PGIM REAL ESTATE

PERSPECTIVES

Four Compelling Reasons to Diversify with Private Real Estate Credit

June 2023

Commercial mortgage loans (CMLs) represent a private alternative asset class that offer attractive attributes to complement traditional fixed income portfolios. For many years, U.S. insurance companies have made sizable allocations to CMLs and, in particular, investment grade CMLs (IG CMLs) to achieve capital efficient returns and diversification benefits. In recent years, CMLs have attracted a broader array of investors, including non-U.S. investors and liability-driven investors like pension plans.

The appeal of CMLs stems from four key benefits they deliver, as outlined in more detail on the following pages:

- Enhanced income through a persistent yield premium
- Good diversification with other asset classes and within the asset class
- A track record of resilient performance in periods of market volatility
- A sizable market that allows for easy capital deployment and diversification

Given these compelling characteristics, we believe IG CMLs should be considered by investors seeking to achieve higher income and increase the durability of their investment grade fixed income portfolios.

Investment Grade Commercial Mortgage Loans

- Directly originated senior mortgage loans secured by cash flowing commercial and multifamily real estate
- Fixed and floating rate loans with loan-to-value ratios typically 65% or less and which benefit from existing in place cash flow
- 5–20-year loan terms, often with amortization
- Private loans structured to improve credit rating over time

1 A Persistent Yield Premium

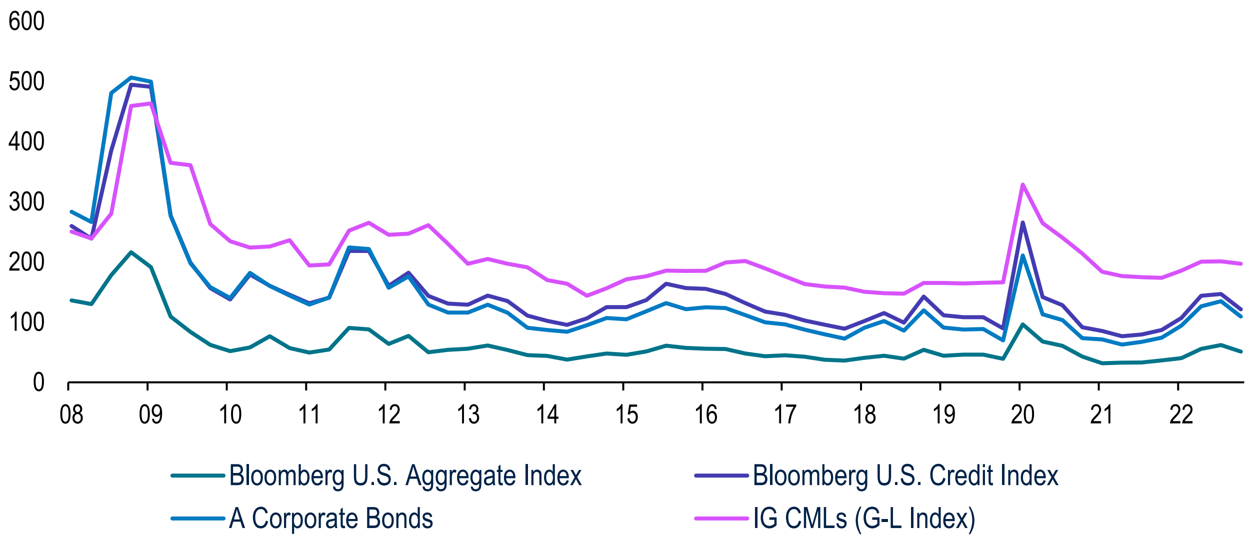
IG CML strategies seek to deliver a maximum yield premium over comparably rated corporate credit. This premium has proven to be persistent across market cycles (**Exhibit 1**) and has averaged +/- 70 basis points (bps) over the last 15 years.

Unlike other yield enhancers that provide higher income to compensate investors for increased risk and greater volatility of returns, IG CMLs offer added income primarily because of their lower levels of liquidity and the complexities of the market's direct origination model. In addition to delivering a spread premium at origination, IG CMLs can earn additional income through origination and servicing fees, as well as prepayment fees that are often required as part of the loan terms. All these fee streams help to increase the overall income premium that IG CMLs provide.

Active managers also have opportunities to enhance IG CMLs' yield premium further by carefully selecting investments, structuring to mitigate credit losses and skillfully negotiating loan documents.

Exhibit 1: Persistent Yield Premium

Private Real Estate Credit Spreads Higher Than Spreads on Investment Grade Credit Strategies (Basis Points)



Source: Bloomberg, Giliberto-Levy, PGIM Real Estate. As of December 2022.

Note: IG CMLs are represented by the G-L 1 Index. The index's components are fixed-rate commercial mortgage loans held on balance sheets of institutions such as life insurance companies and pension funds. Index spreads are a market-value-weighted blend of office, apartment, retail, industrial, lodging, mixed-use and other miscellaneous property types. Index performance tracks senior loans only; it does not include construction loans, mezzanine and other subordinate instruments and bridge loans.

2 A Good Source of Diversification

Many investors are looking to improve the resiliency of their fixed income allocations. Increasing diversification can support their goal, and IG CMLs can serve as good diversifiers for several reasons, as illustrated in **Exhibit 2**.

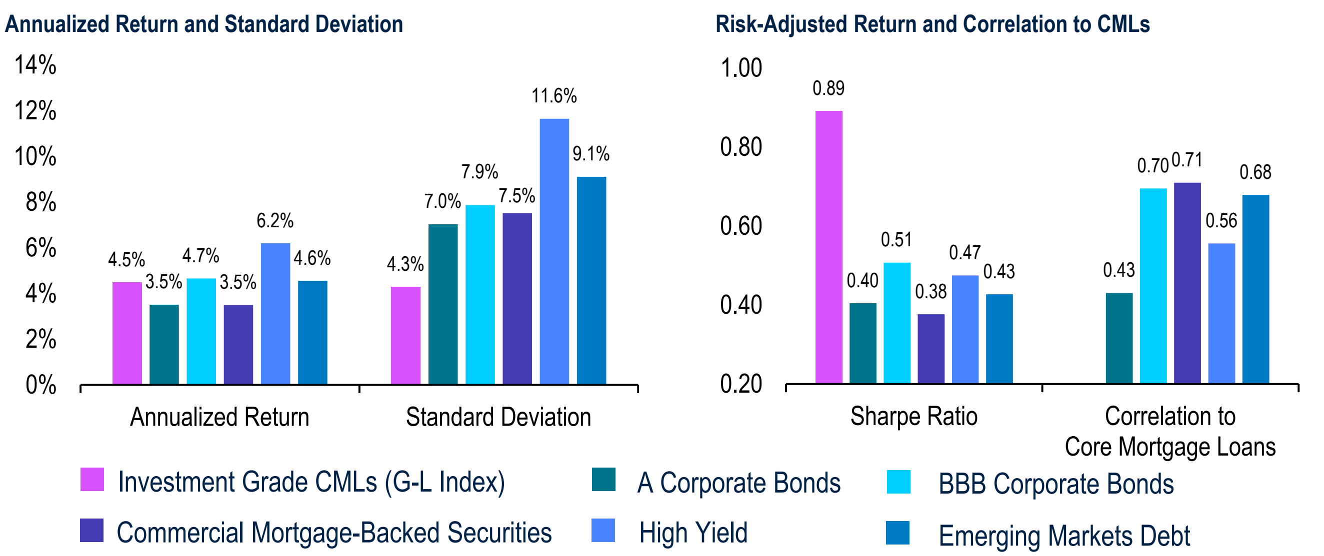
Stable long-term returns. Over the past 15 years, IG CMLs, as measured by the Giliberto-Levy Commercial Mortgage Performance Index (G-L Index), have outperformed corporate bonds and commercial mortgage-backed securities (CMBS) from a total return perspective, reflecting both the income delivered and changes in market value.

Lower levels of risk. Although not immune from volatility, IG CMLs have historically been much less volatile than corporate bonds and other publicly traded securities like CMBS. As the long-term period examined in **Exhibit 2** shows, the standard deviation of returns for IG CMLs was lower, and often considerably so, than that of a range of other major fixed income asset classes. Comparing the risk level of IG CMLs to high yield bonds and CMBS also reveals that IG CMLs delivered their yield premium without the additional risk those other yield enhancers bring.

Strong risk-adjusted returns. The combination of solid returns with low levels of risk explains why IG CMLs delivered Sharpe ratios that were close to double those of other fixed income indices over this period.

Lower correlations with other fixed income asset classes. IG CMLs also have attractive correlations with other fixed income assets, and particularly low correlations with IG corporate bonds and high yield debt.

Exhibit 2: Diversification to Public Fixed Income Securities (Total Return and Volatility, January 2008 to December 2022)



Note: **Past performance is not a guarantee or a reliable indicator of future results.** G-L 1 Index returns represent Giliberto-Levy Commercial Mortgage Performance Index Total Returns; A Corporate Bonds represented by the A-rated subset of the Bloomberg U.S. Investment Grade Corporate Bond Index; BBB Corporate Bonds represented by the BBB-rated subset of the Bloomberg U.S. Investment Grade Corporate Bond Index. Commercial Mortgage-Backed Securities represented by the Bloomberg CMBS ERISA-Eligible Index. EM USD denominated Corporate Debt represented by the Corporate subset of the Bloomberg EM USD Aggregate Index, which includes USD denominated debt from sovereign, quasi-sovereign and corporate EM issuers. Sharpe Ratio calculated by subtracting the U.S. Treasury 90-day T-bill from annualized performance over that period, divided by the standard deviation of index returns. Annualized return period starts 15 years ago, beginning in January 2008.

For professional investors only. All investments involve risk, including the possible loss of capital.

While investors have traditionally looked to asset classes like high yield bonds, CMBS or emerging markets debt for additional income, their yield premia come with considerable additional risk that can increase the volatility of a portfolio. IG CMLs have historically not required that trade-off. Their strong risk-adjusted returns and their attractive correlations with other fixed income asset classes provide evidence of the diversification and stability that IG CMLs can bring to a portfolio.

3 Fewer Losses and Downside Protection

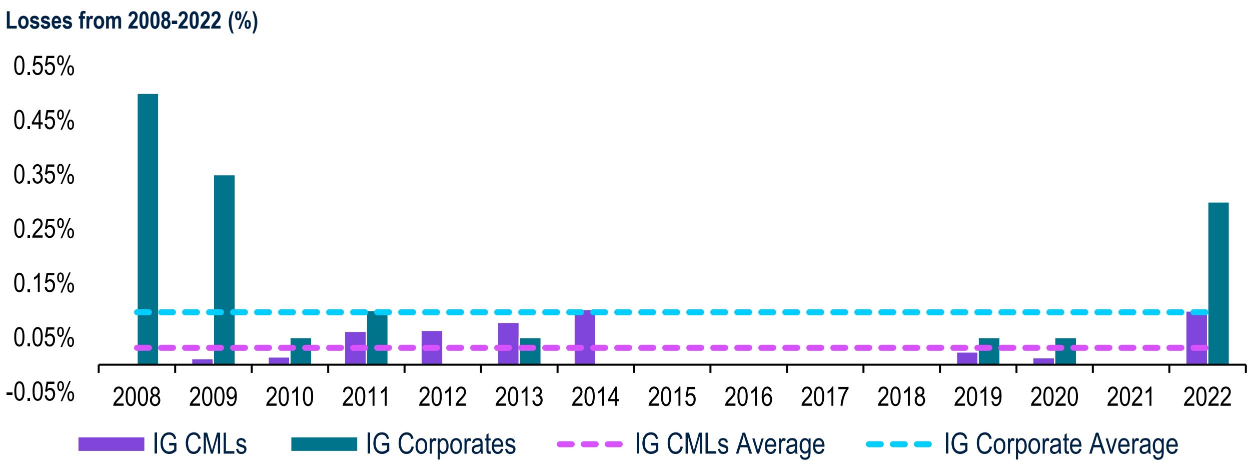
IG CMLs also appeal to investors because of the defensive characteristics offered by their structural attributes.

As senior loans with a priority in property level cash flow, IG CMLs offer a "floor" to losses based on the intrinsic value of the real property collateral. IG CMLs tend to focus on high-quality existing assets with in-place cash flow capable of supporting debt service costs. Lease payments supporting the assets also flow from a diverse set of tenants across the U.S. economy offering both granularity and diversity across a portfolio of assets.

IG CMLs are also directly originated, affording thoughtful investors the ability to carefully select sponsors, assets and structures that mitigate risk. Originating directly allows an investor to structure loan terms on a bespoke basis to address unique risks to the cash flow during the term of the loan, such as a major lease expiration or completion of a capital improvement plan. IG CMLs also typically prohibit subordinate debt, reducing the number of counterparties at the bargaining table and maximizing the amount of sponsor equity in the property, both of which improve outcomes in the event a loan comes under stress and reduce the incidence of foreclosure.

These attributes contribute to a favorable loss profile relative to IG corporate bonds as shown in **Exhibit 3**, which utilizes PGIM Real Estate IG CML loss data to demonstrate IG CML losses. As shown, realized losses for IG CMLs are lower on average (3bps versus 10bps from 2008-2022) and in most time periods than investment grade corporate bond losses for the same time period. Those lower losses, combined with the spread premium captured at origination, further drive outperformance.

Exhibit 3: Lower Losses Over Time



Note: **Past performance is not a guarantee or a reliable indicator of future results.** IG Corporates: Annual loss rates and average for equivalent corporate bond losses are from 2008-2022, as published in the 2022 Moody's Annual Default Study. IG CMLs: PGIM Real Estate's loss experience from 2008-2022 for loans rated investment grade by proprietary Quality Rating Model. PGIM Real Estate's proprietary ratings are reviewed independently by an outside auditor, but they are not approved by a ratings agency and are therefore intended for investor reference only.

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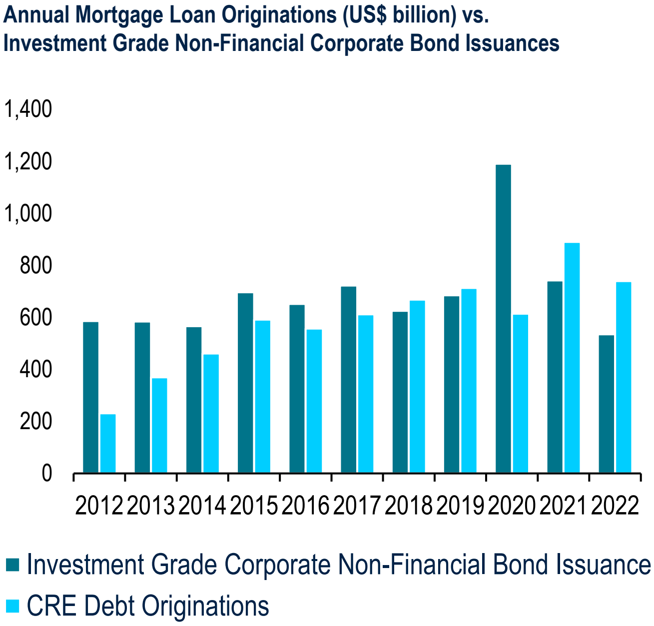
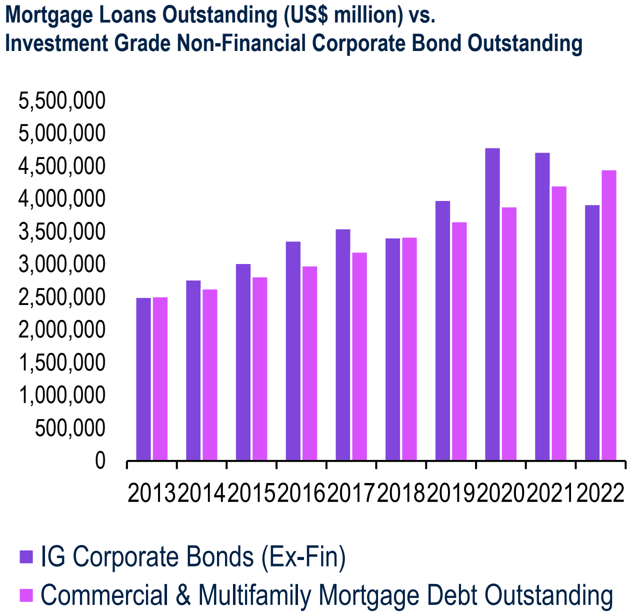
4 A Substantial, Scalable Market

Even though IG CMLs are a private asset class, they constitute a large market in the U.S. By our estimates, the overall commercial and multifamily mortgage market, with approximately $4.5 trillion in mortgages outstanding as of 2022, is comparable to the size of the non-financials corporate bond market (**Exhibit 4**). That size means investors can easily deploy capital into IG CMLs while still maintaining diversified exposure. New originations of IG CMLs provide exposure to collateralized loans with a diverse range of durations, underlying property types (including apartments, industrial, retail and office buildings) and large metropolitan areas. In addition, the underlying tenancy of the collateral represents a cross section of U.S. credit profiles including U.S. households. The size of the market and its diversification potential enable investors to deploy capital into assets with the attributes most appropriate for their allocations without being forced to simply "buy the market."

Exhibit 4: A Large and Scalable Market





Note: **Past performance is not a guarantee or a reliable indicator of future results**. LHS: CRE Debt Source: Overall CRE market estimate from Mortgage Bankers Association as of December 31, 2022; IG Corp Source: SIFMA as of December 31, 2022. Private Placement Originations Source: Private Placement Monitor, as of December 31, 2021. RHS: IG corporate bond amount outstanding excludes the financial sector and is as of December 31, 2022; Source: Bloomberg Barclays. Commercial & Multifamily Mortgage Debt Outstanding represents the average quarterly outstanding figures as of September 30, 2022; Source: Mortgage Bankers Association.

A Positive Outlook for CMLs

Amidst an uncertain and volatile investing environment, an allocation to IG CMLs remains an attractive and powerful diversification tool for fixed income portfolios, and now is a constructive entry point for the asset class given the recent increase in yields. IG CMLs have performed well in similar environments and are diversified from other fixed income alternatives, suggesting an allocation will help to buffer portfolios from continued volatility.

In addition, the current environment offers attractive yields combined with lower loan-to-value ratios. Broader market concerns about credit availability and its impact on commercial real estate values are currently weighing on the real estate sector. This negative sentiment is driving spreads higher and generating investment opportunities where risk is mispriced. In addition, banks have pulled back their lending appetites and tightened credit standards, and new CMBS issuance has declined significantly. These market conditions can produce strong risk-adjusted returns for investors with capital to deploy, access to meaningful deal flow, disciplined and proven credit analysis and broad insight into real estate fundamentals.

A Compelling Case for Inclusion in Portfolios

IG CMLs represent an appealing alternative investment grade asset class. All their attributes, ranging from strong risk-adjusted returns to downside protection in a large and scalable market, demonstrate why they can be a compelling complement to traditional fixed income assets. Current market conditions may also present an attractive entry point into the asset class. We strongly believe institutional investors can benefit from using these diversifiers as a fundamental allocation within their credit portfolios.

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