

Resiliency of Private Credit in Insurance Portfolios

A Comparison of Buy and Hold Credit Experience for Public Credit, Middle Market Lending, and HY Infrastructure Debt

Due to multiple forces such as the historical low yield environment, reductions in traditional bank lending, and competitive industry pressures, insurers have been increasing their allocations to private market assets such as Private Credit. Using historical rating transition matrices from Moody's and S&P, we examine the resiliency of private debt assets linked to infrastructure relative to debt linked to corporate entities. We show that High Yield (HY) Infrastructure may provide resiliency and diversification to insurance portfolios relative to corporate linked debt such as Public HY and Middle Market Lending by estimating the impact of the negative credit experience on both an insurer's Risk-Based Capital (RBC) ratio and the investments holding period capital and default adjusted yield.

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The primary metric used to define resiliency in our analysis is "Lifetime Capital Consumption", which in addition to an investment's initial required capital, also accounts for the incremental capital insurers would need to hold due to ratings downgrades and cumulative credit losses over the investment's holding period. Our estimate of the "Lifetime Capital Consumption" is the primary input used in to estimate an illustrative RBC ratio decline, and capital/default adjusted net yield across BBB Credit, Public HY, Middle Market Lending, and HY Infrastructure Debt.

Our analysis has three primary takeaways (1) HY Privates have offered enhanced yield and resiliency over BBB Credit and Public HY allocations, (2) within HY Privates, Infrastructure Debt may offer additional resiliency without sacrificing yield relative to Middle Market Lending, and (3) credit losses were a more meaningful contributor to negative credit experience in HY allocations, while in IG allocations rating downgrades are a more meaningful, which we show by examining the RBC ratio impact of an allocation to each asset class.

Insurers are exposed to rating downgrades and credit losses which impact both realized investment yields and the insurers' capital position

Public HY currently does not offer sufficient yield to compensate insurers for the incremental capital and default costs of HY issuers unlike HY Private Debt

Credit losses are the more material risk to insurers RBC capital and realized yields when investing in HY vs IG assets, where downgrades have a more significant impact

Lifetime Capital Background

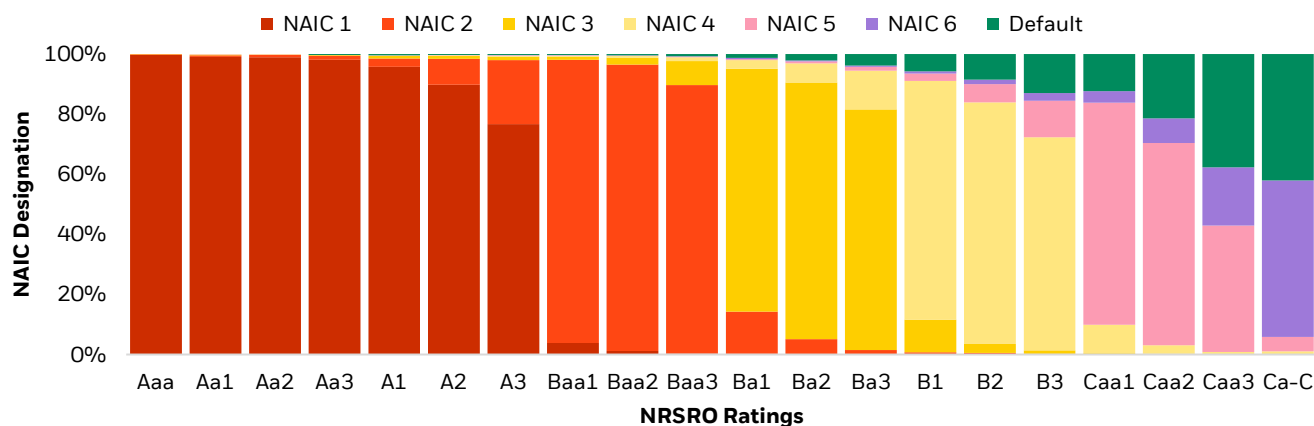
We define “Lifetime Capital “ as the required NAIC RBC after accounting for ratings transitions and recoveries, assuming a holding period reflective of the typical maturity of the asset class. For credit-related investments, downgrades will increase the capital insurers are required to hold while credit losses reduce Total Adjusted Capital (TAC) – both of which will adversely impact the RBC ratio and increase the amount of capital insurers need to hold.

A key input to our assessment of “Lifetime Capital” is rating migration rates. We rely on Moody’s historical corporate credit ratings transition rates from 1983 to 2021 (Exhibit 1) as well as S&P’s study of Infrastructure Debt transition rates from 1981 – 2021 to inform probabilities of downgrades and default for Corporate Credit and Infrastructure Debt, respectively.

For example, using Moody’s Corporate Credit transition rates, we estimate that on average over one year ~6.2% of an investment grade credit portfolio (NAIC 1 and 2) would be downgraded to high yield (NAIC 3+). This transition to high yield results in an increase to a portfolios required capital, which is further magnified by insurers typically holding multiples over the NAIC prescribed regulatory minimums.

Another key input to our assessment of “Lifetime Capital” is the probability of default and loss given default. As shown in Exhibit 2, we employ differentiated default and recovery assumptions to inform asset class specific credit loss assumptions. These assumptions inform the losses insurers would take through TAC. Exhibit 2 highlights some of our key credit loss assumptions by asset class based on the historical data.

Exhibit 1: Moody's Average one-year alphanumeric rating migration rates, 1983-2021



Source: Moody’s Annual Default Report 2022. NAIC Ratings refers to the credit rating scale issued by the National Association of Insurance Commissioners, with NAIC 1 representing the lowest risk. For illustrative purposes only.

The average recovery rates for defaulted private assets tended to be higher compared to public corporates. This is often attributed to the flexible resolution options available, such as debt restructuring, distressed exchange, or liquidation and asset sales.

In our analysis, we use a long-term average recovery rate for senior unsecured bonds and term loans as shown in Moody’s corporate study for Corporate Credit and Middle Market Lending, respectively. For Infrastructure Debt, the S&P study encompasses bank debt and bonds in both corporate infrastructure and project finance – we use the long-term average recovery rate across these categories for HY Infrastructure Debt.

Exhibit 2: Recovery rates by different asset class¹

Assets	One-year Default	Recovery Rate	Expected Loss
Public IG Bond	0.1%	47.1%	0.1%
Public HY Bond	2.0%	47.1%	1.1%
Middle Market Lending	2.0%	71.7%	0.6%
High Yield Infra Debt	1.3%	77.3%	0.3%

¹The public investment grade bond, public high yield bond and middle market lending recovery rates are measured by the ultimate recoveries, the average recovery rate from 1987 through 2022, from Moody’s Default Trends and Rating Transition reports. Infrastructure debt recovery rate is based on S&P Default, Transition, and Recovery: 2021 Annual Infrastructure Default And Rating Transition Study.

Lifetime Capital BBB Credit Illustrative Example

As a motivating example prior to examining the private debt assets, we utilize the Moody's average one-year rating migration rates from the previous page to estimate the "Lifetime Capital" of a BBB credit portfolio over a 5-year holding period.

As discussed previously, negative credit experience strains insurers' capital levels in two ways:

- (1) Through higher required capital for the downgraded bonds. For a BBB allocation, the standalone capital charge increased from 1.27% to 1.81% over a 5-year period as shown in Exhibit 3.
- (2) Reductions in TAC through the default and subsequent credit losses which are magnified by the leverage inherent in an insurance balance sheet. In the BBB example above, the cumulative default (shown in green) was ~1.1%, and subsequent loss was ~0.6% after a 47% assumed recovery rate

We can illustrate the potential impact of (1) and (2) on an insurers RBC ratio by leveraging NAIC published data on the aggregate Life Industry RBC ratio and the individual RBC formula components. For the illustration shown in Exhibit 4, we assume a portfolio has 15% total exposure to BBB Credit and the insurer has investment leverage of 10x. The increased capital charge due to downgrades increases C1o (invested asset required capital), which in turn increases the Company Action Level RBC (the denominator in the RBC ratio). The credit loss lowered available capital by 0.9% due to the ~0.6% loss, 10x leverage, and 15% allocation ($0.9\% = 0.6\% * 10 * 0.15\%$).

Exhibit 4: Ratings transition experience for BBB credit

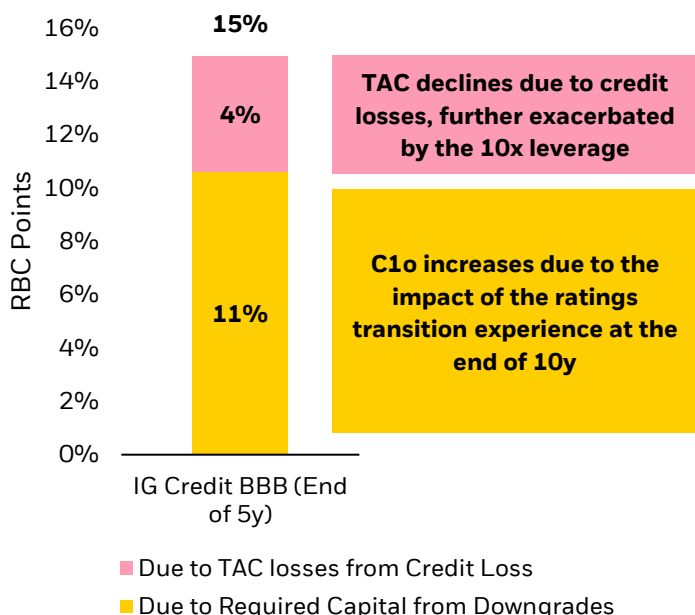
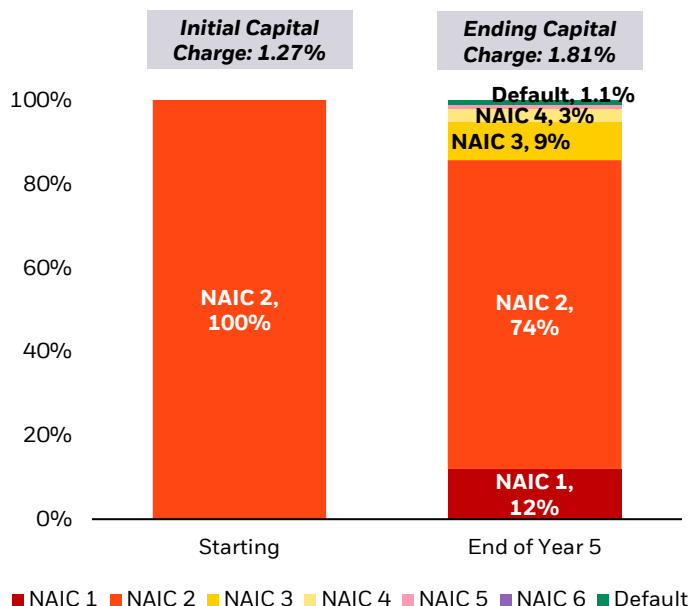


Exhibit 3: Ratings transition experience for NAIC 2 (BBB) credit



As shown in Exhibit 4, the impact of downgrades and credit losses together lowered the RBC Ratio by 15 points (from 483% to 468%). Most of the RBC ratio decline is attributed to the increase in C1o due to the ~40% increase in required capital. This suggests that managing downgrades to HY rather than credit losses may be a larger enterprise risk concern for insurers when allocating to IG credit since the lifetime capital of the allocation can increase meaningfully over the holding period.

IG Credit BBB RBC Impact	Starting	Ending
Standalone Required Capital, %	1.27%	1.81%
Effective Required Capital, %	4.26%	6.07%
C1o, \$bn	62.7	67.1
CAL RBC, \$bn	147.1	150.4
Cumulative Credit Loss, %	n/a	0.6%
Total Available Capital, \$bn	710.7	704.3
RBC Capital, %	483%	468%

Required Capital and Cumulative Credit Loss based on BlackRock calculations. Effective Required Capital Defined as Post-tax Life NAIC RBC assuming 450% RBC ratio and 25% C1-o diversification benefit. C1o, CAL RBC, TAC, and RBC capital starting point based on industry Life RBC data with the ending point based on BlackRock calculation. CAL RBC includes full diversification benefit based on NAIC data for industry factor exposure. Assumes IG credit BBB allocation size of 15% and leverage of 10.0x.

Lifetime Capital for Public and Private HY Assets

Building on the BBB example, we broaden the analysis to cover Public HY, Middle Market Lending, and HY Infrastructure Debt to examine the resiliency of HY Private Debt assets in insurance portfolios using the asset class specific assumptions on rating transition, default rates, and recoveries discussed previously. We assume each of these HY asset classes are 5% of the overall portfolio for the illustrative examples.

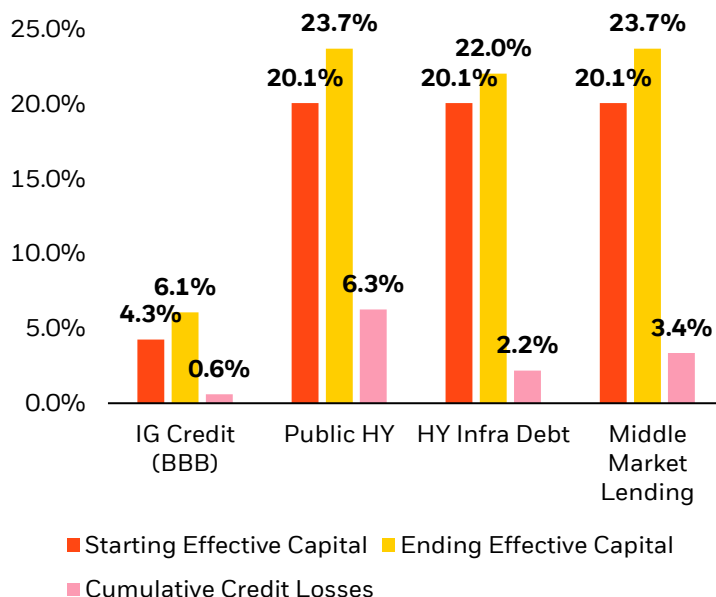
Our analysis finds that HY Infrastructure Debt may offer resilient “Lifetime Capital” properties due to both lower ending required capital and credit losses relative to Public HY and Middle Market Lending. We assume the same starting credit quality for each HY asset (50/50 BB/B).

As shown in Exhibit 5, the “effective capital charge” on HY Infra Debt increased by only ~9% over a 5-year holding compared to almost ~18% for public HY and Middle Market Lending and ~43% for BBB credit. HY Infra Debt also experienced a cumulative credit loss rate of only 2.2% over a 5-year period compared to 6.3% and 3.4% for Public HY and Middle Market Lending.

We’ve used the “Lifetime Capital” estimates to illustrate the potential RBC ratio decline using the same methodology discussed previously. Based on our analysis, Public HY had the most material impact on an insurers RBC ratio due to the 6.3% credit loss rate, which translates to a 3% reduction in TAC after factoring in 10x leverage and a 5% allocation. Both Middle Market Lending and HY Infrastructure Debt offered resilient credit experience relative to Public HY and BBB Credit due to lower required capital from downgrades and lower credit loss. For BBB credit this is partially attributed to the higher assumed portfolio allocation (15% vs 5%).

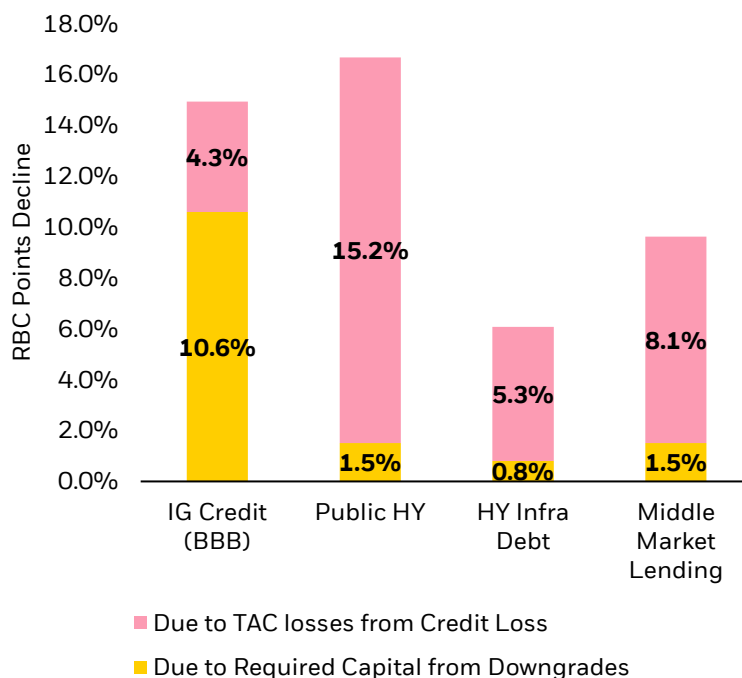
Beyond the resiliency offered by private markets, we also observed that credit loss appears to be the most material driver of adverse RBC impacts while required capital due to downgrades is more material for BBB credit. This suggests that managing credit loss may be a larger enterprise risk concern for insurers when allocating to HY privates while downgrade risk is a more material enterprise risk when allocating to IG credit, particularly BBB rated IG credit.

Exhibit 5: Lifetime Capital Components of different credit assets



Effective Capital: Defined as Post-tax Life NAIC RBC required capital assuming 450% RBC ratio and 25% C1-o diversification benefit.

Exhibit 6: RBC Ratio decline due to Lifetime Capital



Source: Estimated by BlackRock using NAIC Life Industry Published RBC factors as of December 31, 2023.

Putting It In The Context Of Net Yield

The “Lifetime Capital” metrics can also be used to examine capital and credit loss-adjusted yield. To adjust gross yields for “Lifetime Capital” we deducted an estimate for the cost of required capital and defaults based on the estimates derived for each asset class previously. Deducting the cost of required capital from yields accounts for differing amounts of capital that would either need to be raised or held aside as the required capital for a given asset changes. We assume an 8% cost of capital to estimate the cost of the additional capital required for an investment. The capital cost calculation is an additional metric to capital efficiency (yield per unit of capital) to assess whether insurers are compensated for spending more capital on higher returning assets.

The benefits of the capital- and default- adjusted yield metric becomes clear when comparing BBB credit to Public HY on a gross and net basis.

Although Public HY offered a ~200 bps premium to BBB credit on a gross basis, once adjusting for the cost of capital and defaults, the insurer earned ~46 bps less in public HY than in BBB credit, which may explain the industry’s low allocations to public HY.

Conversely, HY Privates offered enough gross yield through illiquidity and complexity premiums to compensate insurers for the increased capital and default cost associated with the asset class as shown by the higher net yield relative to BBB credit.

For this comparison, we’ve assumed the same starting credit quality for each HY asset class (50/50 BB/B) which implies the insurer would be accessing this in a separately managed account. If the insurer were to access the HY Privates in a rated note format, the starting capital cost would have been 1.23% which would further increase the yield benefits of HY Privates.

Exhibit 7: Average Capital- and Default- Adjusted Yields

	IG Credit (BBB)	Public HY	HY Infra Debt	Middle Market Lending
Gross Yield	6.61%	8.67%	10.50%	11.00%
Starting Capital Cost	-0.34%	-1.60%	-1.60%	-1.60%
5-year Average Default Cost	-0.12%	-1.26%	-0.44%	-0.67%
5-year Average Incremental Capital	-0.09%	-0.21%	-0.15%	-0.21%
Total Cost and Capital	-0.55%	-3.07%	-2.19%	-2.48%
Net Yield	6.06%	5.60%	8.31%	8.52%

Source: Starting capital cost assumes the effective required capital shown previously adjusted by an 8% cost of capital assumption. Average default cost based on cumulative credit loss shown previously assuming a 5-year holding period. Average incremental capital based on the ending effective capital shown previously. All HY assets assuming a BB/B starting credit quality. Yields estimate by public indices as of 11/30/2023 or by BlackRock investment team input for private markets.

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