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2H 2024 ALTERNATIVE CREDIT INSIGHTS

Investing for resiliency

OPINION PIECE. PLEASE SEE IMPORTANT DISCLOSURES IN THE ENDNOTES.

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Shifting signals on interest rates create opportunities

At the start of the year, the consensus was that rate cuts were the name of the game in 2024. To put it mildly, that has changed significantly. The more hawkish outlook from the U.S. Federal Reserve (Fed) and most other central banks underlined the reality of a higher-for-longer rate environment. And while that has caused no small amount of consternation among investors, it has also shed a light on investment opportunities.



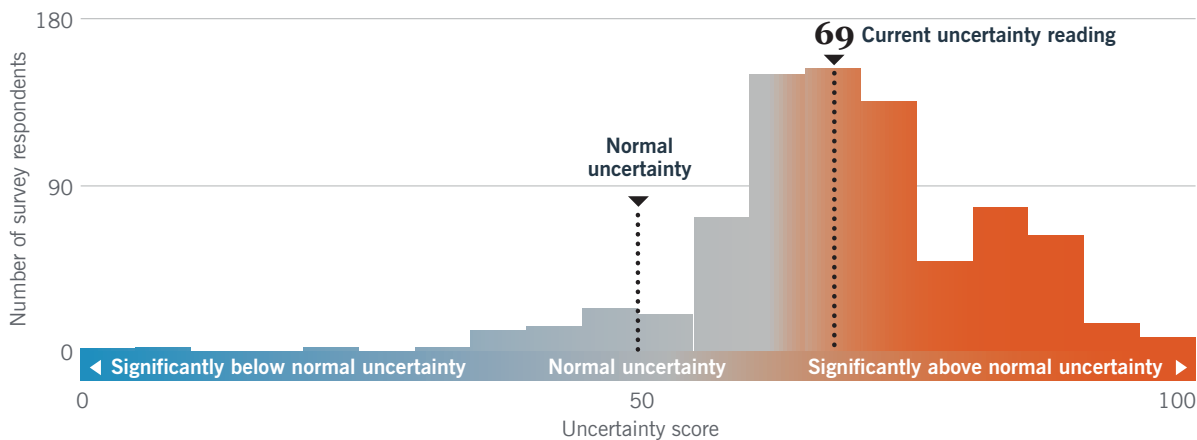
Investors remain increasingly uncertain

Investors have become increasingly uncertain of the investment landscape given the various economic and geopolitical factors which remain in flux. According to the EQUilibrium Uncertainty Barometer Index, investors feel we are in a period of elevated macroeconomic and geopolitical uncertainty with 93% receiving an Uncertainty Score above the normal level of 50 (Figure 1).

Economic and geopolitical certainty seems a long way off in the current environment, and uncertainty is rarely good for investors. In such volatile conditions, it is important to diversify portfolios for the long term, identifying asset classes which offer resilience in strained market conditions. In the following sections, we explore how different alternative credit asset classes can provide this resilience for investors.

Figure 1: Higher-than-normal uncertainty weighs on investors

Nuveen Institutional Investor Uncertainty Barometer (800 respondents)



Source: 2024 Nuveen EQUilibrium Survey. Uncertainty Barometer calculated by taking the mean of all 800 survey participants' Uncertainty Scores. Uncertainty Scores are an average of the answers to four survey questions weighted according to a Principal Components Factor Analysis. To learn more, visit nuveen.com/equilibrium

Key points to know

A greater emphasis on quality

Concerns of a full-blown recession have subsided somewhat, though the higher rate environment will mean that any economic slowdown will be more painful for investors, placing a greater emphasis on quality. The current environment continues to put a strain on duration positioning, with this acceptance of higher interest rates making it challenging to generate returns simply by lengthening duration. This is where investors may find more success in entering the credit market, though selectivity is crucial (figure 2).

Complicating matters further is the continued geopolitical instability in different regions. The Middle East has been at the forefront of this in the first half of 2024, as Israel's conflict with Palestine and Iran has threatened to unravel further. Elsewhere, Russia's invasion of Ukraine continues to weigh heavily on Europe.

Advantages of alternative credit

Given these higher levels of interest rate and geopolitical uncertainty, traditional portfolios of equities and (mostly government related) fixed income may be too exposed external risks. Indeed, we have seen this trend materialize in the form of the erratic movements in fixed income and equity indexes so far this year.

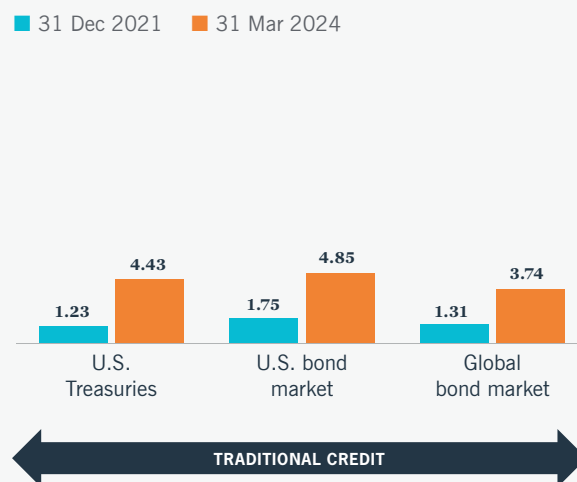
Instead, we think investors should fortify portfolios via broader diversification; alternative credit asset classes in particular can provide much-needed ballast to a traditional portfolio. In a high rate environment, asset classes such as direct lending and private fixed income can actually benefit from heightened rates.

Meanwhile, uncertainty created by geopolitical events can be capitalized on through asset classes such as energy infrastructure debt and Commercial Property Assessed Clean Energy (C-PACE) loans, which unlock opportunities that tap into the increasing importance of the energy transition and environmentally friendly construction as long-term trends.

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Figure 2: Higher yields (%) create an attractive...



Performance data shown represents past performance and does not predict or guarantee future results. It is not possible to invest directly in an index.

Sources: Bloomberg LLC., Bank of America, JPMorgan, Refinitiv LPC, S&P and Gilberto Levy as of 31 Mar 2024. The yields quoted are yield-to-worst except for these sectors: Senior broadly syndicated loans: 3-year yield to worst; Senior middle market

Alternative credit strategies in focus

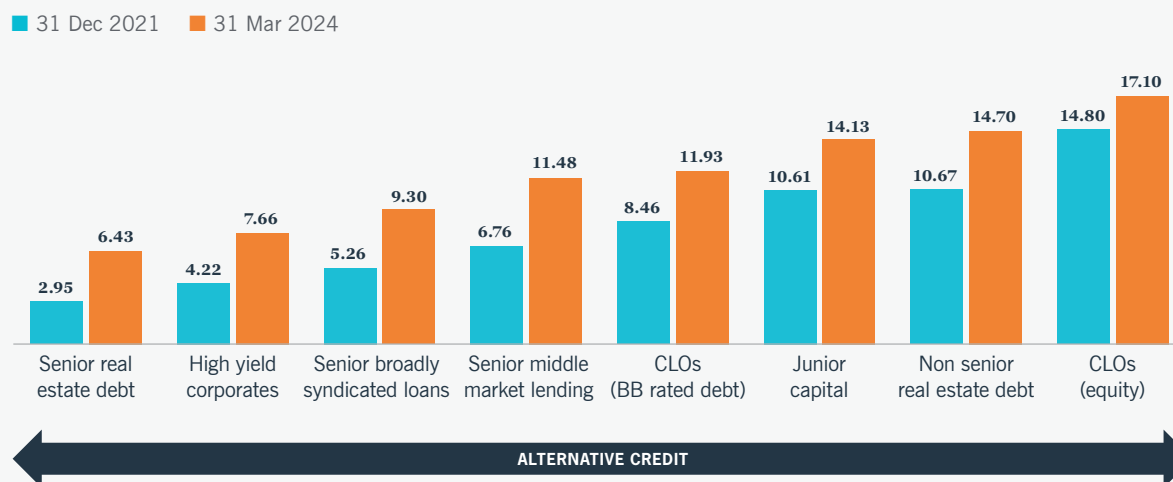
- **Collateralized loan obligations (CLOs):** The CLO market has seen strong growth in the first half of 2024, buoyed on by higher rates. Another factor in the growth of the market is investors seeking to diversify alternative allocations. Private equity is yet to resume activity in full swing, and investors have sought to differentiate income through the CLO market's front end cash distribution.
- **Energy infrastructure credit (EIC):** EIC is successfully tapping into long-term drivers, setting the asset class up as a well-positioned allocation capable of weathering multiple market conditions. Significant need for power, driven by increasing computing and data processing and power-intensive manufacturing, coupled with the push to

decarbonize many industries, means demand for infrastructure to meet these needs is set to increase substantially over the long term.

- **Investment grade private credit:** Strong deal flow and attractive spread premiums have bolstered the investment grade private credit market, and this is being seen across sectors. The more highly structured segments of the market such as esoteric asset-backed securities, credit tenant loans and project finance continue to be attractive in adding diversification and enhance yield to investor portfolios.

The following sector insights do not showcase all of Nuveen's capabilities in alternative credit, nor all our expectations for the asset class. To learn more about the alternative credit services available, reach out to your Nuveen representative.

...environment for credit investors



lending: average first lien 3-year term loan yield; **CLOs (BB rated):** simple average yield; **Junior capital:** issuance weighted average of the 3-year term middle market second lien loan rate and 3-year term mezzanine debt (cash & PIK) rate; **CLOs (equity):** median annualized U.S. broadly syndicated loan obligations equity distribution.

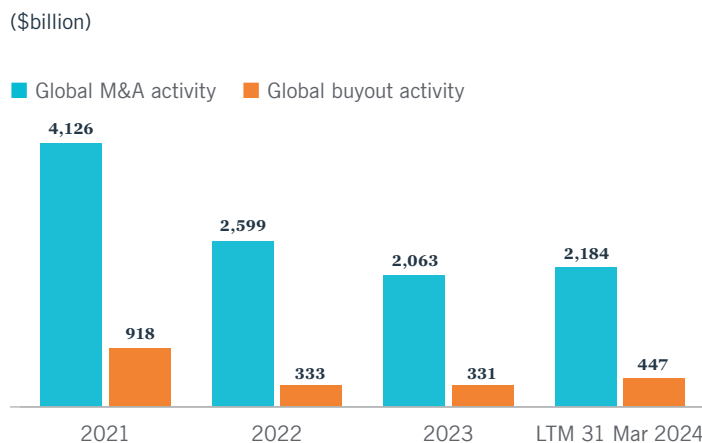
Representative indices: **CLOs (BB rated debt):** JPMorgan U.S. CLO Index -BB rated; **CLOs (equity):** US BSL CLO Equity Distributions (IO) median; **Global bond market:** Bloomberg Global Aggregate Index; **High yield corporates:** Bloomberg U.S. Corporate High Yield 2% Issuer Capped Index; **Junior capital:** Refinitiv LPC; **Non senior real estate debt:** Nuveen/Gilberto-Levy, G-L 2; **Senior real estate debt:** Gilberto Levy G1; **Senior middle market lending:** Refinitiv LPC; **Senior broadly syndicated loans:** Credit Suisse Leveraged Loan Index; **U.S. bond market:** Bloomberg U.S. Aggregate Index; **U.S. Treasuries:** Bloomberg U.S. Treasury Index.

Sector outlook

Direct lending

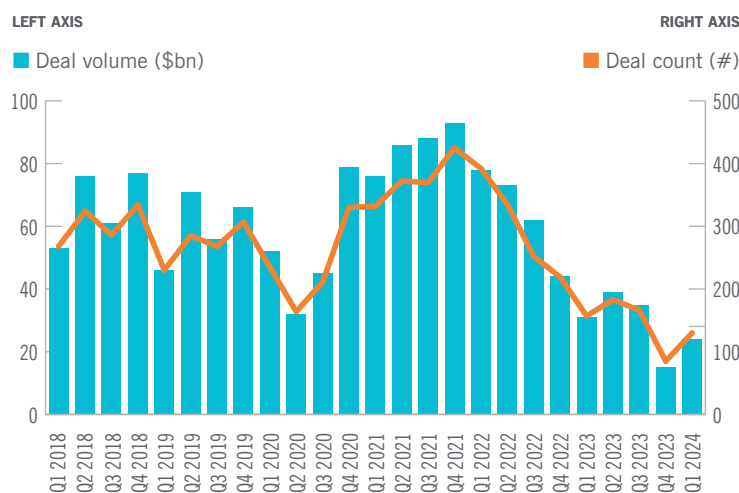
- United States:** Despite some shocks to inflation data in May, there is an air of greater economic clarity, interest rates appear to have stabilized and we continue to see an increase in deal flow as buyers and sellers engage in price discovery unlocking additional opportunities (figure 3).
- Interest rates remaining higher-for-longer continue to benefit direct lending investors, and while declines are expected, a return to an ultra-low environment is unlikely. Conditions seen in markets today will mean direct lending can provide a useful ballast to traditional portfolio allocations.
- A returning appetite for dealmaking will see increased investment opportunities and more risk. Direct lending managers who have experience in navigating deals effectively and identifying non-cyclical market segments will be better positioned to provide investors with opportunities that take advantage of the high-rate environment, offering shelter from volatile conditions.
- Europe:** Throughout the first quarter of 2024, the direct lending investment environment has continued to exhibit attractive characteristics, with strong pricing deal volumes, prudent protections, and borrowers, with robust credit characteristics (figure 4). With the recent rate hiking cycle now appearing to have concluded, we see a more certain macroeconomic environment emerging across Europe, with greater confidence being exhibited by both businesses and investors alike.
- The supply/demand imbalance in European direct lending is expected to become further embedded, providing further opportunities for the asset class to grow. Pricing compression in deals has been noted, though all-in yields of direct lending remain attractive, helped by the higher interest rate environment.
- Liquid markets are beginning to pick up activity following a slowdown in 2022-2023, however we believe private direct lending provides investors with a greater opportunity set in deal making and add-on deals with private equity partners, compared to the opportunities being presented by traditional lenders.

Figure 3: Global M&A activity volumes uptick after historic lows and improving buyout volumes support direct lending deal flow



Includes corporates and buyouts. Data sources: M&A activity: S&P Global market intelligence articles “Global M&A by the Numbers: 2020 Recap” and “Global M&A by the Numbers: Q1 2024”; Buyout activity: Calculated as the aggregate value of European and US-focused LBO deal volumes. European volumes converted from EUR into USD at the average FX rate for the relevant annual period. Source: LCD Data accessed on May 26th, 2024.

Figure 4: Quarterly European mid-market M&A (\$50m-\$1bn EV)



Data source: Bloomberg, April 25th, 2024.

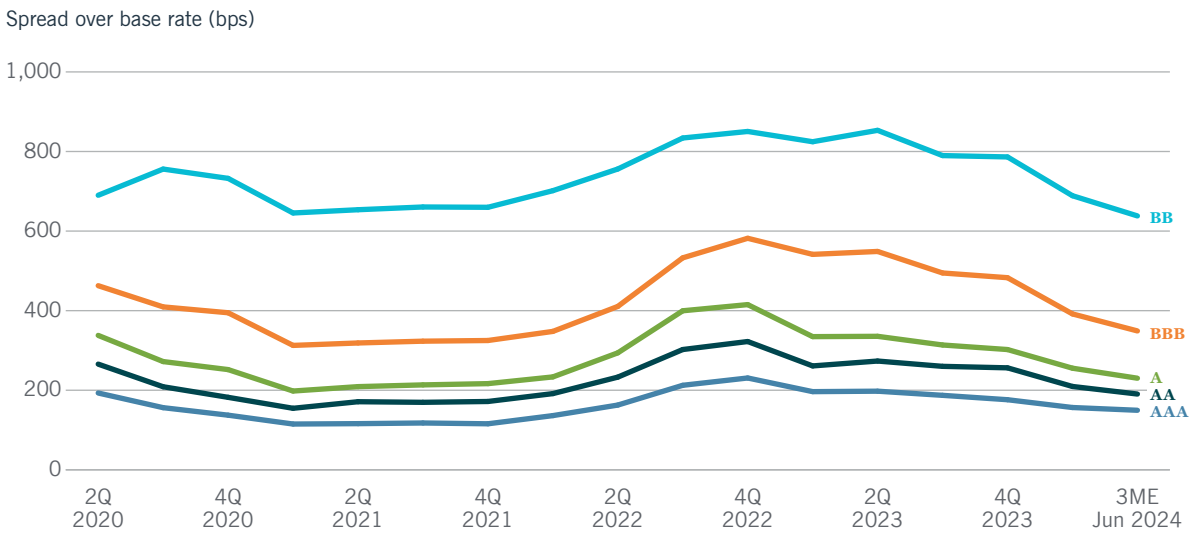


Collateralized loan obligations (CLOs)

- The CLO market is celebrating its 30-year anniversary in 2024, with the asset class growing into an important portfolio diversification tool in that time, and becoming increasingly popular among investors. Year-to-date, 470 U.S. CLOs (broadly syndicated, private credit and middle market) have priced totaling \$207.4 billion (213/\$100.7 billion new issue and 256/\$106.4 billion refinance/reset/re-issue). This compares to 133 U.S. CLOs (broadly syndicated, private credit and middle market) totaling \$57.1 billion (131/\$56.4 billion new issue and 2/\$0.7 billion refinance/reset/re-issue) for the same time period last year. Year-to-date, 53 private credit and middle market U.S. CLOs have priced totaling \$26.1 billion (37/\$19.6 billion new issue and 16/\$6.5bn refinance/reset/re-issue) and private credit and middle market CLO Issuance is 19% of YTD new issuance (source: JP Morgan as of 1 July 2024).

- We believe this spike in popularity is partly down to other alternative assets, like private equity, not seeing activity returning to levels investors had expected. Instead, investors have used CLOs to unlock high front end cash distributions, compared to the debt-driven returns of private equity.
- Default rates across the CLO market remain low compared to equivalent fixed income assets, delivering an effective ballast to traditional portfolio models.
- The higher-for-longer environment continues to suit the CLO market, with the asset class demonstrating strong scalability as the loan structure is able to capitalize on market liquidity (figure 5).
- The CLO market is demonstrating its role as an important portfolio diversifier in the current market environment. With market growth being driven by the continued rise of alternative financing, the asset class's liquidity offering huge scalability potential and its history of low defaults, the CLO market has demonstrated its ability to compliment other alternative credit asset classes and traditional fixed income.

Figure 5: Average U.S. CLO coupons across the ratings stack



Data source: PitchBook | LCD. Data through 24 Jun 2024

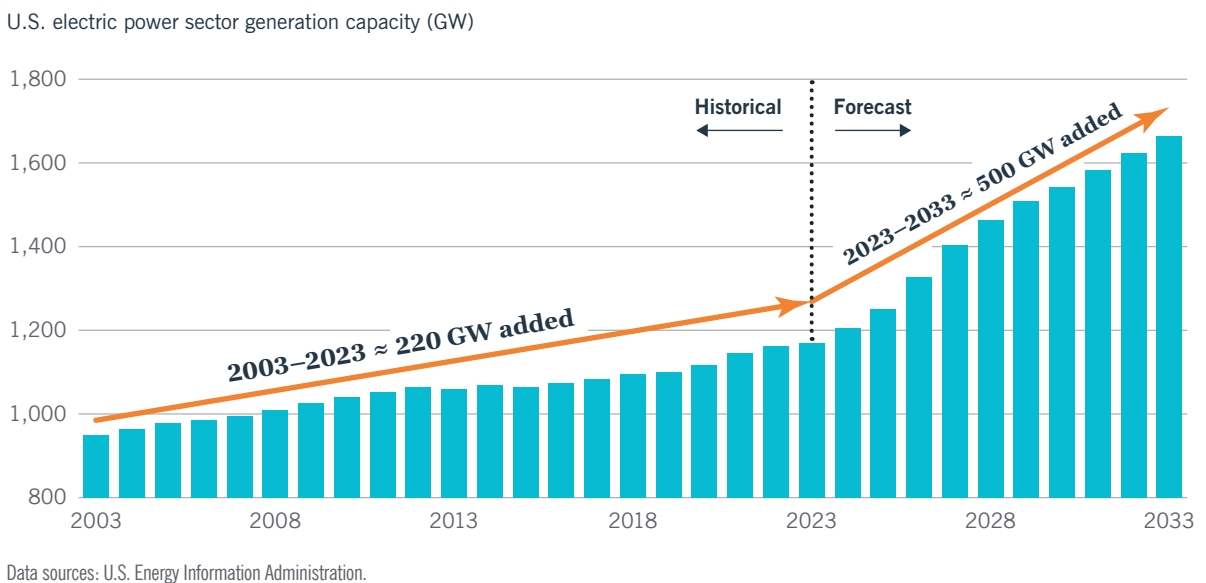
Energy infrastructure credit

- In 2024, we believe experienced credit investors who can successfully navigate platform and project complexity, and structure investments with sufficient downside protection will be well-positioned to ultimately deliver attractive risk-adjusted returns.
- Energy infrastructure investment should be propelled by several long-term trends ratcheting demand for capital, with the biggest being a step change increase in electricity demand. There are several catalysts predicted to spur demand growth, led by increased need for data centers to support cloud services and artificial intelligence (AI), which account for approximately 40% of the growth rate.¹ Onshoring of power-intensive manufacturing, such as semiconductors and electric vehicles, and electrification of transportation are two other emerging power demand sources, as western governments look to ease the reliance on foreign supply chains via tax incentives and other schemes. This protectionist shift offers the asset class an additional layer of defense.
- Wind, solar and storage account for effectively all expected power generation capacity expansion in the U.S., and while the leveled costs of renewables paired with batteries are comparable to newly built natural gas-based power, higher capex-to-opex ratios increase the amount of financing – as

a percentage of total costs – by over twofold (18% vs 40%).² This, coupled with the required quadrupling in the pace of power plant additions, presents the growth opportunities in infrastructure, underpinned by a push towards decarbonization which should provide cover across volatile market environments.

- The movement to onshore the manufacturing of clean energy components in the U.S. was initially driven by the supply chain challenges observed during the COVID-19 global pandemic, but even more so has been accelerated by legislation which provides various incentives for domestic supply chains. Subsequently, U.S. construction spending has skyrocketed from less than \$80 billion in 2020 to nearly \$200 billion in 2023, which is its largest percentage contribution to real GDP growth in more than 40 years.³ Canada and the European Union have created similar programs which are catalyzing a robust global investment opportunity set.
- These new opportunities require tremendous capital, especially debt financing. Similar to renewable energy projects, the capital-intensive nature of these new opportunities like clean energy supply chain, storage, or even energy efficiency, the counterpoint to increased power demand, creates considerable credit funding opportunities underpinned by infrastructure characteristics such as contracted offtake, cash flow visibility and long-lived hard assets.

Figure 6: Significant electrification demand expected and large opportunity to decarbonize



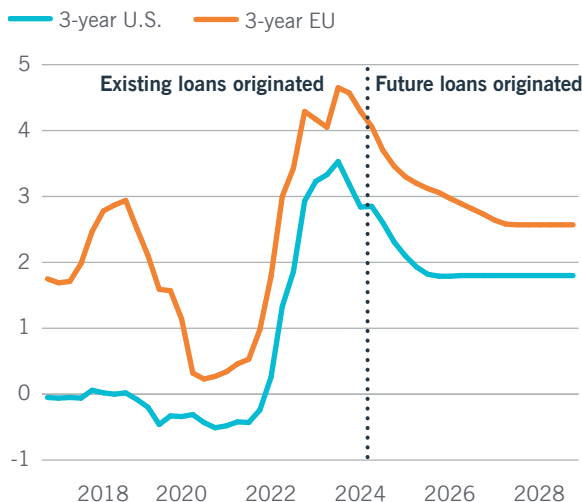
Real estate debt

- Commercial real estate (CRE) loans originated during the recovery from a market downturn tend to be the best performing vintage of their period, and we believe 2024 will see the start of a new vintage of strongly-performing loans as the CRE investment market enters a new cycle. We believe that higher interest rates and better spreads will deliver stronger returns for CRE debt investors than we have seen over the last 10 years, while stabilizing capital values are reducing lending risk.
- Returns are set to benefit from the higher-for-longer rates environment, as well as from a structural shift in the lending market. Base funding costs over the medium term are forecast to be 100-200bps higher than they were over the last 10 years and this will support higher debt coupons. In addition, changes in bank regulation are reducing the banking sector's exposure to CRE lending, supporting an increase in spreads for the lenders who remain in the market – particularly in the 50-70% LTV range.

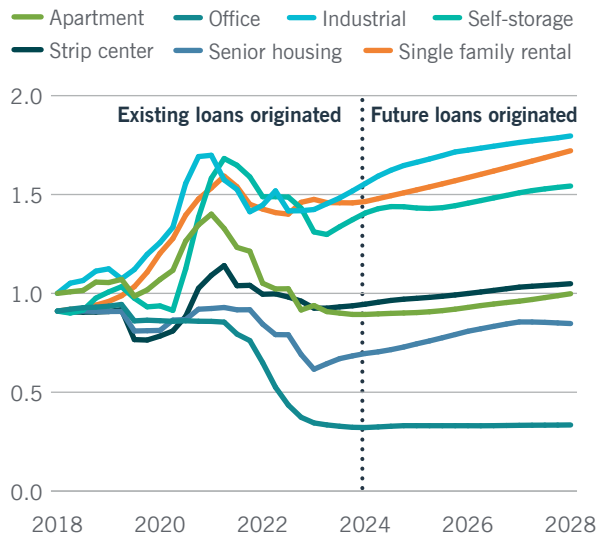
- Meanwhile, capital values are now stabilizing after a downward correction that was caused by the shift to a higher interest rate environment. The adjustment happened at different speeds in different markets, but impacted most CRE formats across most major investment markets. The fall in collateral values has caused particular problems for existing loans in the most vulnerable CRE formats, and for loans at higher LTVs. But that adjustment is now largely over and new lending takes place against a capital value outlook of stabilization and upcoming growth outside the most vulnerable CRE formats.
- Hence, we believe that alternative CRE lenders are set to see higher returns at lower risk levels than were possible in the previous market cycle. In addition, for lenders who are able to successfully navigate the CRE landscape to operate across core plus and value-add risk levels in the upcoming environment of stable and rising collateral values, returns should be even more attractive as changes to banking sector regulation reduce competition among lenders.

Figure 7: “Higher-for-longer” interest rates will keep debt coupons high, while recovering capital values reduce lending risk

Three-year swap rate forecast for U.S. and EU (%)



U.S. capital forecast (Index 2018=1)



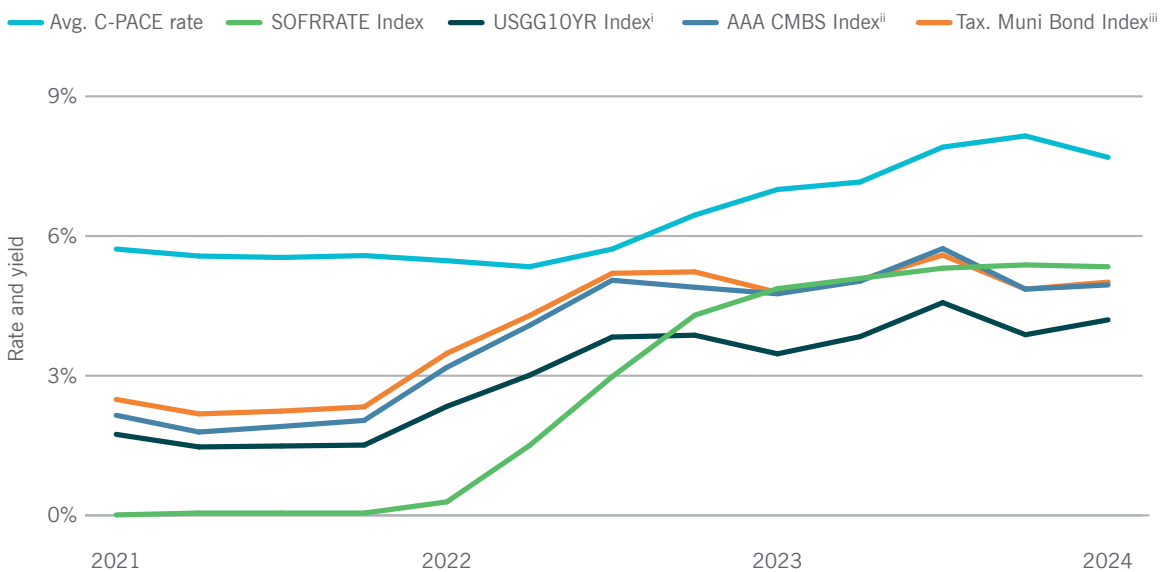
Data sources: Oxford Economics and Green Street as of May 2024

Commercial Property Assessed Clean Energy (C-PACE)

- The universe of investible C-PACE opportunities continues to expand, driven by tailwinds in decarbonization and resiliency needs in the U.S., offering investors attractive risk/reward returns, duration, and diversification.
- The investment-enabling policy framework is passed at the state level and implemented at the county and municipality, rather than by federal government so it is less likely to be exposed to disruption from the upcoming U.S. presidential election than many other climate opportunities, offering investors further resilience from political reverberations.
- Data from C-PACE Alliance⁴ shows annual C-PACE originations totaled \$2.1 billion in 2023 from 247 projects, up from \$211 million in 2015. The activity in 2023 brings the total C-PACE market to around \$7.3 billion in financing from over 2,300 projects in the U.S. Nuveen Green Capital provided C-PACE financing for 41% of the total originations volume in 2023.
- Continued growth is expected from geographic expansion, with new C-PACE policy and program launches expanding the addressable market of eligible commercial buildings in the U.S., as well as continued institutionalization of the market. Today, there are over 30 states with active C-PACE programs that have completed projects since program inception, with the first states coming online in the early 2000s. The number of participating U.S. states is expected to increase further as state policymakers see the benefit of providing this financing tool to commercial real estate sectors, while activity within existing states should expand as additional municipalities pursue C-PACE projects.

Figure 8: C-PACE coupon compared to alternative investments and benchmark yields

As of 31 Mar 2024



Past performance does not predict or guarantee future results.

Source: Nuveen

ⁱ Bloomberg US 10 Year Treasury

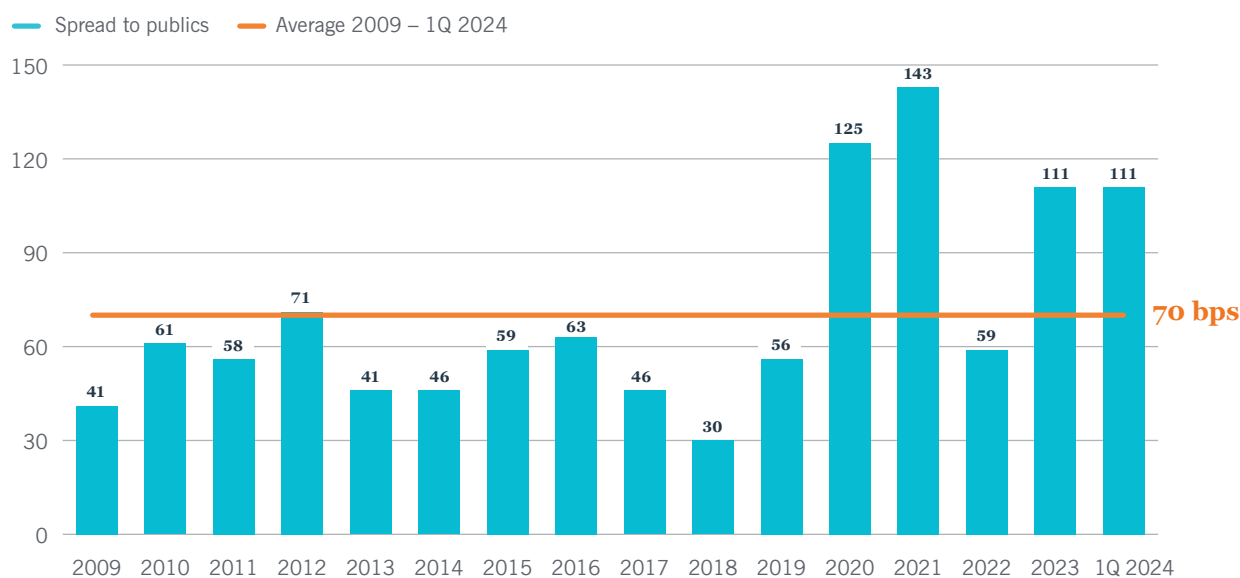
ⁱⁱ Bloomberg AAA CMBS

ⁱⁱⁱ Bloomberg Taxable Municipal Bond Index

Investment-grade private credit

- We are seeing strong volumes across investment-grade private credit, including private placement corporate debt, private asset-backed securities (ABS), credit tenant loans and infrastructure debt. The benefits of a well-diversified approach are evidenced by the strong deal flow and sustained spread premiums generated across the multiple sectors.
 - Within private placement corporate debt, issuance volumes have been robust. In 2024 to date, we are seeing opportunities across industries and geographies, with a significant uptick in the utility sector. We remain selective and focused on structural protections, as we search for high-value and unique opportunities. Spread premiums remain intact – albeit with some compression witnessed – with this market still lagging the faster tightening public market.
 - Credit tenant loans continue to see high levels of inquiry and we expect this momentum to continue throughout the year. Activity is strong across a broad spectrum of industries, particularly within the
- municipals space, as governments are more agnostic to the higher interest rate environment compared to the private sector. The market is highly competitive with investors exhibiting strong demand for duration, resulting in spread compression for long-dated, high credit quality opportunities.
- We continue to see a sizeable pipeline of opportunities for private ABS so far this year – for example A rated deals in the +250-325 bps area and BBB rated deals in the +325-425 bps area. Sectors we expect to be active in over the next three to six months include C-PACE, insurance-linked, PDP (proved, developed, and producing) reserves, student loans, venture debt and LIHTC (low-income housing tax credits).
 - As we expected, infrastructure debt deal flow in 2024 has been exceptional. The most promising opportunities are in the U.S. and Europe across all major sectors including renewables, transportation and energy. M&A activities of private equity partners continue to focus on gas and electric utilities divesting non-core assets to focus on power generation and green initiatives. Spread premiums have increased in highly structured club and sole lender deals as well.

Figure 9: Historical spread premiums over publics by private placement sector (bps)



As of 31 Mar 2024.

Comparable US Public Indices is calculated using weighted average of the BofA Merrill Lynch US Corporate Indices, calculated to reflect ratings commensurate to investment team production for given period.

Source: Bloomberg and Nuveen. Please note private placement investments will be subject to lower liquidity than publicly traded fixed income securities, and pricing may reflect different valuation processes.

Data reflects all investments originated by the Private Placements team. Data does not reflect management fees.

Partnering for resilience

Uncertainty is rarely welcomed by investors, and in such times, investing for resiliency has proven to help provide some shelter for portfolios. The current market volatility, driven by continued hawkishness from central banks on interest rates and a troubling geopolitical stage, mean portfolio diversification based around long term, low volatility investment opportunities becomes increasingly important. Across asset classes in alternative credit, we see how economic uncertainty continues to work in its favor, giving investors an effective tool for diversification.

For more information, please visit nuveen.com/alternativecredit.

Endnotes

- 1 Goldman Sachs Equity Research: “Generational growth — AI, data centers and the coming US power demand surge”, 28 Apr 2024, <https://www.goldmansachs.com/intelligence/pages/gs-research/generational-growth-ai-data-centers-and-the-coming-us-power-surge/report.pdf>. Accessed 08 Jul 2024.
- 2 Lazard: “2023 Levelized Cost Of Energy +”, Apr 2023, <https://www.lazard.com/research-insights/2023-levelized-cost-of-energyplus/>. Accessed 08 Jul 2024.
- 3 The White House: “The Advance Estimate of Second Quarter Real GDP”, 27 Jul 2023, <https://www.whitehouse.gov/cea/written-materials/2023/07/27/the-advance-estimate-of-second-quarter-real-gdp/>. Accessed 08 Jul 2024.
- 4 Source: Based on historic NGC originations as a percentage of cumulative PACE originations as reported by C-PACE Alliance, as of 31 Dec 2023.

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Important information on risk

Investors should be aware that alternative investments including private equity and private debt are speculative, subject to substantial risks including the risks associated with limited liquidity, the potential use of leverage, potential short sales and concentrated investments and may involve complex tax structures and investment strategies. Alternative investments may be illiquid, there may be no liquid secondary market or ready purchasers for such securities, they may not be required to provide periodic pricing or valuation information to investors, there may be delays in distributing tax information to investors, they are not subject to the same regulatory requirements as other types of pooled investment vehicles, and they may be subject to high fees and expenses, which will reduce profits.

Real estate investments are subject to various risks associated with ownership of real estate-related assets, including fluctuations in property values, higher expenses or lower income than expected, potential environmental problems and liability, and risks related to leasing of properties.

Responsible investing incorporates Environmental Social Governance (ESG) factors that may affect exposure to issuers, sectors, industries, limiting the type and number of investment opportunities available, which could result in excluding investments that perform well.

Investments in middle market loans are subject to certain risks such as: credit, limited liquidity, interest rate, currency, prepayment and extension, inflation, and risk of capital loss.

Private equity and private debt investments, like alternative investments are not suitable for all investors given they are speculative, subject to substantial risks including the risks associated with limited liquidity, the potential use of leverage, potential short sales, concentrated investments and may involve complex tax structures and investment strategies.

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