March 2017

Don't Fear the Fed: Asset Class Implications of Tighter Monetary Policy

On March 15th, the Federal Reserve raised its target interest rate one quarter of a percent. The 25 basis-point bump was inconsequential in itself; however, its tone was striking (1 basis point = 1/100 of a percent). After years of tepid attempts to decrease access to easy money, the Fed has now raised its target interest rate twice in the last four months, and the futures market is predicting a 60% chance that the Fed will raise rates another three times this year. The faster pace of interest-rate hikes signals the end of one of the most accommodative periods in the history of central banks. Beginning in March of 2009, trillions of dollars were pumped into the economy, and short-term interest rates were reduced to zero in order to rescue the global economy from the dregs of the '08 recession. During this easy money period, both stocks and bonds thrived, with the S&P 500 Index increasing by over 200% and bonds, measured by the Bloomberg Barclays Aggregate Bond Index, up over 30%. While both asset classes enjoyed the low interest-rate period, how will they respond when confronted with a rising-rate environment, and what does this mean for your portfolio?

Interest Rates: The Lynchpin of the Economy

Economists and investors closely follow interest rate movements because they are one of the most important barometers for measuring the state of an economy. Interest rates dictate how much businesses and consumers are willing to spend versus save. Higher interest rates encourage higher rates of saving and vice versa. This behavioral balance has far reaching effects on the economy. The Federal Reserve is an important determinant of interest rates because the Fed sets the overnight lending rate for banks, which acts as a floor for short-term interest rates. This rate then influences how banks lend, which flows through to consumers via credit card and mortgage rates, as well as the interest earned on savings accounts. The rate also affects how much and at what rate businesses are willing to invest in capital projects.

Interest rates also affect stock and bond prices through numerous channels. When the Fed raises short-term rates, the yield on short-duration US treasuries, often considered the safest investment, usually goes up. This effectively raises the risk-free return of the market. If a stock's expected return does not also increase, it will have a worse risk-return profile than it had prior to the rate hike. Rising interest rates also increase borrowing costs for companies, which may discourage future investments.

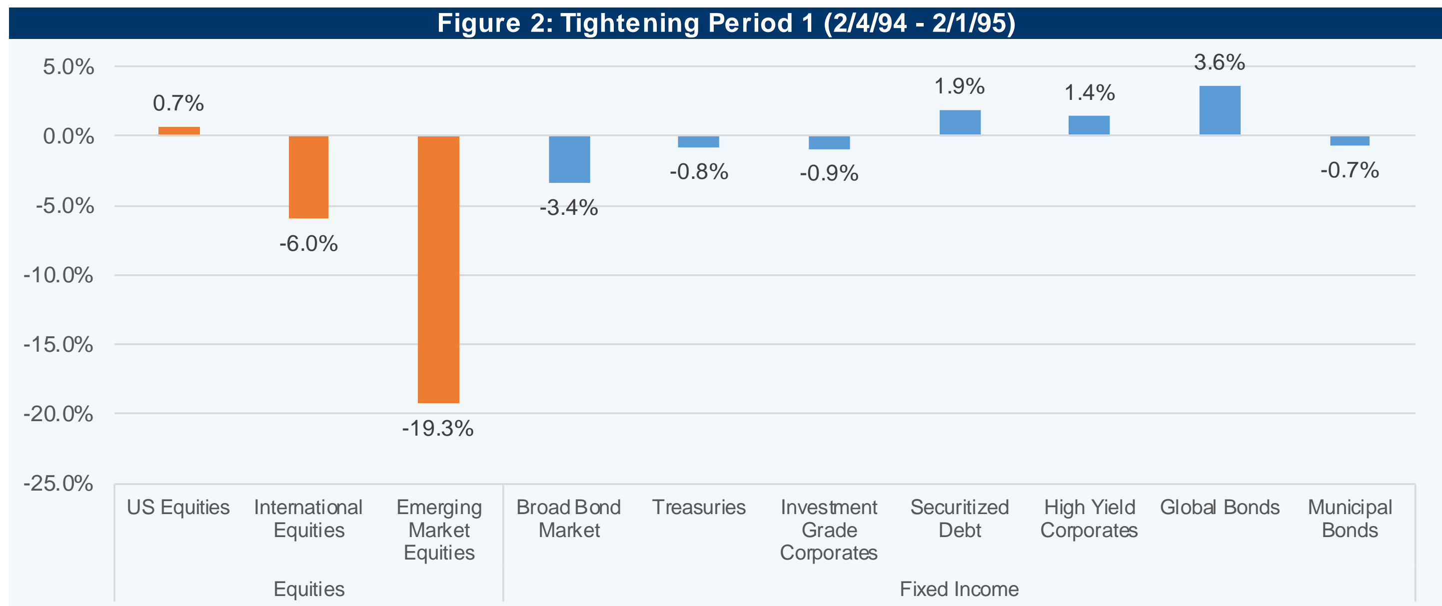
On the fixed income side, bond prices have an inverse relationship with interest rates because bonds usually pay a fixed coupon. As interest rates go up, the coupon of the bond stays the same, and, therefore, its fixed payment will be less attractive compared to newly issued bonds, which will be issued at a higher coupon rate. All of these relationships are just simplified economic functions and do not take into account other factors, such as GDP growth, and therefore do not necessarily foretell the behavior of stocks and bonds when rates rise. It is useful to also look at historical context when trying to determine the relationship between interest rates and different asset classes.

It has been over a decade since the last rate hike cycle, which is a long-time for many investors to recall. While the economy and markets have undergone considerable changes since the last rising rate period, many of the underlying relationships between interest rates and various aspects of the economy remain true. Below, we will take a

look at the performance of different assets classes during the last three times that the Federal Reserve raised short-term rates and explore what lessons from these cycles can be applied to portfolios today.

A Case Study of the Last Three Tightening Cycles:

Period 1 (January 1994 – January 1995): "The Great Bond Massacre"



Following a recession in the early 90's, the economy began picking up steam in 1993. The growth trend would continue in 1994, as the US economy added 3.8M new jobs, an annual record that has yet to be broken. In the second half of 1993, however, long-term interest rates began to creep up, a potential sign of inflation. With the inflationary troubles of the 1980's still fresh on the minds of the Fed's committee members, they hiked short-term rates vigorously from January 1994 to January 1995.

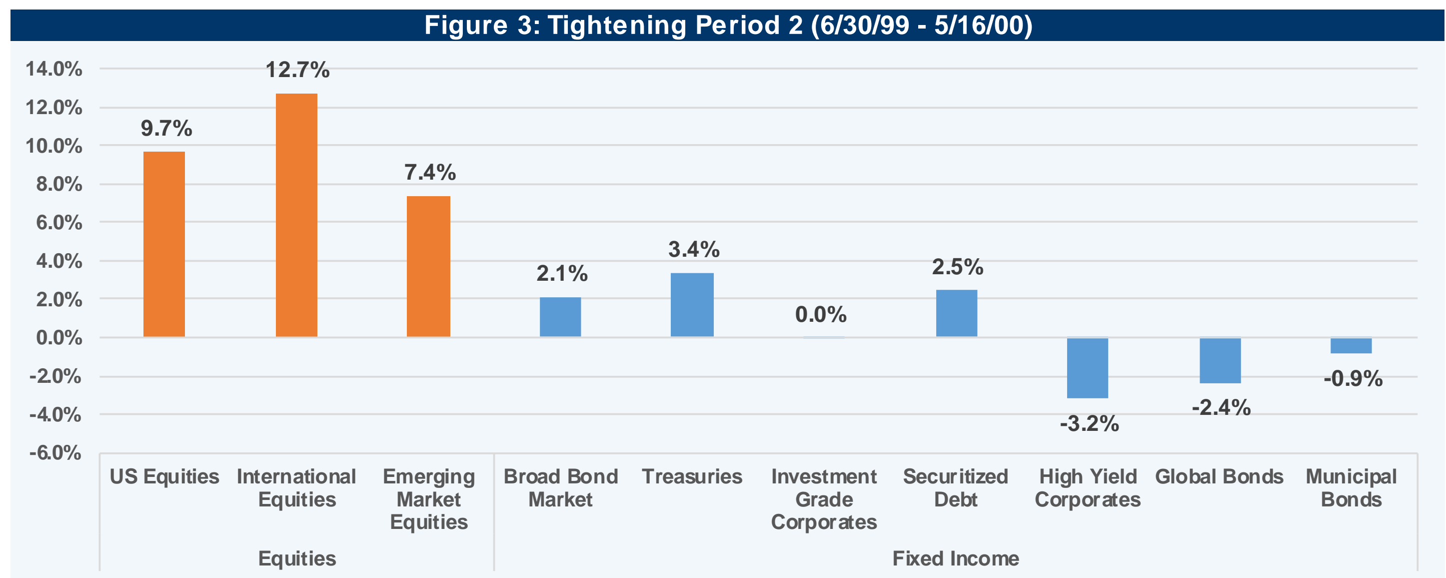
The initial rate hike was meant to assuage inflationary concerns, but unfortunately large financial institutions and hedge funds were highly leveraged at the time, expecting another year of low interest rates. The initial 25 basis point increase in the Fed funds rate sparked an immediate 40 basis point increase in the yield of the 30-year US treasury as leveraged bondholders were forced to liquidate their positions to stop the bleeding in their portfolios. Thus was the beginning of the "Great Bond Massacre." All in all, it is estimated that bond values declined by $1.5 trillion in 1994 as long-term rates rose from 6.2% to 7.8%.

The Barclays US Aggregate Index was down -3.4% during the period, a number that may not jump out as a "massacre", but it still stands as one of the worst performing periods for bond investors over the last several decades.

Equity returns during this period were also not compelling. US equities were nearly flat, +0.7%, but foreign equities fared worse. International developed equities fell -6.0% and emerging markets were the worst performer, down -19.3%, as capital flew out of these developing countries following a currency run in Mexico (Nicknamed the Tequila Crisis).

Lesson: A tightening Fed does not necessarily mean a bloodbath for bonds. Historically, 1994 was one of the worst years for bonds, but the broad bond index (Barclay Agg) was down only -3.4%. This was due to high amounts of leverage and a surprise hike by the Federal Reserve. Currently, banks and lending institutions are less levered than they were in the early 90's, and the Fed has been transparent in its actions. If interest rates move up steadily, bonds can still offer a steady income stream for investors.

Period 2 (June 1999 – May 2000): The Dot-Com Era



The late 1990's were an era of innovation and speculation that will be difficult to top. Low interest rates during this time allowed for easy access to capital, which investors then piled into nascent technology stocks. The period would become known as the "dot-com" era as technology stocks could receive a price bump just by adding a ".com" to their name. In addition to the stock market screaming higher, the economy was also firing on all cylinders with the unemployment level below 4% and GDP growth above 4%. To reel in economic growth and a frothy stock market, the Federal Reserve began raising rates in June of 1999. In total, the Fed would increase the fed funds rate six times in just a 10-month period.

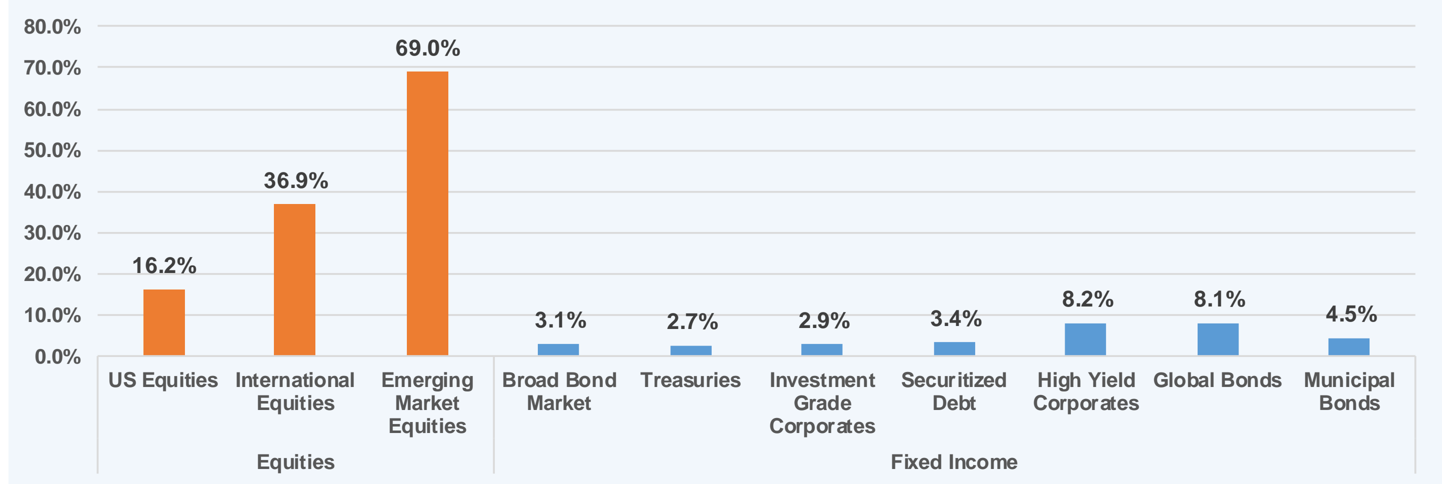
Bonds largely took the hikes in stride this time, as the market successfully priced in the timing and rate of each Fed hike. The US Aggregate Index was up +2.1%, and US treasuries returned +3.4%. This was a vast improvement upon the 94-95 performance where market expectations did not match the Fed's actions. High yield bonds, however, were the worst performer, down 3.2%. High yield bonds act somewhat as an equity-bond hybrid and trade closely with the default rate of US companies. The high yield market began to anticipate an increase in defaults in 2000 and therefore high yield bonds traded down during this period.

The three major equity asset classes were all positive during this period. US equities, led primarily by technology stocks, were up +9.7%. Also, unlike 1994-1995, emerging markets were also positive, +7.4%. International stocks were the top performer, up +12.7%. These gains occurred despite lofty, and in some cases, record high valuations. The brighter economic prospects for stocks outweighed the higher borrowing costs that these companies now faced.

Lesson: Stocks, even at high valuations, can rise higher during rate hike cycles. The tech bubble did eventually burst the following year, but before drawing comparisons it should be noted, that valuations were multitudes higher in the dot.com era than they are now.

Period 3 (June 2004 – June 2006): The Foreign Equity Boom

Figure 4: Tightening Period 3 (6/30/04 - 6/29/06)



In response to endogenous (dot-com bubble bursting) and exogenous factors (9/11 terror attacks), the Fed dramatically lowered interest rates in the early 2000's. By 2003, the economy had begun to pick up steam, and, starting in 2004, there were worries that an asset bubble was building in the housing sector as low interest rates made mortgages more accessible. Starting in June 2004, the Fed began a steady diet of rate increases even though inflation was low. In total, the Fed would increase rates 17 times over a 24-month period.

The steady pace of interest rate hikes during this period allowed bond prices to adjust accordingly as they returned a solid +3.1%. High yield corporates were even stronger buoyed by a strong economic backdrop, +8.2%. Global bonds were also a strong performer, +8.1%. The US dollar depreciated during this period, even though US rates were rising, which made global bonds more attractive.

US equities posted a laudable return of +16.2% during the period; however, the real winner of this rate cycle was international and emerging market equities, up +36.9 and +69.0%, respectively. The massive outperformance of foreign equities can largely be attributed to the fact that global economic cycles are not always aligned. While the US Federal Reserve began raising rates in June 2004, the European Central Bank did not follow suit until December 2005. As the US dollar weakened over this time period, capital flowed to emerging markets and international equities where interest rates and borrowing costs were lower than in the US. It should also be noted that commodity prices, in particular oil, were marching higher during this period boosting emerging market economies. The price of oil more than doubled during the two year period, rising from $30 a barrel to over $60.

Lesson: It's not all about the US. A tightening cycle in the US can provide opportunities in other parts of the globe where central bank policies remain accommodative. Additionally, a more aggressive Fed tends to mean that the US economy is improving, which usually means that domestic unemployment is low and consumer spending is strong. Considering that the US consumer market makes up 29% of the world market, a strong US consumer is beneficial for the global economy.

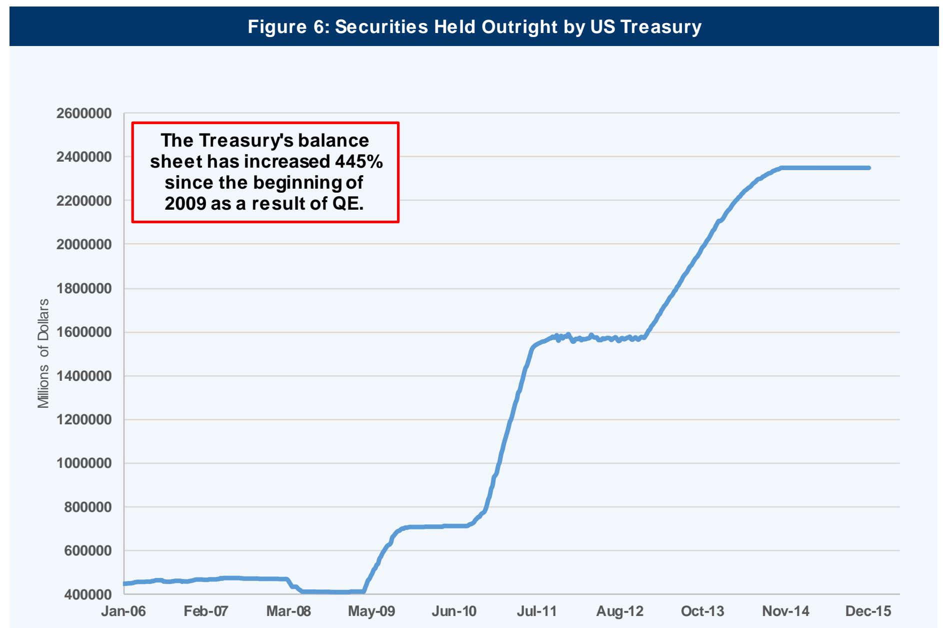
Figure 5: Summary Table	Period 1 (2/4/94 - 2/1/95)	Period 2 (6/30/99 - 5/16/00)	Period 3 (6/30/04 - 6/29/06)	Current Cycle (12/16/15 - ?)
Starting Rate Level*	5.87%	5.78%	4.58%	2.30%
Number of Hikes	7	6	17	?
Magnitude	3.00%	1.75%	4.25%	?
Duration	12 months	10 months	24 months	?
Starting Credit Spreads**	67 basis points	48 basis points	99 basis points	165 basis points
Beg Yield Curve Steepness***	+200 basis points	+48 basis points	+252 basis points	+200 basis points
End Yield Curve Steepness***	+42 basis points	-77 basis points	+5 basis points	?
Other Economic Factors	Economy expanding above trend, inflation rising	Strong economy, full employment, tech bubble	Full employment, low inflation, housing bubble	Normalizing unprecedented accommodative policy

*Represented by 10-Year Treasury yield **Yield difference between Bloomberg Barclays US Corporate Grade Bond Index and similar duration Treasuries

***Yield difference between 2-year and 30-year US Treasury securities

How Today's Market Compares

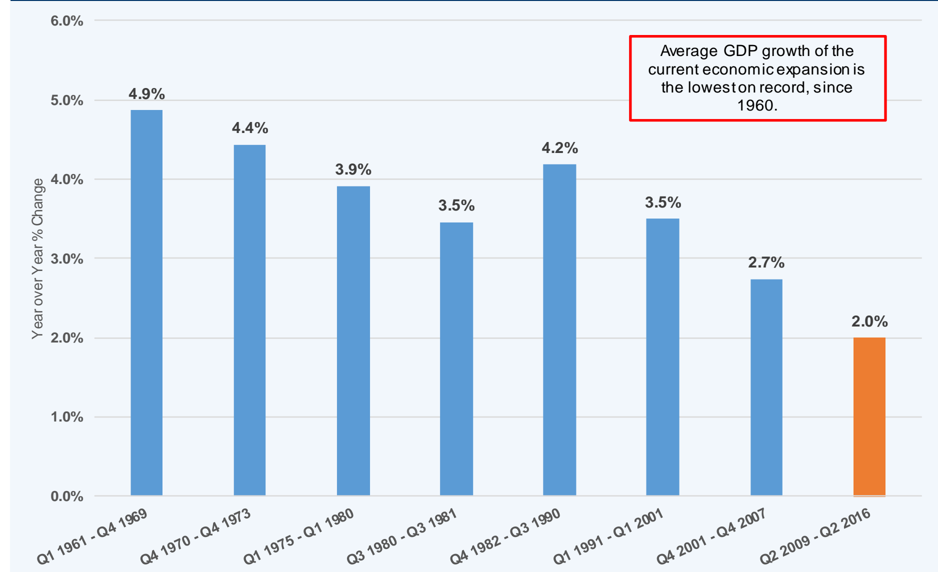
The easing cycle from which we are emerging is unprecedented in size and duration. "Quantitative easing", the act of the central banks buying bonds to inject cash into the economy, has bloated central bank balance sheets. The number of assets held by the Fed increased 445% from 2009 to 2016. It is unclear how the Fed will eventually unwind these assets and what the side effects on the economy will be. Additionally, massive amounts of stimulus have flooded the economy with excess slack. It is difficult to discern how many rate hikes it will take for this excess slack to begin to dissipate.



Another difference is the length of the current economic recovery. The post-08 recovery is already the second longest recovery in history, and there are few warning signs that the end is imminent. The low growth rate of the economy during the current recovery could be a contributor to the longer duration. The current economic recovery has seen an average annual GDP growth rate of +2.0%, which is the lowest average growth rate for an economic expansion period in history.

Applying Lessons from the Past to your Portfolio Today:

Stocks can Appreciate in Rising Rate Environments; Valuations Matter



In each of the last three rate hike periods, US equities saw positive returns and in two of three cases foreign equities were also positive. This goes against the popular assumption that short-term rising rates deflate stock prices.

As we saw in the 1999-2000 period, stocks can rise despite lofty valuations. It should be noted that valuations were astronomically higher during that time period compared with today. In 1999, the S&P 500 price-to-earnings ratio, a popular valuation measurement, was 33. Today the price-to-earnings of the index is only 18, which is not too far above its long-term historical average.

The cycle of 2004-2006 exemplifies the benefits of being a diversified investor during a rate hike cycle. In fact, there are many similarities between that period and today. While the Fed is already raising rates, the European Central Bank and Bank of Japan do not appear to be close to following suit, which could lead to inflows of capital to foreign markets as foreign stocks currently have more attractive valuations and higher yields than their domestic counterparts.

Bonds Don't Have to Be a Scary Place to Be

In Q4 2016, we saw a sell-off in bonds similar to that of 1994. Donald Trump's unexpected victory sent a shock through the bond markets as investors rapidly priced in higher expected growth with a more pro-business administration. The sharp increase in interest rates sent the yield on the 10yr treasury soaring from 1.8% to 2.3% and wiped out $1 trillion of value from the bond market. However, now that the re-pricing of the market has taken place, it appears that we will see a more measured increase in rates, similar to that of 2004-2006. In this type of environment, bonds do not necessarily have to decrease in value. They still offer durable, income-producing features and a risk/return profile that cannot be replicated by equities or any other asset class. One option for fixed income investors in a rising rate environment is to favor high-yield asset classes. These securities tend to trade more closely to the strength of the economy and have higher yields to provide a larger cushion against declining prices. High-yield corporate securities, measured by the Barclays US Corporate High Yield Index, have returned an average of +2.1% in the last three rate hike cycles.

Taking Advantage of a Tighter Fed Policy

While no two economic cycles are the same, it can be useful to apply past trends to the current environment. Using lessons from the last three tightening cycles, it shows that, even in a rising rate environment, bonds don't have to be avoided. Even if rates do move up dramatically, there are alternative fixed income asset classes such as fixed-to-floating rate preferred securities and high yield bonds, which tend to be less sensitive to short-term interest rate fluctuations. Additionally, owning a diversified global equity portfolio can outpace an exclusive US equity portfolio if central bank policy remains accommodative outside of the US. While a tightening Fed can have scary connotations in a world where stocks and bonds are at all-time highs, as history shows, it is important to remember why they are raising rates – The US economy is improving! Which is a positive for both bonds and equities.

Important Disclosures:

Figure 1: The Last Three Fed Tightening Cycles – Effective Federal Funds Rate, Source – The Federal Reserve of Economic Data as of 3/22/17
Figure 2: Period 1 (2/4/94 – 2/1/95), Source – Nuveen.com, MSCI.com, and ycharts.com as of 3/22/17
Figure 3: Period 2 (6/1/99 – 5/31/00), Source – Nuveen.com, MSCI.com, and ycharts.com as of 3/22/17
Figure 4: Period (6/1/04 – 6/30/06), Source – Nuveen.com, MSCI.com, and ycharts.com as of 3/22/17

- US equities = S&P 500 Composite Index
- International equities = MSCI EAFE Index
- Emerging markets = MSCI Emerging Market Index
- Broad bond market = Bloomberg Barclays US Aggregate Index
- Treasuries = Bloomberg Barclays US Treasury Index
- Investment grade corporates = Bloomberg Barclays Investment Grade Index
- Securitized Debt = Bloomberg Barclays US Securitized Index
- High Yield Corporates = Bloomberg Barclays US Corporate High Yield Index
- Global Bonds = Bloomberg Barclays Global Aggregate Unhedged Index
- Municipal Bonds = Bloomberg Barclays Municipal Index

Figure 5: Summary Table, Source: Nuveen.com, The Federal Reserve of Economic Data, and Bloomberg L.P. as of 3/22/17
Figure 6: Securities Held Outright by US Treasury, Source – The Federal Reserve of Economic Data, as of 3/22/17
Figure 7: Average Annual Change in US GDP, by Expansion Period, Source – The Federal Reserve of Economic Data as of 3/22/17

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