Bank Loans: A 20 Year Retrospective

A Study of Historical Asset Class Returns and the Role of Bank Loans in Portfolios

October 2013

HIGHLAND CAPITAL
MANAGEMENT

Executive Summary

In this study, Highland examines the role floating rate bank loans play in portfolio allocation by testing two portfolios: a 100 percent fixed income portfolio made up of bank loans, high-yield bonds and investment-grade bonds, and a 60/40 equity/fixed income portfolio to determine the optimal fixed income allocation in each.

We tested both portfolios over the 20+ years beginning January 1992 through July 2013 and, because we expect rising interest rates over the next several years, also over periods where interest rates were rising over a period of more than a year. Against conventional wisdom, we found that in spite of an approximate 400 basis point decline in interest rates since 1992, bank loans added meaningful value to the 100 percent fixed income portfolio and did not meaningfully impact the risk and return of the 60/40 equity/fixed income portfolio. Additionally, when interest rates were rising, bank loans added significantly to risk-adjusted returns in a diversified portfolio. For example, if investment-grade bonds were completely replaced with bank loans in a 60/40 equity/fixed income portfolio over rising rate periods, the Sharpe Ratio would have improved by almost 50 percent increasing annualized returns by over 250 basis points while reducing volatility.

EXAMPLE

If investment-grade bonds were completely replaced with bank loans in a 60/40 equity/fixed income portfolio over rising rate periods.

50% + **250** BASIS POINTS

Sharpe Ratio Improvement

Increase in Annualized Returns

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Since the inception of the bank loan market in January 1992, it has grown from $220 billion to $1.3 trillion today, surpassing the high-yield bond market.

The central theme of modern portfolio theory, as is well known, is broad diversification across asset classes with low correlations to one another, so that investors can reduce volatility and, therefore, much of the risk, in an investment portfolio. The goal is to ensure the right mix of assets to achieve the highest return per unit of risk. In a diversified portfolio, the performance of an asset in relation to other assets in the portfolio is more important than how an asset performs in isolation.

We conducted an in-depth study of bank loans in a broadly diversified portfolio by testing two specific asset allocation models – (i) a 100 percent fixed- income portfolio and (ii) a 60/40 equity/fixed income portfolio.

Since the inception of the bank loan market in January 1992, it has grown from $220 billion to $1.3 trillion today, surpassing the high-yield bond market. Using monthly returns from January 1992 to July 2013[1], our study used the following indices as proxies for the asset classes under consideration:

- Credit Suisse Leveraged Loan Index (bank loans)
- Credit Suisse High Yield Index (high-yield bonds)
- Barclays Capital US Corporate Investment Grade Bond Index (investment-grade bonds)
- S&P 500 (large cap equity)
- Russell 2000 (small cap equity)

For the fixed income portfolios, we tested thousands of scenarios with varying allocations to bank loans, high-yield bonds and core bonds. For the 60/40 equity/fixed income portfolios, we varied the fixed income allocations while holding the allocation to the equity portfolio constant at 30 percent large cap equity and 30 percent small cap equity. We analyzed all these allocations to find the returns, volatility and the Sharpe Ratio for the full period since January 1992, and for periods where the 10-year Treasury had risen for more than a year. We define the optimal portfolio as one with the highest Sharpe Ratio, or return per unit of volatility. In our analysis, we limited the number and type of asset classes to the five mentioned above and reviewed their historical relationships.

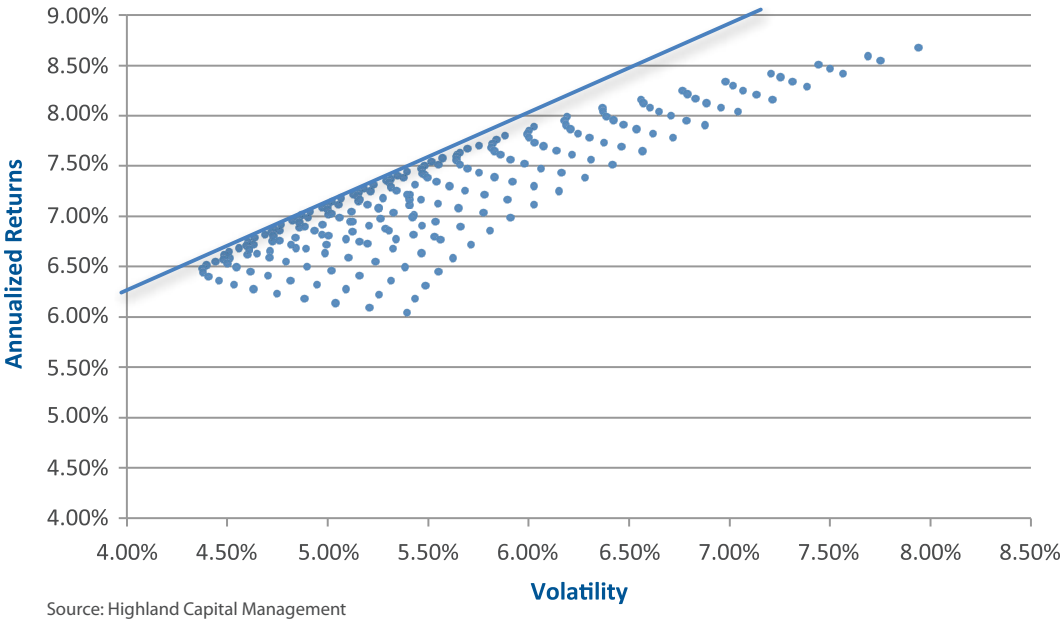
Bank loans are priced on a spread relative to base interest rates, typically the three-month LIBOR, so as rates rise or fall, their cash flows move in tandem. By contrast, investment-grade and high-yield bonds are fixed rate products, so as interest rates decline, their value increases and vice versa.

Over the past 20 years, 10-year Treasuries have gradually declined by approximately 400 basis points (6.69 percent, January 1992 to 2.58 percent, July 2013) to hit the recent all-time lows. With fixed income asset classes, one would have expected declining interest rates to favor high-yield and investment-grade bonds. Instead, bank loans did not meaningfully impact from the risk and return of the 60/40 equity/fixed income portfolio; it also added meaningful value to the 100 percent fixed income portfolio.

[1]Source: Zephyr Style Advisor

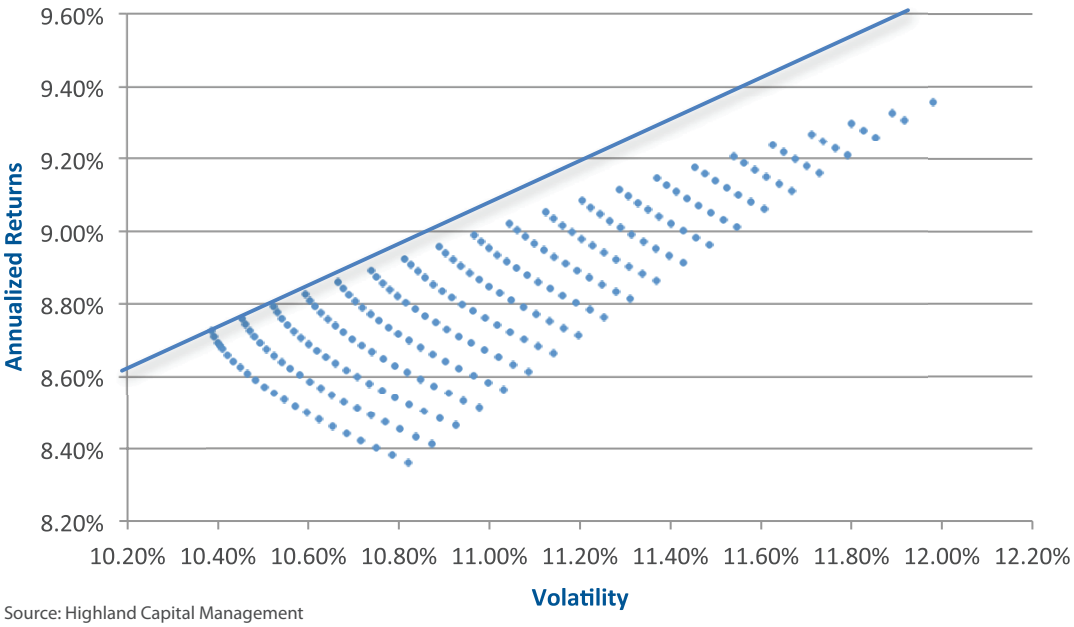
Figures 1 and 2 illustrate the Efficient Frontier and Capital Market Line (CML) for both 100 percent fixed income and 60/40 equity/fixed income portfolios. The points on the chart represent the performance of each portfolio. The portfolio that intersects with the tangent line represents the optimal portfolio. Despite the long-term downward trend in interest rates, the optimal 100 percent fixed income portfolio included a 25 percent allocation to bank loans, which led to improved performance. However, the allocation of bank loans did not meaningfully impact the optimal 60/40 equity/fixed income portfolio.

Figure 1: 100% Fixed Income Portfolio Historical Efficient Frontier and Capital Market Line



Source: Highland Capital Management

Figure 2: Equity and Fixed Income Portfolio Historical Efficient Frontier and Capital Market Line



Source: Highland Capital Management

Table 1: Returns, Volatility and Sharpe Ratios Since 1992

	Bank Loans	High Yield Bonds	Investment Grade Bonds	S&P 500	Russell 2000
Annualized Returns	6.04%	8.67%	6.80%	8.86%	9.72%
Annualized Volatility	5.39%	7.94%	5.53%	14.72%	19.22%
Sharpe Ratio	0.60	0.74	0.72	0.41	0.36

Source: Highland Capital Management as of 7/31/13

Given the lower correlation, volatility and defaults and correspondingly higher recoveries and seniority in the capital structure, bank loans can provide downside protection and reduce volatility in portfolios even in a declining interest rate environment.

Taken in isolation, as Table 1 shows, bank loans had overall the lowest volatility and the third-highest Sharpe Ratio.

Our finding during declining rate periods may seem counter-intuitive, but bank loans have characteristics other than their floating rate structure. That can add downside protection and reduce volatility even when interest rates lower their cash flows.

Table 2 illustrates bank loans that have a high historical correlation with high-yield bonds; however, bank loans are significantly less correlated with equity and investment-grade bonds. Lower correlations typically mean that a portfolio with bank loans will experience greater diversification benefit (e.g., reduced volatility) than a similar portfolio without bank loans.

Table 2: Correlations Since 1992

	Bank Loans	High Yield Bonds	Investment Grade Bonds	S&P 500	Russell 2000
Bank Loans	1.00				
High Yield Bonds	0.77	1.00			
Investment Grade Bonds	0.28	0.51	1.00		
S&P 500	0.42	0.60	0.26	1.00	
Russell 2000	0.44	0.63	0.17	0.80	1.00

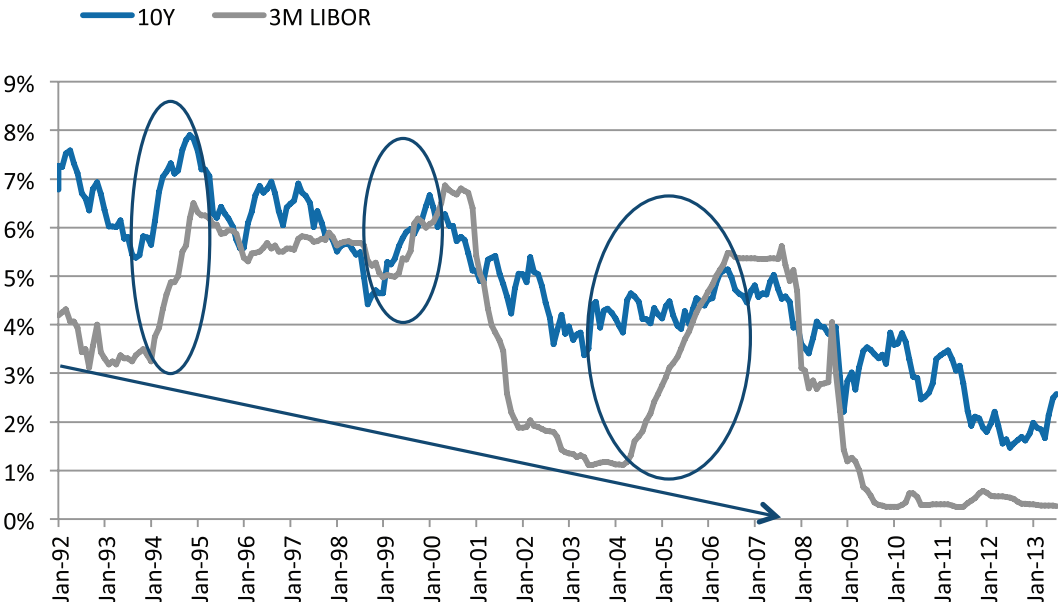
Source: Highland Capital Management as of 7/31/13

Bank loans are also less volatile than high-yield bonds for several reasons. Relative to high-yield bonds, they are more senior in the capital structure, experience lower defaults and have higher recoveries. Also, 58 percent of outstanding institutional bank loans are currently owned by Collateralized Loan Obligations (CLOs), which do not trade as actively as hedge funds or mutual funds. By comparison, the largest holders of high-yield bonds are mutual funds , which generally require daily liquidity and therefore increased trading.

To reiterate, given the lower correlation, volatility and defaults and correspondingly higher recoveries and seniority in the capital structure, bank loans can provide downside protection and reduce volatility in portfolios even in a declining interest rate environment.

As mentioned earlier, the 10-year Treasury declined from a peak of 8.03 percent in 1994 to a trough of 1.39 percent in 2012 (Table 3). With rates at all-time lows and very little room to fall, we expect the next 20 years will be different from the previous 20 years and this will have serious implications for portfolio allocations. We selected the 10-year Treasury as our proxy for interest rates; however, as Figure 3 illustrates, LIBOR was also rising in the periods selected.

Figure 3: Historical 10-Year Treasury Rates



Source: Bloomberg

To better understand how these asset classes perform when rates are rising, we isolated three time periods (Table 3), where the 10-year Treasury was rising for more than a year. The first two periods saw steep increases in a fairly short amount of time. The third period, which was more of a slow and steady increase, starts from a lower beginning yield, and this may most closely resemble our current rate environment and expectations.

Table 3: Rising Rate Periods for the 10 Year Treasury

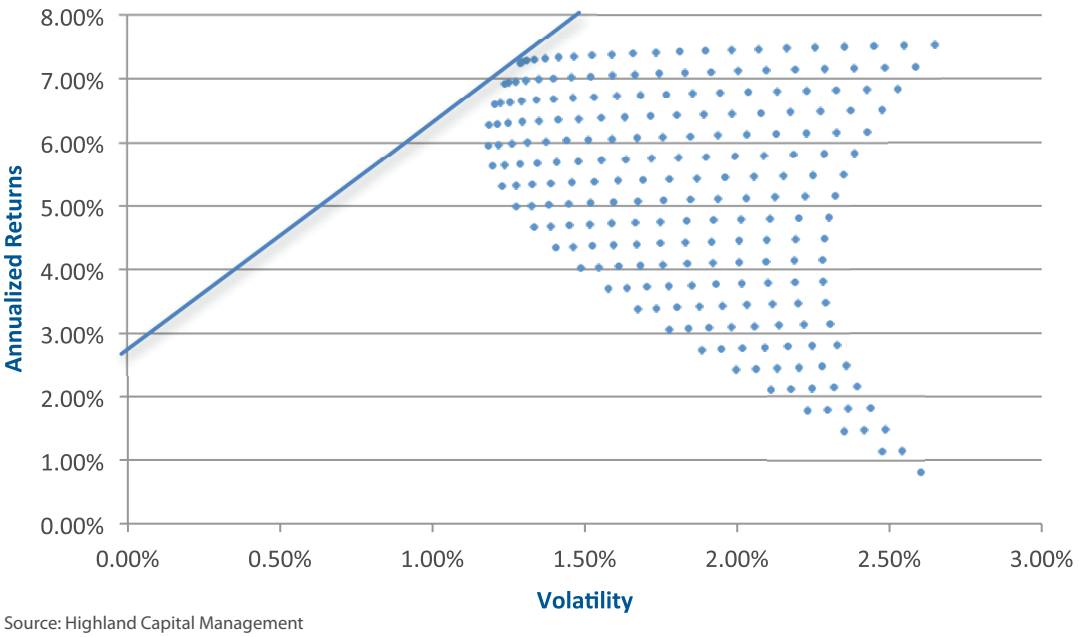
Beginning Date	Ending Date	Beginning Rate	Ending Rate	Rate Change	Time Period (years)
10/14/1993	11/04/1994	5.21%	7.98%	+2.77%	1.06
10/05/1998	01/20/2000	4.16%	6.79%	+2.63%	1.29
06/13/2003	06/12/2007	3.11%	5.29%	+2.18%	4.00

Source: Bloomberg

We performed the same optimal allocation testing on both portfolios for the rising rate periods to understand their performance and gain some insights into how the portfolios would hold over the next 20 years. Not surprisingly, the optimal portfolio allocated almost 100 percent of the fixed

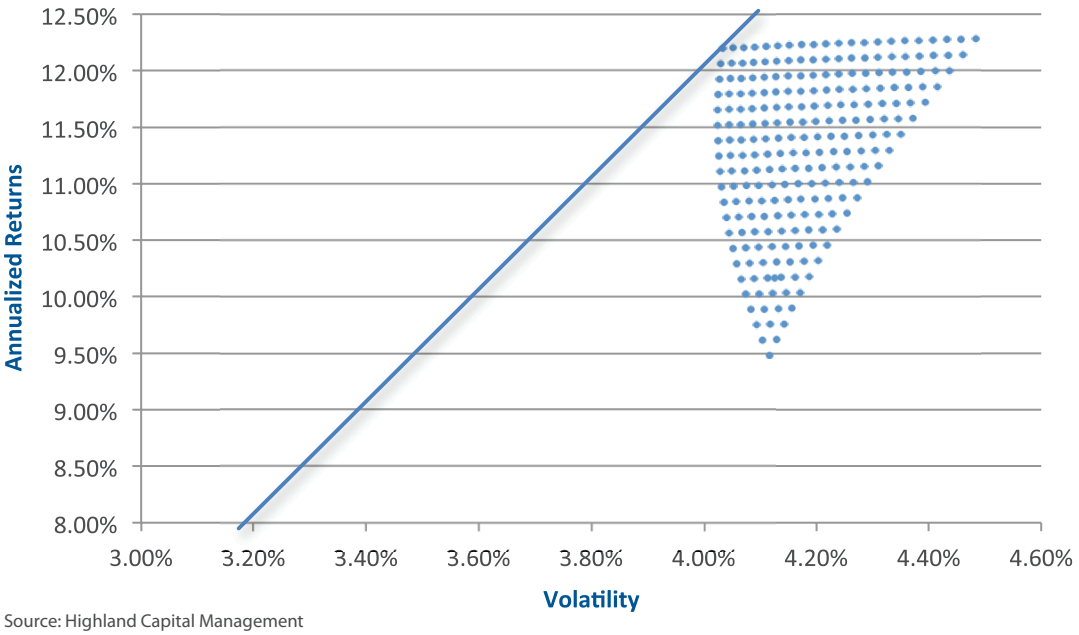
income to bank loans. Generally, the more bank loans investors had in their portfolios during the rising rate periods, the better the performance of their portfolios. Figures 4 and 5 illustrate the Efficient Frontier and CML for the rising rate periods.

Figure 4: 100% Fixed Income Portfolio in Rising Rate Environments



Source: Highland Capital Management

Figure 5: Equity and Fixed Income Portfolio in Rising Rate Environments



Source: Highland Capital Management

Tables 4 and 5 reflect correlations and performance statistics for the asset classes during the rising rate periods. Bank loan correlations to every asset class during these periods dropped significantly and were near zero for investment-grade bonds and large-cap stocks.

Table 4: Correlations During Rising Rate Periods

	Bank Loans	High Yield Bonds	Investment Grade Bonds	S&P 500	Russell 2000
Bank Loans	**1.00**				
High Yield Bonds	**0.35**	1.00			
Investment Grade Bonds	**0.04**	0.53	1.00		
S&P 500	**(0.01)**	0.40	0.18	1.00	
Russell 2000	**0.19**	0.44	0.07	0.75	1.00

Source: Highland Capital Management

While much of the "great rotation" discussion has focused on a move away from fixed-income into equity as a response to rising interest rates, investors may consider more shifts within their fixed-income portfolio from fixed-rate to floating-rate assets.

Table 5: Returns, Volatility and Sharpe Ratios Over the Rising Rate Periods

	Bank Loans	High Yield Bonds	Investment Grade Bonds	S&P 500	Russell 2000
Annualized Returns	7.25%	7.53%	0.82%	14.17%	16.28%
Annualized Volatility	1.60%	4.46%	4.71%	9.86%	13.73%
Sharpe Ratio	**2.47**	0.95	(0.52)	1.10	0.95

Source: Highland Capital Management

Even in isolation the Sharpe Ratio is more than 60 percent higher than the next-highest asset class and 160 percent higher than the next-highest fixed income asset class when rates are rising.

For example, a portfolio with a 10 percent allocation to bank loans would have generated a 12 percent higher Sharpe Ratio than a simple 60/40 equity-investment grade bond portfolio and a 3 percent higher Sharpe Ratio than if the same 10 percent was allocated to high-yield bonds. If investment-grade bonds were completely replaced with bank loans for a 60/40 equity bank loan portfolio, the Sharpe Ratio would have improved by almost 50 percent – an increase in annualized returns by over 250 basis points while reducing volatility. Clearly, our data indicates that increasing the allocation of bank loans from historical levels does make sense in today's low-interest environment.

Our research indicates that during periods of rising interest rates, which we expect will continue in the next several years, bank loans in a portfolio significantly boosted risk-adjusted returns. They can also provide downside protection, no matter what interest rates are doing. While much of the "great rotation" discussion has focused on a move away from fixed-income into equity as a response to rising interest rates, investors may consider more shifts within their fixed-income portfolio from fixed-rate to floating-rate assets. By doing so, investors could achieve many of the benefits of diversification by combining fixed-income and equity, even as they prepare for a rise in interest rates.

Past performance is not a guarantee of future results. Carefully consider the investment objective, risk factors, charges and expenses of one fund before investing.