NORTHERN TRUST

ASSET MANAGEMENT

INVESTMENT SOLUTIONS

Let Our Experts Be Your Experts

Confidently navigate a changing financial landscape with the resources and expertise of a versatile, collaborative partner

INNOVATIVE SOLUTIONS. ONE BELIEF.

As a global financial services provider with a history that dates back to 1889, we've honed our expertise over many years—earning the confidence of investors worldwide.

We understand that investing ultimately serves a greater purpose. That is why our philosophy is rooted in the fundamental belief that investors should be compensated for the risks they take—in all market environments and in any investment strategy.

At the heart of our philosophy is how we think about, view and analyze risk. As risk-aware investors, we take risk intentionally, to pursue investors' desired outcomes and minimize unintended consequences.

Our innovative solutions are thoughtfully designed and efficiently executed, using our time-tested portfolio construction and asset allocation expertise. This results in empirically driven investment solutions that are carefully constructed, with a deep appreciation for risk and a clear focus on meeting investors' needs.

Northern Trust Asset Management

$1.0 trillion
TOTAL AUM[1]

Worldwide assets
18th largest[2]

Family Offices
Best Private Bank for Family Office Services[3]

Factor-based Strategies
7th largest[2]

EQUITY

Factor-based
Active
Passive
Tax-Advantaged

FIXED INCOME

Active
Passive
Cash Management

ALTERNATIVES

Hedge Funds
Private Equity
Private Credit
Real Assets
Infrastructure
Real Estate

SOLUTIONS

Multi-Asset
Sustainable/ESG
Retirement
Target Date
Multi-Manager
Investment Advisory
Investment Institute

ASSET ALLOCATION

Strategic
Tactical

[1]Assets under management as of 12/31/2022. For the Northern Trust Asset Management entities included in AUM total, please see disclosure at end of this document. [2]Special Report on the Largest Money Managers," Pensions & Investments (P&I) 6/6/2022. Ranking based on total worldwide AUM of $1.3T as of 12/31/2021. Please see important information on page 17 for more information about rankings and awards. Past performance and above rankings are not indicative of future results. [3]Global Finance Magazine, 2020.

DEEP MULTI-ASSET EXPERTISE. CONSULTATIVE APPROACH.

We apply our capital market, asset allocation, risk management and portfolio construction expertise to support large institutions, financial intermediaries and wealthy families across Northern Trust.

We've honed our expertise as a global asset manager—entrusted by institutional investors for total portfolio design and construction. This provides a distinctly informed perspective and advantage.

INSIGHTS. EXPERTISE. SOLUTIONS. SUPPORT.

Portfolio Advisory Services

Through rigorous analysis, we seek to identify opportunities for greater efficiency, risk reduction and enhanced outcomes in line with investor goals.

Custom Portfolio Design

Consultative bespoke portfolio design and implementation aligned with your investment philosophy and objectives as well as full OCIO services and support to effectively manage complex portfolios.

Turnkey Model Portfolios

Goal-oriented portfolios for a range of investment objectives. Our solutions are built with risk-efficient strategies, offering a straightforward, cost-efficient means to pursue targeted outcomes.

NORTHERN TRUST ASSET MANAGEMENT
INVESTMENT INSTITUTE

The Investment Institute

Research, insights and investment solutions supported by consultative advice to help financial professionals demonstrate a well-defined investment process, enhance client engagement, build scale and grow a successful investment practice.

Holistic consultative advice designed to help financial professionals:

- *Improve investment outcomes.*
- *Advance business initiatives.*
- *Design efficient portfolios.*
- *Seize opportunities through evolving markets.*

Achieving goals in an ever-changing market and regulatory environment can be challenging. As one of the world's largest investment managers, Northern Trust Asset Management helps investors navigate changing market environments, so they can confidently pursue their long-term objectives.

Guided by our fiduciary heritage and a principle-based culture, we leverage a broad range of globally diverse talent and deep expertise earned over many market cycles to deliver original insights and innovative solutions in a client-focused, consultative manner.

As a strategic partner focused on your success, we share our views on the global economy and markets to inform your investment decisions and help improve investor outcomes. Our aim is to provide clarity, make the complex simple, manage risk and avoid unexpected surprises—to help you achieve the results you seek.

Drawing upon a full spectrum of investment capabilities—from passive and factor-based to fundamental active and multi-manager—we work with you to create solutions aligned with your goals. From turnkey and model multi-asset strategies—to portfolio consulting and bespoke portfolio design—to full OCIO services, we bring creative ideas and thoughtful solutions to help you seize opportunities across changing markets.

Furthermore, through the Northern Trust Asset Management *Investment Institute,* financial professionals can benefit from a comprehensive support model offering robust investment research, wealth management insights and practice management guidance, to help you build scale and advance your business initiatives.

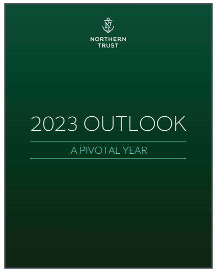
CAPITAL MARKET EXPERTISE. RESEARCH-DRIVEN RESULTS.

As long-term investors, we don't chase performance or fads. We take a forward-looking, historically aware approach based on our best thinking—proprietary capital markets research that identifies key market drivers shaping the investing landscape.

This research powers our annual Capital Market Assumptions, including global economic and financial market forecasts and return expectations for all major asset classes. Through this analysis, we seek to gain insight as to where the markets are headed, to help position assets accordingly and deliver better outcomes in all market environments.

Our outlook forms the basis for our adaptive asset allocation framework, which combines long-term, strategic discipline with short-term, tactical flexibility. This foundation guides the construction of flexible, risk-aware investment solutions designed to navigate change, capitalize on market opportunities and provide options to meet the needs of a diverse client base.

2023
Outlook



Five Year Outlook
2023 Edition

Capital Market
Assumptions Process

Strategic Asset
Allocation Process

For illustrative purposes only.

STRATEGIC AND TACTICAL APPROACH TO ASSET ALLOCATION

1 | Strategic Asset Allocation

Setting the Foundation

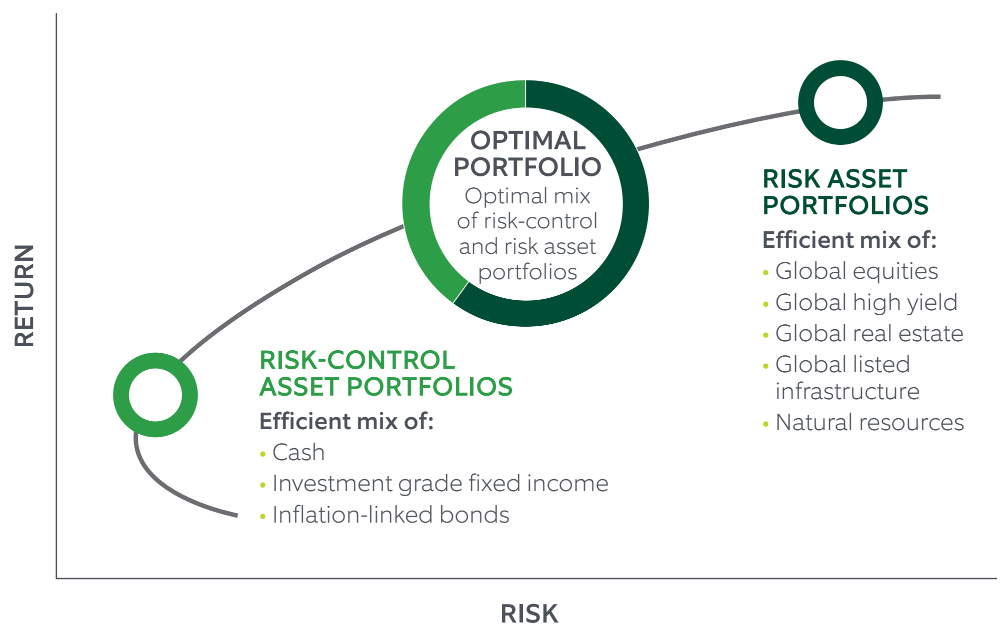
We seek to establish an optimal strategic allocation to serve as the investor's foundation. Grounded in our Capital Market Assumptions, we employ a "forward-looking, historically aware" approach informed by extensive research.

2 | Tactical Asset Allocation

Capitalizing on Opportunities

We seek to add value by exploiting near-term financial market opportunities. Risk management techniques are incorporated to ensure that tactical changes made to the strategic asset allocation conform to investor expectations.

Navigating challenging markets with a purposeful employment of risk



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RIGOROUS ANALYSIS.
INSIGHTFUL RECOMMENDATIONS.

Leveraging our asset class outlook, market forecasts and global investment themes, we can assist you in creating an optimal and efficient mix of securities across the asset class spectrum. Our disciplined approach employs both quantitative and qualitative analysis to identify suitable investment strategies and combine them in ways that seek to amplify their strengths while minimizing concentration bias and overall portfolio risk.

Essential to our portfolio consulting practice is a thorough understanding of your objectives, philosophy and preferences. Our investment solutions experts engage with you and your team to get to know your business, challenges and strategic vision. With consideration for your priorities—as well as the market and economic landscape—we seek to help you build optimized solutions that address complex portfolio challenges and deliver on your goals.

“We believe investors should be compensated for the risks they take—in all market environments and in any investment strategy.”

ANALYZE

1. **Develop expectations for asset class and portfolio performance** via capital market expertise and market and economic research

2. **Assess the portfolio's asset allocation** in relation to risk/return expectations

3. **Analyze portfolio constituents** to gain clarity on exposures, concentrations and alignment with objectives

ENHANCE

4. **Uncover drivers of return and risk** including risk factor analysis, to better understand exposures, vulnerabilities and return potential

5. **Identify opportunities** for greater efficiency, risk reduction and enhanced outcomes, taking into consideration investor beliefs

6. **Determine the impact of modifications to** portfolio structure or fulfillment with regard to efficiency, efficacy and expenses

PROJECT

7. **Stress test** to identify and evaluate risk exposures to build a more resilient portfolio

8. **Design an optimized solution** (complete custom portfolio or strategy recommendations to complement existing holdings)

9. **Project outcomes** via Monte Carlo analysis to determine the probability of meeting a specific goal

Our experts include a globally diverse team of investment strategists, economists and specialists whose knowledge and experience span global markets, economies and investment products. This expertise is leveraged throughout the organization to enable our clients around the world to achieve their goals.

COLLABORATIVE PARTNERSHIPS. EXPERT ADVICE.

When you partner with Northern Trust Asset Management, you gain access to comprehensive support backed by the full resources of the firm. We bring a global culture of innovation, deep expertise and decades of experience to help you achieve your goals in a way that is tailored to your preferences.

Using a consultative approach, we collaborate with you and your investment team to support the delivery of optimized investment solutions that address complex portfolio challenges and consistently deliver the expected results.

No matter what your needs entail, from an informed view on a market event, asset class or a specific stock, to insights on individual strategies or strategic guidance on your entire investment program, our team of investment strategists, portfolio construction experts and solutions specialists are focused on your success.

Tap into our expertise:

- Insights on market, economic and regulatory developments
- Capital markets research and forecasting
- Global asset allocation
- Risk management
- Turnkey model and custom solutions
- Portfolio analysis, design and implementation
- Sustainable Investing / ESG analysis portfolio construction and fulfillment
- Factor-based analysis and fulfillment
- Investment manager research and operational due diligence
- Asset/liability modeling and management
- Overlay portfolio management

HOLISTIC GUIDANCE.
COMPREHENSIVE SUPPORT.

The Northern Trust Asset Management *Investment Institute* is designed to equip financial professionals with all the tools and support needed to build and grow a successful investment practice and effectively demonstrate a defined investment process to both clients and regulators:

- **Research & Insights** to empower consistent, risk-aware investment decision-making and facilitate the achievement of both investment and business goals
- **Investment Solutions** to help you enhance and efficiently expand your investment offering, including portfolio advisory services, custom portfolio design and turnkey model portfolios
- **Consultative Advisory Services** backed by a globally diverse team of investment professionals focused on helping you advance your growth initiatives, enhance client service and satisfy regulatory expectations

Rounding out the *Investment Institute* offering is an extensive suite of thought leadership and insights on topics beyond investments, as well as educational conferences and events and tools and materials to support practice management and client communications.

Learn more about the *Investment Institute* at NTAMInvestmentInstitute.com.

Access a broad array of thought leadership:

Capital Market Assumptions

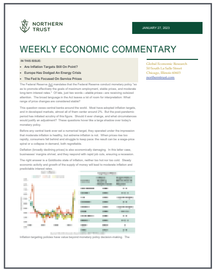
Asset Allocation

Portfolio Construction

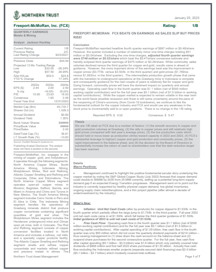
Market Update

For illustrative purposes only.

Economic
Research



Equity
Research

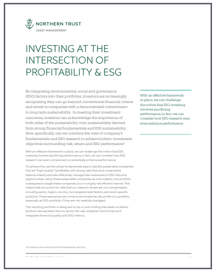


Fixed Income
Research

Factor-based
Investing

Retirement
Planning

Sustainable
Investing (ESG)

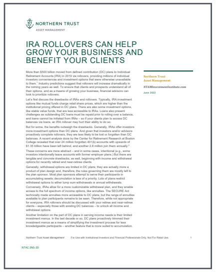


Alternatives

Tax & Wealth
Transfer Strategies

Family Office
Insights

Practice
Management



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LET OUR EXPERTS BE YOUR EXPERTS.

When you partner with Northern Trust Asset Management, you gain a trusted advisor dedicated to your success. Our Investment Solutions program provides a robust framework to navigate global markets and empowers the design of effective multi-asset investment solutions for a range of investor goals.

To discover more about how Northern Trust Asset Management Investment Solutions and the *Investment Institute* can help you realize your objectives, please contact your Northern Trust Relationship Manager or NTAMIISolutionsExperts@ntrs.com.

LEARN MORE Visit us at NTAMInvestmentInstitute.com

THE INVESTMENT SOLUTIONS VALUE PROPOSITION

1

NORTHERN TRUST

Access to the comprehensive resources of the firm, a $1.0 trillion platform[1]

2

Differentiated perspectives and thought leadership on global markets, economic environments and topics beyond investments

3

Robust capital markets research informing a time-tested asset allocation discipline focused on risk management

4

Insightful portfolio consulting and analysis to guide optimized portfolio construction and efficient implementation

5

Distinctive portfolio design and implementation focused on getting paid for risk and meeting investor goals

[1] Assets under management as of December 31, 2022. For the Northern Trust Asset Management entities included in AUM total, please see the important information at the end of this document.

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IMPORTANT INFORMATION

For Use with Institutional Investors/Financial Professionals Only. Not For Retail Use.

The information contained herein is intended for use with current or prospective clients of Northern Trust Investments, Inc. The information is not intended for distribution or use by any person in any jurisdiction where such distribution would be contrary to local law or regulation. Northern Trust and its affiliates may have positions in and may effect transactions in the markets, contracts and related investments different than described in this information. This information is obtained from sources believed to be reliable, and its accuracy and completeness are not guaranteed. Information does not constitute a recommendation of any investment strategy, is not intended as investment advice and does not take into account all the circumstances of each investor. Opinions and forecasts discussed are those of the author, do not necessarily reflect the views of Northern Trust and are subject to change without notice.

This report is provided for informational purposes only and is not intended to be, and should not be construed as, an offer, solicitation or recommendation with respect to any transaction and should not be treated as legal advice, investment advice or tax advice. Recipients should not rely upon this information as a substitute for obtaining specific legal or tax advice from their own professional legal or tax advisors. References to specific securities and their issuers are for illustrative purposes only and are not intended and should not be interpreted as recommendations to purchase or sell such securities. Indices and trademarks are the property of their respective owners. Information is subject to change based on market or other conditions.

About the Rankings and Awards shown on page 2:

Past performance is not indicative of future results.

Pensions & Investments - Unless otherwise noted, rankings were published in Pensions & Investments magazine's "2022 Special Report on the Largest Money Managers," and are based on 12/31/2021 AUM. Rankings are calculated based on 444 investment management firms responding to P&I's online questionnaire. To qualify for inclusion in the rankings, each firm must manage assets for U.S. institutional tax-exempt clients, such as qualified retirement plans, endowments or foundations, and answer the minimum required questions. Multi-Manager ranking appeared in "Special Report: Investment Outsourcing – Managers see demand for innovation," 7/4/2022 based on P&I data and NTAM OCIO AUM of $98.7 billion as of 3/31/2022.

All securities investing and trading activities risk the loss of capital. There is no assurance that any of the securities discussed herein will remain in a portfolio at the time you receive this report or that securities sold have not been repurchased. Each portfolio is subject to substantial risks including market risks, strategy risks, adviser risk and risks with respect to its investment in other structures. There can be no assurance that any portfolio investment objectives will be achieved, or that any investment will achieve profits or avoid incurring substantial losses. No investment strategy or risk management technique can guarantee returns or eliminate risk in any market environment. Risk controls and models do not promise any level of performance or guarantee against loss of principal. Any discussion of risk management is intended to describe Northern Trust's efforts to monitor and manage risk but does not imply low risk.

Past performance is no guarantee of future results. Performance returns and the principal value of an investment will fluctuate. Performance returns contained herein are subject to revision by Northern Trust. Comparative indices shown are provided as an indication of the performance of a particular segment of the capital markets and/or alternative strategies in general. Index performance returns do not reflect any management fees, transaction costs or expenses. It is not possible to invest directly in any index. Net performance returns are reduced by investment management fees and other expenses relating to the management of the account. Gross performance returns contained herein include reinvestment of dividends and other earnings, transaction costs, and all fees and expenses other than investment management fees, unless indicated otherwise. For additional information on fees, please refer to Part 2A of the Form ADV or consult a Northern Trust representative.

Forward-looking statements and assumptions are Northern Trust's current estimates or expectations of future events or future results based upon proprietary research and should not be construed as an estimate or promise of results that a portfolio may achieve. Actual results could differ materially from the results indicated by this information.

Northern Trust Asset Management is composed of Northern Trust Investments, Inc. Northern Trust Global Investments Limited, Northern Trust Fund Managers (Ireland) Limited, Northern Trust Global Investments Japan, K.K, NT Global Advisors, Inc., 50 South Capital Advisors, LLC, Belvedere Advisors LLC, Northern Trust Asset Management Australia Pty Ltd, and investment personnel of The Northern Trust Company of Hong Kong Limited and The Northern Trust Company.

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