

Asset Allocation Strategy

September 17, 2019

Forecast changes:
Pages 6, 9, 13, and 16.

Guidance changes:
Pages 7, 8, 10, and 11.

Allocation changes:
Pages 22–27.

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Prepare portfolios for potential changes ahead

As we approach autumn, investors are focused on this week's Federal Reserve (Fed) meeting, along with concerns about tariffs, trade, and inverting yield curves. We observed significant anticipation over Fed Chair Powell's speech at the Jackson Hole symposium last month, since the Fed remained at a crossroads following its first rate cut in more than a decade. Investors were trying to sense whether Chair Powell was committed to a series of cuts—or whether July's cut was a “mid-cycle adjustment” requiring only a single cut—or perhaps a handful of cuts.

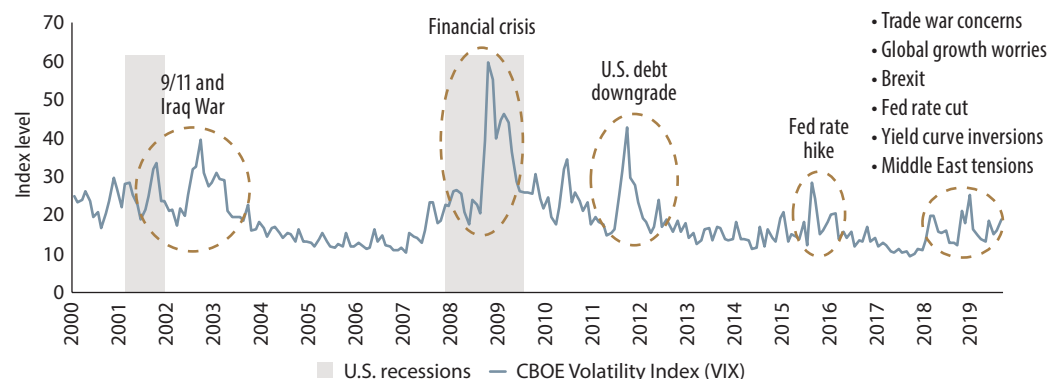
Following Jackson Hole, trade tensions between the U.S. and China escalated. Uncertainty grew over the trade-negotiation status, and markets responded. The bond market continued to rally at a dizzying pace as the 10-year U.S. Treasury price rose and yields declined by more than 50 basis points—the largest rally in a single month since 2015.¹ The 30-year Treasury yield also rallied as it dipped below a 2% yield again and reached all-time lows. Various portions of the yield curve have inverted in recent months, and

yield curve trends remain fluid. Some portions of the yield curve remain inverted, while others have returned to positive territory. We believe that the U.S. bond market has been signaling concerns over future economic weakness. The Treasury yield curve inversions tell us that investor caution is warranted in the current economic climate.

Trade tensions and conflicting Fed views at the Jackson Hole symposium created a more uncertain environment for investors. A resurgence in equity market volatility also has investors concerned about a potential U.S. economic recession. We do not expect a recession in 2019; yet, the risk of one has increased for the latter part of 2020 and early 2021. During this period of trade confusion, we believe that investors should adopt a more conservative approach on global equities. We believe that equity allocations should remain neutral versus strategic targets in all equity classes except small caps. With history as a guide, U.S. large-cap equities still could have room to appreciate.

(Continued on the next page.)

Market uncertainties are building



Sources: Bloomberg, Wells Fargo Investment Institute, as of August 31, 2019. Chart shows the Chicago Board Options Exchange (CBOE) Volatility Index, or VIX. **Past performance is no guarantee of future results.**

¹ One hundred basis points equal 1.00%.

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Prepare portfolios for potential changes ahead (continued)

We expect the recent market uncertainty to increase through year-end. We urge investors to avoid complacency during this period of heightened volatility. We recommend a diversified allocation across asset classes, geographies, and sectors.

Within fixed income, investors should consider raising their average credit quality and match portfolio duration to that of their individually selected benchmarks. We believe that investment-grade credit and corporate bond spreads (over Treasury yields) offer opportunities at current levels. We also see residential mortgage-backed securities as a compelling high-quality fixed income alternative, with attractive yield potential today. Finally, we hold a favorable view on investment-grade municipal bonds, given their historically high quality as a bond class, their compelling yield ratios versus Treasury security yields, and their recently strong investment inflows.

Global Economic Summary

United States

A second look at second-quarter gross domestic product (GDP) was revised lower to a 2.0% annualized, quarter-over-quarter (QoQ) expansion rate. Better-than-expected household spending was offset by weaker business investment and trade activity during the quarter.

The nonfarm payroll report for August showed that 130,000 jobs were added to the U.S. economy; this was below consensus estimates by 30,000 jobs. The unemployment rate remained at 3.7%, as the labor-force participation rate rose slightly to 63.2%. Wage growth remained flat at 3.2% on a year-over-year (YoY) basis.

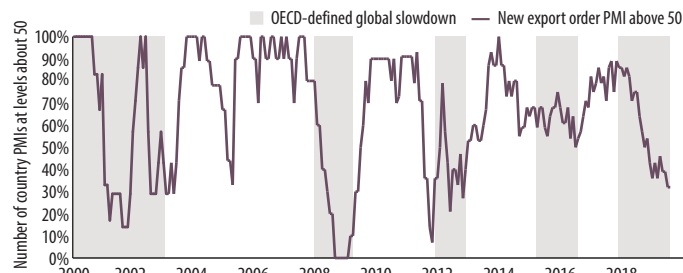
Inflation rose slightly in August, but it remains weak—with the Consumer Price Index (CPI) increasing by 0.1% for the month and 1.7% YoY. Excluding the more volatile food and energy components, CPI was up 0.3% in August and 2.4% YoY.

The Institute for Supply Management (ISM) manufacturing survey data for August reflected contractionary activity as the headline manufacturing index level decreased from 51.2 to 49.1. New order and employment indicators fell sharply in August.

Consumer confidence edged lower last month, falling to 135.1 from 135.7. The present situations index rose to its highest level in nearly two decades, while expectations for the future weakened.

In July, existing home sales rose by 2.5% month-over-month (MoM) to a seasonally adjusted 5.4-million-unit annual pace. Yet, new home sales declined by 12.8% MoM to an annualized rate of 635,000 homes. Housing starts weakened further in July, falling by 4.0%, while building permits rose by 6.9%.

Global trade prospects remain dim



Source: Wells Fargo Investment Institute, Markit; August 29, 2019. Monthly data from May 2000 through July 2019. Data represent the number of country-level PMIs globally that are above 50. A level above 50 is consistent with positive trade activity. Dashed lines represent levels of 25%, 50%, and 75%. OECD = Organisation for Economic Co-operation and Development.

Europe

A second look at second-quarter eurozone GDP growth showed that activity remained positive, even as growth in the region's manufacturing sector continued to deteriorate. Tariff concerns and ongoing Brexit uncertainty, along with generally weaker global demand, have challenged firms' ability to plan for the long term (as 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.

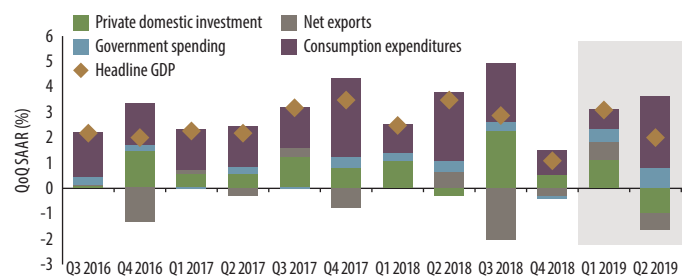
Economic and market confidence remains challenged, even as central banks in the region have moved toward more accommodation. This has been reflected in reports showing further softening in manufacturing purchasing managers' index (PMI) data in August, while forward-looking composite leading indicators still suggest slower growth in the months ahead.

Asia

A look at second-quarter Chinese economic growth reflects positive activity, yet China's economy is expected to slow in the remainder of the year. While Beijing's recent domestic policy responses suggest that the slowdown could further stabilize in 2019, lingering U.S.-China trade tensions are likely to put downward pressure on household spending and investment growth.

Outside of China, trade activity remains weak for export economies like South Korea and Singapore. This is important, because we view global trade activity as a coincident indicator of global economic growth. These data releases suggest that second-quarter global economic growth remained soft, while forward-looking indicators signal that global trade is likely to remain challenged in the second half of 2019.

Household spending has largely contributed to positive U.S. GDP growth in the first half of 2019



Source: Wells Fargo Investment Institute, Bureau of Labor Statistics; August 28, 2019. Quarterly data begins in the third quarter of 2016 and ends in the second quarter of 2019. Diamond represents reported GDP figure for the quarter, and bars represent contributions to GDP growth. Shaded area represents the first half of 2019. GDP = gross domestic product. SAAR = seasonally adjusted annual rate.

Key economic statistics

	Q2 2019	Q1 2019	Q4 2018
Global real growth rates (%)			
U.S. economic growth (GDP) ¹	2.0	3.1	1.1
Eurozone economic growth ²	1.1	1.2	1.2
Japanese economic growth ¹	1.8	2.8	1.6
Chinese economic growth ²	6.2	6.4	6.4
Key U.S. economic data	8/19	7/19	8/18
Unemployment rate (%)	3.7	3.7	3.8
Leading economic index (LEI) (%)	0.1 ^a	0.5	0.5
Durable goods orders (%)	—	2.1	4.2
ISM manufacturing	49.1	51.2	60.8
ISM service	56.4	53.7	58.8
Retail sales (%)	0.3 ^a	0.7	0.0
Consumer confidence	135.1	135.8	134.7
New home sales (thousands)	—	635	604
Existing home sales (millions)	5.4 ^a	5.42	5.35
U.S. Dollar Index	98.92	98.52	95.14
U.S. inflation (%)	8/19	7/19	YoY
Consumer Price Index (CPI)	0.1	0.3	1.7
Core CPI	0.3	0.3	2.4
Producer Price Index (PPI)	0.1	0.2	1.8
Core PPI	0.3	-0.1	2.3
Personal consumption expenditures (PCE)	—	0.2	1.4 ^b
Core PCE	—	0.2	1.6 ^b

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

Global Economic Summary

Wells Fargo Investment Institute forecasts

GDP growth: Data reports indicate that global economic growth remains weak, given ongoing policy uncertainty, lower business and consumer confidence, and weaker global trade. While our latest U.S. GDP forecast suggests faster growth, 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 U.S. recession is unlikely this year, given our expectations for continued household spending, positive business investment growth, and moderating trade activity.

While eurozone GDP figures showed positive growth in the second quarter, forward-looking indicators point to slower eurozone growth in the third quarter as economic confidence and global demand remain subdued. We believe that the Japanese economy should expand at a rate 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.

Even as activity cools, we expect emerging markets to drive a significant portion of 2019 global growth. Several country specific factors have contributed to this view, along with generally weaker economic sentiment and trade activity. For China, solid second-quarter GDP growth likely reflects Beijing's strong economic policy response. But this is a trend that is likely to be challenged as U.S.-China trade tensions ebb and flow in the foreseeable future. With that said, we still expect Chinese economic growth that is relatively close to policymakers' target of approximately 6% 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 also 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. 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 still-solid 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 recently falling to decade lows. Looking forward, we expect growth in hiring activity to remain positive but to likely slow in the remainder of 2019. Similar developments are underway in Europe and Japan, while labor-market conditions in China are softening.

Global economy

	2019 YE targets (%)	2018 (%)
Domestic GDP growth	2.3	2.9
Domestic inflation	1.7	1.9
Domestic unemployment rate	3.7	3.9
Global GDP growth	3.3	3.6
Developed market GDP growth	1.8	2.2
Developed market inflation	1.6	1.6
Emerging market GDP growth	4.4	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, August 31, 2019. The 2019 targets are Wells Fargo Investment Institute forecasts, as of September 17, 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

Most fixed-income classes gained in August and year to date (YTD). A “risk-off” view—combined with trade tensions, equity volatility, and central-bank easing—fueled the strong performance.

As investors searched for yield, double-digit YTD returns were delivered by long-term taxable issues (+23.3%), preferred stock (+14.0%), investment-grade and high-yield corporates (+13.9% and 11.0%, respectively), and U.S.-dollar-denominated emerging market (EM) debt (+12.5%). All major fixed-income classes have risen YTD, and all but one (local-currency EM bonds) gained last month.

Market observations

U.S. fixed income: Solid August U.S. bond-market returns were supported by Fed rate-cut expectations and falling global yields—in the face of weakening economies and more central-bank easing overseas. Fed comments at the Jackson Hole symposium reflected disparate views, but Chair Powell noted that the “global economic outlook has been deteriorating” and the Fed “will act as appropriate to sustain the economic expansion.”¹ We expect the Fed to cut rates twice between September and year-end.

As U.S.-China trade tensions escalated, the 10-year and 30-year Treasury yields fell by more than 50 basis points (the 30-year Treasury yield reached its lowest level on record). Long-term taxable issues outperformed (+7.9%).² Treasury Inflation Protected Securities (TIPS) gained 2.4% last month (+9.1% YTD).

Treasury yield curves continued to invert (between the 10-year yield and the 3-month, 1-year, and 2-year yields), signaling caution over the economic landscape.

The higher-quality bias was reflected in investment-grade (IG) corporates and high-yield (HY) corporates returning 3.1% and 0.4%, respectively. We are unfavorable on HY debt; current yield spreads (over Treasury yields) do not properly compensate investors for the risk that could lie ahead. We are favorable on IG corporates and believe that the yield spread may offer an opportunity at current levels. We also are favorable on preferred stock, which had a 0.8% August return (+14.0% YTD).

Finally, we remain favorable on IG municipals, which returned 1.6% last month and 7.6% YTD. We favor higher-credit-quality municipals in the intermediate maturity range. Short-term municipal yields have declined significantly, due to strong demand. We suggest investors consider issues further out on the curve, where we see better liquidity and yield potential. We remain neutral on duration.³

Developed markets: August was a strong month for developed market (DM) bonds (+2.5% and +2.6% on an unhedged and hedged basis, respectively). This was the strongest monthly performance since at least June 2016. Yields fell strongly in all major DM sovereign markets, and most eurozone government bonds saw new historic lows for 10-year yields—as equities responded nervously to U.S.-China trade escalation and Treasury yields and Fed rate expectations also moved lower. In dollar terms, the best DM performers were Japanese Government bonds (as the yen strengthened amid volatility), U.K. gilts (where yield declines offset currency weakness), and Italian sovereigns (as investors hoped for a benign resolution to the political crisis). New Zealand dollar bonds underperformed as a central-bank rate cut weakened the currency.

Fixed income index total returns (%)

	MTD	QTD	YTD	1 year	3 year	5 year
U.S. Taxable Inv Grade Fixed Income	2.6	2.8	9.1	10.2	3.1	3.3
U.S. Short Term Taxable	0.8	0.8	3.5	4.6	1.9	1.6
U.S. Intermediate Term Taxable	1.6	1.9	7.2	8.7	2.7	3.0
U.S. Long Term Taxable	7.9	8.6	23.3	22.5	5.8	6.7
U.S. Treasury Bills	0.2	0.4	1.6	2.3	1.4	0.9
U.S. Municipal Bonds	1.6	2.4	7.6	8.7	3.3	3.8
High Yield Taxable Fixed Income	0.4	1.0	11.0	6.6	6.2	4.9
DM Ex.-U.S. Fixed Income (Unhedged)	2.5	1.8	7.2	7.6	1.2	0.8
DM Ex.-U.S. Fixed Income (Hedged)	2.6	4.0	10.5	12.9	4.5	5.2
EM Fixed Income (U.S. dollar)	0.5	1.7	12.5	13.1	4.1	4.7
EM Fixed Income (Local currency)¹	-3.1	-2.0	6.8	12.5	3.8	-0.9

Sources: Bloomberg Barclays, J.P. Morgan, August 31, 2019. Inv Grade indicates Investment Grade; DM indicates Developed Market; EM indicates Emerging Market. Returns over one year are annualized. ¹Returns 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.

Emerging markets: The weakening of the Chinese yuan (passing through 7 to the U.S. dollar) weighed on EM currencies—and local-currency EM bonds returned -3.1% in dollar terms (+6.8% YTD). Despite the Argentine political and economic crisis hitting the currency and widening spreads, U.S.-dollar-denominated EM sovereigns gained 0.5%, as modest spread widening was offset by Treasury yield declines. Dollar-denominated EM sovereigns have returned 12.5% YTD.

Wells Fargo Investment Institute perspective

We favor maintaining fixed-income exposure at targeted allocations and remaining broadly and globally diversified. We believe that investors should consider raising average credit quality.

We see little prospect of strong DM-debt returns over the coming year. Yields have reached historic lows (in many cases, negative), and they remain well below Treasury yields. We are broadly neutral on the U.S. dollar, so currency gains are not likely to enhance limited income or appreciation prospects. We have an unfavorable DM-debt view, since foreign-exchange risk is insufficiently compensated by income or capital-gain prospects (the strategic index is unhedged in terms of currency exposure).

We remain neutral on U.S.-dollar-denominated EM debt. Falling U.S. bond yields and tighter credit spreads have lowered index yields, resulting in gains and making valuations less attractive. Although fiscal and credit fundamentals in many major index constituents remain firm, we now see risks as balanced for this fixed-income class, due to reduced EM growth expectations and the rise in global uncertainty stemming from the U.S.-China trade dispute.

Asset class guidance	Guidance			
	Most unfavorable	Neutral	Most favorable	
Cash Alternatives	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
U.S. Taxable Investment Grade Fixed Income	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
U.S. Short Term Taxable	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
U.S. Intermediate Term Taxable	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
U.S. Long Term Taxable	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
High Yield Taxable Fixed Income	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
DM Ex.-U.S. Fixed Income	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
EM Fixed Income	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Source: Wells Fargo Investment Institute, September 17, 2019.

¹ Fed Chair Jerome Powell's speech at the Jackson Hole symposium, August 23, 2019.

² One hundred basis points equal 1.00%. ³ Duration is a measure of interest-rate risk.

Fixed Income

Wells Fargo Investment Institute forecasts

Interest rates: Interest rates have continued to decline in recent months. Further, trade escalation has impacted the economic backdrop and is beginning to negatively affect macroeconomic data.

Our year-end target for the federal funds rate is 1.50%-1.75%. This implies two Fed rate cuts between September and year-end 2019. Our year-end yield targets for 10-year and 30-year U.S. Treasury securities are 1.50%-2.00% and 1.75%-2.25%, respectively. We recommend that investors consider positioning portfolio duration (a measure of a bond's interest-rate sensitivity) equal to that of their individually selected benchmarks.

Portions of the Treasury yield curve remain inverted; this inversion increases our concern that a more portentous economic environment may develop.

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 2019 and into 2020. 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.

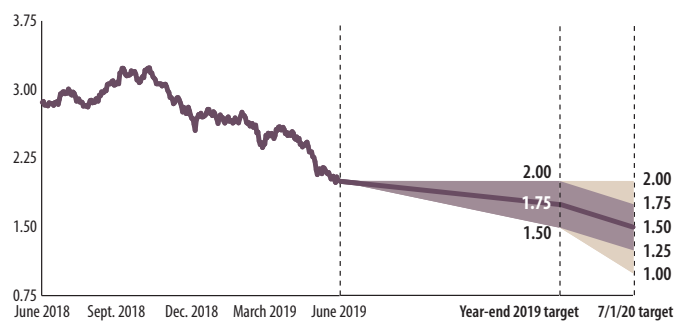
Lower conviction range (lower): The lower range of the lower conviction path may occur if events detrimental to the global economy occur. Further escalation of tariff activity, an unexpected surge in inflation, or more aggressive central bank policy would be detrimental to global growth. Eurozone political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

Global fixed income (%)

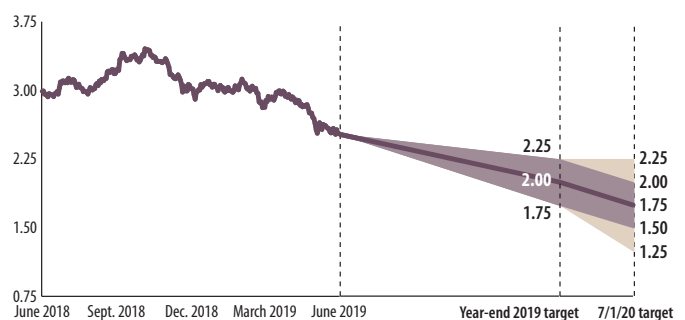
	2019 YE targets	Current
▼ 10-year U.S. Treasury yield	1.50 - 2.00	1.50
▼ 30-year U.S. Treasury yield	1.75 - 2.25	1.96
▼ Fed funds rate	1.50 - 1.75	2.25

Sources: FactSet, Bloomberg, International Monetary Fund, as of August 31, 2019. The 2019 targets are Wells Fargo Investment Institute forecasts, as of September 17, 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.

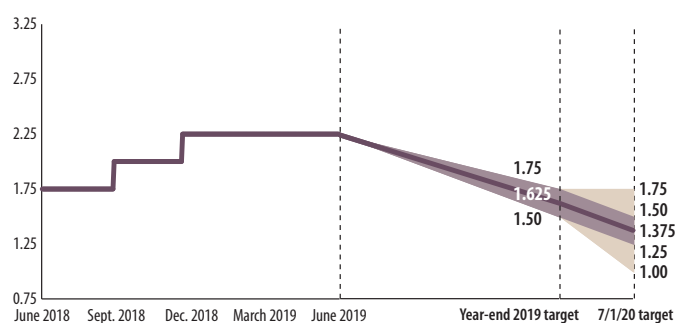
10-year Treasury yield (%)



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	Guidance			
	Most unfavorable	Neutral	Most favorable	
Duration	<input type="checkbox"/> <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>	
U.S. Government	<input type="checkbox"/> <input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>	
Treasury Securities	<input type="checkbox"/> <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>	
Agencies	<input type="checkbox"/> <input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>	
Inflation-Linked Fixed Income	<input type="checkbox"/> <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>	
▲ Credit	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> <input type="checkbox"/>	
▲ Corporate Securities	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> <input type="checkbox"/>	
Preferred Securities	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> <input type="checkbox"/>	
Securitized	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> <input type="checkbox"/>	
Residential MBS	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> <input type="checkbox"/>	
Commercial MBS	<input type="checkbox"/> <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>	
Asset Backed Securities	<input type="checkbox"/> <input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>	
U.S. Municipal Bonds	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> <input type="checkbox"/>	
Taxable Municipal	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> <input type="checkbox"/>	
State and Local General Obligation	<input type="checkbox"/> <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>	
Essential Service Revenue	<input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> <input type="checkbox"/>	
Pre-Refunded	<input type="checkbox"/> <input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/>	

Source: Wells Fargo Investment Institute, September 17, 2019.
See end of report for important definitions and disclosures. ▲: recent change.

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). We hold a neutral duration stance for both the taxable and tax-exempt bond sectors. We believe that investors should position duration to match that of their individually selected benchmarks.

U.S. Government (Unfavorable): We recommend that investors consider government-security allocations for their potential contribution to diversification, liquidity, and reducing portfolios' downside participation. Government securities may offer a hedge for unexpected geopolitical developments or an economic slowdown and have generally benefited from risk-off market events.

Investment-Grade (IG) Credit (Favorable): We recently upgraded IG credit (and IG corporate bonds) to favorable from 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 that of other fixed-income credit offerings, such as high-yield debt. We reiterate our bias toward higher quality in the current market.

Total sector returns (%)

Sector	1 month	Year to date	12 months
U.S. Government	3.4	8.6	10.3
Credit	3.1	13.4	13.0
Securitized	0.9	5.5	7.1
U.S. Municipal Bonds	1.6	7.6	8.7

Source: FactSet, August 31, 2019.

Past performance is no guarantee of future results.

Investment-Grade Securitized (Favorable): 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): Municipals performed well in August and YTD as demand remained strong. Both Treasury and municipal yields fell significantly last month; the municipal yield decline was slightly more muted than for Treasury securities. Municipal-to-Treasury yield ratios improved in August; they ranged from 65% on the 2-year maturity to 94% on the 30-year maturity in late August. Municipals have been supported by the typical summer demand increase from redemptions and low new issue supply. Overall, the net supply of municipals is expected to remain negative in 2019.

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

August was a choppy and negative month for equities, with all the major U.S. and international equity classes posting losses. Investors were focused on global central-bank easing and wondering how many more Fed rate cuts would occur by year-end and beyond. Trade frictions have garnered many headlines; real progress has remained elusive. Last month, equity markets were driven by trade-negotiation disappointments and slowing global-growth concerns, along with earnings results and forward company guidance.

In the U.S., large caps, mid caps, and small caps lost 1.6%, 2.8%, and 4.9%, respectively, in August. Internationally, U.S.-dollar-denominated (USD) EM and DM equities registered monthly declines of 4.8% and 2.6%, respectively, during that same time frame. Nevertheless, all the major equity classes except EM (and USD DM small-cap) equities have posted double-digit YTD gains.

Market observations

U.S. equities: August was filled with volatility, with intraday S&P 500 moves of 1% or more in 16 of the 22 trading days. Despite the choppy market action, U.S. large caps ended the month with a decline of only 1.6%. Defensive sectors outperformed. Utilities led with a 5.2% monthly return (+20.3% YTD). As interest rates declined, Real Estate was second with a 4.9% monthly return (+28.5% YTD).

Energy was the weakest monthly performer (-8.1%) and returned 2.1% YTD. Financials (-4.8% in August) struggled as low rates and inverting yield curves soured sentiment over banks' future profitability. Financials returned 14.3% YTD.

Mid and small caps underperformed large caps in August as investors favored large caps' (historically) lower volatility profile. Sector winners and losers mirrored those of large-cap equities. Utilities led with a 3.6% sector return for the Russell Midcap Index and a 2.4% sector gain in the Russell 2000 Index. Energy had the largest monthly losses (-10.5% and -16.4%, respectively) for mid- and small-cap equities.

International equities: International equities generally underperformed U.S. large-cap stocks in August. Dollar-denominated equities underperformed local-currency counterparts in DMs and EMs as the dollar appreciated versus currencies abroad.

Switzerland (+0.3% in U.S.-dollar terms) led DM equity returns. All other major DM countries had negative monthly returns. Israel (-6.1% in U.S.-dollar terms) fell the most as downbeat global macro sentiment weighed on this Middle Eastern market.

All major EM countries saw equity market declines last month. Turkey felt the most pain after its stock market fell by double digits (-10.7% U.S.-dollar terms) as the U.S.-China trade tensions escalated.

Wells Fargo Investment Institute perspective

Over the past couple of months, the risks to our macro outlook have meaningfully increased. While we continue to expect a modest growth/modest inflation economic environment, trade frictions have risen and changing interest-rate dynamics have increased uncertainty. As a result, we have further reduced equity risk. Lower commodity prices, a stronger dollar, and slower global growth have combined to create EM headwinds. On the positive side, the Fed is likely to remain accommodative, which signals an environment that should give equities some overall support. In addition, other major global central banks are easing interest rates or are about to start the process. Our valuation assumptions are modest relative to history—as typically in low-rate environments, price/ earnings (P/E) ratios are higher than the historical average. We expect stock buybacks to remain strong in the second half. Investors also are turning to equities in a reach for yield.

Equity index total returns (%)

	MTD	QTD	YTD	1 year	3 year	5 year
U.S. Large Cap Equities	-1.6	-0.2	18.3	2.9	12.7	10.1
U.S. Large Cap (Growth)	-0.8	1.5	23.3	4.3	17.0	13.1
U.S. Large Cap (Value)	-2.9	-2.1	13.8	0.6	8.1	6.6
U.S. Mid Cap Equities	-2.8	-1.5	19.6	0.5	10.1	7.9
U.S. Mid Cap (Growth)	-1.8	0.5	26.7	6.0	14.9	10.7
U.S. Mid Cap (Value)	-3.5	-2.7	14.8	-3.1	6.5	5.9
U.S. Small Cap Equities	-4.9	-4.4	11.8	-12.9	7.9	6.4
U.S. Small Cap (Growth)	-4.3	-3.4	16.3	-11.0	10.6	8.1
U.S. Small Cap (Value)	-5.6	-5.4	7.3	-14.9	5.0	4.6
DM Equities Ex-U.S. (USD)	-2.6	-3.8	10.1	-2.7	6.4	2.4
DM Equities Ex-U.S. (Local) ¹	-2.4	-1.7	12.2	0.0	7.7	5.8
DM Small Cap Equity (USD)	-2.5	-3.1	9.3	-8.8	6.4	4.6
DM Small Cap Equity (Local) ¹	-2.3	-1.1	11.3	-6.6	7.9	8.0
EM Equities (USD)	-4.8	-5.9	4.2	-4.0	6.2	0.8
EM Equities (Local) ¹	-2.5	-3.4	6.5	-2.4	7.7	4.7
FM Equities (USD)	-1.6	0.9	13.2	8.2	9.0	-0.4
FM Equities (Local) ¹	-1.5	1.5	13.8	9.5	10.0	2.9

Sources: Standard & Poor's, Russell Indexes, MSCI Inc., August 31, 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.

As noted, central banks remain committed to easing, while EM government stimulus should be a stabilizer. Although the stimulus should help sentiment and valuations globally, the impacts vary across global equity classes. We expect comparatively more impact on U.S. large- and mid-cap equity markets, where there is more room to generate cash and complete corporate buybacks. U.S. small-cap firms generally lack the cash flow available to complete stock buybacks, and their earnings growth has been too slow (relative to expectations) in this cycle to compensate for their higher risk level relative to large caps and mid caps. We expect international markets to benefit comparatively less than U.S. equity markets, for several reasons—notably, the larger dependence on trade in the rest of the world, the mostly steady (to stronger) U.S. dollar, and the correspondingly larger economic slowdown overseas. Trade frictions likely will continue to take center stage in the near to intermediate term.

Asset class guidance	Guidance			
	Most unfavorable	Neutral	Most favorable	
U.S. Large Cap Equities	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
U.S. Mid Cap Equities	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
U.S. Small Cap Equities	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
DM Equities Ex-U.S.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
▼ EM Equities	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Source: Wells Fargo Investment Institute, September 17, 2019. ▼: recent change.

Equities

Wells Fargo Investment Institute forecasts

U.S. equities: We believe that the Fed is likely to reduce interest rates further, and it remains accommodative (as do several other major global central banks). While this is positive, U.S. economic growth may be too modest to fuel faster earnings growth, but it may support sentiment and valuations. With interest rates declining, investors are turning to equities in a reach for yield. Valuations are not stretched on a P/E basis relative to history, and price to free cash flow ratios are at a discount to average historical levels. A lower interest-rate and inflation environment typically would push valuations above historical averages. We are assuming modest forward P/E ratios.

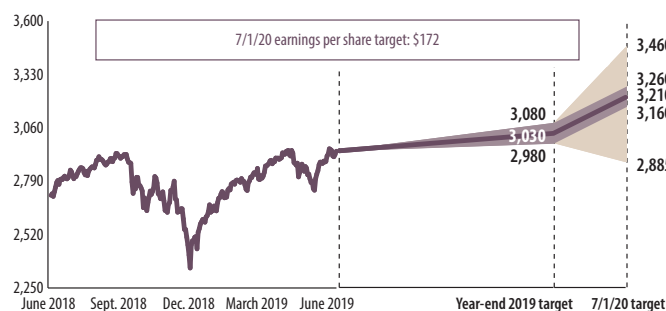
Global equities

	2019 YE targets	Current
S&P 500 Index	2980 - 3080	2926
S&P 500 earnings per share (\$)	167	162
Russell Midcap® Index	2310 - 2410	2196
Russell Midcap earnings per share (\$)	128	124
Russell 2000 Index	1530 - 1630	1495
Russell 2000 earnings per share (\$)	65	62
MSCI EAFE Index	1875 - 1975	1843
MSCI EAFE earnings per share (\$)	135	132
▼ MSCI Emerging Markets (EM) Index	960 - 1060	984
MSCI EM earnings per share (\$)	84	82

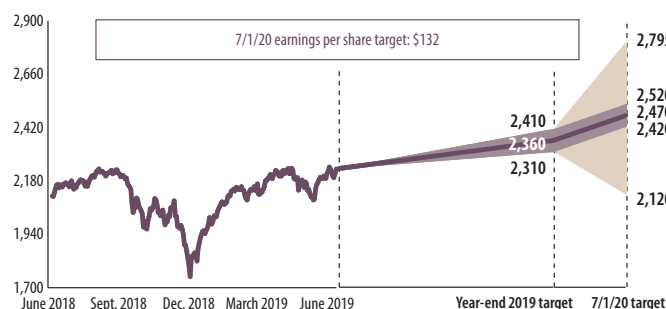
Sources: FactSet, Bloomberg, International Monetary Fund, as of August 31, 2019. The 2019 targets are Wells Fargo Investment Institute forecasts, as of September 17, 2019. The current earnings per share is as of December 31, 2018. Forecasts are based on certain assumptions and on our views of market 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

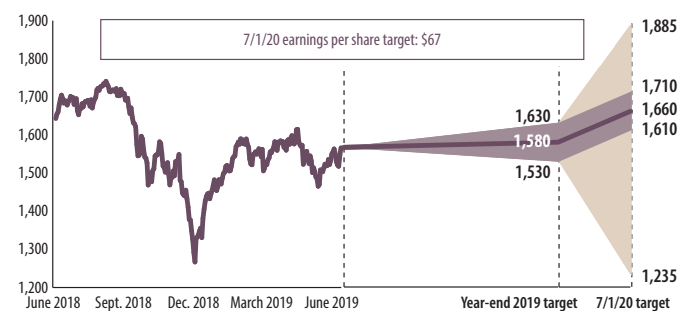


Russell Midcap Index

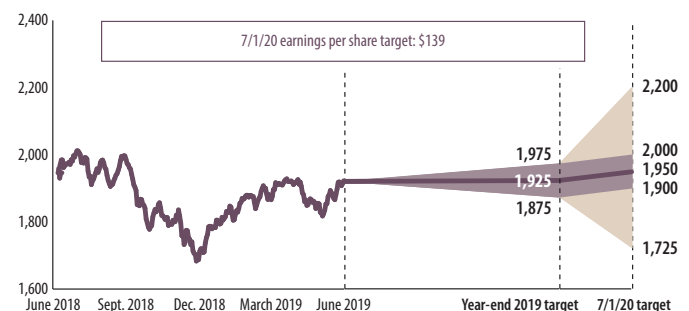


Foreign equities: Rising U.S.-China trade tensions, falling global trade volumes, and economic-growth risks all play into our neutral rating on EM equities. EM equity prices appear inexpensive, but they are bearing the brunt of weakening global trade. Further, new downward commodity price momentum and the resurgence of the U.S. dollar versus EM currencies have weighed on this equity class. Government stimulus in EMs should be supportive, and a number of EM (and DM) central banks recently have cut interest rates. Although this stimulus likely will help sentiment and valuations globally, the impacts vary across global equity classes. International markets should benefit comparatively less than U.S. equity markets, for several reasons—notably the steady (to stronger) U.S. dollar, the larger dependence on trade in overseas markets, and the correspondingly larger economic slowdown overseas. We are taking a conservative stance on valuations when determining targets at this point.

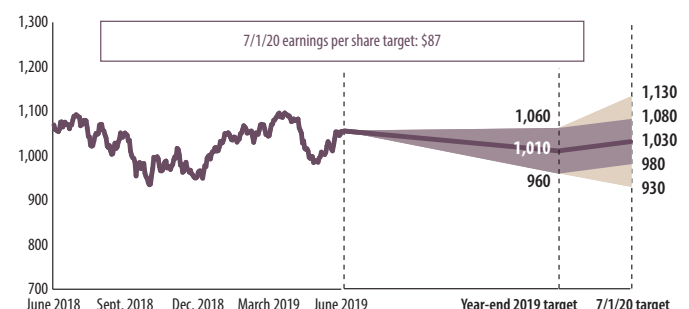
Russell 2000 Index



MSCI EAFE Index



MSCI Emerging Markets Index



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

Equities

U.S. equity sector strategy

Sector guidance

Sector	S&P 500 Index weight (%)*	WFII guidance (%)	Guidance			
			Most unfavorable	Neutral	Most favorable	
Communication Services	10.5	7.3	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Consumer Discretionary	10.2	12.2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Consumer Staples	7.6	6.7	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
▼ Energy	4.4	4.2	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Financials	12.8	14.5	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Health Care	13.9	14.6	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
▼ Industrials	9.2	10.0	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Information Technology	22.1	24.5	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Materials	2.7	0.0	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
▲ Real Estate	3.3	3.0	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
▲ Utilities	3.5	3.0	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Total	100.0	100.0				

Sources: Bloomberg, Wells Fargo Investment Institute (WFII). Weightings are as of August 31, 2019. WFII guidance is as of September 17, 2019. *Sector weightings may not add to 100% due to rounding. ▲/▼: recent change.

Communication Services (Unfavorable): Communication Services now rates third 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 resilient consumer spending in the quarters ahead, fueled by a still-growing labor market and rising wages.

Consumer Staples (Neutral): Valuation indicators, such as the trailing 12-month P/E and price to free cash flow (P/FCF) ratios, are attractive. This sector ranks in the top half in terms of our Quality Pillar** factors versus the other sectors. We believe that earnings revision momentum, analyst estimate dispersion, and return on equity (ROE) signal that a neutral weighting is appropriate in portfolios.

Energy (Neutral): We expect lower oil prices. Yet, Pillar factors such as leverage and liquidity have improved, and projected earnings growth is higher than for any other U.S. equity sector. Valuations have become more compelling. Yet, increased macro risks likely will weigh on this sector. Oil and natural gas oversupply is a risk.

Financials (Favorable): Based on our Value Pillar**, which includes metrics such as the trailing P/E and P/FCF ratios, Financials rank highest relative to the other 10 sectors, but our overall Quality Pillar factors rank in the middle of the pack. We expect modest economic growth and better loan demand ahead. An inverting yield curve has hurt performance.

Health Care (Neutral): Analyst estimate dispersion ranks second relative to the other sectors, while leverage and liquidity measures rank third. Further, P/FCF remains attractive. Yet, political uncertainty has been a major headwind, and potential drug price controls remain a concern.

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

Sector	1 month	Year to date	12 months
S&P 500 Index	-1.6	18.3	2.9
Communication Services	-1.5	21.2	9.7
Consumer Discretionary	-1.3	21.4	2.5
Consumer Staples	1.8	21.2	16.1
Energy	-8.1	2.1	-20.1
Financials	-4.8	14.3	-2.9
Health Care	-0.5	5.8	-0.6
Industrials	-2.6	19.0	0.6
Information Technology	-1.5	29.4	6.6
Materials	-2.8	13.5	-2.5
Real Estate	4.9	28.5	20.3
Utilities	5.2	20.3	21.2
WFII weighted guidance	-1.6	19.2	3.7

Source: FactSet, August 31, 2019.

An index is unmanaged and not available for direct investment.

Past performance is no guarantee of future results.

Industrials (Neutral): With increased trade frictions and their potential effects on global growth, sentiment, and capital spending, we prefer to carry a neutral rating at this point. Like the Information Technology (IT) sector, Industrials rank highly (third overall) across several of our Pillar factors. Increased trade tensions and global growth headwinds represent the main risks for Industrials.

Information Technology (Most favorable): P/FCF remains attractive and 12-month forward earnings per share (EPS) growth remains in the top half of all sectors. Longer-term fundamentals are compelling as IT companies are generating high cash flows and have maintained healthy leverage ratios. This sector also offers an attractive total yield. IT sector risks include trade frictions and political backlash in Congress.

Materials (Unfavorable): Materials companies' ROE has meaningfully deteriorated. Further, estimated EPS growth is near the bottom relative to the other 10 sectors. This sector has continued to underperform over the past 12 months.

Real Estate (Neutral): We recommend a neutral rating on this defensive sector. Like Utilities, this sector pays an attractive dividend, which helps to explain its YTD outperformance. The lower rates and potential growth headwinds that we expect could attract additional capital to this sector. The real estate investment trusts (REITs) in this sector typically are involved in longer-term lease contracts, which can help to somewhat insulate them from economic volatility.

Utilities (Neutral): Utilities are considered a defensive sector that offers an attractive dividend yield. We believe that significant geopolitical and economic uncertainty explains why the domestically focused Utilities sector has outperformed over the past year. Lower interest rates could attract further capital to this sector.

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. Growth typically outperforms in the latter stages of a cycle. For now, we remain neutral.

**For pillar definitions, see page 30.

Equities

International equity market strategy

Developed Market Ex.-U.S. Equities

Europe region (Neutral): We remain neutral on the Europe region. Valuations look less attractive but are still at reasonable levels. Overall economic growth remains soft.

Economic: Economic surprises have softened amid signs of stabilization in Europe. Economic growth has accelerated in Spain and France, but it remains more muted across most of the region.

Market valuations: Valuations generally have become more attractive in Europe. Political uncertainty across the region and concerns over global growth and trade have impacted equity markets.

Market internals: Market internals are negatively biased as sentiment remains poor in the face of economic growth and trade concerns.

Pacific region (Favorable): We maintain our favorable rating on the Pacific region. Valuations continue to improve, yet economic data is signaling challenges.

Economic: Economic data has improved modestly, yet growth remains weak across much of the region. Economic surprises do point to potential increases in economic activity, but current data is still mixed.

Market valuations: Valuations have become more compelling across the region. Japan's valuations remain relatively attractive, but the entire region faces headwinds from trade and global growth concerns.

Market internals: Market breadth and sentiment measures remain neutral.

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: Positive economic surprises are neutral, and they have demonstrated some signs of potential stabilization.

Market valuations: Valuations have improved across much of the region. More attractive valuations in China could be at risk of being offset by weaker growth.

Market internals: Market internals are balanced this month.

Emerging Europe, Middle East and Africa (EMEA) region (Favorable): Economic data remains neutral but has softened, while valuations are showing signs of improvement. We maintain our favorable rating, while acknowledging that 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: Although they have become more attractive, valuations remain close to "fairly valued."

Market internals: Internals are negatively biased as market sentiment and breadth have become supportive of equity prices.

Latin America region (Favorable): Softer, yet positive, economic and earnings fundamentals underpin our favorable guidance for the region.

Economic: Economic indicators continue to decline in Brazil. Chile shows positive signs, while Mexico remains neutral. Surprises for the region declined overall.

Market valuations: Equity valuations are neutral across the region.

Market internals: Internals are biased to the downside as negative sentiment and market volumes are consistent with less favorable price conditions.

International equity guidance by region

Region	Benchmark weight (%)*	Regional guidance			
		Most unfavorable	Neutral	Most favorable	
Developed Market Ex.-U.S. Equities		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Europe	61	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Pacific	39	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
▼ Emerging Market Equities		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Asia	76	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Europe, Middle East and Africa	12	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Latin America	12	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Source: Wells Fargo Investment Institute, September 17, 2019.

* Benchmarks are MSCI EAFE for DM and MSCI Emerging Markets for EM.

▼: recent change.

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

Real Assets

Market summary

The late July risk-off market mood carried through much of August. Defensive assets generally outperformed more cyclical ones. This was true in the Real Assets space as well—with precious metals far outpacing other commodities. Global growth and demand concerns weighed on many other commodities. The continued energy price meltdown was a headwind for master limited partnership (MLP) investor sentiment and performance.

Master limited partnerships

Market observations

MLPs ended August with a large 5.5% decline. Yet, MLPs outperformed other energy names as energy investors continued to demonstrate their preference for MLPs and the midstream space (note that the S&P 500 Energy sector returned -8.1% in August). Oil-price volatility continued as West Texas Intermediate (WTI) oil prices fell by 12.8% from peak to trough intra-month before recapturing half of that loss by month-end. As long as WTI oil prices do not spend significant time below \$50 per barrel, we expect the positive fundamental backdrop for MLPs to remain intact—and anticipate that investors will continue to grow more confident in the MLP outlook. Investors also may be drawn to MLPs for their compelling valuations, better alignment with investor interests, and attractive dividend yields (the average dividend yield is 8%). We hold a favorable view on MLPs and the midstream space more broadly, 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

MLPs and midstream corporations typically can provide income opportunities for investors. We believe that investors' search for yield, relative valuation, improving fundamentals, and the need for additional energy infrastructure are positives.

Commodities

Market observations

Overall, commodity prices declined in August, with the losses in energy and agricultural commodity prices more than offsetting metal-price gains. The precious-metal sector was by far the best monthly and YTD commodity performer in the face of ongoing trade-related, global growth, and geopolitical uncertainties.

Metals: Precious-metal prices rose in August, led by the strong increase in silver prices (which rose by more than 12%). Precious metals were supported by geopolitical and trade-related uncertainties, despite dollar strength last month. Demand for perceived "safe-haven" assets, such as gold, has continued to rise as investor concerns over trade tensions, global growth, and other geopolitical issues have persisted. Additionally, the growing prevalence of negative-yielding debt globally has helped support the precious-metal price increase. Prices may remain elevated if equity volatility increases, interest rates decline, the dollar weakens, or trade disputes and global growth concerns escalate. Base-metal prices rose modestly in August, due to a continued nickel-price rally as a potential export ban in Indonesia led to supply concerns. Metal prices have been volatile this year, and they may remain so as investors digest U.S.-China trade developments and reflect concern over global-metal demand.

Real assets index total returns (%)

	MTD	QTD	YTD	1 year	3 year	5 year
Public Real Estate	1.9	2.3	17.8	9.1	5.4	5.9
U.S. REITs	4.1	5.7	26.1	15.6	7.8	9.4
International REITs	0.6	-0.4	12.9	6.0	5.9	3.9
Master Limited Partnerships	-5.5	-5.7	10.3	-10.2	-2.1	-9.1
Global Infrastructure	0.4	-1.6	18.2	11.1	7.9	4.5
Commodities (BCOM)	-2.3	-3.0	1.9	-5.9	-0.9	-8.6
Agriculture	-5.1	-9.9	-8.9	-10.6	-9.6	-9.9
Energy	-5.7	-5.6	4.5	-18.4	0.2	-17.8
Industrial Metals	0.5	1.9	6.7	-0.5	7.5	-3.1
Precious Metals	7.6	10.1	18.0	25.7	2.8	1.5

Sources: Bloomberg, August 31, 2019. REITs=real estate investment trusts.

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.

Energy: Brent and WTI crude-oil prices fell in August on persistent concerns over weaker demand prospects and potentially slower global growth. Ongoing uncertainties fueled by trade disputes continue to pressure prices, despite growing Middle East tensions, production cuts from Russia and OPEC (Organization of the Petroleum Exporting Countries), and potential supply disruptions (stemming from U.S. sanctions against Iran and Venezuela). Natural-gas prices rose modestly in August as the fuel received a demand boost from the summer cooling season. Natural gas remains one of the worst-performing commodities YTD (with a YTD decline of nearly 23% at month-end).

Agriculture: Agriculture commodity prices fell in August, led by declines in corn, wheat, and sugar. Grains like corn, wheat, and soybeans continue to face pricing pressure as uncertainties regarding future global demand persist and global supplies remain ample. Trade tensions and global-growth expectations may fuel increased commodity sector volatility going forward.

Wells Fargo Investment Institute perspective

A generally resilient global economy supported commodity performance in the first half of 2019, but investors' economic-growth concerns have almost completely erased gains from earlier in 2019. We foresee balanced upside and downside risks over the tactical time horizon. We do not favor tactical positions in the commodity asset class at this time.

Asset class guidance	Guidance		
	Most unfavorable	Neutral	Most favorable
Private Real Estate	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Commodities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Source: Wells Fargo Investment Institute, September 17, 2019.

Real Assets

Wells Fargo Investment Institute forecasts

Commodities: Our year-end 2019 WTI crude-oil price target range is \$50–\$60 per barrel. We believe that the proper supply/demand balance for WTI oil prices is \$40–\$50 per barrel. We added a \$10 per barrel expected premium for geopolitical concerns, along with planned and potential production cuts by key producers. A similar breakdown is evident in our Brent oil price target range. Gold-price volatility could remain elevated as interest rate, currency, global growth, trade, and geopolitical uncertainties persist. Our year-end 2019 target range for gold prices is between \$1,400 and \$1,500 per troy ounce.

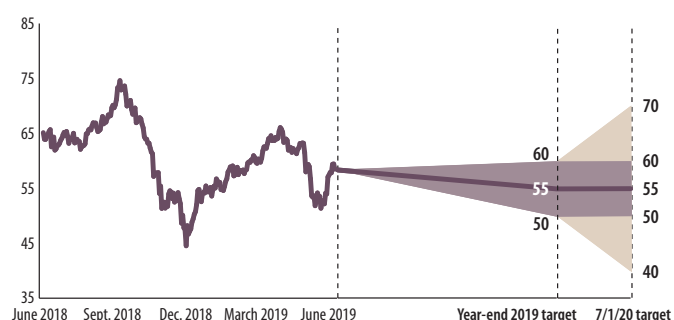
Global real assets (\$)

	2019 YE targets	Current
▼ WTI crude oil price (\$ per barrel)	50 - 60	55
▼ Brent crude oil price (\$ per barrel)	55 - 65	60
▲ Gold price (\$ per troy ounce)	1,400 - 1,500	1,523

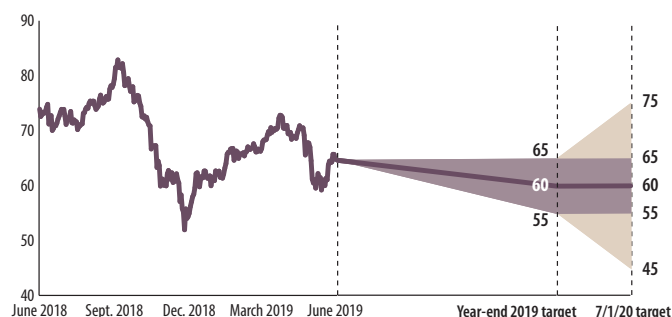
Sources: FactSet, Bloomberg, International Monetary Fund, as of August 31, 2019. The 2019 targets are Wells Fargo Investment Institute forecasts, as of September 17, 2019. Forecasts are based on certain assumptions and on our views of market and economic conditions, which are subject to change. See end of report for important definitions and disclosures. WTI is a grade of crude oil used as a benchmark in oil pricing. ▲/▼: recent change.

Rolling 12-month forecasts

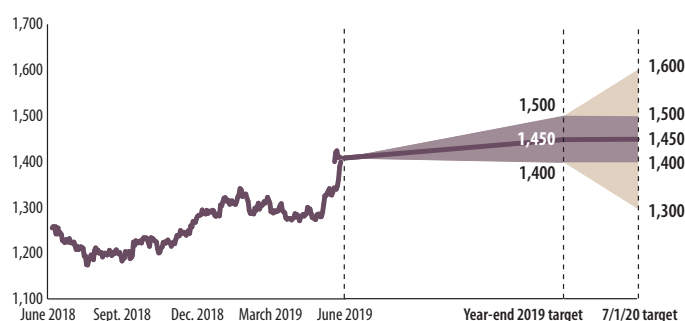
West Texas Intermediate crude oil (\$)



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 slight August gains, along with outperformance versus global equity markets. Equity Hedge declined, but the strategies with lower net exposure performed quite well. Less directional Relative Value strategies generated losses in what was a choppy credit-market trading environment. Macro strategies had a very strong month—driven by Discretionary trading in fixed income and precious metals markets. Within Event Driven, the Activist strategy underperformed amid equity market volatility.

Relative Value: Structured Credit strategies generated positive returns in August from cash flow and slight mark-to-market gains.

Macro: The risk-off environment benefited long fixed income and precious metals positioning for Trend Following and Discretionary Macro strategies.

Event Driven: More directional strategies such as Distressed and Activist experienced losses in August, driven by broader equity and credit market volatility.

Equity Hedge: Stock correlations rose last month amid the risk-off environment—a stock-selection headwind. However, Equity Hedge managers still provided downside protection as short exposure helped to cushion portfolios in a volatile month.

Market observations

Hedge fund managers generally had a risk-on posture in August, buying into weakness. Areas of notable buying activity included the Consumer Discretionary and Information Technology (IT) sectors. IT experienced the largest week-to-week increase in net buying in more than three years.¹ Conversely, amid declining yields, positioning in bank stocks was more bearish as the long/short ratio for global banks declined to the lowest level in approximately three years.²

Wells Fargo Investment Institute perspective

Relative Value: We remain favorable on Relative Value and recommend that qualified investors consider combining Structured Credit with Long/Short Credit strategies. Historically, Structured Credit has been less sensitive to geopolitical and other macro risks—as it relies more on the consumer and economic growth. Long/Short Credit strategies can help reduce downside participation, and we anticipate increased opportunity to short securities of overleveraged companies as volatility increases and growth flattens.

Macro: We remain neutral overall; however, we are more constructive on Discretionary Macro managers' ability to navigate sudden sentiment reversals more quickly than Trend Following strategies. Additionally, we believe that non-Trend Following Systematic Macro strategies can offer enhanced diversification (including those based on shorter-term pattern recognition, fundamental data, and machine learning).

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. Global merger and acquisition volume remains robust, but it continues to be dominated by large deals (\$20+ billion). North American merger spreads are currently above the historical average, while European spreads are in line with their historical average. We do not believe that current merger

Alternative investments index/strategy total returns (%)

	MTD	QTD	YTD	1 year	3 year	5 year
Global Hedge Funds	0.1	0.5	7.8	1.1	4.3	2.9
Relative Value	-0.6	-0.1	5.3	2.0	4.2	3.2
Arbitrage	-0.9	0.4	7.9	7.2	5.0	3.8
Long/Short Credit	-0.4	0.2	7.4	4.4	5.4	3.7
Struct Credit/Asset-Backed	0.4	1.0	4.2	3.8	6.2	4.8
Macro	4.0	5.3	10.5	7.6	2.4	2.2
Systematic	4.5	7.1	13.1	8.7	1.4	2.3
Discretionary	8.4	8.0	12.3	10.8	4.1	2.0
Event Driven	-1.3	-1.1	4.4	-0.2	4.7	2.6
Activist	-3.0	-2.3	7.7	-6.3	2.3	2.9
Distressed Credit	-1.9	-2.2	2.5	-2.3	4.6	1.3
Merger Arbitrage	0.0	0.6	3.8	4.2	4.5	3.6
Equity Hedge	-1.6	-1.4	7.7	-2.0	5.0	3.0
Directional Equity	0.7	0.6	8.8	-1.8	4.1	2.8
Equity Market Neutral	1.1	1.6	2.9	0.7	2.8	2.8

Source: Hedge Fund Research, Inc., August 31, 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.

spreads properly compensate investors for the risk associated with global trade tensions and regulatory scrutiny.

Equity Hedge: We remain favorable as we view the equity security selection environment as supportive. However, challenges require monitoring, including position crowding and factor exposures. Stock correlations remain low, dispersion is broadening, and volatility is increasing. We believe that this bodes well for trading-oriented Equity Hedge managers.

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 remain favorable on Private Debt funds, due to their historical ability to capitalize on illiquidity to deliver cash yields and returns at a premium to those available in public or broadly syndicated debt markets.

Private Real Estate: We remain unfavorable on Private Real Estate (specifically, Core strategies), but we are reviewing the space, given interest-rate trends. However, we remain cautious as 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 core real estate appreciation in recent years, and its slowing pace, we favor U.S. value-add and opportunistic funds over the next three to five years.

¹ Goldman Sachs Prime Services, August 16, 2019 ² Ibid.

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Alternative Investments*

Private placements and liquid alternatives

Alternative investment strategies outlook*

	Guidance			
	Most unfavorable	Neutral	Most favorable	
Private placements				
Relative Value	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Arbitrage	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Long/Short Credit	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Structured Credit/Asset-Backed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Macro	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Systematic	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Discretionary	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Event Driven	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Activist	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Distressed Credit	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Merger Arbitrage	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Equity Hedge	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Directional	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Equity Market Neutral	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Private Equity	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Liquid alternatives				
Relative Value	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Macro	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Event Driven	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Equity Hedge	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Sources: Wells Fargo Investment Institute, Wilshire Liquid Alternative Index family, September 17, 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

The dollar's slow push higher continued in August. The U.S. Dollar Index (DXY) ended the month at 98.92—the highest level in more than two years—buoyed by a global search for returns as much of the DM bond universe was yielding less than zero (along with perceived safe haven inflows). The euro remained weak, slipping 0.8% to a level below 1.10, and the pound was unchanged last month amid high Brexit uncertainty. The yen gained 2.4%, driven by the increase in global risks. By year-end, our forecast anticipates a euro range of 1.07–1.15 and a yen range of 101–111, versus the dollar. The DXY level implied by the midpoints of these ranges is near 98, which is close to current spot market trading levels. We expect that the dollar will remain firm within current broad trading ranges at year-end.

2019 year-end currency targets

	August 31, 2019	2019 YE forecasts	Expected return versus U.S. dollar
▼ Dollars per euro	\$1.10	\$1.07–\$1.15	1.1%
▼ Yen per dollar	¥106	¥101–¥111	0.3%

Source: Bloomberg, as of August 31, 2019. The 2019 targets are Wells Fargo Investment Institute forecasts, as of September 17, 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.

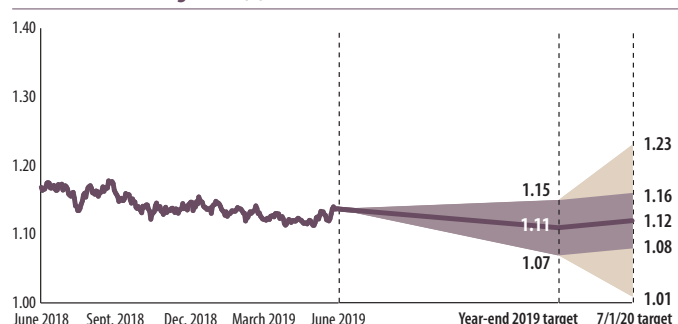
The U.S. dollar versus emerging market currencies

Market observations and outlook

The sharp depreciation of the Chinese yuan in response to the latest tariff escalation—and the renewed political and economic crisis that hit the Argentine peso—combined to cause sharp declines in EM currencies last month. The JP Morgan Emerging Markets Currency Index (EMCI) fell by 4.0%, and an index of currencies mirroring the weighting of the more manufacturing-based MSCI Emerging Markets Index weakened by 3.3%. The 26% drop in the Argentine peso caused general underperformance in Latin American currencies, with the Brazilian real falling by 8.1% and the Mexican peso declining by 4.6%. We are broadly neutral on EM currencies, but it seems unlikely that EM currency indices can rally significantly in the current environment of slowing global growth and rising geopolitical risks. The latest escalation in the U.S.-China trade dispute and the possibility of further depreciation of the Chinese yuan in the coming months increases the downside risks to EM currencies in this respect.

Rolling 12-month forecasts

Dollar/euro exchange rate (\$)



Currency hedging

Based on our views on the direction of the dollar, we provide our currency-hedging guidance in the matrix below. We no longer recommend strategic allocations to DM fixed income in local currency, and we do not favor taking tactical positions at this time. For those who wish to hold DM fixed income positions, we do not recommend hedging any portion of these holdings, since our outlook for DM currencies over the coming year is broadly neutral. While we acknowledge that wide currency swings remain possible in the current uncertain environment, 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

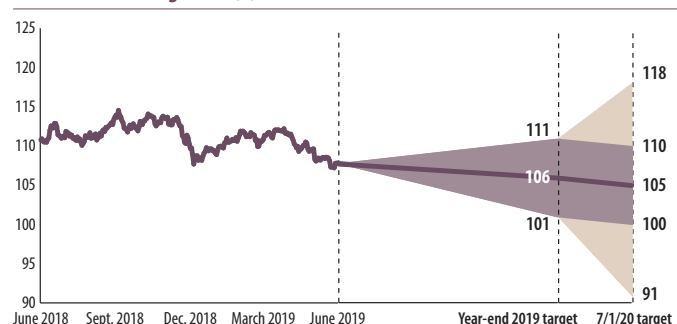
Asset class	Strategic benchmark	Currency advice
Developed Market Ex-U.S. Fixed Income	N/A*	No hedge
Developed Market Ex-U.S. Equities	Local currency	No hedge
Emerging Market Fixed Income	U.S. dollar	No hedge
Emerging Market Equities	Local currency	No hedge

Source: Wells Fargo Investment Institute, September 17, 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 no longer recommend strategic allocations and do not favor tactical allocations at this time to Developed Market Ex-U.S. Fixed Income. Hedging advice applies to those who wish to hold these assets.

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

Yen/dollar exchange rate (¥)



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

Investment Themes and Actions for 2019

Theme	Trends	Strategic (long-term investments)	Tactical (short-term opportunities)
China's Place in the World	<p>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.</p> <p>China's economic reforms have helped to raise the global reach of its financial markets and the yuan.</p> <p>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.</p>	<p>For investors who seek to benefit from China's economic development, we recommend considering a diversified allocation to EMs.</p> <p>Newfound access to Chinese capital markets could enable investors to capitalize upon long-term growth opportunities as China's economy evolves.</p> <p>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.</p>	<p>We currently hold a neutral view on EM equities. We believe that investors should align their EM equity exposure with their strategic allocations (and long-term goals).</p>
Reimagining Retirement	<p>Traditionally, retirement meant leaving behind a 9-to-5 job and spending time with family, volunteering, or traveling. But that may be changing.</p> <p>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.</p> <p>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.</p>	<p>For workers who truly want to retire, developing the habit of saving early makes the task of achieving that goal more attainable.</p> <p>We suggest a strategic asset allocation that includes fixed income, equities, real assets, and alternative investments, based on long-term objectives.</p> <p>Younger workers should take advantage of time and start saving for retirement today.</p> <p>We recommend investors consider rebalancing portfolios regularly to account for shifts in sentiment and asset values.</p>	<p>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.</p> <p>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.</p>
How Bull Markets End	<p>U.S. equity markets have been volatile in recent quarters—prompting many investors to wonder if the current bull market might soon come to an end.</p> <p>In June 2019, the U.S. economic expansion reached 122 months, its longest expansion since the mid-19th century. This expansion has been accompanied by the longest bull market on record.</p> <p>Since bear markets are a normal part of the market cycle, investors should expect to experience them periodically—and plan accordingly.</p>	<p>We recommend considering a mix of active and passive strategies suitable for current market trends and investor situations.</p> <p>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.</p> <p>Investors also may want to hold global exposure, as overseas markets appear more attractively valued.</p> <p>We recommend investors consider using high-quality bonds for income and to help offset market volatility.</p> <p>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.</p>	<p>Investors may want to hold appropriate levels of cash alternatives and deploy cash selectively—as volatility can create opportunities.</p> <p>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.</p> <p>At this point in the cycle, we favor the Financials and Information Technology sectors. We also favor the Consumer Discretionary sector, which should benefit from solid consumer spending.</p>

Tactical Guidance

Recommended tactical guidance

Emerging Market Equities downgraded 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 (extent to which the strategy's returns have differed from its benchmark) to traditional benchmarks from these strategies. Prudent use through controlled allocations is recommended.

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 Emerging Market Equities** U.S. Large Cap Equities U.S. Mid Cap Equities		
Real assets				
	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 in August.

Tactical Guidance

Tactical guidance summary

		Guidance		Rationale and further detail
Asset class		Most unfavorable	Most favorable	
FIXED INCOME	U.S. Taxable Investment Grade Fixed Income	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Our economic growth expectations remain modest, and we have seen a significantly dovish Fed pivot year to date. We expect two Fed rate cuts between September and year-end; this has the potential to drive rates slightly lower. 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.
	U.S. Short Term Taxable	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> Short-term interest rates have fallen in recent weeks as market participants continue to price in further Fed rate cuts. We are favorable, and we continue to see U.S. Short Term Taxable Fixed Income as an attractive alternative to excess holdings of cash alternatives in portfolios.
	U.S. Intermediate Term Taxable	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Modest growth and inflation expectations, along with a dovish Fed, support our neutral view on U.S. Intermediate Term Taxable Fixed Income.
	U.S. Long Term Taxable	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Modest growth and inflation expectations, along with a dovish Fed, also support our neutral allocation to U.S. Long Term Taxable Fixed Income. Long dated, high quality fixed income is a portfolio diversifier that historically has tended to perform well during periods of market stress.
	High Yield Taxable Fixed Income	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/> High yield corporate debt underperformed last month as investors favored a risk-off approach. Continued market uncertainty, further “risk-off positioning,” or an unexpected growth slowdown, could result in future underperformance. We believe that investors have better risk-adjusted return opportunities elsewhere.
	Developed Market Ex-U.S. Fixed Income	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/> Sovereign yields (outside the U.S.) should remain low relative to Treasury yields. We no longer recommend strategic allocations. In this context, a rating of unfavorable means that we do not favor tactically allocating to this asset class at this time.
	Emerging Market Fixed Income	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> 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	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> We are neutral on large-cap equities, and we have moved our focus from cyclical large-cap sectors to more defensive sectors. Trade tensions could negatively affect equity markets, sentiment, and capital expenditures. We expect volatility to be elevated in the near term.
	U.S. Mid Cap Equities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> This equity class differs from other U.S. classes, because it offers better financial metrics than small caps (i.e., strong balance sheets and more stable earnings), while mid-cap revenues are more U.S.-centric than those of large caps. Mid caps generally are less susceptible to trade frictions than large caps are.
	U.S. Small Cap Equities	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/> Small caps dramatically missed earnings estimates in the past few quarters. Small-cap companies tend to be more susceptible to costs from rising wages and tariff-induced input price increases than larger firms typically are. Weaker balance sheets and less share buyback potential are among other challenges.
	Developed Market (DM) Ex.-U.S. Equities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> The outlook for this equity class is highly dependent on trade negotiations, and it would benefit from any resolution or an easing of trade tensions. DMs remain challenged by slow economic growth and political uncertainty.
	▼ Emerging Market Equities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Most EM economies are heavily export-based and closely tied to global growth. They also tend to be negatively affected by a stronger U.S. dollar. EMs also are historically correlated to commodity prices, which have been declining. Increased risks to the international outlook have overshadowed fundamental positives.
REAL ASSETS	Commodities	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Commodities continue to stagnate, and we foresee balanced upside and downside risks through year-end. We do not favor tactical positions at this time.
	Private Real Estate*	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/> 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*	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> We favor the less-directional nature of Relative Value at a time when we see credit risk increasing. In times of stress, investors often favor securitized products, which can benefit managers focused on asset-backed securities.
	Hedge Funds—Macro*	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> 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. We remain more constructive on the Discretionary strategy, given its more tactical, nimble approach.
	Hedge Funds—Event Driven*	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> We are neutral on Event Driven strategies. We favor the Distressed strategy as we see a number of idiosyncratic opportunities that may lead to attractive entry points, especially as we approach the latter stages of the cycle.
	Hedge Funds—Equity Hedge*	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> We believe that the environment for equity security selection is supportive. While we remain cognizant of global equity risks, we believe that established trends, such as stocks reacting to fundamentals, are likely to be performance tailwinds.
	Private Equity*	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> We maintain a neutral view on Private Equity; however, we see opportunities within niche strategies focused on Asia and certain idiosyncratic sectors, such as Energy.

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Capital Market Assumptions

Fixed income, equities, real assets and alternative investments

Annual update; as of July 2019

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	2.25				
	Cash Alternatives	2.25	2.2	1.0	2.2	0.6
FIXED INCOME	U.S. Short Term Taxable Fixed Income	2.7	2.7	1.5	2.7	0.2
	U.S. Intermediate Term Taxable Fixed Income	3.6	3.5	3.8	3.5	-2.4
	U.S. Long Term Taxable Fixed Income	4.3	3.8	9.5	3.8	-10.6
	High Yield Taxable Fixed Income	6.4	5.8	11.5	5.8	-11.4
	Short Term Tax Exempt Fixed Income	2.3	2.3	1.8	2.3	-0.6
	Intermediate Term Tax Exempt Fixed Income	3.1	3.0	4.3	3.0	-3.8
	Long Term Tax Exempt Fixed Income	3.6	3.5	5.5	3.5	-5.2
	High Yield Tax Exempt Fixed Income	5.5	5.1	8.3	5.1	-7.5
	Developed Market ex.-U.S. Fixed Income	3.2	2.9	8.3	2.9	-9.7
	Emerging Market Fixed Income	6.8	6.2	11.5	6.2	-11.0
	Inflation-Linked Fixed Income	3.2	3.0	6.5	3.0	-7.1
	Preferred Stock	4.6	3.9	12.0	3.9	-13.9
EQUITIES	U.S. Large Cap Equities	8.6	7.4	16.0	2.1	-15.6
	U.S. Mid Cap Equities	9.6	8.3	17.0	1.8	-16.0
	U.S. Small Cap Equities	10.3	8.5	20.0	1.5	-19.3
	Developed Market ex.-U.S. Equities	8.7	7.4	17.0	3.0	-16.9
	Developed Market ex.-U.S. Small Cap Equities	9.7	7.9	20.0	2.5	-19.9
	Emerging Market Equities	11.5	9.2	23.0	2.5	-22.0
	Frontier Market Equities	10.4	8.4	21.0	3.5	-20.5
REAL ASSETS	Public Real Estate	7.9	6.5	17.5	4.0	-18.3
	Private Real Estate*	8.7	7.7	15.0	5.5	-14.1
	Infrastructure	8.3	7.1	16.0	4.3	-15.9
	Master Limited Partnerships	9.2	7.9	17.0	6.3	-16.4
	Timberland	5.3	5.0	7.5	3.0	-6.6
	Commodities	5.5	4.4	15.0	0.0	-17.3
ALTERNATIVE INVESTMENTS*	Hedge Funds—Relative Value	5.3	5.1	5.1	0.0	-2.9
	Hedge Funds—Macro	4.8	4.6	6.0	0.0	-4.8
	Hedge Funds—Event Driven	5.4	5.2	6.5	0.0	-5.0
	Hedge Funds—Equity Hedge	6.1	5.7	8.8	0.0	-7.7
	Global Liquid Alternatives	2.6	2.5	3.5	0.0	-3.1
	Private Equity	11.9	10.1	20.0	0.0	-17.7
	Private Debt	8.9	8.1	14.0	6.8	-12.5

*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

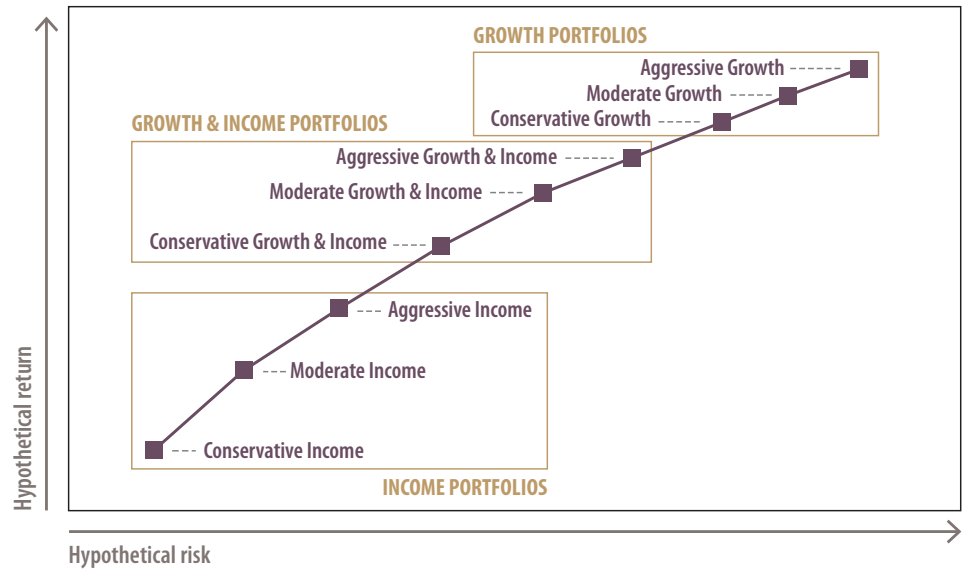
Efficient frontier

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 2019

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



Investment objectives definitions

INCOME

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

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

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

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

GROWTH & INCOME

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

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

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

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

GROWTH

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

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

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

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

Strategic and Tactical Asset Allocation

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	83.0	-2.0	72.0	69.0	-3.0	64.0	61.0	-3.0
	U.S. Taxable Investment Grade Fixed Income	77.0	77.0	0.0	61.0	62.0	1.0	48.0	49.0	1.0
	U.S. Short Term Taxable	28.0	28.0	0.0	19.0	19.0	0.0	8.0	9.0	1.0
	U.S. Intermediate Term Taxable	44.0	44.0	0.0	35.0	35.0	0.0	30.0	30.0	0.0
	U.S. Long Term Taxable	5.0	5.0	0.0	7.0	8.0	1.0	10.0	10.0	0.0
	High Yield Taxable Fixed Income	5.0	3.0	-2.0	6.0	2.0	-4.0	8.0	4.0	-4.0
	Developed Market Ex-U.S. Fixed Income	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Emerging Market Fixed Income	3.0	3.0	0.0	5.0	5.0	0.0	8.0	8.0	0.0
	TOTAL EQUITIES	12.0	12.0	0.0	25.0	25.0	0.0	33.0	33.0	0.0
	U.S. Large Cap Equities	6.0	6.0	0.0	12.0	14.0	2.0	15.0	17.0	2.0
	U.S. Mid Cap Equities	4.0	4.0	0.0	5.0	5.0	0.0	7.0	7.0	0.0
	U.S. Small Cap Equities	0.0	0.0	0.0	4.0	2.0	-2.0	6.0	4.0	-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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Public Real Estate	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Commodities	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GROWTH & INCOME	CASH ALTERNATIVES	3.0	7.0	4.0	3.0	6.0	3.0	3.0	6.0	3.0
	TOTAL FIXED INCOME	53.0	50.0	-3.0	43.0	41.0	-2.0	35.0	33.0	-2.0
	U.S. Taxable Investment Grade Fixed Income	42.0	43.0	1.0	32.0	33.0	1.0	22.0	24.0	2.0
	U.S. Short Term Taxable	7.0	10.0	3.0	4.0	8.0	4.0	2.0	7.0	5.0
	U.S. Intermediate Term Taxable	25.0	25.0	0.0	21.0	20.0	-1.0	16.0	15.0	-1.0
	U.S. Long Term Taxable	10.0	8.0	-2.0	7.0	5.0	-2.0	4.0	2.0	-2.0
	High Yield Taxable Fixed Income	6.0	2.0	-4.0	6.0	3.0	-3.0	7.0	3.0	-4.0
	Developed Market Ex-U.S. Fixed Income	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Emerging Market Fixed Income	5.0	5.0	0.0	5.0	5.0	0.0	6.0	6.0	0.0
	TOTAL EQUITIES	44.0	43.0	-1.0	54.0	53.0	-1.0	62.0	61.0	-1.0
	U.S. Large Cap Equities	17.0	19.0	2.0	21.0	23.0	2.0	25.0	27.0	2.0
	U.S. Mid Cap Equities	10.0	10.0	0.0	12.0	12.0	0.0	14.0	14.0	0.0
	U.S. Small Cap Equities	8.0	5.0	-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	4.0	0.0	7.0	7.0	0.0	8.0	8.0	0.0
	TOTAL REAL ASSETS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Public Real Estate	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Commodities	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Strategic allocations are updated annually; last update was July 16, 2019. Tactical allocations are updated periodically; last update was August 19, 2019.

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

Strategic and Tactical Asset Allocation

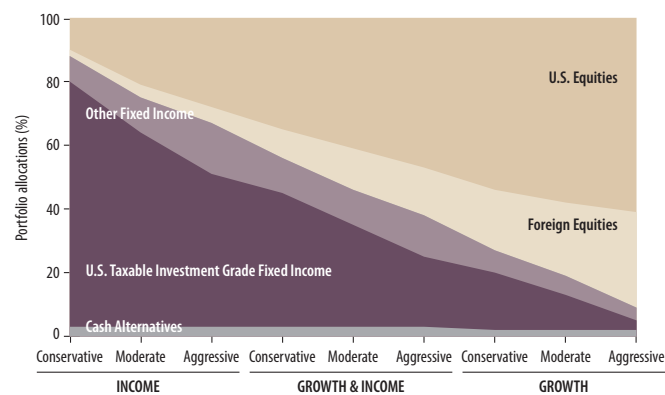
Three asset groups: fixed income, equities, real assets (continued)

		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	6.0	4.0
	TOTAL GLOBAL FIXED INCOME	25.0	24.0	-1.0	17.0	16.0	-1.0	7.0	6.0	-1.0
	U.S. Taxable Investment Grade Fixed Income	18.0	21.0	3.0	11.0	13.0	2.0	3.0	4.0	1.0
	Short Term Taxable	4.0	7.0	3.0	2.0	5.0	3.0	0.0	0.0	0.0
	Intermediate Taxable	10.0	10.0	0.0	6.0	5.0	-1.0	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	0.0	-4.0	3.0	0.0	-3.0	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	3.0	3.0	0.0	3.0	3.0	0.0	2.0	2.0	0.0
	TOTAL GLOBAL EQUITIES	73.0	71.0	-2.0	81.0	79.0	-2.0	91.0	88.0	-3.0
	U.S. Large Cap Equities	29.0	31.0	2.0	29.0	31.0	2.0	27.0	29.0	2.0
	U.S. Mid Cap Equities	15.0	15.0	0.0	16.0	16.0	0.0	18.0	17.0	-1.0
	U.S. Small Cap Equities	10.0	6.0	-4.0	13.0	9.0	-4.0	16.0	12.0	-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	10.0	10.0	0.0	13.0	13.0	0.0	16.0	16.0	0.0
	TOTAL GLOBAL REAL ASSETS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Public Real Estate	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Commodities	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

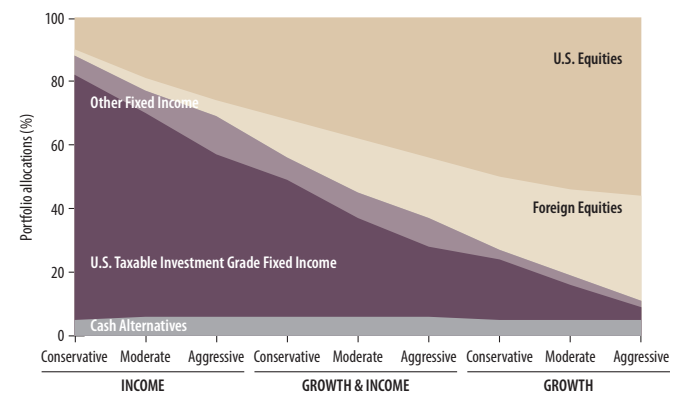
Strategic allocations are updated annually; last update was July 16, 2019. Tactical allocations are updated periodically; last update was August 19, 2019.

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	75.0	73.0	-2.0	64.0	61.0	-3.0	56.0	54.0	-2.0
	U.S. Taxable Investment Grade Fixed Income	67.0	67.0	0.0	52.0	53.0	1.0	40.0	42.0	2.0
	U.S. Short Term Taxable	21.0	21.0	0.0	14.0	16.0	2.0	4.0	7.0	3.0
	U.S. Intermediate Term Taxable	41.0	41.0	0.0	31.0	31.0	0.0	26.0	26.0	0.0
	U.S. Long Term Taxable	5.0	5.0	0.0	7.0	6.0	-1.0	10.0	9.0	-1.0
	High Yield Taxable Fixed Income	5.0	3.0	-2.0	7.0	3.0	-4.0	8.0	4.0	-4.0
	Developed Market Ex-U.S. Fixed Income	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Emerging Market Fixed Income	3.0	3.0	0.0	5.0	5.0	0.0	8.0	8.0	0.0
	TOTAL EQUITIES	13.0	13.0	0.0	21.0	21.0	0.0	29.0	28.0	-1.0
	U.S. Large Cap Equities	7.0	7.0	0.0	10.0	10.0	0.0	11.0	13.0	2.0
	U.S. Mid Cap Equities	4.0	4.0	0.0	5.0	5.0	0.0	9.0	9.0	0.0
	U.S. Small Cap Equities	0.0	0.0	0.0	2.0	2.0	0.0	5.0	2.0	-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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Public Real Estate	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Commodities	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	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	7.0	4.0	3.0	7.0	4.0	3.0	7.0	4.0
	TOTAL FIXED INCOME	43.0	40.0	-3.0	33.0	30.0	-3.0	25.0	22.0	-3.0
	U.S. Taxable Investment Grade Fixed Income	34.0	33.0	-1.0	22.0	22.0	0.0	13.0	14.0	1.0
	U.S. Short Term Taxable	4.0	5.0	1.0	0.0	2.0	2.0	0.0	3.0	3.0
	U.S. Intermediate Term Taxable	21.0	21.0	0.0	16.0	16.0	0.0	8.0	8.0	0.0
	U.S. Long Term Taxable	9.0	7.0	-2.0	6.0	4.0	-2.0	5.0	3.0	-2.0
	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	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Emerging Market Fixed Income	4.0	4.0	0.0	5.0	5.0	0.0	6.0	6.0	0.0
	TOTAL EQUITIES	40.0	39.0	-1.0	49.0	48.0	-1.0	57.0	56.0	-1.0
	U.S. Large Cap Equities	13.0	15.0	2.0	20.0	22.0	2.0	22.0	24.0	2.0
	U.S. Mid Cap Equities	10.0	10.0	0.0	10.0	10.0	0.0	12.0	12.0	0.0
	U.S. Small Cap Equities	8.0	5.0	-3.0	8.0	5.0	-3.0	10.0	7.0	-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	4.0	0.0	5.0	5.0	0.0	6.0	6.0	0.0
	TOTAL REAL ASSETS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Public Real Estate	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Commodities	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	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

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Strategic and Tactical Asset Allocation

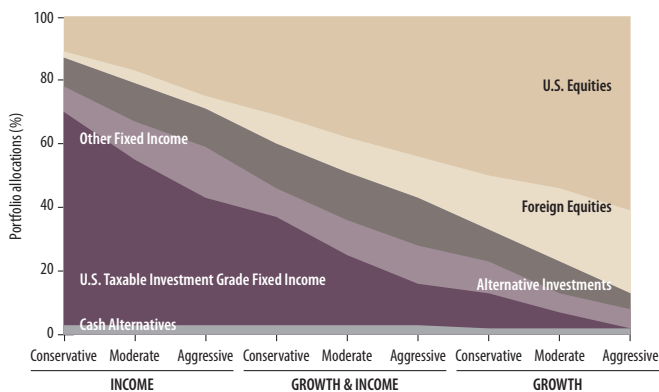
Four asset groups: fixed income, equities, real assets, alternative investments
(without Private Capital) (continued)

		CONSERVATIVE			MODERATE			AGGRESSIVE		
		Strategic (%)	Tactical (%)	Difference (%)	Strategic (%)	Tactical (%)	Difference (%)	Strategic (%)	Tactical (%)	Difference (%)
GROWTH	CASH ALTERNATIVES	2.0	5.0	3.0	2.0	6.0	4.0	2.0	5.0	3.0
	TOTAL FIXED INCOME	21.0	20.0	-1.0	11.0	9.0	-2.0	6.0	5.0	-1.0
	U.S. Taxable Investment Grade Fixed Income	11.0	15.0	4.0	5.0	6.0	1.0	0.0	2.0	2.0
	U.S. Short Term Taxable	0.0	6.0	6.0	0.0	4.0	4.0	0.0	2.0	2.0
	U.S. Intermediate Term Taxable	8.0	7.0	-1.0	3.0	2.0	-1.0	0.0	0.0	0.0
	U.S. Long Term Taxable	3.0	2.0	-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	67.0	65.0	-2.0	77.0	75.0	-2.0	87.0	85.0	-2.0
	U.S. Large Cap Equities	24.0	26.0	2.0	25.0	27.0	2.0	25.0	27.0	2.0
	U.S. Mid Cap Equities	14.0	14.0	0.0	15.0	15.0	0.0	19.0	19.0	0.0
	U.S. Small Cap Equities	12.0	8.0	-4.0	14.0	10.0	-4.0	17.0	13.0	-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	8.0	0.0	12.0	12.0	0.0	13.0	13.0	0.0
	TOTAL REAL ASSETS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Public Real Estate	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Commodities	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	TOTAL ALTERNATIVE INVESTMENTS*	10.0	10.0	0.0	10.0	10.0	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	0.0	0.0	0.0	0.0	0.0	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

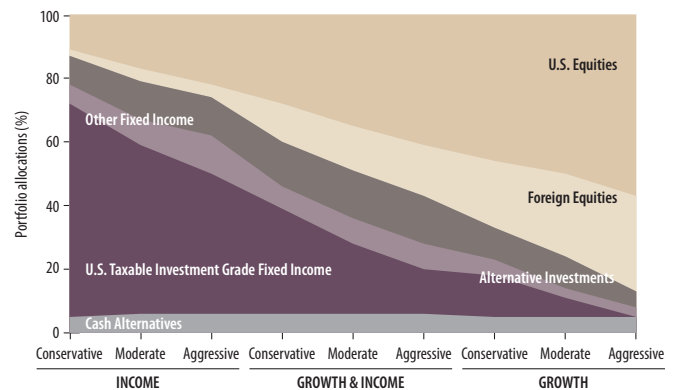
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These allocations span the set of investments available to investors, utilizing broad diversification to help manage portfolio risk. Special issues such as liquidity, cash flow, and taxability would be taken into consideration in the choice of investment vehicles for 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	4.0	1.0	3.0	6.0	3.0
	TOTAL FIXED INCOME	71.0	68.0	-3.0	60.0	59.0	-1.0	52.0	49.0	-3.0
	U.S. Taxable Investment Grade Fixed Income	62.0	61.0	-1.0	48.0	49.0	1.0	36.0	37.0	1.0
	U.S. Short Term Taxable	20.0	20.0	0.0	12.0	13.0	1.0	2.0	3.0	1.0
	U.S. Intermediate Term Taxable	37.0	37.0	0.0	29.0	29.0	0.0	25.0	25.0	0.0
	U.S. Long Term Taxable	5.0	4.0	-1.0	7.0	7.0	0.0	9.0	9.0	0.0
	High Yield Taxable Fixed Income	6.0	4.0	-2.0	7.0	5.0	-2.0	8.0	4.0	-4.0
	Developed Market Ex-U.S. Fixed Income	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Emerging Market Fixed Income	3.0	3.0	0.0	5.0	5.0	0.0	8.0	8.0	0.0
	TOTAL EQUITIES	10.0	10.0	0.0	20.0	20.0	0.0	27.0	27.0	0.0
	U.S. Large Cap Equities	6.0	6.0	0.0	10.0	12.0	2.0	11.0	13.0	2.0
	U.S. Mid Cap Equities	2.0	2.0	0.0	4.0	4.0	0.0	8.0	8.0	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	7.0	7.0	0.0
	Public Real Estate	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Private Real Estate*	5.0	5.0	0.0	6.0	6.0	0.0	7.0	7.0	0.0
	Commodities	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	TOTAL ALTERNATIVE INVESTMENTS*	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	7.0	4.0	3.0	6.0	3.0	3.0	7.0	4.0
	TOTAL FIXED INCOME	42.0	38.0	-4.0	33.0	31.0	-2.0	26.0	23.0	-3.0
	U.S. Taxable Investment Grade Fixed Income	31.0	31.0	0.0	21.0	25.0	4.0	14.0	17.0	3.0
	U.S. Short Term Taxable	4.0	6.0	2.0	0.0	6.0	6.0	0.0	4.0	4.0
	U.S. Intermediate Term Taxable	20.0	18.0	-2.0	16.0	16.0	0.0	9.0	8.0	-1.0
	U.S. Long Term Taxable	7.0	7.0	0.0	5.0	3.0	-2.0	5.0	5.0	0.0
	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	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	6.0	6.0	0.0	6.0	6.0	0.0
	TOTAL EQUITIES	34.0	34.0	0.0	41.0	40.0	-1.0	48.0	47.0	-1.0
	U.S. Large Cap Equities	14.0	16.0	2.0	18.0	20.0	2.0	22.0	24.0	2.0
	U.S. Mid Cap Equities	8.0	8.0	0.0	8.0	8.0	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	3.0	0.0	4.0	4.0	0.0	5.0	5.0	0.0
	TOTAL REAL ASSETS	5.0	5.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0
	Public Real Estate	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Private Real Estate*	5.0	5.0	0.0	6.0	6.0	0.0	6.0	6.0	0.0
	Commodities	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	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 16, 2019. Tactical allocations are updated periodically; last update was August 19, 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

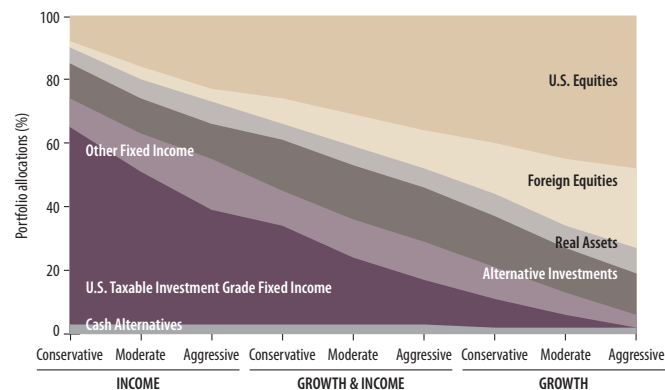
Four asset groups: fixed income, equities, real assets, alternative investments (continued)

		CONSERVATIVE			MODERATE			AGGRESSIVE		
		Strategic (%)	Tactical (%)	Difference (%)	Strategic (%)	Tactical (%)	Difference (%)	Strategic (%)	Tactical (%)	Difference (%)
GROWTH	CASH ALTERNATIVES	2.0	6.0	4.0	2.0	6.0	4.0	2.0	3.0	1.0
	TOTAL FIXED INCOME	19.0	17.0	-2.0	11.0	10.0	-1.0	4.0	6.0	2.0
	U.S. Taxable Investment Grade Fixed Income	9.0	12.0	3.0	4.0	6.0	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	7.0	6.0	-1.0	2.0	2.0	0.0	0.0	0.0	0.0
	U.S. Long Term Taxable	2.0	2.0	0.0	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	54.0	-2.0	66.0	63.0	-3.0	73.0	70.0	-3.0
	U.S. Large Cap Equities	24.0	26.0	2.0	24.0	26.0	2.0	24.0	26.0	2.0
	U.S. Mid Cap Equities	9.0	9.0	0.0	13.0	12.0	-1.0	15.0	14.0	-1.0
	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	7.0	0.0	10.0	10.0	0.0	13.0	13.0	0.0
	TOTAL REAL ASSETS	7.0	7.0	0.0	7.0	7.0	0.0	8.0	8.0	0.0
	Public Real Estate	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Private Real Estate*	7.0	7.0	0.0	7.0	7.0	0.0	8.0	8.0	0.0
	Commodities	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	TOTAL ALTERNATIVE INVESTMENTS*	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

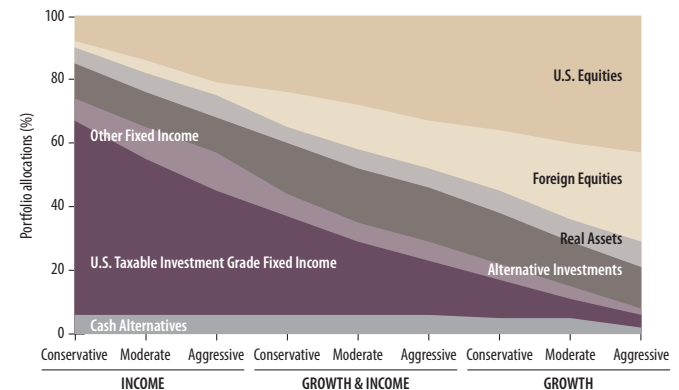
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Portfolio allocations across the efficient frontier—strategic



Portfolio allocations across the efficient frontier—tactical



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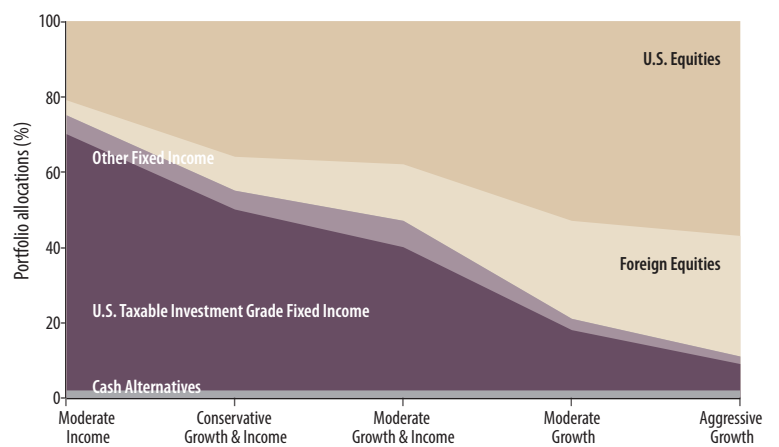
Cyclical Asset Allocation

Three asset groups: fixed income, equities, real assets

Quarterly update; as of July 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
FIXED INCOME	Cash Alternatives	2	2	2	2	2
	Total Fixed Income	73	53	45	19	9
	U.S. Short Term Taxable Fixed Income	23	9	8	5	3
	U.S. Intermediate Term Taxable Fixed Income	35	25	21	5	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	—	—	—	—	—
EQUITIES	Emerging Market Fixed Income	5	5	5	3	2
	Total Equities	25	45	53	79	89
	U.S. Large Cap Equities	16	21	22	30	29
	U.S. Mid Cap Equities	5	10	12	16	18
	U.S. Small Cap Equities	0	5	4	7	10
	Developed Market Ex-U.S. Equities	4	5	6	10	14
	Emerging Market Equities	0	4	9	16	18
REAL ASSETS	Total Real Assets	0	0	0	0	0
	Public Real Estate	0	0	0	0	0
	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 not guaranteed and are based on certain assumptions and on our views of market and economic conditions which are subject to change.

Risk considerations

Past performance does not indicate future results. The value or income associated with a security or an investment may fluctuate. There is always the potential for loss as well as gain. Investments discussed in this report may be 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.

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.

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

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

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

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

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

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.

CBOE Volatility Index® (VIX®). The Chicago Board Options Exchange Volatility Index reflects a market estimate of future volatility, based on the weighted average of the implied volatilities for a wide range of strikes. First- and second-month expirations are used until eight days from expiration, then the second and third are used.

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

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

Conference Board's Leading Economic Index (LEI) is a composite average of ten leading indicators in the U.S. 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.

Disclosures (continued)

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.

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

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

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.

Disclosures (continued)

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

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

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

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

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

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

Directional Equity. HFRX EH: Multi-Strategy Index. Managers maintain positions both long and short in primarily equity and equity-derivative securities. A wide variety of investment processes can be employed to arrive at an investment decision, including both quantitative and fundamental techniques; strategies can be broadly diversified or narrowly focused on specific sectors and can range broadly in terms

of levels of net exposure, leverage, holding period, concentrations of market capitalizations, and valuation ranges of typical portfolios. Managers typically do not maintain more than 50% exposure to any one Equity Hedge sub-strategy.

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

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

Disclosures (continued)

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

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

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

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

U.S. Municipal Bond. Bloomberg Barclays 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.

MSCI U.K. Index is designed to measure the performance of the large and mid-cap segments of the U.K. market. With 103 constituents, the index covers about 85% of the free float-adjusted market capitalization in the U.K.

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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.

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

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

Commodities (BCOM). **Bloomberg Commodity Index** is 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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