

### FEBRUARY 2018 IN REVIEW

March Update | As of February 28, 2018

### **ECONOMY:**STEADY GROWTH WITH HIGHER INFLATION

### **Economic Data**

Economic reports released in February 2018, largely reflecting economic activity in January, signaled continued steady growth though mixed with rising inflation. While a number of the reports missed consensus expectations, softening data were mostly attributable to givebacks following strong data in late 2017. Overall, the data painted an optimistic picture for the U.S. economy in the first quarter of 2018. The Bloomberg-surveyed consensus estimate for fourth quarter gross domestic product (GDP) growth was revised slightly downward from 2.6%, leaving growth for the year unchanged at 2.5%. Consensus forecasts for annualized first quarter 2018 GDP growth stood at 2.7% as March began.

Consumer inflation increased faster than projected in January. The core Consumer Price Index (CPI, excluding volatile food and energy prices) rose 0.3% month over month versus the consensus expectation of 0.2%. On

a three-month annualized basis, core consumer prices rose by 2.9%, the largest increase in six years, though the last monthly year-over-year increase at 1.8% is still well within the Federal Reserve's (Fed) comfort range. The pace of inflation, particularly wage pressures (discussed below), will be critical to monitor over the course of 2018 as the market eyes the Fed for any changes in the expected pace of rate hikes.

The U.S. manufacturing sector remains strong. The Institute for Supply Management (ISM) Manufacturing Index, released in early February, beat consensus expectations, signaling continued expanded factory activity. Broadly, the ISM suggests strong U.S. economic growth, while details of the report featured an increase in new export orders (aided by a weaker dollar) and healthy global demand.

Employment reports continued to illustrate a tightening but solid labor market. December's Job Opening and Labor Turnover Survey (JOLTS), released in February, showed steady hiring and a decline in the pace of layoffs. The unemployment rate was in line with consensus expectations and at multi-decade lows at

### **CORE CPI RISING BUT BELOW KEY 2% LEVEL**

• Core Consumer Price Index (Excluding Food and Energy), Year-over-Year Change, %



Source: LPL Research, Bloomberg 02/28/18

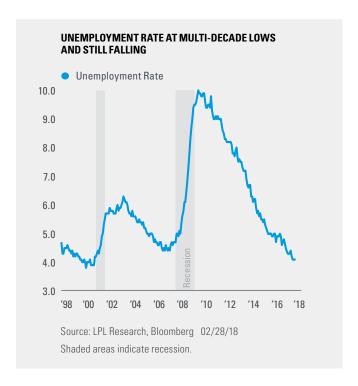
4.1%. Wage gains picked up in January amid strong hiring as nonfarm payrolls rose 200,000, sparking fears of a more aggressive Fed, though the increase may have been exaggerated by weather-related factors. Looking ahead, corporate tax cuts may support an increase in the pace of hiring.

There remains a strong foundation for continued strength in consumer spending based on February data. Rising wages, steady job growth, and still-high consumer confidence provide support for consumer outlays, while individual tax cuts are starting to kick in. Retail sales, which got off to a slow start in January, may have been negatively impacted by weather, and could improve in February.

Measures of productivity for the fourth quarter of 2017 were tepid and missed consensus expectations, though this trend is not expected to continue as rising wage pressure resulting from a tight labor market and the new tax law should incentivize businesses to prioritize productivity-boosting capital investment.

Sentiment reports were mixed in January, as the University of Michigan Consumer Sentiment Index, a measure of consumer confidence, unexpectedly declined, though the index itself remains near cyclical highs. The NFIB Small Business Optimism Index came in above expectations for January. The reading of 106.9, one of the strongest in the survey's history, indicated a favorable environment for expanding business operations. Regional surveys were mixed versus expectations but remained positive overall. The Philadelphia Fed Business Outlook rose and exceeded consensus forecasts, while the New York Empire State Manufacturing Survey declined and fell short of expectations. New orders increased in both surveys, pointing towards improving economic conditions ahead.

The Conference Board's Leading Economic Index (LEI), an aggregate of 10 leading indicators, rose 1% in January versus consensus expectations of 0.7%, pointing toward continued strength in the U.S. economy in 2018. Building permits were the largest positive contributor to the index, followed closely by ISM New Orders. Strength in leading indicators over the last six months in particular suggests that the odds of a recession in the next year remain low.



### **Central Banks**

In February, the Jay Powell era as Fed chair was ushered in with elevated market volatility. While the change in central bank leadership may have been part of the reason for that volatility, it was surely not the root cause. As February ended, markets were pricing in a very high likelihood of a March rate hike. The improved economic outlook and a pickup in inflation data led markets to price in a slightly higher — though still low — probability of four rate hikes in 2018 rather than the Fed's forecast for three.

Turning to other central banks, the European Central Bank (ECB) still has a stated goal to end bond purchases in September 2018, but they have left the door open to extending purchases if necessary. The ECB may continue purchases below the current pace of 30 billion euros per month and may not consider lifting its interest rate target until well into 2019. European policymakers remain concerned about the strong euro currency and its potential impact on export markets. Meanwhile, tightening by the Bank of Japan remains a distant prospect, despite some comments out of Japanese officials in recent weeks suggesting they are at least starting to plan their eventual exit from quantitative easing, possibly beginning in 2019.

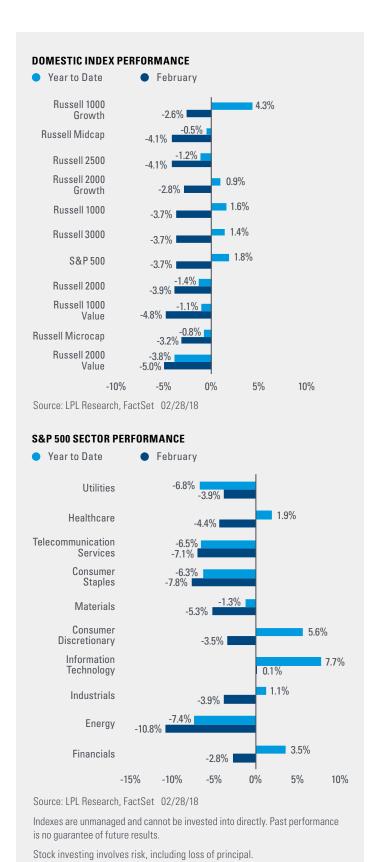
# **GLOBAL EQUITIES:**STREAK OF GAINS ENDED AS STOCKS FELL IN FERRIJARY

### U.S.

Stocks fell in February, ending the S&P 500 Index's impressive streak of 10 straight monthly gains, or 15 straight on a total return basis. The S&P 500 slipped 3.7% during the month, on a total return basis, outpacing the Dow Jones Industrial Average (-4.0%), but trailing the Nasdaq Composite's modest 1.7% decline. At the closing low on February 8, 2018, the S&P 500 entered correction territory with its 10.2% peak-to-trough decline, which was the fastest move ever from all-time high to a 10% correction (nine trading days). Though stocks stabilized later in the month, February losses clipped a good chunk of January's strong gains, leaving the S&P 500 with a 1.8% year-to-date return at month end.

Stock market weakness was driven largely by fears that the Fed would quicken its pace of interest rate hikes in response to higher wage growth, which sparked broader inflation fears and an accompanying jump in interest rates. New leadership at the Fed and trade tensions likely added to market anxiety. While most agreed a pullback was overdue, the steepness of the decline was historic, attributed by some to an unwinding of short volatility trades. The positive message from corporate America during a strong fourth quarter earnings season was mostly drowned out by market volatility.

Technology, which eked out a 0.1% gain, was the only sector in positive territory in February. The sector's relatively low interest rate sensitivity helped, as did a 7% gain in its largest constituent (Apple). The second best sector performer, financials, likely benefited from higher interest rates. Conversely, yield-oriented sectors such as real estate and utilities underperformed, despite their defensive characteristics. Energy, which also offers above-average dividend yields, was the biggest sector decliner as oil prices dropped nearly 5%.



Because of its narrow focus, sector investing will be subject to greater volatility

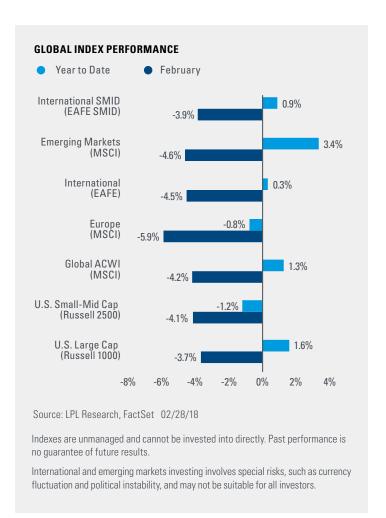
than investing more broadly across many sectors and companies.

Market capitalization was not much of a differentiator in February with similar performance by the large cap Russell 1000 (-3.7%), Russell Midcap (-4.1%), and small cap Russell 2000 (-3.9%). Small caps have yet to experience any discernable benefit from the new tax law, despite generally seeing greater benefits. Year to date, large caps have maintained their lead over mid and small, buoyed by strong performance in consumer discretionary and technology, with particular strength in internet retail, technology hardware, and semiconductors. This year, large caps have benefited from improved global demand prospects, a boost to overseas profits from a weaker U.S. dollar, and the potential for a big wave of share repurchases following the repatriation of overseas cash in accordance with the new tax law.

The strong technology sector performance, coupled with energy weakness, helped the growth style hold up better than its value counterpart during February, based on the Russell 3000 style indexes. The Russell 3000 Growth Index lost 2.6% for the month, less than the 4.8% loss for the Russell 3000 Value Index. Year to date, strength in the growth-heavy consumer discretionary and technology sectors has more than offset solid gains for value-focused financials, enabling growth to outpace value. The Russell 3000 Growth Index has returned 4.0% year to date compared with the 1.3% loss for its value counterpart.

### International

Developed international equities, based on the MSCI EAFE Index, underperformed the domestic S&P 500 during February with a 4.5% loss (in U.S. dollar terms). The index still maintained a modest positive return year to date (+0.3%), but trailed the S&P 500 and MSCI Emerging Markets (EM) Index returns during the first two months of the year. February weakness was driven in part by currency, as the U.S. Dollar Index rose 1.7%, which translated into lower international stock returns for U.S. investors. Evidence that economic growth could be peaking in Europe, and political uncertainty in Italy and Germany, may have also



weighed on European markets. Japanese equities held up relatively well, despite the strong yen impacting outlooks for Japanese exporters, with the MSCI Japan Index losing 1.5% for the month. While a higher yen is generally negative for Japanese stocks, U.S. investors do get a short-term currency translation benefit.

EM performed similarly to developed international equity markets in February, with the MSCI EM Index losing 4.6%, but maintained a solid lead year to date with a 3.4% return. U.S. dollar strength negatively impacted returns, while rising interest rates may have weighed on EM sentiment. Trade tensions were evident in underperformance by markets in China, Korea, and Mexico, based on MSCI indexes, while the only EM countries with positive returns were Thailand (+2.3%) and Russia (+0.9%).

# FIXED INCOME: HIGHER REAL YIELDS LED TO HIGHER RATES ACROSS MATURITY SPECTRUM

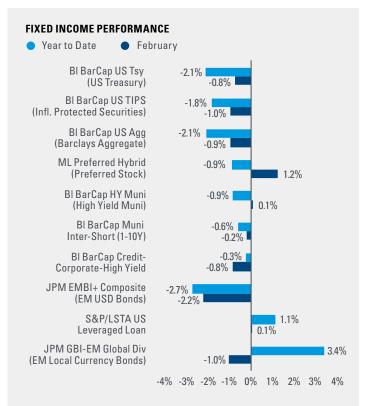
Treasury yields rose across the Treasury yield curve during February. Longer-term yields were pressured upwards by higher real yields, with inflation expectations pausing after a large rise over the last six months. Fed rate hike expectations continued to notch higher, sending short-term yields higher as well. The 2-year Treasury yield increased by 11 basis points (0.11%), while the 10- and 30-year Treasury yield increased by 15 and 18 basis points (0.15% and 0.18%), respectively, steepening the Treasury yield curve.

The upward move in interest rates at all maturities created headwinds for high-quality fixed income for the second straight month. The broad Bloomberg Barclays Aggregate Bond Index returned -1.0% during the month, with mortgage-backed securities and Treasuries outperforming, returning -0.7% and -0.8%, respectively. Investment-grade corporate bonds returned -1.6%, underperforming the broad market due to elevated interest rate sensitivity and cheapening valuations in sympathy with equity markets.

Economically sensitive sectors of fixed income were hurt by equity market weakness and a decline in the price of oil (-4.8%). High-yield bonds returned -0.9% and emerging market debt returned -2.2%. Bank loans were buoyed by rising short-term interest rates, returning 0.1%. Preferred securities, rebounding from a very difficult January, returned 1.3%, shrugging off concerns of higher interest rates.

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.

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 rate rise. Interest income may be subject to the alternative minimum tax. Federally tax-free but other state and local taxes may apply.



#### **U.S. TREASURY YIELDS**

Security	01/31/18	02/28/18	Change in Yield
3 Month	1.46	1.65	0.19
2 Year	2.14	2.25	0.11
5 Year	2.52	2.65	0.13
10 Year	2.72	2.87	0.15
30 Year	2.95	3.13	0.18

### **AAA MUNICIPAL YIELDS**

Security	01/31/18	02/28/18	Change in Yield
2 Year	1.56	1.61	0.05
5 Year	1.81	1.91	0.10
10 Year	2.31	2.45	0.14
20 Year	2.83	2.96	0.13
30 Year	2.98	3.09	0.11

Source: LPL Research, Bloomberg, FactSet 02/28/18

Indexes are unmanaged and cannot be invested into directly. Past performance is no guarantee of future results.

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

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.

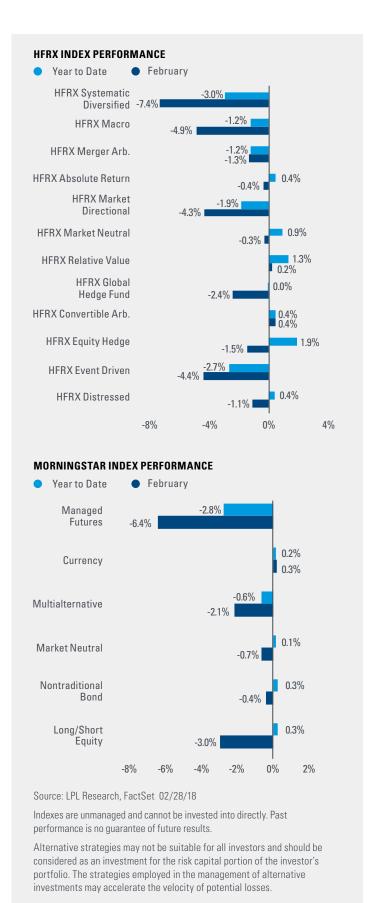


### ALTERNATIVES: MANAGED FUTURES ENCOUNTER STEEP REVERSAL

Following one of the strongest months for the HFRX Systematic Diversified CTA Index in over seven years, a steep reversal in equity markets led to a 7.4% loss for the index in February. At the end of January, a significant portion of the managed futures industry maintained an overweight to long equity contracts across the globe. However, the steady move higher in equities encountered an abrupt drawdown during the first two weeks of February, before recovering a portion of the losses. The 7.4% loss was the largest monthly decline since the index's inception in 2005. Year to date, the index has now lost 3.0%.

Performance within the long/short equity space was in line with the categories beta profile, as the index declined 1.5%, compared to the 3.7% loss for the S&P 500. Many strategies quickly reduced gross exposure by selling out of long positions before slowly buying back into the subsequent rally. Overall, the median net market exposure only declined 1.0% to roughly 50.0%, with the only notable sector adjustments being an increase to healthcare-related firms.

Merger Arbitrage strategies also protected well during the market turmoil, as the HFRX Merger Arbitrage Index only fell 1.3%, bringing year-to-date returns to -1.2%. March is expected to yield further information on whether or not one of the largest technology purchases in history and a vertical media industry merger with political implications will close or fall apart. Both deals represent large holdings across many merger arbitrage portfolios and will have a significant impact on short-term performance. The HFRX Distressed Index declined 1.1%, as the exposure to the consumer and energy sectors weighed on portfolio performance.



## **REAL ASSETS:**WEAKNESS ACROSS THE BOARD

February was a down month for liquid real assets, though with substantial performance dispersion across categories. Master limited partnerships (MLP) lost more than 9% for the month, while commodities fell just 1.7%. Rising interest rates impaired returns across the yield categories.

### **MLPs**

After two strong months in December and January, MLPs had a very difficult February as the Alerian MLP Index lost 9.7% during the month. Broadly speaking, the asset class was hurt by rising interest rates and falling oil prices. At the same time, mixed outlooks during fourth quarter earnings season and some MLP-specific events also may have weighed on the group's performance. Meanwhile, MLPs continue to transition to models with greater distribution coverage, lower leverage, and less reliance on capital markets.

### **REITs & Global Listed Infrastructure**

While the S&P Global Infrastructure Index fell nearly 7% in February and underperformed global equities, the category did outperform the MSCI U.S. REIT Index. The infrastructure space, like REITs, was negatively impacted by rising interest rates, which led to broad underperformance by higher yielding investments. Interest rate sensitivity overwhelmed the defensive characteristics of the index. Year to date, the S&P Global Infrastructure Index has lost 5.6%.

Domestic REITs continued to underperform the broad U.S. and global equity markets through the end of February, widening the relative performance gap to start the year. The MSCI U.S. REIT Index lost 7.7% during February, with all domestic REIT sectors posting losses, bringing the benchmark's year-to-date

LIQUID REAL ASSET PERFORMANCE Year to Date February **MSCIUS** -11.5% REIT -7.7% S&P Developed -2.0% Property ex-US -5.8% -5.6% S&P Global Infrastructure 1.8% S&P 500 -4.5% Alerian MLP -97% 0.2% Bloomberg Commodity -17% -14% -12% -10% -8% -6% -4% -2% 0% 2% Source: LPL Research, FactSet 02/28/18

return down to an 11.5% decline. After strong relative performance from the hotel/lodging sector in January, the group—along with data center REITs—was one of the worst performing sectors in February.

### **Commodities**

The Bloomberg Commodity Index lost 1.7% in February driven by weak performance in energy and industrial metals. All energy groups were negative along with the majority of industrial metals with the exception of nickel. The on-balance weakness potentially caused by the sell-off in broad-based equities and a move higher in the U.S. dollar was offset by gains in the agriculture grains and softs categories. Cotton and wheat generated the highest returns for the month, while soybean oil and coffee were modestly lower.

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.

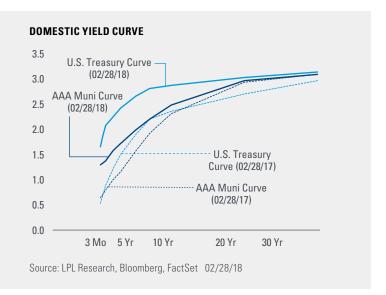
Investing in MLPs involves additional risks as compared with the risks of investing in common stock, including risks related to cash flow, dilution, and voting rights.

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.



### MONTHLY PERFORMANCE REPORT





		1 Mo	3 Mos	YTD	12 Mos
ap	S&P 500	-3.69	2.96	1.83	17.10
	DJIA	-3.96	3.64	1.69	23.10
Large Cap	Russell 1000	-3.67	2.75	1.62	16.70
Lar	Russell 1000 Value	-4.78	0.35	-1.09	7.75
	Russell 1000 Growth	-2.62	5.09	4.27	26.11
	Russell 2000	-3.87	-1.76	-1.36	10.51
۵	Russell 2000 Value	-5.00	-4.75	-3.83	2.96
Small/Mid Cap	Russell 2000 Growth	-2.85	1.06	0.94	18.44
Ξ	Russell Microcap	-3.17	-1.26	-0.79	12.81
mall	Russell Midcap	-4.13	0.40	-0.52	11.95
S	Russell Midcap Value	-4.93	-1.54	-2.74	5.47
	Russell Midcap Growth	-3.14	2.89	2.34	20.60
<u>d</u>	Russell 3000	-3.69	2.40	1.39	16.22
All Cap	Russell 3000 Value	-4.79	-0.03	-1.30	7.39
⋖	Russell 3000 Growth	-2.64	4.77	4.02	25.52
S	MSCI EAFE	-4.50	1.93	0.30	20.69
International Markets	MSCI ACWI ex US	-4.70	2.90	0.62	22.18
	MSCI Europe	-5.86	0.75	-0.76	21.24
	MSCI Japan	-1.50	3.75	3.01	22.17
	MSCI AC Asia Pacific ex Japan	-4.71	4.87	1.69	27.58
	MSCI EAFE SMID	-3.85	3.30	0.88	25.36

		1 Mo	3 Mos	YTD	12 Mos
þ	MSCI ACWI ex US SMID	-4.17	3.61	0.56	23.86
inue	MSCI Emerging Mkts	-4.60	7.12	3.36	30.97
Sont	MSCI EMEA	-1.76	11.58	4.27	27.73
Int'l -Continued	MSCI Latin America	-3.57	14.05	9.12	21.51
드	MSCI Frontier Markets	-1.47	7.44	4.18	29.70
	Consumer Discretionary	-3.46	8.10	5.55	22.15
	Consumer Staples	-7.76	-4.22	-6.30	-0.32
SOI	Energy	-10.82	-2.90	-7.42	-2.80
9 00	Financials	-2.78	5.54	3.51	19.94
Sectors -S&P 500 GICS	Healthcare	-4.45	1.25	1.90	14.31
	Industrials	-3.95	3.07	1.15	16.28
	Information Technology	0.10	7.74	7.73	36.26
	Materials	-5.26	0.58	-1.33	15.98
	Telecom Services	-7.06	-1.15	-6.55	-5.01
	Utilities	-3.86	-12.53	-6.81	-1.99

Source: LPL Research, Bloomberg, FactSet 02/28/18

(Data continued on following page.)

All data represent total returns, where applicable. Information contained in this report is from sources deemed to be reliable. We cannot guarantee the accuracy or completeness of such information and we assume no liability for damages resulting from or arising out of the use of such information. Further, please note that past performance is not indicative of future results.



		1 Mo	3 Mos	YTD	12 Mos
	BI BarCap US Agg	-0.95	-1.64	-2.09	0.51
	BI BarCap Muni Inter-Short (1-10Y)	-0.20	-0.06	-0.59	0.97
	BI BarCap HY Muni	0.07	0.42	-0.87	4.74
	Bl BarCap Inv. Grade Credit	-1.62	-1.67	-2.56	2.20
	Bl BarCap Muni Long Bond -22+	-0.42	-0.74	-2.26	4.30
	BI BarCap US Agg Securitized MBS	-0.66	-1.50	-1.82	0.16
	BI BarCap US TIPS	-0.97	-0.92	-1.82	-0.18
an.	BI BarCap US Treasury Interm	-0.30	-1.25	-1.27	-0.64
come	BI BarCap US Treasury	-0.75	-1.80	-2.10	-0.56
Fixed Income	S&P/LSTA US Leveraged Loan	0.06	1.46	1.13	3.61
ш	ML Preferred Stock Hybrid	1.25	-0.47	-0.89	6.03
	BarCap Credit-Corporate- High Yield	-0.85	0.05	-0.26	4.18
	ML US Convert ex Mandatory	-0.65	2.28	2.27	13.00
	JPM GBI Global ex US Hedged	0.45	-0.03	0.04	2.29
	JPM GBI Global ex US Unhedged	-0.61	2.54	2.52	10.75
	JPM GBI-EM Global Div	-1.04	5.48	3.39	14.43
	JPM ELMI+	-1.05	2.73	1.81	9.69
	JPM EMBI+ Composite	-2.23	-2.11	-2.72	1.85

		1 Mo	3 Mos	YTD	12 Mos
	HFRX Absolute Return	-0.35	0.73	0.45	3.43
	HFRX Market Directional	-4.34	-0.57	-1.87	-1.70
	HFRX Convertible Arb.	0.43	1.13	0.44	5.24
	HFRX Distressed	-1.15	1.28	0.36	0.94
	HFRX Equity Hedge	-1.49	2.93	1.87	9.81
	HFRX Market Neutral	-0.30	0.17	0.89	1.87
es.	HFRX Event Driven	-4.38	-2.32	-2.70	0.95
Alternatives	HFRX Merger Arb.	-1.35	-0.84	-1.23	1.22
lteri	HFRX Relative Value Arb.	0.23	2.00	1.32	3.87
₹	HFRX Global Hedge Fund	-2.42	0.70	-0.04	4.26
	HFRX Macro Index	-4.86	-0.43	-1.24	1.02
	HFRX Systematic Diversified	-7.36	-1.05	-2.98	1.12
	Bloomberg Commodity	-1.73	3.21	0.22	1.58
	DJ Wilshire REIT	-7.20	-10.86	-10.88	-9.88
	Alerian MLP	-9.69	0.04	-4.49	-15.22

		Latest Mo End (02/28/18)	3 Mos Ago (11/30/17)	Latest Yr End (12/31/17)	12 Mos Ago (02/28/17)
Currency	U.S. Dollar Index Value	90.61	93.05	92.12	101.36
	USD vs. Yen	106.68	112.55	112.71	112.77
	Euro vs. USD	1.22	1.19	1.20	1.06
Cmdtys	Gold (\$ per Troy Ounce)	1317.80	1274.60	1302.50	1247.80
	Crude Oil (\$ per Barrel)	61.64	57.40	60.42	54.01

Source: LPL Research, Bloomberg, FactSet 02/28/18



#### IMPORTANT DISCLOSURES

The economic forecasts set forth in the presentation may not develop as predicted. 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 any individual security. 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 information is believed to be from reliable sources; however LPL Financial makes no representation as to its completeness or accuracy.

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

All company names noted herein are for educational purposes only and not an indication of trading intent or a solicitation of their products or services. LPL Financial doesn't provide research on individual equities.

### Stock and Pooled Investment Risks

Small cap is a term used to classify companies with a relatively small market capitalization. The definition of small cap can vary, but it is generally a company with a market capitalization of between \$300 million and \$2 billion. The prices of small cap stocks are generally more volatile than large cap stocks.

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

#### 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.

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

Treasury Inflation-Protected Securities (TIPS) are subject to interest rate risk and opportunity risk. If interest rates rise, the value of your bond on the secondary market will likely fall. In periods of no or low inflation, other investments, including other Treasury bonds, may perform better.

Preferred stock investing involves risk, which may include loss of principal, and are subject to many of the same risks which affect fixed income securities.

#### Alternative Risks

Currency risk is a form of risk that arises from the change in price of one currency against another. Whenever investors or companies have assets or business operations across national borders, they face currency risk if their positions are not hedged.

Long/short equity funds 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.

Global macro strategies attempt to profit from anticipated price movements in stock markets, interest rates, foreign exchange and physical commodities. Global macro risks include but are not limited to imperfect knowledge of macro events, divergent movement from macro events, loss of principal, and related geopolitical 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.

Selling short can result in losses should the borrowed security increase in price, rather than decline. The theoretical potential loss is unlimited. Additionally, short sales will incur interest on the borrowed shares while also being subject to margin calls, or early sales in the event that the original owner wishes to sell their position.

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.

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

Yield curve is a line that plots the interest rates, at a set point in time, of bonds having equal credit quality, but differing maturity dates. The most frequently reported yield curve compares the 3-month, 2-year, 5-year, and 30-year U.S. Treasury debt. This yield curve is used as a benchmark for other debt in the market, such as mortgage rates or bank lending rates. The curve is also used to predict changes in economic output and growth.

Different agencies employ different rating scales for credit quality. Standard & Poor's (S&P) and Fitch both use scales from AAA (highest) through AA, A, BBB, BB, B, CCC, CC, Ct o D(lowest). Moody's uses a scale from Aaa (highest) through Aa, A, Baa, Ba, B, Caa, Ca to C (lowest).

The Consumer Sentiment report refers to a report published by the University of Michigan, in which the University's Consumer Survey Center questions 500 households each month on their financial conditions and attitudes about the economy. Consumer sentiment is important because it is directly related to the strength of consumer spending. Preliminary estimates for a month are released at mid-month. Final estimates for a month are released near the end of the month.

Gross Domestic Product (GDP) is the monetary value of all the finished goods and services produced within a country's borders in a specific time period, though GDP is usually calculated on an annual basis. It includes all of private and public consumption, government outlays, investments and exports less imports that occur within a defined territory.





The U.S. Institute for Supply Managers (ISM) manufacturing index is an economic indicator derived from monthly surveys of private sector companies, and is intended to show the economic health of the U.S. manufacturing sector. A PMI of more than 50 indicates expansion in the manufacturing sector, a reading below 50 indicates contraction, and a reading of 50 indicates no change.

The Consumer Confidence Index is based on consumers' perceptions of current business and employment conditions, as well as their expectations for six months hence regarding business conditions, employment, and income. Three thousand households across the country are surveyed each month. In general, while the level of consumer confidence is associated with consumer spending, the two do not move in tandem each and every month.

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.

### INDEX DEFINITIONS

The Alerian MLP Index is a composite of the 50 most prominent energy master limited partnerships 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 in real time on a price-return basis (NYSE: AMZ) and on a total-return basis (NYSE: AMZX).

The Bloomberg Barclays U.S. Aggregate Bond Index is a broad-based flagship benchmark that measures the investment-grade, U.S. dollar-denominated, fixed-rate taxable bond market. The index includes Treasuries, government-related and corporate securities, MBS (agency fixed-rate and hybrid ARM pass-throughs), ABS, and CMBS (agency and non-agency).

The Bloomberg Barclays U.S. Aggregate Securitized MBS Index tracks agency mortgage backed pass-through securities (both fixed-rate and hybrid (ARM) guaranteed by Ginnie Mae (GNMA), Fannie Mae (FNMA), and Freddie Mac (FHLMC).

The Bloomberg Barclays Capital High Yield Index covers the universe of publicly issued debt obligations rated below investment grade. Bonds must be rated below investment grade or high yield (Ba1/BB+ or lower), by at least two of the following ratings agencies: Moody's, S&P, and Fitch. Bonds must also have at least one year to maturity, have at least \$150 million in par value outstanding, and must be U.S. dollar denominated and nonconvertible. Bonds issued by countries designated as emerging markets are excluded.

The Bloomberg Barclays 1–10 Year Municipal Bond Index measures the performance of tax-exempt muni bonds with more than one year and less than ten years remaining until maturity.

The Bloomberg Barclays Corporate Investment Grade Credit Index is a broad-based benchmark that measures the investment-grade, U.S. dollar-denominated, fixed rate, taxable corporate bond market. It includes USD-denominated securities publicly issued by U.S. and non-U.S. industrial, utility, and financial issuers that meet specified maturity, liquidity, and quality requirements.

The Bloomberg Barclays U.S. High-Yield Loan Index tracks the market for dollar-denominated floating-rate leveraged loans. Instead of individual securities, the U.S. High-Yield Loan Index is composed of loan tranches that may contain multiple contracts at the borrower level.

The Bloomberg Barclays Municipal High Yield Bond Index is comprised of bonds with maturities greater than one year, having a par value of at least \$3 million issued as part of a transaction size greater than \$20 million, and rated no higher than 'BB+' or equivalent by any of the three principal rating agencies. (The long and the short are subindexes of the Municipal Bond Index, based on duration length.)

The Bloomberg Barclays U.S. TIPS Index is a rules-based, market value-weighted index that tracks Inflation-Protected Securities issued by the U.S. Treasury. The U.S. TIPS Index is a subset of the Global Inflation-Linked Index, with a 36% market value weight in the index (as of December 2007), but is not eligible for other nominal treasury or aggregate indexes In order to prevent the erosion of purchasing power, TIPS are indexed to the nonseasonally adjusted Consumer Price Index for All Urban Consumers, or the CPI-U (CPI).

The Bloomberg Barclays U.S. Treasury Index is an unmanaged index of public debt obligations of the U.S. Treasury with a remaining maturity of one year or more. The index does not include T-bills (due to the maturity constraint), zero coupon bonds (strips), or Treasury Inflation-Protected Securities (TIPS). (The long and the intermediate are subindexes of the U.S. Treasury Index, based on duration length.)

The Bloomberg Commodity Index is calculated on an excess return basis and composed of futures contracts on 22 physical commodities. It reflects the return of underlying commodity futures price movements.

The BofA Merrill Lynch Preferred Stock Hybrid Securities Index is an unmanaged index consisting of a set of investment-grade, exchange-traded preferred stocks with outstanding market values of at least \$50 million that are covered by Merrill Lynch Fixed Income Research.

The BofA Merrill Lynch BB-B U.S. High Yield Constrained Index contains all securities in the BofA Merrill Lynch US High Yield Index rated BB+ through B- by S&P (or equivalent as rated by Moody's or Fitch), but caps issuer exposure at 2%. Index constituents are capitalization-weighted, based on their current amount outstanding, provided the total allocation to an individual issuer does not exceed 2%.

The BofA Merrill Lynch U.S. Convertibles Ex-Mandatory Index is a rule-driven Index designed to capture the organic evolution of the U.S. convertible market and adjust automatically based on any changes in the market such as size of the market, industry skew, structure popularity, issuer size or equity sensitivity. The index rules include issues: U.S. dollar denominated greater than \$50M in aggregate market value that are publicly traded (including 144A) in the U.S. market but are not currently in bankruptcy. Exclusions are synthetic convertibles and mandatory convertibles.

The Dow Jones Industrial Average Index is comprised of U.S.-listed stocks of companies that produce other (non-transportation and non-utility) goods and services. The Dow Jones industrial averages are maintained by editors of The Wall Street Journal. While the stock selection process is somewhat subjective, a stock typically is added only if the company has an excellent reputation, demonstrates sustained growth, is of interest to a large number of investors, and accurately represents the market sectors covered by the average. The Dow Jones averages are unique in that they are price weighted; therefore, their component weightings are affected only by changes in the stocks' prices.





The Dow Jones U.S. Select REIT Index (formerly the DJ Wilshire REIT) intends to measure the performance of publicly traded REITs and REIT-like securities. The index is a subset of the Dow Jones U.S. Select Real Estate Securities Index (RESI), which represents equity REITs and real estate operating companies (REOCs) traded in the U.S. The indices are designed to serve as proxies for direct real estate investment, in part by excluding companies whose performance may be driven by factors other than the value of real estate.

The HFRX Absolute Return Index is designed to be representative of the overall composition of the hedge fund universe. It is comprised of all eligible hedge fund strategies; including but not limited to convertible arbitrage, distressed securities, equity hedge, equity market neutral, event driven, macro, merger arbitrage, and relative value arbitrage.

The HFRX Distressed Restructuring Index strategies employ an investment process focused on corporate fixed income instruments, primarily on 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 proceeding or financial market perception of near term proceedings. Managers are typically actively involved with the management of these companies, 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. In contrast to special situations, distressed strategies employ primarily debt (greater than 60%) but also may maintain related equity exposure.

The HFRX Equity Hedge Index, also known as long/short equity, combines core long holdings of equities with short sales of stock or stock index options. Equity hedge portfolios may be anywhere from net long to net short, depending on market conditions. Equity hedge managers generally increase net long exposure in bull markets and decrease net long exposure (or even are net short) in a bear market. Generally, the short exposure is intended to generate an ongoing positive return in addition to acting as a hedge against a general stock market decline. Stock index put options are also often used as a hedge against market risk. Profits are made when long positions appreciate and stocks sold short depreciate. Conversely, losses are incurred when long positions depreciate or the value of stocks sold short appreciates. Equity hedge managers' source of return is similar to that of traditional stock pickers on the upside, but they use short selling and hedging to attempt to outperform the market on the downside.

The HFRX Equity Market Neutral Index strategies employ sophisticated quantitative techniques of analyzing price data to ascertain information about future price movement and relationships between securities, select securities for purchase and sale. These can include both factor-based and statistical arbitrage/trading strategies. Factor-based investment strategies include strategies in which the investment thesis is predicated on the systematic analysis of common relationships between securities. In many but not all 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 in which the investment thesis is predicated on exploiting pricing anomalies that may occur as a function of expected mean reversion inherent in security prices; high frequency techniques may be employed and trading strategies may also be employed on the basis on technical analysis or opportunistically to exploit new information the investment manager believes has not been fully, completely, or accurately discounted into current security prices. Equity market neutral strategies typically maintain characteristic net equity market exposure no greater than 10% long or short.

The HFRX Event Driven Index managers maintain positions in companies currently or prospectively involved in corporate transactions of a wide variety, including but not limited to 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. Event driven exposure includes a combination of sensitivities to equity markets, credit markets and idiosyncratic, company-specific developments. Investment theses are typically predicated on fundamental characteristics (as opposed to quantitative), with the realization of the thesis predicated on a specific development exogenous to the existing capital structure.

The HFRX Global Hedge Fund Index is designed to be representative of the overall composition of the hedge fund universe. It is comprised of all eligible hedge fund strategies, including but not limited to convertible arbitrage, distressed securities, equity hedge, equity market neutral, event driven, macro, merger arbitrage, and relative value arbitrage. The strategies are asset weighted based on the distribution of assets in the hedge fund industry.

The HFRX Macro Index strategy managers trade a broad range of strategies in which the investment process is 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 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 and integral to investment thesis.

The HFRX Macro: Systematic Diversified CTA Index strategies have investment processes typically as function of mathematical, algorithmic, and technical models, with little or no influence of individuals over the portfolio positioning. Strategies employ an investment process designed to identify opportunities in markets exhibiting trending or momentum characteristics across individual instruments or asset classes. Strategies typically employ a quantitative process that focuses 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. Systematic diversified strategies typically would expect to have no greater than 35% of the portfolio in either dedicated currency or commodity exposures over a given market cycle.

The HFRX Market Directional Index is comprised of all eligible hedge fund strategies, including but not limited to convertible arbitrage, distressed securities, equity hedge, equity market neutral, event driven, macro, merger arbitrage, and relative value arbitrage. As a component of the optimization process, the index selects constituents which characteristically exhibit higher volatilities and higher correlations to standard directional benchmarks of equity, bond market, and hedge fund industry.

The HFRX Merger Arbitrage Index strategies employ an investment process primarily focused 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 that pre- or post-date, or 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, with typically involve minimal exposure to corporate credits. Merger arbitrage strategies typically have over 75% of positions in announced transactions over a given market cycle.





The HFRX Relative Value Arbitrage Index includes managers who maintain positions in which the investment thesis is predicated on the 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 the realization of a pricing discrepancy between related securities, as opposed to the outcome of the corporate transaction.

The HFRX RV: FI-Convertible Arbitrage Index includes strategies in which the investment thesis is predicated on realization of a spread between related instruments in which one or multiple components of the spread is a convertible fixed income instrument. Strategies employ an investment process designed to isolate attractive opportunities between the price of a convertible security and the price of a non-convertible security, typically of the same issuer. Convertible arbitrage positions maintain characteristic sensitivities to credit quality the issuer, implied and realized volatility of the underlying instruments, levels of interest rates and the valuation of the issuer's equity, among other more general market and idiosyncratic sensitivities.

The J.P. Morgan GBI Global ex-U.S. Hedged Index tracks fixed rate issuances from high-income countries spanning the globe, launched in 1989.

The JPM GBI Global ex-U.S. Unhedged Index generally tracks fixed rate issuances form high-income countries spanning North America, Europe, and Asia, not including the United States.

The JPM GBI-EM Global Diversified Index limits the weights of those index countries with larger debt stocks by only including a specified portion of these countries as eligible, current face amounts of debt outstanding.

The JPM ELMI+ and JPM ELMI+ Composite Indexes measure the performance of debt issued by emerging markets in the local currency.

The Merrill Lynch Preferred Stock Hybrid Securities Index is an unmanaged index consisting of a set of investment-grade, exchange-traded preferred stocks with outstanding market values of at least \$50 million that are covered by Merrill Lynch Fixed Income Research.

The MSCI AC Asia Pacific ex-Japan Index captures large and mid cap representation across four of five developed markets countries (excluding Japan) and eight emerging markets countries in the Asia Pacific region. With 682 constituents, the index covers approximately 85% of the free float-adjusted market capitalization in each country.

The MSCI ACWI ex-U.S. Index captures large and mid cap representation across 22 of 23 developed markets (DM) countries (excluding the U.S.) and 23 emerging markets (EM) countries. With 1,839 constituents, the index covers approximately 85% of the global equity opportunity set outside the U.S.

The MSCI ACWI ex-U.S. SMID Cap Index captures mid and small cap representation across 22 of 23 developed market (DM) countries (excluding the U.S.) and 23 emerging markets countries. With 5,164 constituents, the index covers approximately 28% of the free float-adjusted market capitalization in each country.

The MSCI EAFE Index is recognized as the pre-eminent benchmark in the United States to measure international equity performance. It comprises the MSCI country indexes that represent developed markets outside of North America: Europe, Australasia, and the Far East.

The MSCI EAFE SMID Cap Index captures mid and small cap representation across developed market countries around the world, excluding the U.S. and Canada. With 2,695 constituents, the index covers approximately 28% of the free float-adjusted market capitalization in each country.

The MSCI Emerging Markets Index captures large and mid cap representation across 23 emerging markets (EM) countries. With 822 constituents, the index covers approximately 85% of the free float-adjusted market capitalization in each country.

The MSCI Emerging Markets EMEA Index captures large and mid cap representation across eight emerging markets (EM) countries in Europe, the Middle East and Africa (EMEA). With 162 constituents, the index covers approximately 85% of the free float-adjusted market capitalization in each country.

The MSCI Emerging Markets (EM) Latin America Index captures large and mid cap representation across five emerging markets (EM) countries in Latin America. With 137 constituents, the index covers approximately 85% of the free float-adjusted market capitalization in each country.

The MSCI Europe Index is a free float-adjusted, market capitalization-weighted index that is designed to measure the equity market performance of the developed markets in Europe.

The MSCI Frontier Markets Index captures large and mid cap representation across 24 frontier markets (FM) countries. The index includes 127 constituents, covering about 85% of the free float-adjusted market capitalization in each country.

The MSCI U.S. REIT Index is a free float-adjusted market capitalization index that is comprised of equity REITs. The index is based on MSCI USA Investable Market Index (IMI), its parent index that captures large, mid, and small caps securities. With 139 constituents, it represents about 99% of the U.S. REIT universe and securities are classified in the REIT sector according to the Global Industry Classification Standard (GICS). It, however, excludes mortgage REITs and selected specialized REITs.

The Nasdaq Composite Index measures all Nasdaq domestic and non-U.S.-based common stocks listed on the Nasdaq stock market. The index is market-value weighted. This means that each company's security affects the index in proportion to its market value. The market value, the last sale price multiplied by total shares outstanding, is calculated throughout the trading day, and is related to the total value of the index. It is not possible to invest directly in an index.

The Russell 1000 Index measures the performance of the large cap segment of the U.S. equity universe. It is a subset of the Russell 3000 Index and includes approximately 1000 of the largest securities based on a combination of their market cap and current index membership. The Russell 1000 represents approximately 92% of the U.S. market.

The Russell 1000 Value Index measures the performance of the large cap value segment of the U.S. equity universe.

The Russell 1000 Growth Index measures the performance of the large cap growth segment of the U.S. equity universe.

The Russell 2000 Index measures the performance of the small cap segment of the U.S. equity universe. The Russell 2000 Index is a subset of the Russell 3000 Index representing approximately 10% of the total market capitalization of that index.

The Russell 2000 Growth Index measures the performance of those Russell 2000 companies with higher price-to-book ratios and higher forecasted growth values.





The Russell 2000 Value Index measures the performance of those Russell 2000 companies with lower price-to-book ratios and lower forecasted growth values.

The Russell 2500 Index is a broad index featuring 2,500 stocks that cover the small and mid cap market capitalizations. The Russell 2500 is a market capitalizationweighted index that includes the smallest 2,500 companies covered in the Russell 3000 universe of U.S.-based listed equities.

The Russell 3000 Index measures the performance of the largest 3,000 U.S. companies representing approximately 98% of the investable U.S. equity market.

The Russell 3000 Growth Index measures the performance of the broad growth segment of the U.S. equity universe. It includes those Russell 3000 companies with higher price-to-book ratios and higher forecasted growth values.

The Russell 3000 Value Index measures the performance of the broad value segment of U.S. equity value universe. It includes those Russell 3000 companies with lower price-to-book ratios and lower forecasted growth values.

The Russell Microcap Index measures the performance of the microcap segment of the U.S. equity market. Microcap stocks make up less than 3% of the U.S. equity market (by market cap) and consist of the smallest 1,000 securities in the small-cap Russell 2000 Index, plus the next 1,000 smallest eligible securities by market cap.

The Russell Midcap Index offers investors access to the mid cap segment of the U.S. equity universe. The Russell Midcap Index is constructed to provide a comprehensive and unbiased barometer for the mid cap segment and is completely reconstituted annually to ensure that larger stocks do not distort the performance and characteristics of the true mid cap opportunity set. The Russell Midcap Index includes the smallest 800 securities in the Russell 1000.

The Russell Midcap Growth Index offers investors access to the mid cap growth segment of the U.S. equity universe. The Russell Midcap Growth Index is constructed to provide a comprehensive and unbiased barometer of the mid cap growth market. Based on ongoing empirical research of investment manager behavior, the methodology used to determine growth probability approximates the aggregate mid cap growth manager's opportunity set.

The Russell Midcap Value Index offers investors access to the mid cap value segment of the U.S. equity universe. The Russell Midcap Value Index is constructed to provide a comprehensive and unbiased barometer of the mid cap value market. Based on ongoing empirical research of investment manager behavior, the methodology used to determine value probability approximates the aggregate mid cap value manager's opportunity set.

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 S&P Global Infrastructure Index is comprised of 75 of the largest publicly listed infrastructure companies that meet specific investability requirements. The index is designed to provide liquid exposure to the leading publicly listed companies in the global infrastructure industry, from both developed markets and emerging markets.

The S&P Utilities Index is comprised primarily of companies involved in water and electrical power and natural gas distribution industries.

The S&P/LSTA U.S. Leveraged Loan 100 index is a market value-weighted index designed to measure the performance of the U.S. leveraged loan market. The index consists of 100 loan facilities drawn from a larger benchmark - the S&P/LSTA (Loan Syndications and Trading Association) Leveraged Loan Index (LLI).

The S&P Developed Ex-U.S. Property defines and measures the investable universe of publicly traded property companies domiciled in developed countries outside of the U.S. The companies included are engaged in real estate related activities, such as property ownership, management, development, rental and investment.

The USD Index measures the performance of the U.S. dollar against a basket of foreign currencies: EUR, JPY, GBP, CAD, CHF and SEK. The U.S. Dollar Index goes up when the dollar gains "strength" compared to other currencies.

This research material has been prepared by LPL Financial LLC.

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