Profile

Systematic Fixed Income Beta

Manulife Investment Management Ltd.

Custom solutions for complex investing challenges

The team applies quantitative processes to pension, insurance, and institutional assets for clients across Canada, the U.S., and Asia. A suite of proprietary tools, developed over 20 years of research, help our portfolio managers make timely, actionable decisions.

A unique team structure

Ten investment professionals with over 150 years of combined experience are organized into two groups that work hand-in-hand: portfolio management and research and client portfolio management. Their experience spans disciplines such as quantitative research, financial engineering, and portfolio management.

Professional roles and experience

Based in Montreal, QC, the team works closely with one another while they leverage the vast resources that the Manulife Investment Management global organization has to offer. This includes credit research, actuarial science, and environmental, social, and governance (ESG) reports.

Portfolio management team

Serge Lapierre, FSA, FCIA
Global Head, Liability-Driven Investments (LDI), Financial Engineering and Quantitative Research,
27 years' experience

Jean-François Giroux, CFA, FRM
Portfolio manager
Head, LDI Canada
20 years' experience

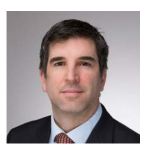
Nicolas Scipio del Campo, CFA
Portfolio manager
Head, LDI U.S. and Asia
16 years' experience

Sonia Chatigny, CFA
Portfolio manager
LDI Canada
25 years' experience

Nadia Live, CFA
Portfolio manager
LDI Canada
23 years' experience

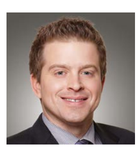
Christina Somers, CFA
Portfolio manager
LDI Canada
20 years' experience

Research and client portfolio management

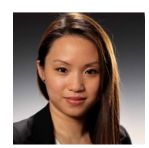


François Panneton, Ph.D
Head of Quantitative Research

Yasho Jallan, Ph.D
Financial Engineer, Digital and DTC



Mathieu Giroux
Managing Director
Quantitative Management



Chloe Lau, FSA, FCIA, CERA
Client portfolio management

Source for all team information is Manulife Investment Management as of June 30, 2021. This document is not complete without all three pages included.

Building Manulife Smart Bond ETFs

Members of the Systematic Fixed Income Beta group rely on a scalable and repeatable process to identify pockets of value in bond markets. The goal is to match the risk profile of their respective market indices while providing a higher yield.

The four-step foundation of the Manulife Smart Bond ETFs:

1. Choose the market index each ETF will be based on.
2. Use credit research and other proprietary tools to select bond issues that offer the most attractive risk-adjusted returns, while maintaining the risk profile of the custom benchmark.
3. Review the custom benchmark against credit research and select bonds for the ETF that will match the custom benchmark exposures.
4. Monitor daily and make active buy, sell, and/or hold decisions, with portfolio rebalancing activity occurring at least monthly.

Optimize based on market index.
1

Identify desirable bonds.
2

Review and select bonds, build the ETF.
3

Monitor and manage the ETF daily.
4

ETFs managed

Manulife Smart Short-Term Bond ETF

Ticker: **TERM**

Manulife Smart Core Bond ETF

Ticker: **BSKT**

Manulife Smart Corporate Bond ETF

Ticker: **CBND**

ETFs available in segregated funds

Manulife Smart Corporate Bond ETF
Manulife Smart Balanced Dividend ETF Bundle

Available in both the **GIF Select InvestmentPlus** and **Manulife Private Investment Pools—MPIP Segregated Pools** contracts.

For illustration purposes only.

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Manulife Investment Management

Collaboration with a focus on the client

Diverse backgrounds and a focus on creating solutions that help address investor challenges is at the core of their philosophy.
They believe in the combination of:

- Deep experience developing and using proprietary quantitative techniques,
- The value of Manulife Investment Management's global credit research and,
- Prudent risk management through active portfolio management.

To learn more, contact your advisor or visit **manulifeim.ca/etfs**.

Portfolio managers may use some or all of the techniques described herein. No investment strategy or risk management technique can guarantee returns or eliminate risk in any market environment.

Characteristics, guidelines, and constraints are for illustrative purposes only. They may change at any time and may differ for a specific account. Investing involves risks, including the potential loss of principal. There is no guarantee that a fund's investment strategy will be successful. Foreign investing has additional risks, such as currency and market volatility and political and social instability. Large company stocks could fall out of favor, and illiquid securities may be difficult to sell at a price approximating their value.

Shares may trade at a premium or discount to their NAV in the secondary market, and a fund's holdings and returns may deviate from those of its index. These variations may be greater when markets are volatile or subject to unusual conditions.

Errors in the construction or calculation of a fund's index may occur from time to time. Please see the fund's prospectus for additional risks. Manulife ETF shares are bought and sold at market price (not NAV), and are not individually redeemed from the fund. Brokerage commissions will reduce returns.

Commissions, management fees, and expenses may all be associated with exchange-traded funds (ETFs). Investment objectives, risks, fees, expenses, and other important information are in the ETF facts as well as the prospectus—please read before investing. ETFs are not guaranteed, their values change frequently and past performance may not be repeated.

Manulife ETFs are managed by Manulife Investment Management (formerly named Manulife Asset Management Limited). Manulife Investment Management is a trade name of Manulife Investment Management Limited.

Manulife Investment Management is a trade name of The Manufacturers Life Insurance Company. The Manufacturers Life Insurance Company (Manulife) is the issuer of Manulife Investment Management guaranteed interest accounts, the GIF Select insurance contract, and the Manulife Private Investment Pools – MPIP Segregated Pools (MPIP Segregated Pools) insurance contract and the guarantor of any guarantee provisions therein.

To speak with Manulife Investment Management about segregated funds, call 1-888-790-4387.