DELPHI DIGITAL

U.S. Monetary Policy Update & Off The Chain Charbook

Thematic Insights

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Major Central Bank Easing Underway

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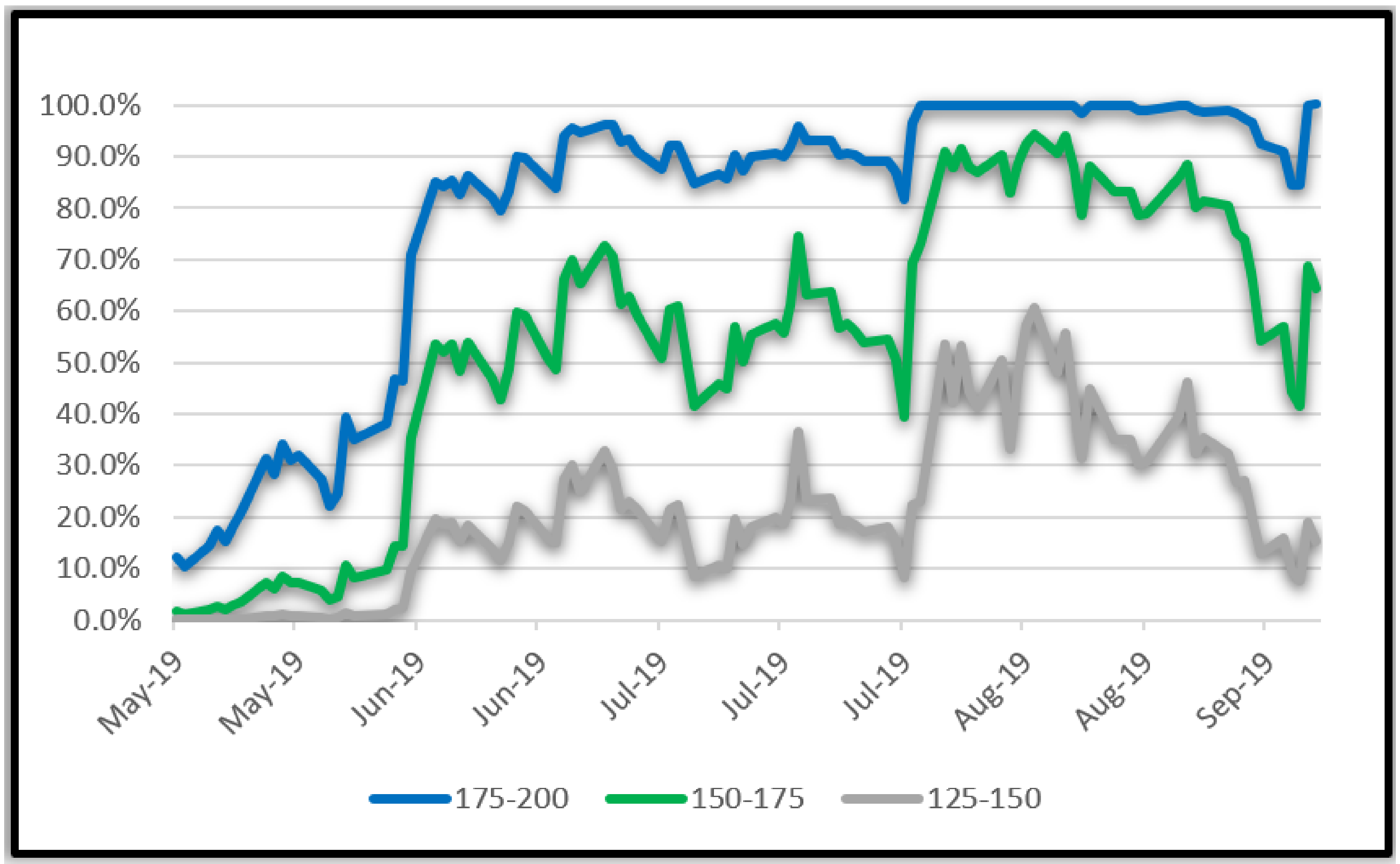
The Federal Open Market Committee (FOMC), the arm of the Federal Reserve responsible for setting monetary policy, announced a 25 basis point (bps) reduction in its benchmark interest rate on Wednesday, bringing its target range for the Fed Funds rate down to 175-200 bps. This marked the second consecutive reduction following July's FOMC meeting, which was the first rate cut by the U.S. central bank in over 10 years. The Fed also set the IOER (interest on excess reserves) 20 bps below the upper bound of its benchmark target range (1.8%), in part to address the recent funding squeeze in the repo market (*which we'll address in this week's market commentary*). This follows the European Central Bank's (ECB) latest policy announcement late last week, which included both a 10 bps cut to its deposit rate and a fresh €20 billion/month asset purchase program set to begin in November. **The next wave of monetary stimulus appears to be underway.**

Fed Funds Rate Probabilities (Dec.'19 Meeting)

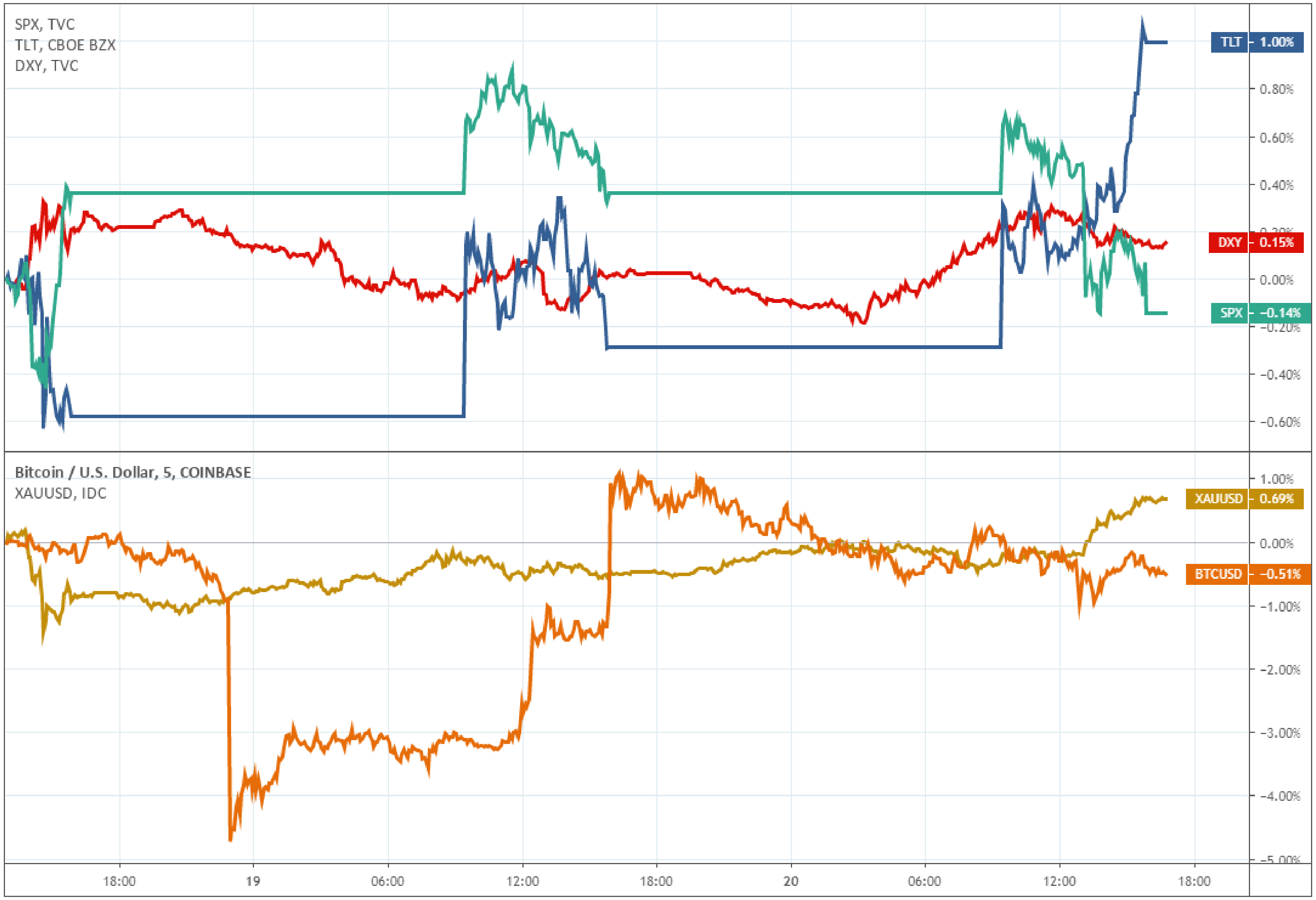


Data as of September 2019
Source: The CME Group

Market Expected More

A rate cut is typically considered a dovish move as it reduces the overnight interbank lending rate. **However, it became evident quickly the Fed's 25 bps cut and subsequent commentary during its post-meeting press conference were more hawkish than the market expected.** Treasury yields rose (both at the short and the long end of the curve), U.S. equities dipped initially but ended the day in positive territory, gold declined, and the U.S. dollar strengthened a bit (though its fluctuated since).

Market Reactions to FOMC Decision (Normalized to 1pm ET on 09/18/19)



Data as of September 2019

Source: Cboe, S&P Dow Jones, ICE, TradingView

Yield Curve Flattening

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Another motivation for a rate cut is to try and steepen the yield curve, which in the U.S. has flattened considerably over the last couple years. In fact, the spread between U.S. 10-Year and 2-Year Treasury yields turned negative at the end of August, marking the first 10s2s yield curve inversion in more than a decade. Interestingly, **this spread flattened further following the Fed's rate cut decision**, which was another sign the market was positioned for more dovish commentary.

U.S. 10-Year - 2-Year Treasury Yield Spread

Data as of September 2019
Source: TradingView

"Mid-Cycle Adjustment"

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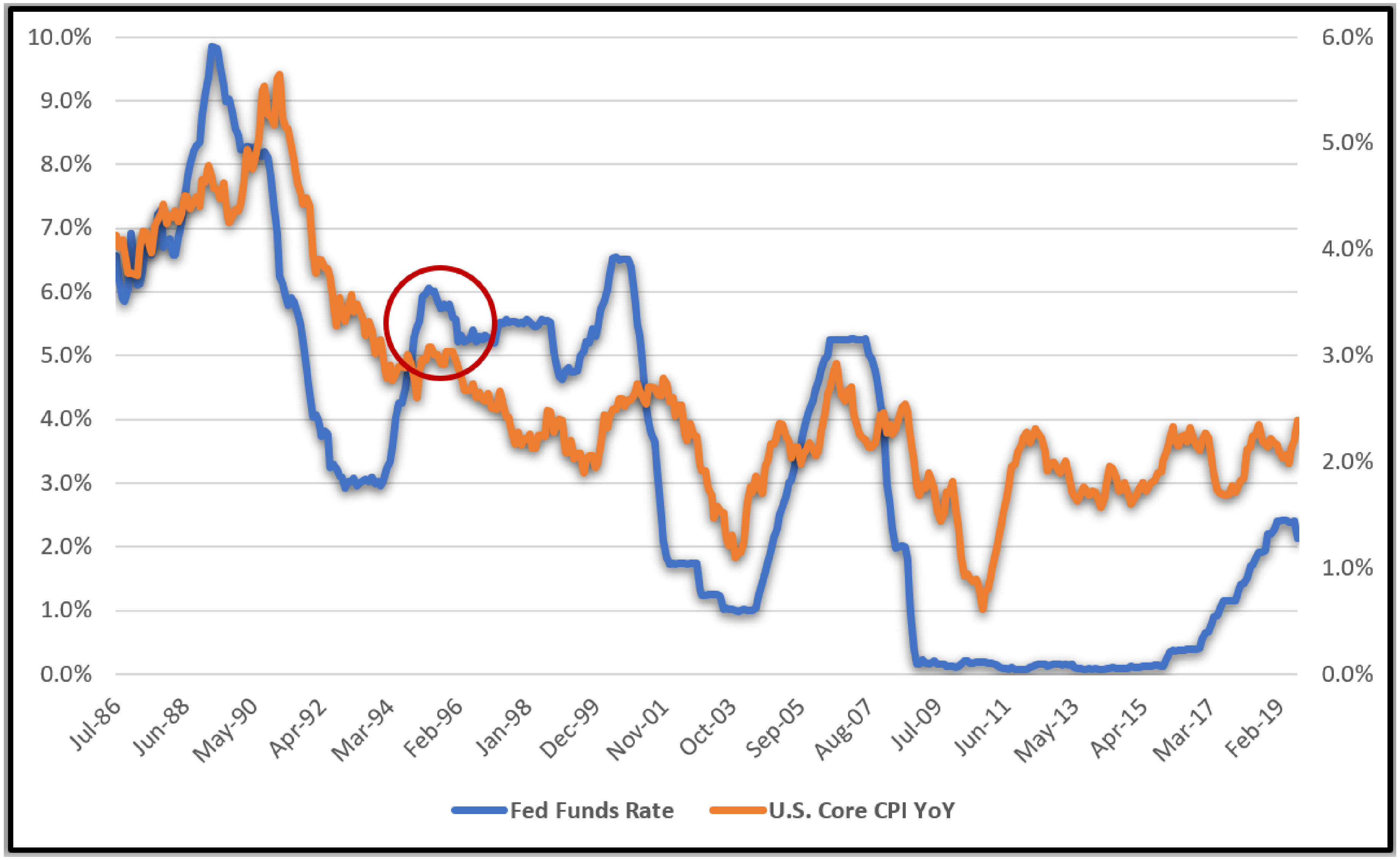
In the mid-90s, the Fed cut its benchmark interest rate by 75 bps between July 1995 and January 1996 as “insurance” against the rising risk of recession. Looking back, this proved to be somewhat effective as the U.S. fought off a mid-90s recession and domestic growth picked up. The comparison to today is similar in some respects, enough so to prompt Fed Chair Jerome Powell to refer to the July rate cut as a “mid-cycle adjustment” rather than a desperate need for more accomodative policies.

There are several differences between the current U.S. economic situation and that of the mid-90s, particularly the lack of inflationary pressure. **Technology, for example, has undoubtedly had a sizable impact on the price of consumer goods** and yet is often overlooked a primary cause of today’s tepid inflation readings.

Growing debt burdens and an aging population have also contributed to the downtrend in economic growth, neither of which is likely to reverse course anytime soon.

Fed Funds Rate vs. U.S. Core CPI YoY



Data as of September 2019

Source: TradingView

Federal Reserve Gets More Divided

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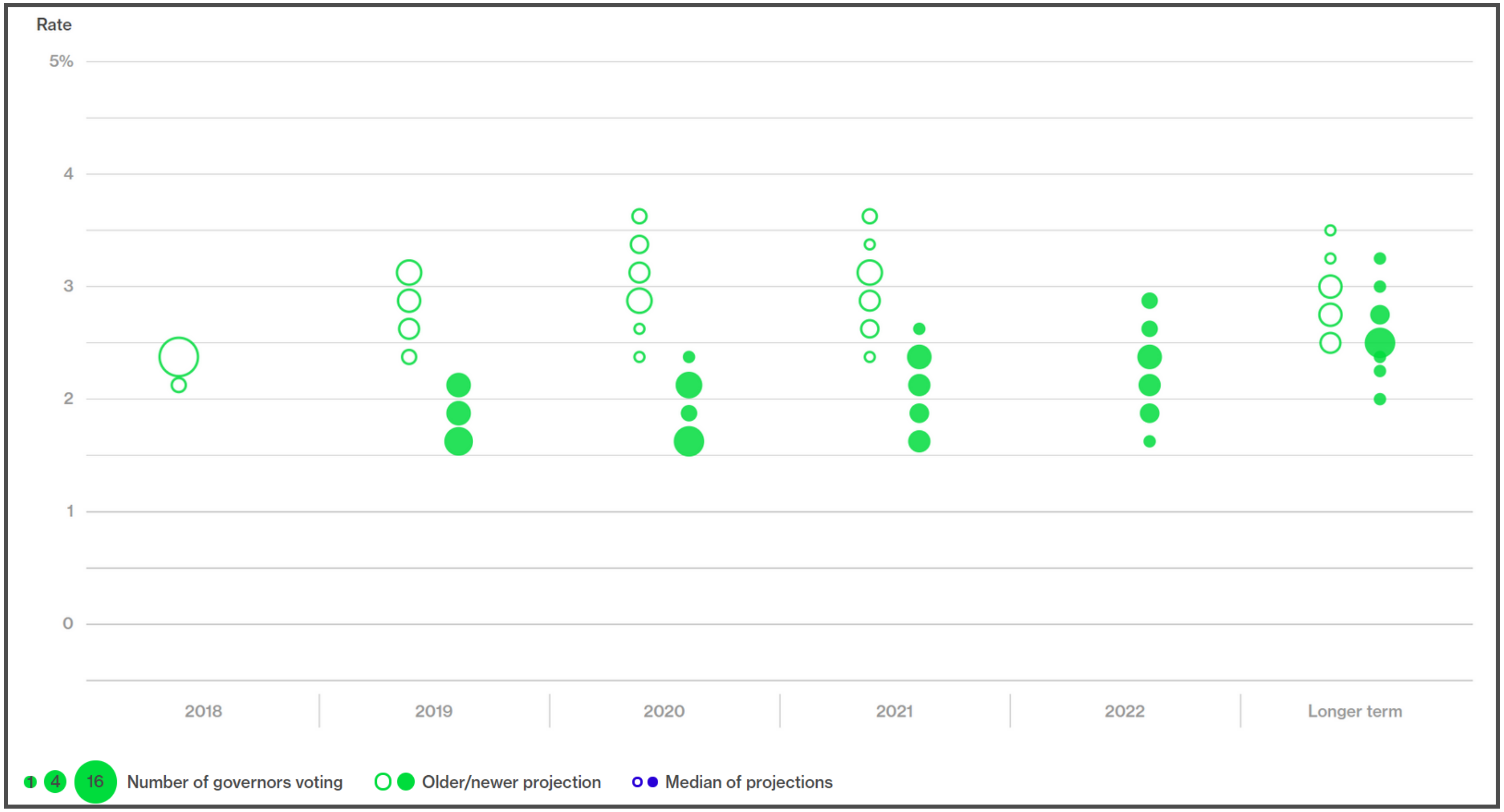
This week's 25 bps rate cut was the second in a row for the Fed as it attempts to combat the adverse economic effects of trade uncertainty (despite the inflationary pressure of tariffs). The tone from Powell & Co. still appears to be "data dependent", but U.S. central bankers are seemingly moving more towards a proactive than reactive stance. **That being said, there is a growing divide among regional Fed presidents about the appropriate path of future policy, with this most recent decision prompting the most dissents since December 2014.** The Fed's Dot Plot, which shows each Fed official's projection for the fed funds rate, **has shifted drastically since the end of 2018**, as shown below in a recent piece by Bloomberg. If the concerns around a global slowdown continue and key economic readings disappoint, the Fed will likely commit to a broader stimulus plan, potentially including a fresh asset purchase program to match its European peer.

Federal Reserve's Fed Funds Rate Projections (Dot Plot) - Dec. '18 vs. Sep.'19



Data as of September 2019

Source: Federal Reserve, Bloomberg

Many Faces of Inflation

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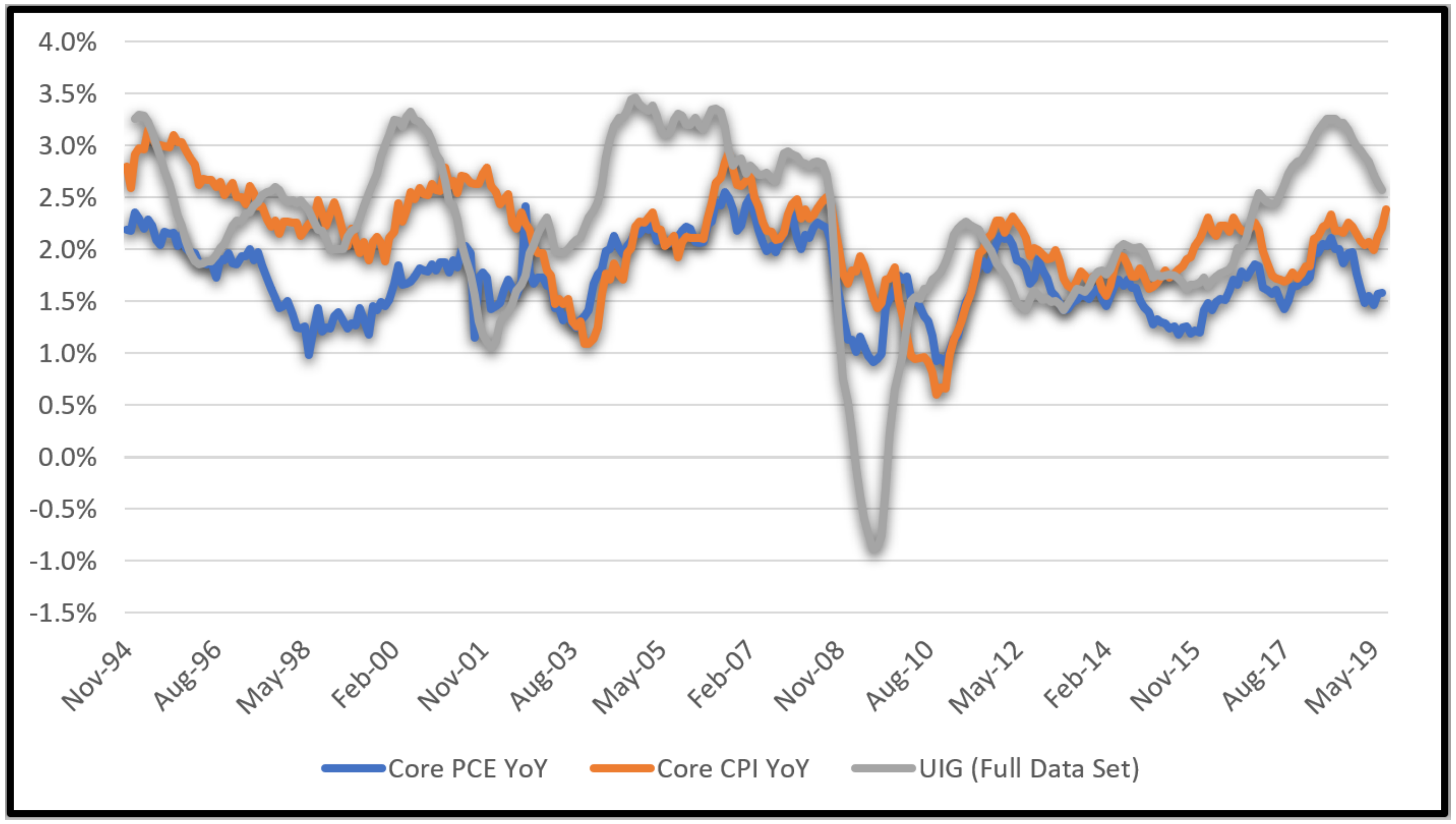
The Fed technically has two mandates: maximum employment and price stability. The first relates to how tight the labor market is (though the definition of "maximum" employment is a bit of a moving target) while the second hones in on inflation. Immediately following the Great Financial Crisis, the Fed cut its benchmark interest rate to essentially zero in an attempt to save the collapsing U.S economy. Since then, interest rates have hovered near historic lows for most of this cycle in part driven by central banks' efforts to boost demand, increase economic growth, and lift inflation. But growth has been modest and inflation has been tepid at best. So what went wrong?

For starters, **it's important to differentiate between consumer inflation and asset price inflation.** The Personal Consumption Expenditures Price Index (PCE), for example, is the Fed's preferred measure of inflation in the United States. It is often considered a broader gauge of household spending compared to Core CPI, its kissing cousin. The former inflation indicator has struggled to break much above 2% for most of this cycle while the latter has bounced around it, in part because of its heavier weighting towards real estate. Either way, both measures have disappointed policymakers and left many scratching their heads as to the root cause for such lackluster pricing pressure.

On the flip side, **asset prices have skyrocketed over the last ten years.** The S&P 500 has more than tripled since the depths of 2009 while the multi-decade long bull market in bonds has kept chugging along, despite countless calls for the "death of the bond bull."

Incorporating the **NY Fed's Underlying Inflation Gauge,** which includes "a wide range of nominal, real, and financial variables in addition to prices and focuses on the persistent common component of monthly inflation", we begin to see the stark difference among common measures of inflation.

Various Measures of U.S. Inflation



Data as of September 2019

Source: Federal Reserve of St. Louis, New York Federal Reserve

Increased Personal Savings

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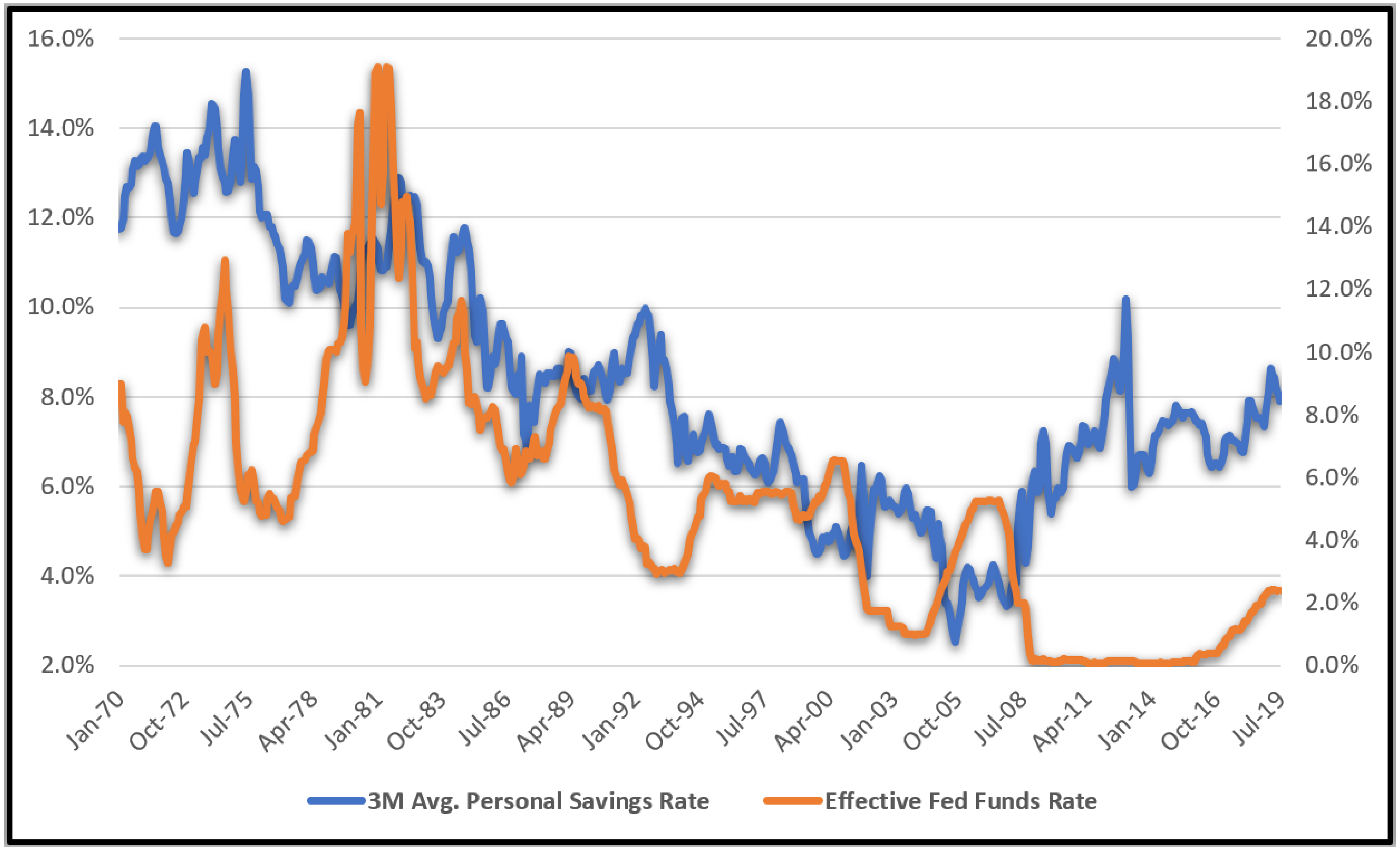
Lower rates try and stimulate the economy by encouraging spending over saving, but there's a certain point where the trend lower in rates inhibits consumption as people save more to make up for the lack of investment income they generate from their savings or fixed income assets. The personal savings rate has been trending higher much of this cycle, in part because of this substitition effect, causing some economists to **question the potential deflationary effects of keeping rates so low for so long.**

3M Avg. U.S. Personal Savings Rate vs. Fed Funds Rate



Data as of September 2019

Source: U.S. Bureau of Economic Analysis, Federal Reserve Bank of St. Louis

Deflationary Risks Rise

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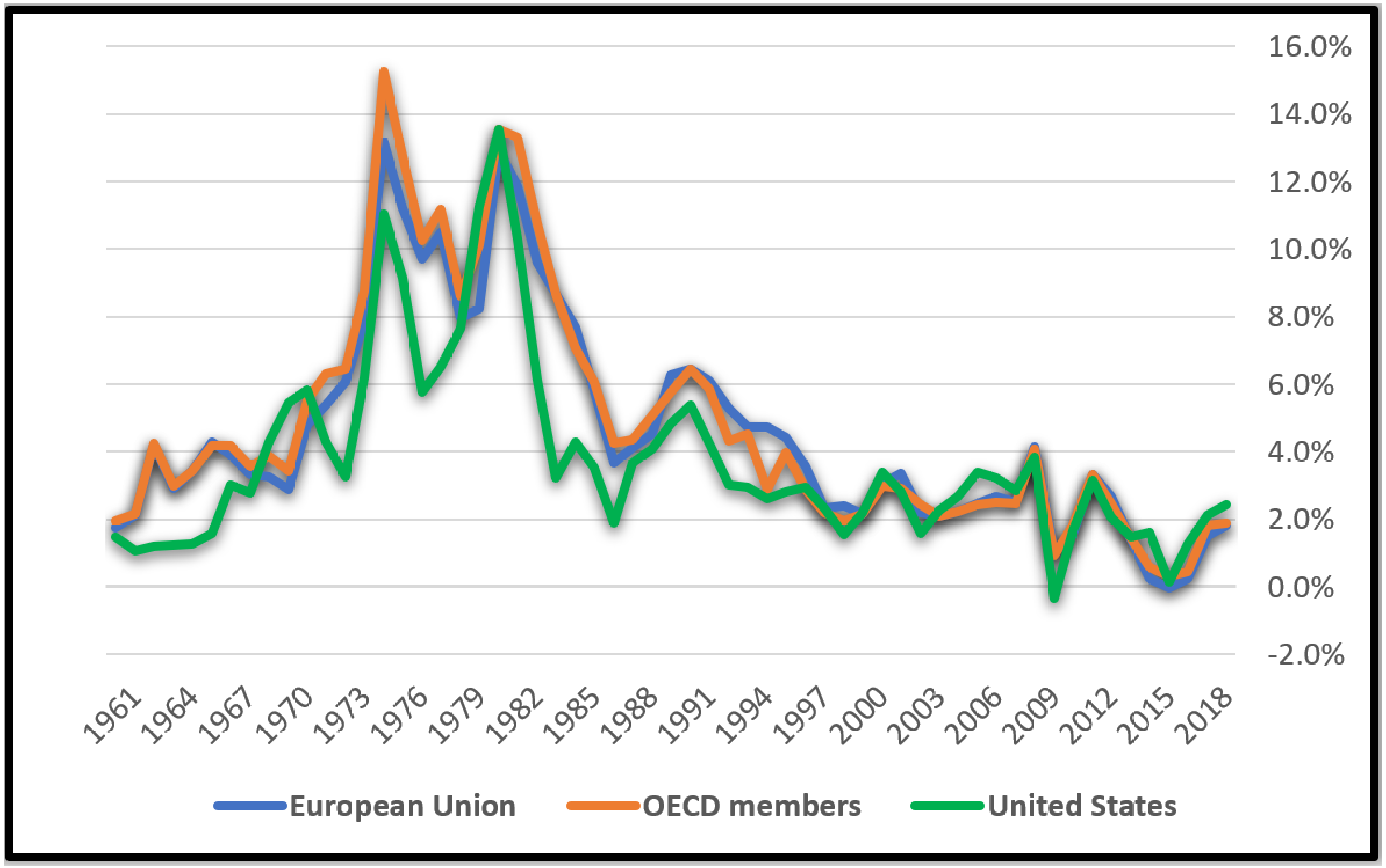
As we've noted, the Fed is currently stuck between a rock and hard place when it comes to the path of U.S. monetary policy. On the one hand, it can pause additional cuts until the data sends more dire signals and hope for a turnaround in economic activity. On the other hand, the Fed can follow its major peers in the race to the bottom on interest rates. The Fed seems to be leaning towards the latter option, citing the slowdown in economy activity and the ongoing U.S.-China trade war as justification for its more proactive approach. **In their defense, cutting rates seems to be the lesser of two evils. If lower rates or tariffs spur a sudden jump in domestic inflation, the Fed can move quickly to extinguish it by reversing course.**

The risk in this approach is lower rates leave less room for major cuts if things really take a turn for the worse. Historically, the Fed has hiked rates, often times to combat accelerating inflation, but tighter policies began to choke off the economy.

During the last few cycles, even as the Fed began cutting rates aggressively, inflation failed to materialize and even declined in a couple instances. **Arguably, there's a higher risk of deflation currently, especially if the U.S. imports disinflationary pressures from other developed economies.**

Inflation Across Regions Tracks Closely



Data as of September 2019
Source: World Bank

Off The Chain Chartbook

September 2019

U.S. Recession Risk Jumps

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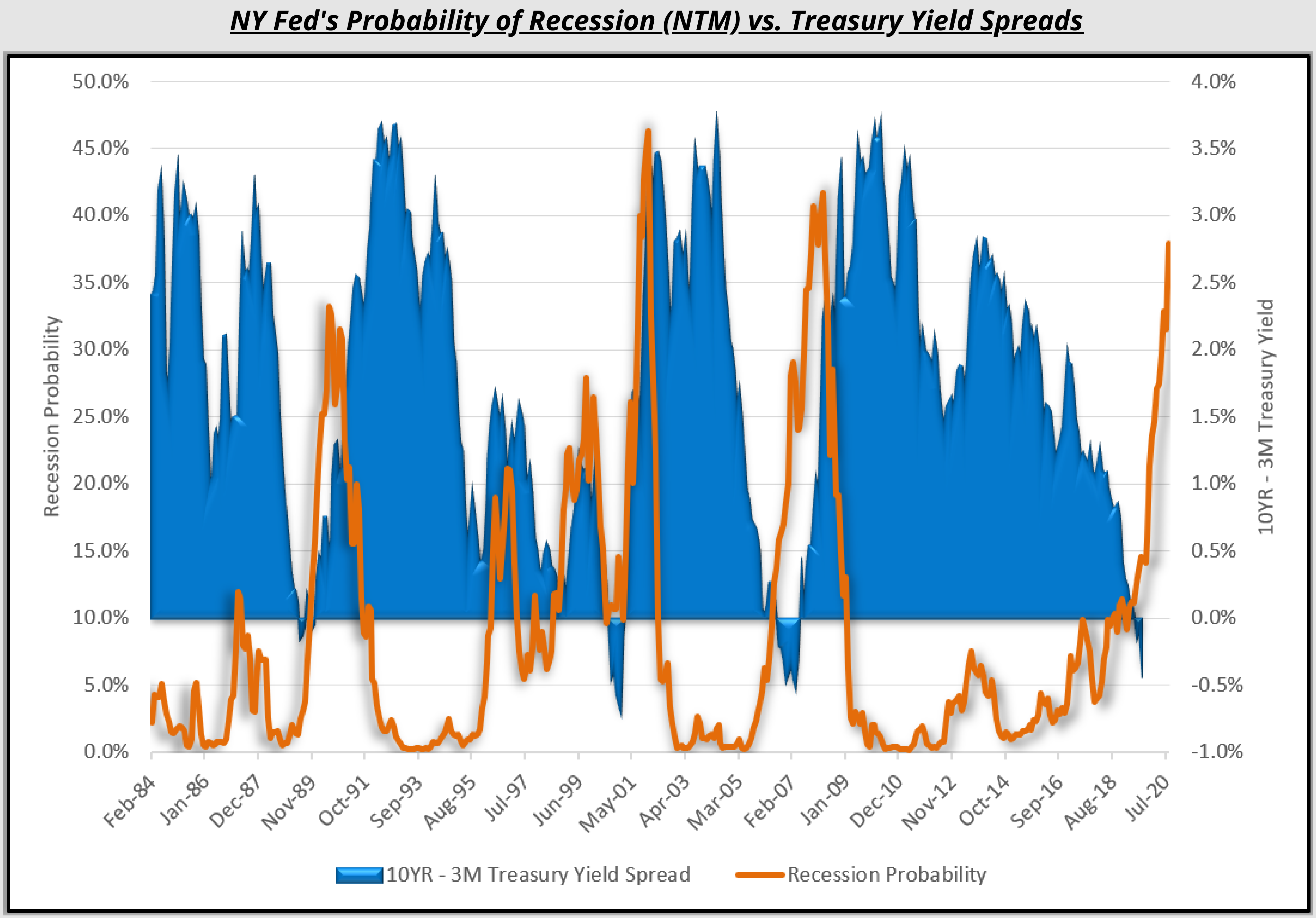

Data as of August 2019

Source: New York Federal Reserve Bank

Bitcoin Prefers Low Market Volatility

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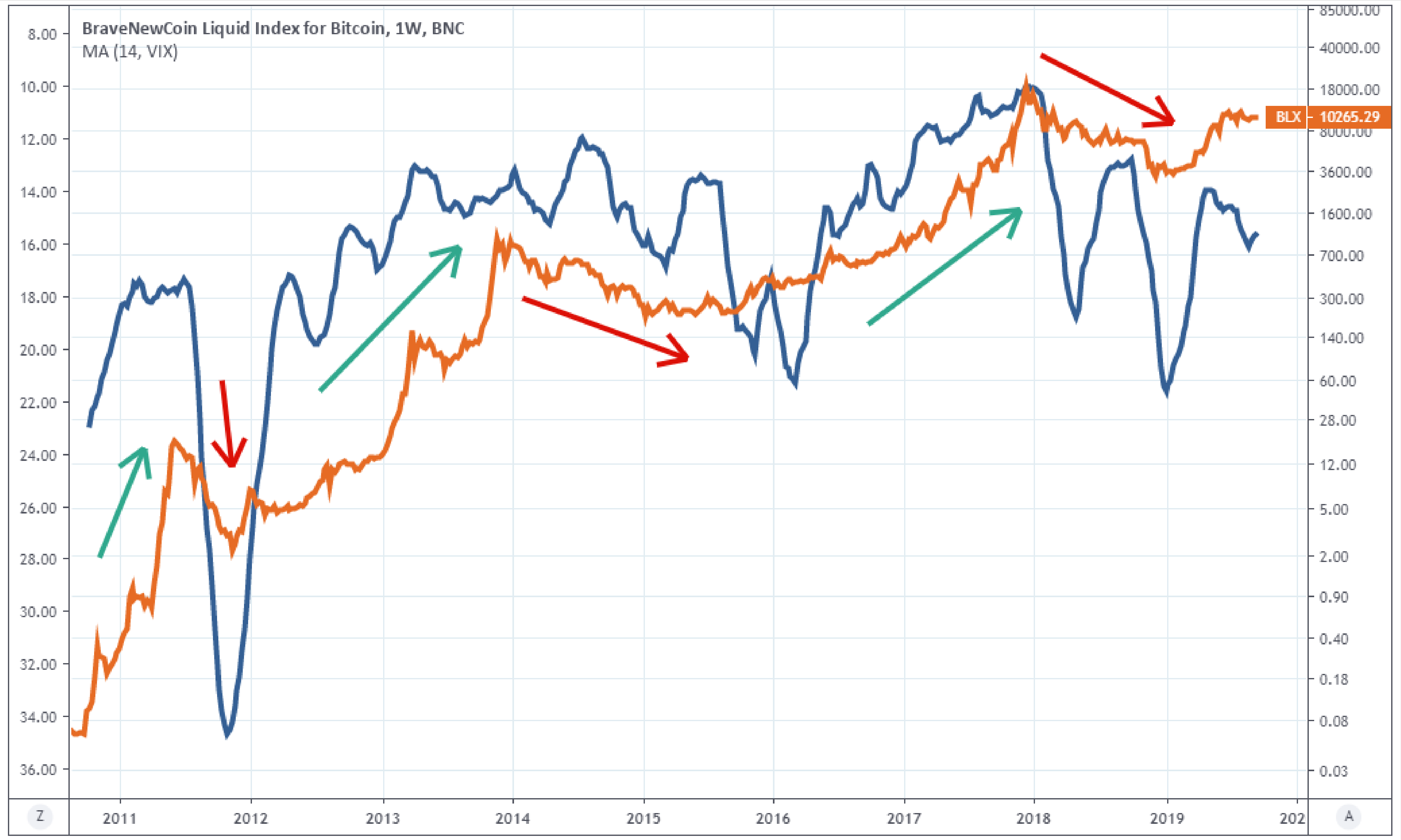
Bitcoin vs. 14-Day Moving Average of VIX Index (Inverted)



Data as of September 2019

Source: Cboe, Brave New Coin, TradingView

Next Decade Unlike The Last

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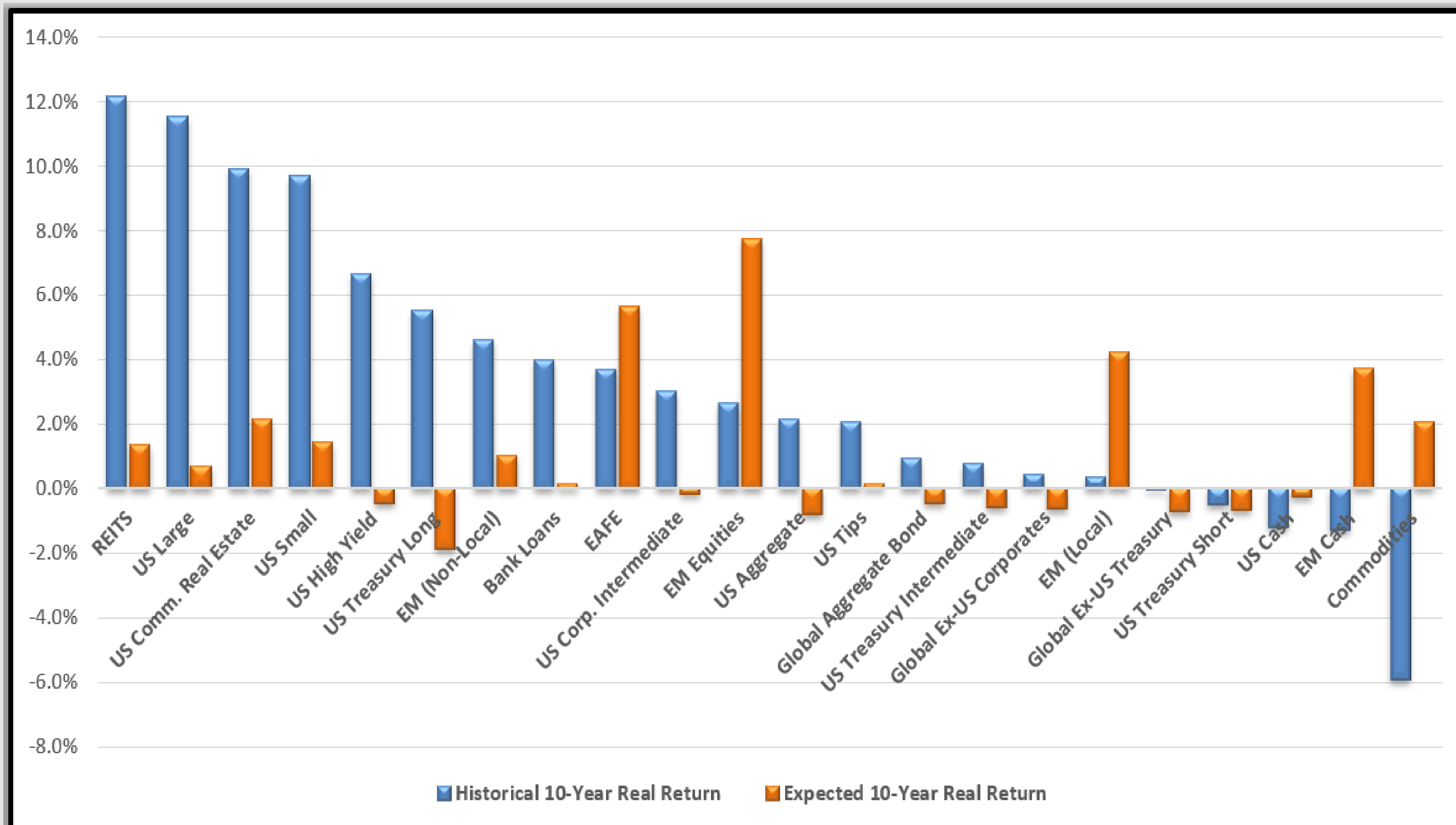
Historical Asset Class Real Returns vs. Expected Real Returns



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Data as of August 2019
Source: Research Affiliates

Federal Reserve's "Powell Pivot"

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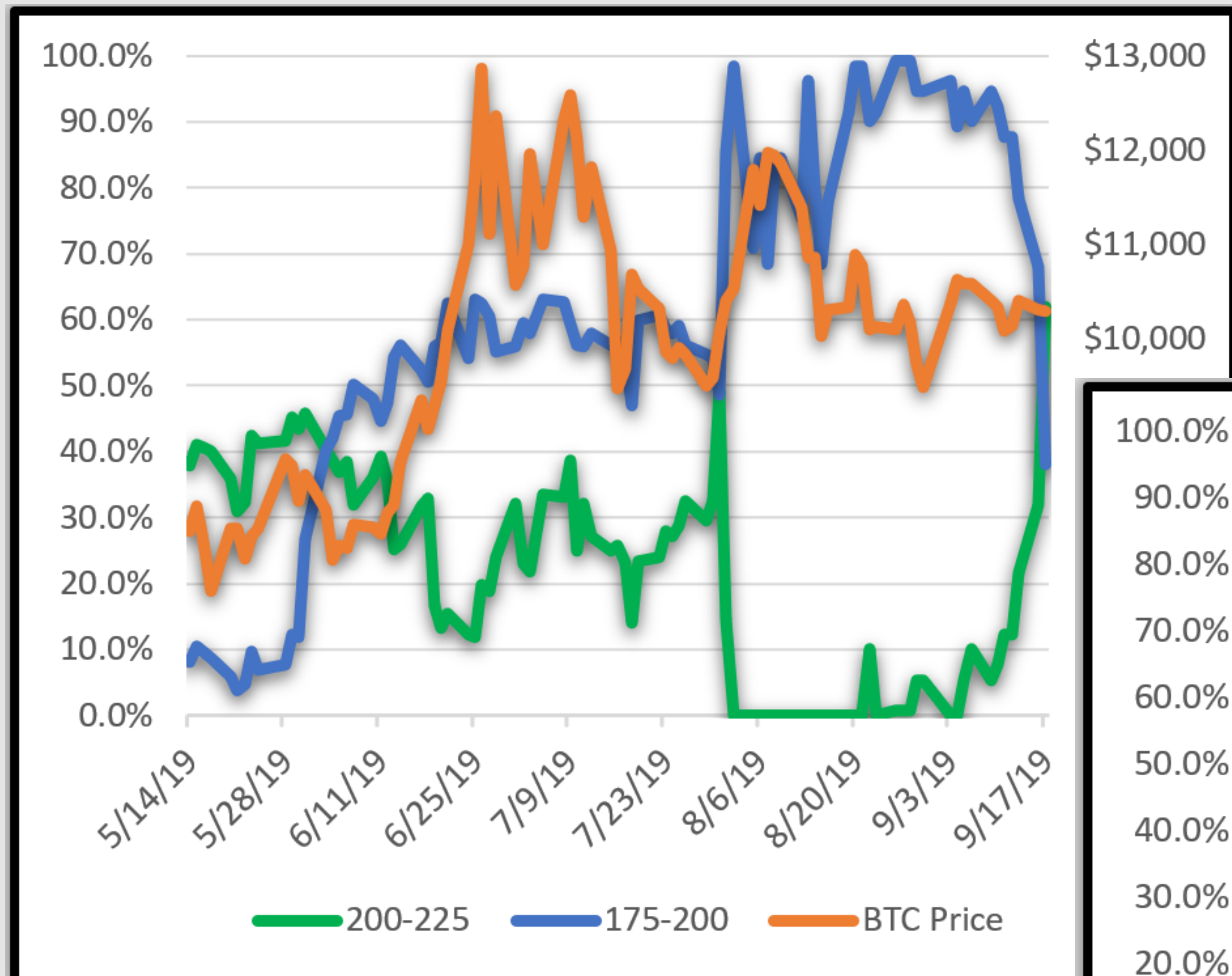
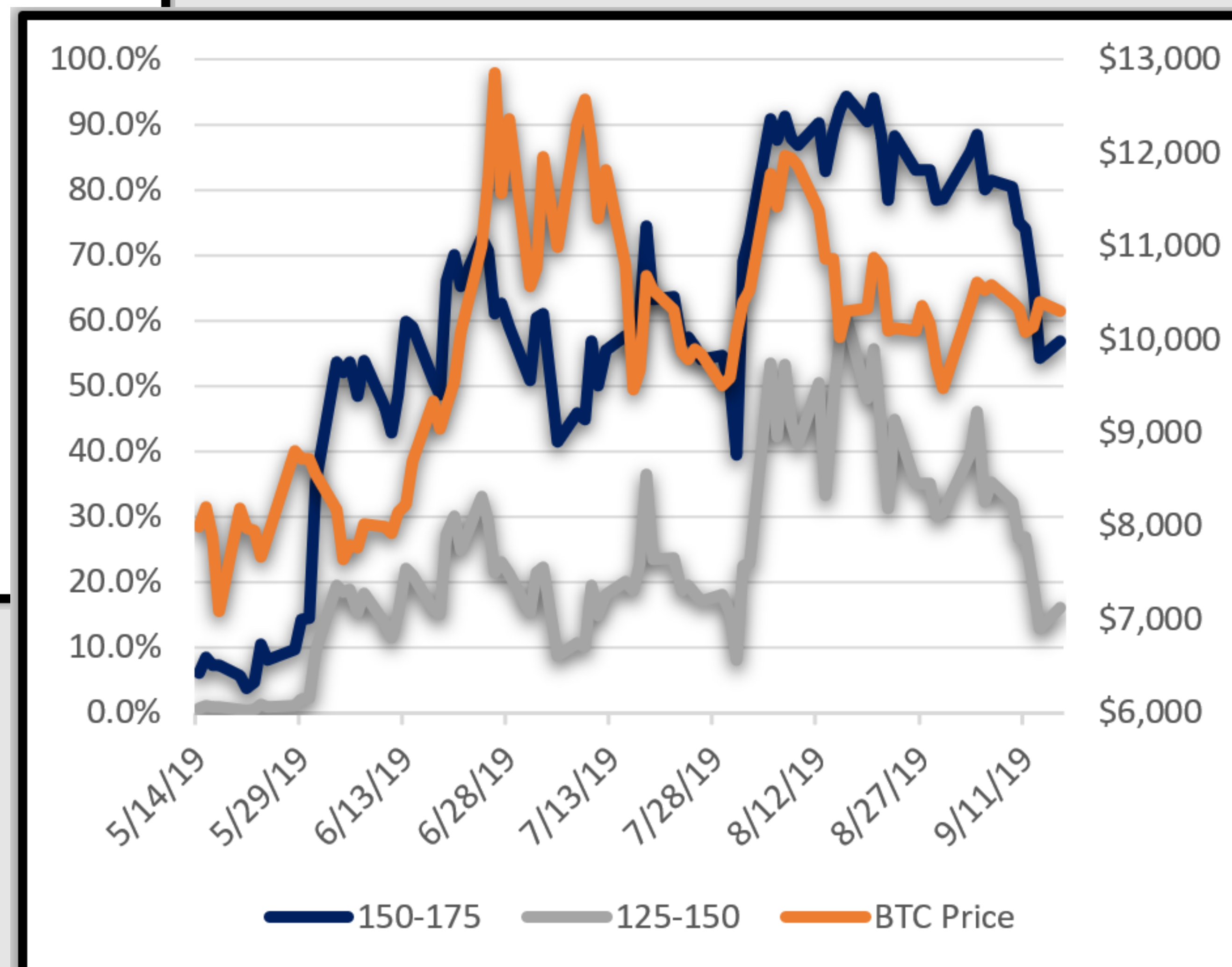
Fed Funds Futures Probabilities (Sep.'19 Meeting)



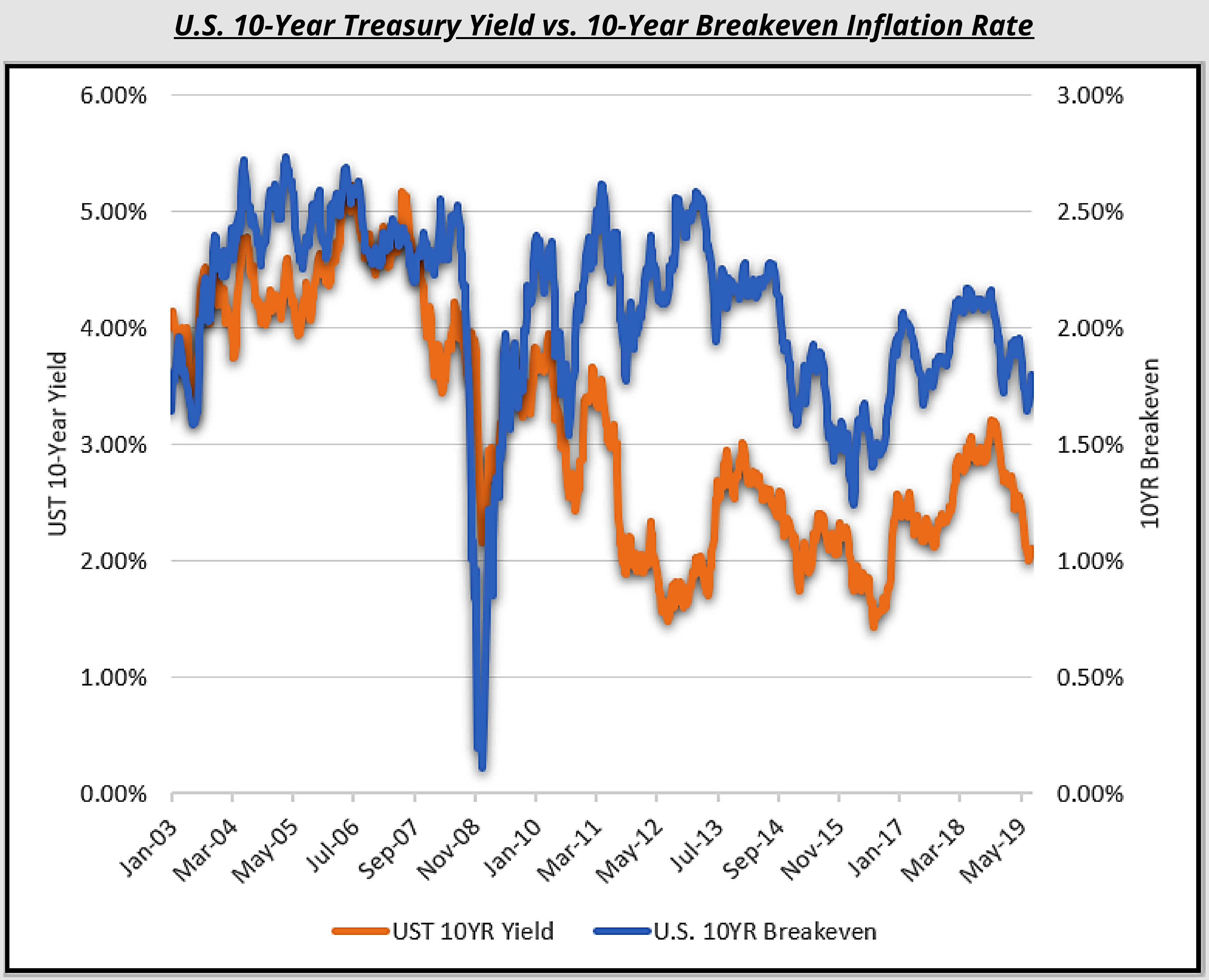
Fed Funds Futures Probabilities (Dec.'19 Meeting)



Data as of September 2019

Source: The CME Group, Coinmetrics.io

Inflation Expectations Falling



Data as of August 2019
Source: Federal Reserve Bank of St. Louis

Money Supply Growth Boosts Stocks

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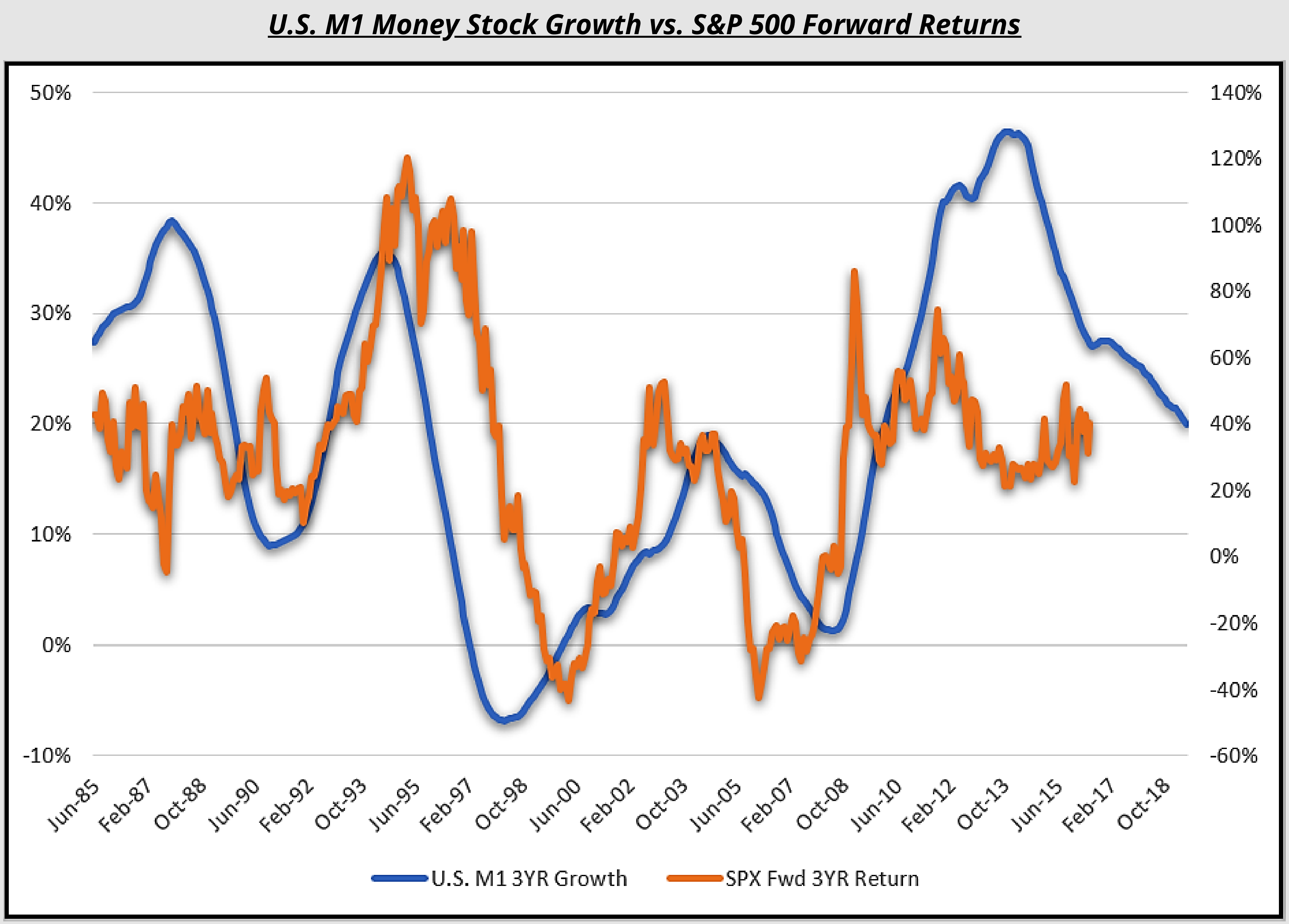

Data as of August 2019

Source: Federal Reserve Bank of St. Louis, S&P Dow Jones

Earnings Multiples Expand As Rates Fall

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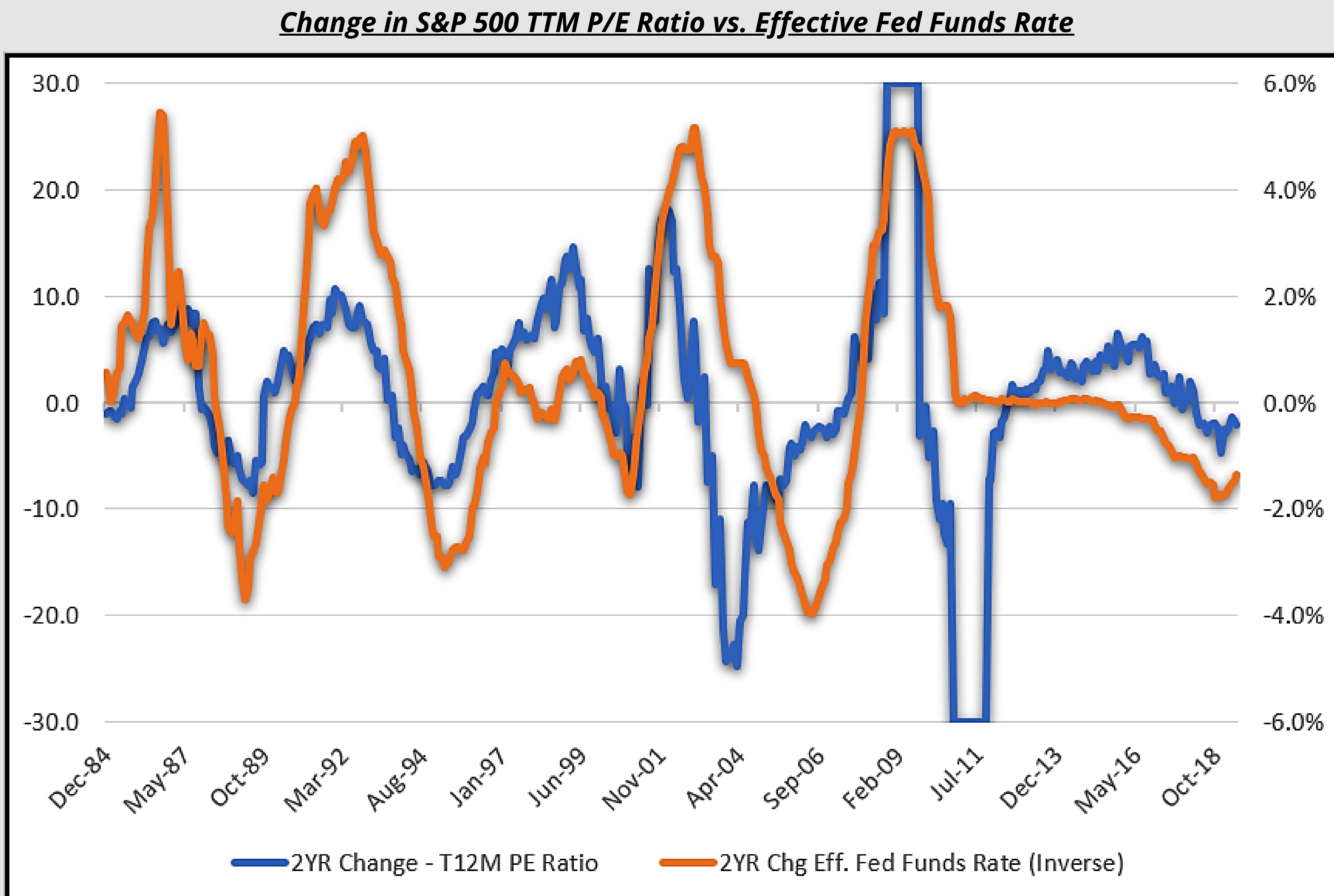

Data as of August 2019

Source: Federal Reserve Bank of St. Louis, S&P Dow Jones, Bloomberg

Many Faces of Inflation

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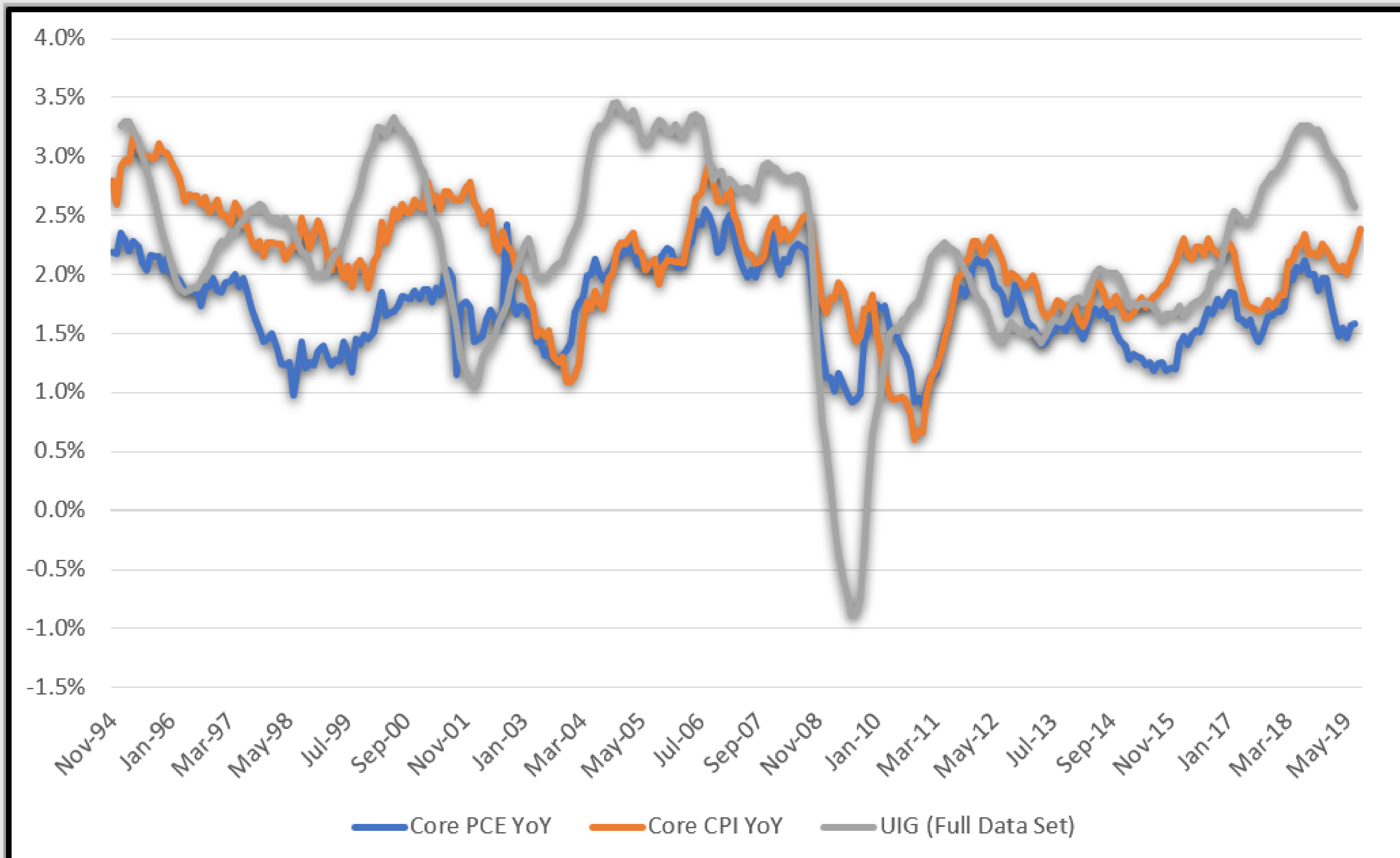
U.S. Inflation Measures (YoY % Change)

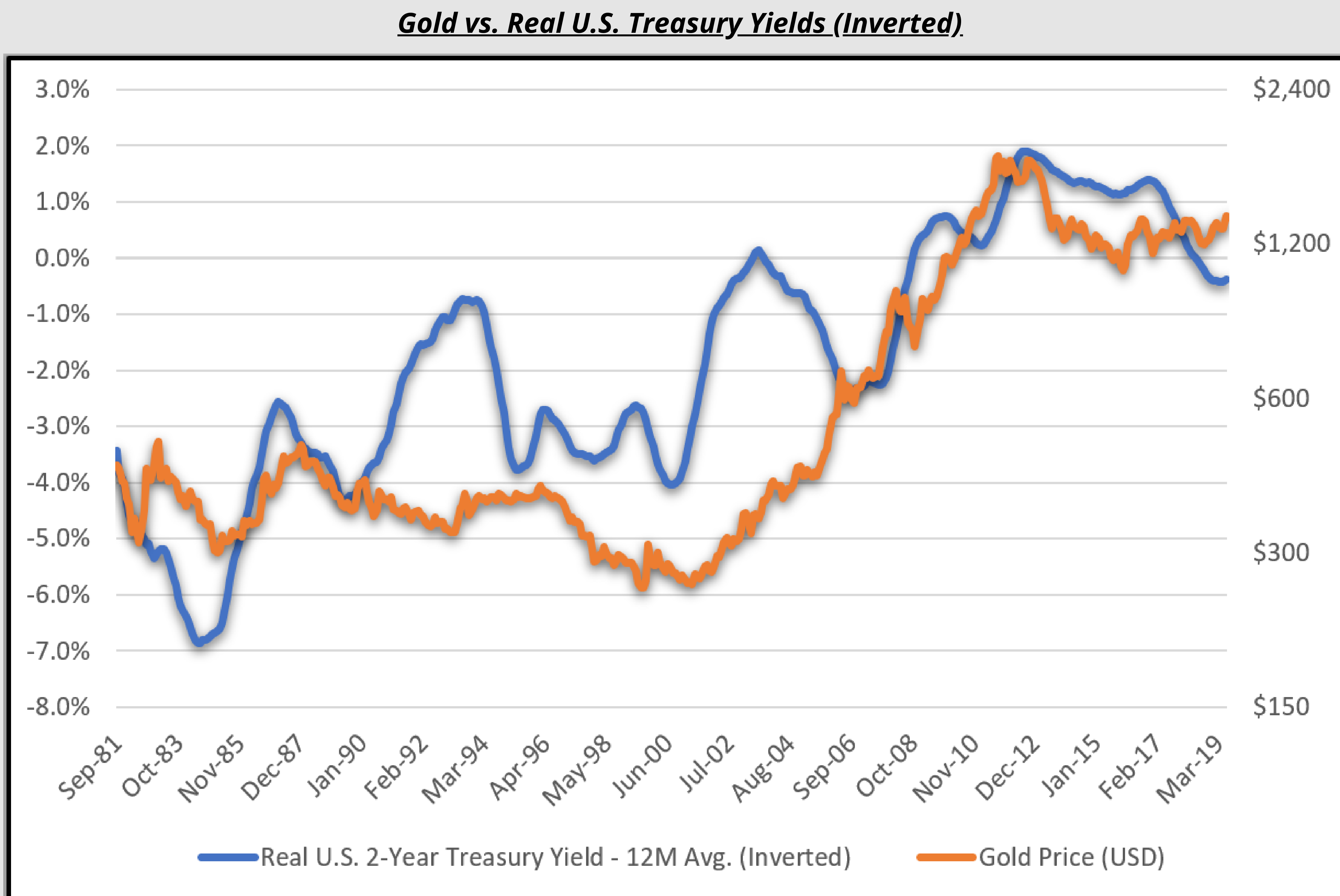


***UIG = "Underlying Inflation Gauge" calculated by the New York Federal Reserve Bank**

Data as of September 2019

Source: New York Federal Reserve Bank, Federal Reserve Bank of St. Louis

Falling Real Yields Boost Gold



Data as of August 2019

Source: New York Federal Reserve Bank, Federal Reserve Bank of St. Louis

Central Banks Buying Up Gold

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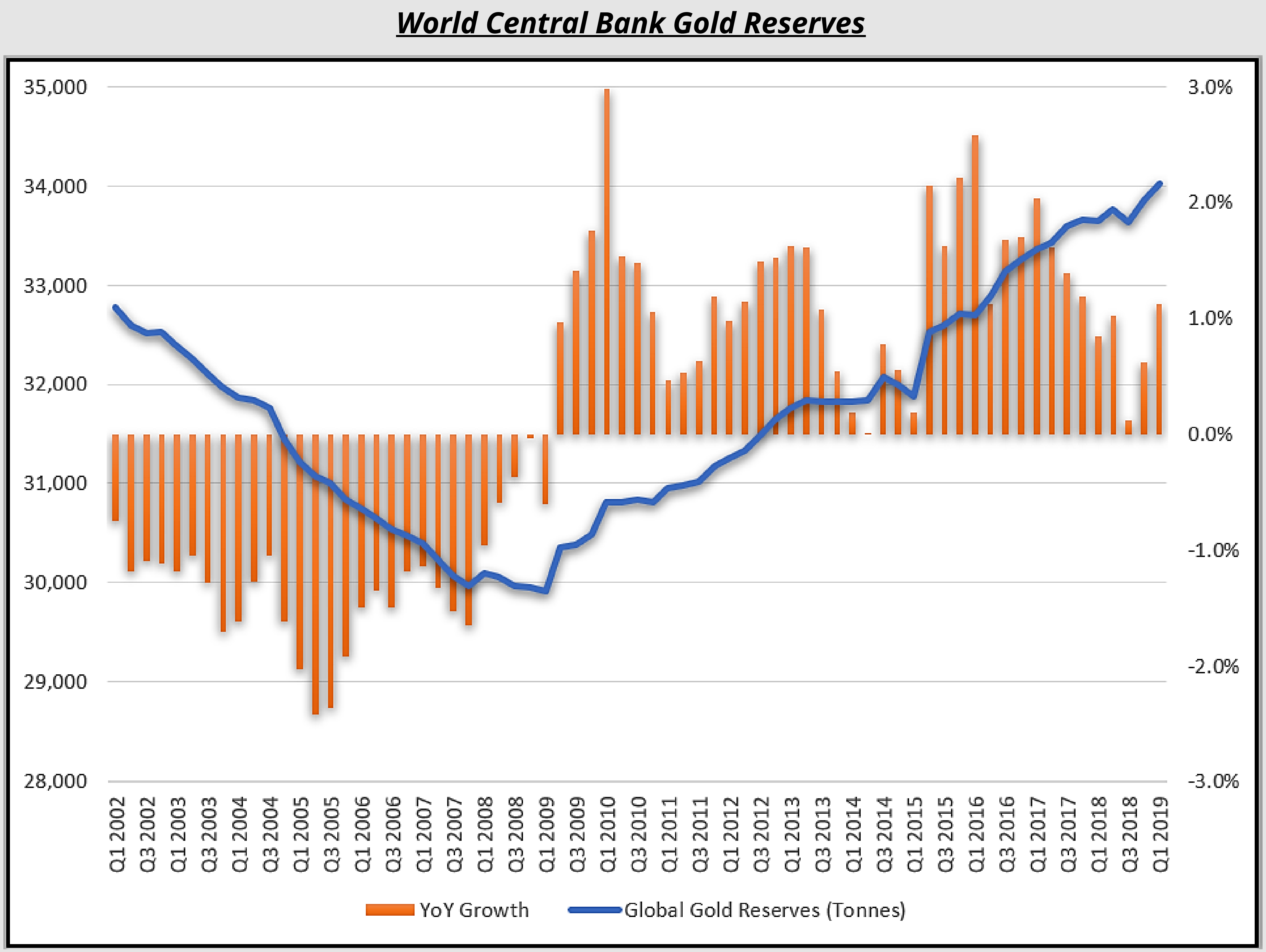

Data as of July 2019
Source: World Gold Council

Gold Performance - U.S. Recessions

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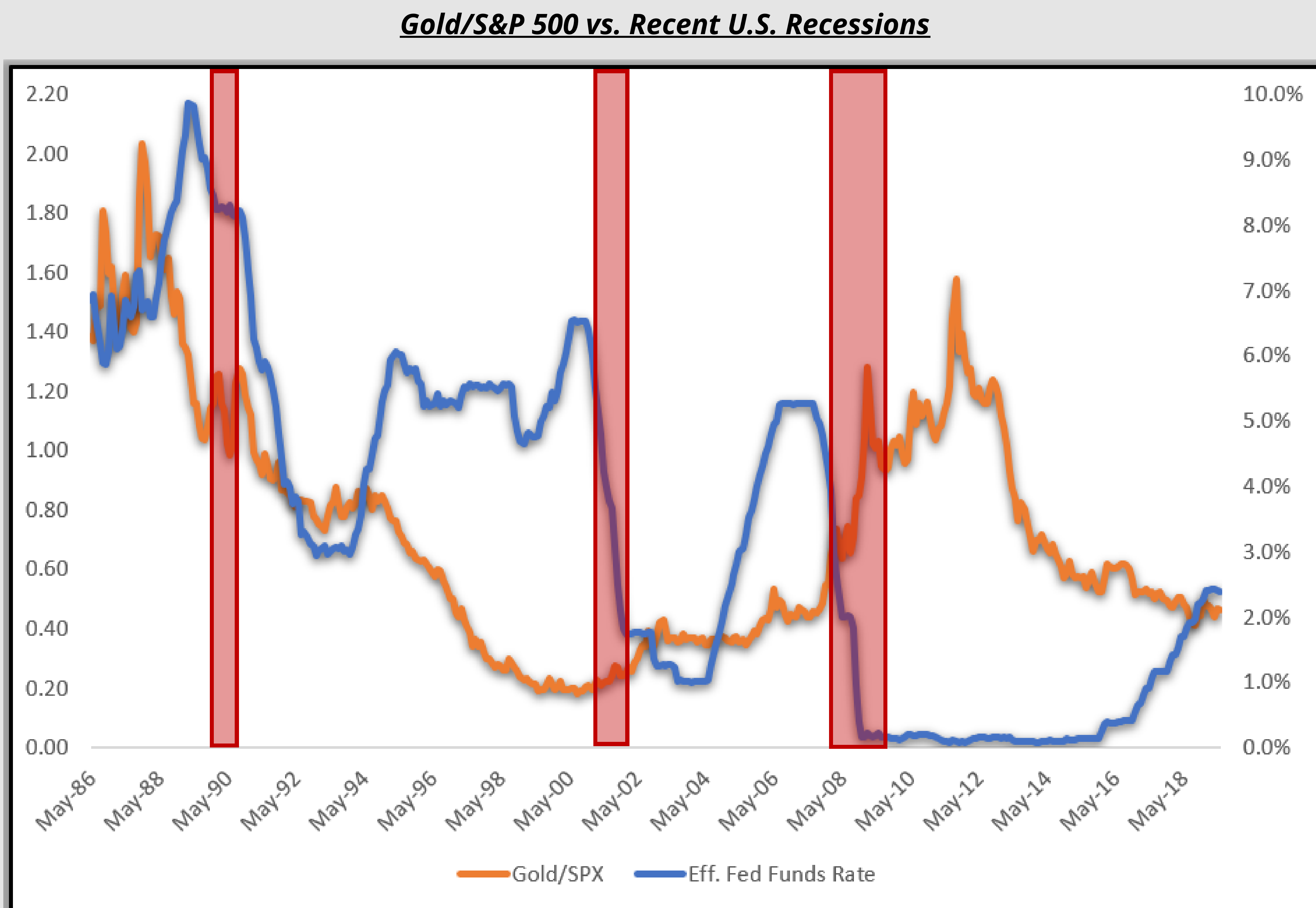

Data as of August 2019

Source: Federal Reserve Bank of St. Louis, S&P Dow Jones

Weaker Dollar Bullish for Gold

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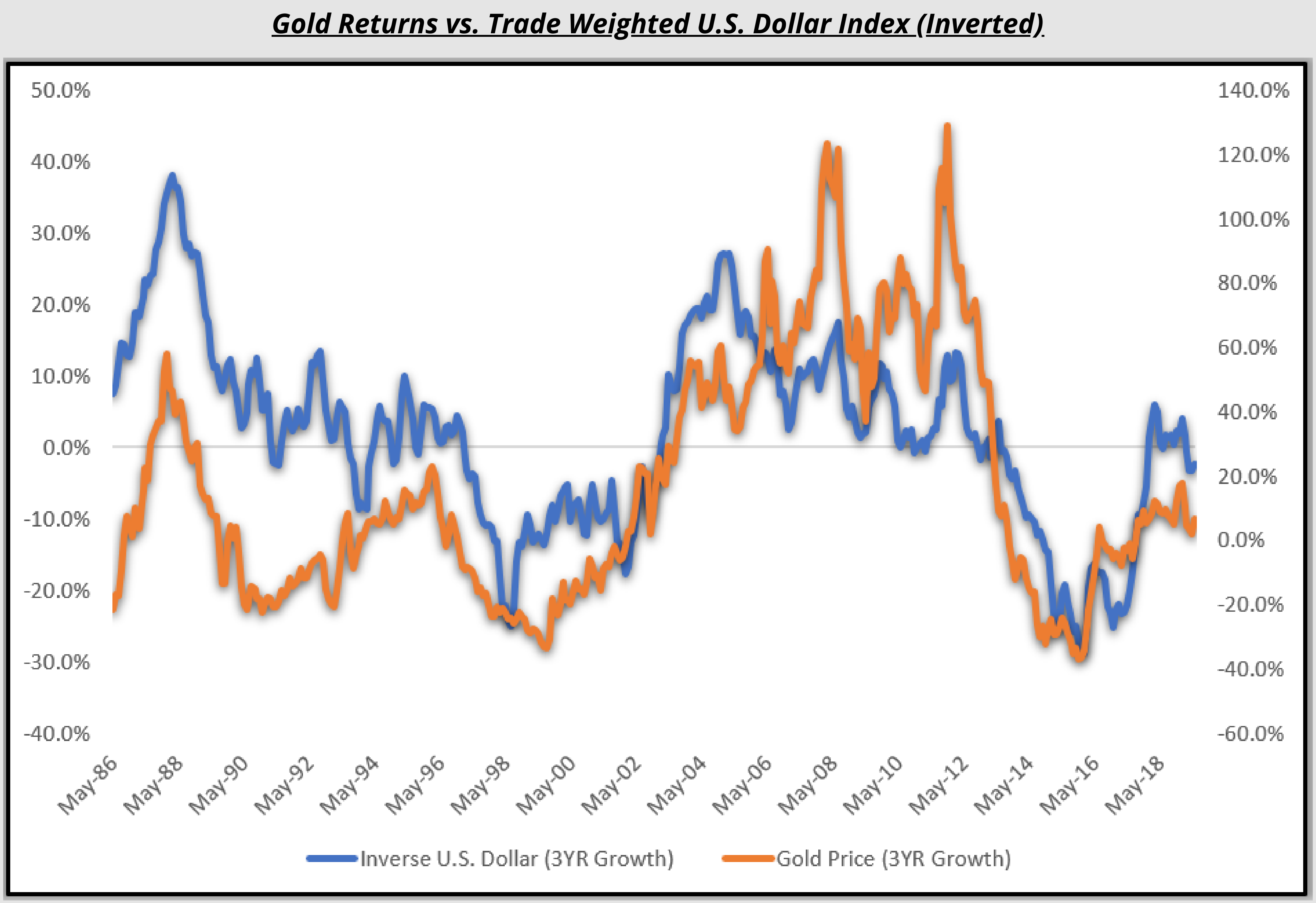
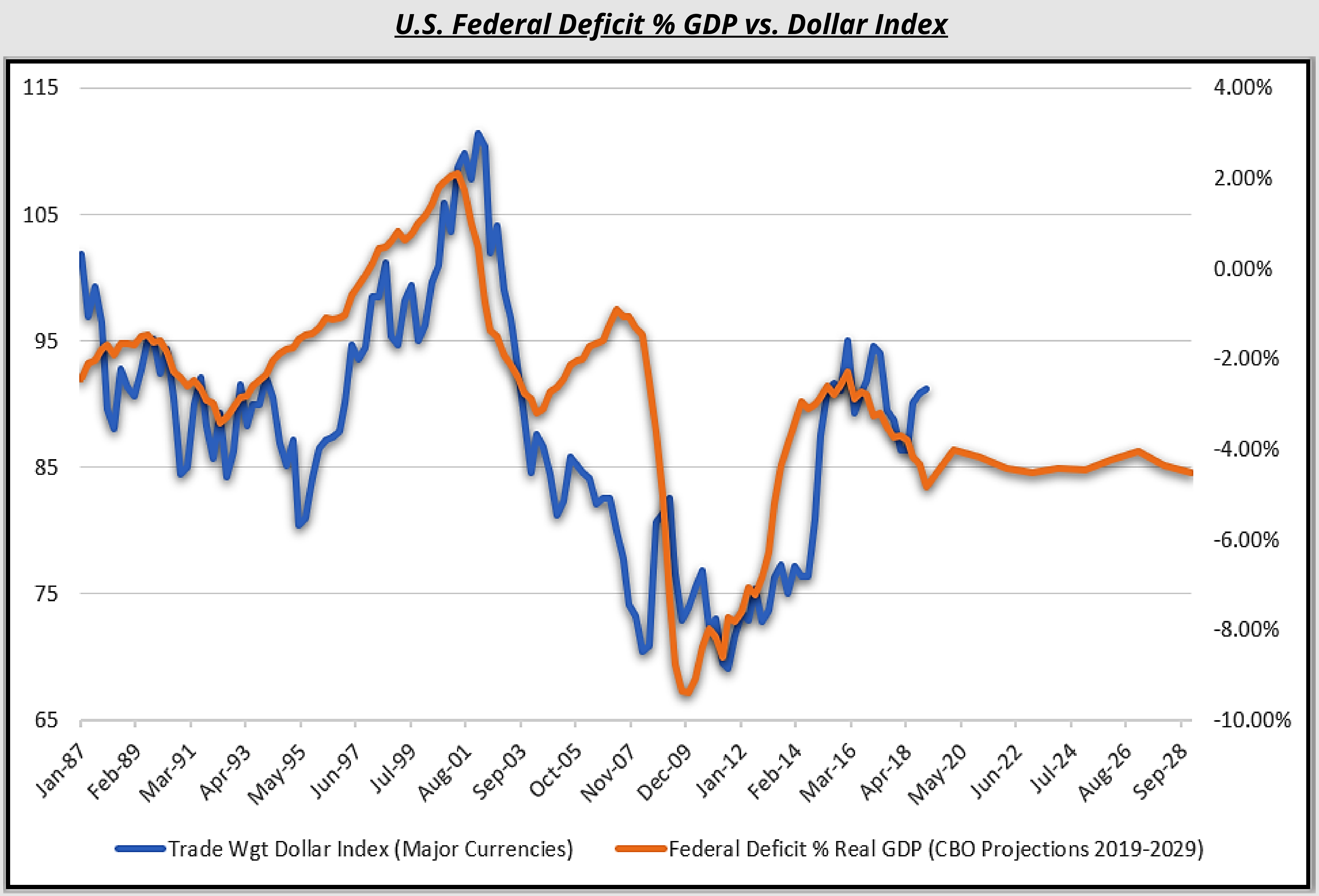


Data as of June 2019
Source: Federal Reserve Bank of St. Louis

Deficits Matter in the Long Run



Data as of August 2019
Source: Federal Reserve Bank of St. Louis, CBO

Emerging Markets Binge on Dollar Debt

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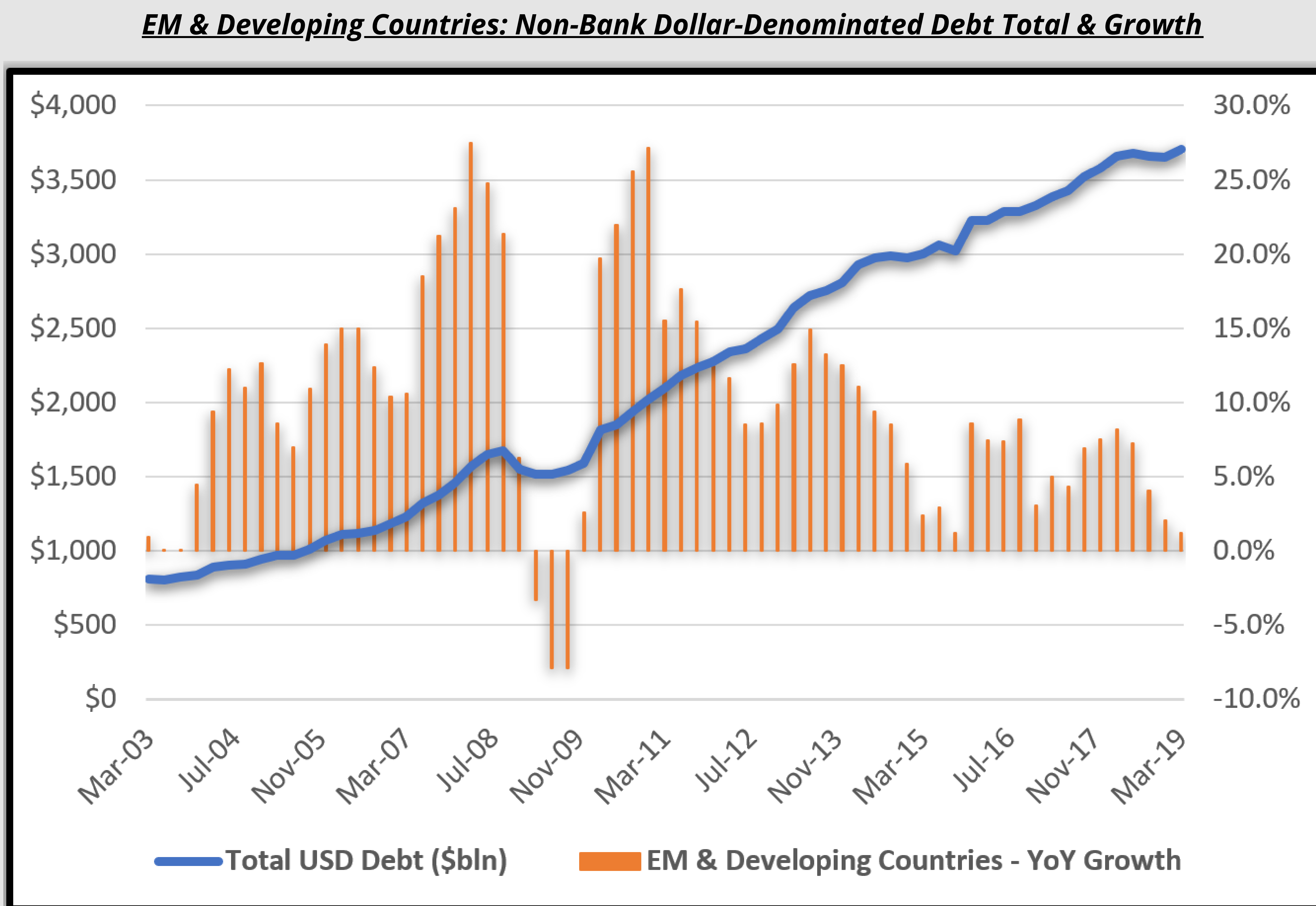

Data as of June 2019

Source: Bank for International Settlements

Strong Dollar Hurts Emerging Markets

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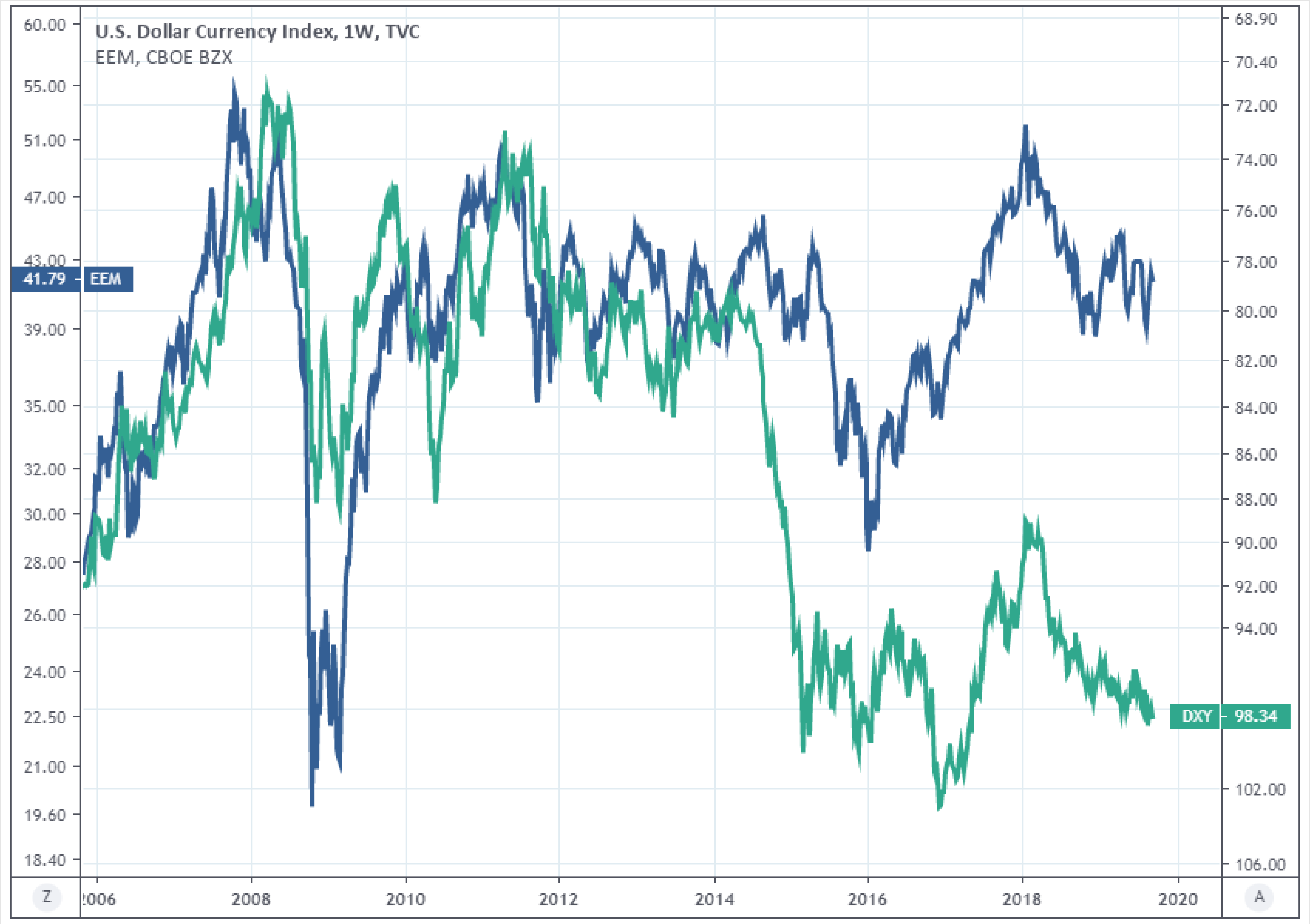
iShares MSCI Emerging Markets ETF (EEM) vs. U.S. Dollar Index (Inverted)



Data as of September 2019
Source: BlackRock, ICE, TradingView

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