GUGGENHEIM

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Understanding Collateralized Loan Obligations

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Report Highlights

- Collateralized Loan Obligations (CLOs) represent a high yielding, scalable, floating-rate investment alternative with a history of stable credit performance.
- Credit performance through the Great Financial Crisis (GFC) and COVID-19 risk cycles has supported growth in the CLO market, broadened the investor base, and supported secondary market liquidity.
- Guggenheim Investments' long-term experience mobilizing credit research, structural analysis, analytic infrastructure, and legal expertise in service of our investment process positions us to capture the attractive relative and fundamental value in CLOs though a cycle.

Overview: What Are CLOs?

CLOs are a $910 billion asset class within the broader $12 trillion structured credit fixed-income market[1], which also includes asset-backed securities (ABS). CLOs derive principal and interest from an actively managed, diversified pool of non-investment grade, senior-secured corporate loans.

CLOs use funds received from the issuance of debt and equity to investors to acquire a diverse portfolio of typically more than 200 loans. The debt issued by CLOs consists of a variety of tranches, each with a risk/return profile based on its seniority and claim priority on the cash flows produced by the underlying loan pool.

These loans, also known as “bank loans” or “leveraged loans,” typically occupy a first-lien position in the company’s capital structure, are secured by the company’s assets, and rank first in priority of payment ahead of unsecured debt in the event of bankruptcy. Economically, the CLO equity investor is the owner of the pool of loans and the CLO debt investors provide term financing to acquire the pool of loans.

1. Source: Guggenheim Investments, SIFMA, JP Morgan, Bank of America. Data as of 6.30.2022. **CLOs are complex investments and not suitable for all investors.** Investors in CLOs generally receive payments that are part interest and part return of principal. These payments may vary based on the rate at which loans are repaid. Some CLOs may have structures that make their reaction to interest rates and other factors difficult to predict, make their prices volatile, and subject them to liquidity and valuation risk. Please see “Important Notes and Disclosures” at the end of this document for additional risk information.

Understanding CLOs: CLO Capital Market Ecosystem

Leveraged Loan Market ($1.4 trillion)

- Finance buyouts, dividends, or capital expenditures
- Rated below investment grade
- Borrowing is floating rate at SOFR + 300 to 500 basis points

Equity

- Private equity sponsors
- Public markets
- Private ownership

CLO Market (65%)

65% or $910bn

Debt Investors (35%)

- 35% or $490bn
- Loan ETFs
- Separately Managed Accounts
- Credit Funds, Business Development Companies (BDCs)
- Banks

AAA (64%)

- Banks
- Money Managers
- Insurance Companies

AA-BBB (24%)

- Money Managers
- Insurance Companies

BB-Equity (12%)

- Hedge Funds
- BDCs
- Money Managers
- Specialty Credit Funds

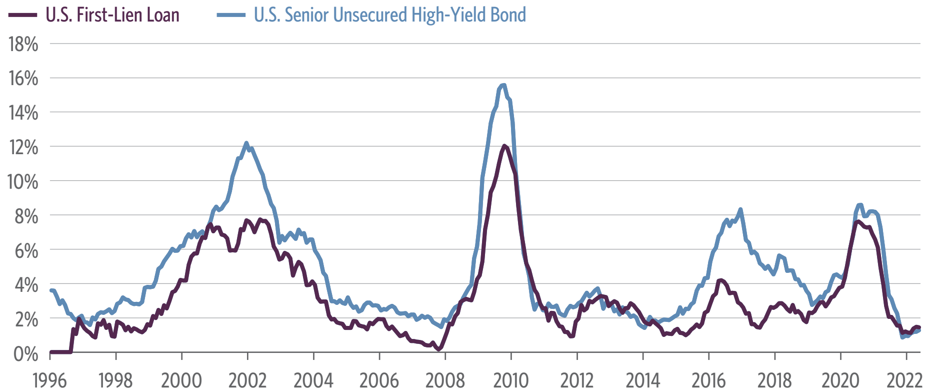
Source: Guggenheim Investments, SIFMA, LCD. Data as of 6.30.2022.

Understanding CLO Collateral: Leveraged Loans

A portfolio of loans act as the collateral supporting a CLO. The proceeds of these loans are typically used by non-investment grade borrowers to support a range of activities, including mergers and acquisitions, stock repurchases, dividend payments, leveraged buyouts, or investment in new projects. Loans are provided by a group or "syndicate" of institutional lenders and arranged by an investment bank. Most CLO collateral consists of senior secured loans, which have the first claim on all of the related company's assets in the event of a bankruptcy and are intended to be the least risky investment in these companies. Loans carry floating-rate coupons typically benchmarked to the Secured Overnight Financing Rate (SOFR). Loans carry a number of covenants, including financial covenants that may restrict lender-unfriendly actions, and require compliance with certain credit metrics. The senior secured position of these loans has contributed to higher historical recoveries in default scenarios than those seen in the senior unsecured high-yield bond market.

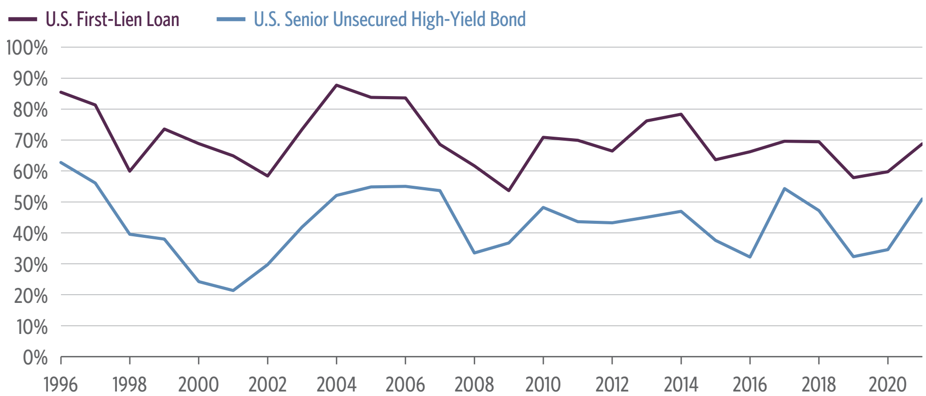
Leveraged loans' senior secured status has historically led to lower default rates and higher recoveries compared to unsecured high-yield bonds. CLOs historically have further mitigated default and recovery risk of individual company credits by holding diverse portfolios of leveraged loans—typically more than 200 borrowers—that are actively managed.

Leveraged Loan vs. High-Yield Default Rates



Source: Guggenheim Investments, Moody's. Data as of 6.30.2022. Past performance does not guarantee future success.

Recovery Rates for Leveraged Loans and High-Yield Bonds



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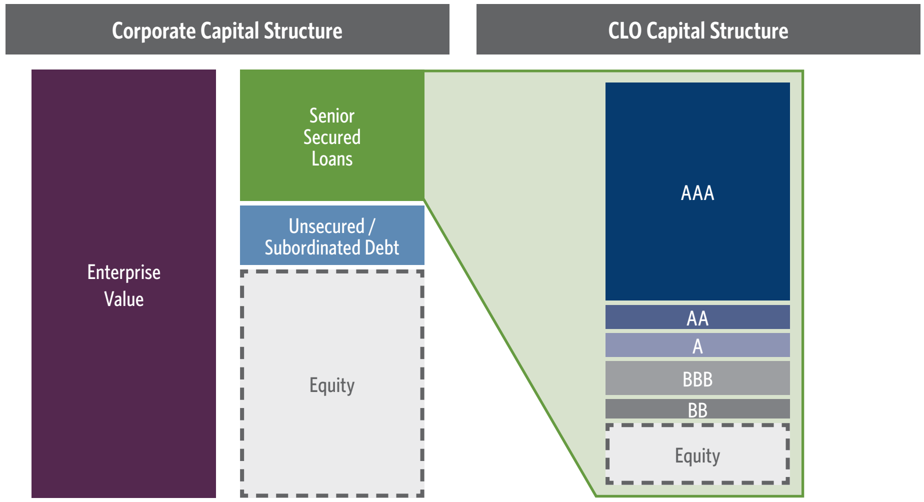
Understanding CLO Structures

At its inception, a CLO raises money to purchase a portfolio of loans by selling various debt and equity tranches to investors. Each tranche has a different claim priority on the cash received from the loan pool and exposure to loss from the underlying collateral pool. Cash flow distributions begin with the senior-most debt tranches of the CLO capital structure and flow down to the junior-most equity tranche—a distribution methodology that is referred to as a waterfall. The cash flow waterfall and a suite of performance tests and collateral concentration limits provide varying degrees of protection to the CLO's debt tranches.

The CLO's most senior and highest-rated AAA tranche carries the lowest coupon but is entitled to the highest claim on the cash flow distributions and is the most loss-remote. Mezzanine tranches pay higher coupons but are more exposed to loss and have lower ratings. The most junior and riskiest part of the CLO capital structure is the equity tranche, which is neither rated nor coupon bearing. Instead, the equity tranche represents a claim on all excess cash flows that remain once the

Cash flow distributions begin with the senior-most debt tranches of the CLO capital structure and flow down to the bottom equity tranche, a distribution methodology that is referred to as a waterfall.

Understanding the Typical Structure of a CLO



Schematic is based on 15x enterprise value ratio, 5.5x senior debt and 6.5x sub debt to represent a generic corporate single-B capital structure. CLO sizing based on typical broadly syndicated loan deal par attachment points of 36 percent for AAA, 24 percent for AA, 18 percent for A, 12 percent for BBB, and 8 percent for BB.

Breaking Down a CLO's Lifecycle

CLO Lifecycle: CLOs typically last eight to 10 years, during which time a series of milestones are passed.

Warehouse Period: A warehouse provider finances the CLO manager's acquisition of leveraged loan assets. The warehouse period typically takes six to 12 months. The warehouse loan is expected to be paid off with the proceeds from the CLO's issuance.

Ramp-Up Period: After closing, the CLO manager uses the proceeds from the CLO issuance to purchase additional assets. The ramp-up period usually lasts three to five months and concludes at the ramp-up end date.

Reinvestment Period: The collateral manager is permitted to actively trade underlying assets within the CLO and uses principal cash flow from underlying assets to purchase new assets. The reinvestment period may last up to five years.

Non-Call Period: During the non-call period the equity may not call or refinance the CLO debt tranches. Non-call periods may last six months to two years, depending on the length of the reinvestment period. At that point, investors in the equity tranche of the CLO can refinance the CLO.

Amortization Period: After the reinvestment period ends, the CLO enters its amortization period, during which cash flows from the CLO's underlying assets are used to pay down outstanding CLO debt. The amortization period represents the end of a CLO's lifecycle.

obligations for all debt tranches have been met. AAA senior tranches are the largest and typically represent 65 percent of the capital structure. Mezzanine AA to BB-rated tranches are much smaller and typically represent 4–12 percent of the capital structure each. Equity tranches vary in size but are typically about 8-10 percent of the capital structure.

CLOs are governed by a series of coverage tests to measure the adequacy of the collateral balance and cash flows generated by the underlying bank loan collateral. One such test is an overcollateralization test (OC test), which ensures the principal value of the bank loan collateral pool exceeds the outstanding principal of the CLO debt tranches. If the bank loan collateral's principal value declines below the OC test trigger value, cash that otherwise would have been distributed to the equity and junior CLO tranches will be used to instead pay down senior debt tranche investors. Another test computes interest coverage (IC test), which ensures the adequacy of cash collected from the bank loan collateral to pay CLO tranche interest. If collateral collections decline below the IC test trigger value, cash that otherwise would have been distributed to the equity and junior CLO tranches will be instead used to pay down senior debt tranche investors, in a manner similar to the OC test described above.

CLOs are also subject to a variety of collateral concentration limits that seek to limit risk in the bank loan collateral pool and protect CLO investors from loss. Examples of these limits include requirements for industry diversification in the underlying pool of bank loans, and exposure to non-senior secured loans and single obligors. There are also limitations on the amount of CCC-rated loans that can be included in the underlying collateral pool, which helps contain overall default risk.

Structural Protections of CLOs

Credit Enhancement	Performance Tests
Risk-reduction technique that increases the likelihood of repayment relative to the intrinsic risks of the underlying collateral.	Redirect cash flows from subordinate tranches to purchase additional collateral loans and repay senior debt if collateral performance deteriorates.
Subordination: Deals are structured so junior tranches absorb losses before senior tranches.	**Interest Coverage Test:** Interest on Assets / Interest due on related tranche and all tranches senior to it.
Excess Spread: The weighted average coupon of the loan collateral is higher than the coupon paid to investors to create an additional buffer of cash.	**Overcollateralization Test:** Par amount of assets / Outstanding amount of related tranche and all tranches senior to it.

Source: Guggenheim Investments.

Most CLO portfolios are actively managed. The collateral manager seeks to mitigate losses from loan defaults and optimize the bank loan portfolio's value through actively managing the holdings and positioning of the portfolio over a predefined reinvestment period. CLOs do not have mark-to-market tests and are only dependent upon cash flow performance (e.g., timely payment of principal and interest), ratings, maturities, and defaults of the underlying bank loans. Therefore, CLO managers are not forced sellers during periods of market volatility, and can buy and sell bank loans to take advantage of opportunities in the market to find value or minimize losses on deteriorating credits.

Historical Performance

The combination of diversified, actively managed, senior-secured loan collateral along with sound securitization structures has resulted in favorable historical ratings performance. According to Standard & Poor's, CLO 1.0s (CLOs that were issued before the GFC) exhibited strong credit performance during the financial crisis and produced a very small number of lifetime defaults. CLO 2.0s (CLOs issued after the GFC) feature numerous additional credit improvements compared to their pre-crisis counterparts. First, rating agencies now require that CLOs feature substantially more overcollateralization than their pre-crisis counterparts. Second, whereas pre-crisis CLOs were able to make meaningful investments in subordinated bonds and other structured credit instruments, post-crisis CLOs are collateralized almost exclusively by senior secured bank loans. Third, post-crisis CLOs' documentation is much more investor friendly, for example, by shortening the trading period during which the manager is able to actively manage the loan portfolio, and limiting extension risk for CLO securities. Due to their enhanced collateral and structural improvements, CLO 2.0s experienced even better performance than CLO 1.0.

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Performance Summary of CLOs Issued Before and After the GFC

	CLO 1.0		CLO 2.0		Default %	
Original Rating Category	Original Rating Count	Default Count	Original Rating Count	Default Count	CLO 1.0	CLO 2.0
AAA	1,540	0	3,330	0	0.0%	0.0%
AA	616	1	2,665	0	0.2%	0.0%
A	790	5	2,220	0	0.6%	0.0%
BBB	783	9	2,004	0	1.1%	0.0%
BB	565	20	1,652	3	3.9%	0.2%
B	28	3	363	7	10.7%	1.9%
Total	4,322	38	12,234	10	0.9%	0.1%

Source: Guggenheim Investments, Standard and Poor's. Data as of 6.30.2022.

CLOs' historically low default rate across the ratings spectrum compares favorably to corporate debt.

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CLO and Corporate Bond Cumulative Defaults

		Corporate	
Original Rating Category	CLO 1.0 + 2.0	5 Year	10 Year
AAA	0.00%	0.41%	0.83%
AA	0.03%	0.41%	0.98%
A	0.17%	0.66%	1.69%
BBB	0.32%	1.83%	4.0%
BB	1.13%	7.42%	13.69%
B	2.56%	18.11%	25.66%

Source: Guggenheim Investments, Standard and Poor's. Data as of 6.30.2022.

Investor Sponsorship

The CLO marketplace has evolved since the GFC. The CLO market grew from a post-crisis trough of $263 billion to $910 billion as of June 2022, according to Bank of America data. Many new investors were attracted to the strong historical credit performance and floating-rate coupon following the GFC. The CLO market has grown in-step with the bank loan market and expanded at a quicker pace than other credit market sectors.

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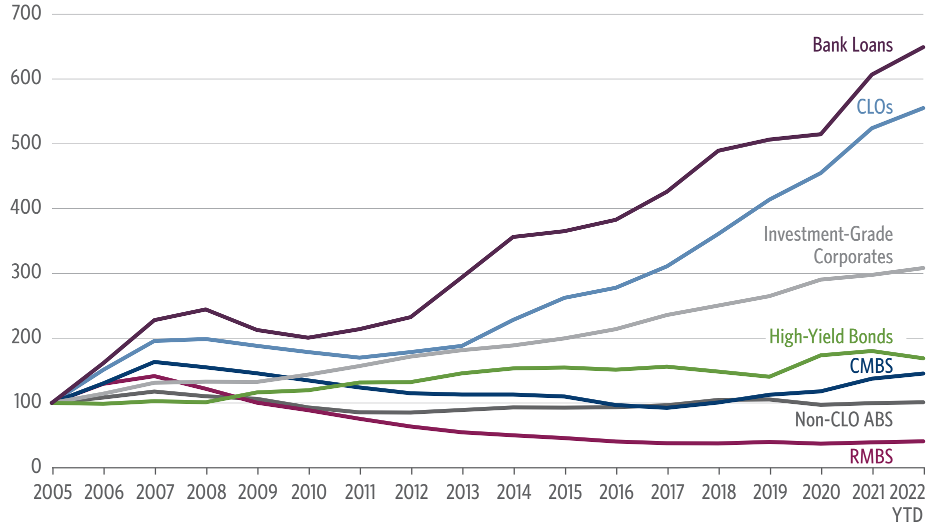
CLOs and Bank Loans Outpace Growth of Other Fixed-Income Sectors

Growth of Fixed-Income Sectors; Index 2005 = 100



Source: Guggenheim Investments, JP Morgan. Data as of 6.30.2022.

Prior to the GFC, investor sponsorship was largely dominated by hedge funds, structured investment vehicles, and Wall Street trading desks. However, post-crisis regulation has all but eliminated these highly leveraged investor types. Today's CLO investor base is primarily composed of large institutional asset managers, banks, and insurance companies. These investors do not employ the high leverage strategies of the pre-crisis investor base and, as a result, are less prone to the forced selling that arises from mark-to-market volatility and margin call pressures.

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Investor Composition of CLOs

		Investor Types			
Rating	Outstanding	Insurance	Banks	JPY Banks	Asset Managers / Hedge Funds
AAA	$502bn	19%	30%	18%	33%
AA	$99bn	47%			53%
A	$53bn	60%			40%
BBB	$50bn	56%			44%
BB	$36bn	12%			88%
Equity	$103bn	14%			66%

Source: Guggenheim Investments, Bank of America. Data as of 6.30.2022.

Secondary trading volumes in both investment-grade and non-investment-grade CLO tranches have been fairly stable year over year, and underscore the ability of risk to change hands even in challenging market environments. The buy-and-hold oriented sponsorship of investment-grade CLO tranches can be observed in the lower level of turnover.

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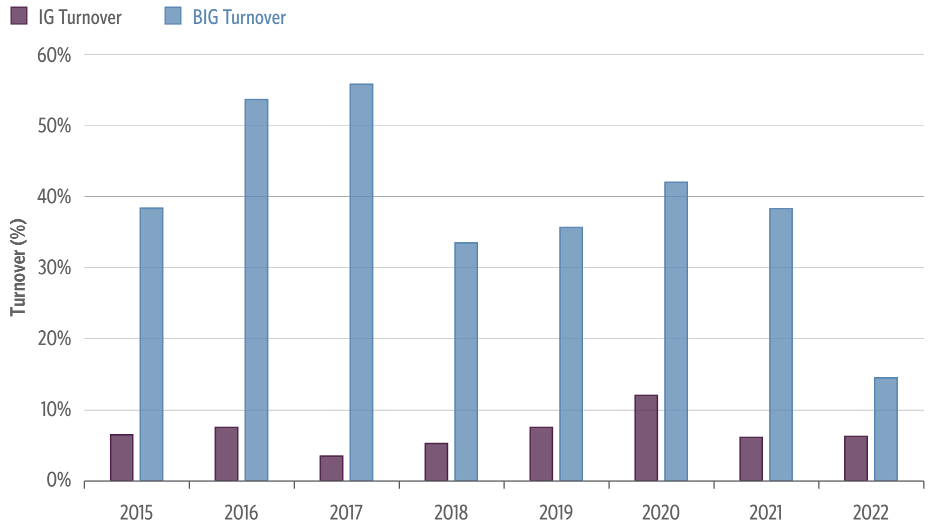
Trading Volumes of CLOs

Investment Grade and Below Investment Grade Turnover Breakdown



Source: Guggenheim Investments, FINRA. Data as of 6.30.2022.

Investing in CLOs

CLOs have several features that make them an integral component of Guggenheim's fixed-income strategies. In addition to their investor-friendly structural protections and historical credit performance, one of the most important characteristics of CLOs is their floating-rate coupon, which helps insulate bond prices from rising interest rates. Fixed-rate securities decline in value as interest rates rise and investors discount the value of the fixed-rate bonds' relatively low coupons. However, the coupons on floating-rate securities such as CLOs adjust based on the current short-term interest-rate environment. As a result, floating-rate securities' prices tend to be more stable in rising interest-rate environments than those of their fixed-rate counterparts.

Investing in CLOs is not without risk. As with other securities, CLOs are subject to credit, liquidity, and mark-to-market risk, and the basic architecture of CLOs requires that investors must understand the waterfall mechanisms and protections as well as the terms, conditions, and credit profile of the underlying loan collateral. Thus, the relative value determination for a CLO simultaneously considers potential returns relative to other securitized and corporate fixed-income sectors as well as its pricing relative to other short-duration options.

Capturing opportunities in the CLO market requires the expertise to perform bottom-up research on individual bank loans in the underlying collateral pool. Because CLOs routinely have over 200 issuers in their collateral pools, investment managers must have significant corporate credit research capabilities to fully evaluate the underlying credit risk in each CLO.

The importance of understanding a CLO's structural characteristics cannot be underestimated. Two CLOs with the identical collateral assets may perform differently due to structural differences. The legal documentation that governs a typical CLO can be in excess of 300 pages, and a high degree of expertise and consistent market presence are required to analyze these documents and discuss key terms with managers looking to access the market. The ability to access the value in CLOs becomes available to investors with the appropriate mix of credit research, structuring experience, and legal expertise.

The Guggenheim Approach

Guggenheim's approach to investing in CLOs is consistent with our process for all our fixed-income investments. With CLOs, the Guggenheim investment process starts with a bottom-up fundamental approach to CLO structures. Guggenheim brings to bear its extensive research insights across a broad spectrum of the bank loan market and the structuring and legal expertise necessary to understand the nuances of each individual CLO investment opportunity. Collateral, structure, and manager attributes are evaluated, and stress testing and scenario analyses are performed. Research is augmented by our in-house legal team and by the obligor-level credit views of our corporate credit team. Investments are integrated into portfolio strategies by considering relative value, risk, and sector targets, as well as the risk-adjusted return potential evaluated from a long-term holding period point of view.

Important Notices and Disclosures

GLOSSARY OF TERMS

Basis Point: A unit of measure used to describe the percentage changes in the value or rate of an instrument. One basis point is equivalent to 0.01 percent.

First Lien: A security interest in one or more assets that lenders hold in exchange for secured debt financing. The first lien to be recorded is paid first.

Mark-to-Market: A measure of the fair value of an asset or liability, based on current market price.

Mezzanine Financing: A hybrid of debt and equity financing that is typically used in the expansion of existing companies.

Second Lien: Debts that are subordinate to the rights of more senior debts issued against the same collateral or portions of the same collateral.

Secured Overnight Financing Rate (SOFR): A broad measure of the cost of borrowing cash overnight collateralized by Treasury securities.

Structured Investment Vehicles: Pools of investment assets that attempt to profit from credit spreads between short-term debt and long-term structured finance products such as asset-backed securities.

Tranche: Related securities that are portions of a deal or structured financing, but have different risks, return potential and/or maturities.

Waterfall: A hierarchy establishing the order in which funds are to be distributed.

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1. Guggenheim Investments assets under management are as of 9.30.2022 and include leverage of $17bn. Guggenheim Investments represents the following affiliated investment management businesses: Guggenheim Partners Investment Management, LLC, Security Investors, LLC, Guggenheim Funds Distributors, LLC, Guggenheim Funds Investment Advisors, LLC, Guggenheim Partners Advisors, LLC, Guggenheim Corporate Funding, LLC, Guggenheim Partners Europe Limited, Guggenheim Partners Japan Limited, GS GAMMA Advisors, LLC, and Guggenheim Partners India Management. Securities offered by Guggenheim Funds Distributors, LLC.

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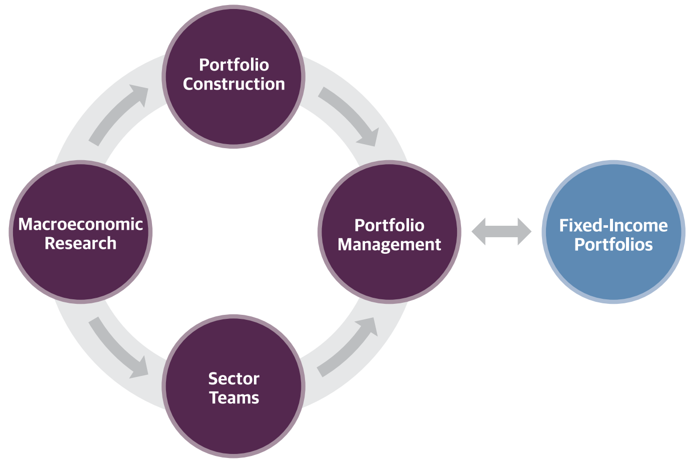
Guggenheim's Investment Process

Guggenheim's fixed-income portfolios are managed by a systematic, disciplined investment process designed to mitigate behavioral biases and lead to better decision-making. Our investment process is structured to allow our best research and ideas across specialized teams to be brought together and expressed in actively managed portfolios. We disaggregated fixed-income investment management into four primary and independent functions—Macroeconomic Research, Sector Teams, Portfolio Construction, and Portfolio Management—that work together to deliver a predictable, scalable, and repeatable process. Our pursuit of compelling risk-adjusted return opportunities typically results in asset allocations that differ significantly from broadly followed benchmarks.



Guggenheim Investments

Guggenheim Investments is the global asset management and investment advisory division of Guggenheim Partners, with more than $218 billion[1] in total assets across fixed income, equity, and alternative strategies. We focus on the return and risk needs of insurance companies, corporate and public pension funds, sovereign wealth funds, endowments and foundations, consultants, wealth managers, and high-net-worth investors. Our 250+ investment professionals perform rigorous research to understand market trends and identify undervalued opportunities in areas that are often complex and underfollowed. This approach to investment management has enabled us to deliver innovative strategies providing diversification opportunities and attractive long-term results.

Guggenheim Partners

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