COMMERCIAL MORTGAGE-BACKED SECURITIES

(CMBS)

A securitized products primer

WHAT ARE COMMERCIAL MORTGAGE-BACKED SECURITIES?

Commercial mortgage-backed securities (CMBS) are collections of **commercial mortgage loans** that are bundled together, or **securitized**, and sold to investors. CMBS structures help to link the financing needs of real estate buyers with investors' capital.

Commercial mortgage loans are loans issued by banks, insurers, and alternate lenders to finance purchases of commercial real estate, such as office, industrial, retail, hospitality, and multifamily housing facilities.

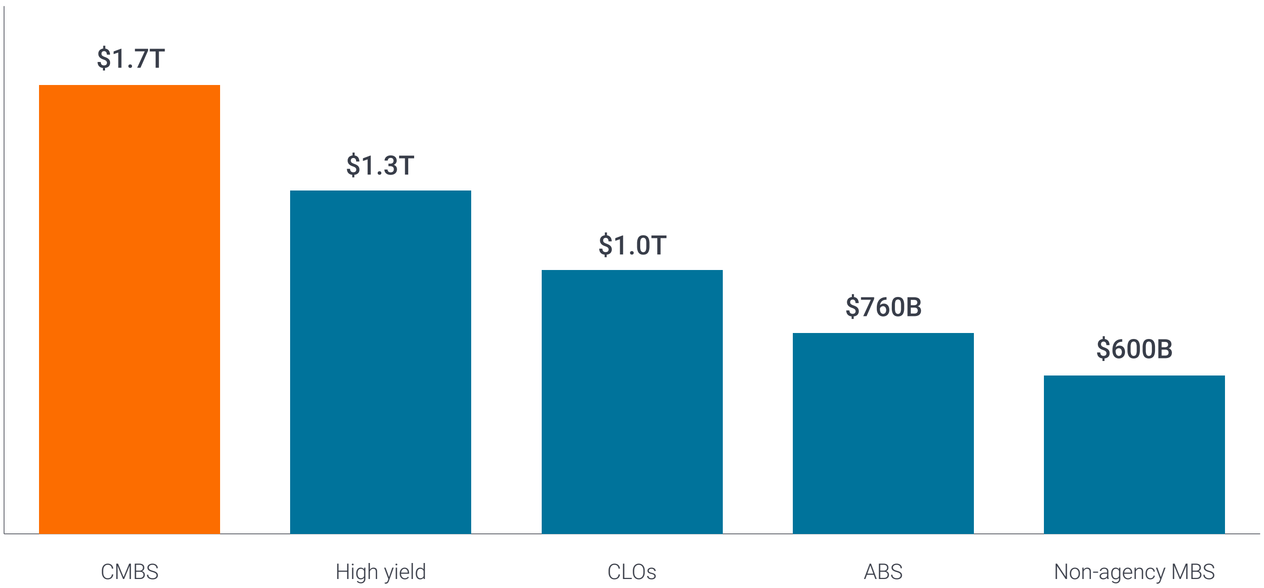
Securitizations are financial instruments (bonds) created via the bundling of contractual debt, such as mortgages, bank loans, or auto loans. These bundles are repackaged into buckets – or tranches – and sold to investors. Investors receive the cash flows from the underlying loans (in the form of interest and principal payments) as a return on their investment.

U.S. SECURITIZED MARKET				
Agency MBS	CMBS	CLO	ABS	Non-Agency MBS
Mortgage-Backed Securities	Commercial Mortgage-Backed Securities	Collateralized Loan Obligations	Asset-Backed Securities	Mortgage-Backed Securities

Size of the U.S. CMBS market

The U.S. CMBS market is a large, well-established market that has been around since the early 1990s. At around $1.7 trillion in market capitalization, CMBS is bigger than the U.S. high yield market and is the second-largest securitized market in the U.S. behind agency mortgage-backed securities (MBS).

Size of select U.S. fixed income markets



Source: Bank of America, as of 31 December 2023. Asset class definitions as per footnote 1 on page 8.

Composition of the U.S. CMBS market

The U.S. CMBS market is comprised of five main subsectors: Multifamily housing (e.g., apartments, prefabricated homes), office, industrial (e.g., warehouses, data centers), retail, and hospitality (e.g., hotels, casinos, time shares).

Like residential mortgage-backed securities (RMBS), CMBS can be classified as either agency or non-agency, depending on whether they carry a guarantee from a government agency.

Agency CMBS are typically issued on multifamily housing units by one of the government agencies Fannie Mae or Freddie Mac. They carry the U.S. government's AA+ credit rating.

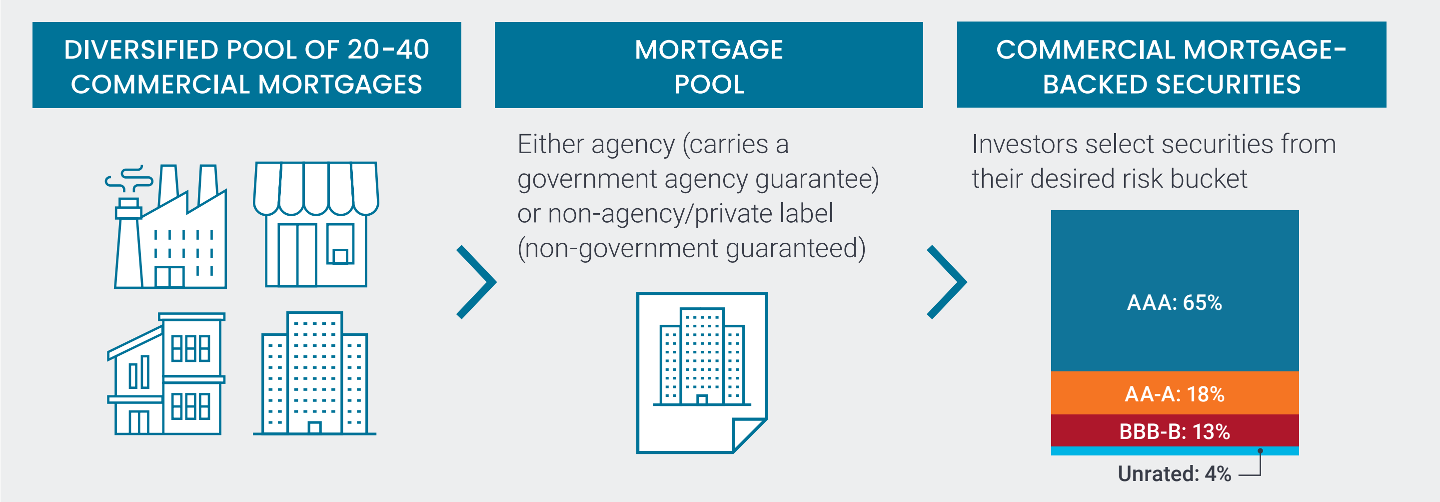
Non-agency CMBS are issued on a wide range of commercial properties by private financial institutions. They are divided into tranches with ratings ranging from AAA through B, plus an unrated or "equity" tranche.

Non-agency CMBS can be further separated into two categories: conduit or single asset, single borrower (SASB).

- **Conduit** CMBS are backed by a diversified pool of 20-60 mortgages. The loans are typically fixed rate. Conduit CMBS may offer investors broad, diversified exposure to the commercial real estate debt market.
- **SASB** CMBS are backed either by a single property or by a portfolio of properties owned by the same borrower. Loans can be either fixed or floating rate. SASB CMBS offer investors the ability to target investments by specific property type and sector, or by fixed- or floating-rate exposure.

How CMBS work

Connecting property buyers with investors' capital



Each month, the principal and interest received from the pool of loans is paid to investors, starting with the AAA tranche and moving down the capital stack. This sequential payment structure is sometimes referred to as a waterfall structure.

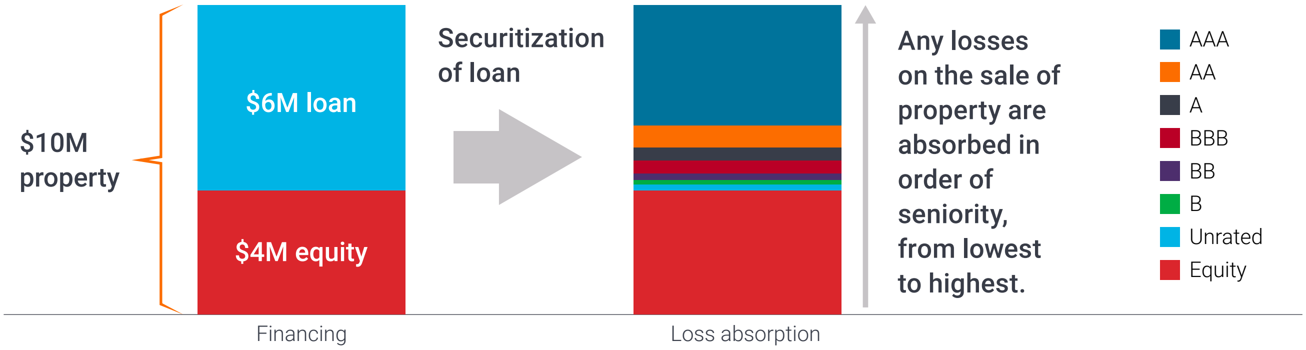
If there is a shortfall in cash flows from borrowers, the lowest-rated tranche will incur losses first, with accumulated losses moving up the capital stack. In this way, lower-rated bonds provide layers of protection, or credit enhancement, for higher-rated bonds.

The power of credit enhancement

The following example illustrates the credit enhancement effect for a typical SASB CMBS transaction. A real estate investor purchases an industrial property for $10 million. The buyer finances the purchase with 40% of its own equity and secures a mortgage for the remaining 60%, or $6 million. The loan is securitized, divided into tranches, and sold to investors.

In the event the buyer defaults on the loan and the building is repossessed and sold, the buyer will incur up to the first $4 million in losses on the sale of the property. Only when the building's selling price drops below $6 million do CMBS tranches begin to incur losses, starting with the lowest-rated tranches. The AAA tranche will only start to incur losses if the building is sold for less than $4 million; even then, the property would have to go to zero for AAA holders to get no recovery of principal.

A typical CMBS financing transaction



Due to credit enhancement, CMBS defaults have impacted the AAA bucket in just two of the past 28 years: 2009 and 2010 following the Global Financial Crisis (GFC). Even then, default rates were 0.2% (2009) and 0.07% (2010) at a time when other fixed income sectors were witnessing default rates in the high single and double digits.[2]

RMBS vs. CMBS

While RMBS and CMBS are similar in that both securities grant investors access to real estate debt instruments, they have some significant differences.

	RMBS	CMBS
Property type	Single-family residential homes	Variety of commercial properties
Typical loan term	15-30 years	5-10 years
Fixed / floating rate	Fixed rate	Fixed or floating rate
Amortization	Full amortization over the life of the loan	Partial amortization, or interest only, with a lump sum or balloon payment at end of term
Prepayment risk for bondholders	Yes, borrowers are incentivized to refinance when rates fall	Very low risk due to loan prepayment penalties for borrowers
Loan type	Recourse (borrower can be held personally liable for the loan)	Non-recourse (only attached property can serve as collateral)

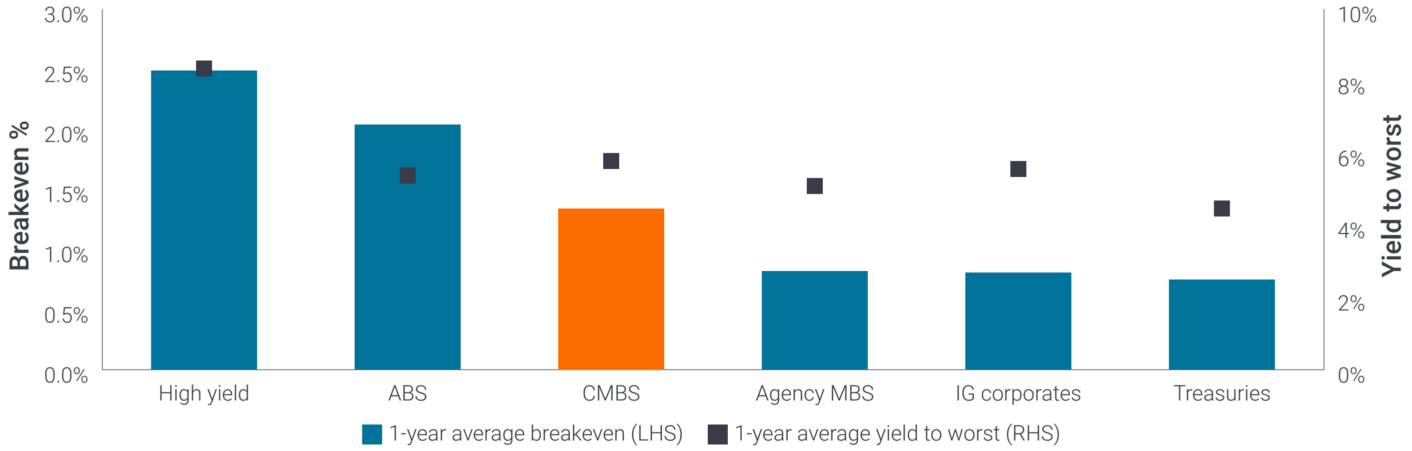
Opportunities for investors

The CMBS market may provide a unique opportunity set for fixed income investors:

1. **Diversifying risk factor exposures:** The sector grants access to the commercial real estate debt market without the high investment minimums, concentration risk, or liquidity constraints of direct investing.
2. **Strong credit ratings on offer:** CMBS may help to increase a portfolio's overall credit quality due to the availability of tranches with strong credit ratings.
3. **Investor-friendly loan provisions:** Prepayment penalties for borrowers ensure that prepayment risk in CMBS remains very low. When prepayments occur, investors may receive compensation from the borrower.
4. **Interest rate optionality:** CMBS may allow investors to diversify their portfolio's interest rate exposure by way of floating- and fixed-rate securities.
5. **Compelling yield opportunities:** CMBS offer compelling yields and breakevens compared to other fixed income sectors. Breakeven (yield / duration) measures the percentage that rates must rise before the drop in bond prices would overwhelm the interest income on the bond, resulting in a capital loss. A higher breakeven implies a higher amount of income per unit of interest rate risk.

Breakeven and yield to worst for various fixed income asset classes

CMBS have some of the highest breakevens in the U.S. fixed income market.



Source: Bloomberg, Janus Henderson Investors as of 30 April 2024. Indices used to represent asset classes as per footnote 3 on page 8. **Past performance does not predict future returns.**

Potential Risks

CMBS are also exposed to certain risks investors should be aware of:

1. **Credit risk:** Like other fixed income securities, CMBS are exposed to the risk of default. If a borrower defaults on their loan, investors may suffer the loss of expected future income, as well as potential capital losses if the collateral value is not sufficient to cover the outstanding loan amount.
2. **Extension Risk:** If a CMBS loan matures in a difficult refinancing environment, the servicer may modify or extend the loan instead of foreclosing. In such scenarios, investors could get their principal back later than originally expected.
3. **Recovery risk:** Unlike residential real estate loans, commercial mortgages are non-recourse loans, meaning only the attached property can serve as collateral for the loan. This may result in lower recovery rates (the percentage of defaulted debt that can be recovered by a lender) for CMBS versus RMBS.

The importance of active management

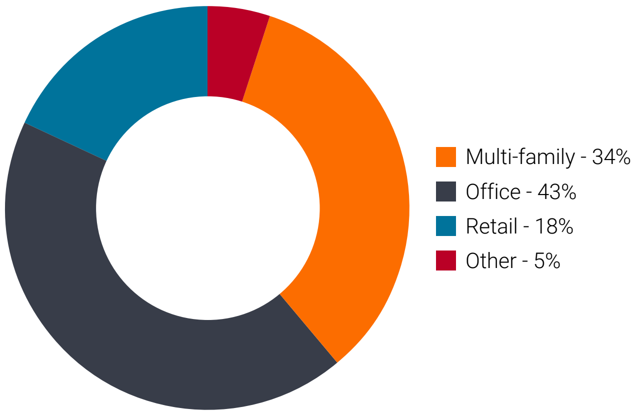
In our view, CMBS is an asset class well suited to active management, for the following reasons:

Dual proficiency	In-depth research	Trend analysis
CMBS investors must be proficient in both real estate and fixed income, as the investment vehicle is fixed income, but the underlying asset is real estate. Because the performance of CMBS is highly dependent on its underlying properties, it is critical for investors to have a firm understanding of the fundamentals of each loan.	CMBS loans are not homogeneous, and, therefore, investment in the asset class requires detailed research and analysis. For example, it is vital to perform due diligence on the owner and business plan of a particular property. A committed owner that will put up additional capital if the property value drops is more investor friendly than an owner that is a "tourist" in commercial real estate and will hand back the keys if the loan is under water.	Economic and demographic trends are constantly evolving. For example, parts of the office sector have struggled post-COVID as more people participate in hybrid working models. In contrast, a boom in AI computing has boosted the need for data centers. An active approach allows managers to position the portfolio to take advantage of these, and other, trends.

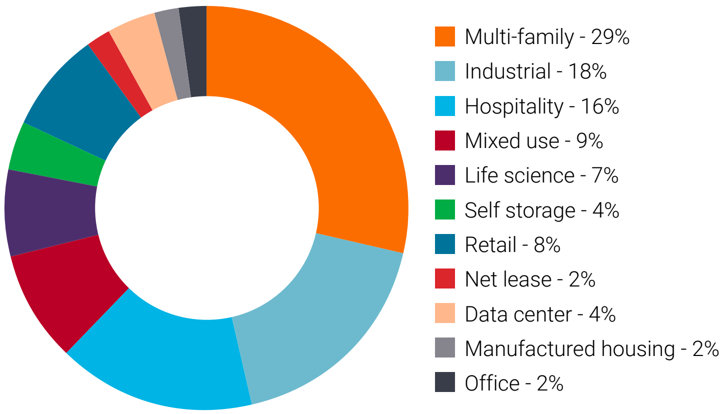
An actively managed portfolio may offer better diversification than passive CMBS benchmarks, which are heavily skewed to multifamily and office properties with little exposure to sectors that may offer better fundamentals and long-term growth potential.

CMBS index vs. a typical actively managed CMBS portfolio

ICE BofA U.S. Fixed Rate CMBS Index



Typical actively managed portfolio



Source: Bank of America, Janus Henderson Investors, as of 30 April 2024. Typical actively managed portfolio is a hypothetical portfolio representing a diversified approach to CMBS investing that considers current economic conditions and fundamentals. Allocations are likely to change over time.

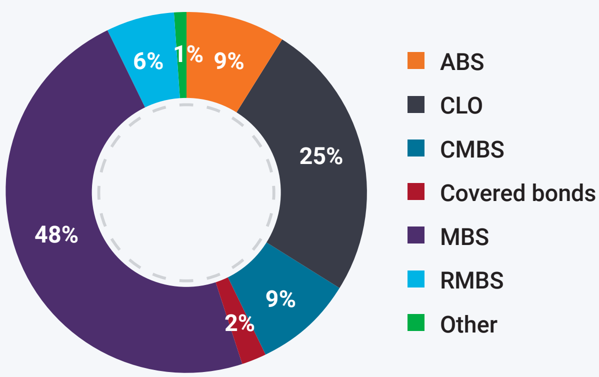
JANUS HENDERSON: SECURITIZED SPECIALISTS

We believe much of the value in active bond asset management comes from security selection. Characteristics of individual securities can vary widely, and it is the role of the asset manager – ideally armed with decades of experience and sophisticated analytic systems – to pick securities that offer better risk-reward potential and combine them into a portfolio with the yield and risk targets that investors seek.

We offer access to the growing and complex securitized market through our single-sector and full coverage products.

Janus Henderson securitized

▸ **$26.8B**
in firmwide securitized assets



Source: Janus Henderson Investors, Bloomberg, Morningstar, as of 31 December 2023.

Note: Firmwide assets include securitized products that may not be available in all regions and securitized portions of other fixed income strategies.

Dedicated CMBS expertise

John Kerschner, CFA

- Head of U.S. Securitized Products, Portfolio Manager
- 33 years of financial industry experience

Jason Brooks

- Portfolio Manager
- 22 years of financial industry experience

GLOBAL SECURITIZED PLATFORM

6 Portfolio Managers	9 Analysts
23 years average industry experience	13 years average industry experience

KEY INVESTMENT PARTNERS

Quantitative Research	Global Credit Research	Fixed Income Trading	Equity Central Research	Risk Management
4 analysts 12 years average experience	20 analysts 17 years average experience	15 traders 23 years average experience	35 analysts 17 years average experience	8 analysts 15 years average experience

[1] Asset class descriptions: CMBS = U.S. Commercial mortgage-backed securities, High yield = U.S. High yield corporates, CLOs = U.S. Collateralized loan obligations, ABS = U.S. Asset-backed securities, Non-agency MBS = U.S. Non-agency mortgage-backed securities.

[2] S&P Global Ratings Research.

[3] Indices used to represent asset classes: High yield = Bloomberg U.S. Corporate High Yield Bond Index, ABS = Bloomberg U.S. Aggregate Asset-Backed Securities Index, CMBS = Bloomberg CMBS Investment-Grade Index, Agency MBS = Bloomberg Mortgage-Backed Securities Index, IG corporates = Bloomberg U.S. Corporate Bond Index, Treasuries = Bloomberg U.S. Treasuries Index.

Investing involves risk, including the possible loss of principal and fluctuation of value.

The ICE BofA US Fixed Rate CMBS Index provides a broad measure of the performance of USD-denominated investment grade fixed rate commercial mortgage backed securities publicly issued in the US domestic market.

The **Bloomberg U.S. Aggregate Asset-Backed Securities (ABS) Index** is a broad-based flagship benchmark that measures the investment grade, US dollar-denominated, fixed-rate taxable bond market. The index only includes ABS securities.

The **Bloomberg U.S. Commercial Mortgage-Backed Securities (CMBS) Investment Grade Index** measures the investment-grade market of U.S. Agency and U.S. Non-Agency conduit and fusion CMBS deals with a minimum current deal size of $300m.

The **Bloomberg U.S. Corporate Bond Index** measures the investment grade, fixed-rate, taxable corporate bond market. It includes USD denominated securities publicly issued by US and non-US industrial, utility and financial issuers.

The **Bloomberg U.S. Corporate High Yield Bond Index** measures the USD-denominated, high yield, fixed-rate corporate bond market. Securities are classified as high yield if the middle rating of Moody's, Fitch and S&P is Ba1/BB+/BB+ or below.

The **Bloomberg U.S. Mortgage-Backed Securities (MBS) Index** tracks fixed-rate agency mortgage backed pass-through securities guaranteed by Ginnie Mae (GNMA), Fannie Mae (FNMA), and Freddie Mac (FHLMC).

Fixed income securities are subject to interest rate, inflation, credit and default risk. The bond market is volatile. As interest rates rise, bond prices usually fall, and vice versa. The return of principal is not guaranteed, and prices may decline if an issuer fails to make timely payments or its credit strength weakens.

Securitized products, such as mortgage- and asset-backed securities, are more sensitive to interest rate changes, have extension and prepayment risk, and are subject to more credit, valuation and liquidity risk than other fixed-income securities.

Real estate securities are sensitive to changes in real estate values and rental income, property taxes, interest rates, tax and regulatory requirements, supply and demand, and the management skill and creditworthiness of the company.

Floating-rate yields: Floating-rate securities pay a yield that rises and falls with the prevailing interest rate, making their prices less sensitive to changes in rates.

Investment-grade securities: A security typically issued by governments or companies perceived to have a relatively low risk of defaulting on their payments. The higher quality of these bonds is reflected in their higher credit ratings when compared with bonds thought to have a higher risk of default, such as high -yield bonds.

High-yield or "junk" bonds involve a greater risk of default and price volatility and can experience sudden and sharp price swings.

Tranche: In securitized products like CLOs, a tranche is one of a number of related securities offered as part of the same transaction, with each representing a different degree of risk and carrying a commensurate credit rating.

Credit quality ratings are measured on a scale that generally ranges from AAA (highest) to D (lowest).

Concentrated investments in a single sector, industry or region will be more susceptible to factors affecting that group and may be more volatile than less concentrated investments or the market as a whole.

Diversification is a common investment strategy that entails buying different types of investments to reduce the risk of market volatility.

Derivatives can be more volatile and sensitive to economic or market changes than other investments, which could result in losses exceeding the original investment and magnified by leverage.

Yield to Worst (YTW) is a financial metric that helps investors assess the minimum yield they can expect from a bond under various scenarios. It accounts for the bond's yield in the worst-case scenario, considering factors like call provisions, prepayments, and other features that may affect the bond's cash flows.

Single asset single borrower CMBS ("SASB") – A type of CMBS typically consisting of one, large loan for a single property or portfolio of properties that is securitized and sold on the secondary market.

Actively managed portfolios may fail to produce the intended results. No investment strategy can ensure a profit or eliminate the risk of loss.

Index performance does not reflect the expenses of managing a portfolio as an index is unmanaged and not available for direct investment.

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