denominated counterparts last month. Dollar-denominated DM equities gained 2.9% versus a local currency return of 3.5%. Similarly, dollar-denominated EM equities returned 2.1%, falling short of the 2.6% local-currency return. Frontier markets had similar returns in dollar and local-denominated currencies, with gains of 0.2% and 0.3%, respectively. Germany (+7.0% in U.S.-dollar terms) led DM-equity returns as sentiment improved on a better earnings outlook. No major DM country had negative monthly equity returns.

For EM markets, South Africa (+8.1% in U.S.-dollar terms) outperformed as economic data supported a global growth recovery. Turkish stocks fell further (-3.6% in U.S.-dollar terms) as bank stocks struggled and the lira weakened.

Wells Fargo Investment Institute perspective

We expect higher volatility as the economic cycle ages and growth slows. The five major equity classes all have posted double-digit YTD gains, supported by encouraging political and central-bank developments, along with fading recession fears. We still believe that the U.S. and global economies and earnings will grow in 2019. Yet, the global economy's soft patch lingers, and we expect only modest U.S. earnings gains in the first two quarters of 2019.

We recently reduced all of our full-year 2019 earnings targets, except for the S&P 500 Index. On the basis of rising valuations, we also modestly raised all of our year-end equity target ranges last month. We reduced the S&P 500 Index 2019 earnings target in January; we still believe that adjustment is appropriate. Yet, our work recently resulted in a downward recalibration of earnings for mid-cap companies, and a larger reduction in 2019 small-cap earnings growth, reflecting the greater vulnerability of these companies as the cycle matures. Positive political news could lift valuations somewhat further. Price-to-earnings (P/E) ratios of approximately 17x for the S&P 500 and Russell Midcap indices are slightly above 20-year averages. Small-cap valuations also have risen, but late-cycle concerns about potential margin pressures should limit further valuation gains.

The earnings target adjustments account for slower first-half economic growth than we had anticipated, especially for trade-oriented economies in Europe and Japan. The downward earnings per share (EPS) adjustment is comparatively less for emerging markets, which should benefit as China's economy strengthens sooner than some expected. We are not expecting much richer valuations without clearer evidence of sustainably higher economic and earnings growth. The MSCI EAFE Index has traded, on average, at a forward P/E ratio of 15 times earnings since the European and Japanese economic recoveries began, after 2012. Valuations have fallen recently; however, we believe that a 14x index valuation is achievable this year, as a recovery emerges and progresses. Likewise, the MSCI Emerging Markets Index forward P/E ratio was just above 13x before the tariff disputes, and this level could be sustained (or possibly move slightly higher) with progress on a U.S.-China trade deal.

Asset class guidance	Guidance: Most unfavorable		Neutral		Most favorable
U.S. Large Cap Equities	□	□	■	□	□
U.S. Mid Cap Equities	□	□	■	□	□
U.S. Small Cap Equities	□	■	□	□	□
DM Equities Ex-U.S.	□	□	■	□	□
EM Equities	□	□	□	□	■

Source: Wells Fargo Investment Institute, May 15, 2019.

Equities

Wells Fargo Investment Institute forecasts

U.S. equities: We recently reduced all of our full-year 2019 earnings targets, except for the S&P 500 Index. Based on rising valuations, we have modestly raised all of our year-end equity targets. We reduced the S&P 500 Index 2019 earnings target in January; we still believe that adjustment is appropriate. Yet, our work recently resulted in a slight downward recalibration of earnings for mid-cap companies, and a larger reduction in 2019 small-cap earnings growth, reflecting the greater vulnerability of these companies as the cycle matures. Positive political news could lift valuations somewhat further. P/E ratios of approximately 17x for the S&P 500 and Russell Midcap indices are slightly above 20-year averages. Small-cap valuations also have risen, but late-cycle susceptibility to potential margin pressures and weaker capital positions should limit further small-cap valuation gains.

Foreign equities: As noted, we recently reduced our earnings targets and modestly increased year-end price targets. The earnings adjustments account for slower first-half economic growth than we had anticipated, especially for trade-oriented economies in Europe and Japan. The downward EPS adjustment is comparatively less for emerging markets, which should benefit as China's economy begins to strengthen sooner than some expected. MSCI EAFE valuations generally are near fair value, and we are not expecting much richer valuations without clearer evidence of sustainably higher economic and earnings growth. The MSCI EAFE Index has traded at approximately 15x (i.e., a forward P/E ratio of 15 times forward earnings) since the European and Japanese economic recoveries began, after 2012. We believe that a 14x index valuation is achievable this year, as a recovery gradually emerges and extends into 2020. Likewise, the MSCI Emerging Markets Index forward P/E ratio was slightly above 13x before the 2018-2019 tariff disputes, and this level could be sustained and possibly increase slightly with progress on a U.S.-China trade deal.

Global equities

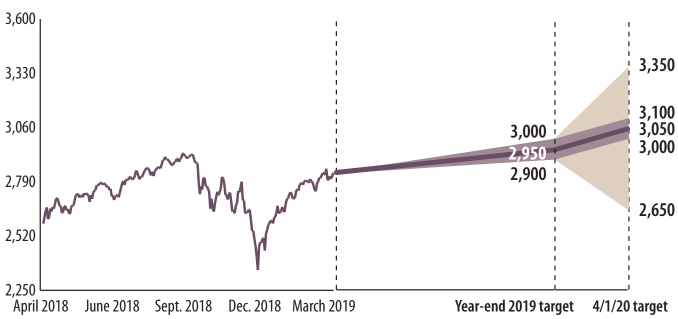
	2019 YE targets	Current
▲ S&P 500 Index	2900 - 3000	2946
S&P 500 earnings per share ($)	173	162
▲ Russell Midcap® Index	2280 - 2380	2235
▼ Russell Midcap earnings per share ($)	133	124
▲ Russell 2000 Index	1600 - 1700	1591
▼ Russell 2000 earnings per share ($)	68	65
▲ MSCI EAFE Index	1900 - 2000	1921
▼ MSCI EAFE earnings per share ($)	138	132
▲ MSCI Emerging Markets (EM) Index	1165 - 1265	1079
▼ MSCI EM earnings per share ($)	88	82

Sources: FactSet, Bloomberg, International Monetary Fund, as of April 30, 2019. The 2019 targets are Wells Fargo Investment Institute forecasts, as of May 15, 2019. The current EPS is as of December 31, 2018. 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.

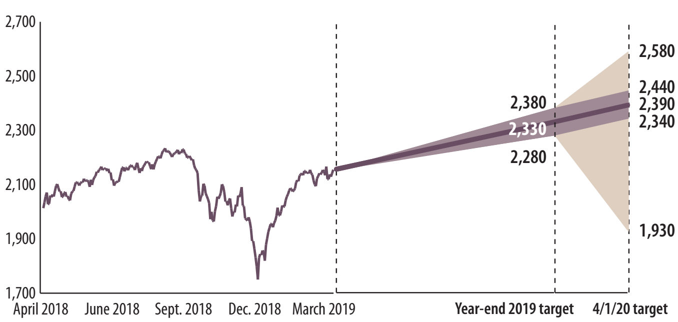
▲/▼: recent change.

Rolling 12-month forecasts

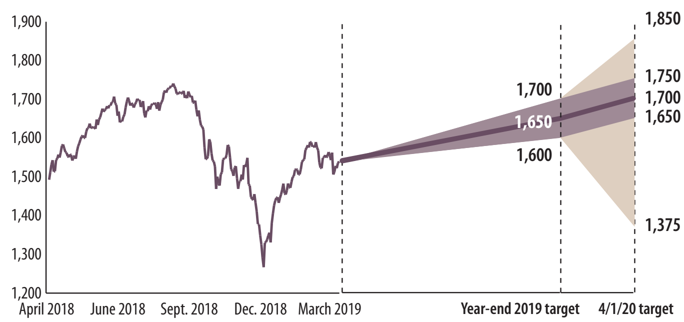
S&P 500 Index



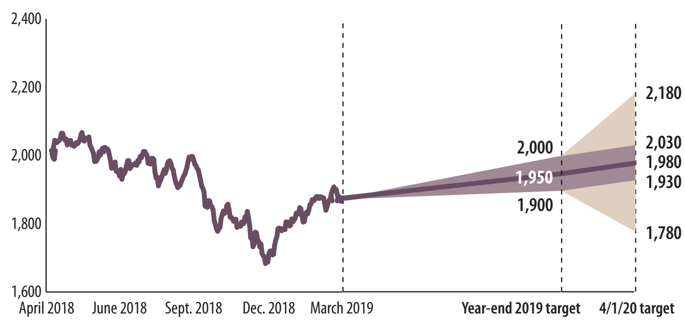
Russell Midcap Index



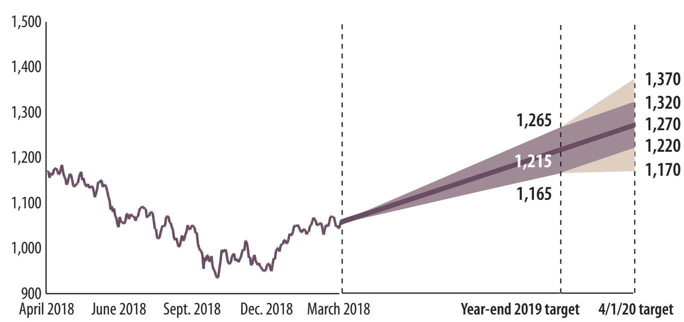
Russell 2000 Index



MSCI EAFE Index



MSCI Emerging Markets Index



Past performance is no guarantee of future results. Conviction range definitions are on page 6.

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Equities

U.S. equity sector strategy

Sector guidance

Sector	S&P 500 Index weight (%)*	WFII guidance (%)	Guidance: Most unfavorable		Neutral		Most favorable
Communication Services	10.3	7.3		■			
Consumer Discretionary	10.3	12.2				■	
Consumer Staples	7.2	6.7			■		
▲ Energy	5.2	7.5				■	
▼ Financials	13.3	14.5				■	
▼ Health Care	13.6	14.6			■		
Industrials	9.5	12.7					■
▲ Information Technology	21.7	24.5					■
▼ Materials	2.7	0.0		■			
Real Estate	3.0	0.0		■			
Utilities	3.2	0.0	■				
Total	100.0	100.0					

Sources: Bloomberg, Wells Fargo Investment Institute (WFII). Weightings are as of April 30, 2019. WFII guidance is as of May 15, 2019. *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
S&P 500 Index	**4.0**	**18.2**	**13.5**
Communication Services	6.5	21.4	15.9
Consumer Discretionary	5.7	22.3	16.9
Consumer Staples	2.5	14.8	18.4
Energy	0.1	16.5	-7.3
Financials	9.0	18.3	4.3
Health Care	-2.6	3.8	10.5
Industrials	4.1	22.0	10.6
Information Technology	6.4	27.6	22.8
Materials	3.6	14.3	3.0
Real Estate	-0.5	17.0	21.2
Utilities	0.9	11.9	18.0
WFII weighted guidance	**4.4**	**19.3**	**13.0**

Source: FactSet, April 30, 2019.
An index is unmanaged and not available for direct investment.
Past performance is no guarantee of future results.

Communication Services (Unfavorable): Unlike a top-rated sector like Information Technology (IT), Communication Services now rates second lowest among S&P 500 sectors for its combined payout from dividends and share buybacks. Analyst forecast dispersion is high, indicating low conviction in the average analyst forecast.

Consumer Discretionary (Favorable): We expect strong consumer spending in the quarters ahead. Consumer confidence and a strengthening labor market are expected to fuel consumer spending this year.

Consumer Staples (Neutral): Valuation indicators, such as the trailing 12-month price/earnings (P/E) and price to free cash flow (PFCF) ratios, have improved. This sector ranks well based on our Quality Pillar** versus most of the other sectors. We believe that debt levels, earnings dispersion, and return on equity (ROE) signal attractive opportunities. We remain neutral; we believe it is too early to become defensive.

Energy (Favorable): We recently upgraded our guidance on Energy to favorable. Quality Pillar factors have improved; profitability (as measured by ROE) also is stronger. Valuations have become more compelling as Energy's weight in the S&P 500 Index has fallen to multi-decade lows. Oil and natural gas oversupply is a risk.

Financials (Favorable): We recently reduced our guidance on Financials to favorable. Based on our Value Pillar**, which includes metrics such as the trailing P/E and PFCF ratios, Financials rank highly among the 11 sectors, but our Quality Pillar factors have deteriorated. We expect modest economic growth and better loan demand ahead. A flattening yield curve has hurt performance.

Health Care (Neutral): We recently downgraded our guidance on Health Care to neutral as several Quality Pillar factors recently have deteriorated. In addition, analyst estimate dispersion has risen and leverage and liquidity measures have deteriorated somewhat. Relative valuation, based on free cash flow, remains attractive. Political uncertainty recently has been a major headwind. Drug price controls remain a concern.

Industrials (Most favorable): Our most favorable guidance reflects our expectation for slower, but resilient, global economic growth and increased business capital expenditures. This sector historically has performed well late in the cycle. Overall, it scores well across all four of our pillars (Growth, Value, Quality, and Economic)**. Increased trade frictions would be negative for Industrials.

Information Technology (Most favorable): We recently upgraded our guidance on the IT sector to most favorable. Valuations have improved and 12-month forward EPS growth is a solid 9.2%. Longer-term fundamentals remain compelling as IT companies are generating high cash flows and have maintained healthy leverage ratios. This sector also offers an improved total yield.

Materials (Unfavorable): We recently downgraded our guidance on Materials to unfavorable. ROE has been nearly cut in half over the past six months, based on the latest company results. Further, estimated EPS growth has deteriorated. Materials have performed poorly over the past 12 months.

Real Estate (Unfavorable): Real Estate was in the bottom half of all sectors based on our Growth Pillar**; it is at the bottom based on our Quality and Value indicators. We expect interest rates to rise slightly; we see that as a headwind. Historically, the combination of rising rates and an aging economic cycle frequently has led to this sector's underperformance.

Utilities (Most unfavorable): This defensive sector normally has an above-average dividend yield—but it has underperformed YTD, even with falling rates. If rates rise slightly as we expect, that would represent a further headwind.

Growth versus Value (Neutral): The IT and Consumer Discretionary sectors contain a heavy allotment of growth companies and have led the market higher over the past two years. When most cycles reach their final stages, Growth usually outperforms Value. Yet, for now, we remain neutral.

**For pillar definitions, see page 30.

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

Equities

International equity market strategy

Developed Market Ex.-U.S. Equities

Europe region (Neutral): We remain neutral on the Europe region. Valuations are somewhat attractive, and economic data has shown some stabilization and improvement.

Economic: Positive economic surprises have continued to rise. Signs of stabilization have appeared in several countries, and others are reflecting actual improvement.

Market valuations: Valuations remain slightly attractive. Germany and Italy have returned to more neutral levels, while the U.K. remains attractive (based on valuation)—but faces political risk from Brexit.

Market internals: Market internals remain largely neutral.

Pacific region (Favorable): We maintain our favorable rating on the Pacific region. Valuations are mixed in key countries, yet economic indicators and surprises may signal future upside potential.

Economic: Economic data has improved modestly, yet remains weak across much of the region. Positive economic surprises do point to potential increases in economic activity.

Market valuations: Valuations have trended closer to neutral across the region. Japan's valuations remain relatively attractive, but it faces other structural issues.

Market internals: Market breadth and sentiment measures remain neutral. However, trading volume in the region has continued to decline.

Emerging Market Equities

Emerging Asia (Most Favorable): Equity markets in Emerging Asia remain attractive from a valuation perspective, and we maintain our most favorable regional rating.

Economic: Economic indicators have improved across the region, and positive surprises have increased in China and India.

Market valuations: Valuations have become less attractive as equity markets have risen across much of the region. Weak fundamentals in South Korea and Taiwan persist.

Market internals: Market breadth and sentiment appear solid, offsetting continued lower trading volume.

Emerging Europe, Middle East and Africa (EMEA) region (Favorable): Economic data remains largely neutral, and valuations have shown signs of slight deterioration. Yet, for now, we maintain our favorable rating. Ongoing geopolitical concerns and commodity price volatility may continue to challenge investment sentiment in the region.

Economic: Indicators continue to reflect moderate economic activity. Economic surprises remain positive, possibly signaling future improvement.

Market valuations: Valuations have weakened, as Russia and South Africa have experienced solid market gains.

Market internals: Internals remain mostly neutral. Sentiment has become more positive.

Latin America region (Most Favorable): Economic and earnings fundamentals support our most favorable guidance on the region. Yet, heightened levels of equity market volatility may persist, given ongoing political uncertainties.

Economic: Growth measures have shown that Brazil and Mexico continue to exhibit signs of improvement.

Market valuations: Brazilian equity valuations have become more compelling, following the April market decline. Other areas in the region are neutral.

Market internals: Internals remain neutral, with the exception of weaker market breadth. Long-term technicals suggest that Latin American equities may continue to face headwinds in the coming months.

International equity guidance by region

Region	Benchmark weight (%)*	Regional guidance: Most unfavorable		Neutral		Most favorable
Developed Market Ex.-U.S. Equities		□	□	■	□	□
Europe	61	□	□	■	□	□
Pacific	39	□	□	□	■	□
Emerging Market Equities		□	□	□	□	■
EM Asia	76	□	□	□	□	■
EM Europe, Middle East and Africa	12	□	□	□	■	□
Latin America	12	□	□	□	□	■

Source: Wells Fargo Investment Institute, May 15, 2019.
* Benchmarks are MSCI EAFE for DM and MSCI Emerging Markets for EM.

We provide additional context for the regional guidance in our *International Strategy* reports.

Real Assets

Market summary

April was a challenging month for Real Assets, with commodities, master limited partnerships, and real estate investment trusts all declining. A modestly stronger U.S. dollar and higher long-term interest rates were the largest macro drivers of the underperformance.

REITs and MLPs

Market observations

Real estate investment trusts (REITs): Relative REIT performance continues to be tied to long-term interest rates. As the 10-year Treasury yield declines, REITs often outperform, and vice versa. In April, the 10-year Treasury yield rose, which contributed to REIT underperformance. U.S. REITs outperformed international REITs as the dollar strengthened modestly and U.S. economic data was favorable. Going forward, we expect global REITs to struggle in the face of an aging economic cycle, slowing fundamentals, and fairly rich valuations. We hold an unfavorable rating on global REITs (public real estate), which encompasses both U.S. and international REITs.

Master limited partnerships (MLPs): MLPs took a breather in April, despite higher oil prices. It seemed that after the strong year-to-date run, and after experiencing dismal performance in recent years, investors were quick to take MLP gains last month. Yet, as long as West Texas Intermediate (WTI) oil prices do not spend significant time below $50 per barrel, we expect the positive fundamental backdrop for MLPs to remain intact—and investors to become more confident in the space. We hold a favorable view on MLPs, based on valuation; the need for additional energy infrastructure; burgeoning relative performance; and progress toward simplification and transition to a more self-funded model.

Wells Fargo Investment Institute perspective

REITs and MLPs typically can provide income opportunities for investors, but the main drivers for these two asset classes differ. For REITs, slowing fundamentals and an aging economic cycle are headwinds. As noted, we hold an unfavorable view on global REITs (public real estate), which encompasses both U.S. and international REITs. For MLPs, we believe that investors' search for yield, relative valuation, improving fundamentals, and the need for additional energy infrastructure are positives. We are favorable toward MLPs and recommend that investors consider high-quality, midstream MLPs that are large and liquid.

Commodities

Market observations

Commodity prices pulled back slightly in April after a strong start to the year. Energy was the sole commodity sector that posted a positive April return, while agriculture commodities continued to underperform.

Energy: Increases in Brent and WTI oil prices offset the losses in natural-gas prices. Oil prices have been supported by sanctions against Iran and Venezuela—and by production cuts from Russia and OPEC (Organization of the Petroleum Exporting Countries). These factors, along with improving demand, have offset the impact of robust U.S. oil production. Persistent geopolitical uncertainties, such as the political turmoil in Venezuela, may contribute to increased oil-price volatility. Natural-gas prices continued their decline, falling by more than 3% in April. Supplies are building within historical averages, and natural-gas prices could continue to weaken during this stockpiling season.

Real assets index total returns (%)

	MTD	QTD	YTD	1 year	3 year	5 year
Public Real Estate	-1.3	-1.3	13.4	10.6	6.2	6.4
U.S. REITs	-0.2	-0.2	16.9	19.6	8.4	9.3
International REITs	-2.4	-2.4	11.0	2.3	6.0	4.8
Master Limited Partnerships	-1.3	-1.3	15.3	5.1	1.6	-5.8
Global Infrastructure	1.2	1.2	15.5	7.9	8.3	5.3
Commodities (BCOM)	-0.4	-0.4	5.9	-8.0	-0.7	-9.4
Agriculture	-3.3	-3.3	-6.4	-20.2	-11.1	-13.6
Energy	4.3	4.3	20.9	-1.2	4.5	-16.5
Industrial Metals	-3.4	-3.4	9.0	-9.6	7.5	-1.2
Precious Metals	-0.9	-0.9	-0.9	-4.7	-2.4	-2.1

Sources: Bloomberg, April 30, 2019. Public Real Estate: FTSE EPRA/NAREIT Developed Index. Domestic REITs: FTSE NAREIT All Equity REITs Index. International REITs: FTSE EPRA/NAREIT Developed ex-U.S. Index. MLPs: Alerian MLP Index. 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.

Metals: Precious metal prices moved lower in April as the dollar strengthened somewhat. Demand for perceived "safe haven" assets, such as gold, continued to wane alongside investor concern over trade tensions and other geopolitical issues. We expect modest precious-metal price increases from current levels, given our expectation for some dollar weakness this year, along with increased geopolitical uncertainties. Base-metal prices also declined last month, despite the alleviated concerns over global economic growth. Metal prices have been more volatile as investors digested developments surrounding U.S.-China trade negotiations and global demand for metals.

Agriculture: Agriculture commodity prices have continued to decline, due to abundant global supply and uncertainty regarding future global demand. In April, wheat was the worst-performing commodity in the Bloomberg Commodity Index with price declines of roughly 10% amid ample supplies. Yet, the other agriculture commodities provided no help, with each component posting a negative monthly return. Trade tensions and global-growth expectations may fuel increased commodity sector volatility going forward. However, we expect a softer U.S. dollar and easing trade tensions to benefit agriculture commodities in the coming quarters, along with healthy global demand.

Wells Fargo Investment Institute perspective

Despite investor concerns surrounding economic growth, a generally resilient global economy has supported commodity performance this year. Commodities have rebounded, and we foresee balanced upside and downside risks over the tactical time horizon. We recently took the opportunity to downgrade commodities to neutral from favorable.

Asset class guidance	Guidance: Most unfavorable		Neutral	Most favorable	
Public Real Estate	☐	■	☐	☐	☐
Private Real Estate	☐	■	☐	☐	☐
Infrastructure	☐	☐	■	☐	☐
▼ Commodities	☐	☐	■	☐	☐

Source: Wells Fargo Investment Institute, May 15, 2019. ▼: recent change.

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Real Assets

Wells Fargo Investment Institute forecasts

Commodities: Our year-end 2019 WTI crude-oil price target range is $60–$70 per barrel. We believe that the proper supply/demand balance for WTI oil prices is $50-$60 per barrel. We added a $10 per barrel expected premium for geopolitical concerns and both planned and potential production cuts by key producers. Gold-price volatility could rise as interest rate, dollar, and geopolitical uncertainties persist. Increased equity volatility and our expectations for a weaker U.S. dollar could provide some gold-price support. Our year-end 2019 target range for gold prices is between $1,250 and $1,350 per troy ounce.

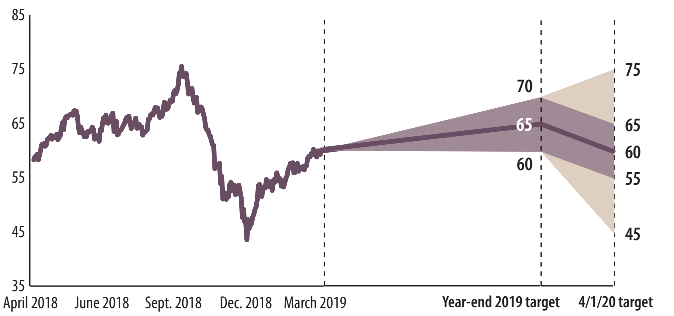
Global real assets ($)

	2019 YE targets	Current
WTI crude oil price ($ per barrel)	60 - 70	64
Brent crude oil price ($ per barrel)	65 - 75	73
Gold price ($ per troy ounce)	1,250 - 1,350	1,286

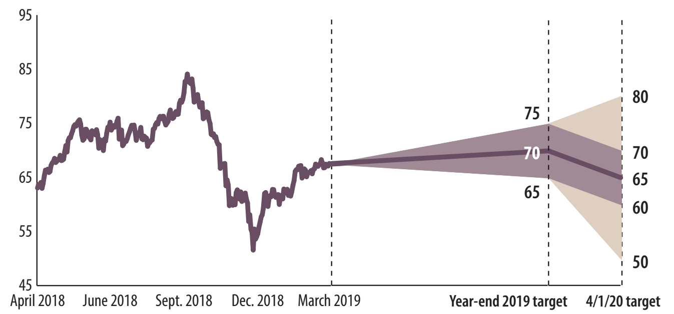
Sources: FactSet, Bloomberg, International Monetary Fund, as of April 30, 2019. The 2019 targets are Wells Fargo Investment Institute forecasts, as of May 15, 2019. Forecasts are based on certain assumptions and on our views of market and economic conditions, which are subject to change. See end of report for important definitions and disclosures. WTI is a grade of crude oil used as a benchmark in oil pricing.

Rolling 12-month forecasts

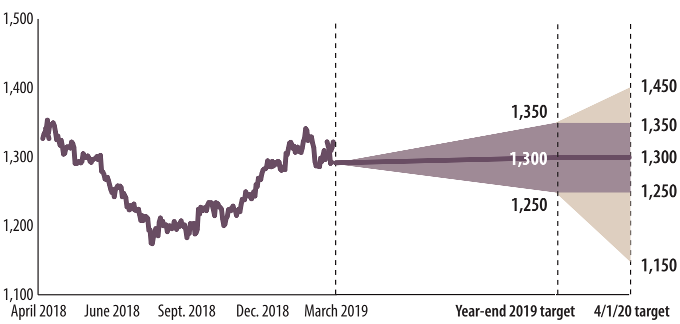
West Texas Intermediate crude oil ($)



Brent crude oil ($)



Gold ($)



Past performance is no guarantee of future results. Conviction range definitions are on page 6.

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

Alternative Investments*

Market summary

Early estimates from Hedge Fund Research, Inc. (HFR) indicate positive April returns. As long equity exposure drove performance, Macro strategies had a second consecutive month with healthy returns. Merger Arbitrage strategies gained as a North American target received a counteroffer in a large-cap deal, while Structured Credit managers benefited from spread tightening in securitized credit markets. Yet, political rhetoric weighed on the Health Care sector—hindering returns for several Equity Hedge managers.

Relative Value: As spreads tightened, commercial mortgage-backed securities' delinquency rate fell to 2.82%, reaching a post-crisis low last month.

Macro: Systematic Macro (Trend Following) managers benefited both from long equity positioning and short agriculture exposure as oversupply weighed on grain prices.

Event Driven: Distressed high-yield debt strategies had a strong month—outperforming the broader credit markets in April. Positive developments in certain merger and acquisition (M&A) deals also were supportive.

Equity Hedge: While equity correlations have been volatile in recent quarters, correlations declined in April and are now below the historical average. This allowed managers to add value through long and short positioning.

Market observations

In April, the European region experienced the most hedge fund selling, especially in the U.K. and Germany—as Europe's long-short ratio fell to the lowest level since December 2016. Despite the negative returns experienced across the Health Care space, asset flows are suggesting little evidence of derisking or capitulation in this sector.[1]

Wells Fargo Investment Institute perspective

Relative Value: We have a favorable view of Relative Value and recommend that qualified investors consider combining Structured Credit with Long/Short Credit strategies. Historically, Structured Credit has had relatively low interest-rate sensitivity—as it relies more on the consumer and economic growth than on other factors. Long/Short Credit strategies can offer downside protection as the credit cycle matures. We anticipate increased opportunity to short securities of overleveraged companies facing rising interest costs and declining earnings.

Macro: We remain neutral overall. Yet, we expect Discretionary Macro strategies to navigate sudden sentiment reversals more quickly than Systematic Macro/Trend Following strategies.

Event Driven: While defaults remain near historical lows, we expect "localized" stresses to rise in certain sectors and industries, particularly in retail, which could provide opportunities for Distressed managers. We currently see higher return potential in European M&A deals as merger spreads have widened relative to North American deals. However, we believe that current merger spreads do not properly compensate investors for the risks associated with global trade tensions and regulatory scrutiny.

Equity Hedge: We remain favorable as we view the environment for equity security selection as supportive. However, recent challenges facing the Equity Hedge strategy require monitoring.

Alternative investments index/strategy total returns (%)

	MTD	QTD	YTD	1 year	3 year	5 year
Global Hedge Funds	1.6	1.6	7.2	1.8	5.2	3.4
Relative Value	0.9	0.9	4.9	3.3	5.3	3.6
Arbitrage	0.2	0.2	4.4	4.0	4.7	3.4
Long/Short Credit	1.4	1.4	6.4	3.9	6.8	3.9
Struct Credit/Asset-Backed	0.9	0.9	2.6	3.6	6.7	5.1
Macro	1.7	1.7	4.1	1.2	0.5	1.5
Systematic	2.5	2.5	4.6	0.9	-1.2	1.6
Discretionary	2.3	2.3	4.4	3.8	1.6	0.7
Event Driven	2.2	2.2	6.4	3.7	7.0	3.4
Activist	3.0	3.0	12.3	2.8	5.4	4.9
Distressed Credit	3.0	3.0	6.4	3.6	8.2	2.4
Merger Arbitrage	0.9	0.9	3.5	6.8	5.0	3.8
Equity Hedge	1.6	1.6	9.4	1.0	6.9	4.1
Directional Equity	1.9	1.9	8.1	-0.5	4.8	3.3
Equity Market Neutral	-0.2	-0.2	1.1	-0.5	2.5	2.6

Source: Hedge Fund Research, Inc., April 30, 2019.
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.

Dispersion and volatility rose in 2018, yet unstable correlations have hampered returns. We expect better 2019 returns as we remain constructive on the equity markets. Yet, we are more constructive on strategies such as Relative Value and Event Driven that can capitalize upon credit-market opportunities (than on others).

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. Opportunities within Private Equity have become more nuanced, and careful attention needs to be given to fund size, geographic exposure, and strategy. Opportunities do exist—but not indiscriminately.

Private Debt: We maintain a favorable view on Private Debt funds, due to their historical ability to capitalize on illiquidity to deliver expected cash yields and total returns at a premium to those available in public or broadly syndicated debt markets. Additionally, Private Debt strategies may benefit in a rising-rate environment, due to issuance of floating-rate debt.

Private Real Estate: We remain unfavorable on Private Real Estate. Recent trends have been supportive. Yet, over the next several years, we expect to see: 1) higher property capitalization (cap) rates and lower returns due to slowing income growth; 2) pockets of illiquidity and distress; and 3) lower capital flows into U.S. real estate—particularly in core markets. Given the solid appreciation in core real estate values nationwide in recent years, and the slowing pace of appreciation, we favor U.S. value-add and opportunistic funds over the next several years.

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[1] Goldman Sachs Prime Services, April 2019.

Alternative Investments*

Private placements and liquid alternatives

Alternative investment strategies outlook*

Private placements	Guidance: Most unfavorable		Neutral		Most favorable
Relative Value	□	□	□	■	□
Arbitrage	□	□	■	□	□
Long/Short Credit	□	□	□	■	□
Structured Credit/Asset-Backed	□	□	□	■	□
Macro	□	□	■	□	□
Systematic	□	■	□	□	□
Discretionary	□	□	□	■	□
Event Driven	□	□	■	□	□
Activist	□	□	■	□	□
Distressed Credit	□	□	□	■	□
Merger Arbitrage	□	□	■	□	□
Equity Hedge	□	□	□	■	□
Directional	□	□	□	■	□
Equity Market Neutral	□	□	■	□	□
Private Equity	□	□	■	□	□

Liquid alternatives	Guidance: Most unfavorable		Neutral		Most favorable
Relative Value	□	□	■	□	□
Macro	□	□	■	□	□
Event Driven	□	□	■	□	□
Equity Hedge	□	□	■	□	□

Sources: Wells Fargo Investment Institute, Wilshire Liquid Alternative Index family, May 15, 2019.

Notes on alternative investment structures

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

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

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

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

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

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

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

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

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

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

Currency Guidance

The U.S. dollar versus developed market currencies

Market observations and outlook

After attempting to break higher late in April, the U.S. Dollar Index (DXY) ended the month only marginally stronger, near 97.50. Despite more weakness in eurozone data, and political jitters in the U.K., both the euro and pound ended April scarcely changed. The yen was slightly weaker after a somewhat dovish Bank of Japan policy meeting, but not significantly so. The Swedish krona was the weakest of the DXY constituents, dropping by nearly 2% as Sweden's central bank pushed back rate-hike expectations. We recently updated our year-end 2019 forecasts. At year-end, we now anticipate a euro range of 1.11–1.19 and a yen range of 104–114, versus the dollar. The DXY levels implied by the midpoints of these ranges are approximately 94–95. We continue to expect that the dollar will not strengthen much further from here—and that it may be moderately weaker by year-end.

2019 year-end currency targets

	April 30, 2019	2019 YE forecasts	Expected return versus U.S. dollar
▼ Dollars per euro	$1.12	$1.11-$1.19	2.5%
▲ Yen per dollar	¥111	¥104-¥114	2.2%

Source: Bloomberg, as of April 30, 2019. The 2019 targets are Wells Fargo Investment Institute forecasts, as of May 15, 2019. 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. ▲/▼: recent change.

The U.S. dollar versus emerging market currencies

Market observations and outlook

Emerging market (EM) currency indices were little changed in April, with the JP Morgan Emerging Markets Currency Index (EMCI) declining marginally (-0.1%), and an index of currencies mirroring the weighting of the more manufacturing-based MSCI Emerging Markets Index also falling slightly (-0.2%). Ongoing declines in the Turkish lira and Argentinian peso were offset by gains in the Mexican peso and Russian ruble, boosted by the latest oil-price rise. We see the U.S. dollar's 2018 strength continuing to wane this year, and we expect a generally resilient global economy to provide a more supportive backdrop for EM currency stabilization and modest appreciation in 2019.

Currency hedging

Based on our views on the direction of the dollar, we provide our currency-hedging guidance in the matrix below. For developed market (DM) fixed income, we do not recommend hedging any portion of DM bond holdings, since our outlook for DM currencies over the coming year is for further appreciation against the dollar. While we acknowledge that wide currency swings are possible, our strategic benchmark is unhedged (that is, taking the exposure to DM currencies), so 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 our favorable stance on this debt class and our relatively neutral view on the dollar versus EM local currencies suggest that hedging is unnecessary.

Hedging matrix

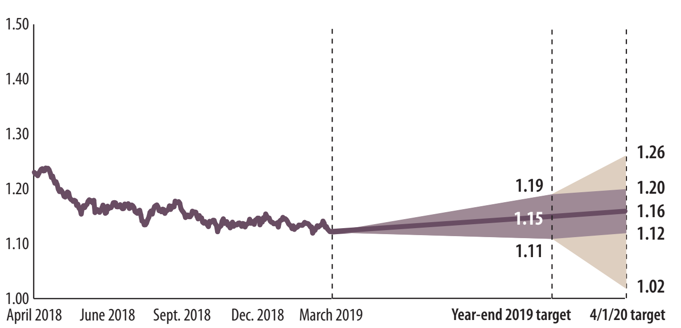
Asset class	Strategic benchmark	Currency advice
Developed Market Ex-U.S. Fixed Income	Local currency	No hedge
Developed Market Ex-U.S. Equities	Local currency	No hedge
Emerging Market Fixed Income	U.S. dollar	No hedge
Emerging Market Equities	Local currency	No hedge

Source: Wells Fargo Investment Institute, May 15, 2019. 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.

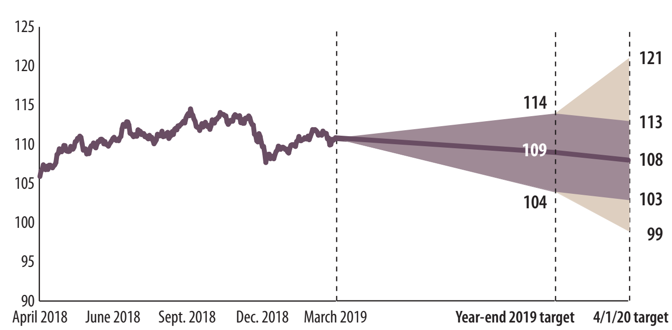
We do not favor hedging currency risk for equities at this time. The hurdle to hedging currency risk is higher for equities than for bonds because, in equity markets, currency movements have had a smaller influence on total return than for fixed income. Further, the cost and complexity of currency hedging 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.

Rolling 12-month forecasts

Dollar/euro exchange rate ($)



Yen/dollar exchange rate (¥)



Past performance is no guarantee of future results. Conviction range definitions are on page 6.

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Investment Themes and Actions for 2019

Theme	Trends	Strategic (long-term investments)	Tactical (short-term opportunities)
China's Place in the World	The U.S.-China trade dispute highlights China's rising global prominence, prompting questions about its motivation and ability to displace U.S. global economic leadership. China's economic reforms have helped to raise the global reach of its financial markets and the yuan. As China's economy and global influence advance over the next few years, we anticipate continued anxiety in the West but also long-term opportunities.	For investors who seek to benefit from China's economic development, we recommend considering a diversified allocation to emerging markets (EM). Newfound access to Chinese capital markets could enable investors to capitalize upon long-term growth opportunities as China's economy evolves. We expect that the yuan's low utilization as a trade, savings, and payment currency may hinder its long-term prospects as a dominant global store of value. Yet, this view could change as Beijing expands foreign access to its financial markets.	We currently hold a most favorable view on EM equities. In our view, valuations of EM equities are more compelling than those of U.S. large caps and developed market (DM) equities. We expect U.S. dollar strength to wane in 2019, which should boost EM equity returns in U.S. dollars and allow for moderate appreciation of many EM currencies.
Reimagining Retirement	Traditionally, retirement meant leaving behind a 9-to-5 job and spending time with family, volunteering, or traveling. But that may be changing. Today, as individuals evaluate (and plan for) retirement, many wonder if they can afford it. For some, a job may be necessary; for others, working part-time offers the opportunity to stay engaged and postpone dipping into savings. We believe, today's retirees should consider plans for a long retirement, as many people could risk outliving their retirement assets without a well-crafted retirement plan.	For workers who truly want to retire, developing the habit of saving early makes the task of achieving that goal more attainable. We suggest a strategic asset allocation that includes fixed income, equities, real assets, and alternative investments, based on long-term objectives. Younger workers should take advantage of time and start saving for retirement today. We recommend investors consider rebalancing portfolios regularly to account for shifts in sentiment and asset values.	We believe that equity holdings are vital for most retirement accounts. Investors may consider owning a mix of dividend-paying and value-tilted stocks for income, along with growth stocks for capital appreciation and to offset inflation. Workers nearing retirement age may be able to take advantage of annual "catch up" contributions in defined contribution plans. The IRS allows workers age 50 and older to make additional tax-deferred contributions to these plans.
How Economic Recoveries End	Historically, recessions vary in duration, depth, and magnitude. Since 1929, the U.S. has had 14 recessions, lasting from 6 to 43 months, with a median length of 10.5 months. Although no two recessions are alike, we typically observe common characteristics that can trigger recessions. As the recovery continues, we are watching for signs that the odds of a recession are building. Since recessions are a normal part of the economic cycle, investors should expect to experience them periodically—and plan accordingly.	We recommend considering a mix of active and passive strategies suitable for current market trends and investor situations. We believe that most investors should maintain equity exposure, since the latter years of an economic cycle and bull market have tended to be strong. Investors also may want to hold global exposure, as overseas markets appear more attractively valued. We recommend investors consider using high-quality bonds for income and to help offset market volatility. We believe that investors should properly diversify their portfolios. Further, regularly rebalancing back to strategic weights can help to prepare a portfolio for a market correction or economic downturn.	Investors may want to hold appropriate levels of cash alternatives and deploy cash selectively—as volatility can create opportunities. As the expansion matures, we recommend investors consider more selectivity in fixed-income holdings, by raising average credit quality and aligning portfolio duration with their individually selected benchmarks. We favor shorter-maturity securities, both in the taxable and municipal sectors. At this point in the cycle, we favor the Financials, and Information Technology sectors. We also favor the Consumer Discretionary and Industrials sectors, which should benefit from solid consumer spending, business spending, and steady economic growth overseas.

Tactical Guidance

Recommended tactical guidance

Wells Fargo Investment Institute (WFII) recently lowered its guidance on Commodities from favorable to neutral.

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 provide diversification in an equity portfolio by utilizing both long and short exposures to the asset class. While they provide diversification, investors should expect higher tracking error to traditional benchmarks from these strategies. Prudent use through controlled allocations is recommended.

Most unfavorable	Unfavorable	Neutral	Favorable	Most favorable
		Cash and fixed income		
	High Yield Taxable Fixed Income Developed Market Ex.-U.S. Fixed Income	Emerging Market Fixed Income U.S. Taxable Investment Grade Fixed Income U.S. Intermediate Term Taxable Fixed Income U.S. Long Term Taxable Fixed Income	Cash Alternatives U.S. Short Term Taxable Fixed Income	
		Equities		
	U.S. Small Cap Equities	Developed Market Ex.-U.S. Equities U.S. Large Cap Equities U.S. Mid Cap Equities		Emerging Market Equities
		Real assets		
	Public Real Estate Private Real Estate	Commodities**		
		Alternative investments*		
		Hedge Funds–Macro Hedge Funds–Event Driven Private Equity	Hedge Funds–Relative Value Hedge Funds–Equity Hedge	

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**Changed April 24, 2019.

Tactical Guidance

Tactical guidance summary

	Asset class	Guidance: Most unfavorable		Guidance: Neutral		Guidance: Most favorable	Rationale and further detail
FIXED INCOME	U.S. Taxable Investment Grade Fixed Income	□	□	■	□	□	We recently upgraded our guidance to neutral. We have seen a significantly dovish Fed pivot YTD. We also see a low likelihood of meaningfully higher interest rates. While we believe that total return expectations should be tempered, high-quality fixed income remains an important diversifier and can provide a portfolio shock absorber in times of market stress.
FIXED INCOME	U.S. Short Term Taxable	□	□	□	■	□	We recently moved to a favorable view of this class as part of our move to neutral duration guidance—and given our expectation that the Fed rate-hike cycle has ended. We continue to see U.S. Short Term Taxable Fixed Income as an attractive alternative to excess holdings of cash alternatives in portfolios. Short-term rates have risen since the Fed began tightening, improving the interest-rate profile for this class.
FIXED INCOME	U.S. Intermediate Term Taxable	□	□	■	□	□	We recently upgraded our guidance to neutral. Declining growth and inflation expectations, along with a dovish Fed, suggest that a neutral allocation to U.S. Intermediate Term Taxable Fixed Income now is appropriate.
FIXED INCOME	U.S. Long Term Taxable	□	□	■	□	□	Declining growth and inflation expectations, along with a dovish Fed, suggest that a neutral allocation to U.S. Long Term Taxable Fixed Income now is appropriate. Long dated, high quality fixed income is a portfolio diversifier that historically has tended to perform well during periods of market stress.
FIXED INCOME	High Yield Taxable Fixed Income	□	■	□	□	□	The HY spread (over Treasury yields) remains below the five-year average, and we see an asymmetric HY risk/return profile. A repeat of the fourth quarter's swing toward "risk-off positioning," or an unexpected growth slowdown, could result in underperformance. We believe that investors have better risk-adjusted return opportunities elsewhere.
FIXED INCOME	Developed Market Ex-U.S. Fixed Income	□	■	□	□	□	Sovereign yields (outside the U.S.) should remain low relative to Treasury yields and should rise only gradually. Our view on the dollar is moderately negative, so we do not recommend currency hedging DM bond holdings (see page 16).
FIXED INCOME	Emerging Market Fixed Income	□	□	■	□	□	With valuations having moderated and slightly reduced EM growth expectations, we are now neutral, although relatively high yields and a resilient macro environment should provide some support.
EQUITIES	U.S. Large Cap Equities	□	□	■	□	□	We believe that U.S. large-cap equities are at, or near, "fair value." Our neutral guidance reflects the fact that the timing and strength of fundamental drivers remain uncertain and future volatility is likely.
EQUITIES	U.S. Mid Cap Equities	□	□	■	□	□	We believe that the recent rally has taken U.S. mid-cap equities closer to '"fair value" levels. We recently reduced our guidance to neutral to reflect expected future volatility and uncertain fundamental drivers going forward. Mid caps are typically more volatile than large caps.
EQUITIES	U.S. Small Cap Equities	□	■	□	□	□	Early this year, we downgraded small caps to unfavorable to help mitigate portfolio risk. Rising borrowing costs, weaker balance sheets, and less share buyback potential are small-cap firm challenges.
EQUITIES	Developed Market Ex.-U.S. Equities	□	□	■	□	□	DMs remain challenged by slow economic growth and political uncertainty. European companies face capacity constraints and may not expand without a Brexit deal. This could hamper DM equity returns; yet we forecast low-to-mid-single-digit 2019 EPS growth. One bright spot is Japan; despite recent softening of economic data, firms have seen record high profit levels.
EQUITIES	Emerging Market Equities	□	□	□	□	■	We anticipate mid-single-digit EM earning growth this year. We expect current commodity prices to support EMs in 2019. EM governments are providing fiscal and monetary stimulus in an effort to fuel growth. We expect the U.S. dollar to weaken somewhat versus EM currencies in 2019, which should be positive for EM returns.
REAL ASSETS	▼Commodities	□	□	■	□	□	Commodities have rebounded, and we foresee balanced upside and downside risks from now until year-end. Thus, we recently moved to a neutral guidance position.
REAL ASSETS	Public Real Estate	□	■	□	□	□	We expect REITs to struggle in the face of late-cycle dynamics, plateaued fundamentals, and fairly rich valuations.
REAL ASSETS	Private Real Estate*	□	■	□	□	□	While the environment is largely supportive of Real Estate fundamentals, we believe that risks are rising in the aging economic cycle, and that they have the potential to negatively impact this sector. Private Real Estate funds feature a variety of strategies with differing risk/return profiles. At this point in the cycle, we are more constructive on value-add and opportunistic strategies that emphasize investment in multifamily real estate.
ALTERNATIVE INVESTMENTS*	Hedge Funds–Relative Value*	□	□	□	■	□	We favor the less-directional nature of Relative Value at a time when we see credit risk increasing.
ALTERNATIVE INVESTMENTS*	Hedge Funds–Macro*	□	□	■	□	□	We maintain a neutral view on Macro strategies. Over a full market cycle, we believe that investors can benefit from the strategy's low correlation to traditional long-only stock and bond investments. Discretionary managers' more tactical, nimble approach continues to be additive to performance.
ALTERNATIVE INVESTMENTS*	Hedge Funds–Event Driven*	□	□	■	□	□	We are neutral on Event Driven strategies. The possibility of "localized" stresses in certain sectors or industries could provide opportunities for Distressed managers.
ALTERNATIVE INVESTMENTS*	Hedge Funds–Equity Hedge*	□	□	□	■	□	The environment for equity security selection is supportive, but recent challenges facing Equity Hedge require monitoring, such as unstable correlations. We expect better returns this year, due to our constructive equity market view.
ALTERNATIVE INVESTMENTS*	Private Equity*	□	□	■	□	□	We maintain a neutral view on Private Equity; however, we see opportunities within niche strategies such as secondaries and smaller buyout funds.

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▼: recent change.

Capital Market Assumptions

Fixed income, equities, real assets and alternative investments

Annual update; as of July 2018

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	2.5	2.5			
	Cash Alternatives	2.5	2.5	1.0	2.5	0.9
FIXED INCOME	U.S. Short Term Taxable Fixed Income	2.7	2.7	1.8	2.7	-0.1
	U.S. Intermediate Term Taxable Fixed Income	3.2	3.1	4.5	3.1	-4.0
	U.S. Long Term Taxable Fixed Income	3.8	3.2	10.5	3.2	-12.5
	High Yield Taxable Fixed Income	6.8	6.1	12.0	6.1	-11.7
	Short Term Tax Exempt Fixed Income	2.2	2.2	1.8	2.2	-0.7
	Intermediate Term Tax Exempt Fixed Income	2.6	2.5	4.5	2.5	-4.7
	Long Term Tax Exempt Fixed Income	3.0	2.6	9.0	2.6	-11.1
	High Yield Tax Exempt Fixed Income	5.4	4.8	12.0	4.8	-13.1
	Developed Market ex.-U.S. Fixed Income	3.2	2.9	8.3	2.9	-9.7
	Emerging Market Fixed Income	6.8	6.1	12.0	6.1	-11.7
	Inflation-Linked Fixed Income	3.3	3.1	6.0	3.1	-6.3
	Preferred Stock	5.1	4.4	12.0	4.4	-13.4
EQUITIES	U.S. Large Cap Equities	8.9	7.8	16.0	2.1	-15.2
	U.S. Mid Cap Equities	9.8	8.4	17.8	1.8	-16.8
	U.S. Small Cap Equities	10.3	8.5	20.0	1.3	-19.2
	Developed Market ex.-U.S. Equities	8.9	7.5	17.5	3.0	-17.4
	Developed Market ex.-U.S. Small Cap Equities	9.8	8.0	20.0	2.0	-19.8
	Emerging Market Equities	11.5	9.2	23.0	2.3	-22.0
	Frontier Market Equities	11.1	8.2	26.0	3.5	-26.0
REAL ASSETS	Public Real Estate	8.7	7.2	18.0	4.1	-18.2
	Private Real Estate*	8.7	7.7	15.0	6.0	-14.1
	Infrastructure	8.7	7.5	16.0	4.0	-15.5
	Master Limited Partnerships	8.9	7.6	17.0	6.0	-16.7
	Timberland	7.5	6.8	12.3	5.0	-11.4
	Commodities	5.5	4.4	15.0	0.0	-17.3
ALTERNATIVE INVESTMENTS*	Hedge Funds–Relative Value	5.3	5.1	5.8	0.0	-3.9
	Hedge Funds–Macro	5.1	4.9	6.3	0.0	-4.9
	Hedge Funds–Event Driven	5.5	5.3	7.0	0.0	-5.6
	Hedge Funds–Equity Hedge	6.1	5.7	8.8	0.0	-7.7
	Private Equity	13.0	10.9	22.0	0.0	-19.3
	Private Debt	9.3	8.1	16.0	6.8	-14.9

*Alternative investments are not suitable for all investors. They are speculative and involve a high degree of risk that is suitable 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 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.

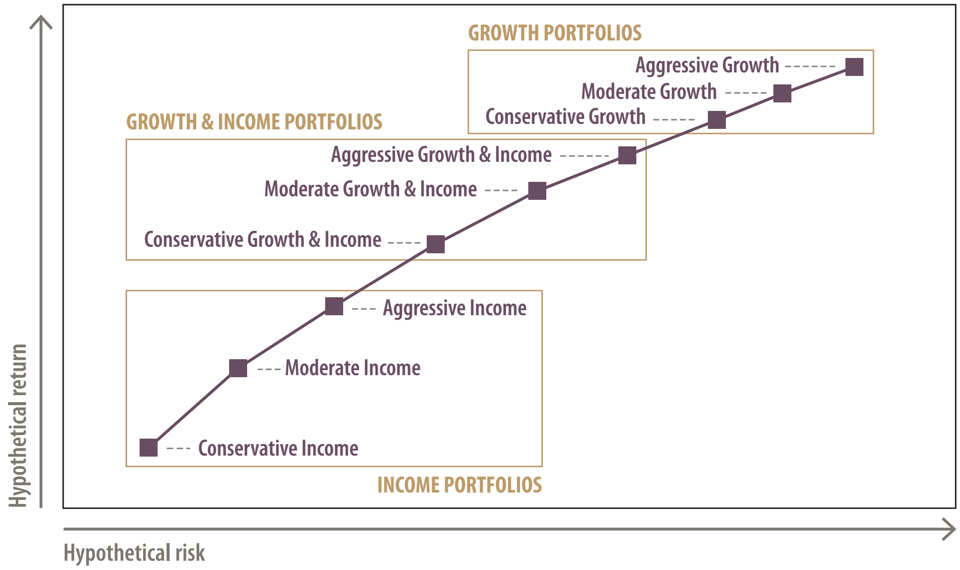

Chart is conceptual and is not meant to reflect any actual returns or represent any specific asset classifications.

Source: Wells Fargo Investment Institute, July 2018

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.

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Strategic and Tactical Asset Allocation,

Three asset groups: fixed income, equities, real assets

		CONSERVATIVE			MODERATE			AGGRESSIVE		
		Strategic (%)	Tactical (%)	Difference (%)	Strategic (%)	Tactical (%)	Difference (%)	Strategic (%)	Tactical (%)	Difference (%)
INCOME	CASH ALTERNATIVES	3.0	5.0	2.0	3.0	6.0	3.0	3.0	6.0	3.0
	TOTAL FIXED INCOME	85.0	85.0	0.0	72.0	74.0	2.0	64.0	66.0	2.0
	U.S. Taxable Investment Grade Fixed Income	71.0	76.0	5.0	56.0	63.0	7.0	43.0	50.0	7.0
	U.S. Short Term Taxable	28.0	31.0	3.0	19.0	23.0	4.0	8.0	11.0	3.0
	U.S. Intermediate Term Taxable	38.0	40.0	2.0	30.0	32.0	2.0	25.0	27.0	2.0
	U.S. Long Term Taxable	5.0	5.0	0.0	7.0	8.0	1.0	10.0	12.0	2.0
	High Yield Taxable Fixed Income	5.0	3.0	-2.0	6.0	4.0	-2.0	8.0	6.0	-2.0
	Developed Market Ex-U.S. Fixed Income	6.0	3.0	-3.0	5.0	2.0	-3.0	5.0	2.0	-3.0
	Emerging Market Fixed Income	3.0	3.0	0.0	5.0	5.0	0.0	8.0	8.0	0.0
	TOTAL EQUITIES	8.0	8.0	0.0	20.0	18.0	-2.0	28.0	26.0	-2.0
	U.S. Large Cap Equities	4.0	4.0	0.0	12.0	12.0	0.0	15.0	15.0	0.0
	U.S. Mid Cap Equities	2.0	2.0	0.0	2.0	2.0	0.0	4.0	4.0	0.0
	U.S. Small Cap Equities	0.0	0.0	0.0	2.0	0.0	-2.0	4.0	2.0	-2.0
	Developed Market Ex-U.S. Equities	2.0	2.0	0.0	4.0	4.0	0.0	5.0	5.0	0.0
	Emerging Market Equities	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	TOTAL REAL ASSETS	4.0	2.0	-2.0	5.0	2.0	-3.0	5.0	2.0	-3.0
	Public Real Estate	4.0	2.0	-2.0	5.0	2.0	-3.0	5.0	2.0	-3.0
	Commodities	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GROWTH & INCOME	CASH ALTERNATIVES	3.0	6.0	3.0	3.0	6.0	3.0	3.0	6.0	3.0
	TOTAL FIXED INCOME	51.0	51.0	0.0	41.0	40.0	-1.0	33.0	32.0	-1.0
	U.S. Taxable Investment Grade Fixed Income	37.0	42.0	5.0	27.0	32.0	5.0	17.0	23.0	6.0
	U.S. Short Term Taxable	7.0	10.0	3.0	4.0	8.0	4.0	2.0	5.0	3.0
	U.S. Intermediate Term Taxable	20.0	22.0	2.0	16.0	17.0	1.0	11.0	13.0	2.0
	U.S. Long Term Taxable	10.0	10.0	0.0	7.0	7.0	0.0	4.0	5.0	1.0
	High Yield Taxable Fixed Income	6.0	4.0	-2.0	6.0	3.0	-3.0	7.0	3.0	-4.0
	Developed Market Ex-U.S. Fixed Income	3.0	0.0	-3.0	3.0	0.0	-3.0	3.0	0.0	-3.0
	Emerging Market Fixed Income	5.0	5.0	0.0	5.0	5.0	0.0	6.0	6.0	0.0
	TOTAL EQUITIES	39.0	39.0	0.0	49.0	50.0	1.0	57.0	58.0	1.0
	U.S. Large Cap Equities	17.0	17.0	0.0	21.0	21.0	0.0	25.0	25.0	0.0
	U.S. Mid Cap Equities	7.0	7.0	0.0	9.0	9.0	0.0	11.0	11.0	0.0
	U.S. Small Cap Equities	6.0	3.0	-3.0	8.0	5.0	-3.0	8.0	5.0	-3.0
	Developed Market Ex-U.S. Equities	5.0	5.0	0.0	6.0	6.0	0.0	7.0	7.0	0.0
	Emerging Market Equities	4.0	7.0	3.0	5.0	9.0	4.0	6.0	10.0	4.0
	TOTAL REAL ASSETS	7.0	4.0	-3.0	7.0	4.0	-3.0	7.0	4.0	-3.0
	Public Real Estate	5.0	2.0	-3.0	5.0	2.0	-3.0	5.0	2.0	-3.0
	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 17, 2018. Tactical allocations are updated periodically; last update was April 4, 2019.

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

Strategic and Tactical Asset Allocation

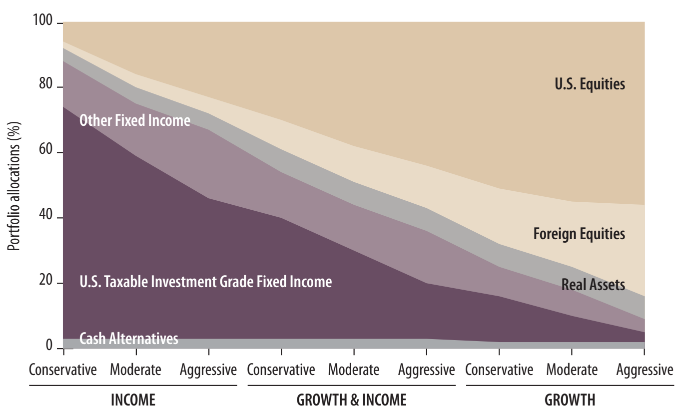
Three asset groups: fixed income, equities, real assets (continued)

		CONSERVATIVE			MODERATE			AGGRESSIVE		
		Strategic (%)	Tactical (%)	Difference (%)	Strategic (%)	Tactical (%)	Difference (%)	Strategic (%)	Tactical (%)	Difference (%)
GROWTH	CASH ALTERNATIVES	2.0	5.0	3.0	2.0	5.0	3.0	2.0	5.0	3.0
	TOTAL GLOBAL FIXED INCOME	23.0	23.0	0.0	16.0	16.0	0.0	7.0	6.0	-1.0
	U.S. Taxable Investment Grade Fixed Income	14.0	18.0	4.0	8.0	13.0	5.0	3.0	4.0	1.0
	Short Term Taxable	4.0	8.0	4.0	2.0	5.0	3.0	0.0	0.0	0.0
	Intermediate Taxable	6.0	6.0	0.0	3.0	5.0	2.0	0.0	0.0	0.0
	Long Term Taxable	4.0	4.0	0.0	3.0	3.0	0.0	3.0	4.0	1.0
	High Yield Taxable Fixed Income	4.0	2.0	-2.0	3.0	0.0	-3.0	2.0	0.0	-2.0
	Developed Market Ex-U.S. Fixed Income	2.0	0.0	-2.0	2.0	0.0	-2.0	0.0	0.0	0.0
	Emerging Market Fixed Income	3.0	3.0	0.0	3.0	3.0	0.0	2.0	2.0	0.0
	TOTAL GLOBAL EQUITIES	68.0	68.0	0.0	75.0	75.0	0.0	84.0	85.0	1.0
	U.S. Large Cap Equities	29.0	29.0	0.0	29.0	29.0	0.0	27.0	27.0	0.0
	U.S. Mid Cap Equities	12.0	12.0	0.0	13.0	13.0	0.0	15.0	15.0	0.0
	U.S. Small Cap Equities	10.0	6.0	-4.0	13.0	9.0	-4.0	14.0	10.0	-4.0
	Developed Market Ex-U.S. Equities	9.0	9.0	0.0	10.0	10.0	0.0	14.0	14.0	0.0
	Emerging Market Equities	8.0	12.0	4.0	10.0	14.0	4.0	14.0	19.0	5.0
	TOTAL GLOBAL REAL ASSETS	7.0	4.0	-3.0	7.0	4.0	-3.0	7.0	4.0	-3.0
	Public Real Estate	5.0	2.0	-3.0	5.0	2.0	-3.0	5.0	2.0	-3.0
	Commodities	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0

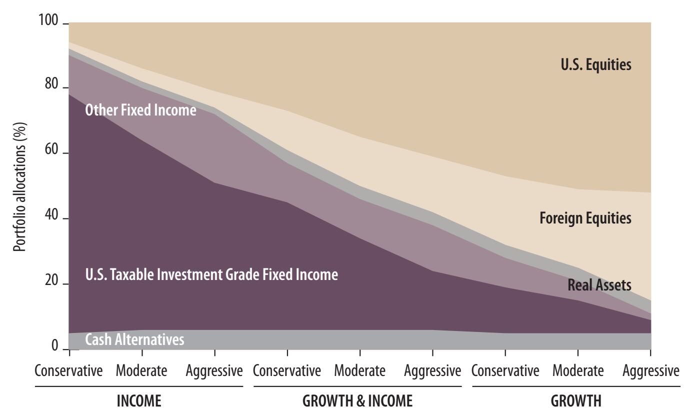
Strategic allocations are updated annually; last update was July 17, 2018. Tactical allocations are updated periodically; last update was April 4, 2019.

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 each asset class. Depending on their tax bracket and on market conditions, investors may elect taxable or municipal bonds to implement their fixed-income allocation.

Portfolio allocations across the efficient frontier–**strategic**



Portfolio allocations across the efficient frontier–**tactical**



Strategic and Tactical Asset Allocation

Four asset groups: fixed income, equities, real assets, alternative investments (without Private Capital)

		CONSERVATIVE			MODERATE			AGGRESSIVE		
		Strategic (%)	Tactical (%)	Difference (%)	Strategic (%)	Tactical (%)	Difference (%)	Strategic (%)	Tactical (%)	Difference (%)
INCOME	CASH ALTERNATIVES	3.0	5.0	2.0	3.0	6.0	3.0	3.0	6.0	3.0
	TOTAL FIXED INCOME	77.0	77.0	0.0	64.0	64.0	0.0	56.0	59.0	3.0
	U.S. Taxable Investment Grade Fixed Income	61.0	67.0	6.0	46.0	52.0	6.0	35.0	43.0	8.0
	U.S. Short Term Taxable	21.0	24.0	3.0	14.0	18.0	4.0	4.0	9.0	5.0
	U.S. Intermediate Term Taxable	35.0	38.0	3.0	25.0	26.0	1.0	21.0	23.0	2.0
	U.S. Long Term Taxable	5.0	5.0	0.0	7.0	8.0	1.0	10.0	11.0	1.0
	High Yield Taxable Fixed Income	5.0	3.0	-2.0	7.0	5.0	-2.0	8.0	6.0	-2.0
	Developed Market Ex-U.S. Fixed Income	8.0	4.0	-4.0	6.0	2.0	-4.0	5.0	2.0	-3.0
	Emerging Market Fixed Income	3.0	3.0	0.0	5.0	5.0	0.0	8.0	8.0	0.0
	TOTAL EQUITIES	9.0	9.0	0.0	16.0	16.0	0.0	24.0	21.0	-3.0
	U.S. Large Cap Equities	5.0	5.0	0.0	10.0	10.0	0.0	11.0	11.0	0.0
	U.S. Mid Cap Equities	2.0	2.0	0.0	2.0	2.0	0.0	6.0	6.0	0.0
	U.S. Small Cap Equities	0.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0	-3.0
	Developed Market Ex-U.S. Equities	2.0	2.0	0.0	4.0	4.0	0.0	4.0	4.0	0.0
	Emerging Market Equities	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	TOTAL REAL ASSETS	2.0	0.0	-2.0	5.0	2.0	-3.0	5.0	2.0	-3.0
	Public Real Estate	2.0	0.0	-2.0	5.0	2.0	-3.0	5.0	2.0	-3.0
	Commodities	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	TOTAL ALTERNATIVE INVESTMENTS*	9.0	9.0	0.0	12.0	12.0	0.0	12.0	12.0	0.0
	Hedge Fund–Relative Value	6.0	6.0	0.0	4.0	4.0	0.0	4.0	4.0	0.0
	Hedge Fund–Macro	3.0	3.0	0.0	5.0	5.0	0.0	5.0	5.0	0.0
	Hedge Fund–Event Driven	0.0	0.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
	Hedge Fund–Equity Hedge	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GROWTH AND INCOME	CASH ALTERNATIVES	3.0	6.0	3.0	3.0	6.0	3.0	3.0	6.0	3.0
	TOTAL FIXED INCOME	41.0	41.0	0.0	31.0	31.0	0.0	23.0	23.0	0.0
	U.S. Taxable Investment Grade Fixed Income	29.0	34.0	5.0	17.0	23.0	6.0	9.0	15.0	6.0
	U.S. Short Term Taxable	4.0	7.0	3.0	0.0	4.0	4.0	0.0	3.0	3.0
	U.S. Intermediate Term Taxable	16.0	18.0	2.0	11.0	12.0	1.0	4.0	6.0	2.0
	U.S. Long Term Taxable	9.0	9.0	0.0	6.0	7.0	1.0	5.0	6.0	1.0
	High Yield Taxable Fixed Income	5.0	3.0	-2.0	6.0	3.0	-3.0	6.0	2.0	-4.0
	Developed Market Ex-U.S. Fixed Income	3.0	0.0	-3.0	3.0	0.0	-3.0	2.0	0.0	-2.0
	Emerging Market Fixed Income	4.0	4.0	0.0	5.0	5.0	0.0	6.0	6.0	0.0
	TOTAL EQUITIES	35.0	35.0	0.0	44.0	44.0	0.0	52.0	52.0	0.0
	U.S. Large Cap Equities	13.0	13.0	0.0	20.0	20.0	0.0	22.0	22.0	0.0
	U.S. Mid Cap Equities	7.0	7.0	0.0	8.0	8.0	0.0	9.0	9.0	0.0
	U.S. Small Cap Equities	6.0	3.0	-3.0	6.0	3.0	-3.0	8.0	5.0	-3.0
	Developed Market Ex-U.S. Equities	5.0	5.0	0.0	5.0	5.0	0.0	7.0	7.0	0.0
	Emerging Market Equities	4.0	7.0	3.0	5.0	8.0	3.0	6.0	9.0	3.0
	TOTAL REAL ASSETS	7.0	4.0	-3.0	7.0	4.0	-3.0	7.0	4.0	-3.0
	Public Real Estate	5.0	2.0	-3.0	5.0	2.0	-3.0	5.0	2.0	-3.0
	Commodities	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
	TOTAL ALTERNATIVE INVESTMENTS*	14.0	14.0	0.0	15.0	15.0	0.0	15.0	15.0	0.0
	Hedge Fund–Relative Value	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
	Hedge Fund–Macro	6.0	6.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0
	Hedge Fund–Event Driven	3.0	3.0	0.0	4.0	4.0	0.0	4.0	4.0	0.0
	Hedge Fund–Equity Hedge	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 17, 2018. Tactical allocations are updated periodically; last update was April 4, 2019. Hedge fund allocations are based on private hedge fund capital market assumptions.

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

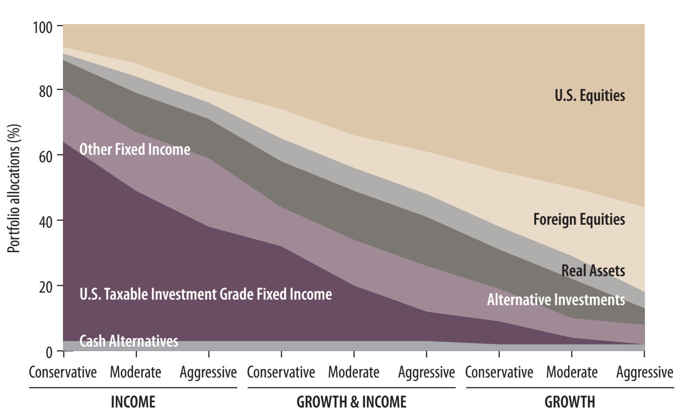
Four asset groups: fixed income, equities, real assets, alternative investments (without Private Capital) (continued)

		CONSERVATIVE			MODERATE			AGGRESSIVE		
		Strategic (%)	Tactical (%)	Difference (%)	Strategic (%)	Tactical (%)	Difference (%)	Strategic (%)	Tactical (%)	Difference (%)
GROWTH	CASH ALTERNATIVES	2.0	5.0	3.0	2.0	5.0	3.0	2.0	5.0	3.0
	TOTAL FIXED INCOME	17.0	17.0	0.0	8.0	7.0	-1.0	6.0	7.0	1.0
	U.S. Taxable Investment Grade Fixed Income	7.0	12.0	5.0	2.0	4.0	2.0	0.0	4.0	4.0
	U.S. Short Term Taxable	0.0	4.0	4.0	0.0	4.0	4.0	0.0	4.0	4.0
	U.S. Intermediate Term Taxable	4.0	4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	U.S. Long Term Taxable	3.0	4.0	1.0	2.0	0.0	-2.0	0.0	0.0	0.0
	High Yield Taxable Fixed Income	5.0	0.0	-5.0	3.0	0.0	-3.0	3.0	0.0	-3.0
	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	3.0	3.0	0.0	3.0	3.0	0.0
	TOTAL EQUITIES	62.0	62.0	0.0	71.0	72.0	1.0	82.0	83.0	1.0
	U.S. Large Cap Equities	24.0	24.0	0.0	25.0	25.0	0.0	25.0	25.0	0.0
	U.S. Mid Cap Equities	11.0	11.0	0.0	13.0	13.0	0.0	16.0	16.0	0.0
	U.S. Small Cap Equities	10.0	6.0	-4.0	12.0	8.0	-4.0	15.0	11.0	-4.0
	Developed Market Ex-U.S. Equities	9.0	9.0	0.0	11.0	11.0	0.0	13.0	13.0	0.0
	Emerging Market Equities	8.0	12.0	4.0	10.0	15.0	5.0	13.0	18.0	5.0
	TOTAL REAL ASSETS	7.0	4.0	-3.0	7.0	4.0	-3.0	5.0	0.0	-5.0
	Public Real Estate	5.0	2.0	-3.0	5.0	2.0	-3.0	5.0	0.0	-5.0
	Commodities	2.0	2.0	0.0	2.0	2.0	0.0	0.0	0.0	0.0
	TOTAL ALTERNATIVE INVESTMENTS*	12.0	12.0	0.0	12.0	12.0	0.0	5.0	5.0	0.0
	Hedge Fund–Relative Value	2.0	2.0	0.0	2.0	2.0	0.0	0.0	0.0	0.0
	Hedge Fund–Macro	6.0	6.0	0.0	6.0	6.0	0.0	3.0	3.0	0.0
	Hedge Fund–Event Driven	2.0	2.0	0.0	2.0	2.0	0.0	0.0	0.0	0.0
	Hedge Fund–Equity Hedge	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0

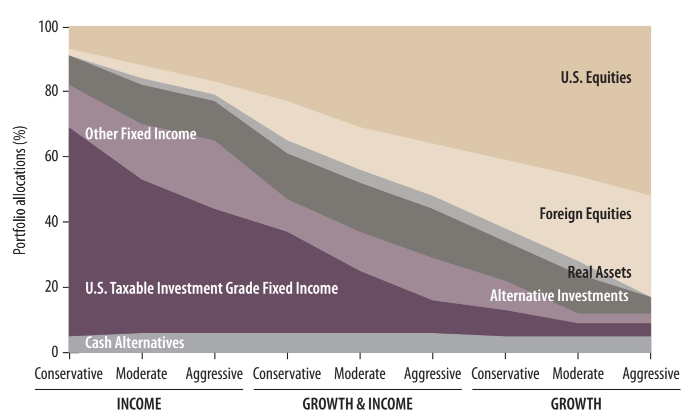
Strategic allocations are updated annually; last update was July 17, 2018. Tactical allocations are updated periodically; last update was April 4, 2019. Hedge fund allocations are based on private hedge fund capital market assumptions.

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 each asset class. Depending on their tax bracket and on market conditions, investors may elect taxable or 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.

Portfolio allocations across the efficient frontier–strategic



Portfolio allocations across the efficient frontier–tactical



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Strategic and Tactical Asset Allocation

Four asset groups: fixed income, equities, real assets, alternative investments

		CONSERVATIVE			MODERATE			AGGRESSIVE		
		Strategic (%)	Tactical (%)	Difference (%)	Strategic (%)	Tactical (%)	Difference (%)	Strategic (%)	Tactical (%)	Difference (%)
INCOME	CASH ALTERNATIVES	3.0	6.0	3.0	3.0	6.0	3.0	3.0	6.0	3.0
	TOTAL FIXED INCOME	73.0	70.0	-3.0	60.0	59.0	-1.0	51.0	53.0	2.0
	U.S. Taxable Investment Grade Fixed Income	56.0	59.0	3.0	42.0	47.0	5.0	30.0	39.0	9.0
	U.S. Short Term Taxable	20.0	23.0	3.0	12.0	16.0	4.0	2.0	7.0	5.0
	U.S. Intermediate Term Taxable	31.0	32.0	1.0	23.0	24.0	1.0	19.0	21.0	2.0
	U.S. Long Term Taxable	5.0	4.0	-1.0	7.0	7.0	0.0	9.0	11.0	2.0
	High Yield Taxable Fixed Income	6.0	4.0	-2.0	7.0	5.0	-2.0	8.0	6.0	-2.0
	Developed Market Ex-U.S. Fixed Income	8.0	4.0	-4.0	6.0	2.0	-4.0	5.0	0.0	-5.0
	Emerging Market Fixed Income	3.0	3.0	0.0	5.0	5.0	0.0	8.0	8.0	0.0
	TOTAL EQUITIES	8.0	8.0	0.0	20.0	18.0	-2.0	25.0	23.0	-2.0
	U.S. Large Cap Equities	4.0	4.0	0.0	10.0	10.0	0.0	11.0	11.0	0.0
	U.S. Mid Cap Equities	2.0	2.0	0.0	4.0	4.0	0.0	6.0	6.0	0.0
	U.S. Small Cap Equities	0.0	0.0	0.0	2.0	0.0	-2.0	4.0	2.0	-2.0
	Developed Market Ex-U.S. Equities	2.0	2.0	0.0	4.0	4.0	0.0	4.0	4.0	0.0
	Emerging Market Equities	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	TOTAL REAL ASSETS	5.0	5.0	0.0	6.0	6.0	0.0	10.0	7.0	-3.0
	Public Real Estate	0.0	0.0	0.0	0.0	0.0	0.0	3.0	0.0	-3.0
	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*	11.0	11.0	0.0	11.0	11.0	0.0	11.0	11.0	0.0
	Hedge Funds–Relative Value	5.0	5.0	0.0	5.0	5.0	0.0	5.0	5.0	0.0
	Hedge Funds–Macro	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
	Hedge Funds–Event Driven	3.0	3.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
	Hedge Funds–Equity Hedge	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Private Equity	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GROWTH AND INCOME	CASH ALTERNATIVES	3.0	6.0	3.0	3.0	6.0	3.0	3.0	6.0	3.0
	TOTAL FIXED INCOME	39.0	38.0	-1.0	29.0	28.0	-1.0	21.0	21.0	0.0
	U.S. Taxable Investment Grade Fixed Income	25.0	31.0	6.0	15.0	22.0	7.0	7.0	15.0	8.0
	U.S. Short Term Taxable	4.0	8.0	4.0	0.0	4.0	4.0	0.0	4.0	4.0
	U.S. Intermediate Term Taxable	14.0	16.0	2.0	10.0	12.0	2.0	2.0	4.0	2.0
	U.S. Long Term Taxable	7.0	7.0	0.0	5.0	6.0	1.0	5.0	7.0	2.0
	High Yield Taxable Fixed Income	6.0	2.0	-4.0	6.0	0.0	-6.0	6.0	0.0	-6.0
	Developed Market Ex-U.S. Fixed Income	3.0	0.0	-3.0	2.0	0.0	-2.0	2.0	0.0	-2.0
	Emerging Market Fixed Income	5.0	5.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0
	TOTAL EQUITIES	32.0	33.0	1.0	40.0	41.0	1.0	48.0	48.0	0.0
	U.S. Large Cap Equities	14.0	14.0	0.0	18.0	18.0	0.0	22.0	22.0	0.0
	U.S. Mid Cap Equities	6.0	6.0	0.0	7.0	7.0	0.0	8.0	8.0	0.0
	U.S. Small Cap Equities	4.0	2.0	-2.0	5.0	2.0	-3.0	6.0	3.0	-3.0
	Developed Market Ex-U.S. Equities	5.0	5.0	0.0	6.0	6.0	0.0	7.0	7.0	0.0
	Emerging Market Equities	3.0	6.0	3.0	4.0	8.0	4.0	5.0	8.0	3.0
	TOTAL REAL ASSETS	10.0	7.0	-3.0	11.0	8.0	-3.0	11.0	8.0	-3.0
	Public Real Estate	3.0	0.0	-3.0	3.0	0.0	-3.0	3.0	0.0	-3.0
	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*	16.0	16.0	0.0	17.0	17.0	0.0	17.0	17.0	0.0
	Hedge Funds–Relative Value	4.0	4.0	0.0	3.0	3.0	0.0	2.0	2.0	0.0
	Hedge Funds–Macro	4.0	4.0	0.0	3.0	3.0	0.0	3.0	3.0	0.0
	Hedge Funds–Event Driven	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
	Hedge Funds–Equity Hedge	0.0	0.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
	Private Equity	6.0	6.0	0.0	7.0	7.0	0.0	8.0	8.0	0.0

Strategic allocations are updated annually; last update was July 17, 2018. Tactical allocations are updated periodically; last update was April 4, 2019. Hedge fund allocations are based on private hedge fund capital market assumptions.

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

*Alternative investments are not suitable for all investors. They are speculative and involve a high degree of risk that is suitable 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 and Tactical Asset Allocation

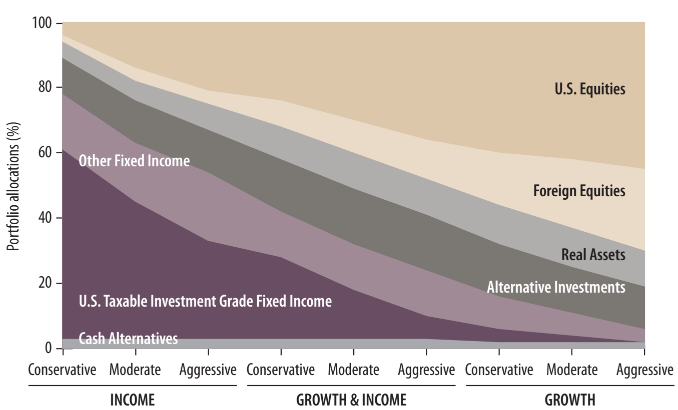
Four asset groups: fixed income, equities, real assets, alternative investments (continued)

GROWTH	CONSERVATIVE			MODERATE			AGGRESSIVE		
	Strategic (%)	Tactical (%)	Difference (%)	Strategic (%)	Tactical (%)	Difference (%)	Strategic (%)	Tactical (%)	Difference (%)
CASH ALTERNATIVES	2.0	5.0	3.0	2.0	5.0	3.0	2.0	2.0	0.0
TOTAL FIXED INCOME	14.0	15.0	1.0	9.0	8.0	-1.0	4.0	6.0	2.0
U.S. Taxable Investment Grade Fixed Income	4.0	10.0	6.0	2.0	4.0	2.0	0.0	4.0	4.0
U.S. Short Term Taxable	0.0	4.0	4.0	0.0	4.0	4.0	0.0	4.0	4.0
U.S. Intermediate Term Taxable	2.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
U.S. Long Term Taxable	2.0	4.0	2.0	2.0	0.0	-2.0	0.0	0.0	0.0
High Yield Taxable Fixed Income	5.0	0.0	-5.0	4.0	0.0	-4.0	2.0	0.0	-2.0
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	3.0	4.0	1.0	2.0	2.0	0.0
TOTAL EQUITIES	56.0	55.0	-1.0	63.0	64.0	1.0	70.0	71.0	1.0
U.S. Large Cap Equities	24.0	24.0	0.0	24.0	24.0	0.0	24.0	24.0	0.0
U.S. Mid Cap Equities	9.0	9.0	0.0	10.0	10.0	0.0	12.0	12.0	0.0
U.S. Small Cap Equities	7.0	3.0	-4.0	8.0	4.0	-4.0	9.0	5.0	-4.0
Developed Market Ex-U.S. Equities	9.0	9.0	0.0	11.0	11.0	0.0	12.0	12.0	0.0
Emerging Market Equities	7.0	10.0	3.0	10.0	15.0	5.0	13.0	18.0	5.0
TOTAL REAL ASSETS	12.0	9.0	-3.0	12.0	9.0	-3.0	11.0	8.0	-3.0
Public Real Estate	3.0	0.0	-3.0	3.0	0.0	-3.0	3.0	0.0	-3.0
Private Real Estate*	7.0	7.0	0.0	7.0	7.0	0.0	8.0	8.0	0.0
Commodities	2.0	2.0	0.0	2.0	2.0	0.0	0.0	0.0	0.0
TOTAL ALTERNATIVE INVESTMENTS*	16.0	16.0	0.0	14.0	14.0	0.0	13.0	13.0	0.0
Hedge Funds–Relative Value	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Hedge Funds–Macro	3.0	3.0	0.0	2.0	2.0	0.0	0.0	0.0	0.0
Hedge Funds–Event Driven	2.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Hedge Funds–Equity Hedge	2.0	2.0	0.0	2.0	2.0	0.0	2.0	2.0	0.0
Private Equity	9.0	9.0	0.0	10.0	10.0	0.0	11.0	11.0	0.0

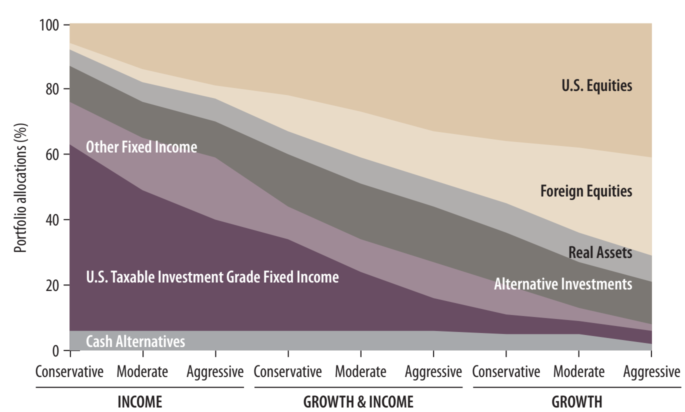
Strategic allocations are updated annually; last update was July 17, 2018. Tactical allocations are updated periodically; last update was April 4, 2019. Hedge fund allocations are based on private hedge fund capital market assumptions.

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 each asset class. Depending on their tax bracket and on market conditions, investors may elect taxable or 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.

Portfolio allocations across the efficient frontier–**strategic**



Portfolio allocations across the efficient frontier–**tactical**



*Alternative investments are not suitable for all investors. They are speculative and involve a high degree of risk that is suitable 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.

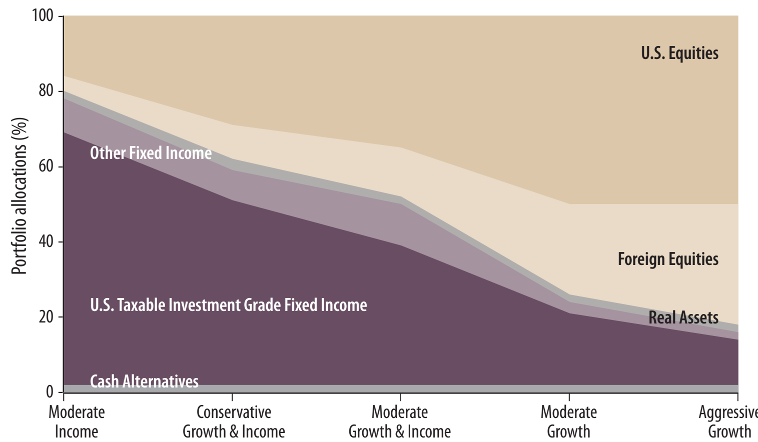
Cyclical Asset Allocation

Three asset groups: fixed income, equities, real assets

Quarterly update; as of April 2019

Our cyclical asset allocation process is based on a rolling three-year outlook—which means that the Global Investment Strategy Committee evaluates how the portfolios are expected to perform over the next 36 months based on asset valuations as well as economic and market outlooks. The cyclical approach is driven by fundamental valuations, which can lead to entering and exiting positions as opportunities arise. Over time, this approach may help avoid chasing unsustainable market swings driven by fear and greed near the end of cyclical declines or advances.

Portfolio allocations across the efficient frontier



Cyclical asset allocation mixes (%)

		Moderate Income	Conservative Growth & Income	Moderate Growth & Income	Moderate Growth	Aggressive Growth
	Cash Alternatives	2	2	2	2	2
FIXED INCOME	Total Fixed Income	76	57	48	22	14
	U.S. Short Term Taxable Fixed Income	27	15	12	10	8
	U.S. Intermediate Term Taxable Fixed Income	30	20	16	3	0
	U.S. Long Term Taxable Fixed Income	10	14	9	6	4
	High Yield Taxable Fixed Income	0	0	2	0	0
	Developed Market Ex-U.S. Fixed Income	–	–	–	–	–
	Emerging Market Fixed Income	9	8	9	3	2
EQUITIES	Total Equities	20	38	48	74	82
	U.S. Large Cap Equities	14	19	22	30	29
	U.S. Mid Cap Equities	2	7	9	13	13
	U.S. Small Cap Equities	0	3	4	7	8
	Developed Market Ex-U.S. Equities	4	5	6	10	14
	Emerging Market Equities	0	4	7	14	18
REAL ASSETS	Total Real Assets	2	3	2	2	2
	Public Real Estate	2	3	2	2	2
	Commodities	–	–	–	–	–
Total Portfolio		100%	100%	100%	100%	100%

For more information, please request our most recent *Cyclical Asset Allocation Quarterly Report*.

Disclosures

Forecasts, targets, and estimates 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 unsuitable 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.

Liquid alternative mutual funds are subject to market and investment specific risks. Investment returns, volatility and risk vary widely among them. They employ aggressive techniques not employed by traditional stock and bond mutual funds, including the use of short sales, leverage and derivatives. Short sales involve leverage and theoretically unlimited loss potential since the market price of securities sold short may continuously increase. The use of leverage in a portfolio varies by investment strategy. The use of leverage can magnify any price movements resulting in high volatility and potentially significant loss of principal. Derivatives generally have implied leverage and entail risks such as market, interest rate, credit, counterparty and management risks. Some of the strategies employed by liquid alternative mutual funds include equity hedge, event driven, macro and relative value. These strategies may, at times, be out of market favor for considerable periods which can result in adverse consequences for the investor and the fund.

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.

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 suitable for all investors. Exposure to the commodities markets may subject an investment to greater share price volatility than an investment in traditional equity or debt securities. Investments in commodities may be affected by changes in overall market movements, commodity index volatility, changes in interest rates or factors affecting a particular industry or commodity. Products that invest in commodities may employ more complex strategies which may expose investors to additional risks.

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

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

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

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

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

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Disclosures *(continued)*

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.

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

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

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

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

Sector investing can be more volatile than investments that are broadly diversified over numerous sectors of the economy and will increase a portfolio's vulnerability to any single economic, political, or regulatory development affecting the sector. This can result in greater price volatility. 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, declining consumer acceptance of new product introductions, and geopolitical uncertainty that could affect consumer sentiment. 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 the 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.

Key risks to the **Financials sector** include maturation of the credit cycle resulting in higher credit losses and tighter lending standards, lower interest rates leading to a reduction in profitability, and capital market weakness reducing assets under management as well as constraints around accessing the markets for growth capital. Some of the risks associated with investment in the Health Care sector include competition on branded products, sales erosion due to cheaper alternatives, research and development risk, government regulations and government approval of products anticipated to enter the market. There is increased risk investing in the Industrials sector. The industries within the sector can be significantly affected by general market and economic conditions, competition, technological innovation, legislation and government regulations, among other things, all of which can significantly affect a portfolio's performance. 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. Real estate investments have special risks, including possible illiquidity of the underlying properties, credit risk, interest rate fluctuations, and the impact of varied economic conditions. Risks associated with the Technology sector include increased competition from domestic and international companies, unexpected changes in demand, regulatory actions, technical problems with key products, and the departure of key members of management. Technology and Internet-related stocks smaller, less-seasoned companies, tend to be more volatile than the overall market. Utilities are sensitive to changes in interest rates, and the securities within the sector can be volatile and may underperform in a slow economy.

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.

Technology and internet-related stocks, especially of smaller, less-seasoned companies, tend to be more volatile than the overall market.

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.

There is no assurance that any of the target prices or other forward-looking statements mentioned will be attained.

Wells Fargo Investment Institute Equity Sector Pillar definitions

Value Pillar: Our Value Pillar considers the premium or discount that the sector has to the S&P 500 Index and to other S&P 500 sectors. It considers forecast total yield, the 12-month trailing price-to-earnings ratio, and the price-to-free cash flow ratio.

Quality Pillar: Our Quality Pillar examines and reflects a sector's current and past operating performance (profitability and leverage) and can be indicative of future operating performance. It may be a reliable quality measure for sectors, regardless of the level of earnings. It compares the 11 sectors using a leverage and liquidity measure; return on equity; and analyst estimate dispersion.

Growth Pillar: Our Growth Pillar attempts to identify sectors with above-average growth prospects and with growth potential that is not reflected in the current price. It compares sectors using a composite revision ratio, the forecast for next 12 months' earnings growth and the dividend growth trend.

Economic Pillar: Our Economic Pillar seeks to pinpoint where the U.S. economy is within the current economic cycle (expansion, contraction, etc.) and then uses historical performance tendencies to determine which sectors may outperform or underperform at that given point in the cycle.

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 C**onsumer 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.

Conference Board's Leading Economic Index (LEI) is a composite average of ten leading indicators in the US. It one of the key elements in the Conference Board's analytic system, which is designed to signal peaks and troughs in the business cycle.

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.

EU-27 Consumer Confidence. This measure tracks sentiment among households or consumers across the 27 members of the European Union. The results are based on surveys conducted among a random sample of households.

The **Eurozone index** includes only some of the largest countries for the bloc—France, Germany, Spain, Netherlands, Italy, Austria, and Ireland.

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Disclosures *(continued)*

Goldman Sachs Hedge Fund VIP index consists of hedge fund managers' "Very-Important-Positions," or the US-listed stocks whose performance is expected to influence the long portfolios of hedge funds. Those stocks are defined as the positions that appear most frequently among the top 10 long equity holdings within the portfolios of fundamentally-driven hedge fund managers.

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

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.

The Producer Price Index (PPI) program measures the average change over time in the selling prices received by domestic producers for their output.

The 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.

The **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.

I**nstitute 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.

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

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

Alternative investments—strategy definitions

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

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

Relative Value. **HFRI Relative Value (Total) Index.** Strategy is predicated on realization of a valuation discrepancy in the relationship between multiple securities. Managers employ a variety of fundamental and quantitative techniques to establish 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. RV position may be involved in corporate transactions also, but as opposed to ED exposures, the investment thesis is predicated on realization of a pricing discrepancy between related securities, as opposed to the outcome of the corporate transaction.

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

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

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

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

Disclosures *(continued)*

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

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

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

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

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

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

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 indices). These limitations include survivorship bias (the returns of the indices 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 indices, 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 indices 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 indices

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

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

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

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

Disclosures *(continued)*

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

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

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

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

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

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

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

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

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

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

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

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

Preferred Stock. **ICE BofAML Fxd Rate Pref TR USD Index** measures the performance of fixed rate US dollar denominated preferred securities issued in the US domestic market.

Equity representative indices

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.

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). The **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). The **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.

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Real assets representative indices

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.

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

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

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 a broadly diversified index comprised of 22 exchange-traded futures on physical commodities and represents 20 commodities weighted to account for economic significance and market liquidity.

Bloomberg Commodity Indices are a family of financial benchmarks designed to provide liquid and diversified exposure to physical commodities via futures contracts. The index currently represents 20 commodities which are weighted to account for economic significance and market liquidity and 22 exchange traded futures contracts.

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