

Key Considerations for Institutional Credit Investors

Spring 2017



Executive Summary

Collectively, high yield bonds and syndicated loans form a \$2.3 trillion market¹ offering a complement of liquidity, risk, income and return that we believe is unique and not replicable using more traditional investment assets. Investors willing to accept moderate complexity and price volatility can achieve superior fixed income performance closer to global equities with Sharpe Ratios comparable to or in excess of global equities (see Appendix for historical return comparatives).

Since high yield bonds and syndicated loans are traditionally evaluated as separate asset classes, each has a largely distinct investor base driving demand and credit spreads within these respective assets. Much of that separation started to dissipate following the Great Recession as investors started to understand the advantages of an integrated approach to investing in liquid, non-investment grade credit.

This paper will argue that the optimal investment strategy for non-investment grade, liquid credit is an actively managed portfolio that encompasses a full breadth of both bonds and loans. Such a strategy may be benchmarked against a 50/50 bond/loan index. As it is newer and less established as a concept, market terminology for this strategy varies somewhat, often including references to multi-asset credit or flexible credit. Herein we refer to it as *institutional credit*.

We advocate for unconstrained flexibility and a single portfolio strategy across both markets because this affords investors an opportunity to best capture consistently observable price inefficiencies and dislocations between and within each market. This construct offers an investment manager the ability to pivot seamlessly across a range of complementary fixed income attributes: secured debt vs. unsecured debt, senior debt vs. junior debt, and fixed rate coupon vs. floating rate coupon. We find the potential advantage of such flexibility to be quantifiable by modeling a simplified allocation strategy based on historical spread relationship between bonds and loans, and further conclude that such a strategy is not easily or effectively replicable on a passive basis.

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In short, we argue that full flexibility facilitates superior opportunity capture with a more favorable intersection of risk and return than a strategy focused primarily on a single subset of the liquid non-investment grade markets.

We will explore:

- i. Present market conditions in high yield bonds and syndicated loans, and implications for value and return potential in each market
- ii. Differences in the current investor base for each market
- iii. Differences and similarities in the current issuer base for each market
- iv. Ways in which to quantify the potential advantage of portfolio flexibility (vs focus on a single asset class)
- v. Difficulties in replicating this strategy with programs focused on underlying strategies individually
- vi. Difficulties in replicating this strategy on a passive basis

Markets Imply Fair Spreads with Pockets of Opportunity

Following a significant run over the last twelve months (part of a bigger post-2008 tightening cycle now in its ninth year) amidst a brief spike in credit defaults concentrated within the energy and commodity space, credit spreads and equity valuations are now pricing in moderate, declining default rates and continuing credit improvement. Gradually constrictive but still very accommodative monetary policy continues to act as a helpful backdrop and driver of this dynamic. Low or negative front end rates in most economies have motivated a general search for yield, driving capital inflows to higher-yielding credit assets.

Macroeconomic growth is positive and improving but remains below trend. This phenomenon is observable in the United States and across most developed economies. Traditional signals of credit under or overvaluation are mixed – often more the case than not – with leverage levels at the top end of historical ranges and corporate investment low, juxtaposed against a series of more positive indicators: robust cash flow, moderate inventory levels and relatively uniform growth acceleration in corporate earnings. The aggregate landscape of data, taken as a whole, implies generally benign lending conditions over the near term, though exogenous risks remain present. In this environment, most companies are able to show progressive, organic credit improvement.

Against this market context, excess spread (i.e. the amount by which a bond or loan's yield exceeds the risk free rate plus expected credit loss) is a primary measure of value. This quantum should be evaluated in the context of the three main additional risks assumed by investors: trading liquidity, price volatility, and interest rate risk. Presently we view excess spreads to be fairly valued on the whole, though loan prices imply better value than is historically the case.

High yield bondsⁱⁱ reflect an overall spread over treasuries of 407 basis points per annumⁱⁱⁱ with excess spread comprising 197 basis points of that amount. Loans^{iv} reflect a spread of 444 basis points per annum over three month LIBOR^v with excess spread comprising 321 basis points per annum.^{vi} Syndicated loans look significantly cheaper by this measure, though some of the excess is attributable to a fourth risk, early repayment. By market value, 62% of the loan index^{iv} is presently bid over par, at an average premium of 100.71. Depending on the probability of repricing/repayment – usually high – this could offset as much as 44 basis points of the excess spread observable in the loan market.

In addition, when analyzing different ratings or risk tiers within each market, fair value appears spread evenly across the spectrum. BB vs single B spread differentials are consistent with historical averages during similar economic environments. Said differently, excess spreads are not significantly outside of reasonable ranges, though the riskier end of the high yield bond market has recently tightened with particular strength.

Lower quality secured loans are a noteworthy exception. Somewhat left behind in the 2016 and early 2017 rally, lower-rated loans as a cohort yield in excess of 12.75%, pricing in a level of risk seemingly in excess of the current environment. Some of this reflects decreased liquidity in the lower tier cohort. By market value, 49% of lower tier loans are issues of sub \$500 million size and 29% are of sub \$300 million size. This grouping of smaller issues will trade less frequently and may be marked at intervals or by reference to similar quality loans of comparable companies.

Nonetheless we find this pocket of the market, in part, accessible to investors and are particularly focused on identifying attractively valued situations there. This opportunity set is presently skewed towards four industries: energy, information technology, services, and broadcasting. Each of these segments is distinct, requiring very deliberate

underwriting and specific depth of industry experience to address, yet offers very interesting potential return.

Below investment grade debt yields and spreads peaked most recently in February of 2016 and from that time performance has been strong. High yield bonds and syndicated loans have since returned 22.3% and 12.6%, respectively.¹ Investment return has been dominated across the board by beta names, with elevated price correlation within parts of each universe. A small minority of investors that were overweight distressed credit outperformed the markets over that period. Most traditional fund managers, by contrast, were underweight and were overly selective in buying or holding distressed energy companies as well as “fallen angel” commodity businesses downgraded from investment grade.

We believe the forward environment will be markedly different than what we saw last year. Now that spreads are lower, it will be driven by a distinct and alternative set of factors. For the near to medium term, we view the opportunity to deliver investment return will stem less from market beta and more from idiosyncratic risk – missing downside events or announcements in names trading at levels reflecting low risk, and on the flip side identifying companies with outsized organic improvement trajectories or significant likelihood of event-driven drivers, especially M&A candidates, that may outperform their peers. Deliberate and disciplined investment (always key) will be particularly essential as spreads are tighter and risks more balanced.

In many cases, the best value can reside in less liquid or less well-covered pockets of the markets and can be best found by casting the widest net, including across the entire non-investment grade spectrum. *We believe credit picking will define success, and strategies with the greatest investment breadth are presently in a position of disproportionate advantage.*

Bonds and Loans Have Distinct Investor Bases

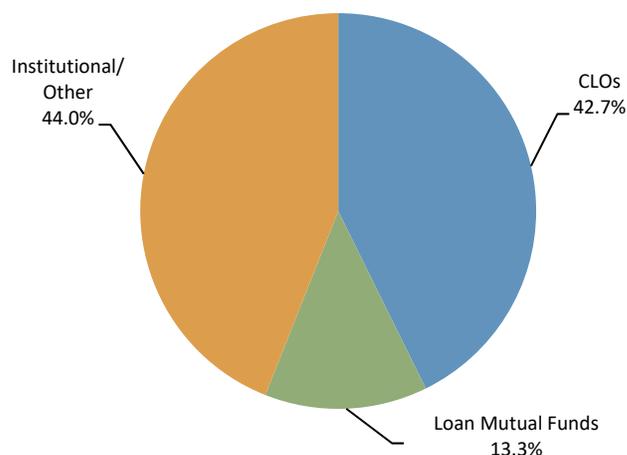
Issuers of below investment grade debt are relatively homogenous businesses, sharing more commonalities than differences. Capital structures, revenue models, and earnings drivers of companies within the same industry and with a like ratio of indebtedness to annual cash flow are similar, irrespective of whether a company chooses to finance itself by issuing bank debt, high yield bonds, or both. Thus, credit analysis can be efficiently conducted across the board with a team of research analysts organized by industry coverage

rather than by asset type. Some crossover investment managers deliberately choose this model, motivated by cost efficiency and superior opportunity capture from a single research team.

At the same time, the investor base for each asset class remains separate and largely unique, each having evolved in discrete form over the last three decades. This suggests an interesting dichotomy: *credit specialists are organized differently than their clients, many of the former having adopted an increasingly integrated, holistic approach to credit investing. By contrast, the latter are still segregating credit by asset class.* This difference in approach exists despite significant growth in overall lending volume over the last two decades and, in particular, since the Great Recession.

Syndicated loan demand is generally dominated by managers of collateralized loan obligations (CLOs) which act as a shadow banking system that repackages and distributes non-investment grade corporate loan risk primarily to buyers seeking investment-grade rated paper with outsized yield. Excluding periods of significant market dislocation, CLOs have generally represented a whopping 40% to 70% of the demand for new loan issues, but since 2015 are prohibited from participating in the U.S. high yield bond market by the Dodd–Frank Wall Street Reform and Consumer Protection Act.^{vii} Most other holders of syndicated loans tend to be separately managed accounts (“SMAs,” privately arranged), public co-mingled/retail funds, or to a much lesser degree exchange-traded funds with investment charters dedicated largely or exclusively to floating rate, secured loans leaving limited or no room for crossover investing into high yield bonds.

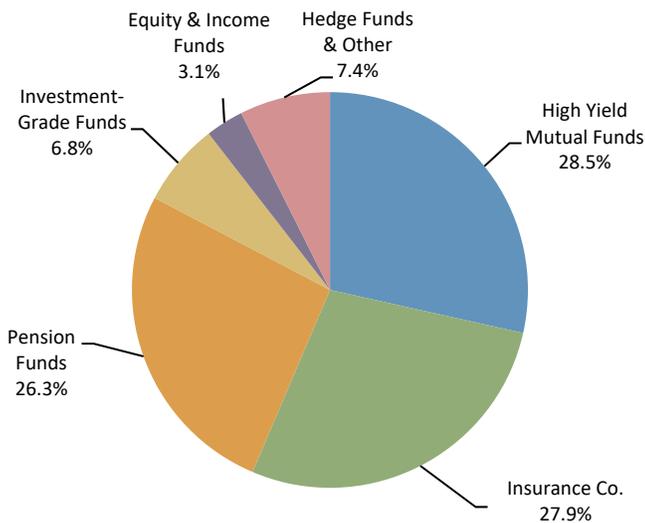
Syndicated Loan Investor Base



Source: Ares Management LLC, Credit Suisse Group AG, Thomson Reuters.

By contrast the better-seasoned and older high yield bond market is more fragmented and better diversified, yet also dominated by dedicated bond funds with limited crossover capacity. No securitization market comparable to CLOs exists for high yield bonds. Investor priorities here are also distinct, as daily-liquidity or weekly-liquidity funds are more prevalent in the high yield market and retail investors more dominant.^{viii} Mutual funds as a group are the single largest holders of high yield bonds. Insurance companies, another substantial buyer of high yield bonds, tend to have less of an allocation (or no allocation) to similarly rated syndicated loans.

High Yield Bond Investor Base



Source: J.P. Morgan 2016 High-Yield Annual Review, December 2, 2016

Given this difference in demand base, inflows and outflows into either market are not always well correlated. Retail funds, which offer real time subscription/redemption information and complete transparency, best illustrate this potential for disconnection. For weeks or months, retail investor flows may be quite biased towards one market, and for periods of time one market may see net retail inflows while the other sees net outflows. This is particularly common during periods of anticipated or actual interest rate volatility.

There are two reasons why we think this should matter to sophisticated investors:

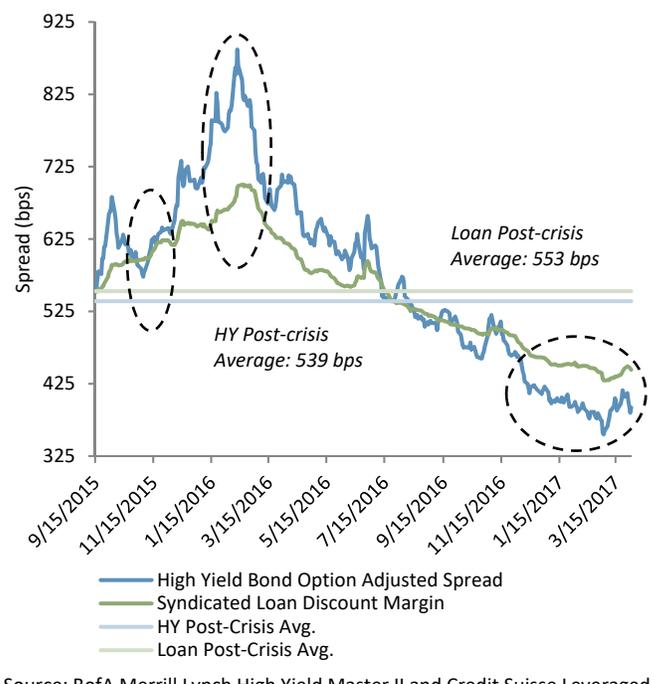
First, over the short term, the relative scarcity of crossover investors between the two markets causes market flows and technical dynamics to drive trading activity which may differently interpret and differently price the same set of underlying fundamental risks of a debt issuer. This is clearly

observable where a company has issued both a syndicated loan and high yield bond(s). The basis, or difference in yield, between both instruments should in theory be relatively stable and increase or decrease in gradual response to the changes in the issuer’s credit quality. In practice, price lags are common as is basis compression or expansion not fully explainable by shifts in issuers’ earnings expectations.

Central bank activity can exacerbate this dynamic, stimulating fund flows into risk assets and between fixed rate and floating rate assets. This has been especially true since the Great Recession, during which time stimulative monetary policy has reached unprecedented levels. At times, flows driven by the prospect of low or lower sovereign rates will dominate market price behavior, and account for significant spread and yield changes even if underlying fundamental credit conditions remain constant.

The following exhibits illustrate significant volatility in yield basis between the Merrill Lynch High Yield Index (H0A0) and the Credit Suisse Leveraged Loan Index (CSLLI). Disconnections and corrections exist even over shorter term periods. Our first graph covers the eighteen months ended March 2017 and tracks the daily credit spread of each market. Periods of atypical disconnection are highlighted.

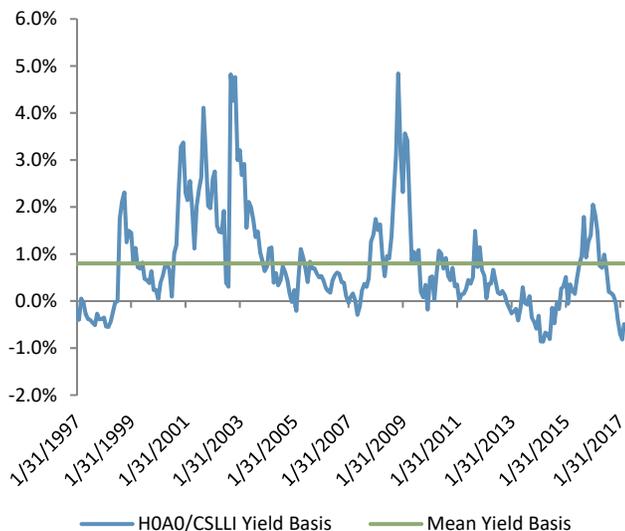
Variability in Bond and Loan Spreads



Source: BofA Merrill Lynch High Yield Master II and Credit Suisse Leveraged Loan Index as of 3/31/2017. Post-crisis defined as period beginning January 1, 2010.

Here in a second graph we show yield basis (again the difference between the credit spread of bonds and of loans) over a longer series of month end dates from January 1997 to March 2017:

HOAO/CSLLI Yield Basis (1/31/1997 to 3/21/2017)



Second, over the longer term these markets are relatively correlated as should be expected, and prices/spreads do revert to underlying fundamentals as disconnections get corrected away. Crossover capital and multi-asset investment programs like institutional credit will drive this correction. We have tended to see stronger capital formation of this type during periods of significant dislocation, and observe that correlation between the markets is gradually increasing over time.

Medium to long term basis correction is more a benefit than a threat to institutional credit managers – it diminishes the probability of assets within a space staying undervalued or overvalued for too long and affords recurring alpha from relative value investing.

Bonds and Loans Have Low Issuer Overlap

Non-investment grade corporate borrowers spend significant time and resources evaluating their capital needs and choosing which market or markets to approach for debt financing. The need to minimize cost of capital is balanced with a range of other considerations unique to specific industries, companies, or an owner's business objectives.

Borrowers can choose between revolvers, term loans, bonds, convertible debt, or other forms of indebtedness such as asset-based borrowing, pledging receivables, inventories, or other holdings. They can also choose to borrow in the U.S. or Europe.^{ix} The same community of sell-side underwriters will generally be able to arrange one or more of these and may thus assist companies in comparing and analyzing the benefits and drawbacks involved.

Considerations include:

- Ability to prepay debt
- Willingness to pledge assets as collateral
- Structure of debt covenants (maintenance or incurrence-based)
- Debt maturity and amortization profile
- Fixed rate versus floating rate coupon
- Overall quantum of borrowing required
- Investor diversity
- Becoming a seasoned issuer in multiple markets
- Public versus private reporting requirements
- Published versus privately issued debt ratings
- Ability to borrow in multiple currencies to match cash flows

These, together with prevailing borrowing costs for each type of debt, will dictate the optimal capital structure for a particular borrower at any point in time. In practice, various debt alternatives compete *and often act as offsets*. Secured bonds can function as a relief valve during periods of low demand for syndicated bank debt. Second lien loans and high yield bonds often displace each other as a capital source and can deliver similar risk/return profiles to investors.

Moreover, one or two considerations can weigh disproportionately on an issuer's decision. For example, many private equity-owned companies with healthy cash flows will generally give top priority to having lower-cost, pre-payable debt above all else and wind up with an all-bank debt capital structure. By contrast, companies with higher capital intensity

or cyclical business profiles may often establish a small revolver (bank-held), forgo the often tighter debt covenants of the loan market and finance the balance of their needs at a higher cost in the high yield bond market.

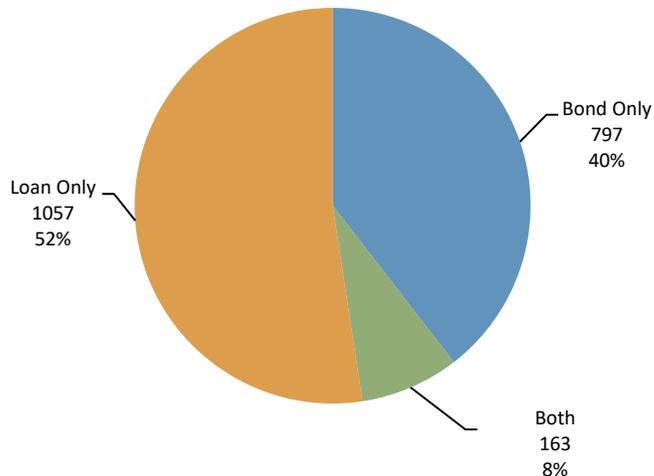
A separate factor driving issuer diversity is the “fallen angel” phenomenon in the high yield market. Formerly investment grade companies may be downgraded by one or more ratings agencies and their bonds will unwillingly enter the high yield markets in the process. No comparable dynamic exists in the loan universe as investment grade borrowers rarely issue syndicated loans.

Downgrades accelerate during recessionary periods or during downturns within a particular industry – as occurred in the energy space during the first half of 2016 which resulted in significant turnover to the list of high yield issuers in oil and gas. At times the fallen angel effect can be substantial, as many investment grade companies have larger debt balances when compared to non-investment grade businesses. The par value of fallen angel entrants into the high yield index can exceed high yield new issue volume for stretches of time, in effect acting as the main source of supply into the high yield universe.

For these reasons, despite a high commonality of risk characteristics between bond and loan issuers, the issuer overlap between both markets tends to be low. Usually, the overlap will diminish following periods of economic stress when spreads are wider and potentially more interesting.

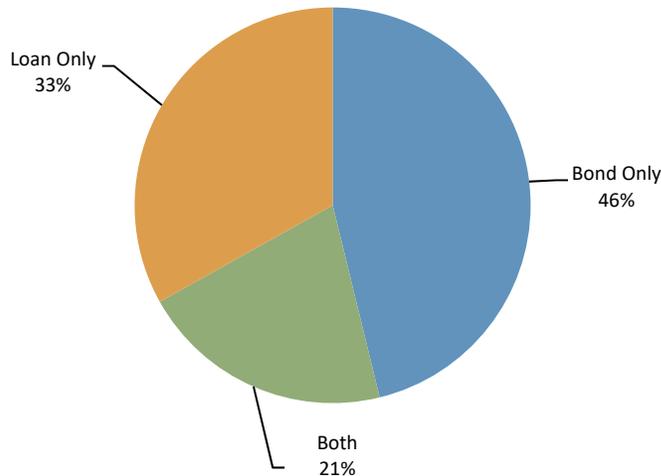
In the following exhibit we show the issuer landscape as measured by two leading leveraged finance research teams at Credit Suisse and Bank of America Merrill Lynch. Overlap is illustrated in two ways. First we illustrate overlap by issuer count, which is relevant to research efficiency. Secondly, we highlight overlap by market value which illustrates the opportunity set for institutional credit investors. These charts indicate that only eight percent of the issuers and 21% of the market value in the high yield bond and syndicated loan markets are shared. The latter measure will almost always be higher as common issuers will in general have greater debt balances.

January 2017 Issuer Overlap



Source: Ares Management LP, BofA Merrill Lynch High Yield Master II Index, Credit Suisse.

January 2017 Market Value Overlap



Source: Ares Management LP, BofA Merrill Lynch High Yield Master II Index, Credit Suisse.

We view this as one of the strongest arguments for investors to take advantage of the flexibility inherent in an institutional credit strategy. A well-structured research effort can seamlessly cover both markets with a common team and common approach to pricing risks. Swap-adjusted spreads provide a uniform, clear measure by which to compare the two markets and distill value between them. Yet at the same time, the inclusion of loans and bonds together in one strategy nearly doubles the size of an investor’s opportunity set.

Measuring the Value of Flexibility

Investors will readily accept the general concept that flexibility can better capture shifts in market opportunity, and we have indeed seen a progressive move towards consolidation as our clients evaluate their asset allocations: large institutions will often state an intention to hire fewer managers with broader mandates going forward than they have in the past. Internal discussions and decisions toward this end center around two principal challenges.

The first challenge is the trade-off between the benefits of manager specialization in one asset class and manager expertise in multiple asset classes. Identifying an investment firm that has comparable and uniform depth of pedigree, experience, presence and scale across multiple markets can be tricky. This is true even for assets as proximate as high yield bonds and syndicated loans, and the universe of available managers declines substantially when using these criteria.

Usually a crossover fixed income manager has origins and a long pedigree in one strategy or one asset class – for example many alternative credit managers actually originated as private equity shops – and then added other verticals as later market entrants and as a sideline or opportunistic adjunct to their legacy area of expertise.

This may result in allocation bias within an institutional credit strategy, because a manager feels more comfortable in one part of the market, say performing higher-rated high yield issuers, and simply traffics less in deep risk/distressed high yield bonds and/or in syndicated loans. Bias can also result from mismatches in a manager's market presence with sell side banks which may affect access to new issues. For example investment managers viewed as "high yield players" will typically receive less favorable or even residual allocations of new issue syndicated loans as their scale simply does not command as much presence in the loan market (the reverse, while less common, can be true as well).

To effectively invest an institutional credit portfolio, a manager must demonstrate true research coverage, track record and market presence across all cohorts of both markets. Investors must probe a manager's attributes in this respect as it can meaningfully affect the efficacy of how the strategy is implemented.

The second challenge is defining the benefit of a multi-asset approach in quantitative terms. Investors may already be

exposed to one or more components of the institutional credit strategy within separate parts of their broader allocation. The most common theme when discussing an institutional credit program as a substitute for separate sleeves is "how can I measure and explain the potential alpha attributable to rotating between bonds and loans in a single strategy?"

Natural skepticism exists precisely because the opportunity potential is hard to quantify. This is different from (and incremental to) demonstrating market-beating track records in the underlying asset classes. A suitable manager must further demonstrate that there are systemic and predictive signals of over or undervaluation *between* assets and portfolio cohorts (different ratings/risk tiers) and that these can be utilized in a repeatable manner to outperform a 50/50 benchmark.

In practice it is almost impossible to deconstruct a fund's benchmark over or under-performance along these lines. Portfolio decisions are dynamic. Almost always, multiple rather than singular factors motivate daily trading decisions within an institutional credit fund. Asset allocation emanates from bottom up portfolio construction. It is always a consequence of more than just a manager's view of spread basis and expected bond or loan forward return and volatility, which must be balanced against other considerations.

These include the availability of attractively priced opportunities within each asset class, strength of a manager's conviction on individual investment ideas and the events driving them, views on correlation across credit markets and between industries, ratings tiers or other portfolio cohorts, and degree of confidence in a base case macroeconomic outlook around which the fund is positioned.

We thus attempt to offer an answer to this question by alternative means, using the last twenty years of index performance for high yield bonds and syndicated loans.

Our objective is to determine a) whether benchmark outperformance is possible based on easily observable and predictive yield basis information, b) whether it is repeatable and systemic and how often the results can be adverse vs. beneficial and c) whether the quantum of any excess return is attractive in the context of long term returns for each market.

We apply a back-test that simulates a realistic basic portfolio management strategy. In our simulation, an investment manager consistently uses index yield basis (bond index yield less loan market index yield, using the forward LIBOR curve) as

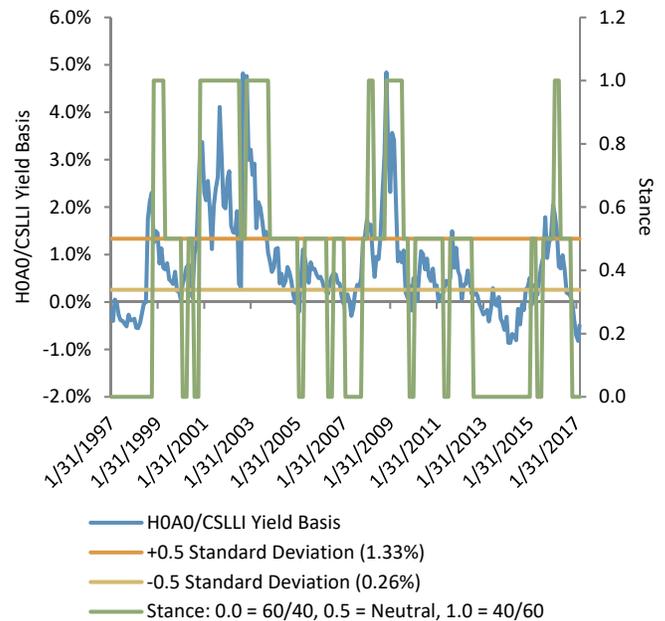
a measure of which asset is cheaper, and then mechanically reallocates the fund's portfolio accordingly.

Of necessity we must make a number of simplifying assumptions to isolate our results, each dilutive to a real-world scenario but which allow us to isolate the question at hand:

- a. The portfolio generates index performance in each asset class, effectively simulating an unconstrained strategy that market-weights issuers, industries and risk across the board. This includes a full spectrum from split-rated investment grade issues to distressed/defaulted issues to the extent these are in the index.
- b. Index yield basis using the BofA Merrill Lynch High Yield Master II and the Credit Suisse Leveraged Loan Index is employed as the *sole* valuation signal in setting the portfolio asset allocation. The signal is employed at periodic intervals of ninety days.
- c. Portfolio rebalancing occurs when spread basis exceeds half of one standard deviation from its historical mean.
- d. In a rebalancing, asset allocation shifts once and moderately (but also immediately), to 60/40 in favor of the "cheaper" asset class.
- e. In markets where yield basis is less than 0.5 standard deviations from its mean, the asset allocation is 50/50, essentially neutralizing any alpha capture.

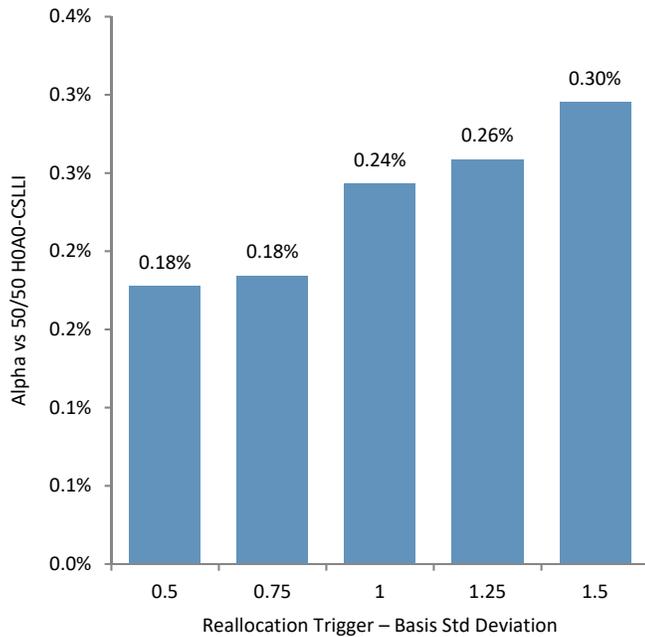
The analysis is diagrammed below. A blue graph tracks yield basis over time, the yellow and orange lines indicate 0.5 deviations from a yield basis mean of 80 basis points per annum or 0.80%. Lastly the green line shows applicable portfolio positioning.

Three Month Rebalancing at +/- 0.5 Standard Deviations



Our simulation delivers a reasonable 21 basis points per annum of alpha over time, attributable strictly to a simplified asset rotation strategy and excluding potential benefit of credit-picking or industry rotation within each asset class. This is expected, given longer term reversion of spread disconnects as discussed earlier.

Of greater note is the systemic nature of this alpha opportunity. We then ran this simulation 151 times using a range of parameters, increasing the rebalancing intervals to up to two years, amplifying the asset allocation range from 60/40 to 80/20, and setting the rebalance signal at intervals between 0.5 standard deviations and 1.5 standard deviations. Individual scenarios may of course be less or more applicable to the real world, for example an 80/20 asset allocation shifting to 20/80 is extreme and not very likely. *That said, what we find most meaningful is the relative uniformity of results across the illustrations.* We also note the implication that alpha is amplified a) when rebalancing is less frequent or b) when the signal is set at a higher level. This is counterintuitive but likely owes to the simplicity of our model and the reality that most credit markets are substantially pro-cyclical over medium to long term periods (recoveries and declines tend to sustain).



Is Active Replication Using Separate Accounts or Sleeves an Option?

Many institutional investors face constraints on their resources and time, in some cases a handful of staff are charged with establishing and then actively managing and rotating an asset allocation that can cover a dozen or more discrete asset types globally. Most asset markets have amplified in size since the 2007-2009 financial crisis, often with commensurate increase in the speed with which assets prices will react to changes in risk.

We see wide variation in how clients execute on this mandate. In many cases consultants are hired to assist with the detailed work of evaluating asset allocation alternatives and then selecting funds and managers to build out the portfolio. Allocations are typically reviewed and rebalanced by committee at periodic intervals.

Other investors allocate their resources towards macroeconomists, spend the bulk of their time developing big picture market views, then employ multi-asset managers with expertise across market groupings.

Along that continuum, the largest, most active institutions out there may manage allocations down to the detail, insourcing some portions of portfolio management and employing dedicated managers and/or single-asset funds. The latter may then undertake frequent rebalancing, dynamically subscribing, buying, redeeming and selling in response to valuation shifts between markets.

Institutional credit offers a midpoint solution addressing the needs of a majority of institutions. The strategy is limited to liquid, non-investment grade credit and may offer returns closer to equity and with less volatility serving a critical function within the aggregate allocation of a pension fund, sovereign wealth pool, or insurance company. Importantly, *it delegates to a single manager the decision-making necessary to optimize for expected default risk changes, interest rate moves, shifts in liquidity, and variations in volatility.*

The range of potential portfolio positions is enormous but portfolio managers generally will use higher-rated instruments or secured (versus unsecured) investments to hedge credit risk and volatility, floating rate bank debt to hedge or capture interest rate inflation, and fixed rate bonds to optimize portfolio duration.

There are of course, limitations to point out here.

- We have ignored trading costs. Typically bid-ask spreads are 25 basis points to 50 basis points so a 10% portfolio shift would simplistically impose up to a five basis point drag on performance during rebalancing periods.
- We have also assumed sudden, significant changes to portfolio allocation. In practice the process is more gradual – which can help or hurt performance, depending on market volatility and pro-cyclicality – and may also be more scaled. In extreme cases a portfolio manager is likely to extend a rebalancing further, or may lose conviction and pull back to a more neutral posture reasoning that his/her signal or signals have become less predictive.
- Most importantly, while yield basis is a strong indicator of value, it is one of a range of indicators most managers will have learned to use over the years. None represents an automatic tripwire save the widest of circumstances. The present recovery cycle offers an example. By historical measures of yield basis (see page five), bank debt has looked cheap and continues to do so, to a substantial degree. That said, asset allocation in an institutional credit strategy will also take into account the technical environment – a bid for risk that favors unsecured credit – and the possibility that a lower-for-longer rate environment (relative to what has been telegraphed by central bankers in the US and Europe) will persist further.

There are substantial costs to achieving this same flexibility by aggregating separate accounts or individual funds that each undertake a singular strategy (defensive bonds, first lien loans, distressed credit, etc). An investor must first set up a frequent asset rebalancing process that in addition to being periodic can act in quick reaction to valuation shifts and exogenous event shocks. Committees must be convened and decisions rendered on short notice.

Secondly, it is necessary to set up and pre-negotiate a combination of investment management and fee agreements including potential side letters. If using separate accounts, holding entities must be incorporated for each asset type, custody agreements established and negotiated, in addition to subscription and redemption protocols being put in place.

This imposes significant upfront and potentially significant recurring cost as rebalancing occurs, and can act as a type of “barrier to entry” that will drag on overall investment returns. Of course such costs diminish with scale. The largest institutions with multi-billion dollar credit programs may find that shifting capital between a static group of established accounts can, over extended periods, make real sense.

For most other investors, an institutional credit program offers a competitive alternative with easier execution and potentially significant cost savings.

Is Passive Replication Using a 50/50 Index Fund Mix an Option?

Established equity indices such as the S&P 500 are (very) effectively replicable in a passive format. Investors benefit from the absence of investment management and research costs, limited trading costs and administrative expenses, and they can sharply minimize the risk of index underperformance – an advantage, given the median equity manager lags benchmark in most years. This is true notwithstanding the large number of companies represented. Passive funds have in fact been the leading area of growth for equity investing, with retail fund flows into these strategies offsetting a net decline in the aggregate size of actively managed funds.

The same is less true for high yield bonds and a lot less true for syndicated loans. Liquidity tails are significant in both cases. Paper of the largest and recurring issuers will typically trade at very tight bid-ask spreads in nearly all market conditions, and can be sold and settled with ease comparable to publicly traded

equities. On the other end, a standalone bond or loan issued by a smaller company in an orphan industry may trade only by appointment after its initial syndication, making it difficult to buy or sell quickly and in response to frequent inflows and outflows. *No true index fund exists in either market.*

Exchange traded funds (ETFs) focused on a subset of high yield bonds or syndicated loans are the closest alternative to an “index fund,” *but will tend to differ significantly from the broad benchmark indices as to composition, concentration, volatility, and ultimately as to risk-adjusted return.^x In general, an investor gets exposure to less than half of the issues in the market.* They serve as a useful tool for investors seeking the most liquid access point into non-investment grade debt, and willing to sacrifice the benefits of active management and broader market capture.

Moreover in contrast to passive equity funds which offer substantially lower expense ratios, high yield and syndicated loan ETFs offer less fee relief and are thus not as cost-efficient an option when compared to a co-mingled institutional credit fund.

	Fund	Expense Ratio ^{xi}
Non-IG Credit	iShares iBoxx \$ High Yield Corporate Bond ETF (HYG)	50.0 ^{xii}
	PowerShares Senior Loan Portfolio (BKLN)	65.0 ^{xiii}
	Actively Managed HY/BL Fund	50.0 to 65.0 ^{xiv}
Equity	SPDR S&P 500 ETF (SPY)	9.5 ^{xv}
	Vanguard S&P 500 ETF	5.0 ^{xvi}
	Industry Average Active Large Cap US Equity Fund	103.0 ^{xvii}

Below we compare a 50/50 ETF portfolio with a 50/50 ratio of the broader bond and loan indices. Our illustration suggests that a passive replication strategy historically results in inferior performance and a worse Sharpe Ratio. In our view, mirroring an institutional credit strategy using ETFs does not present an effective alternative for institutional investors seeking flexible and efficient access to non-investment grade credit.

March 2011 to December 2016	BKLN	HYG	50% HYG + 50% BKLN	50%/50% Benchmark
Annualized Return	3.0%	5.4%	4.2%	5.3%
Standard Deviation	4.5%	7.2%	4.2%	4.2%

Appendix B shows a historical comparison of Sharpe Ratios between a passive ETF blend and a benchmark-performing institutional credit fund allocation.

Conclusion

We believe liquid non-investment grade credit offers an excellent investment complement as a core allocation for most institutions. With now over three decades of new issue history across three economic downturns, this market as a whole has grown, seasoned and matured. It has become an accepted allocation for many endowments, foundations, insurance companies, pension funds, sovereign wealth funds and other institutional investors. In many cases, investors who initially approached the high yield bond and later the syndicated loan markets as a niche strategy or a dislocation trade (perhaps during recession recoveries) will now maintain a secular allocation to these assets classes. At the same time, a supermajority of market participants still bifurcate or compartmentalize their approach, and will target discrete subsets of the liquid non-investment grade market.

As specialists in alternative credit for over 25 years, we constantly evaluate both the high yield bond and syndicated loan asset classes, asking and answering for ourselves a broad range of questions related to: earnings trends, credit risks, investment quality, valuation, microeconomic and macroeconomic indicators, and ultimately about where and how to position our investors to capture optimal absolute and relative value in their portfolios.

We have articulated our findings and views herein:

- Current credit markets present excess spread and remain attractive on the whole, with pockets of deep value in certain areas
- Ongoing distinction between the investor base for each of high yield bonds and syndicated loans are significant and often drive disconnections in valuation that can offer

excellent risk-adjusted opportunities for investors with flexibility

- Differences in the issuer base for these markets are also significant, and present an attractive potential to efficiently amplify investment scope for flexible investors
- Benefits of flexibility are specifically measurable and quantifiable, and specific valuation signals can be observed and utilized on a repeatable basis to generate superior return
- Institutional credit can be difficult to replicate using a sum-of-the-sleeves approach and is simply not efficiently replicable on a passive basis compared to actively managed funds
- A flexible liquid strategy offers the broadest tools to manage both credit and interest rate risk within the below investment grade asset class

Regulatory limitations, capital constraints, and other considerations mean that some institutions may only approach alternative credit in limited fashion or not at all. For others, such limitations may be self-imposed and often driven by misunderstanding of the risks inherent to an unconstrained approach, by a desire for simplicity, by underappreciation of the value associated with flexibility, or by simple tradition. We believe that as the markets mature, so do the range of risks and the speed at which these risks will change.

Looking ahead we anticipate that interest rates, credit conditions, recession signals, economic indicators, and asset valuations may well continue to shift at an increasing pace. Non-investment grade credit offers an attractive tool set with which to invest around and through this landscape of risk and opportunity. A comprehensive, unconstrained approach that maximizes flexibility affords investors an optimal positioning in this respect.

About Ares Management, L.P.

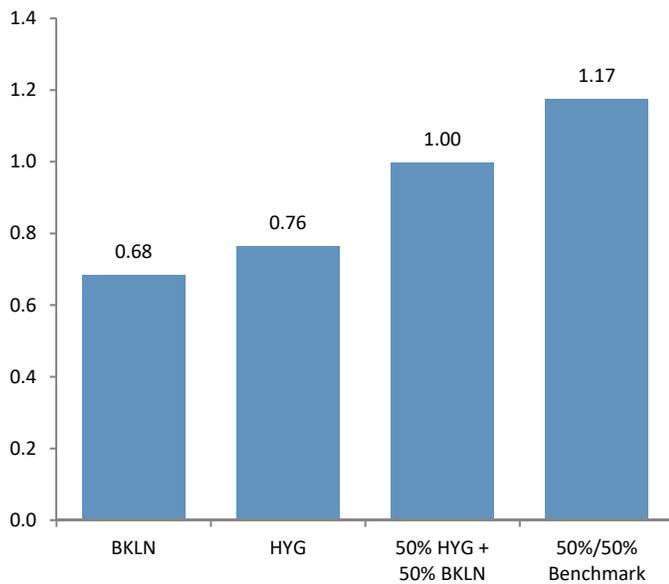
Ares Management, L.P. is a publicly traded, leading global alternative asset manager with approximately \$99 billion of assets under management as of December 31, 2016, including approximately \$3.6 billion of AUM pro forma for Ares Capital Corporation's acquisition of American Capital, Ltd., which closed on January 3, 2017, and more than 15 offices in the United States, Europe and Asia.^{xviii} Since its inception in 1997, Ares has adhered to a disciplined investment philosophy that focuses on delivering strong risk-adjusted investment returns throughout market cycles. Ares believes each of its three distinct but complementary investment groups in Credit, Private Equity and Real Estate is a market leader based on assets under management and investment performance. Ares was built upon the fundamental principle that each group benefits from being part of the greater whole. For more information, visit www.aresmgmt.com.

Appendices

Appendix A: Performance Measure by Year

		CSLLI	HOAO	S&P 500	Russell 200	MSCI World
10 Year	Annualized Return	4.96%	7.06%	7.62%	8.40%	6.38%
	Standard Deviation	5.59%	8.95%	15.22%	20.02%	15.48%
	Sharpe Ratio	0.52	0.57	0.42	0.40	0.34
15 Year	Annualized Return	4.98%	8.54%	7.35%	8.93%	7.05%
	Standard Deviation	6.33%	9.40%	14.31%	19.08%	15.22%
	Sharpe Ratio	0.61	0.79	0.48	0.48	0.44
20 Year	Annualized Return	4.28%	7.49%	7.62%	7.22%	4.88%
	Standard Deviation	7.61%	10.55%	15.23%	20.05%	16.47%
	Sharpe Ratio	0.51	0.68	0.52	0.42	0.33

Appendix B: Sharpe Ratios



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Endnotes

ⁱ As measured by BofA Merrill Lynch High Yield Master II Index and Credit Suisse Leveraged Loan Index.

ⁱⁱ As measured by BofA Merrill Lynch High Yield Master II Index.

ⁱⁱⁱ As of March 24, 2017.

^{iv} As measured by Credit Suisse Leveraged Loan Index.

^v As of March 24, 2017. Three year discount margin.

^{vi} This assumes a 3.5% forward default rate for non-investment grade issuers and applies projected creditor bankruptcy recoveries of 40% for high yield bonds and 65% for syndicated loans, consistent with historical averages.

^{vii} European CLOs, a generally significantly smaller market, are allowed to purchase high yield bonds but do so in very limited amount.

^{viii} Liquidity is driven by two factors, how quickly an instrument can be traded, and how quickly the trade will settle for cash. High yield bonds are generally more liquid than syndicated loans as to both parameters.

^{ix} The largest high yield and syndicated loan markets are in the US and Europe. Source: Merrill Lynch and Credit Suisse.

^x ETFs will track their own specially constructed indices comprised of a market subset, for example including only 100 largest loan issues, or excluding bond issues below a size threshold and only including debt of companies with \$1 billion or bonds outstanding in total.

^{xi} Represents management fee plus expenses, in basis points.

^{xii} Source: Blackrock, Inc.

^{xiii} Source: Invesco, Ltd.

^{xiv} Estimated. Source: Ares Management LLC.

^{xv} Source: State Street Corporation.

^{xvi} Source: The Vanguard Group, Inc.

^{xvii} Source: The Vanguard Group, Inc.

^{xviii} AUM amounts include funds managed by Ivy Hill Asset Management, L.P., a wholly owned portfolio company of Ares Capital Corporation and a registered investment adviser.