

## Some Like It Hot: Fiscal Policy, Inflation and the Role of Real Assets

Of all the variables a new administration brings for investors, one of the trickiest to plan for is inflation. As QMA's Asset Allocation Team noted in our Q1 2017 Outlook & Review,<sup>1</sup> modest inflationary pressures were already building in the US economy before the president's victory ushered in the prospect of a broad array of pro-growth domestic policy proposals, each of which could have the unintended consequence of pushing prices higher. While it is hard to imagine a return to anything like the double-digit price increases of the 1970s, investors should not dismiss a scenario where inflation rises from an annual rate of 2.5% in January (the highest since 2012) to 4-5% by end of the decade.

One common way to hedge against inflation risk is to diversify portfolios with real assets – including real estate, commodities, infrastructure and Treasury Inflation-Protected Securities (TIPS) – that tend to perform better during inflationary periods. Over the past 20 years, liquid vehicles have been developed offering daily pricing and improved access to many of these asset types. However, each category comes with its own distinct risk and benefit profile that reacts very differently depending on what *form* inflation takes and how related factors such as interest rates, risk appetites and market volatility change over time. For example, commodities might be expected to surge in response to a rise in material prices spurred by a big infrastructure spending bill, but likely would not respond as favorably to a bout of stagflation that could be sparked by a trade war with China.

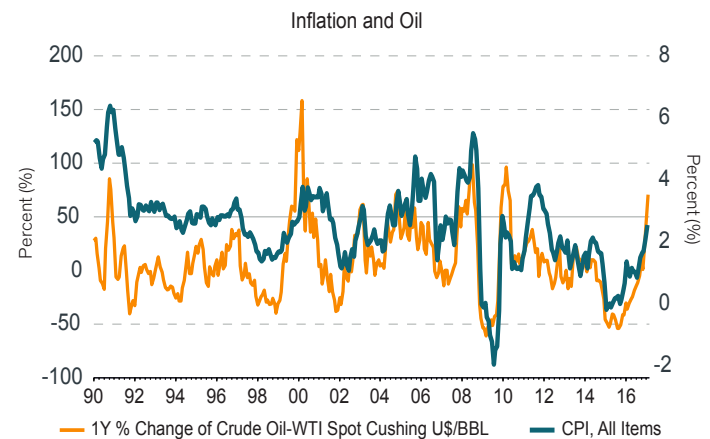
To provide investors with a better sense of what the coming environment might look like, QMA recently conducted an analysis of the historic returns for stocks, bonds and a variety of liquid real asset categories during normal and above-average inflation periods. Most striking was the lasting impact even seemingly modest shifts in the inflationary environment can have on inflation-adjusted asset values, particularly for bonds. Second, while all real assets provide some inflation protection, a diversified and nimble approach to managing the specific exposures clearly offers the most effective way of smoothing, and ultimately enhancing, returns.

<sup>1</sup> Campbell, Edward L. "Q1 2017 Outlook & Review." QMA, January 2017.

## A New Chapter Brings Uncertainty

Until recently, the biggest problem with inflation was that it was too low. For many years after the Global Financial Crisis (GFC), the US Federal Reserve (Fed) struggled to nudge its preferred inflation measure<sup>2</sup> toward the 2% target it considers consistent with a healthy economy. But in recent months, as oil prices recovered (Figure 1), the labor market tightened and wages finally ticked upward, there has been a subtle but discernible shift in the Fed's tone, setting the stage for what it says to expect will be three hikes in its baseline interest rate in 2017.

**Figure 1.**  
ONE KEY DRIVER APPEARS TO HAVE BOTTOMED



Source: Thomson Reuters Datastream, QMA. As of 12/31/2016.

The election of Donald Trump introduces a new set of variables into these calculations. Rarely has such a significant stimulus package been put forth at a point so late in the business cycle, when the economy was so close to full employment. Assuming the measures eventually come to pass, the president's various tax-cutting, military- and infrastructure-spending proposals would represent the largest non-recession-era fiscal jolt since the steep rise in domestic spending of the late 1960s and early 1970s. Of course, there are major structural differences between the economy of half a century ago and today, but part of what makes inflation so unpredictable are the sheer number of factors that feed into it and can interact in unexpected ways.

<sup>2</sup> Instead of the more common Consumer Price Index (CPI), the Fed prefers the personal consumption expenditure (PCE) price index, which uses different weights for the various consumption buckets. The Fed looks at both "headline" PCE as well as the less variable "core" version that strips out food and energy prices. As of January 2017, core PCE stood at 1.7% and headline at 1.9%.

For example, there is no telling how rises seen on manufacturing component surveys<sup>3</sup> might be impacted by other new proposals to tighten trade and immigration policies. Or how proposed financial deregulation could disrupt the slow pace of turnover in the money supply (Figure 2). One reason the enormous expansion in the money supply from the Fed's quantitative easing programs hasn't led to higher prices has been banks' need to hold larger reserves to meet the higher capital requirements imposed since the GFC. The president's plan to roll back those requirements takes direct aim at increasing the turnover rate and getting the banks to put more of their capital to work in the real economy. Yet, it will also bring back into question what the ultimate impact will be of having printed all that money.

## The Painful History of Inflation and Bonds

To help provide fuller context around this uncertain environment, we analyzed inflation's impact across asset classes, starting with stocks and bonds.

It's important to remember that investors don't hold inflation in their portfolios. They hold assets that react to inflation in very distinct ways. Equities tend to lose value in the short term, as cash flow is hurt by rising material and labor costs, but generally recover longer term as companies pass on those costs to customers. The equivalent cash flow for bonds (e.g., yields), in contrast, are fixed. As a result, bonds frequently sustain losses from which they can take substantially longer to recover. This occurs on two levels: the immediate hit to total returns from the higher interest rates typically accompanying inflationary environments, and the more silent deterioration in purchasing power as the same \$1 in yield buys fewer goods and services.

It is the lasting impact of these losses that jumps out most from the long-term returns data (Figure 3). Like today, the late 1930s and early 1940s were a period in which inflation and interest rates were just beginning to rise from historically low levels. Inflation briefly spiked with the outbreak of World War II, then spiked again, before mostly normalizing throughout much of the 1950s and 1960s. At the same time, the yield on the 10-year Treasury bond only gradually increased, reaching just over 5% by the mid-1970s. In other words, this was hardly a period of what one would call "runaway inflation." Nonetheless, investors who invested \$100 in 10-year US government bonds in 1940 would have seen a 40% decrease in value in real terms by the early 1950s, a loss they would have failed to recover for *another 40 years*.

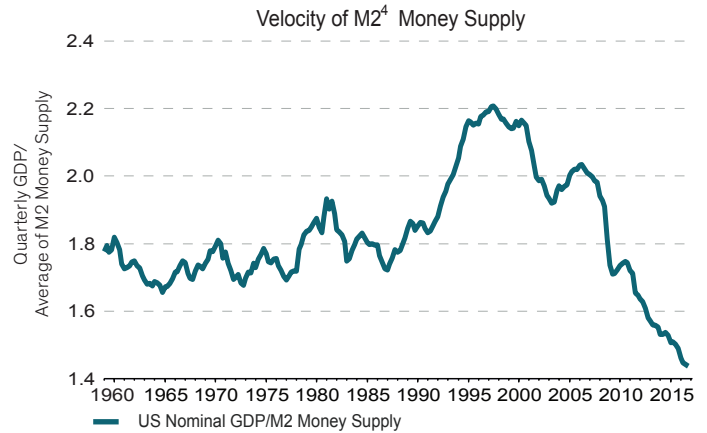
## The Role of Real Assets

For much of the post-war period, other than allocating a larger portion to stocks or investing in real estate or gold, there were few ways to hedge the effects of inflation on stock and bond portfolios. Indices that track asset categories that provide more explicit inflation protection or more liquid exposure to asset types like infrastructure have track records dating back only to the mid- to late-1990s. Even so the data are compelling.

<sup>3</sup> The January Manufacturers Price Index hit 70, its highest level since 2011.

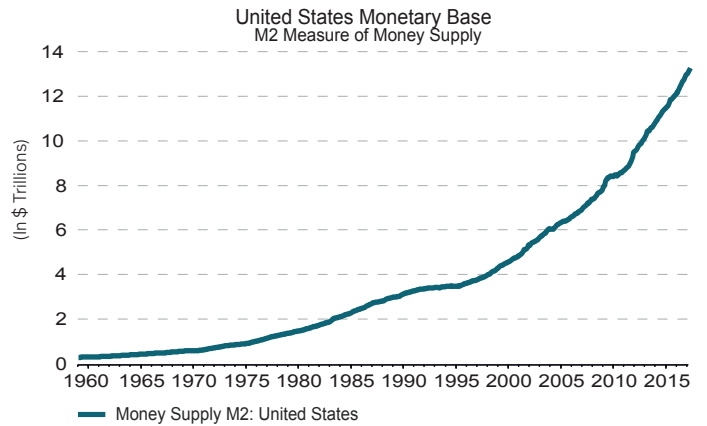
**Figure 2.**

**OTHER WILD CARDS: WERE FINANCIAL DEREGULATION TO INCREASE THE SLOW RATE OF TURNOVER IN THE MONEY SUPPLY...**



Source: Thomson Reuters Datastream, QMA. As of 12/31/2016.

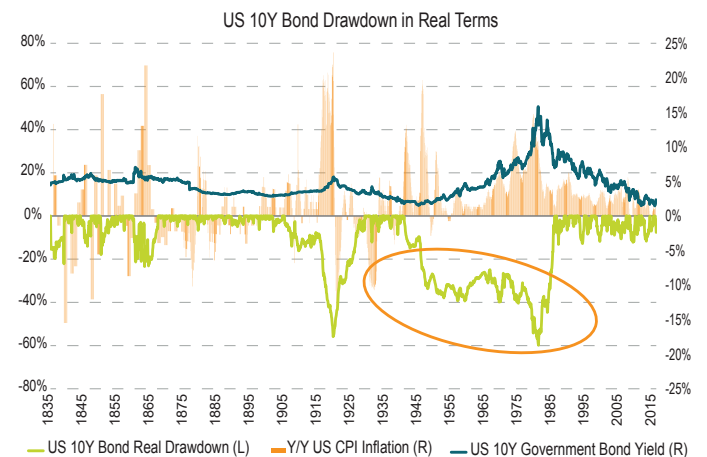
**... THERE IS NO TELLING THE IMPACT GIVEN THAT THE MONEY SUPPLY POST-QE IS ALREADY AT RECORD LEVELS**



Source: Thomson Reuters Datastream, QMA. As of 1/31/2017.

**Figure 3.**

**DRAWDOWN IN INFLATION-ADJUSTED US ASSET VALUES SINCE 1835**

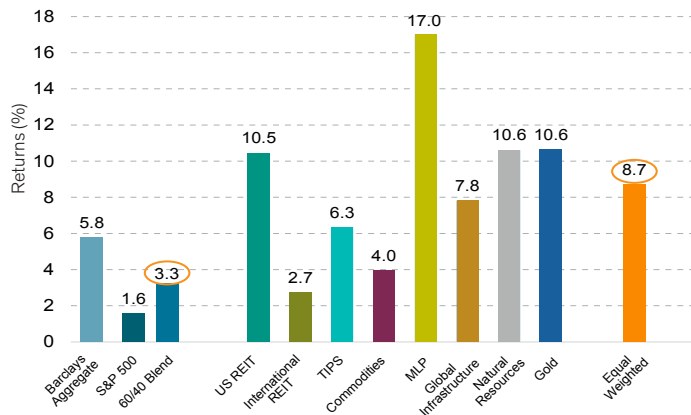


Source: Data series constructed by Global Financial Data, calculations by QMA. As of 12/31/2016.

<sup>4</sup> M2 Money Stock is a broader set of financial assets held principally by households. It is the sum of: checking accounts and other funds such as travelers checks, demand deposits, etc., that are readily accessible for spending (the sum of just these is the M1 money supply); savings deposits; small-denomination time deposits (less than \$100K); and balances in retail money market funds.

We compared the historical returns for eight different real asset categories that could be included in a liquid real assets portfolio today, looking at both the individual returns and an equal-weighted portfolio of exposure to all eight categories.<sup>5</sup> From March 1997 to December 2016, there were 111 months in which inflation was above the average of 2.15%. As shown below (Figure 4), the equal-weighted real assets portfolio had an average annual return of 8.7% during those months, compared to 3.3% for a traditional 60/40 stock-and-bond portfolio, a difference of 540 bps per year.

**Figure 4.**  
REAL ASSETS OUTPERFORM TRADITIONAL ASSETS IN PERIODS OF ABOVE-AVERAGE INFLATION (3/1997 to 12/2016)



Source: Thomson Reuters Datastream, Factset, QMA. As of 12/31/2016. Past performance is not a guarantee or a reliable indicator of future results.

We also looked at periods of rising nominal bond yields and rising Fed Funds Rates (Figure 5). Interestingly, while we think of the past 20 years as a time of flat or falling interest rates, there were actually four periods when bond yields rose by more than 100 bps trough to peak. During those periods, the equal-weighted real assets portfolio outperformed the 60/40 portfolio by 330 bps.

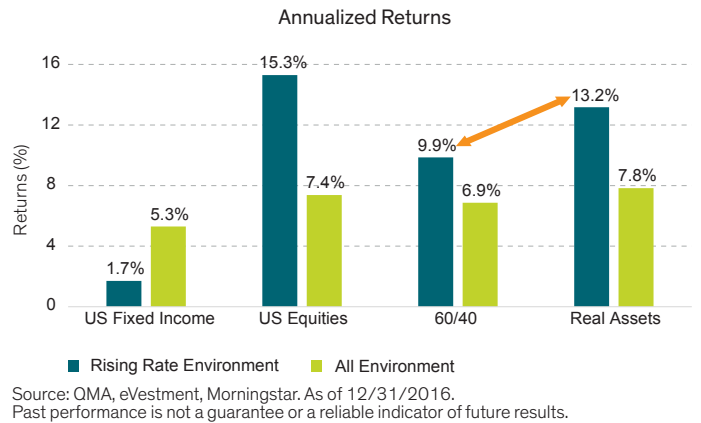
There were also two periods when the Fed hiked the Fed Funds Rate by at least 100 bps (Figure 6), with the real assets portfolio outperforming by 1060 bps during those stretches.

Of course, investors aren't likely to invest 100% of their money in real assets. Similarly, few have the ability or inclination to predict exactly when inflationary and rising-rate periods are beginning and ending. So, we also looked at the returns when real assets are incorporated into the same stock-bond portfolio at a 20% allocation during inflationary periods and across the entire time frame. Because real assets also perform reasonably well under normal inflation, an investor who maintained a 20% strategic allocation throughout the 20-year sample would still pick up 29 bps in annual returns, with an improvement in overall risk-adjusted return (as measured by Sharpe ratio) from 0.74 to 0.78.

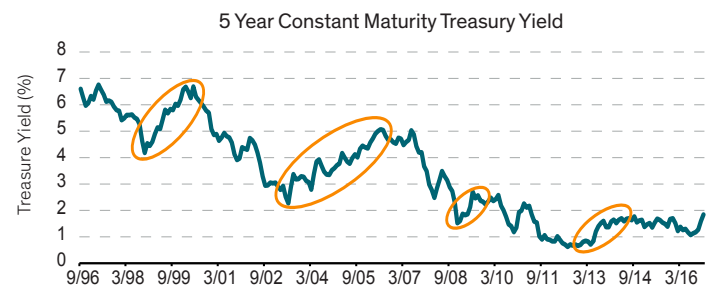
Still, all of these results are based on static equal-weighted real asset exposures, when another striking feature of the data is how varied returns are between the individual real asset categories over time.

<sup>5</sup> For the purposes of this paper, the real asset returns cited are not from QMA portfolios. They are based on the following indices: FTSE NAREIT Equity REITs (US REITs), FTSE EPRA/NAREIT Developed Ex US (Intl REITs), BBgBarc US Treasury US TIPS (US TIPS), Bloomberg Commodity (Commodities), S&P 500 Sec/Utilities (Gbl Infrastructure, incept-11/2001), S&P Global Infrastructure (Gbl Infrastructure, 12/2001-12/2016), S&P North American Natural Resources (Nat Re incept-11/2001), S&P Global Natural Resources (Nat Re, 12/2002-12/16), LBMA Gold Price PM (Gold), Alerian MLP (MLPs).

**Figure 5.**  
REAL ASSETS PERFORMANCE DURING RECENT PERIODS OF RISING BOND YIELDS (3/1997 TO 12/2016)

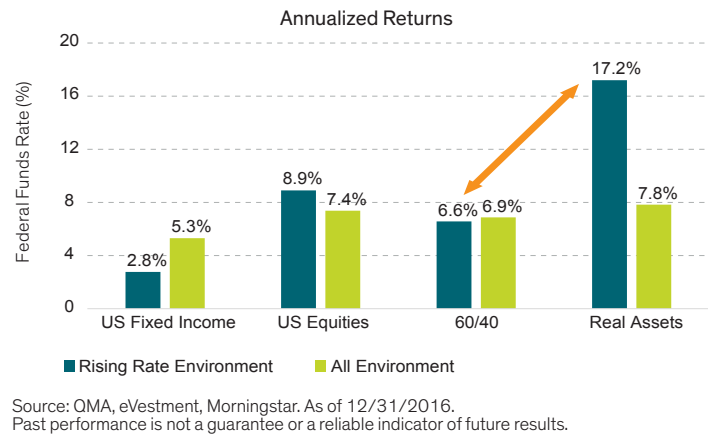


Source: QMA, eVestment, Morningstar. As of 12/31/2016. Past performance is not a guarantee or a reliable indicator of future results.

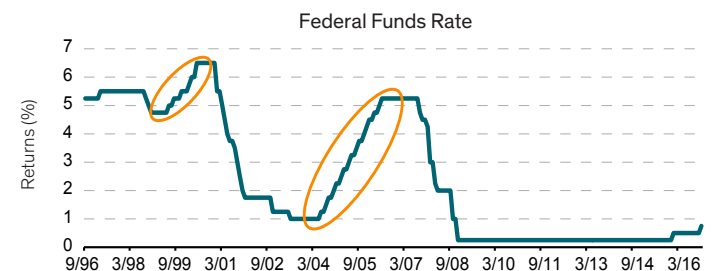


Source: US Department of the Treasury.

**Figure 6.**  
REAL ASSETS PERFORMANCE DURING RECENT HIKES OF THE FED FUNDS RATE (3/1997 TO 12/2016)



Source: QMA, eVestment, Morningstar. As of 12/31/2016. Past performance is not a guarantee or a reliable indicator of future results.



Source: Federal Reserve Bank of New York.

The above-average inflation period of February 2007 to October 2008 highlighted in the table below (Figure 7) is a good example. Oil moved from \$62 to \$140 a barrel by June 2008 on optimism over China's long-term growth path, before falling back to \$67 with outbreak of the GFC. REITs, meanwhile, were getting clobbered, as gold surged on a growing flight to safety. Indeed, this is the case for above-average inflation periods across the 20-year sample: no two inflationary periods are inflationary in exactly the same way. Thus, to maximize the benefit of a real assets portfolio, ideally one would have a method of tactically shifting exposures *within* the strategic allocation to capitalize on the variety of factors that can affect each type of real asset differently.

**Figure 7.**

**NO TWO PERIODS OR REAL ASSETS BEHAVE EXACTLY THE SAME**

	US REIT %	Int'l REIT %	TIPS %	Comm %	MLP %	Gl Infr %	Nat Re %	Gold %	Inflation %
Mar '97 - Sept '97	28.1	10.8	1.6	4.9	25.5	12.1	44.3	-12.8	2.34
Aug '99 - Sept '01	12.5	-3.0	10.1	12.1	26.0	4.1	-1.1	7.5	3.13
Apr '04 - Aug '06	21.0	24.9	3.2	9.2	14.2	22.5	27.1	17.3	3.37
Feb '07 - Oct '08	<b>-35.3</b>	<b>-40.6</b>	1.7	<b>-4.3</b>	<b>-4.5</b>	<b>-16.5</b>	<b>-2.5</b>	<b>90.1</b>	<b>3.68</b>
Mar '11 - Apr '12	13.6	-0.4	12.6	-12.1	10.2	-0.1	-11.2	16.8	3.19
Average	11.5	7.8	5.5	1.8	13.3	9.6	8.8	7.4	2.15

Source: Thomson Reuters Datastream, Factset, QMA. As of 12/31/2016. Past performance is not a guarantee or a reliable indicator of future results.

## The Case for a Multi Real Asset Class Approach

At QMA, we employ a number of systematic tools to allocate between the categories in our real assets portfolio. One involves gauging long-term cycles in investor risk appetite. When our measure of investor risk appetite is elevated, we allocate more to risk assets like commodities and real estate. When this measure is depressed, and the correlations between riskier assets tend to rise, we shift the portfolio toward more defensive categories like TIPS and gold. Other quantitative factors include the price momentum and volatility of the individual asset types and their correlations to stocks and bonds. Seasoned judgment and the team's view on the macro fundamentals and valuation of each investment category help determine final portfolio weights.

It is hard to predict how stimulus measures designed to increase demand might react with other possible changes in immigration, trade and financial-regulatory policies or the unprecedented monetary dynamics that are the legacy of the GFC. While the likelihood of double-digit price increases currently seem remote, it is probably also unlikely that we will see an uninterrupted continuation of the historically low inflation and rate environment of the past several years.

One thing we do know is that without proper planning the destruction of value from shifts in low-inflation and low-rate regimes, particularly for bonds, can be swift and long-lasting. With a robust liquid real asset program capable of dynamically responding to varying conditions, investors may still not want to root for high inflation, but at least it won't take them by surprise.

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\*As of 12/31/2016.

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