

Low-interest great recession, other countries such as

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Low-Interest Rates & Quantitative Easing: Effects on Financial Markets

Introduction: During the early 2000s, Japan's economy was fighting against deflation triggered by the economic collapse in late 1991. At that time, the Bank of Japan lowered short-term interest rate close to zero in order to stimulate economic growth. Even with low-interest rates, Japan's economy was still suffering from stagnant growth.

Therefore on March 19th, 2001, the bank of Japan adopted Quantitative Easing. This flooded banks with excess liquidity in order to promote consumer lending. The Bank of Japan increased their asset holdings from 5 trillion Yen to 35 trillion Yen between the years 2001 to 2004. The results of Quantitative Easing that Japan utilized took longer than expected to demonstrate results but ultimately failed to get rid of persistent deflation. Only after the great recession, other countries such as the United States, United Kingdom, and the Eurozone embarked on Quantitative Easing because the risk-free short-term interest rates were close to zero.

The Federal Reserve began Quantitative Easing in November 2008. Many economists criticized the decision to implement Quantitative Easing, due to Japan's failure a few years prior to the financial crisis. The 1st round of Quantitative Easing was targeted toward mortgage-backed securities, in order to directly combat the collapse of the housing market, by purchasing \$600 billion and \$100 billion in other debt with Fannie Mae and Freddie Mac backing it. By March 2009, the Federal Reserve reached \$1.75 trillion in assets, and the economy was still suffering which led to an additional \$750 billion in mortgage-backed securities, \$100 billion in Fannie and Freddie debt, and \$300 billion of longer-term Treasury over the next six months. By <https://assignbuster.com/low-interest-great-recession-other-countries-such-as/>

June 2010, the Federal Reserve ended QE1 when Ben Bernanke saw the economy starting to turn around, but a few months later he hinted QE2 because the economy was sliding again. QE2 lasted from September 2011 to December 2012, when the Federal Reserve would buy \$600 billion of treasury bills and bonds. The Federal Reserve directly bought securities from banks to artificially lower interest rates, which would theoretically increase the money supply in the economy and boost inflation.

However, the banks didn't increase lending because they couldn't find creditworthy individuals after the recession. The Federal Reserve responded by purchasing \$30 billion a month in longer-term Treasury Bonds, which would force investors back into mortgage-backed securities. On September 13, 2012, the Federal Reserve implemented QE3, buying \$40 billion worth of mortgage-backed securities and \$85 billion worth of Treasury Bonds a month. The Federal Reserve had the intentions of setting the inflation rate target of 2%, stimulating a greater economic expansion, and lowering the unemployment rate below 6.5%. It also included the mandate of lowering the short-term interest rates at zero until 2015. Although the Federal Reserve has announced that they ended their asset purchases, they are still reinvesting the interest earned on Treasury Bonds, still increasing their balance sheet. On September 2017, Federal Reserve Chairwoman Janet Yellen stated that they will unwind their balance sheet beginning October 2017.

Despite their announcement, their reduction of their balance sheet is less than announced. Problem Identification: With the implementation of low-

interest rates and Quantitative Easing that Central Banks all across the world are utilizing to increase inflation target, there are numerous major downsides risk of prolonged uses of these monetary tools. For example, if the economy experiences another severe downturn, the Federal Reserve won't have the monetary tools to slash rates to stimulate inflation during a recession. Also, having low-interest rates affects savers negatively, especially pension plans, because their risk-free rate is not enough to overcome the inflation rate. This cause money to flow from risk-free assets and into equities, real estate and other and higher risk assets, artificially creating bubbles if left unchecked. It also distorts the true valuation of assets, such as discounted cash flow models and CAPM. With Quantitative Easing, it's an unconventional monetary policy that has never been implemented and tested on a wide scale in the history of financial markets.

It drives the debt to GDP ratio immensely, artificially drives low yields in the bonds market, increases household debt while household income has been stagnant, and last but not least, it could cause hyperinflation if not regulated correctly. Going back to interest rates, since the creation of the Federal Reserve in 1913, almost every depression or recession have been foreshadowed by interest rate hikes and an inverted yield curve. Literature Review: In order to prove the correlation between the Federal Reserve intervention of interest rates and expansion/recession cycles, the data, and resources used for this analysis is derived from the Federal Reserve Economic Data, St. Louis Fed, US Treasury Database, Bloomberg Terminal database and other reliable and credible sources for extracting data from. In addition to extracting data sets, <https://assignbuster.com/low-interest-great-recession-other-countries-such-as/>

gathering information regarding the understanding of bond yield curves and other fundamental finance topics from credible textbooks and articles to extrapolate the effects of prolonged use of QE and low-interest rates.

Hypothesis Review: As stated earlier, by analyzing and interpreting the relationship between the Federal Reserve, interest rates, and quantitative easing can cause expansions and recessions in the economic business cycle. By comparing the changes of increases and decreases of interest rates by the Federal Reserve relative to the equity markets, most notably the S 500, there's a strong relationship between the two. By using the treasury bond data, bond yield chart, and federal reserve balance sheet data to prove the correlation.

Data Analysis: In order to utilize the data from those sources to format a conclusion, knowing the importance of each quantitative and qualitative data is vital. A normal yield curve, figure 1, is the yield curve which is formed during normal market conditions. Investors typically believe that there will be no significant changes in the economy, such as in inflation rates, and that the economy will continue to grow at a normal rate.

Investors expect higher yield for fixed income in longer maturities and lower yield for fixed incomes for shorter maturities. This is a normal expectation of the market because short-term instruments generally hold less risk than long-term instruments; the farther into the future the bond's maturity, the more time and, therefore, uncertainty the bondholder faces before being paid back the principal. To invest in one instrument for a longer

period of time, an investor needs to be compensated for undertaking the additional risk.

A flat yield curve, figure 2, curves indicate that the market environment is sending mixed signals to investors, who are interpreting interest rate movements in various ways. In such an environment, it is difficult for the market to determine whether interest rates will move significantly in either direction into the future. A flat yield curve can suggest that the market are preparing a transition in the direction of what interest rates will do. In laments terms, there may be some indications that short-term interest rates will rise and other signals that long-term interest rates will fall. This condition will create a curve that is flatter than its positive slope experienced in a normal economy . When the yield curve is flat, investors can maximize their risk/return trade-off by choosing fixed-income securities with the least risk, or highest credit quality. In the rare instances wherein long-term interest rates decline, a flat curve can sometimes lead to an inverted curve. An inverted yield curve, figure 3, are formed during extreme market conditions, a majority of the time during a recession, where the short-term maturities yields are higher than the longer term maturities yields.

The markets expect for interest rates to decline, for long-term bonds. By locking in a yield for a long-term bond, if the yield decrease, the value of bond increases. The significant of discussing the bond yield curves is the fact the Federal Reserve dictates and influences the short-term end of the curve. If the Federal Reserve raises the short-term yields too quickly, this can cause the yield curve to invert, leading to an economic

recession. The treasury yield curve inverted before 1929, 1981, 1991, 2000 and 2008 financial crisis.

In recent times, the first inversion of the bond yield occurred on December 22, 2005, two years before the great recession. During this period, the Federal Reserve, worried about an asset bubble in the housing market, had been raising short term interest rates since June 2004. By the end of December, it was 4.25%. That pushed the yield on the two-year Treasury bill to 4.

40%. On the opposite spectrum, the yield on the seven-year Treasury note lagged behind the curve, going for 4.39%. This caused the first inversion in the bond yield curve. By December 30, the discrepancy became worse. The two-year Treasury bill returned 4.41%, while the seven-year note yield fell to 4.36%.

The 10-year Treasury note yield dropped to 4.39%, below the yield for the two-year bill. A month later (January 31, 2006), the Fed had raised the short term interest rates again. The two-year bill yield rose to 4.54%, which was higher than the seven-year yield of 4.49%. Despite past economic warnings due to inverted yield curve, the Fed decided to continue to raise rates, reaching a 5.25% in June 2006.

On July 17, 2006, the inversion worsened again when the 10-year note yielded 5.07%, less than the three-month bill at 5.11%. The bond yield curve remained inverted until June 2007. By September 2007, the Fed finally

became concerned and started lowering the short-term rates, but it was too late. It lowered the fed funds rate to 4.

75 %. It was a 1/2 point, which was a significant drop. The Fed meant to send an aggressive signal to the markets. The Fed continued to lower the rate ten times until it reached zero by the end of 2008. The yield curve was no longer inverted, but it was too late. The economy had entered the worst recession since the Great Depression.

This is one of many times when the Federal Reserve failed to realize a recession before it was too late. The graph, figure 4 above, shows the differences of the 10-year treasury yield minus the 2-year treasury yield. When that value is below 0%, it signifies an inverted yield curve. The grey bars preceding the negative yields represents the economy during a recession. There's a strong relationship, with the inverted yield curve foreshadowing a recession by a factor of one to two years. This leads to the relationship between short-term interest rates and net interest margin on loans from banks. The graph, figure 5 on the previous page, shows the relationship between the 1-year treasury and net interest margin for all U. S banks.

Large declines in the yield on Treasury securities during the recessions of 1990-91, 2001 and 2007-09 coincided with substantial increases in net interest margins in the short term, as net interest margin hasn't caught up with real rates. As market interest rates continued to fall after the recessions, however, net interest margins eventually also fell. During periods of low rates, most notably post-2009, while it stimulates equity and housing

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markets, net interest margin for banks declines rapidly, which hurts bank earnings. By taking a regression analysis of the data points from figure 5, (table 2) short-term interest rates and net margin interest has a correlation of -0.

582, which is a decently strong correlation. Leading back to interest rates and it's relationship to recessions, figure 6, is a chart from Merrill Lynch which compiles the past interest rate hikes from the Federal Reserve since 1913 and compared it to economic depressions and recessions. This could be a strong indicator in the future if the bond yield curve starts to invert. Currently, the bond yield curve, figure 7, is the flattest since 2005.

With the FOMC expecting to raise rates three times in 2018, with a projection of 25 bases points for each hike, could easily invert it by 2019, which is why the Federal Reserve has been slow to raise hikes during this expansion cycle. The chart, figure 8, is the relationship between the S&P 500 and quantitative easing. Clearly shown in the chart, each round of quantitative easing drove equities up massively, only when the Federal Reserve announced that they would stop QE, markets had major pullbacks. In addition, figure 9, shows the relationship between the S&P 500 and U. S Treasury securities held by the Federal Reserve. As the balance sheet increased substantially, so has equity prices.

The main driver of the stock market isn't earnings but from quantitative easing. Results Interpretation: With the data and research gathered, concluding that the Federal Reserve is a key catalyst for creating economic

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bubbles and recessions. By artificially manipulating the short-term interest rates and more recently, using quantitative easing to purchase bonds, MBS and even equities in the case of the Bank of Japan, instead of letting the free market price at fair prices, it has caused a massive rotation of cash from savers to invest in equities to chase yield. This has led to an economic bubble in both the equity and housing markets, both in the past and present. With the Federal Reserve expecting to raise interest rates three more times in 2018, two in 2019 and once in 2020, this could easily invert the yield curve, which has been an ominous indicator to market corrections and recessions. With quantitative easing providing cheap money and also lowering long-term bond yields, while it created one of the largest bull markets in history, it a new financial concept which has never been tested.

In addition, with the Federal Reserve and other Central Banks reducing their balance sheet, economists are not sure how it would affect financial markets, most likely in a negative manner. Recommendations: With equity, housing and bond markets at new highs and booming, along with the lowest unemployment numbers in years, suggesting to hike interest rates quicker than expected, but not as quick in the past would be the optimal solution. In addition, reducing the Federal Reserve balance sheet would also be suggested. Having interest rates low for so long could limit the recovery of the next economic recession.