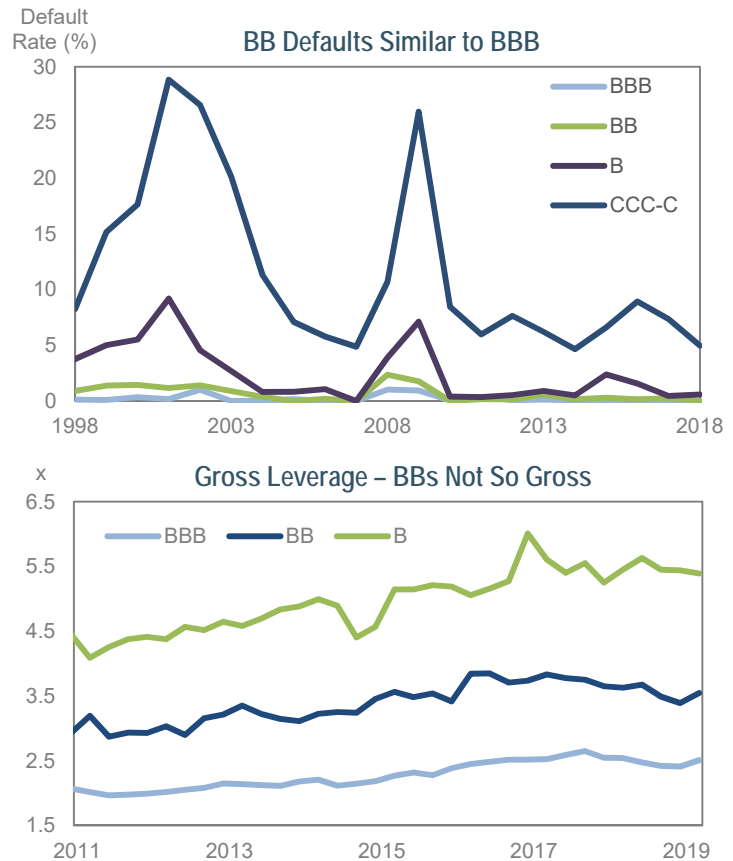


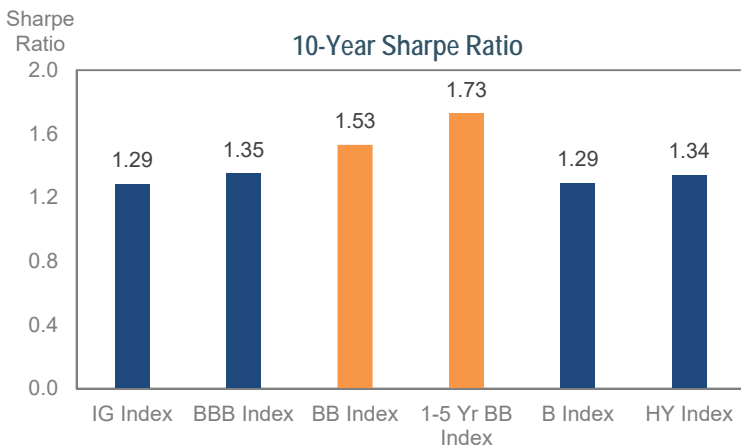
The BB-bond universe, the highest quality segment of the high-yield market, is comprised of many well-known issuers, has low default rates, and historically has delivered strong risk-adjusted returns. Surprisingly, BB-rated corporate bonds often are without a natural home, as they may pose too much risk for investment-grade portfolios, but not enough for pure high-yield strategies. We believe that BBs, selected on a fundamental bottom-up basis, may offer the opportunity to earn returns similar to short-duration high yield, but with a risk profile more like investment-grade. In addition, narrowing the BB universe – and focusing on the 1-5 year segment – may further improve risk-adjusted returns.

Painting the Corners

- **BB bonds are worth considering.** Although BB bonds may initially make some investors uneasy, from a risk perspective, BBs are actually more similar to investment-grade rated BBBs.
- **Default rates are in the ballpark.** Over the last 20 years, BB-default rates averaged 0.65%, which was less than half-a-percent higher than BBBs. By comparison, default rates were significantly higher for Bs and CCC/Cs, at 2.5% and 11.6%, respectively.
- **Fundamentals are similar to BBBs.** Since 2011, leverage ratios – which measure the ability to meet financial obligations – increased by approximately 20% for BBs and BBBs, and by over 30% for Bs. Interest coverage ratios – which measure the capacity to make interest payments – rose for BBBs and BBs, but remained relatively stagnant for Bs.
- **Rising stars outnumber downgrades.** Over the last 35 years, higher-quality BB bonds were upgraded twice as often as they were downgraded.
- **Fewer risks in shorter maturities.** Short-duration BBs, as represented by the BB 1-5 year universe, have similar positive characteristics as the full BB universe, but with lower default- and interest-rate risk.



Clutch Performance

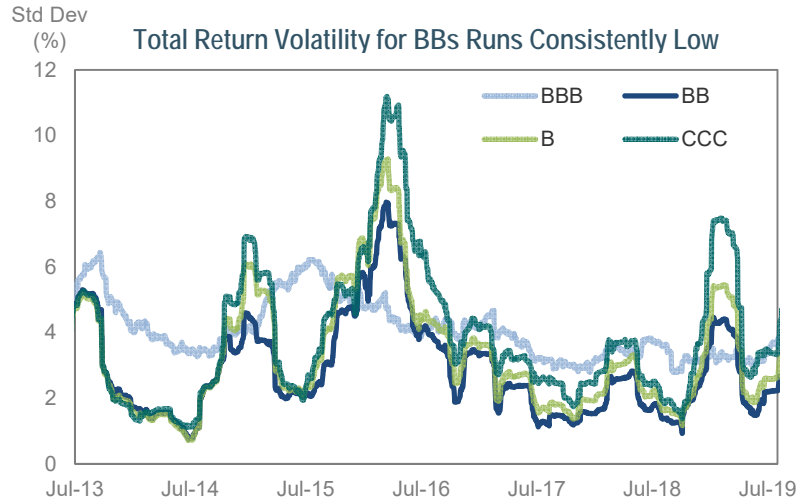


- **BBs are attractive on a risk-adjusted basis.** For the last 10 years, return per unit of risk, as defined by the Sharpe ratio, has been higher for both BBs and short-duration BBs when compared to other ratings categories.
- **Excess return history is compelling.** The annualized excess returns of BBs have outperformed BBBs over the last decade, and are comparable to those for high yield. Excess returns for 1-5 year BBs have been similar to BBs, but with lower volatility.

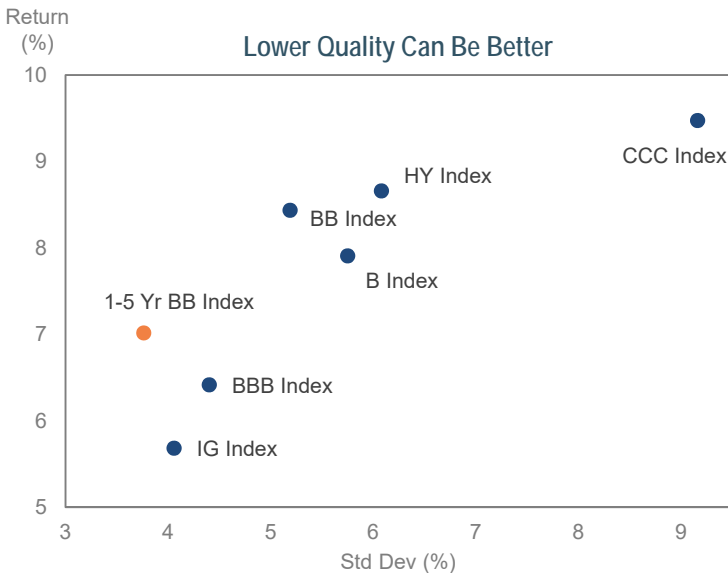
Sources: Bloomberg Barclays as of 7/31/19, Moody's as of 2/1/19 and Morgan Stanley as of 3/31/19. All charts reference corporate bond data. This report is for informational purposes only and is not intended to provide specific advice, recommendations for, or projected returns of any particular IR+M product. No part of this material may be reproduced in any form, or referred to in any other publication, without express written permission from Income Research & Management. The views contained in this report are those of IR+M and are based on information obtained by IR+M from sources that are believed to be reliable.

Clutch Performance (continued)

- **Moderate total return volatility.** The volatility for BB-rated bonds has been relatively stable compared to its BBB, B, and CCC counterparts for the past five years. During this time, the volatility for BBs was consistently below that for these adjacent rating categories.
- **Lower drawdowns and faster recoveries.** Over the last 20 years, BBs experienced lower drawdowns and quicker rebounds than their high-yield cohorts. This was particularly evident during the Global Financial Crisis, when BBs had a maximum drawdown of 23% and recovery of 13 months. B-rated and CCC-rated bonds fared worse, while 1-5yr BBs were down less than 19%.



Put Me In Coach, I'm Ready To Play



- **Staying in the game.** BBs are often an overlooked segment of the market. Typically, investment-grade managers cannot buy BBs due to portfolio quality restrictions, and high-yield managers focus on lower quality, higher-yielding issuers. The BB slice of high yield may be ripe for security selection.
- **Keeping it short.** Shorter-maturity bonds roll down the yield curve quickly, with the risk of default decreasing as securities approach maturity. Additional benefits of shorter duration bonds include reduced interest-rate sensitivity and self-liquidation, which fosters liquidity and reinvestment.
- **High(er) yielding.** By investing in BBs versus BBBs, an investor can add yield, return, and reduce volatility (based on a 10-year return history). Lower-rated credits may have higher yields, but likely higher volatility, making 1-5 year BBs the “sweet spot.”

We believe BB-rated bonds, with their enhanced yields and attractive risk-adjusted returns, represent an opportunity for bottom-up security selectors. From a risk perspective, BB bonds have more in common with BBB-rated securities than their high-yield counterparts. These attributes are even more pronounced for shorter BB securities, where defaults are naturally lower and liquidity higher. With the credit cycle potentially reaching the late innings, some BBB bonds may migrate into the BB category, expanding the BB universe and providing opportunities to purchase securities from forced sellers. At IR+M, we rely on our extensive credit-research experience to uncover those BB bonds that offer the optimal mix of risk and return.

Sources: Bloomberg Barclays as of 7/31/19. All charts reference corporate bond data. The top right chart references annualized trailing 3 month standard deviation of daily total returns. The bottom left chart references 10-year annualized return and 10-year annualized standard deviation. This report is for informational purposes only and is not intended to provide specific advice, recommendations for, or projected returns of any particular IR+M product. No part of this material may be reproduced in any form, or referred to in any other publication, without express written permission from Income Research & Management. The views contained in this report are those of IR+M and are based on information obtained by IR+M from sources that are believed to be reliable. BLOOMBERG® is a trademark and service mark of Bloomberg Finance L.P. and its affiliates (collectively "Bloomberg"). BARCLAYS® is a trademark and service mark of Barclays Bank Plc (collectively with its affiliates, "Barclays"), used under license. Bloomberg or Bloomberg's licensors, including Barclays, own all proprietary rights in the Bloomberg Barclays Indices. Neither Bloomberg nor Barclays approves or endorses this material, or guarantees the accuracy or completeness of any information herein, or makes any warranty, express or implied, as to the results to be obtained therefrom and, to the maximum extent allowed by law, neither shall have any liability or responsibility for injury or damages arising in connection therewith.