DODGE & COX®

Investment Perspectives

Go BIG, but Carefully: Enhancing Liability-Hedging Portfolio Returns with Below Investment-Grade Bonds[a]

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Key Takeaways

- Credit alpha can play an important role in offsetting plan expenses, building a cushion against adverse plan experience, and helping plans to reach a funded status level suitable for hibernation and/or termination.
- Below investment-grade (BIG) bonds, particularly BB-rated bonds, have historically exhibited an advantageous credit spread risk/return profile, making them an attractive out-of-benchmark universe to explore for both credit spread hedging and credit alpha generation.
- As Dodge & Cox's long credit strategy track record demonstrates, an actively managed credit strategy that combines a modest allocation to carefully selected BIG bonds with investments in less risky fixed income sectors, such as Treasuries and MBS, can generate meaningful value-add within a reasonable tracking error budget.

Credit Alpha Matters for Liability Hedging Assets

As the name implies, the primary role of liability hedging assets (LHA) in a pension investment strategy is to hedge liability interest rate and credit spread risk. However, LHA also have the potential to add incremental, yet important, alpha relative to liabilities, helping improve funded status and, in the case of open plans, offset benefit accruals.

In the latter stages of the pension journey, when allocations to return-seeking assets are typically low, LHA alpha also becomes an increasingly important tool in the battle against the trifecta of funding headwinds, namely administrative expenses, adverse plan experience, and actuarial assumption changes. As many plan sponsors de-risk in light of recent funded status gains, it is especially timely to recognize the potential benefits of LHA alpha.

LHA alpha can be generated by tactically adjusting the target interest rate and credit spread hedge ratios, tactically shifting the allocation between Treasury and credit managers, and/or seeking alpha at the manager level. For credit managers, this usually means a goal of outperforming a benchmark reflecting investment-grade (IG) corporate bond returns, such as the Bloomberg Barclays U.S. Long Credit Total Return Index Unhedged (U.S. Long Credit Index) or a custom liability benchmark. In this paper, we explore how a modest, actively managed allocation to below investment-grade (BIG) bonds can boost credit alpha—and thereby increase plan sponsors' odds of not just hedging but also outperforming liabilities.

Quick note: while we focus on long duration credit in this paper, much of the analysis is applicable across the duration spectrum.

How Much Credit Alpha is Needed?

While each plan is unique in its benefit structure and participant population, assets in a fully funded, hard-frozen plan would typically need to generate an annual return of 50-100 basis points (bp)[b] over the liability discount rate to maintain a 100% funded status without the need for additional contributions: 25-50 bp to fund administrative expenses and 25-50 bp to mitigate potential assumption changes and adverse plan experience. Underfunded plans, accruing plans, and frozen plans aiming to improve funded status require even greater returns (or contributions).

As a baseline, assuming a typical return-seeking assets (RSA) premium of 2%-3% over the discount rate, a 20% allocation to RSA in a fully-funded plan is expected to contribute 40-60 bp of annual excess return over the discount rate. Generating the remaining 40-60 bp can be achieved by increasing the RSA weight, adjusting the composition of the RSA, and/or seeking alpha, both within RSA and LHA.

The choice of approaches and the associated degree of funded status risk (or surplus volatility) required to achieve this return objective varies based on individual plan sponsor objectives (e.g., desire to maintain or improve funded status, ultimate goal of termination vs. hibernation, focus on pension income), risk tolerance, and business profile. However, given a focus on containing funded status risk and the magnitude of the required return, LHA alpha is likely to be a meaningful contributor for many plan sponsors.

The Case for BIG Bonds

Since pension liabilities are typically valued using AA-rated corporate bond yields, it may not be intuitive to include BIG securities in liability hedging portfolios. While BIG bonds are certainly more risky than their higher-rated counterparts—a point we will address shortly—BIG securities have several desirable portfolio properties:

1. **A good credit spread hedge.** As shown in Figure 1, the spread return of long BIG bonds has a correlation of over 0.9 to that of IG bonds, suggesting that changes in IG credit spreads, affecting the liabilities, correspond to changes in BIG credit spreads, affecting the liability hedging portfolio.
2. **Attractive risk-adjusted spread returns.** Investors are well-compensated for the attendant credit spread risks of BIG bonds, particularly BB-rated bonds. For example, for the ten-year period ending March 31, 2021, Figure 1 shows that the average annual spread component of return of long BB bonds is 4.5 times that of long IG bonds (7.3% vs. 1.6%), with only 1.5 times the volatility (11.4% vs. 8.1%).
3. **Compelling information ratio over time.** As shown in Figure 2, on a rolling 3-year basis since December 31, 2010, a period that includes multiple downgrade cycles, long BB rated bonds have exhibited consistently attractive spread information ratios.[c]
4. **Market inefficiencies that enable value-add.** Spread movements arising from rating changes and the corresponding issuer movements between BBB and BB categories create opportunities for active managers to generate alpha.

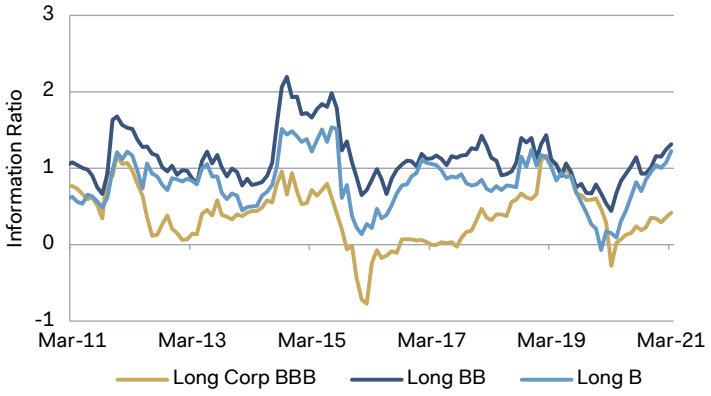
The superior risk-adjusted returns of BIG bonds are partly a result of index construction and should be taken with a grain of salt. In particular, index returns may overstate the returns an actual investor might experience due to changes in index composition, transaction costs, and most importantly, "default headwinds." For example, if a BIG bond[d] falls out of the index prior to default, the index return would exceed that of a comparable portfolio that continues to hold the bond. Consequently, any real-world implementation must account for these considerations.

Figure 1: Characteristics of Index Spread Returns (10 Years as of March 31, 2021)

				Long					
	Credit	Corp AAA	Corp AA	Corp A	Corp BBB	Govt Relt'd	HY	HY BB	HY B
Duration	14.90	17.65	16.78	15.27	14.55	13.49	10.66	11.09	9.40
Average Spread Return	1.60%	0.73%	0.89%	1.01%	2.25%	1.39%	7.11%	7.25%	8.46%
Volatility of Spread Return	8.10%	5.49%	6.56%	7.31%	9.91%	6.54%	12.24%	11.36%	13.50%
Correlation to Long Credit	1.00	0.92	0.96	0.99	1.00	0.89	0.92	0.91	0.80
Beta to Long Credit	1.00	0.62	0.78	0.89	1.22	0.72	1.39	1.28	1.33
Tracking Error to Long Credit		3.72%	2.62%	1.47%	2.01%	3.75%	5.76%	5.13%	8.60%
Information Ratio to Long Credit		-0.2	-0.3	-0.4	0.3	-0.1	1.0	1.1	0.8

Source: Bloomberg Index Services, based on monthly observations.

Figure 2: Information Ratio of Index Spread Returns to Long Credit Spread Return (3-Year Rolling Periods)



Source: Bloomberg Index Services, based on monthly observations.

Right-sizing the BIG Allocation

In considering the impact of different levels of BIG allocations, we compared the performance of passive hypothetical portfolios consisting of different blends of the Bloomberg Barclays U.S. Long Credit Index and Bloomberg Barclays U.S. Long High Yield Total Return Index Unhedged (U.S. Long High Yield Index) to the Bloomberg Barclays U.S. Long Credit Index over the past 10 years. As illustrated in Figure 3, for each 5% increase in the BIG allocation, average annualized returns increased by 23 bp while annualized tracking error increased by 31 bp. Return volatility declined as the BIG allocation increased; while this may seem counterintuitive, it is a result of the higher spread beta of the BIG allocation being offset by its lower duration. Looking at the BIG allocation through a plan sponsor lens, a 5%-20% allocation to BIG credit would have put the hypothetical portfolios well within a typical tracking error budget of 0.5%-1.5%. Increasing the BIG allocation beyond 20% would likely have been inappropriate given the typical tracking error budget and the fact that the benchmark is 100% IG.

An important liability-related risk associated with BIG bonds is their shorter duration relative to similar-maturity IG bonds, a natural result of their higher yield. Active duration management at the total portfolio level can help mitigate this risk.[e]

Active Management: Credit Selection and Holistic Portfolio Management Are Critical

Even with an appropriately sized BIG allocation and consistent duration management, BIG investing must address default risk, higher transaction costs, and concentration risk within the BIG universe. Default risk (i.e., potential permanent loss of capital) is by far the most significant of these risks. According to Moody's, the average cumulative 5-year credit loss for BIG bonds is 23 times that of IG bonds.[g] Even narrowing our focus to the higher quality BIG bonds, the average credit loss for BB bonds is 5.5 times those of BBB bonds, indicating that the BIG spread return advantage in Figure 1 can be easily wiped out by defaults. Similarly, the high concentration in the long BIG universe—as of March 31, the two largest issuers in the Bloomberg Barclays U.S. Long High Yield Index comprised 14% (Kraft-Heinz) and 9% (Occidental Petroleum) of Index market value—can introduce new risks and must be managed accordingly. Finally, sufficiently long holding periods are essential to ensure that the potential spread return advantage is not offset by frequent trading, particularly as BIG transaction costs are on average 50% higher than in the IG space.[h]

At Dodge & Cox, we apply our time-tested, team-based investment approach to both IG and BIG bonds. Our rigorous fundamental credit research, extensive scenario analysis, and strong valuation discipline emphasize "fallen angels" (i.e., BB-rated bonds that were previously rated IG) and other BIG bonds whose issuers have an incentive to improve fundamentals and try to attain an IG rating. As a result, our liability hedging portfolios typically hold select BIG credits with total exposure varying over time based on issuer credit fundamentals, spread compensation for the perceived investment risk, and the broader portfolio context. We have been able to extract meaningful credit alpha from our BIG allocation with no defaults since the inception of the Long Credit composite in 2009.

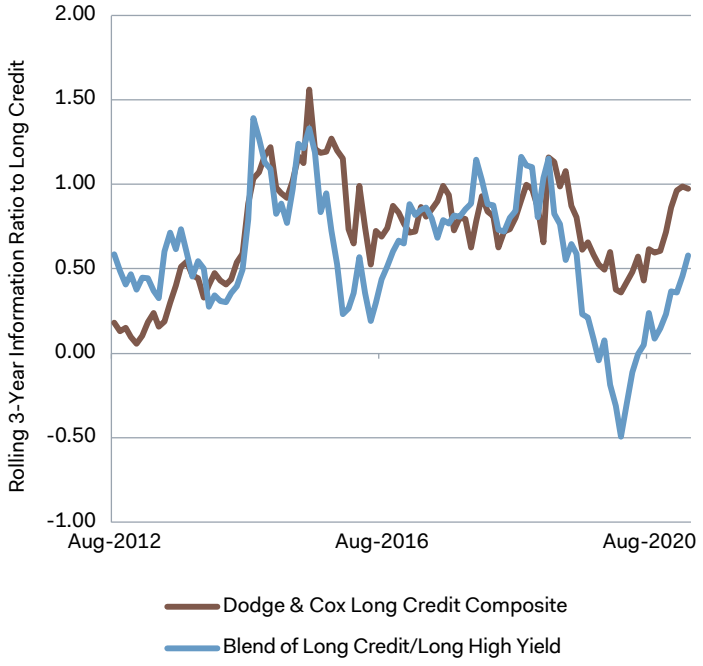
In addition, rather than simply augmenting an IG strategy with a passive or constant allocation to BIG bonds, we take a holistic, portfolio-level view, often balancing our BIG exposure with more liquid, less volatile, and/or diversifying market segments such as taxable municipals (Figure 1) and out-of-benchmark exposures such as Treasuries and MBS. Since

Figure 3. Characteristics of Blends of Long IG and BIG Indices (10 Years as of March 31, 2021)[f]

	Long Credit	95% Long Credit / 5% Long HY	90% Long Credit / 10% Long HY	80% Long Credit / 20% Long HY	Dodge & Cox Long Credit (8% Average BIG)
Duration	14.90	14.70	14.49	14.09	14.14
Average Annualized Return (Gross)	7.23%	7.46%	7.69%	8.14%	8.14%
Average Annualized Return (Net)[i]					7.76%
Standard Deviation	8.97%	8.86%	8.77%	8.65%	8.61%
Tracking Error		0.39%	0.78%	1.57%	1.15%
Information Ratio		0.5	0.5	0.5	0.7

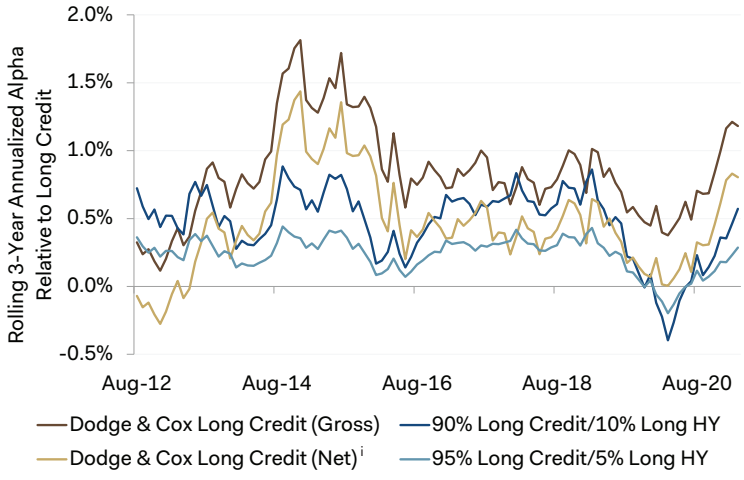
Source: Bloomberg Index Services, Dodge & Cox. For the purpose of showing characteristics of the strategy, standard deviation, tracking error, and information ratio for the Dodge & Cox Long Credit Composite are calculated gross of fees.

Figure 4: Rolling 3-Year Information Ratio to Bloomberg Barclays Long Credit Index Since Inception of Dodge & Cox Long Credit Composite



Source: Bloomberg Index Services, Dodge & Cox. For the purpose of showing characteristics of the strategy, information ratio for the Dodge & Cox Long Credit Composite is calculated gross of fees.

Figure 5: Rolling 3-Year Value-Add Relative to Bloomberg Barclays Long Credit Index Since Inception of Dodge & Cox Long Credit Composite



Source: Bloomberg Index Services, Dodge & Cox.

inception of our full-discretion long credit strategy, BIG exposure has varied between 4% and 12%, primarily in BB-rated issuers. As Figure 3 shows, the Dodge & Cox Long Credit composite performance compares favorably to both the benchmark and the passive blends over the 10-year period ending March 31, 2021. As noted earlier, while we have extracted meaningful alpha from our BIG credits, that has not been the sole driver of excess returns: on average, over 3-year rolling periods, 40% of the spread return attribution for our Long Credit strategy relative to the benchmark is due to BIG security selection with the rest due to IG sector allocation and security selection.[j]

As shown in Figure 4, on a rolling 3-year basis, the information ratio of the Dodge & Cox Long Credit composite (calculated gross of fees) has generally tracked or exceeded that of the index blends, including during periods of elevated downgrade activity, such as 2015-2016 and 2020. Although our approach generally takes on more tracking error than the 90/10 blend of the Bloomberg Barclays U.S. Long Credit and U.S. Long High Yield Indices, given the strong information ratio, we believe that the additional tracking error risk is worthwhile, as illustrated in rolling performance (Figure 5).

In Closing

As plan sponsors progress along their pension journey, the return potential of liability hedging assets becomes more critical for offsetting ongoing costs, building a cushion against adverse plan experience and assumption changes, and moving a plan toward its final funded status goals. The BIG universe provides fertile ground to enhance LHA returns, but it also comes with risks that must be mitigated through deep credit research, downside scenario analysis, and prudent portfolio risk management. Dodge & Cox has a demonstrated track record of harnessing BIG opportunities to enhance liability hedging portfolio returns, thus helping plan sponsors achieve their pension management objectives.

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The Bloomberg Barclays U.S. Long Credit Index measures the performance of investment grade, US dollar-denominated, fixed-rate, taxable corporate and government-related debt with at least ten years to maturity. It is composed of a corporate and a non-corporate component that includes non-US agencies, sovereigns, supranationals and local authorities. The Bloomberg Barclays U.S. Long High Yield Index measures the performance of USD-denominated, high-yield, fixed-rate corporate bonds with at least 10 years to maturity. Securities are classified as high yield if the middle rating of Moody's, Fitch, and S&P is Ba1/BB+/BB+ or below. Bonds from issuers with an emerging markets country of risk, based on Barclays EM country classification, are excluded.

a The information in this paper should not be considered fiduciary investment advice under the Employee Retirement Income Security Act. This paper provides general information not individualized to the particular needs of any plan and should not be relied on as a primary basis for investment decisions. The fiduciaries of a plan should consult with their advisers as needed before making investment decisions.

b One basis point is equal to 1/100th of 1%.

c Information ratio is the ratio of a portfolio's relative return to its tracking error. In the context of credit spread hedging, spread information ratio is (portfolio spread (excess) return less benchmark (here, Long Credit) spread return) / tracking error of portfolio spread return to benchmark (here, Long Credit) spread return.

d A bond may fall out of an index prior to default if the rating is withdrawn or if it no longer meets the index inclusion criteria. At that point, an actual portfolio might continue to hold the bond whereas the index would no longer reflect its performance.

e For example, overlaying the passive portfolios in Figure 3 with a total return swap paying 3-month T-Bill, receiving the return of the Bloomberg Barclays Long Treasury Index, and sized to ensure that the portfolio duration is equal to benchmark duration at the start of each month would have reduced tracking error in the passive portfolios by 25%, with a slight increase in return.

f Index blend returns assume monthly rebalancing, no transaction costs, and no management fees for the index blends. Dodge & Cox total returns represent the Dodge & Cox Long Credit composite and are gross of fees.

g Source: Moody's Annual Default Study, for the period 1983-2020.

h Source: Bloomberg, Barclays Research. Based on Barclays Liquidity Cost Score (LCS) daily observations for the 10-year period ending March 31, 2021.

i Net of fees performance reflects the deduction of a model fee of 35 basis points, the highest tier of the fee schedule.

j Source: Bloomberg HPA model. Average contribution from asset allocation and security selection reflects average over 3-year periods starting September 30, 2013 and ending March 31, 2021 for a representative Long Credit account and are gross of fees. The representative account was chosen because it is at or above our separate account minimum size, has been a long-standing client within the given strategy, and has maintained guidelines consistent with the given strategy throughout the relevant period. Thus, we believe it is reflective of our strategy for this mandate. Representative account holdings are subject to change; characteristics and holdings may differ for new accounts.