



## Monthly Commentary

February 2018

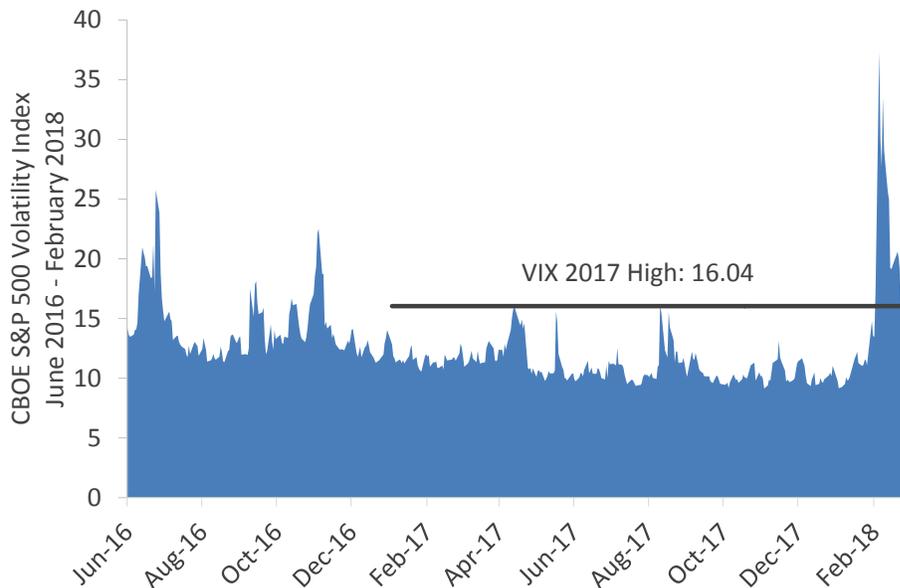
Overview

February marked the return of volatility. The U.S. stock market, as measured by the S&P 500 Index, experienced its first monthly decline since October 2016 and finished the month down 3.89%. In addition to the U.S. stock market, 10-year U.S. Treasury (UST) yields marched higher and closed the month at 2.87%. The rise in bond yields coupled with the negative equity performance made for a tough month for both equity and fixed income investors.

The recent correction in equities was accentuated by vulnerable market structures, built up by a prolonged period of extremely low volatility. At the start of 2018, we were of the opinion that we had seen the lows in market volatility and one should expect higher volatility going forward. Our expectation for higher volatility was due to headwinds from Central Bank quantitative tightening, increased fiscal deficit, rising interest rates, and historically high valuations. Moving forward, we believe volatility will remain higher than last year but economic data remains supportive of risk assets over the near to medium-term.

Economic data continued to be positive in February, including the unemployment rate which remained unchanged at 4.1%. The Institute for Supply Management (ISM) Manufacturing Index rose to its highest level since 2004 at 60.8 in February, up from 59.1 in January. According to Bloomberg, readings in the vicinity of

Chicago Board Options Exchange Volatility Index (VIX)  
June 30, 2016 to February 28, 2018



Source: DoubleLine, Bloomberg

60 are generally consistent with Gross Domestic Product (GDP) growth closer to 3.0-3.5%, compared to the current pace of 2.5%. In addition, Consumer Confidence rose to 130.8 in February – the highest reading since November 2000 – from 124.3 the month prior. Lastly, the Conference Board U.S. Leading Economic Index® (LEI), meant to give a sense of the future state of the economy and a lagging indicator, increased 1.0% month-over-month (MoM) in January. It stands at 6.2% year-over-year (YoY), approaching levels not seen since late 2014 and suggesting little chance of recession in the near to medium-term.

Central Bank quantitative tightening, increased fiscal deficit, and rising bond yields are all events that could lead to increased volatility, especially given historically high valuations. That being

said, we do not foresee a recession in the immediate future.

U.S. Government Securities

- The Bloomberg Barclays UST Index posted a loss of 0.75% for the month. This was the second straight monthly decline this year caused by higher yields across the curve, spurred by upside surprises in wage growth and inflation.

U.S. Treasury Yield Curve

	1/31/2018	2/28/2018	Change
3 month	1.46%	1.65%	0.19%
6 month	1.65%	1.85%	0.20%
1 year	1.88%	2.06%	0.18%
2 year	2.14%	2.25%	0.11%
3 year	2.28%	2.41%	0.13%
5 year	2.51%	2.64%	0.13%
10 year	2.71%	2.86%	0.15%
30 year	2.93%	3.12%	0.19%

Source: Bloomberg

- The Federal Open Market Committee (FOMC) meeting minutes released on February 21st were seen as affirming the Federal Reserve's (Fed's) commitment to higher rates, which sparked a sharp sell-off that day. The 2-year yield touched 2.28% (its highest level since 2008), the 5-year yield reached 2.69% (its highest level since 2010), the 10-year yield reached 2.95% (its highest level since 2014), and the 30-year yield reached 3.23% (its highest level since 2015).

- Jerome Powell, in his first congressional testimony as Fed Chair, commented that the Fed will take into account developments since the December FOMC meeting and make new projections. This was interpreted as an indication that the Fed might move from 3 hikes to 4 hikes this year, which spurred another round of sell-off.

- Treasury Inflation-Protected Securities (TIPS) breakeven rates were mixed; the 5-year yield rose to its highest level since 2013, while the 10-year and 30-year were little changed.

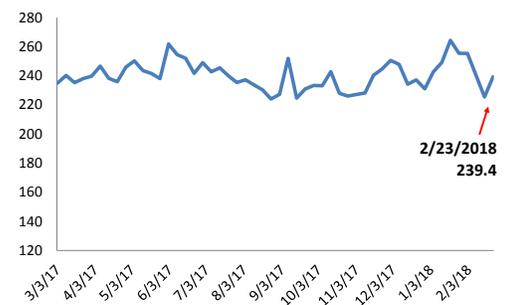
- Ten-year rate volatility spiked to its highest level since April following the Chicago Board Options Exchange (CBOE) Volatility Index (VIX) move but erased most of the increase later.

Agency Mortgage-Backed Securities

- Aggregate prepayment speeds declined by about 8% MoM attributed to fewer business days and mortgage rates continuing to be higher during the refinancing window. The trend in speeds has been consistent for most of 2017, and it

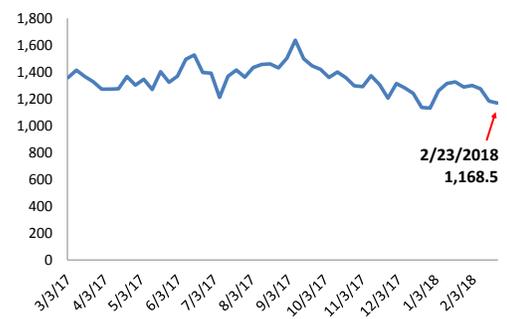
appears that it's continuing that trend into 2018. Higher coupon securities with greater seasoning in the underlying collateral did not experience declines in prepayment speeds as they are less sensitive to changes to rates than current coupon MBS pools. Agency MBS speeds largely declined across the

Mortgage Bankers Association (MBA) Purchase Index As of February 23, 2018



Source: Bloomberg

MBA Refinance Index As of February 23, 2018



Source: Bloomberg

Conditional Prepayment Rates (CPR)													
	2017	Feb	Mar	Apr	May	June	July	Aug	Oct	Nov	Dec	Jan	Feb
Fannie Mae (FNMA)		10.6%	9.7%	11.5%	12.3%	11.4%	12.4%	11.2%	12.1%	10.9%	10.6%	9.4%	8.9%
Freddie Mac (FHLMC)		13.6%	12.5%	14.5%	15.4%	14.8%	16.0%	14.6%	15.7%	15.3%	14.3%	12.9%	11.5%
Ginnie Mae (GNMA)		10.2%	9.6%	11.3%	12.1%	11.3%	12.2%	11.0%	11.8%	10.7%	10.1%	9.0%	8.4%
Bloomberg Barclays Capital													
U.S. MBS Index		12/31/2017	1/31/2018	2/28/2018	MoM Change								
Average Dollar Price		\$103.12	\$101.64	\$100.69	-\$0.95								
Duration		4.43	4.99	5.25	0.26								
Bloomberg Barclays Capital													
U.S. Index Returns		12/31/2017	1/31/2018	2/28/2018									
Aggregate		0.46%	-1.15%	-0.95%									
MBS		0.33%	-1.17%	-0.66%									
Corporate		0.80%	-0.93%	-1.51%									
Treasury		0.31%	-1.36%	-0.75%									

Source: eMBS, Barclays Capital

coupon stack, with the exception of those with a 6.0 and higher as they are less rate sensitive.

- 30-year mortgage rates based on Freddie Mac Commitment Rates ended the month at 4.43% with 15-year mortgage rates ended at 3.90. Refinancing rates, as measured by the Mortgage Bankers Association (MBA) Refinancing Index, declined by about 8% and purchasing activity, as measured by the MBA Purchase Index, declined by about 6%.
- 30-year current coupon spreads against 5/10 year UST blends widened by about 6 bps; however, strong trading technicals, particularly at the long end of the curve, have kept nominal spreads tight.
- The duration of the Bloomberg Barclays U.S. MBS Index extended to 5.25 years with a return of -0.66% for the month of February. The extension and overall return profile was due to increasing UST yields with 10-year yields increasing by about 16 bps.

### Non-Agency MBS

- Spreads across non-Agency MBS were flat during February as rates continued to sell off across the curve.
- Bid list volume was down for February at \$3.0 billion compared with \$4.4 billion in January. A majority of the bid list supply came from money managers and hedge funds.
- There was about \$800 million in rep and warranty payouts during February, with a majority of those

related to the Long Beach/Washington Mutual settlement.

### Commercial MBS

- February private-label CMBS issuance totaled \$5.1 billion in February, bringing the year-to-date (YTD) total to \$9.9 billion, or 81% above the same period in 2017. Two conduit deals totaling \$2.6 billion and nine single-asset single-borrower (SASB) deals totaling \$2.5 billion priced during the month. SASB deals continued to be the driver of new issuance, up about 191% over the same period in 2017 as compared to conduit which is up about 32% over the same period in 2017.
- Secondary Principal & Interest (P&I) CMBS trading totaled \$19.8 billion in February, decreasing 26% month-over-month (MoM), however 5% above the 2017 monthly average of \$18.8 billion. Secondary market cash spreads widened alongside broader equity and debt indices with AAA last cash flows (LCF) widening by 4 bps to swaps +67 bps and BBBs widening by 7 bps to swaps +297 bps. CMBX spreads also rallied, with AAA 2012-2016 reference indices widening by an average of 6 bps, and BBBs widening by an average of 42 bps.
- The outstanding private label CMBS universe increased by \$4.6 billion or 1% to \$461.6 billion in February. Both the outstanding conduit and SASB universes increased in February; while the outstanding conduit universe is down around 6% over

the same time period in 2017, the outstanding SASB universe is up around 21%.

- The CMBS delinquency rate continues to decline, falling 32 bps in February to 4.5%, 80 bps lower than the same period in 2017. The delinquency rate has fallen for eight straight months, and is only 36 bps off the post-crisis low of 4.2% in February 2016.

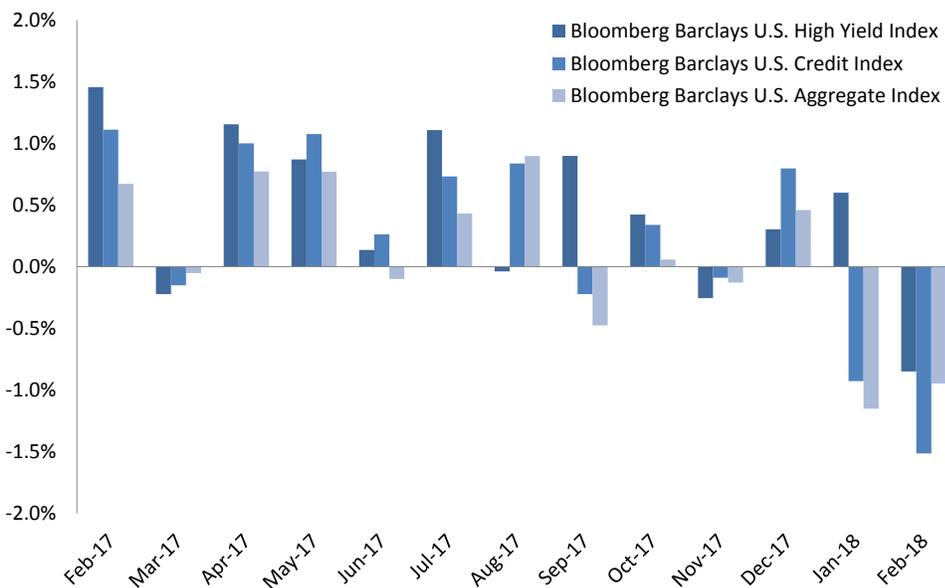
### Asset-Backed Securities

- ABS issuance remained strong in February with a number of Auto, Student Loan, and esoteric ABS pricing at the beginning of the month. Subscription levels were strong and spreads have continued to tighten in, albeit at a declining rate.
- The Structured Finance Industry Group (SFIG) conference in late February was well attended with a record number of issuers and market participants present. The general sentiment was one of cautious optimism, with issuers looking to place new debt into the market and investors looking to put money to work, in an environment of rising interest rates and geo-political instability.
- Credit metrics, while softening slightly in the areas of subprime Autos and Consumer Debt, continued to be at healthy levels with relatively low delinquencies and defaults.
- Investor preference continues to be at the front of the curve on lower duration assets.

Investment Grade Credit

- The tone of the Investment Grade (IG) credit market shifted in February as concerns over higher inflation spread through all asset classes. During the month, spreads widened marginally, with the Bloomberg Barclays U.S. Credit Index underperforming duration-matched UST by 56 bps. After touching a pre-crisis low of 81 bps on February 1st, spreads widened by 9 bps in the first two weeks of the month, coinciding with a rise in rates across the UST curve. As the Treasury market found its footing, spreads stabilized and closed the month flat from the high of 91 bps touched on February 13th. By comparison, yield-to-worst (YTW) increased by 25 bps.
- Total return for the month was down 1.52%. Energy was one of the worst performing sectors, corresponding with the decline in energy prices. Foreign/Local Government, the tightest sector in the Index, was one of the best performing sectors.
- Technicals shifted during the month with a notable slowdown in issuance, but fundamentals remained strong. Total flows into IG credit slowed to \$6.3 billion compared to \$17.9 billion in January. New issues also slowed to \$109 billion compared to \$155 billion in January. However, new issuance was above February 2017 levels of \$90 billion. February is generally a slow month for new issuance as many companies report earnings. According to data aggregated by JP Morgan, revenue and cash flow

Performance of Select Bloomberg Barclays Indices February 2017 to February 2018



Source: Bloomberg, DoubleLine

continued to improve during the fourth quarter 2017, with revenue growing by high single digits and EBITDA growing higher, around 13%. EBITDA growth has outpaced debt growth leading to a slight decline in leverage.<sup>1</sup>

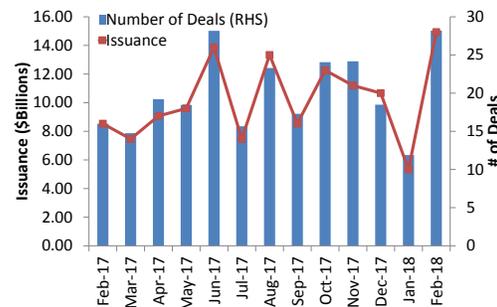
Collateralized Loan Obligations

- Almost three and a half years after the Loan Syndications & Trading Association (LSTA) filed a lawsuit against the Securities & Exchange Commission, Risk Retention was repealed for Collateralized Loan Obligations (CLOs) on February 9th. This successful repeal of risk retention will allow for more activity in the refinance and reset space as some managers were unable to do so due to capital constraints. In addition to the increase in the refinance and reset space, we also

expect to see more new issue equity come to market as managers are now allowed to sell down as much equity as they would like. The repeal also removes a significant hurdle into the new issue space. Smaller managers with less capital can now come back to the market and try to issue.

- February was a busy month even with the market at a standstill dur-

U.S. CLO Monthly Issuance February 2017 to February 2018



Source: S&P Capital IQ, RHS = Right Hand Side

1. EBITDA = Earnings Before Interest, Taxation, Depreciation and Amortization

ing the last week of the month as most participants were attending a conference. In total, February saw \$15.03 billion across 28 deals. In addition, total U.S. issuance for 2018 now stands at \$21.37 billion across 38 deals. This is more than two times where U.S. issuance stood at this time last year.

- With the active month in issuance, spreads were slightly wider MoM by roughly 1 to 5 bps. Spreads are still near post-crisis tights.

### Bank Loans

- The S&P/LSTA Leveraged Loan Index returned 0.20% in February. Loan prices declined 0.19% in the face of volatile equity markets, but this was offset by a 0.39% benefit from interest accruals. Returns moderated from the robust 0.96% gain in January. The weighted average bid price of the Index declined 0.15% sequentially to \$98.53. The percentage of loans trading above par remained elevated at 70.65%, although this was down from 77.99% in January.
- An increase in the supply of new loans contributed to lower secondary prices. \$41.8 billion of loans allocated in February, including \$24.1 billion of Merger & Acquisition-related supply, which comfortably outpaced new issue supply in January. In addition, refinancing-related activity was at below-average levels.
- The loan asset class continued to see investor inflows, with prime

fund flows accelerating from January and strong CLO issuance.

- Lower credit quality loans continued to fare well in February, with CCC-rated loans returning 0.43%, single-B rated loans returning 0.21%, and BB-rated loans returning 0.08%. The default rate remained low at 1.94%.
- The strongest sector returns were Food & Drug Retailers, Cosmetics, and Radio & Television, with returns of 1.20%, 1.05% and 1.02%, respectively. The weakest sectors were Aerospace & Defense, Non-ferrous Metals-Minerals, and Retailers, with returns of -0.72%, -0.48% and -0.26%, respectively.

### High Yield

- High yield (HY) bond prices dropped in February as 10-year UST yields hit a four-year high and the stock market sold off significantly, before all three recovered somewhat by month-end. Possible reasons are strengthening global growth, wage gains and resulting inflation, which could force global central bank policy tightening.
- February's total return for the Bloomberg Barclays U.S. High Yield Index was -0.85% as yields increased 0.36% in February to 6.14% and spreads increased 19 bps to 359 bps. As one would expect with a rate-related sell-off, lower-coupon BB-rated and longer duration bonds underperformed. Energy-related bonds underperformed amid falling oil prices, while Retail and Consumer Products stayed

somewhat flat to be the best performers.

- According to Barclays, the HY primary market priced an anemic \$12.2 billion in U.S. Dollar (USD)-denominated bonds in February, versus \$30.7 billion in January. And, as has been the case in recent years, a larger amount of redemptions meant that the overall HY market shrank once again.

### Commodities

- In February, the broad commodity market was down 3.46% and 1.85%, as measured by the S&P Goldman Sachs Commodity Index (GSCI) and Bloomberg Commodity Index (BCOM), respectively.
- The Energy sector was the worst performing sector in February with a return of -5.72% as the entire energy complex declined in value. The Precious Metals sector fell by 2.23% with Gold and Silver both declining with returns of -1.88% and -5.31%, respectively. The Industrial Metals sector declined by 3.00% in February as Lead, Aluminum, Zinc and Copper depreciated by 4.39%, 3.94%, 2.56% and 2.84%, respectively.
- The Agriculture sector was the best performing sector in February with a return of 4.58% as Corn and Soybeans both rallied with returns of 3.52% and 4.86%, respectively.
- The Livestock sector was mixed in February, ending the month at -1.86%, as Lean Hogs declined 6.96% and Live Cattle rallied 0.28%.

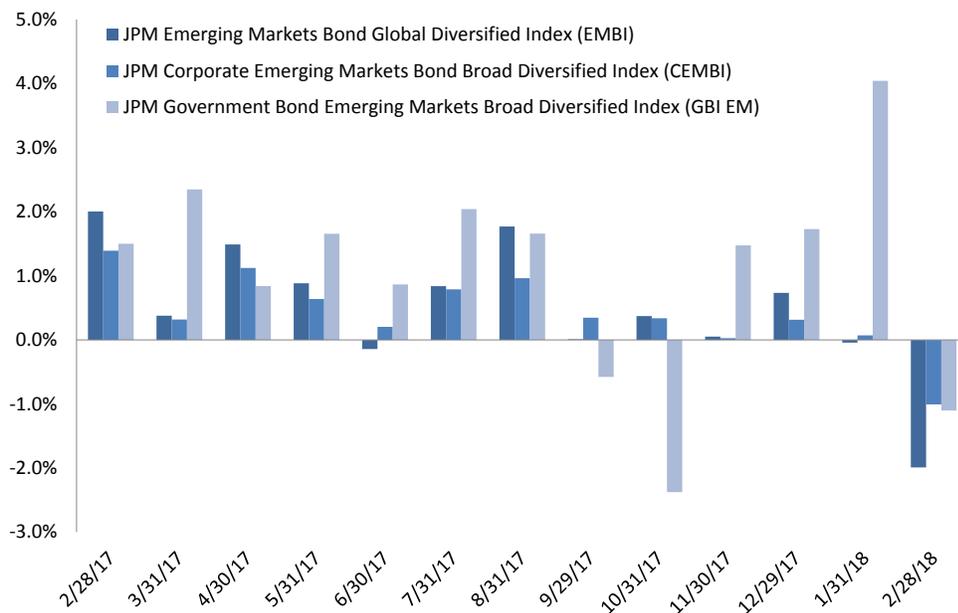
## Emerging Markets

- Emerging Market (EM) sovereign and corporate external bonds both posted negative performance in the month of February against a backdrop of elevated market volatility and rising UST yields.
- The JP Morgan EMBI Global Diversified's negative return during the month was driven by a bear-steepening of the UST curve, as well as by spread performance, with the spread over UST widening 21 bps to 285 bps.
- Over 2018, we see the potential for higher volatility, possibly driven by inflation surprises or the withdrawal of developed market (DM) central bank liquidity, which could cause a sell-off in global rates. We also see the potential for geopolitical and policy risks and a heavy election calendar across EM where negative outcomes may drive credit spreads wider.

## International Sovereign

- Global government bonds posted negative returns in the month of February, driven primarily by foreign currency losses against the USD.
- The USD, as indicated by the USD Index (DXY), rose against most of its G-10 peers with generally positive economic data showing a pickup in wages and inflation. UST rates backed up during the month and the UST curve bear-steepened on concerns over rising U.S. twin deficits and higher UST supply, as well as new Fed Chair Powell signaling a potentially faster pace of

## JP Morgan Emerging Markets Bond Index Performance February 2017 to February 2018



Source: JP Morgan

rate hikes in his testimony to U.S. Congress.

- The Euro fell against the USD over the month as Euro area inflation slowed for a third consecutive month, reaching the weakest level since late 2016. European Central Bank (ECB) President Mario Draghi told the European parliament that expansionary monetary policy was warranted as inflation remains well below the ECB's target level, raising the possibility of the ECB's asset purchase program extending beyond September.
- The Japanese Yen was the best performing G-10 currency this month, as it behaved as a safe-haven currency against a backdrop of elevated market volatility. Bank of Japan (BoJ) Governor Haruhiko Kuroda was reappointed for another five-

year term, but market participants continued to watch for signs of an exit from extremely accommodative monetary policy.

## Infrastructure

- February saw notable issuance in Infrastructure-related ABS, particularly in Transportation, Telecommunications, and the first-ever Data Center ABS transaction.
- Internationally, Infrastructure-related projects and issuers continued to benefit from a weak USD and an improving commodities complex.
- U.S. Utilities lagged the broader Bloomberg Barclays U.S. Credit Index during February as higher UST rates and the negative impacts of tax reform continued to weigh on the sector.

- On the political front, the Trump Administration released their \$1.5 trillion Infrastructure plan. The proposal pledges \$200 billion in federal funding in order to stimulate additional financing from state and local governments as well as private entities. Additionally, the plan aims to streamline the federal permitting process for Infrastructure projects.

## U.S. Equities

- Volatility reinserted itself into the U.S. Equity markets in February. Coupled with the first monthly decline in the S&P 500 Index since October 2016, and in the middle of a very strong earnings season for corporate America, this spike in volatility suggests the recent period of market complacency may be at an end. The S&P 500 ended February down 3.7% for the month and 5.3% off of its all-time highs of late January. The market action of early February reinforces our cautious view on U.S. equities.
- By the intraday lows of February 9th, the S&P 500 had fallen nearly 12% from its all-time high. After failing to hold below its 200-day moving average price, the Index recovered over half its losses by the end of February.
- As measured by the VIX, equity market volatility had been trending down since mid-2015. The VIX reached an all-time closing low of 9.14% in early November 2017, and re-tested those levels in the opening days of 2018 closing at 9.15%.

To sell the VIX at such a low level, an investor must assume an unrealistic level of calm in the equity markets. Mathematically, volatility of nine implies the market will experience a daily drawdown of 2% or more only once out of every approximately 2,300 trading days. That is less than once every nine years. The 2.1% decline in the S&P 500 on Friday, February 2nd followed by a 4.1% decline on the following Monday quickly disabused investors of any such notions.

- The return of volatility was swift: on February 6th, the VIX spiked intraday above 50, a level seen only during the Global Financial Crisis and briefly in August 2015. The VIX closed the month at 20, more than double the lows of January.
- The market declines and volatility came in the face of an earnings release season that was one of the best in many years. According to FactSet as of the end of February, it is expected the companies of the S&P 500 will have grown fourth quarter earnings by 14.8%, the fastest pace since 2011, on revenue growth of 8.2%. It is important to note this growth is before the earnings benefit of the new Tax Cuts and Jobs Act, which will provide an earnings step-up in 2018. The portion of companies exceeding consensus estimates was the highest since FactSet began tracking the metric in 2008.
- As the earnings season came to a close, consensus estimates for

2018, according to FactSet, forecast revenue growth for the S&P 500 companies of 6.7% and earnings growth of 18.3%.

## Global Equities

- Global equities declined and volatility increased in February. The Morgan Stanley Capital International All-Country World Index (MSCI ACWI) returned -4.16% during the month. U.S. equities were not immune to the broad-based selling with the S&P 500 and Dow Jones returning -3.69% and -3.96%, respectively. The Russell 2000 and Nasdaq Composite Indices both declined with returns of -3.86% and -1.73%, respectively.
- In Europe, equities retreated with the Eurostoxx 50 down 4.57% during the month. Core European equities declined with the DAX returning -5.71% and CAC returning -2.92%. In the periphery equities sold off with the FTSEMIB -3.83% and IBEX -5.85%. UK equities, as measured by the FTSE 100, were down 3.39%.
- Asian equities underperformed the broader market in February. Japanese equities, as measured by the Nikkei, declined 4.41%. Chinese equities, as measured by the Shanghai Composite, returned -6.36%. Hong Kong equities, as measured by the Hang Seng, returned -6.00%. Korean equities, as measured by the KOSPI, returned -5.42%.
- EM equities were generally lower in February with the MSCI EM In-

dex returning -4.63%; however, there was a great deal of dispersion by country. Brazil's Ibovespa rallied 0.52%. Russian equities, as measured by the MSCI Russia Index, rallied 0.93%. Indian equities, as measured by the MSCI India, returned -4.44%.

**Basis Point** -A basis point (bps) equals to 0.01%.

**Bloomberg Barclays U.S. ABS Index** - The ABS component of the Bloomberg Barclays U.S. Aggregate Index. It includes securities whose value and income payments are derived from and collateralized ('or backed") by a specified pool of underlying assets including credit cards, auto loans, etc.

**Bloomberg Barclays U.S. Credit Index**—The US Credit component of the U.S. Government/Credit Index. This index consists of publically-issued U.S. corporate and specified foreign debentures and secured notes that meet the specified maturity, liquidity, and quality requirements. To qualify, bonds must be SEC-registered. The US Credit Index is the same as the former US Corporate Investment Grade Index.

**Bloomberg Barclays U.S. Corporate High Yield Index** - A market value-weighted index which covers the U.S. non-investment grade fixed-rate debt market. The index is composed of U.S. dollar-denominated corporate debt in Industrial, Utility, and Finance sectors with a minimum \$150 million par amount outstanding and a maturity greater than 1 year. The index includes reinvestment of income.

**Bloomberg Barclays U.S. MBS Index**—An index that measures the performance of investment grade fixed-rate mortgage-backed pass-through securities of the Government-Sponsored Enterprises (GSEs): Ginnie Mae (GNMA), Fannie Mae (FNMA), and Freddie Mac (FHLMC).

**Bloomberg Barclays U.S. Treasury Index** -The Barclays Capital U.S. Treasury Index is the U.S. Treasury component of the U.S. Government Index. Public obligations of the U.S. Treasury with a remaining maturity of one year or more.

**Bloomberg Commodity Index (BCOM)** - An index calculated on an excess return basis that reflects commodity futures price movements. The index rebalances annually weighted 2/3 by trading volume and 1/3 by world production and weight-caps are applied at the commodity, sector and group level for diversification. Roll period typically occurs from 6th-10th business day based on the roll schedule.

**Chicago Board Options Exchange (CBOE) Volatility Index (VIX)** -An index that shows the market's expectation of 30-day volatility. This index is constructed using the implied volatilities of a wide range of S&P 500 index options. This volatility is meant to be forward looking and is calculated from both calls and puts. The VIX is a widely used measure of market risk and is often referred to as the "investor fear gauge".

**Citi High-Yield Cash-Pay Capped Index** -This index represents the cash-pay securities of the Citigroup High-Yield Market Capped Index, which represents a modified version of the High Yield Market Index by delaying the entry of fallen angel issues and capping the par value of individual issuers at \$5 billion par amount outstanding.

**Cotation Assitee en Continu 40 (CAC)** - The CAC 40 Index which is a French stock market index. It tracks 40 of the largest French stocks on the Paris Bourse, or stock exchange.

**Conditional Prepayment Rate (CPR)** - The CPR measures prepayments as a percentage of the current outstanding loan balance.

**Conference Board U.S. Leading Economic Index® (LEI)** - An index that utilizes ten key variables intended to forecast future economic activity.

**Deutsche Borse AG German Stock Index (DAX)** - The German stock index, which represents 30 of the largest and most liquid German companies that trade on the Frankfurt Exchange.

**Dow Jones Industrial Average (DJIA)** - A price-weighted average of 30 significant stocks traded on the New York Stock Exchange and the Nasdaq.

**Earnings Before Interest, Taxation, Depreciation and Amortization (EBITDA)** - Net income with interest, taxes, depreciation, and amortization added back to it. This measure can be used to analyze and compare profitability between companies and industries because it eliminates the effects of financing and accounting decisions.

**Eurostoxx 50 Index** - A stock index of Eurozone stocks designed by STOXX, an index provider owned by Deutsche Borse Group and SIX group, with the goal of providing a blue-chip representation of Supersector leaders in the Eurozone.

**Financial Times Stock Exchange 100 (FTSE 100)** - A capitalization-weighted index of the 100 most highly capitalized companies traded on the London Stock Exchange.

**Financial Times Stock Exchange Milano Italia Borsa (FTSE MIB)** - The benchmark stock market index for the Borsa Italiana, the Italian national stock exchange, which superseded the MIB-30 in September 2004. The index consists of the 40 most-traded stock classes on the exchange.

**G-10** - A grouping of 10 countries identified by the World Trade Organization which are "vulnerable" to imports due to ongoing reform in the agricultural sector. This grouping includes Switzerland, Japan, South Korea, Taiwan, Liechtenstein, Israel, Norway, Iceland, Bulgaria and Mauritius.

**Hang Seng Index** - A free-float capitalization-weighted index of a selection of companies from the Stock Exchange of Hong Kong. The components of the index are divided into four subindices: Commerce and Industry, Finance, Utilities, and Properties.

**Ibovespa** - This accumulation index represents the present value of a portfolio begun on 2 January 1968, with a starting value of 100 and taking into account share price increases plus the reinvestment of all dividends, subscription rights and bonus stocks received.

**Indice Bursatil Espanol (IBEX)** - The official index of the Spanish Continuous Market. The index is comprised of the 35 most liquid stocks traded on the Continuous market. It is calculated, supervised and published by the Sociedad de Bolsas.

**Institute for Supply Management Manufacturing Purchasing Managers Index (ISM PMI)** - An index made up of data from 300 manufacturing firms collected by the Institute of Supply Management (ISM). It indicates the economic health of the manufacturing sector.

**JP Morgan Corporate Emerging Markets Bond Broad Diversified Index (CEMBI)** -This index is a market capitalization weighted index consisting of US-denominated Emerging Market corporate bonds. It is a liquid global corporate benchmark representing Asia, Latin America, Europe and the Middle East/Africa.

**JP Morgan Government Bond Emerging Markets Broad Diversified Index (GBI EM)** -This index is the first comprehensive, global local Emerging Markets index, and consists of regularly traded, liquid fixed-rate, domestic currency government bonds to which international investors can gain exposure.

An investment cannot be made directly in an index.

**JP Morgan Emerging Markets Bond Global Diversified Index (EMBI)** - This index is a uniquely-weighted version of the EMBI Global. It limits the weights of those index countries with larger debt stocks by only including specified portions of these countries' eligible current face amounts of debt outstanding. The countries covered in the EMBI Global Diversified are identical to those covered by EMBI Global.

**Korea Composite Stock Price Index (Kospi)** - A market capitalization weighted index of all common stocks traded on the Stock Market Division—previously, Korea Stock Exchange—of the Korea Exchange. It is the representative stock market index of South Korea, similar to the Dow Jones Industrial Average or S&P 500 in the United States.

**Last Cash Flow (LCF)** – The last revenue stream paid to a bond over a given period.

**London Interbank-Offered Rate (LIBOR)** - An indicative average interest rate at which a selection of banks known as the panel banks are prepared to lend one another unsecured funds on the London money market.

**Markit CMBX Index (CMBX)** - A synthetic tradable index with 6 subindices referencing a basket of 25 commercial mortgage-backed securities offerings issued in 2012.

**Morgan Stanley Capital International All Country World Index (MSCI ACWI)** - A market-capitalization-weighted index designed to provide a broad measure of stock performance throughout the world, including both developed and emerging markets.

**Mortgage Bankers Association (MBA) Purchase Index** - An index that includes all mortgage applications for purchases of single-family homes. It covers the entire market, both conventional and government loans and all products.

**Mortgage Bankers Association (MBA) Refinance Index** - An index that covers all mortgage applications to refinance an existing mortgage. It includes conventional and government refinances.

**MSCI Emerging Markets (MSCI EM)** - An index that covers 23 Emerging Market countries and is designed to capture the large and mid-cap representation across those countries.

**MSCI Russia Index** - A free-float capitalization-weighted index used to track the equity market performance of Russian securities on the MICEX Stock Exchange.

**NASDAQ** - A stock market index of the common stocks and similar securities (e.g. ADRs, tracking stocks, limited partnership interests) listed on the NASDAQ stock market with over 3,000 components. This index is highly followed in the U.S. as an indicator of the performance of stocks of technology companies and growth companies. Since both U.S. and non-U.S. companies are listed on the NASDAQ stock market, the index is not exclusively a U.S. index.

**Nikkei 225 Index** - A price-weighted index comprised of Japan's top 225 blue-chip companies on the Tokyo Stock Exchange. The Nikkei is equivalent to the Dow Jones Industrial Average Index in the U.S.

**Russell 2000 Index** - A subset of the Russell 3000 Index representing approximately 10% of the total market capitalization and measuring the performance of the small-cap segment of the U.S. equity universe.

**Shanghai Composite Index** - A capitalization-weighted index that tracks the daily performance of all A-shares and B-shares listed on the Shanghai Stock Exchange. The index was developed on December 19, 1990 with a base value of 100.

**S&P Goldman Sachs Commodity Index (GSCI)** - Standard & Poor's Goldman Sachs Commodity Index, or GSCI, is a composite index of commodity sector returns which represents a broadly diversified, unleveraged, long-only position in commodity futures.

**S&P GSCI Precious Metals** - A sub-index of the S&P GSCI that represents the Precious Metals sector, currently comprised of gold and silver.

**S&P GSCI Industrial Metals** - A sub-index of the S&P GSCI that represents the Industrial Metals sector, currently comprised of aluminum, copper, zinc, nickel and lead.

**S&P GSCI Energy** - A sub-index of the S&P GSCI that represents the Energy sector, currently comprised of West Texas Intermediate (WTI) light sweet crude oil, Brent crude oil, gas oil, heating oil, RBOB gasoline and natural gas.

**S&P GSCI Livestock** - A sub-index of the S&P GSCI that represents the Livestock sector.

**S&P GSCI Agriculture** - A sub-index of the S&P GSCI that represents the Agriculture sector, currently comprised of wheat, Kansas wheat, corn, sugar, soybean, coffee, cocoa, and cotton.

**S&P 500 Index** - Standard & Poor's US 500 Index, a capitalization-weighted index of 500 stocks.

**S&P/LSTA Leveraged Loan Index** - An index designed to track the market-weighted performance of the largest institutional leveraged loans based on the market weightings, spreads and interest payments.

**Spread** - 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.

**U.S. Dollar Spot Index (DXY)** - A weighted geometric mean of the United States dollar's value relative to a basket of 6 major foreign currencies, including the Euro, Japanese yen, Pound sterling, Canadian dollar, Swedish krona and Swiss franc.

An investment cannot be made directly in an index.

### **Important Information Regarding This Report**

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DoubleLine is an active manager and will adjust the composition of client's portfolios consistent with our investment team's judgment concerning market conditions and any particular security. The construction of DoubleLine portfolios may differ substantially from the construction of any of a variety of bond market indices. As such, a DoubleLine portfolio has the potential to underperform or outperform a bond market index. Since markets can remain inefficiently priced for long periods, DoubleLine's performance is properly assessed over a full multi-year market cycle.

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