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FIXED INCOME INVESTMENT STRATEGIES IN RESPONSE TO QE TAPERING

By Larry Zhao

The Federal Reserve's balance sheet, as a gauge of its lending to the financial system, reached the level of $3.8 trillion as of Nov. 8, 2013, exactly five years after the announcement of its first Quantitative Easing (QE) program.

The impact of the Fed's stimulus on the financial markets has been enormous and profound. The S&P 500 index is 93 percent correlated to the level of the Fed's balance sheet. With the Fed now owning more than one-third of the Treasury markets, the Fed's massive buying has significantly lowered the interest rates and bond yields. Also, the Fed has drastically reduced the cost of credit default protection, especially for the U.S. high yield corporate. The high yield credit default swap spread fell by more than 80 percent from the height of the financial crisis. While the Fed would like to unwind its QE programs quietly, with all the asset classes so correlated to the level of the Fed's balance sheet, the impact of the removal of the stimulus will be equally enormous and profound, and may be disruptive.

FIGURE 1: IMPACT OF FEDERAL RESERVE TOTAL ASSETS ON EQUITY AND CREDIT MARKETS

(Source: Bloomberg, Federal Reserve Bank of St. Louis)

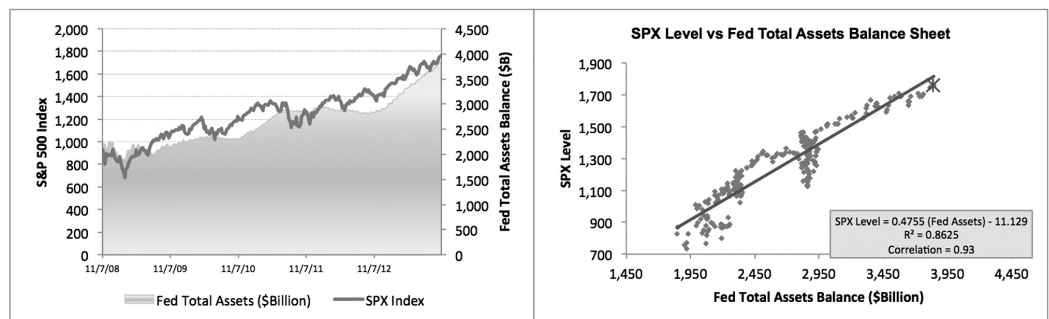

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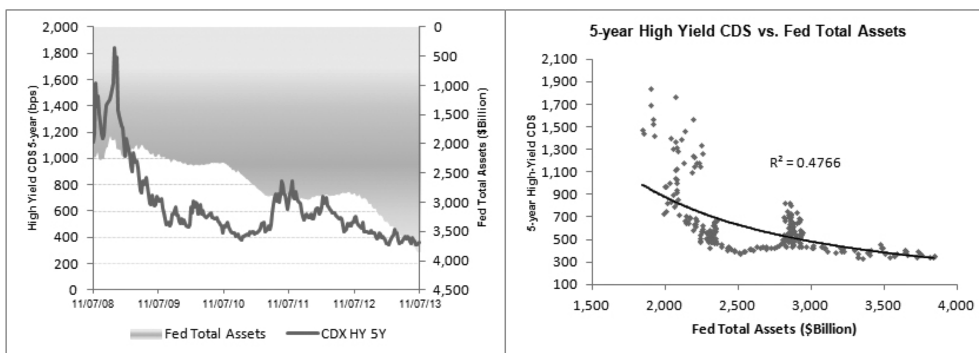
FIGURE 1: IMPACT OF FEDERAL RESERVE TOTAL ASSETS ON EQUITY AND CREDIT MARKETS – CONTINUED

(Source: Bloomberg, Federal Reserve Bank of St. Louis)



IMPACT ON INSURANCE COMPANY INVESTMENT STRATEGIES

1. The artificially low interest rates and bond yields created greater asset and liability management problems for insurers. As the higher yielding bonds mature and are replaced with lower yielding bonds, the problem gradually but surely bleeds into the book yield on the investment portfolio.

2. With the Fed buying $85 billion Treasury and mortgage-backed securities (MBS) on a monthly basis and with the federal government cutting budgets, the QE program has effectively reduced the supply of fixed income securities available to institutional investors like insurers.

Responding to the changes in the capital markets, many investment departments of insurers have adapted in their investment strategies, including:

- Increased allocations to higher yield fixed income securities such as MBS, bank loans and high yield corporate bonds

- Increased allocations to less liquid assets such as infrastructure and real estate, picking up illiquidity premium while matching long-dated liability profiles.

- Extended duration and rode down the steepened yield curve.

- Increased allocations to alternative investment assets such as private equities.

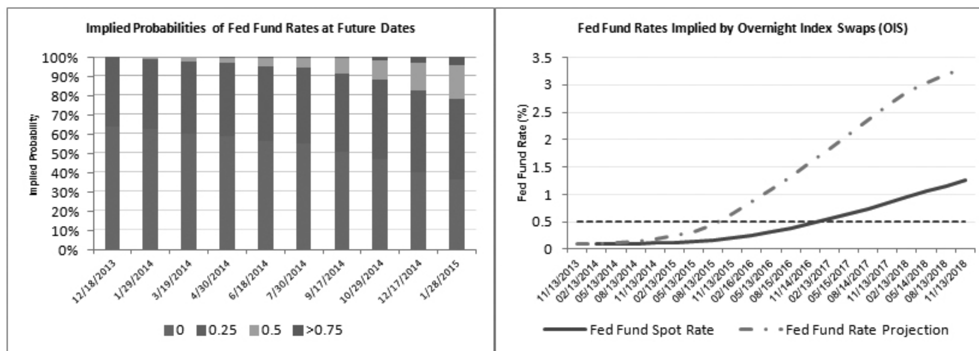
Many of the strategies have performed quite well in the low rate and low yield environment so far.

TIME TO ADAPT AGAIN

If something cannot go on forever, it will stop. With the macro economy getting better, tapering and unwinding the QE programs are inevitable. The capital markets have gradually priced in the unwinding of this unconventional monetary policy. As shown in Figure 2 (as of Nov. 8, 2013) the probability of a 25 basis point hike in January 2015, implied by the Fed fund futures market, is about 20 percent; while

FIGURE 2: MARKET IMPLIED PROBABILITY AND TIMING OF THE UNWINDING OF THE QE PROGRAMS

(Source: Bloomberg)



the overnight index swaps (OIS) market currently prices in a similar rate rise around the late second-half of 2015.

Since May 2013, the Fed's communication on tapering has greatly impacted the fixed income markets, increasing more than 100 basis points in the 10-year U.S. Treasury notes, as well as increasing volatilities across markets. Higher rates, higher volatility and steepening swap spreads are expected to be hallmarks of the fixed income markets for the next few years. Accordingly, investment strategies need to adapt to the new environment again.

INVESTMENT STRATEGIES UNDER FED TAPERING AND UNWINDING

The following strategies are just personal opinions, and do not, in any way, shape or form, represent any institutional views.

Shorten Duration

This strategy is to avoid locking in low yields and to mitigate extension risk. It is recommended to focus on the short end of the yield curve and create laddered portfolios that will allow for maturing shorter bonds to be reinvested at higher interest rates over time. This is also a strategy advocated by PIMCO, one of the largest bond fund managers in the United States.

When the rate rises, MBS are particularly susceptible to extension risk, because the prepayment will slow accordingly. Under such scenarios, shorter maturity MBS such as the 15-year FNMA will perform much better than longer maturity MBS such as 30-year FNMA. Figure 3 illustrates (on the next page) this idea. While the two MBS (30-year FNCL 4.5 vs. 15-year FNCI 3) have similar average lives in the base scenario (5.09 vs. 4.78), they behave quite differently under different rate scenarios: when the rate rises 200 bps, the 30-year MBS extends by 3.8 years and has an annualized total return of -18.3 percent, while the 15-year MBS extends by only 0.7 years and has an annualized total return of -14.3 percent.

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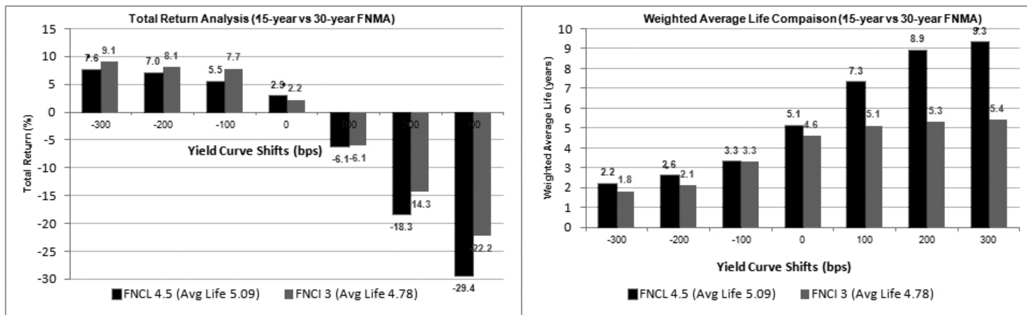
FIGURE 3: DURATION MANAGEMENT AND TOTAL RETURN ANALYSIS OF MORTGAGE-BACKED SECURITIES

(Source: Bloomberg)



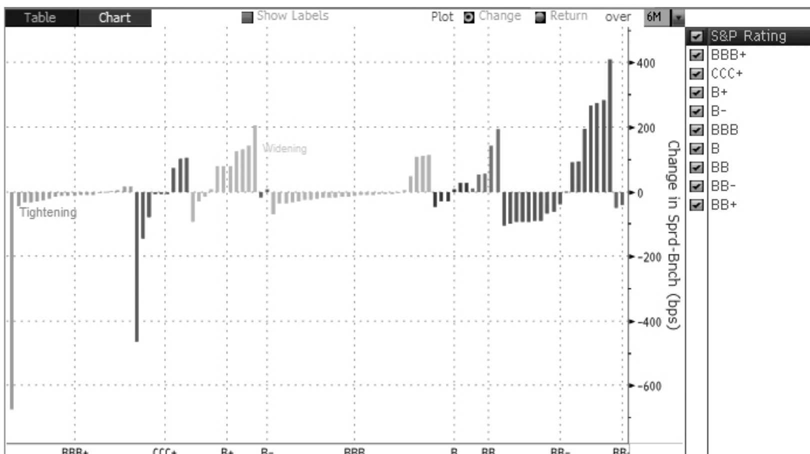
Reduce High Yields

The high yield bonds have been one of the hottest areas since the start of the QE. The average junk bond yield is now hovering around 6 percent, which is only 350 basis points above the yield on the 10-year U.S. Treasury bond, in comparison to a historical average spread of 500 basis points. Since the QE taper talk in May 2013, investment grade bonds have outperformed junk bonds, based on a quantitative analysis over 967 bonds (U.S. domiciled, issue amount $550+ million, duration less than five years, and S&P ratings between BBB+ and CCC+). As shown in Figure 4, more than one-half of the issues rated BB+/BB-/B+/B/B- saw their spreads relative to equivalent benchmarks widened, while more than four-fifths of the issues rated BBB+/BBB enjoyed their spreads tightened.

FIGURE 4: CREDIT PERFORMANCE COMPARISON: INVESTMENT GRADE AND HIGH YIELD

(Source: Bloomberg)

If the past six months can be used as a preview of what a potential spread adjustment might look like when the



tapering actually starts, reducing allocations to high yield bonds may be a prudent move.

Rotate Sectors

Based on a quantitative study using 970 bonds (U.S. domiciled, issue amount $800+ million, duration less than five years, and S&P ratings BBB or above), bonds in the financial, consumer discretionary, staples, technology and industrial sectors are more likely to benefit, while U.S. Treasuries and bonds in utilities/telecoms are more likely to suffer, from a QE tapering.

Since the introduction of QE 2, the net interest margin (NIM), the primary driver of earnings and profits for banks and depository institutions, has compressed to multiyear lows. Rising rates will significantly increase the lending profits and improve credit spreads for the financial sector.

The consumer discretionary, staples, technology and industrial sectors might benefit from the expectation of strengthening economy, increased spending, improving employment, and wealth effects. As the economy escapes from disinflation, businesses holding large cashes and liquidity will increasingly find the need and benefits on capital spending such as upgrading software and hardware, systems, equipment and facilities. This will benefit technology and industrial sectors.

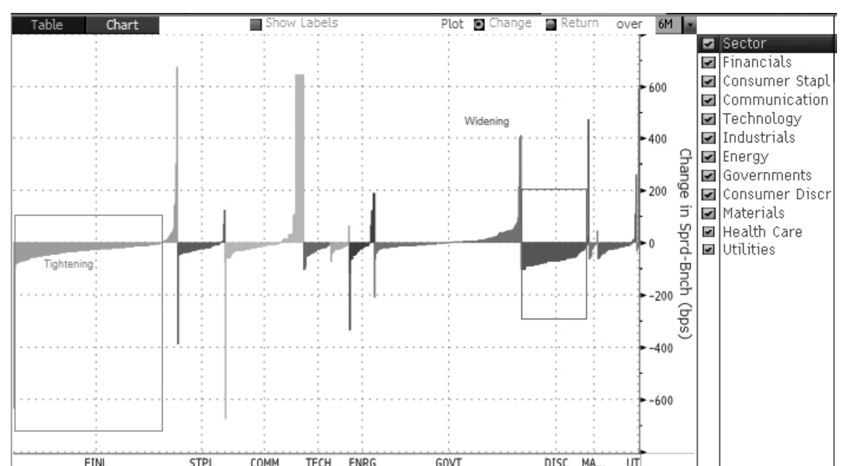
As a traditional defensive play, utilities and telecom sectors have performed extraordinarily well in the past few years, because they typically pay above-market dividends (about 1.5 to 2.5 times that of the S&P 500 index) with a lower level of volatility, which was outstanding in a low rate and low yield environment. However, rising rates will increase the interest burden and financing costs because the sectors tend to be capital intensive and heavily indebted.

Use Interest Rate Derivatives

Interest rate derivatives can be versatile and valuable in

FIGURE 5: CREDIT PERFORMANCES AMONG SECTORS

(Source: Bloomberg)



hedging different interest rate risk profiles.

A pure bond funds portfolio is long duration. One simple and practical way to neutralize interest rate risk is to use interest rate swaps and hedge dynamically. Figure 6 illustrates how a hedged portfolio, where a vanilla $10 million notional 10-year pay-fixed par swap is used to hedge a generic $10 million 10-year U.S. Treasury bond, performs under different interest rate scenarios.

From the perspective of asset and liability management, it is the net exposure that determines the interest rate risk profiles. For example, liabilities of the pension funds and long-term care are roughly equivalent to a giant *short* position in fixed income and have a much longer duration than the fixed income assets in their investment portfolios. Thus, their net exposure is short fixed income. In the past few years, some companies have implicitly adopted a wait-and-

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FIGURE 6: CHANGES OF MARKET VALUES OF A HEDGED PORTFOLIO UNDER DIFFERENT RATE SCENARIOS

(Source: Bloomberg)

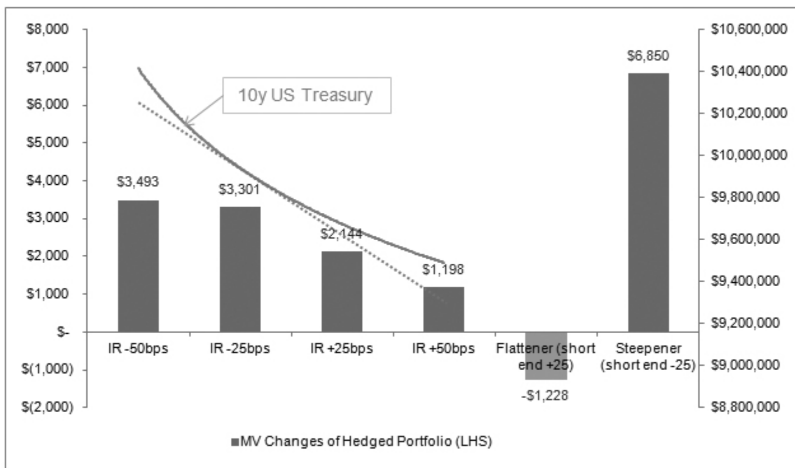
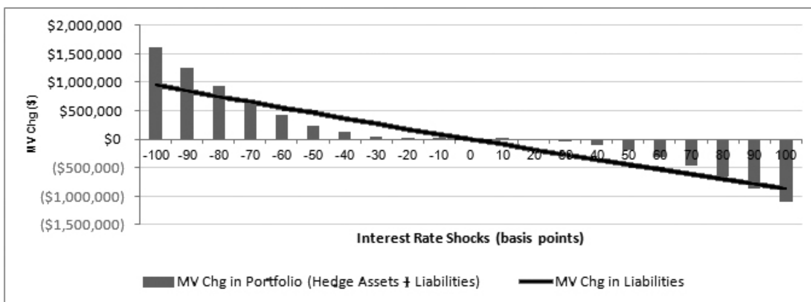


FIGURE 7: USING A SWAPTION COLLAR TO PROTECT DOWNSIDE RISK COST EFFICIENTLY

(Source: Bloomberg)



see strategy because they were hesitant to buy long duration in the low interest rate environment.

The rising rates and rising volatility might offer a good opportunity using derivatives to hedge against a *decrease* in interest rates if the QE tapering turns out to be disruptive and drives up the fight-to-safety plays, domestically and internationally. Figure 7 illustrates how to use a conditional interest rate swap hedge strategy to protect this downside risk in a cost-efficient way.

The conditional interest rate swap strategy writes a six-month 10-year payer swaption at the strike 3.5 percent and at the same time buys a six-month 10-year receiver swaption at the strike 2.4 percent to hedge the net short fixed income (approximated using a 10-year U.S. Treasury). The portfolio is constructed in such a way that both the portfolio duration and the option premium paid upfront are close to zero.

In this particular example, if swap rate is over 3.5 percent at expiration, the receiver swaption expires worthless but the payer swaption is exercised by counterparty in the money. However, the negative market value is offset by the decrease in the net present value of liabilities due to increased discounting rates. If rate is below 2.4 percent at expiration, the payer swaption expires worthless but the receiver swaption is in the money and its cash value can help offset the increase in the present value of liabilities.

SUMMARY

The impact of the Fed's QE program on the financial markets has been enormous and profound. The tapering and the eventual removal of the stimulus will be equally enormous and profound, and may be disruptive. To adapt to the potential regime change in the near future, some investment strategies have been proposed: (1) shorten duration

to focus on the short end of the yield curve and create laddered portfolios; (2) reduce allocation to high yield bonds; (3) rotate out interest rate sensitive sectors such as utilities; and (4) use interest rate derivatives to hedge the interest rate uncertainties lying ahead.

On the other hand, contrarians who see the QE program continuing may stay the course and consider: (1) adding duration; (2) gaining exposure to high yield bonds; and (3) increasing allocation to utilities and telecoms.

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