ACTIVE VS. PASSIVE

Is a Passive Approach Appropriate in the Non-Investment Grade Debt Markets?

AUTHOR:
FIRST TRUST LEVERAGED FINANCE INVESTMENT TEAM

First Trust

Introduction

Investors have debated the merits of active and passive investing for decades with proponents on each side making valid points in support of and against each approach. The convenience of "buying the market" to gain broad exposure to an asset class in a low-cost investment is an elegant and enticing solution. Moreover, a leading argument made in favor of the passive approach, or "indexing," is that while actively managed portfolios have the potential to deliver higher portfolio returns than an index, they generally do not generate enough excess return over time to justify the higher management fees inherent in actively managed strategies. Whatever the reasons, passive strategies have gained significant traction over the past decade, as is evidenced by the significant growth in both equity and fixed income passively managed index based strategies. While investors have used passive strategies in both equity and traditional fixed income for many years, there has been a proliferation of passively managed index based alternatives in the high-yield bond and senior loan asset classes more recently. Specifically, within the high-yield bond market, two passively managed index based exchange-traded funds (ETFs) have grown assets to over $30 billion over the past 8 years. Within the senior loan market, a single passively managed index based ETF has gathered approximately $4 billion over the past 5 years. With such significant asset growth in these strategies, an important question arises; is passive indexing an effective way to manage assets within the high-yield bond and senior loan asset classes?

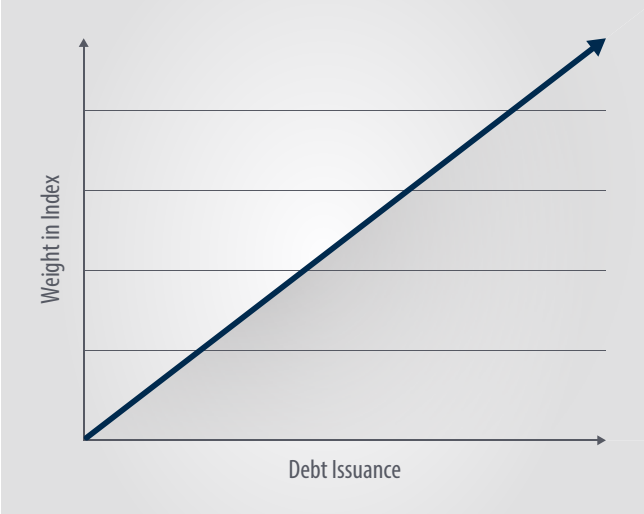
In this paper we will attempt to provide the answer to that question by analyzing the active and passive approaches in the high-yield bond and senior loan markets. Specifically, we will evaluate these approaches across five key criteria:

Portfolio Construction

The typical method for constructing an equity index is to use a method called market capitalization weighting. An equity index constructed using a market capitalization weighting method uses a rules based approach to determine the eligible securities based on certain criteria such as size or sector. Once the eligible securities are identified, the market value of each eligible security is calculated to determine the weighting within the index. By contrast, a fixed income index will typically use a method called debt capitalization weighting. The methods are similar, however, instead of determining weights in the index by market value of the equity, the market value of the debt outstanding determines the weighting. The diagram below illustrates the weighting methodology of most noninvestment grade indices.

Traditional Cap-Weighting Approach

An issuer's weight in the index is a function of the quantity and current price of its outstanding debt.



A passively managed index replicating strategy that attempts to mirror a debt capitalization weighted index is exposed to a number of risks. For instance, as a company issues more debt, it becomes a larger percentage of the index and therefore a larger component of a passively managed index based portfolio with a mandate to mirror that index. Moreover, as companies in an industry issue more debt, the industry becomes a larger percentage of the broader index which could cause the underlying sector weightings to expand over time. This is relevant because typically, the more debt a company or industry incurs, the greater the probability of default for that company or industry.

The passive approach to portfolio construction contrasts significantly with the actively managed portfolio construction approach. In an actively managed approach, the portfolio weights are determined by a portfolio manager using some form of merit based selection. This approach may integrate perspectives on the macro environment, sector and company specific fundamental credit research, as well as portfolio construction techniques (e.g. diversification, relative value, and liquidity) in the portfolio construction decision making process.

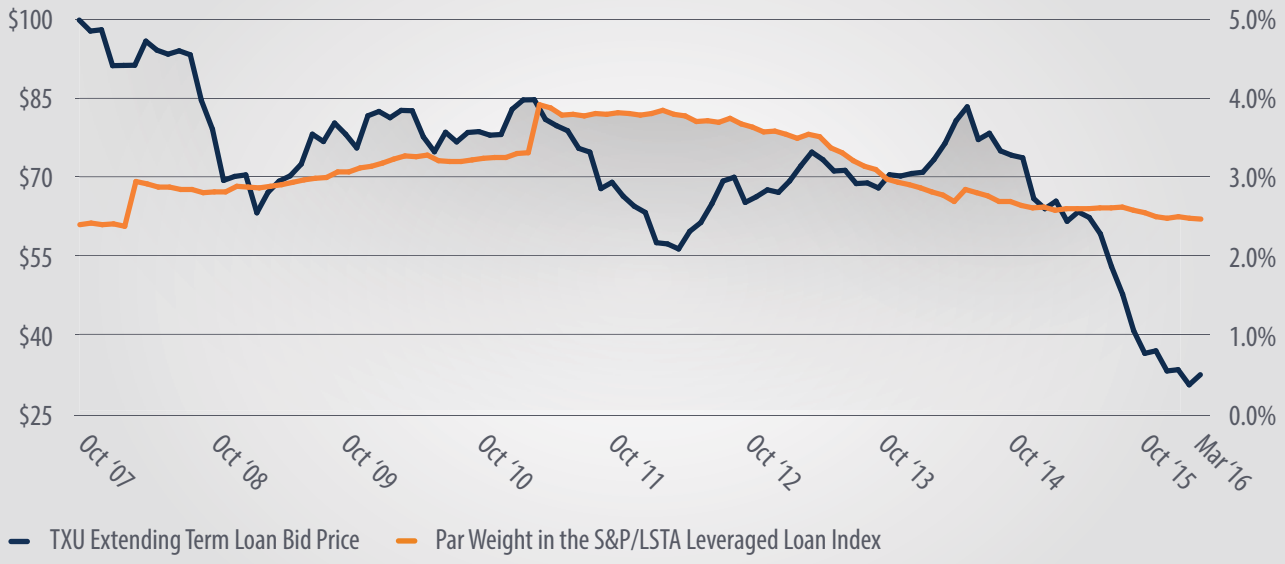
An actively managed approach will likely result in dramatic differences between the actual holdings and the weightings within a portfolio when compared to an index. This is the result of the portfolio management team's ability to use a merit based approach to portfolio construction which allows the highest weightings in the portfolio to be consistent with the portfolio management team's best ideas, irrespective of the market value of the debt outstanding for an issue.

Portfolio Construction Investment Implications

Passive index strategies may have a higher weighting to the most indebted borrowers, as these borrowers are typically the largest issuers in the market. The selection criteria is not merit based, and tends to favor, or reward, the largest debt issuers in a "hot" sector or "hot" market.

Example: Within the senior loan market, Energy Future Holdings, also known as TXU (TXU primarily engages in the generation, retail sale, and wholesale distribution of electricity to residential and business customers in Texas) has been the largest issuer and therefore the largest constituent of the S&P/LSTA Leveraged Loan Index for many years. The chart below illustrates the weighting of TXU within the senior loan index and the market price of the loan. As one can easily see, the price of the TXU senior loan deteriorated over time as the company's financial condition worsened. Eventually it became obvious to market participants that a restructuring was inevitable and in 2014, the company filed for bankruptcy. As the credit fundamentals of TXU deteriorated, the weight within in the index declined but remained well above 2%. As a result, those funds using a passive approach continued to allocate a significant weight to TXU. At the time of default, the weighting in the index was 3.46% and was still 2.40% of the index as of March 31, 2016.

TXU Loan Price and Par Weight in the S&P/LSTA Leveraged Loan Index October 2007 – March 2016



Past performance is not indicative of future results and there can be no assurance past trends will continue in the future.

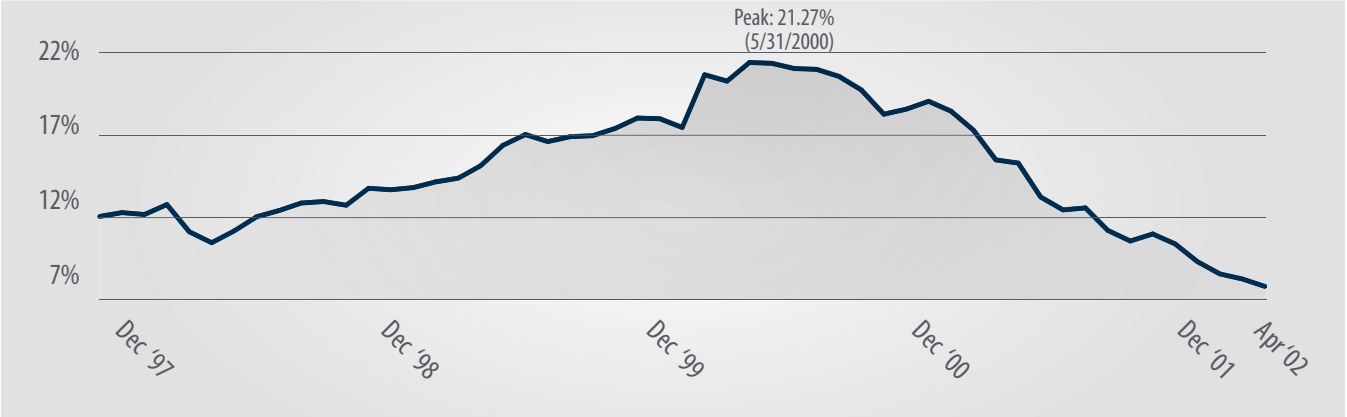
The mechanics of cap-weighted indices all but guarantee that an investor's exposure will gravitate toward "hot" sectors of the market as they become larger weights within the index. As issuance increases in certain sectors, passive index strategies will naturally increase the exposure to that sector.

Example: The adjacent chart illustrates the steadily increasing energy sector's market value within the Bank of America Merrill Lynch (BAML) US High-Yield Constrained (HUC0) Index from 1999 – March 2016. As the shale oil and gas production revolution within the United States unfolded, companies issued billions of dollars of debt (much of it high-yield) to support drilling activity in the U.S. As investors flocked to participate in the revolution, this led to a steady increase in the weight of the energy sector within high-yield bond indices.

BAML US High-Yield Constrained Index (HUC0) Energy Exposure
January 1999 – March 2016

Another relatively recent example of this phenomenon occurred in the telecommunication sector and began in the late 90s and lasted into the early 2000s. During this period, telecommunication companies issued debt to expand their networks. By June 2000, the telecommunications sector exposure was over 20% in the index. Many of the companies issuing debt at that time were first time issuers in the early stage of their life cycle and therefore they did not generate free cash-flow as they aggressively and perpetually borrowed and invested to grow. This is often referred to as a "build it and they will come" investment thesis. As has been the case with the recent energy rout in the high-yield market, the telecommunications sector suffered a similar fate.

Market Value of Telecommunications in the HUC0 Index
December 1997 – April 2002

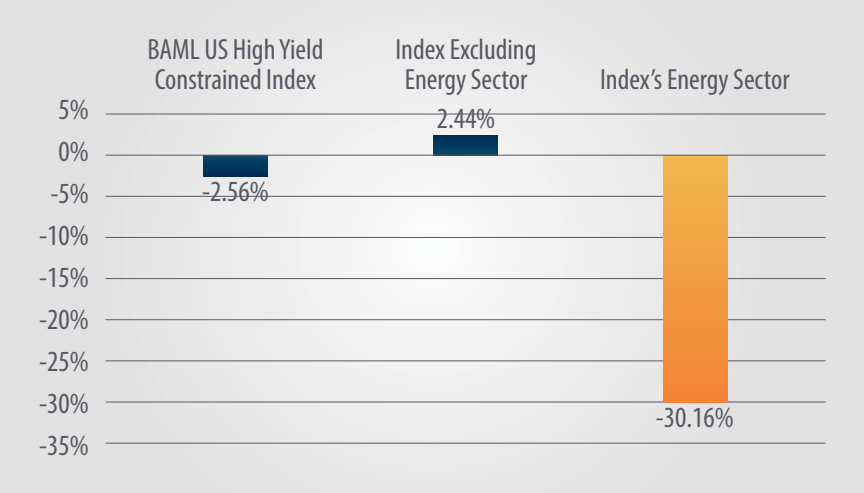


The deterioration of the energy and telecommunication sectors in these examples are a sobering reminder that the passively managed index based approach can lead to unintended consequences and favor "hot" sectors of the market. This can result in outsized exposure to the riskiest issuers in the high-yield market.

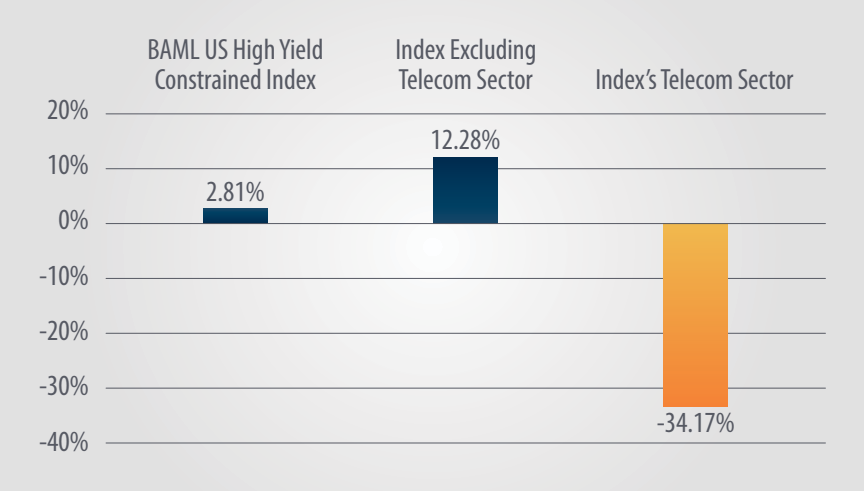
To demonstrate the returns of these "hot" sectors after the peak, we analyzed the 18 months following the peak of each sector's weight within the index, and compared the returns to all other sectors within the index. As the charts illustrate, the increasing weight of both the telecommunications sector which peaked in 2000 and the energy sector which peaked in 2014 within passively managed index based strategies had a profoundly negative impact on total returns over the following 18 months.

While there is no guarantee that an active management approach would have mitigated the negative impact, the flexibility offered by active management might have allowed an active manager to recognize the risk in these sectors and adjust the portfolio allocations accordingly.

Energy | Total Returns
9/30/2014 – 3/31/2016



Telecommunications | Total Returns
5/31/2000 – 11/30/2001



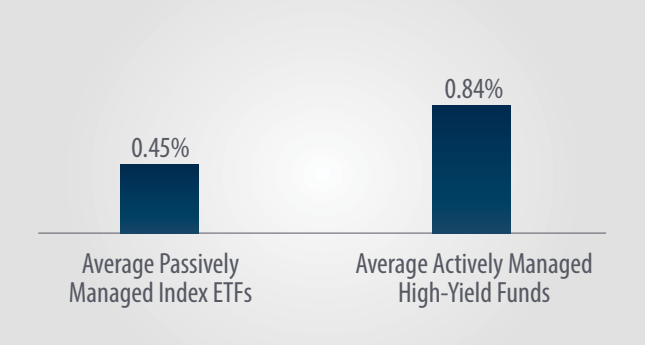
The charts are for illustrative purposes only and not indicative of any investment. The performance illustrations exclude the effects of taxes and brokerage commissions or other expenses incurred when investing. Past performance is not indicative of future results and there can be no assurance past trends will continue in the future.

Portfolio Construction Advantage: Active Management

Cost

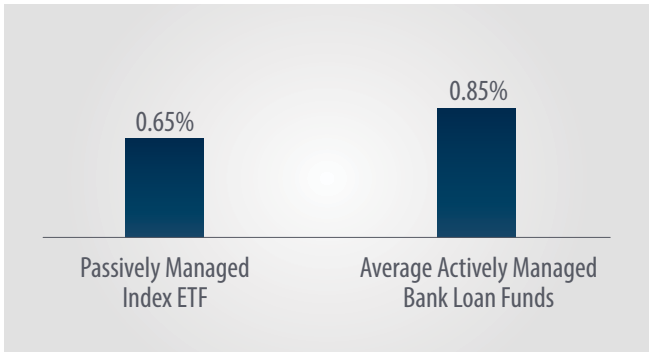
Fees are an important consideration for investors as higher fees erode the net return to the investor. Passively managed index based strategies typically charge lower fees than actively managed strategies. Indeed, we find that this is the case within the noninvestment grade fixed income asset classes. The charts illustrate the average expense ratio for non-investment grade passively managed index based strategies and actively managed strategies.

High-Yield Bond Fund Expense Ratio Comparison



Source: Morningstar, First Trust Advisors L.P. Data is as of June 30, 2016 for funds in existence for more than 1 year which represents the largest sample size of available data. The passively managed index fund average represents the average of the two largest passively managed index based high-yield bond ETFs, while the actively managed high-yield fund average represents the Morningstar high-yield bond category constituents that were in existence during the past year.

Bank Loan Fund Expense Ratio Comparison



Source: Morningstar, First Trust Advisors L.P. Data is as of June 30, 2016 for funds in existence for more than 1 year which represents the largest sample size of available data. The passively managed index fund represents the largest passively managed index based bank loan ETF, while the actively managed bank loan fund average represents the Morningstar bank loan fund category constituents that were in existence during the past year.

As one can see, passively managed index based strategies benefit from lower fees. Within high-yield bond fund strategies, the passively managed index based strategies benefit from 0.39% lower average annual expense ratios compared to the actively managed high-yield bond fund universe. Within senior loans, the passively managed index based strategy has a 0.20% annual cost advantage relative to the actively managed senior loan fund universe.

In isolation, the lower fees for passive index strategies is an advantage in favor of passive strategies as there is a lower drag on net returns to investors.

Cost Advantage: Passive Index

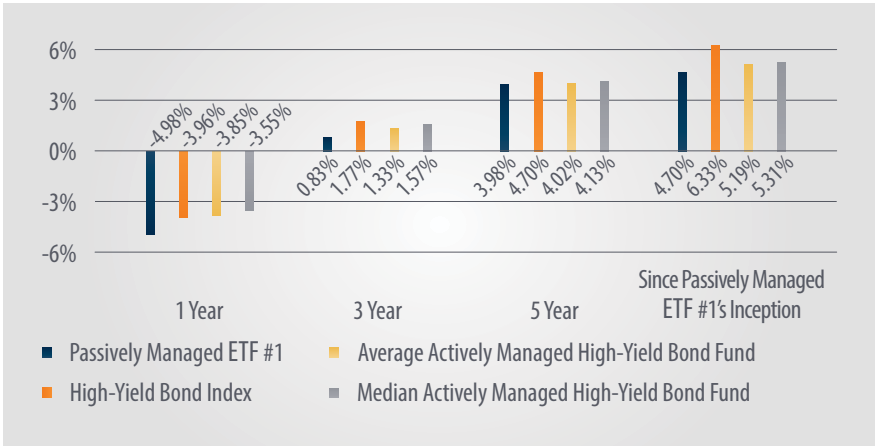
Performance

In the previous section, we illustrated that passively managed index based strategies benefit from lower fees relative to actively managed strategies within the non-investment grade asset classes. This single fact may lead one to conclude that passive index strategies will have superior performance as they have a smaller fee drag on net performance. However, the expense ratio is just one variable in the equation. The more important question to ask is, do actively managed strategies generate excess returns through credit selection and portfolio construction to generate superior net returns when compared to the passively managed index based strategies?

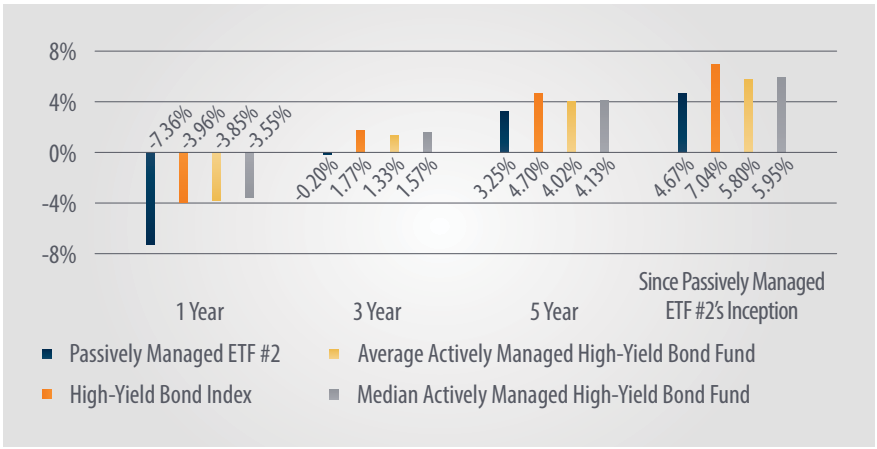
High-Yield

The two charts illustrate the returns of the two largest passively managed index based high-yield bond ETFs. The performance of each of these funds over the last one year, three year, five year and since inception periods is compared to the average and median net return of Morningstar's actively managed high-yield bond mutual fund universe.

Average Annual Total Returns (As of 3/31/2016)



Average Annual Total Returns (As of 3/31/2016)



Source: Morningstar, First Trust Advisors L.P. Past performance is no guarantee of future results. The actively managed high-yield bond fund universe represents the Morningstar high-yield bond category constituents. The High-Yield Bond Index is the Bank of America Merrill Lynch US High Yield Constrained (HUC0) Index. Performance figures are for the periods ending March 31, 2016. Additionally, performance is shown since the first full month after the inception of each of the two largest passively managed index based high-yield bond ETFs, respectively. The first chart dates back to May 1, 2007 while the second chart dates back to December 1, 2007. Keep in mind that the index returns shown are on a gross basis, not a net basis, as investors cannot invest directly in an index.

On a net return basis, which includes all fees, the average and median returns for actively managed high-yield bond funds outperformed both passively managed index based ETF returns during the last one year, three year, five year and since inception periods, respectively. The tables below clearly show the numerical comparison and relative outperformance between Morningstar's actively managed high-yield bond universe and each of the passively managed index funds.

Actively Managed Funds Average Annual Outperformance Relative to Passively Managed ETF #1

	1 Year	3 Year	5 Year	Since Inception
Average Actively Managed Fund	+113 bps	+50 bps	+4 bps	+49 bps
Median Actively Managed Fund	+143 bps	+74 bps	+15 bps	+61 bps

Actively Managed Funds Average Annual Outperformance Relative to Passively Managed ETF #2

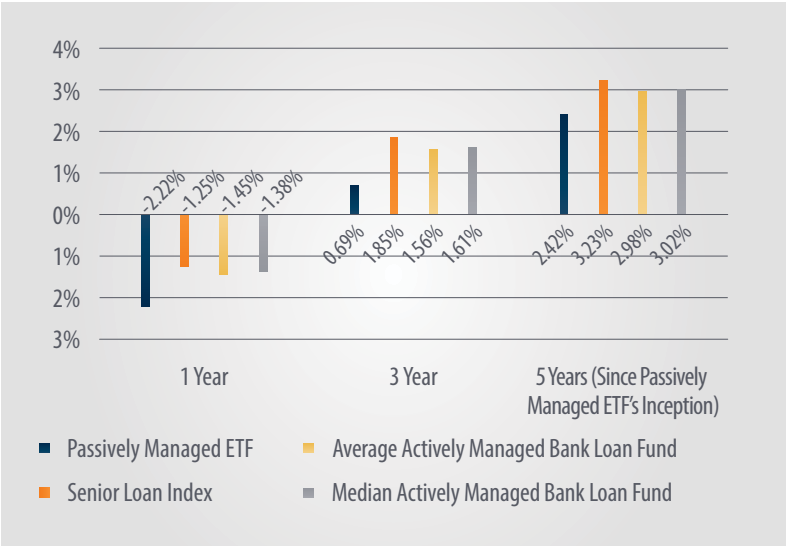
	1 Year	3 Year	5 Year	Since Inception
Average Actively Managed Fund	+351 bps	+153 bps	+77 bps	+113 bps
Median Actively Managed Fund	+381 bps	+177 bps	+88 bps	+128 bps

Source: Morningstar, First Trust Advisors L.P. Relative performance is shown in basis points (bps). One basis point represents one hundredth of one percent. Past performance is no guarantee of future results. The actively managed high-yield bond fund universe represents the Morningstar high-yield bond category constituents. Performance figures are for the periods ending March 31, 2016. Additionally, performance is shown since the first full month after the inception of each of the two largest passively managed index based high-yield bond ETFs, respectively. The first chart dates back to May 1, 2007 while the second chart dates back to December 1, 2007.

Senior Loan

In the chart below we illustrate the return of the largest passively managed senior loan index based ETF in the market. The returns are analyzed for the trailing one year, three year and five year periods and are compared with the average and median net return of the Morningstar senior loan mutual fund universe.

Average Annual Total Returns (As of 3/31/2016)



Source: Morningstar, First Trust Advisors L.P. Past performance is no guarantee of future results. The bank loan fund universe represents the Morningstar bank loan category constituents. The Senior Loan Index is the S&P/LSTA Leveraged Loan Index. Performance figures are for the periods ending March 31, 2016. Additionally, the five year look back corresponds to the first full month after the inception of the largest passively managed index based bank loan ETF. The chart dates back to April 1, 2011. Keep in mind that the index returns shown are on a gross basis, not a net basis, as investors cannot invest directly in an index.

Despite the higher average fees, actively managed strategies have outperformed the passively managed index based senior loan ETF over the last one year, three year and five year periods. The returns on a net basis are shown in the table below.

Actively Managed Fund Average Annual Outperformance Relative to Passively Managed ETF

	1 Year	3 Year	5 Year/Since Inception (March 2011)
Average Actively Managed Fund	+77 bps	+87 bps	+56 bps
Median Actively Managed Fund	+84 bps	+92 bps	+60 bps

In conclusion, the data suggests that the performance benefit from active management within the high-yield bond and senior loan asset classes more than offsets the higher management fees offered by passively managed index based strategies.

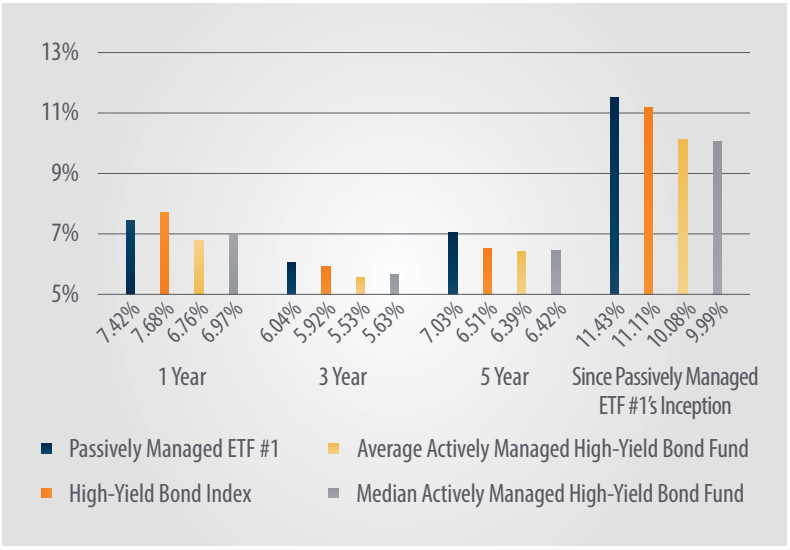
Performance Advantage: Active Management

Risk/Standard Deviation

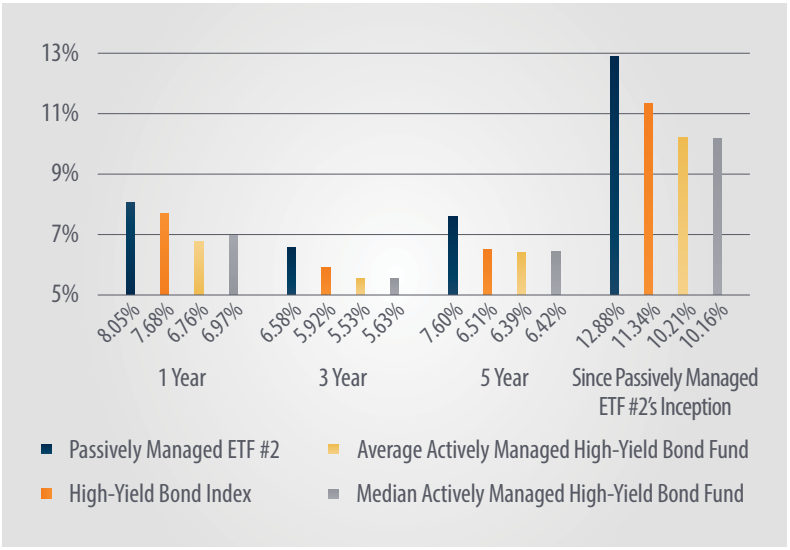
In the prior section, the data illustrated that actively managed strategies outperformed passively managed index based strategies for non-investment grade asset classes when looking at performance net of expenses. However, investors aren't solely focused on returns. Investors are also concerned about the degree of risk or volatility they may experience to achieve a certain level of return. For a given level of return, investors would typically choose an investment with a lower standard deviation than an investment with a higher standard deviation. Despite the typical investor's stated long-term investment horizon, in the real world, we know that significant return volatility (or higher standard deviation) may create increased stress levels and concern for the investor.

Given investors' preferences for lower volatility, we now assess whether there are any historical standard deviation differences between a passively managed index based approach and an actively managed approach. Similar to the performance analysis, we measure the two largest passively managed index based ETFs within the high-yield bond market and the largest passively managed index based ETF within the senior loan market relative to their actively managed peers. However, we shift the focus from returns to standard deviations (risk).

Standard Deviation (3/31/2016)



Standard Deviation (3/31/2016)



Source: Morningstar, First Trust Advisors L.P. Past performance is no guarantee of future results. The actively managed high-yield bond fund universe represents the Morningstar high-yield bond category constituents. The High-Yield Bond Index is the Bank of America Merrill Lynch US High Yield Constrained (HUC0) Index. Figures are for the periods ending March 31, 2016. Additionally, data is shown since the first full month after the inception of each of the two largest passively managed index based high-yield bond ETFs, respectively. The first chart dates back to May 1, 2007 while the second chart dates back to December 1, 2007.

Historically, actively managed below investment grade strategies have shown lower risk relative to the passively managed index based strategies. The average standard deviation for actively managed high-yield bond funds was lower than the passively managed index based high-yield bond ETFs for the trailing one year, three year, five year and since inception periods, respectively. The below tables clearly show this to be true.

Actively Managed Funds Standard Deviation Relative to Passively Managed ETF #1

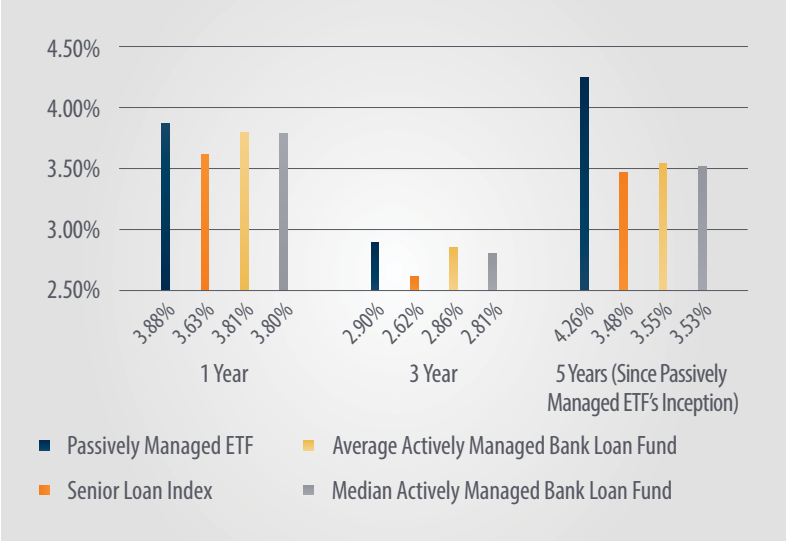
	1 Year	3 Year	5 Year	Since Inception
Average Actively Managed Fund	-66 bps	-51 bps	-64 bps	-135 bps
Median Actively Managed Fund	-45 bps	-41 bps	-61 bps	-144 bps

Actively Managed Funds Standard Deviation Relative to Passively Managed ETF #2

	1 Year	3 Year	5 Year	Since Inception
Average Actively Managed Fund	-129 bps	-105 bps	-121 bps	-267 bps
Median Actively Managed Fund	-108 bps	-95 bps	-118 bps	-272 bps

Source: Morningstar, First Trust Advisors L.P. Past performance is no guarantee of future results. The actively managed high-yield bond fund universe represents the Morningstar high-yield bond category constituents. Figures are for the periods ending March 31, 2016. Additionally, data is shown since the first full month after the inception of each of the two largest passively managed index based high-yield bond ETFs, respectively. The first chart dates back to May 1, 2007 while the second chart dates back to December 1, 2007.

Standard Deviation (3/31/2016)



Source: Morningstar, First Trust Advisors L.P. Past performance is no guarantee of future results. The bank loan fund universe represents the Morningstar bank loan category constituents. The Senior Loan Index is the S&P/LSTA Leveraged Loan Index. Performance figures are for the periods ending March 31, 2016. Additionally, the five year look back corresponds to the first full month after the inception of the largest passively managed index based bank loan ETF. The chart dates back to April 1, 2011.

The average standard deviation for actively managed senior loan funds was lower than the passively managed index based ETF for the trailing one year, three year and five year periods. The table below illustrates the lower volatility experienced by actively managed bank loan funds when compared to a passive strategy.

Actively Managed Funds Standard Deviation Relative to Passively Managed ETF

	1 Year	3 Year	5 Year/Since Inception
Average Actively Managed Fund	-7 bps	-4 bps	-71 bps
Median Actively Managed Fund	-8 bps	-9 bps	-73 bps

Source: Morningstar, First Trust Advisors L.P. Past performance is no guarantee of future results. The bank loan fund universe represents the Morningstar bank loan category constituents. Figures are for the periods ending March 31, 2016. Additionally, the five year look back corresponds to the first full month after the inception of the largest passively managed index based bank loan ETF. The chart dates back to April 1, 2011.

While it's difficult to pinpoint the exact drivers of the standard deviation differences between active and passive strategies, it is our belief that the index portfolio construction methodology (section #1) is the driving factor behind the higher standard deviation for passively managed index based ETFs. The debt-capitalization methodology tilts weightings towards more indebted companies and increases exposure to "hot" sectors, which potentially leads to a higher risk portfolio. Additionally, passively managed index based strategies typically don't have the same risk management tools that actively managed strategies may use, such as raising cash levels during periods of heightened volatility or emphasizing higher credit quality in an effort to position the portfolio more defensively.

Conclusion: The data indicates that the higher historical returns offered by actively managed strategies have not been achieved through a greater risk profile. Instead, the actively managed strategies have actually exhibited lower standard deviation of returns relative to the passively managed index based strategies.

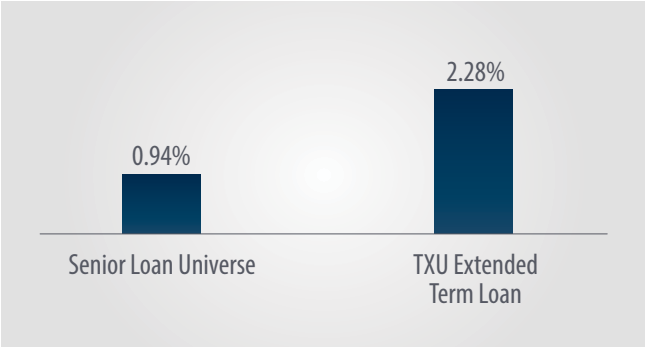
Risk/Standard Deviation Advantage: Active Management

Liquidity

Given shrinking dealer balance sheets and the widely reported news in 2015 of certain high-yield bond mutual funds and hedge-funds that were liquidating, some of which had difficulty meeting redemption requests, a liquidity analysis is a critical part of the active vs passive decision. The prevailing market sentiment is that passively managed index based strategies hold more highly liquid issues than actively managed strategies given that the index construction overweights the largest high-yield bond and senior loan issues within the market. The data, however, suggests that liquidity is much more nuanced than simply fitting the narrative that "bigger is better".

One method of evaluating liquidity is to review the bid/ask spread of securities in the market and compare the potential execution costs of trading a particular security. We define the potential execution cost as the bid/ask spread divided by the bid price of the security. In many instances, large issuers will have a tight bid/ask spread, however, when a company becomes stressed or distressed, the liquidity suffers. In addition to potential performance problems for stressed or distressed companies, there may be hidden costs in the form of higher trading costs of the underlying securities. In order to test this assumption, the chart below analyzes the average potential transaction cost within the broad senior loan market compared to the largest issuer in the market, TXU, which in fact defaulted (as has previously been noted).

Average Potential Execution Cost
1Q 2016



Source: The Loan Syndications & Trading Association 1Q 2016 Secondary Trading Study, First Trust Advisors L.P. The potential execution cost is defined as the difference between the bid and ask divided by the bid price.

Large does not necessarily equate to better liquidity or lower potential transaction costs. The assumption that larger issuers are more liquid does not seem to universally hold true. This is counter to the assumption that passively managed index based strategies will be more liquid since they emphasize the largest issuers in the market. A passively managed index based strategy cannot generally determine holdings and weights based upon liquidity criteria and therefore may need to hold issues with less liquidity simply because the issues are in the index.

In this regard, an active manager that emphasizes liquidity as part of the portfolio construction process is likely to construct a portfolio with greater liquidity than a passively managed index based strategy. While the size of the debt issue is an important consideration, a portfolio management team can consider many factors when determining liquidity. Markit (an independent third party financial services provider) identifies several such factors including: the depth of the bid, the depth of the offer, the size of the bid/ask spread, the quality of the debt arranger, the number of dealers actively making markets within the given bond or loan, the frequency of quotes and independent third party liquidity scores.

- Depth of bid and offer: If a market (bid and offer) for a given bond or loan has a size associated with it (dollar amount), the dealer providing that market is suggesting that he or she is willing to buy (bid) or sell (offer) the amount indicated. Dealer quotes without associated sizes would therefore be less helpful in determining potential liquidity for a given loan or bond. The larger the bid and offer size, the more expected liquidity for a given loan or bond.
- Size of the bid/ask spread: The difference between the bid and offer is typically tighter for more liquid bonds and loans. Therefore, a loan or bond that has a wider difference between the bid and offer is expected to have less liquidity than a bond or loan with a tighter difference between the bid and offer.

- Quality of the debt arranger: A larger, well known debt arranger typically has a full staff of sales professionals and traders dedicated to making markets in the bonds and loans issued by that firm. Moreover, the larger well known debt arrangers typically have balance sheets that can be used to provide liquidity to market participants. Therefore, if a bond or loan is issued by a smaller dealer, it may not have the same liquidity characteristics as a bond or loan issued by one of the leading arrangers.
- Number of dealers actively making markets: Bonds and loans with several active dealers providing active bids and offers tend to exhibit greater liquidity than bonds or loans where one or few dealers are active.
- Independent third party liquidity scores: Provides an independent measure of liquidity in a consistent, repeatable manner. It also provides the ability to develop more reliable measures of liquidation costs.

The ability to exclude, or deemphasize, large issuers in the market that may have higher potential execution costs should favor actively managed strategies that favor this approach.

In periods of stress, flexibility can also be a vital tool in combating unforeseen circumstances. As such, the active management approach may have a distinct advantage over passively managed index based strategies. In a scenario where a fund is experiencing significant redemptions, an active manager will have full flexibility to raise cash – any holding may be sold in order to meet redemptions. The passively managed index based strategy must continue to manage to a tracking error relative to the index, even in times of heavy redemptions. This may pressure the passively managed index based strategy to force sales of specific holdings (in order to remain in-line with the index) that may not be offering very good liquidity at the time (wide bid/ask spread). This structural difference may favor actively managed funds for managers that include liquidity as part of their investment process.

However, not all active managers include liquidity as part of their investment process. This is evidenced by the issues certain funds experienced in 2015 when failing to meet redemptions, so it becomes difficult to draw broad conclusions in this category. There do not appear to be any inherent disadvantages of the active management approach with respect to liquidity. It appears that those specific funds that experienced liquidity challenges were employing a strategy that emphasized less liquid and potentially stressed and distressed investments. For active strategies that choose to emphasize liquid issuers, those portfolios may offer the same or better liquidity as the passive index strategies.

Overall, it does not appear that there are inherent liquidity advantages or disadvantages to a passive or active approach. For actively managed funds, liquidity is driven by the portfolio management team's investment process. Some teams may favor less liquid investments (or not use liquidity screens), while others may emphasize highly liquid bond and loan issues. For those active managers that emphasize liquidity, those portfolio holdings may have a liquidity advantage over passive index funds, while active managers that do not emphasize liquidity may have a liquidity disadvantage over passive index funds.

Liquidity Advantage: Neutral

Conclusion

As we analyze active vs passive management approaches within non-investment grade fixed income, we conclude that the benefits of the five criteria analyzed favor active management. Portfolio construction, return performance, and risk/standard deviation all favor active management. The only category where passive management has a clear advantage is cost. However, cost is only an issue if the investor's net returns are higher than the alternative. As we have demonstrated, the cost differential between passive and active management has been more than offset by superior net returns for active management. Of course, as time goes on and we are able to examine results over longer periods, it is possible that a different conclusion might be reached. Furthermore, it is possible that the universe of passively managed funds will grow, thus permitting a more extensive analysis of passively managed strategies.

Criteria	Active Management	Passive Management
Portfolio Construction	✕	
Cost		✕
Performance	✕	
Risk/Standard Deviation	✕	
Liquidity	✕	✕
Overall	✕	

At this time, given this analysis, our strong recommendation for investors seeking investments in non-investment grade fixed income asset classes would be to use an actively managed approach with a manager whose investment process and philosophy is consistent with your investment goals. The passively managed index based approach may work well in other asset classes but it historically has underperformed the actively managed approach in non-investment grade fixed income.

Definitions:

Senior Loans–S&P/LSTA Leveraged Loan Index (LLI) is designed to track the current outstanding balance and spread over LIBOR for fully funded term loans.

High-Yield Bonds–BAML Merrill Lynch U.S. High Yield Constrained Index (HUC0) tracks the performance of U.S. dollar denominated below investment grade corporate debt publicly issued in the U.S. domestic market but caps issuer exposure at 2%.

Actively Managed High-Yield Bond Fund and Bank Loan Fund Universes–the funds included in each universe for the analysis shown in the examples were determined by beginning with all the constituents of the Morningstar bank loan category and Morningstar high-yield bond category. We included only those funds that were in existence for the entire time period being analyzed. Finally, we selected the largest share class by assets under management for each fund (excluding load waived share classes) to remove duplicates and seek to capture a better representation of performance experienced by the majority of investors.

Standard Deviation is a measure of price variability (risk).

Risks and Important Considerations:

All opinions constitute judgements as of the date of release and are subject to change without notice. There can be no assurance that any forecasts will be achieved. Data is taken from sources we believe to be accurate and reliable but we do not guarantee its accuracy or completeness. The information does not constitute a solicitation or an offer to buy or sell any security.

All investing involves risks, including the risk of loss. High-yield securities, or "junk" bonds, are subject to greater market fluctuations and risk of loss than securities with higher ratings, and therefore, may be highly speculative. These securities are issued by companies that may have limited operating history, narrowly focused operations, and/or other impediments to the timely payment of periodic interest and principal at maturity. The market for high-yield securities is smaller and less liquid than that for investment grade securities.

High-yield securities are subject to credit risk, interest rate risk, and income risk. Credit risk is the risk that an issuer of a security will be unable or unwilling to make dividend, interest and/or principal payments when due and that the value of a security may decline as a result. Interest rate risk is the risk that if interest rates rise, the prices of fixed-rate instruments may fall. Income risk is the risk that if interest rates fall, the income from floating rate securities will decline as floating-rate debt adjusts lower with falling interest rates.

Companies that issue loans tend to be highly leveraged and thus are more susceptible to the risks of interest deferral, default and/or bankruptcy. Senior floating rate loans are usually rated below investment grade but may also be unrated. As a result, the risks associated with these loans are similar to the risks of high-yield fixed income instruments. Loans are subject to prepayment risk. The degree to which borrowers prepay loans may be affected by general business conditions, the financial condition of the borrower and competitive conditions among loan investors, among others. An investor may not be able to reinvest the proceeds received on terms as favorable as the prepaid loan.

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