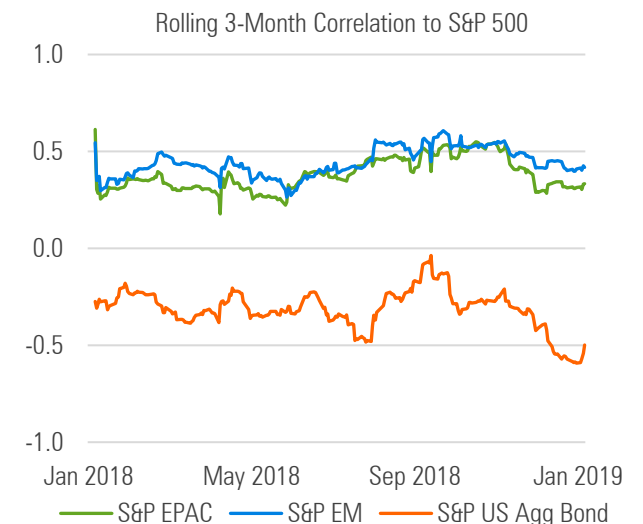
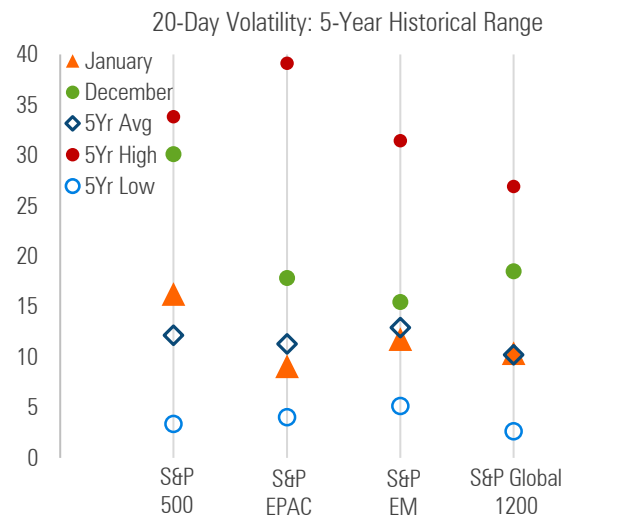
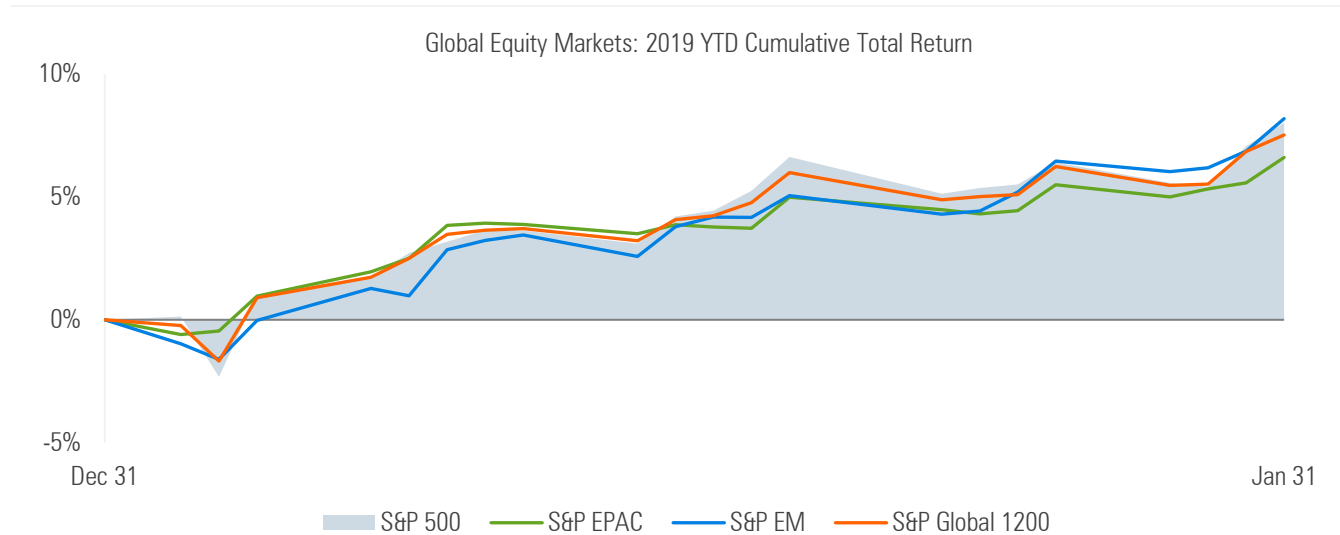


STOCKS HIT THE GROUND RUNNING IN 2019 WITH STRONG EARNINGS AND POSITIVE FED GUIDANCE

- The rally that began in the final days of 2018 extended through January, pushing the global equity market to its highest calendar-month return in more than seven years.
- Up 8.0%, the S&P 500 posted its best January since 1987, while mid- and small-cap stocks both notched double-digit returns for the month.
- A declining dollar propelled international stocks higher, with both developed and emerging market equities making significant gains.
- All market sectors were higher in January, with Industrials (led by GE) and Energy (led by higher oil) at the front of the pack.
- Strong earnings reports were another catalyst pushing stocks higher. Of the 203 S&P 500 companies that reported earnings in January, 144 beat estimates by an average of 6.5%.
- As markets climbed higher, volatility ebbed lower; the S&P 500 exhibited about half the volatility in January that it did in December.
- From its 2018 low on Christmas Eve through the end of January, the S&P 500 climbed 15% and sits 8% off its all-time high from September 20, 2018.
- The correlation of the S&P 500 to both international equities and the US bond market edged lower in January, helping to further reduce the volatility of diversified portfolios.

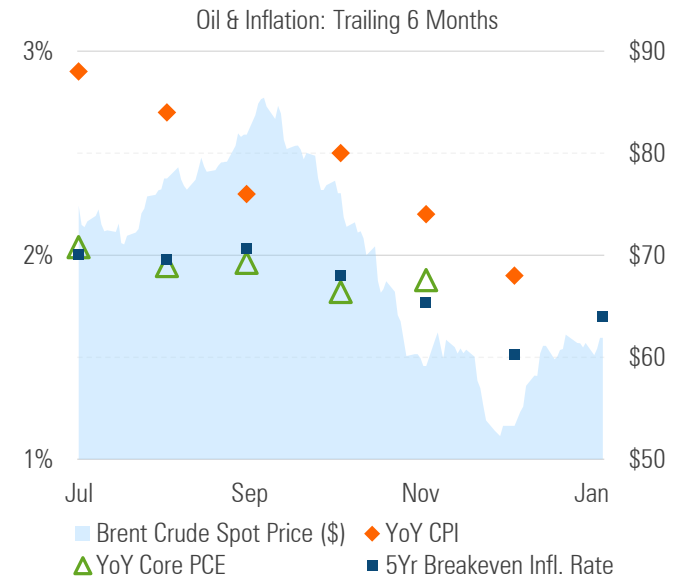
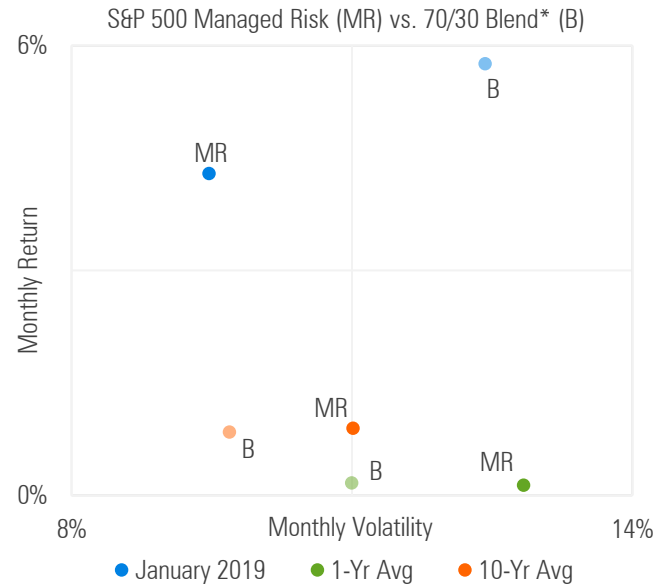
Joe Becker, FRM
 Director – Portfolio Strategist
 joe.becker@milliman.com



MANAGED RISK INVESTING

- Heading into January the volatility of the S&P 500 remained well above the 18% volatility threshold of the [S&P 500 Managed Risk Index](#). The Index began the month with a 47% equity allocation, which climbed gradually to 64% as volatility diminished.
- By virtue of its hedging, exceptionally strong equity market performance and a positive bond market return, the return of the Managed Risk Index trailed that of a 70/30 blend* by 146 bps, but also exhibited just 3/4 the volatility of the blend and about half the volatility of the S&P 500.
- Over the last 10 years, the Managed Risk Index has exhibited an additional 130 bps of average monthly volatility over a 70/30 blend*, while generating an average excess monthly return of 5 bps, equal to an annualized excess return of 0.61% per year.
- After touching its 2018 low the day after Christmas, the price of a barrel of oil climbed 18.5% through the end of January, finishing the month at \$61.91.
- Year-over-year CPI fell to 1.9% even as 5-yr breakeven inflation climbed 20 bps from its 2018 low to 1.70%. Much of the move came at month end in response to dovish comments from the Fed.
- At month end, the futures- implied probability of a 2019 rate cut was higher than that of a rate hike.

*Measured by the S&P 500 and the S&P U.S. Agg Bond Index



Total Returns as of January 31, 2019

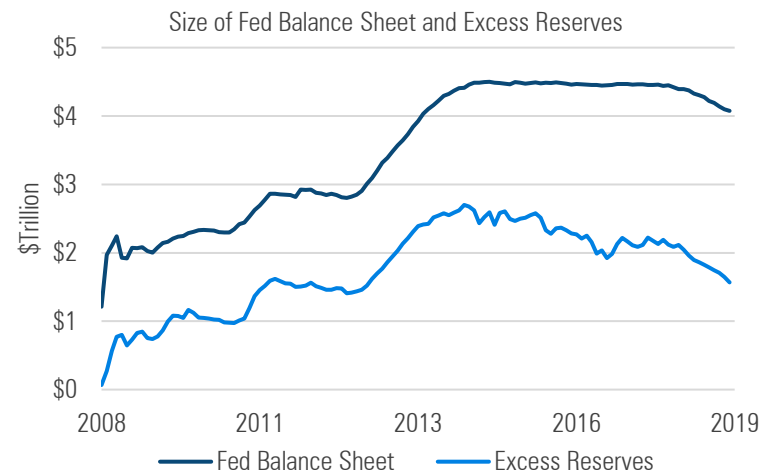
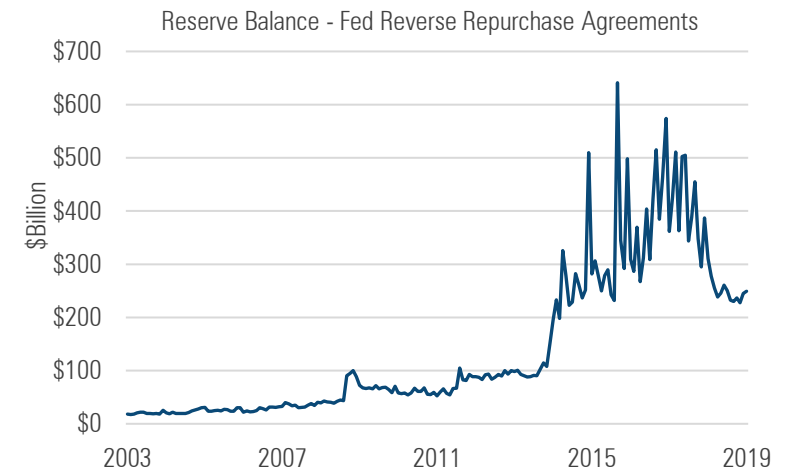
	S&P 500	S&P 500 MR	S&P 400	S&P 600	S&P EPAC	S&P EM	S&P Global 1200	S&P US AGG	Crude Oil (Brent)	US Dollar	70/30 Stock/Bond*
1 Month	8.0%	4.3%	10.5%	10.6%	6.6%	8.2%	7.6%	0.9%	16.2%	-1.3%	5.8%
3 Months	0.3%	-0.9%	1.0%	-1.3%	1.5%	10.3%	1.1%	2.9%	-18.6%	-2.4%	0.8%
6 Months	-3.0%	-3.8%	-6.7%	-10.3%	-7.4%	-2.6%	-4.6%	2.3%	-17.3%	0.5%	-1.9%
1 Year	-2.3%	-4.6%	-4.5%	-1.2%	-11.8%	-13.6%	-6.3%	1.9%	-10.2%	5.5%	-2.1%
1M Volatility	16.3%	8.6%	15.6%	17.3%	9.1%	11.8%	10.4%	2.4%	31.9%	5.0%	12.4%



Unless otherwise noted, data is sourced from Bloomberg. The recipient should not construe any of the material contained herein as investment, hedging, trading, legal, regulatory, tax, accounting or other advice. The recipient should not act on any information in this document without consulting its investment, hedging, trading, legal, regulatory, tax, accounting and other advisors. The materials in this document represent the opinion of the authors and are not representative of the views of Milliman, Inc. Milliman does not certify the information, nor does it guarantee the accuracy and completeness of such information. Use of such information is voluntary and should not be relied upon unless an independent review of its accuracy and completeness has been performed. Materials may not be reproduced without the express consent of Milliman.

PARSING POWELL: FED APPEARS INTENT ON MAINTAINING EXCESS RESERVES INDEFINITELY, ALONG WITH ITS LARGER ROLE IN FINANCIAL MARKETS

- Through the expansion of its balance sheet and the creation of excess reserves, the Fed lost its ability to control the fed funds rate via conventional reserve management. This necessitated the Fed’s use of the reverse repo market, in which the Fed now transacts with a set of counterparties that is much broader than the relatively short list of primary dealers it conducted traditional open market operations with prior to the financial crisis.
- In a 2015 paper*, Fed economists note that, “The main concern raised by the Federal Open Market Committee in using an overnight reverse repurchase agreement facility is that a large and persistent program could permanently alter patterns of borrowing and lending in repo markets and money markets as a whole.”
- During his Jan. 30 press conference, in response to a question about the ultimate size of the balance sheet, Chairman Powell noted, “Remember banks have more reserves than they need. Reserves are still quite abundant. . . We want to have a buffer because we want to be operating in an abundant reserves regime, where we operate through our administered rates [i.e., interest rate on excess reserves and overnight reverse repo rate]. If you operate too close to that point of scarcity then you wind up having to have these big ongoing interventions in the market. We don’t want the Fed to have a large ongoing presence in the market around this, in managing the Fed funds rate. We’d rather have it set by our administered rates.”
- Among the many questions posed to Powell, none sought to understand the Fed’s motivation behind this. Why does the Fed want to set the fed funds rate via the administered rates, rather than through the pre-crisis method of managing reserves? If excess reserves are the source of the Fed’s reliance on the reverse repo market, must not excess reserves be removed from the system in order to end the Fed’s reliance on the reverse repo market and to normalize its vastly expanded involvement and influence in money markets?
- Powell’s comments suggest that while the Fed is working to normalize its policy stance, it currently has no intention of normalizing its means of policy implementation. Rather than extracting itself from the larger role it took on during the crisis, the Fed seems intent on persisting in it, both through its involvement in the reverse repo market and through the maintenance of excess reserves via a larger balance sheet.
- In the paper mentioned above, the authors also advised readers to, “Keep in mind that the Fed’s operations in financial markets before the crisis were generally quite small and were aimed at affecting conditions in the federal funds market, a relatively small market. A large overnight reverse repurchase agreement facility could potentially expand the Federal Reserve’s role in financial intermediation and reshape the financial industry over time in ways that are difficult to anticipate in advance.”
- While markets responded positively to Powell’s comments on policy *stance*, the underlying implications related to policy *methods* may pose other risks down the road that at present are not easily discernable.



*Ihrig, Jane E., et al. “Rewriting Monetary Policy 101: What’s the Fed’s Preferred Post-Crisis Approach to Raising Interest Rates?” *Journal of Economic Perspectives*, vol. 29, no. 4, 2015, pp. 177–198., doi:10.1257/jep.29.4.177.



Creating transformational improvement in the retirement savings industry.

Milliman Financial Risk Management LLC is a global leader in financial risk management to the retirement savings industry. Milliman FRM provides investment advisory, hedging, and consulting services on \$141.9 billion in global assets (as of December 31, 2018).

Established in 1998, the practice includes professionals operating from three trading platforms around the world (Chicago, London, and Sydney).

Milliman is among the world's largest providers of actuarial and related products and services. The firm has consulting practices in healthcare, property & casualty insurance, life insurance and financial services, and employee benefits. Founded in 1947, Milliman is an independent firm with offices in major cities around the globe.

MILLIMAN.COM/FRM

Chicago

71 South Wacker Drive
Chicago, IL 60606
+1 855 645 5462

London

11 Old Jewry
London
EC2R 8DU
UK
+44 0 20 7847 1557

Sydney

32 Walker Street
North Sydney, NSW 2060
Australia
+610 2 8090 9100

Recipients must make their own independent decisions regarding any strategies or securities or financial instruments mentioned herein.

The S&P Managed Risk Index Series is generated and published under agreements between S&P Dow Jones Indices and Milliman Financial Risk Management LLC.

The products or services described or referenced herein may not be suitable or appropriate for the recipient. Many of the products and services described or referenced herein involve significant risks, and the recipient should not make any decision or enter into any transaction unless the recipient has fully understood all such risks and has independently determined that such decisions or transactions are appropriate for the recipient.

Past performance is not indicative of future results. Index performance information is for illustrative purposes only, does not represent the performance of any actual investment or portfolio, and should not be viewed as a recommendation to buy/sell. It is not possible to invest directly in an index. Any hypothetical, backtested data illustrated herein is for illustrative purposes only, and is not representative of any investment or product.

Any discussion of risks contained herein with respect to any product or service should not be considered a disclosure of all risks or a complete discussion of the risks involved.

The recipient should not construe any of the material contained herein as investment, hedging, trading, legal, regulatory, tax, accounting or other advice. The recipient should not act on any information in this document without consulting its investment, hedging, trading, legal, regulatory, tax, accounting and other advisors.

The materials in this document represent the opinion of the authors and are not representative of the views of Milliman, Inc. Milliman does not certify the information, nor does it guarantee the accuracy and completeness of such information. Use of such information is voluntary and should not be relied upon unless an independent review of its accuracy and completeness has been performed. Materials may not be reproduced without the express consent of Milliman.

MIL_COM_1 1/19_1/20 © 2018 Milliman Financial Risk Management LLC

