## IPL RESEARCH PORTFOLIO COMPASS

The *Portfolio Compass* provides a snapshot of LPL Research's views on equity, equity sectors, fixed income, and alternative asset classes. This monthly publication illustrates our current views and will change as needed over a 3- to 12-month time horizon.

The top down is an important part of our asset allocation process. As a result, we have a macro section including our views of the global economy and key drivers of those views, and a section on what we are watching that might change those views.

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All performance referenced herein is as of March 13, 2018, unless otherwise noted.

\*As noted in our *Outlook 2018: Return of the Business Cycle,* we expect the S&P 500 Index total return to be 8–10%, driven by 2.5% GDP growth, 8–10% S&P 500 earnings growth, and a target price-to-earnings (PE) ratio of 19.

#### March 14 2018

# NAVIGATING THE MARKETS

### **COMPASS CHANGES**

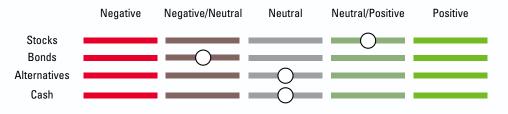
- Downgraded short-term municipals to negative/neutral from neutral.
- Upgraded agricultural from negative/neutral to neutral.
- Upgraded event driven to neutral/positive from neutral.
- Downgraded global macro from neutral/positive to neutral.

### **INVESTMENT TAKEAWAYS**

- We recently raised our 2018 earnings forecast for S&P 500 Index companies from \$147.50 per share to \$152.50. Assuming a trailing 12-month price-to-earnings (PE) ratio of 19–20, we believe the S&P 500 would be fairly valued in the range of 2,950–3000 by year-end 2018.
- We expect value to benefit from a more favorable interest rate environment for financials in 2018. Small caps may get a boost from tax reform. Favored sectors are financials, industrials, and technology.
- Strong growth and attractive valuations to help emerging markets (EM) offset tighter global monetary policy.
- We emphasize a blend of high-quality intermediate bonds, with a preference for investment-grade corporates and mortgage-backed securities (MBS) over Treasuries, and a small allocation to less interest rate-sensitive sectors, such as bank loans or high-yield bonds, for suitable investors. Short-term muni valuations have richened.
- Our expectation for three Federal Reserve (Fed) rate hikes in 2018 and a moderate pick in economic growth and inflation may be a headwind for fixed income.
- Balance sheet normalization isn't likely to impact Treasuries or MBS prices near term, but it is worth monitoring over time.
- Tax reform and continued global growth may increase the corporate activity opportunity set for event driven strategies.
- From a technical perspective, the S&P 500 price continues to operate above its 200-day moving average, increasing the likelihood of a sustained long-term bullish trend.

### **BROAD ASSET CLASS VIEWS**

LPL Research's views on stocks, bonds, cash, and alternatives are illustrated below.



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# PC MACROECONOMIC VIEWS

	Economic Factor	Outlook	Investing Impact
	U.S. GDP Growth	We expect gross domestic product (GDP) of 2.75–3.0% in 2018.*	Absence of a recession would likely support equity markets.
	Consumer Spending	New tax law, a strong labor market, and stock gains may help.	Supports consumer cyclicals, but potential growth in business spending may be more important.
	Business Spending	New tax law and deregulation are supportive; watching trade policy.	Industrials would be most likely to benefit; upside for technology but some policy risks.
	Housing	Tight supply and years of underbuilding suggest upside, but higher rates are a potential headwind.	A stronger turnaround could support housing and financials stocks.
ECONOMY	Import/Export	Weaker dollar helps exports; service sector exports strong; uncertainty around trade.	May support technology and business services; some uncertainty for multinationals.
LUUNUMI	Labor Market	Steadily improving overall; early signs of wage pressure appearing.	May put modest pressure on margins.
	Inflation	Early signs of a potential pick-up but still well contained.	Interest rates likely to rise but only gradually. May help financials.
	Business Cycle	Still mid-cycle but have likely moved into latter third.	Equity markets may have room to run, but expect more volatility.
	Dollar	Weakness extends into early 2018 as international growth improves.	Weakness starting to benefit earnings for U.S. multinationals.
	Global GDP Growth	Improvement likely in 2018, helped by potential fiscal stimulus. Trade uncertainty remains a risk.	Upside with risks for global multinationals; global diversification may provide benefits.
	Fiscal	New tax law will provide stimulus; infrastructure may be more challenging.	May provide a short-term economic lift, but government debt still a potential long-term headwind.
POLICY	Monetary	Cautious rate hike path likely to continue. Balance sheet normalization has begun.	May be a modest headwind for quality bonds.
	Government	Republicans have made progress on agenda but midterms loom.	May contribute to higher stock volatility.
RISKS	Financial	Political environment may lead to looser credit standards and accelerate deregulation.	Net positives in the short term, but higher volatility would still be normal for this point in the business cycle.
mono	Geopolitical & Other	Monitoring Chinese economy, escalating North Korean tensions, Islamic State, and trade.	May contribute to higher stock volatility.
	Developed Overseas	Risks from European elections have declined; Brexit negotiation still presents challenges.	International equities may provide diversification benefits.
OVERSEAS	Emerging Markets	Growth may have peaked in China. Indian economy seems to be improving and Latin America is starting to rebound.	Faster growth excluding China may help lift low valuations.
FINANCIAL	Corporate Profits	Strong earnings growth expected in 2018 due to new tax law and improving global growth.	May support stock market gains in 2018. Corporate tax cuts should help.
CONDITIONS	Main Street	Fed Beige Book supports positive outlook.	Supports cyclical sector performance.

Source: LPL Research, U.S. Department of Energy, Haver Analytics 03/13/18

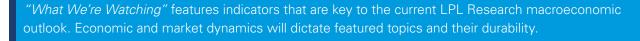
The opinions voiced in this material are for general information only and are not intended to provide or be construed as providing specific investment advice or recommendations for your clients. Any economic forecasts set forth in the presentation may not develop as predicted and there can be no guarantee that strategies promoted will be successful.

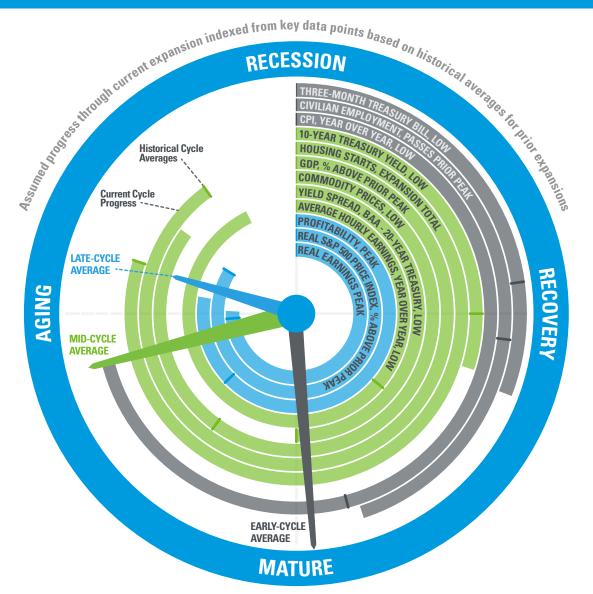
\*Our forecast for GDP growth of 2.75–3.0% is based on the historical mid-cycle growth rate of the last fifty years; extra weight is given to the current cycle with a small upward adjustment due to the expected impact of the new tax law. Economic growth is affected by changes to inputs such as: business and consumer spending, housing, net exports, capital investments, and government spending. Potential delays in passing major fiscal policies introduce some risk to the downside.



### WHAT WE'RE WATCHING

The Cycle Clock suggests we are in the mid-to-late stage of the current expansion. Monetary policy is still exhibiting mid-cycle behavior, with lows from yields still relatively recent. Some items relating to corporate profits are showing late-cycle behavior, although they may reset if profits improve.





Sources: LPL Research, Federal Reserve, U.S. Bureau of Economic Analysis (BEA), U.S. Bureau of Labor Statistics, U.S. Bureau of the Census, Standard & Poor's, Robert Shiller, National Bureau of Economic Research, Haver Analytics 03/14/18

The 10-year Treasury yield hit a new low for the current cycle in July 2016 (based on the daily average), shifting us to earlier in the cycle by that metric.

A new tightening in yield spreads occurred in January 2018.

The Real Earnings Peak hit a new high for the current cycle in December 2017, shifting us to earlier in the cycle by that metric.

Data for all series are as of 03/14/18. Starting point for all series is June 1954 except housing starts (March 1961), hourly earnings (December 1970), and commodity prices (December 1970). Real prices and real earnings determined using the Consumer Price Index for all urban consumers (CPI-U). Commodity prices are based on the GSCI Total Return Index. Profitability is based on real profit per unit value added for non-financial corporate business based on current production as calculated by the BEA.

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### **ASSET CLASS & SECTOR TOP PICKS**

Below we provide our top overall ideas across the various asset classes and sectors covered in this publication, as well as our best ideas within the three disciplines of our investment process: fundamentals, technicals, and valuations. More details on these and other investment ideas can be found in subsequent pages.

Characteristics	EQUITY ASSET CLASSES	EQUITY SECTORS	FIXED INCOME	Characteristics	ALTERNATIVE ASSET CLASSES
BEST Overall Ideas	EM U.S. Stocks	Financials Industrials Technology	Bank Loans Investment-Grade Corporates MBS	BEST OVERALL IDEAS	Long/Short Equity
Fundamentals	U.S. Small Caps U.S. Stocks	Financials Industrials Technology	Bank Loans Treasury Inflation-Protected Securities (TIPS)	Catalysts	Event Driven Global Macro
Technicals	EM U.S. Large Caps U.S. Stocks	Consumer Discretionary Financials Technology	Bank Loans Investment-Grade Corporates Municipal Bonds	Trading Environment	Long/Short Equity
Valuations	EM Large Foreign Master Limited Partnerships (MLP)	Healthcare Telecommunications	MBS	Volatility	Global Macro Long/Short Equity Managed Futures

### READING THE PORTFOLIO COMPASS

RATING	ICON	Fundamental, technical, and valuation characteristics for each category are shown by their blue icons below, and displayed as colored squares.						
Negative	•	Negative, neutral, or positive views are illustrated as a colored circle positioned over the scale, whereas an outlined black circle with an arrow indicates change, and shows the previous view.						
Negative/Neutral	٠	Rationales for our views are provided on the right side.						
Neutral	•	Technicals Neutral Fundamentals Positive						
Positive/Neutral	٠	Sector F T V O O O S&P* Rationale						
Positive	•	Materials 3.2 China stimulus could help more, but technicals are negative and China's growth is stalling						
Previous Position	۲	Energy 8.2 Intriguing potential contrarian opportunity, but supply and technicals suggest caution; favor MLPs.						

Global macro strategy is a hedge fund strategy that selects it holdings primarily on the macroeconomic and political views of various countries, and is subject to numerous risks such as: geopolitical, derivative, commodity, volatility, currency, and regulatory.

Long/short equity strategies are subject to normal alternative investment risks, including potentially higher fees; while there is additional management risk, as the manager is attempting to accurately anticipate the likely movement of both their long and short holdings. There is also the risk of "beta-mismatch," in which long positions could lose more than short positions during falling markets.

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### EQUITY ASSET CLASSES

We recently raised our 2018 earnings forecast for S&P 500 companies from \$147.50 per share to \$152.50. Assuming a trailing 12-month PE ratio of 19–20, we believe the S&P 500 would be fairly valued in the range of 2,950–3000 by year-end 2018, 6–8% above current levels. We expect value to benefit from a more favorable interest rate environment for financials in 2018. Small caps may get a boost from the new tax law. Strong economic growth and attractive valuations may help EM equities offset tighter global monetary policy. We expect MLPs to benefit from strong domestic oil production and rich yields despite recent weakness.

	Sector	F	т	v	Θ	0	Ð	Rationale
	Large Growth	-				•		Large caps benefit relatively less from tax reform, though repatriated overseas cash by large cap companies is supportive. We expect improving economic growth, better financials sector performance, and lower relative valuations to help value
Style/Capitalization	Large Value	•	•	-			•	begin to reverse a decade of underperformance versus growth, based on the Russell indexes.
	Mid Growth					•		Mid cap valuations have become attractive relative to large caps and we may see more pro mid cap merger and acquisition activity following passage of the new tax
Style/Ca	Mid Value	-	•	•		•		law. Positive bias.
	Small Growth	•	•	-			Small caps benefit from a lower corporate tax rate and may actual	Small caps benefit from a lower corporate tax rate and may actually be helped by U.S. trade policy favoring domestic production. An aging business cycle is the key risk.
	Small Value		•					
	U.S. Stocks							Among developed markets, we remain U.S. focused despite relatively high valuations. We are monitoring U.S. trade policy, earnings, and currency movements to assess international opportunities.
Region	Large Foreign		-	•		•		Though valuations are attractive, we continue to have structural concerns in Europe, where growth may be peaking. Our outlook for Japan is positive. We do not expect
Re	Small Foreign					•		currency tailwind to persist.
	EM							We expect strong economic growth and attractive valuations to help EM equities offset tighter global monetary policy.
MLPs	MLPs		-					Strong oil production, rich yields, potential to play catch-up to oil, and deregulation indicate potential opportunity for suitable investors despite interest rate risk.

Investing in MLPs involves additional risks as compared with the risks of investing in common stock, including risks related to cash flow, dilution, and voting rights. MLPs may trade less frequently than larger companies due to their smaller capitalizations, which may result in erratic price movement or difficulty in buying or selling. MLPs are subject to significant regulation and may be adversely affected by changes in the regulatory environment, including the risk that an MLP could lose its tax status as a partnership. Additional management fees and other expenses are associated with investing in MLP funds.

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### EQUITY SECTORS

We maintain our preference for cyclical sectors as the U.S. economic expansion continues. Industrials may benefit from improving global demand and strong defense spending, with a potential for an infrastructure boost in 2018. Financials remain positioned to benefit from deregulation that may free up capital for lending and dividends, as well as a potentially steeper yield curve and higher interest rates in 2018. Technology, which benefits relatively less from tax reform, may be due for a bit of a pause after such a strong 2017 even though earnings growth is strong and business investment is picking up.

	Sector	F	т	v	Θ	0	œ	S&P*	Rationale
	Materials							2.9	Infrastructure potential, earnings rebound, and burgeoning inflation help, but currency tailwind unlikely to persist and China growth is starting to slow.
	Energy					•		5.5	OPEC/Russia production cuts, supply disruptions, and solid global demand help, but expected U.S. supply response to higher prices may cap oil's additional upside.
Cyclical	Industrials							10.2	Drivers include potentially stronger global growth in 2018, business spending pickup, strong defense spending, energy stability, and reasonable valuations; infrastructure spending is a wildcard.
Cyc	Consumer Discretionary							12.6	Technical strength and tax reform boost offset by slower earnings growth, e-commerce disruption, and the latter stage of the business cycle.
	Technology							25.4	Solid earnings, business spending pickup, and productivity enabling role help offset higher valuations, relatively less tax reform benefit; gains may moderate after strong 2017.
	Financials							15.0	Deregulation is supportive plus potential catalysts include steeper yield curve, higher interest rates, stronger loan demand, and tax reform.
	Utilities				•			2.6	Rising interest rates and our preference for cyclical sectors drive caution, though earnings growth has picked up some and valuations have become more reasonable.
	Healthcare							13.8	Valuations are attractive, spending outlook is relatively stable, and demographics provide a tailwind, but political uncertainty remains high.
Defensive	Consumer Staples				•			7.5	We favor cyclical sectors, while defensive, dividend-oriented sectors are being dragged down by rising interest rates; provided little cushion in latest stock market correction.
	Telecommunications							1.9	Positive bias amid rich yields, low valuations, deregulation, and possible boost from expanded communications sector in 2018; still wary of lackluster growth and interest rate risk.
	Real Estate							2.6	Struggled with jump in interest rates, provided little cushion during correction, and little benefit from new tax law; real estate fundamentals still positive with attractive yields.

#### \* S&P 500 Weight (%)

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Investing in real estate/REITs involves special risks such as potential illiquidity and may not be suitable for all investors. There is no assurance that the investment objectives of this program will be attained.

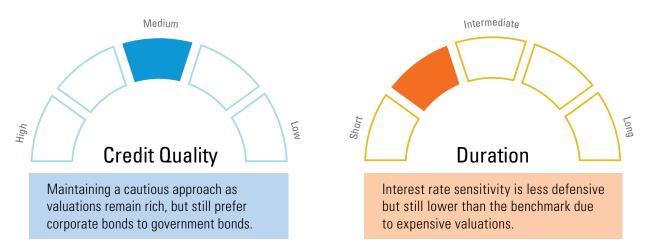
Because of its narrow focus, specialty sector investing, such as healthcare, financials, or energy, will be subject to greater volatility than investing more broadly across many sectors and companies.

There is no guarantee that a diversified portfolio will enhance overall returns or outperform a nondiversified portfolio. Diversification does not ensure against market risk.

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### FIXED INCOME

Municipal bonds (as measured by the Bloomberg Barclays Municipal Bond index) lost 0.3% in February, as rising rates continued to impact prices. Tax reform drove a late-2017 surge in municipal issuance, which led to lower new issue supply in February as expected, though supply started to creep higher heading into March. Municipal bonds' credit quality remains generally good; problem issuers remain isolated and have not impacted the broader market.



Yield spread is the difference between yields on differing debt instruments, calculated by deducting the yield of one instrument from another. The higher the yield spread, the greater the difference between the yields offered by each instrument. The spread can be measured between debt instruments of differing maturities, credit ratings, and risk.

	Sector	F	•	v	Θ	0	Ð	Rationale
	Munis– Short-Term					• •		Valuations relative to Treasuries have become more expensive.
Bonds	Munis– Intermediate-Term							Valuations relative to Treasuries remain on the expensive side, but we still believe yield is attractive relative to interest rate risk.
Tax-Free Bonds	Munis– Long-Term		•			•		Long-term yields are more attractive than short-term yields, though higher duration may be a headwind if rates continue to rise.
	Munis– High-Yield				•			Valuations are on the expensive side of recent history, though additional yield remains a factor. Long duration may be a headwind if rates continue to rise.

(Continued on next page)

For the purposes of this publication, intermediate-term bonds have maturities between 3 and 10 years, and short-term bonds are those with maturities of less than 3 years.

All bonds are subject to market and interest rate risk if sold prior to maturity. Bond values will decline as interest rates rise and are subject to availably and change in price.

High-yield/junk bonds are not investment-grade securities, involve substantial risks, and generally should be part of the diversified portfolio of sophisticated investors.

Municipal bonds are subject to availability, price, and to market and interest rate risk if sold prior to maturity. Bond values will decline as interest rates rise. Interest income may be subject to the alternative minimum tax. Federally tax-free but other state and local taxes may apply.

Corporate bonds are considered higher risk than government bonds but normally offer a higher yield and are subject to market, interest rate, and credit risk, as well as additional risks based on the quality of issuer coupon rate, price, yield, maturity, and redemption features.

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### FIXED INCOME (CONTINUED)

For fixed income allocations, we continue to emphasize a blend of high-quality intermediate bonds coupled with a small allocation to less interest rate-sensitive sectors such as bank loans or high-yield bonds for suitable investors. We remain concerned about rising rates putting pressure on fixed income in 2018, and the new tax law adds slightly to that concern, and may also lead to additional Treasury issuance in the near term. Improved consumer demand and business investment could help corporate profits, though inflationary pressures may offset these benefits for fixed income investors. We maintain a cautious approach with credit-sensitive areas of the market, but a "coupon-clipping" environment may still aid suitable investors.

	Sector	F	Ţ	•	Θ	0	Ð	Rationale
	Treasuries				-•			Yield spreads to overseas alternatives remain elevated relative to history. However, heavy supply and rising levels of growth and inflation could be headwinds moving forward.
	TIPS					•		Breakeven inflation remains slightly above the Fed's 2% target. Interest rate sensitivity could be a headwind.
– U.S.	MBS					•	_	Yield per unit of duration remains attractive relative to other high-quality options, but Fed balance sheet normalization remains a risk over time.
Taxable Bonds – U.S.	Investment-Grade Corporates					•		Spreads widened recently, but remain tight on a historical basis. We still find incremental value in corporate bonds.
Taxat	Preferred Stocks	-				•		Fundamentals are firm for U.S. banks, but valuations continue to warrant caution, even after recent equity pullback. Higher interest rate sensitivity remains a risk.
	High-Yield Corporates					•		Average yield spread at 3.4% is near our estimate of fair value but leaves little room for error. Yields remain attractive. Oil price or equity market weakness could be negative drivers.
	Bank Loans							Floating rates may benefit holders if short-term rates continue to rise, though valuations are less attractive than they were last year and call risk is a concern in some areas of the sector. Less energy exposure compared with high yield.
Taxable Bonds – Foreign	Foreign Bonds Hedged					•		Fading easing bias of foreign central banks could lead to rising rates and pressure on performance.
	Foreign Bonds– Unhedged				•			Potential currency volatility, low yields, and unattractive valuations are negatives.
Taxab	EMD							Spreads widened during recent equity weakness, but remain tight relative to history. Potential for protectionist trade policy remains a risk.

Investing in foreign and emerging market debt (EMD) securities involves special additional risks. These risks include, but are not limited to, currency risk, geopolitical and regulatory risk, and risk associated with varying settlement standards.

Mortgage-backed securities (MBS) are subject to credit, default, prepayment risk that acts much like call risk when you get your principal back sooner than the stated maturity, extension risk, the opposite of prepayment risk, market and interest rate risk.

Bank loans are loans issued by below investment-grade companies for short-term funding purposes with higher yield than short-term debt and involve risk.

Treasury Inflation-Protected Securities (TIPS) help eliminate inflation risk to your portfolio, as the principal is adjusted semiannually for inflation based on the Consumer Price Index (CPI) — while providing a real rate of return guaranteed by the U.S. government. Investing in foreign and emerging markets debt securities involves special additional risks. These risks include, but are not limited to, currency risk, geopolitical, and regulatory risk, and risk associated with varying settlement standards.

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# COMMODITIES & ALTERNATIVE ASSET CLASSES

Still high U.S. production may make it hard for oil prices to sustain prices much above the \$60 range in 2018, although global demand has firmed, Middle East tensions remain escalated, and Saudi/Russia production cuts extend through 2018. Industrial metals have gotten boost from Chinese demand while a weak dollar has supported industrial and precious metals. Agriculture prices are in the early stages of a reversal amidst a five-year downtrend. We remain constructive on long/short equity strategies, which continue to benefit from low levels of internal correlation among stocks and sectors.

	Sector	F	т	v	Θ	0	Ð	Rationale
	Industrial Metals						•	Chinese demand and a weaker dollar have been providing some support in recent months for industrial metals. There may be upside potential to prices should the U.S. increase infrastructure spending. A potential rebound in the U.S. dollar presents a risk.
Commodities	Precious Metals					•		A weak dollar, burgeoning inflation, and market volatility have increased gold's appeal, though rising rates, our preference for riskier assets, and currency risk keep us neutral.
Comm	Energy	-				•		U.S. production may cap oil's upside at around \$60, though global demand has firmed, Middle East tensions remain escalated, and Saudi/Russia production cuts remain in place.
	Agricultural					•		Agriculture prices appear to be in the early stages of breaking a five-year downtrend and supplies are tightening, driving upgraded view.
	Sector	T E	C T	<b>v</b> 0	Θ	0	Ð	Rationale
	Long/Short Equity						•	We remain cautious on more directional equity managers and favor those with conservative or variable net exposures and a history of generating alpha from their short positioning. The strategy continues to benefit from low levels of correlation between sectors and favorable sector positioning. We remain aware of underlying factor exposures, given the potential for rapid market rotation.
Alternatives	Event Driven	•					•	Promising outlook as tax reform and continued global growth may increase the corporate activity opportunity set. We prefer managers who consistently hedge equity beta and focus on idiosyncratic event-related risk.
Altern	Managed Futures	-	-	-		•		February's equity sell-off led to a reduction in long equity exposure across the intermediate-term trend following space, along with steep losses. We continue to favor either multi-managers or a combination of uncorrelated trading strategies to smooth and diversify return profiles.
	Global Macro					•		Global macro strategies provided strong downside protection during the February equity sell-off, however, as a group, failed to meaningfully participate in the subsequent rally. Potential shifts in fiscal policy, global political uncertainty, and economic divergences help provide an attractive opportunity set.

	CHARACTERISTICS	ICON	DEFINITION
LEGEND	Catalysts	C T	Potential for favorable macroeconomic and/or idiosyncratic market developments that may benefit the investment strategy.
	Trading Environment	E	Market characteristics present sufficient investment opportunities for this investment style.
	Volatility	<b>v</b> 0	The current volatility regime provides a constructive environment that an investment of this style can capitalize on.

Alternative strategies may not be suitable for all investors and should be considered as an investment for the risk capital portion of the investor's portfolio. The strategies employed in the management of alternative investments may accelerate the velocity of potential losses.

Commodity-linked investments may be more volatile and less liquid than the underlying instruments or measures, and their value may be affected by the performance of the overall commodities baskets as well as weather, geopolitical events, and regulatory developments.



#### **IMPORTANT DISCLOSURES**

All performance referenced is historical and is no guarantee of future results.

There is no assurance that the techniques and strategies discussed are suitable for all investors or will yield positive outcomes. The purchase of certain securities may be required to affect some of the strategies.

All indexes are unmanaged and cannot be invested into directly. Unmanaged index returns do not reflect fees, expenses, or sales charges. Index performance is not indicative of the performance of any investment.

#### Stock and Pooled Investment Risks

Investing in stock includes numerous specific risks including: the fluctuation of dividend, loss of principal, and potential illiquidity of the investment in a falling market.

Investing in foreign and emerging markets securities involves special additional risks. These risks include, but are not limited to, currency risk, geopolitical risk, and risk associated with varying accounting standards. Investing in emerging markets may accentuate these risks.

The prices of small and mid cap stocks are generally more volatile than large cap stocks.

#### **Bond and Debt Equity Risks**

Government bonds and Treasury bills are guaranteed by the U.S. government as to the timely payment of principal and interest and, if held to maturity, offer a fixed rate of return and fixed principal value. However, the value of fund shares is not guaranteed and will fluctuate.

#### **Alternative Risks**

Event driven strategies, such as merger arbitrage, consist of buying shares of the target company in a proposed merger and fully or partially hedging the exposure to the acquirer by shorting the stock of the acquiring company or other means. This strategy involves significant risk as events may not occur as planned and disruptions to a planned merger may result in significant loss to a hedged position.

Managed futures strategies use systematic quantitative programs to find and invest in positive and negative trends in the futures markets for financials and commodities. Futures and forward trading is speculative, includes a high degree of risk that the anticipated market outcome may not occur, and may not be suitable for all investors.

#### DEFINITIONS

The simple moving average is an arithmetic moving average that is calculated by adding the closing price of the security for a number of time periods and then dividing this total by the number of time periods. Short-term averages respond quickly to changes in the price of the underlying, while long-term averages are slow to react.

The Beige Book is a commonly used name for the Federal Reserve's (Fed) report called the Summary of Commentary on Current Economic Conditions by Federal Reserve District. It is published just before the Federal Open Market Committee (FOMC) meeting on interest rates and is used to inform the members on changes in the economy since the last meeting.

Technical analysis is a methodology for evaluating securities based on statistics generated by market activity, such as past prices, volume and momentum, and is not intended to be used as the sole mechanism for trading decisions. Technical analysts do not attempt to measure a security's intrinsic value, but instead use charts and other tools to identify patterns and trends. Technical analysis carries inherent risk, chief amongst which is that past performance is not indicative of future results. Technical analysis should be used in conjunction with Fundamental analysis within the decision making process and shall include but not be limited to the following considerations: investment thesis, suitability, expected time horizon, and operational factors, such as trading costs are examples.

The PE ratio (price-to-earnings ratio) is a measure of the price paid for a share relative to the annual net income or profit earned by the firm per share. It is a financial ratio used for valuation: a higher PE ratio means that investors are paying more for each unit of net income, so the stock is more expensive compared to one with lower PE ratio.

Alpha measures the difference between a portfolio's actual returns and its expected performance, given its level of risk as measured by Beta. A positive (negative) Alpha indicates the portfolio has performed better (worse) than its Beta would predict.

Beta measures a portfolio's volatility relative to its benchmark. A Beta greater than 1 suggests the portfolio has historically been more volatile than its benchmark. A Beta less than 1 suggests the portfolio has historically been less volatile than its benchmark.

Idiosyncratic risk can be thought of as the factors that affect an asset such as a stock and its underlying company at the microeconomic level. Idiosyncratic risk has little or no correlation with market risk, and can therefore be substantially mitigated or eliminated from a portfolio by using adequate diversification.

#### **INDEX DEFINITIONS**

The S&P 500 Index is a capitalization-weighted index of 500 stocks designed to measure performance of the broad domestic economy through changes in the aggregate market value of 500 stocks representing all major industries.

The Bloomberg Barclays U.S. Municipal Bond Index covers the USD-denominated long-term tax-exempt bond market. The index has four main sectors: state and local general obligation bonds, revenue bonds, insured bonds, and prerefunded bonds.

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