

Fourth quarter 2023

Total Return Bond Strategy

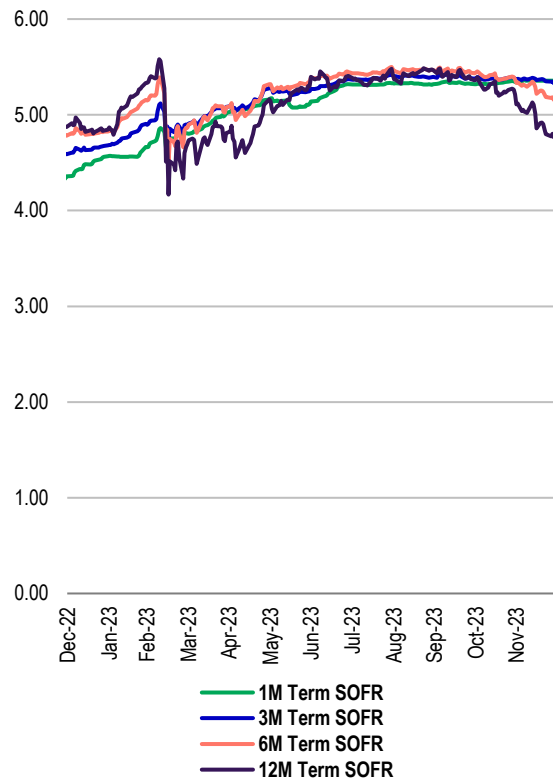
Quarterly Market & Strategy Review

For a discussion of the risks associated with this strategy, please see the Investment Considerations page at the end of the presentation. For Institutional/Investment Professional Use Only. Not for distribution to the public.

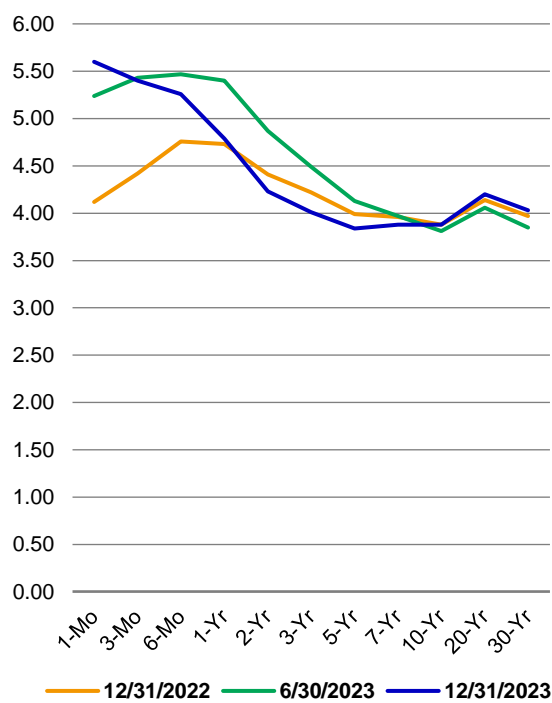


Fixed income markets finished sharply higher on strong rally

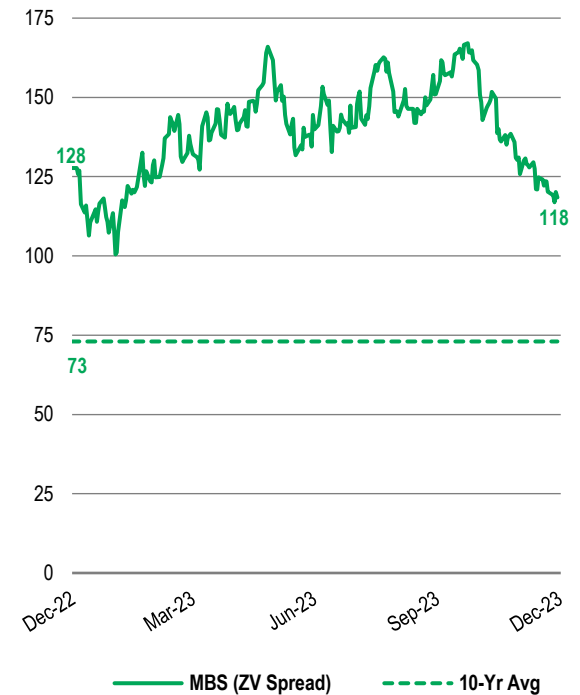
Short-term rates started to decline



Treasury curve steepened

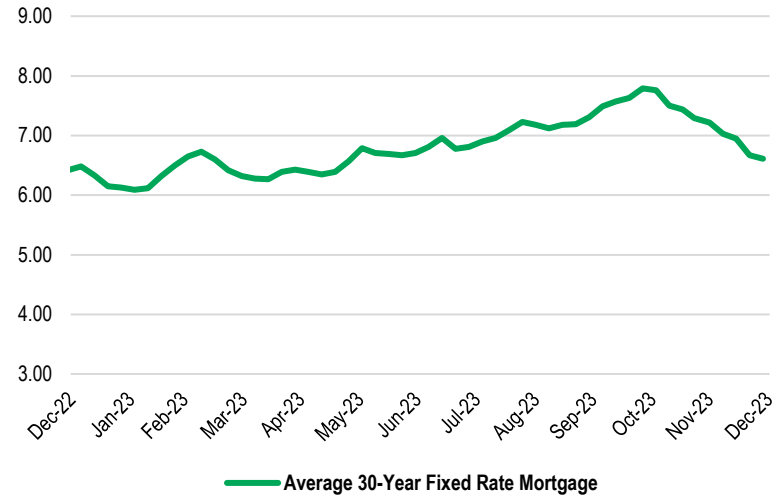
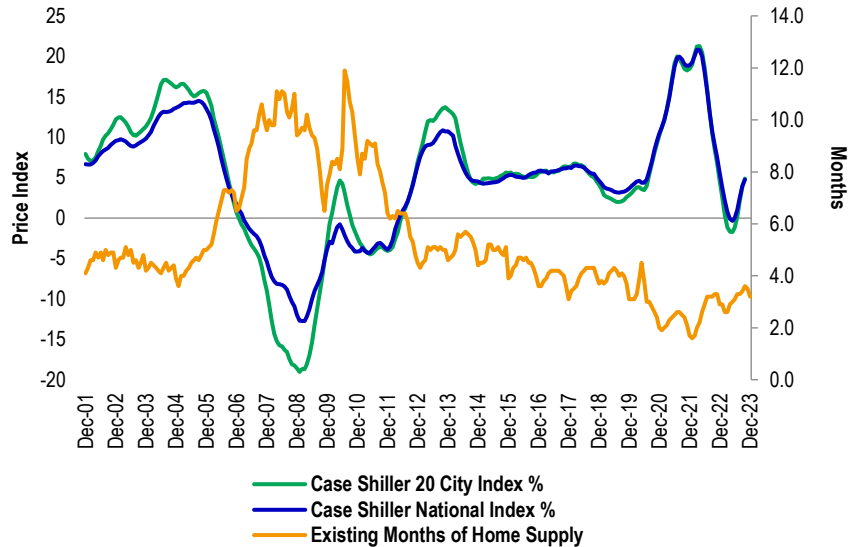


MBS spreads remained volatile



As of December 31, 2023
Source: US Treasury, CME Group, JPMorgan

Continued low supply could offset impact of higher mortgage rates



- Mortgage rates fell late in the year after rising steadily throughout most of 2023, while home prices rebounded after briefly depreciating earlier in the year.
- Although supply has ticked higher, it remains historically low and should limit the impact of higher rates on valuations.
- Existing homeowners are opting to stay locked into their current low rate, further exacerbating supply/demand imbalance.
- As a large percentage of homeowners experienced significant equity build-up coming out of the pandemic, we expect to see fewer distressed or foreclosure sales.

((Case Shiller 20 City Index %: S&P CoreLogic Case-Shiller 20-City Composite Home Price NSA Index); (Case Shiller National Index %: S&P CoreLogic Case-Shiller U.S. National Home Price NSA Index))
 Source: Case Shiller Indices, Bloomberg. St. Louis Federal Reserve.
 Case Shiller and Existing Inventory data as of December 2023. Average Mortgage Rate data as of December 2023.

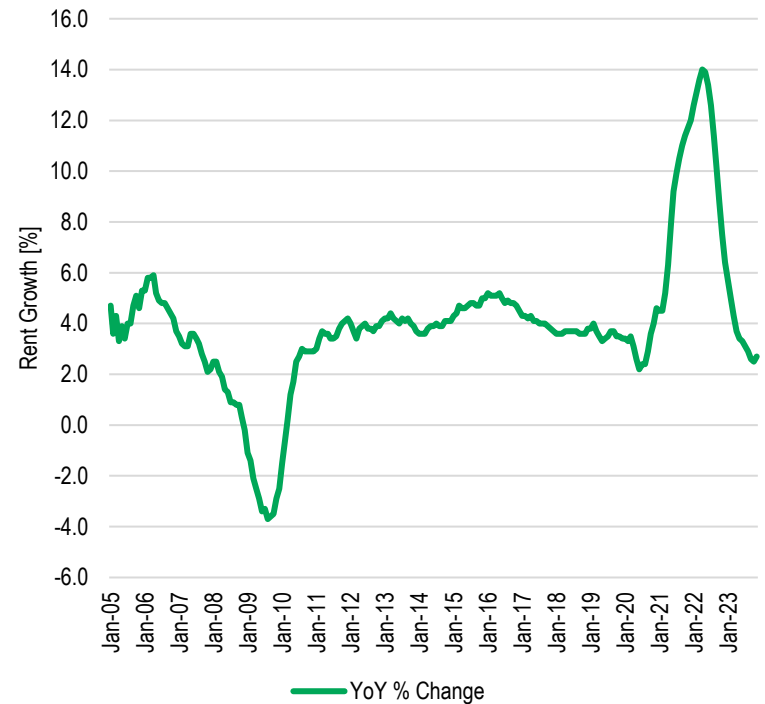
Rental market continued to cool though vacancies are still low

Rent growth declines may have troughed as vacancies remain at low end of historical range.

Rental Vacancy Rates¹



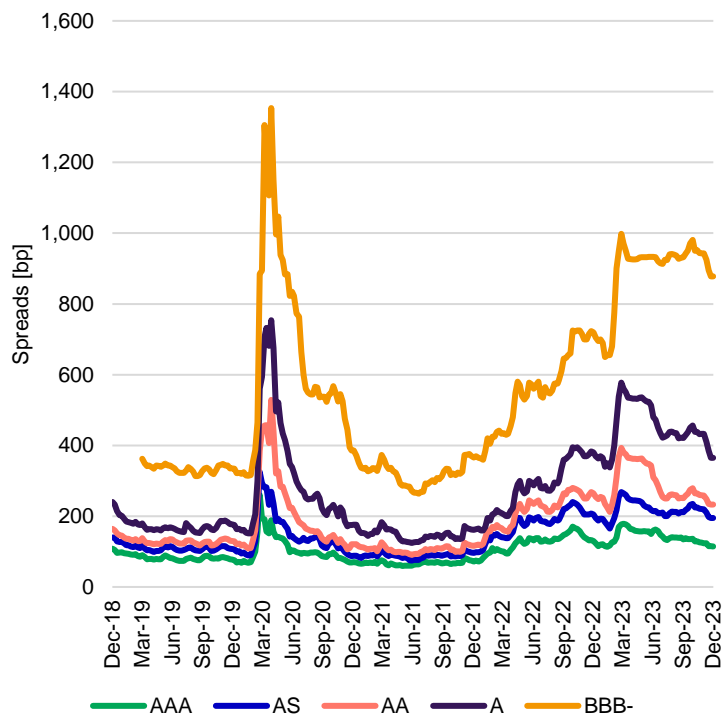
YoY Rent Growth²



Source: CoreLogic Single-Family Rent Index, St. Louis Federal Reserve
 1 As of Third Quarter 2023. 2 As of November 2023.

Lower rates could create new opportunity in commercial real estate

CMBS Secondary Spreads¹



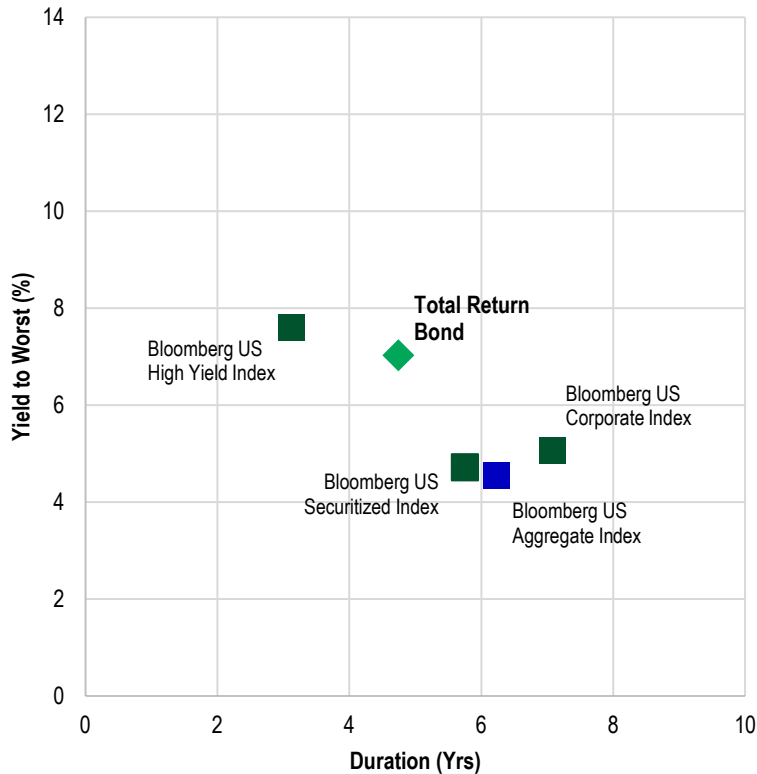
- Concerns in commercial real estate were exacerbated by the banking crisis in Q1 2023.
- Deterioration in fundamentals for certain properties is likely to play out over the long-term.
- Strategy exposure is down materially due to fundamental headwinds.
 - Remaining exposure is focused in industrial, life science, multifamily properties.
- Fundamentals for commercial real estate should benefit from a more benign rate environment suggesting there could be an opportunity within CMBS going forward.

¹Source: JPMorgan, as of December 2023.

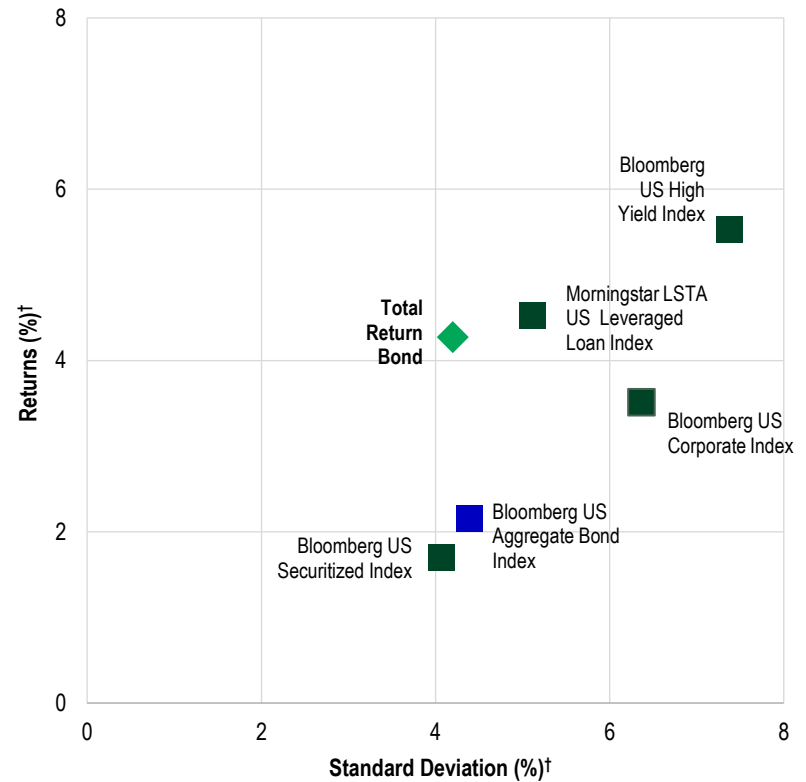
Incremental yield advantage without increasing duration

Active management in securitized markets can provide attractive yields per unit of duration and competitive risk-adjusted returns.

Yield/Duration Profile



Attractive Risk-Return Profile



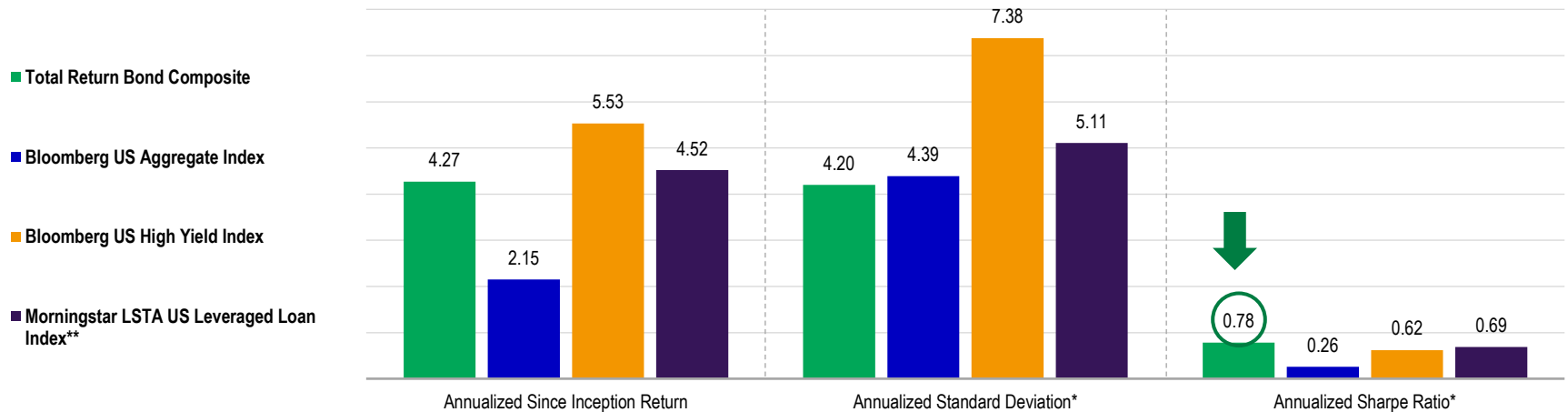
†Returns and standard deviation are since inception. As of December 31, 2023. Inception Date: February 2011.

Source: eVestment, Bloomberg

Past performance is not indicative of future results. Performance shown of the strategy is net of fees. Net performance results reflect the application of the highest incremental rate of the standard investment advisory fee schedule to gross performance results.

Risk-adjusted returns

December 31, 2023 — Since Inception Return and Risk Metrics (%)¹



Return (%)

	QTD	YTD	1-year	3-year	5-year	7-year	10-Year	Since Incep.	2023	2022	2021	2020	2019
Total Return Bond Composite (Gross)	5.68	6.57	6.57	0.81	3.18	3.60	3.94	4.89	6.57	-6.50	2.81	6.14	7.56
Total Return Bond Composite (Net)	5.52	5.93	5.93	0.21	2.57	2.98	3.32	4.27	5.93	-7.06	2.20	5.51	6.92
Bloomberg US Aggregate Bond Index	6.82	5.53	5.53	-3.31	1.10	1.29	1.81	2.15	5.53	-13.01	-1.54	7.51	8.72
Bloomberg US High Yield Index	7.17	13.45	13.45	1.98	5.37	4.57	4.60	5.53	13.45	-11.19	5.28	7.11	14.32
Morningstar US Leveraged Loan Index**	2.87	13.32	13.32	5.76	5.80	4.77	4.42	4.52	13.32	-0.60	5.20	3.14	8.64

* Source: eVestment

** The Bloomberg US HY Loan Index previously shown was discontinued on October 31, 2016. The Morningstar US Leveraged Loan Index was chosen to replace it as it was the most similar in composition.

¹ Inception Date: February 2011. Past performance is not indicative of future results. Performance is shown in USD. Gross performance results do not include advisory fees and other expenses an investor may incur, which when deducted will reduce returns. Changes in exchange rates may have adverse affects. Net performance results reflect the application of the highest incremental rate of the standard investment advisory fee schedule to gross performance results.

Portfolio Allocation and Outlook

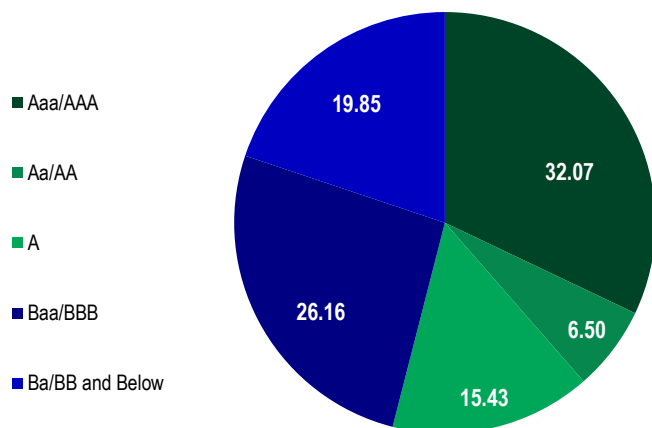
	Subsector	Market Factors
↑ Credit-Sensitive	CLO	<ul style="list-style-type: none"> • Spreads resting near the widest levels as bank loan prices have been steadily falling. • Attractive spread opportunities across tranches. • Loan fundamentals expected to weaken as interest rates continue to rise.
	CMBS	<ul style="list-style-type: none"> • Very selective in single-asset single borrower transactions, continued weak demand for conduit. • Prefer single-asset single borrower transactions backed by multifamily, industrial and medical properties. • Some tiering in the market has occurred, though weak fundamentals likely to prevent material tightening.
	ABS	<ul style="list-style-type: none"> • While fundamentals remain solid, we have likely seen the low mark on consumer delinquencies. • Yields are attractive in many consumer and esoteric subsectors but with an uncertain economic outlook, shorter duration and higher in the capital structure is preferred. • The single-family rental sector offers another opportunity to leverage rising rental costs and home price appreciation.
↓ Interest Rate-Sensitive	Non-Agency RMBS	<ul style="list-style-type: none"> • Higher rates are impacting the housing market, though robust underwriting and fundamentals remain favorable. • Supply remains historically low and is expected help to offset the impact of higher mortgage rates. • Agency CRT and non-QM deals look increasingly attractive given current valuations, though it remains pertinent to stay higher in the capital structure.
	Agency MBS	<ul style="list-style-type: none"> • Higher interest rates and elevated rate volatility caused Agency MBS valuations to widen significantly and appear attractive on a relative value basis. • We recently began to increase our exposure in Agency MBS, primarily to lower coupon pools with attractive yields and deeper discount dollar prices. • Although we typically use the sector for hedging, there could be opportunities to generate outsized returns.

Source: Manulife Investment Management, as of December 31, 2023

Representative portfolio characteristics as of December 31, 2023

Characteristic	Representative portfolio	Bloomberg US Aggregate Index
→ Yield to Worst (%)	7.03	4.54
Average Credit Quality	A3	Aa3
→ Duration (Years)	4.74	6.23
Weighted Average Life (Years)	8.64	8.41

Quality (%)



Sector Allocation (%)	Representative portfolio	Bloomberg US Aggregate Index
ABS	12.15	0.48
CLO	7.12	0.00
CMBS – Conduit	0.94	1.63
CMBS – Large Loan	3.83	0.00
CMBS – Interest Only	6.81	0.00
CMBS – Other	2.70	0.00
Agency MBS	30.13	26.62
Agency CMO, IO/IIO	4.96	0.00
Non-Agency MBS – Agency Credit	12.62	0.00
Non-Agency MBS – Non-QM	2.96	0.00
Non-Agency MBS – SFR	6.41	0.00
Non-Agency MBS – Legacy	2.23	0.00
Corporate Bonds	5.20	24.56
US Treasuries	1.95	41.64
US Agency	0.00	0.93
Municipal & Local Authorities	0.00	0.60
Bank Loans	0.00	0.00
Foreign Developed & Supranational	0.00	2.27
Emerging Markets	0.00	1.27
Total	100	100

Source: Manulife Investment Management, Bloomberg. Holdings, sector weightings, market capitalisation and portfolio characteristics are subject to change at any time and are for illustrative and reference purpose only. Holdings, sector weightings, market capitalisation and portfolio characteristics of individual client portfolios in the program may differ, sometimes significantly, from those shown. This information does not constitute, and should not be construed as, investment advice or recommendations with respect to the securities and sectors listed. This information is supplemental to the GIPS-compliant presentation included as a part of this material. The specific investment identified and described is not representative of all of the investments purchased, sold, or recommended for the strategy. It should not be assumed that any investment identified has or will be profitable. There can be no guarantee that similar investment opportunities will be available in the future or that the strategy will be able to exploit similar investment opportunities should they arise.

Total Return Bond Strategy

Benchmark Definitions

Index	Definition
Bloomberg US High Yield Index	The Bloomberg US High Yield Index covers the universe of fixed rate, non-investment grade debt. Eurobonds and debt issues from countries designated as emerging markets are excluded, but Canadian and global bonds (SEC registered) of issuers in non-EMG countries are included. Original issue zeroes, step-up coupon structures, 144-As and pay-in-kind bonds (PIKs, as of October 1, 2009) are also included.
Bloomberg US Aggregate Index	The Bloomberg US Aggregate Bond Index represents securities that are US domestic, taxable, dollar-denominated. The index covers the US investment-grade fixed-rate bond market, with index components for government and corporate securities, mortgage pass-through securities, and asset-backed securities.
Bloomberg US Government Index	Comprised of the US Treasury and US Agency Indices, the US Government Index contains securities issued by the US Government.
Bloomberg US Corporate Index	The Bloomberg US Corporate Index represents publicly issued US corporate and specified foreign debentures and secured notes that meet the specified maturity, liquidity, and quality requirements. To qualify, bonds must be SEC-registered.
Bloomberg US Securitized Index	The Bloomberg US Securitized Index consists of the securitized component of the Bloomberg US Aggregate Index. The index includes eligible Agency MBS, ABS, and CMBS securities.
Morningstar Leveraged Loan Index	The Morningstar Leveraged Loan Index represents the universe of syndicated leveraged loans. The index consists of US dollar denominated, senior secured term loans with at least one year to maturity, with a minimum issue facility size of at least 50 million USD.
S&P CoreLogic Case-Shiller 20-City Composite Home Price NSA Index	The S&P CoreLogic Case-Shiller 20-City Composite Home Price NSA Index seeks to measure the value of residential real estate in 20 major U.S. metropolitan areas: Atlanta, Boston, Charlotte, Chicago, Cleveland, Dallas, Denver, Detroit, Las Vegas, Los Angeles, Miami, Minneapolis, New York, Phoenix, Portland, San Diego, San Francisco, Seattle, Tampa and Washington, D.C.
S&P CoreLogic Case-Shiller U.S. National Home Price NSA Index	The S&P CoreLogic Case-Shiller U.S. National Home Price NSA Index is a composite of single-family home price indices for the nine U.S. Census divisions and is calculated monthly. It is included in the S&P CoreLogic Case-Shiller Home Price Index Series which seeks to measure changes in the total value of all existing single-family housing stock.

Manulife Investment Management

Total Return Bond Composite

Prelim – Only Schedule of Year End Returns updated per SEC Marketing Rule

Creation Date: January 1, 2018

Inception Date: February 1, 2011

Reporting Currency: USD

Schedule of Calendar Year Returns and Assets

Year End	Gross of Fees Return (%)	Net of Fees Return (%)	Benchmark Return (%)	Composite Net 3-Yr Std. Dev. (%)	Benchmark 3-Yr Std. Dev. (%)	Number of Portfolios End of Period	Composite Dispersion (%)	Total Assets End of Period (Millions)	Firm Assets End of Period (Millions)
2022	-6.50	-7.06	-13.01	7.05	5.77	<=5	N/A	577	422,291
2021	2.81	2.20	-1.54	6.70	3.35	<=5	N/A	624	455,705
2020	6.14	5.51	7.51	6.69	3.36	<=5	N/A	569	421,097
2019	7.56	6.92	8.72	1.55	2.87	<=5	N/A	532	422,034
2018	3.11	2.50	0.01	1.51	2.84	<=5	N/A	507	392,058
2017	6.18	5.55	3.54	1.59	2.78	<=5	N/A	460	N/A
2016	4.43	3.81	2.65	1.74	2.98	<=5	N/A	399	N/A
2015	2.53	1.92	0.55	2.15	2.88	<=5	N/A	454	N/A
2014	7.36	6.73	5.97	2.61	2.63	<=5	N/A	419	N/A
2013	2.65	2.04	-2.02	N/A	N/A	<=5	N/A	263	N/A

Schedule of Year End Returns

Date	Return	1 Year Gross (%)	5 Year Gross (%)	10 Year Gross (%)	SI Gross (%)	1 Year Net (%)	5 Year Net (%)	10 Year Net (%)	SI Net (%)
12/31/23	Composite	6.57	3.18	3.94	4.90	5.93	2.57	3.32	4.27
Date	Return	1 Year	5 Year	10 Year	SI				
12/31/23	Benchmark	5.53	1.10	1.81	2.15				

Firm Definition: For purposes of compliance with the Global Investment Performance Standards (GIPS®), our firm Manulife Investment Management “Manulife IM” was created on January 1, 2018 as a result of a consolidation of six firms that claimed compliance with GIPS®. Manulife IM comprises Manulife Investment Management (US) LLC, Manulife Investment Management (North America) Limited, Manulife Investment Management (Europe) Limited, Manulife Investment Management (Japan), Manulife Investment Management (Hong Kong) Limited, Manulife Investment Management (Singapore) Pte. Ltd., Manulife Investment Management Limited, Manulife Investment Management Private Markets (Canada) Corp. and John Hancock Trust Company. Effective January 1, 2021, the firm includes assets managed under contract by Manulife Investment Management Private Markets (US) LLC (“Manulife IM PM US”) and the unaffiliated managers SMA/Wrap business from John Hancock Investment Management LLC, a Manulife IM company.

Compliance Statement: Manulife claims compliance with the Global Investment Performance Standards (GIPS®) and has prepared and presented this report in compliance with the GIPS standards. Manulife has been independently verified for the periods 1/1/2018 through 12/31/2022. The verification report(s) is/are available upon request. A firm that claims compliance with the GIPS standards must establish policies and procedures for complying with all the applicable requirements of the GIPS standards. Verification provides assurance on whether the firm’s policies and procedures related to composite and pooled fund maintenance, as well as the calculation, presentation, and distribution of performance, have been designed in compliance with the GIPS standards and have been implemented on a firm-wide basis. Verification does not provide assurance on the accuracy of any specific performance report. Compliance with the GIPS® Standards for the predecessor firms were verified by a third party for the periods noted: MAM US 1/1/1993 to 12/31/2017, MAM UK 1/1/2008 to 12/31/2017, MAMJ 1/1/2006 to 12/31/2017, MAM HK 1/1/2006 to 12/31/2017, MAMS 6/5/2007 to 12/31/2017, and MAML 1/1/2007 to 12/31/2017. GIPS® is a registered trademark of CFA Institute. CFA Institute does not endorse or promote this organization, nor does it warrant the accuracy or quality of the content contained herein.

General Disclosure: A complete list of the Firm’s composite and pooled funds descriptions as well as policies regarding valuing investments, calculating performance, and preparing GIPS reports are available upon request. All returns reflect the reinvestment of dividends and other earnings. Gross performance results do not reflect the deduction of investment management fees, and are net of commissions and foreign withholding tax. Net performance results reflect the application of the highest incremental rate of the standard investment advisory fee schedule to gross performance results. Actual fees may vary depending on, among other things, the applicable fee schedule and portfolio size. Advisory fees are available upon request. Dispersion of annual returns is measured by an equal weighted standard deviation calculation of gross of fee returns. From inception to December 31, 2019 dispersion was measured by an asset weighted standard deviation calculation of gross of fee returns. Dispersion is not presented when there are five or fewer accounts in the composite for the entire year. Past performance is not a guarantee of future results. For annual periods starting January 1, 2011, the 3-year annualized ex-post standard deviation is not shown for the composite or the benchmark when 36 monthly composite returns are not available. The 3-year standard deviation for composite returns is calculated using composite gross returns.

Composite Description: The Total Return Bond strategy includes all portfolios with a return objective of 6-10% net annualized over a market cycle. The strategy invests primarily in the securitized markets and is designed to generate high current income with controlled exposures to credit, prepayment and interest rate risk. Holdings include both investment and non-investment grade securities.

Fee Schedule: This report is intended for institutional investors and the standard investment advisory fee schedule is 0.60%.

Benchmark Description: The Bloomberg U.S. Aggregate Bond Index tracks the performance of U.S. investment-grade bonds in government, asset-backed, and corporate debt markets. It is not possible to invest directly in an index.

Benchmark Change: Effective December 31, 2015 the benchmark was retroactively changed from the BofA Merrill Lynch LIBOR 3-Month Constant Maturity Index to the Bloomberg U.S. Aggregate Bond Index as this index better reflects the investment process and holdings of the composite. Returns for the BofA Merrill Lynch LIBOR 3-Month Index are available upon request.

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If derivatives are employed, note that investing in derivative instruments involves risks different from, or possibly greater than, the risks associated with investing directly in securities and other traditional investments and, in a down market, could become harder to value or sell at a fair price.

GIPS Performance

Unless otherwise noted, all performance represents composite data. Gross of fees returns do not include advisory fees and other expenses an investor may incur, which when deducted will reduce returns. Changes in exchange rates may have an adverse effect. Actual fees may vary depending on, among other things, the applicable fee schedule, portfolio size and/or investment management agreement. Unless otherwise noted, returns greater than 1 year are annualized; calendar year returns for each one-year period end in December. Discrepancies may occur due to rounding. Past performance does not

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Asset class risks

Principal risk factors that have an impact on the performance of our equity strategies include risks arising from economic and market events, portfolio turnover rates, governmental regulations, local, national and international political events, volatility in the commodities and equity markets, and changes in interest rates and currency values as well as environmental, social and corporate governance factors.

The principal risks associated with investing in a fixed income investment strategy include economic and market events, government regulations, geopolitical events, credit risk, interest rate risk, and risks associated with credit ratings, counterparties, foreign securities, currency exchange, hedging, derivatives and other strategic transactions, high portfolio turnover, liquidity, mortgage-backed and asset-backed securities, call or prepayment risk, and issuer stability along with environmental, social and corporate governance risk factors. The market value of fixed income securities will fluctuate in response to changes in interest rates, currency values and the credit worthiness of the issuer.

Principal risk factors that impact upon the performance of our asset allocation strategies include all the risks associated with the underlying funds and asset classes in which they are invested, in addition to overall asset allocation investment decisions. In addition, the underlying funds' performance may be lower than expected.

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Unless otherwise noted, any references in this presentation to ESG sustainability reflect the general approach of Manulife Investment Management to integrating sustainability risk considerations into our investment decision-making processes. Further details on Manulife Investment Management's general approach to sustainability are available at www.manulifeim.com/institutional/global/en/sustainability.

The source for all information shown is Manulife Investment Management, unless otherwise noted.

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Any ESG-related case studies shown here are for illustrative purposes only, do not represent all of the investments made, sold, or recommended for client accounts, and should not be considered an indication of the ESG integration, performance, or characteristics of any current or future Manulife Investment Management product or investment strategy.

Manulife Investment Management conducts ESG engagements with issuers but does not engage on all issues, or with all issuers, in our portfolios. We also frequently conduct collaborative engagements in which we do not set the terms of engagement but lend our support in order to achieve a desired outcome. Where we own and operate physical assets, we seek to weave sustainability into our operational strategies and execution. The relevant case studies shown are illustrative of different types of engagements across our in-house investment teams, asset classes and geographies in which we operate. While we conduct outcome-based engagements to enhance long term-financial value for our clients, we recognize that our engagements may not necessarily result in outcomes which are significant or quantifiable. In addition, we acknowledge that any observed outcomes may be attributable to factors and influences independent of our engagement activities.

We consider that the integration of sustainability risks in the decision-making process is an important element in determining long-term performance outcomes and is an effective risk mitigation technique. Our approach to sustainability provides a flexible framework that supports implementation across different asset classes and investment teams. While we believe that sustainable investing will lead to better long-term investment outcomes, there is no guarantee that sustainable investing will ensure better returns in the longer term. In particular, by limiting the range of investable assets through the exclusionary framework, positive screening and thematic investment, we may forego the opportunity to invest in an investment which we otherwise believe likely to outperform over time. Please see our ESG policies for details.

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