THE GUIDE TO MULTI-ASSET STRATEGIES
1 | Current Market Environment

Challenges facing today’s investors
WE’RE ENTERING A LOWER RETURN ENVIRONMENT

FIVE-YEAR ASSET CLASS TOTAL RETURN FORECASTS (%)

---|---|---|---|---|---|---|---|---|---|---|---|---|
5.2 | 2.2 | 2.7 | 2.0 | 4.6 | 5.8 | 5.8 | 6.2 | 8.3 | 7.2 | 6.0 | 5.4 | 2.7 |

Over the next five years, the base case may only be a 5% portfolio return.

Source: Northern Trust Asset Management. Pre-tax strategic, growth and income investor portfolio model. All figures in percentage terms. Forward-looking statements could differ from actual results. For illustrative purposes only. CMA model expected returns do not show actual performance. Forecasts are as of 2018.
Delivering returns is getting harder

Efficient Frontiers — 2007 vs. 2018

Not only are investors finding it more difficult to generate returns versus 10 years ago — it’s taking more research, due-diligence and advanced technology to do so.

Source: Northern Trust Asset Management. Shows efficient frontier for Northern Trust Accredited Strategic Asset Allocation model.
MORE RISK IS NEEDED TO ACHIEVE THE SAME RETURN

EXPECTED RETURN VS. EXPECTED RISK

<table>
<thead>
<tr>
<th></th>
<th>1998</th>
<th>2008</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investment Grade Bonds</td>
<td>100%</td>
<td>65%</td>
<td>25%</td>
</tr>
<tr>
<td>U.S. Equity</td>
<td>10%</td>
<td>30%</td>
<td>20%</td>
</tr>
<tr>
<td>International Dev. Equity</td>
<td>25%</td>
<td>20%</td>
<td>10%</td>
</tr>
<tr>
<td>Emerging Market Equity</td>
<td>10%</td>
<td>15%</td>
<td>15%</td>
</tr>
<tr>
<td>Private Equity</td>
<td>10%</td>
<td>15%</td>
<td>15%</td>
</tr>
</tbody>
</table>

EXPECTED RETURN

<table>
<thead>
<tr>
<th></th>
<th>1998</th>
<th>2008</th>
<th>2018</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>5.9%</td>
<td>5.9%</td>
<td>5.9%</td>
</tr>
</tbody>
</table>

EXPECTED RISK

<table>
<thead>
<tr>
<th></th>
<th>1998</th>
<th>2008</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>4.0%</td>
<td>7.1%</td>
<td>11.6%</td>
</tr>
</tbody>
</table>

Source: Northern Trust Asset Management. 1998 expected returns and standard deviations are based on the Bloomberg Barclays Agg. Bond Index. 2008 and 2018 expected returns and standard deviations are based on Northern Trust CMAs for their respective year.

Achieving a consistent return today compared to 10 or 20 years ago requires investors to take on more risk and develop a more complex portfolio.
The Role of Multi-Asset Strategies

A go-to solution in challenging markets
MULTI-ASSET STRATEGIES HAVE EVOLVED

PRIMARY TYPES OF STRATEGIES

Target Risk
Strategies that are designed to perform according to an investor’s tolerance for risk. Strategies can range from conservative to aggressive in nature.

Target Return
Strategies that target a specific return hurdle in an efficient way. The greater the return hurdle, the greater the level of risk required.

Multi-asset strategies are not new — the increase in adoption and innovation around portfolio construction is new.

Strategies have historically taken similar approaches that center around basic diversification.

Today’s strategies are designed to achieve more specific investor outcomes by leveraging new asset classes or overlaying tactical management.
The broad appeal of multi-asset strategies has resulted in participation by financial advisory firms large and small.
Providing better outcomes to clients, increased efficiency and ease of implementation are the primary reasons for adoption.

THE REASONS WHY ADVISORS USE MULTI-ASSET STRATEGIES

- 23% Deliver better investment outcomes for my clients
- 17% Allows me to efficiently scale my business
- 17% Easy implementation (i.e., saves me time)
- 14% My value to clients is holistic financial planning (i.e., not investment management)
- 9% Low cost
- 3% My firm suggests using these products
- 17% Other
- 3% Other

3 The Benefits

- Deliver better investment outcomes
- Streamline or scale your practice
- Manage fees with greater efficiency
MULTI-ASSET STRATEGIES HELP AVOID COSTLY “MARKET TIMEOUTS”

When meaningful market shifts occur, it is difficult to make tactical changes or re-balance multiple portfolios quickly. Multi-asset strategies can simplify execution of portfolio changes to avoid costly market timeouts.

10-YEAR GROWTH OF $100K

- Fully invested: $200K
- Missing top day: $190K
- Missing top 5 days: $159K
- Missing top 10 days: $136K

Total Return: 100% 90% 59% 36%

When meaningful market shifts occur, it is difficult to make tactical changes or re-balance multiple portfolios quickly. Multi-asset strategies can simplify execution of portfolio changes to avoid costly market timeouts.

Source: Northern Trust Asset Management, Bloomberg. Data from 12/31/2008 through 12/31/2018. Chart above represents a hypothetical growth of $100K initial investment in global equities (represented by MSCI ACWI Index). Past performance is no guarantee of future results. Periods greater than one year are annualized except where indicated. Returns reflect the reinvestment of dividends and other earnings and are shown before the deduction of investment management fees, unless indicated otherwise. Returns of the indexes also do not typically reflect the deduction of investment management fees, trading costs or other expenses. It is not possible to invest directly in an index. Indexes are the property of their respective owners, all rights reserved.
CREATE A SMOOTHER RIDE TO HELP AVOID PERFORMANCE SWINGS

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<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>EM Equities</td>
<td>79.0</td>
<td>Global RE</td>
<td>20.0</td>
<td>TIPS</td>
<td>13.6</td>
<td>Global RE</td>
<td>29.8</td>
<td>U.S. Equities</td>
<td>32.6</td>
<td>Global RE</td>
<td>14.7</td>
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<tr>
<td>High Yield</td>
<td>58.8</td>
<td>EM Equities</td>
<td>19.2</td>
<td>Inv. Grade</td>
<td>7.8</td>
<td>EM Equities</td>
<td>16.6</td>
<td>Dev. ex-U.S.</td>
<td>21.6</td>
<td>U.S. Equities</td>
<td>13.4</td>
</tr>
<tr>
<td>Global RE</td>
<td>41.3</td>
<td>U.S. Equities</td>
<td>15.4</td>
<td>Global Fixed</td>
<td>5.6</td>
<td>Dev. ex-U.S.</td>
<td>17.0</td>
<td>Infrastructure</td>
<td>15.0</td>
<td>Infrastructure</td>
<td>13.0</td>
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<tr>
<td>Natural Res.</td>
<td>36.1</td>
<td>High Yield</td>
<td>14.9</td>
<td>High Yield</td>
<td>5.0</td>
<td>U.S. Equities</td>
<td>16.1</td>
<td>60/40</td>
<td>12.3</td>
<td>Inv. Grade</td>
<td>6.0</td>
</tr>
<tr>
<td>Dev. ex-U.S.</td>
<td>34.4</td>
<td>Natural Res.</td>
<td>11.0</td>
<td>U.S. Equities</td>
<td>2.0</td>
<td>High Yield</td>
<td>15.8</td>
<td>High Yield</td>
<td>7.4</td>
<td>60/40</td>
<td>12.3</td>
</tr>
<tr>
<td>U.S. Equities</td>
<td>27.1</td>
<td>60/40</td>
<td>10.7</td>
<td>Infrastructure</td>
<td>-0.4</td>
<td>Infrastructure</td>
<td>11.9</td>
<td>Global RE</td>
<td>2.2</td>
<td>TIPS</td>
<td>3.6</td>
</tr>
<tr>
<td>Infrastructure</td>
<td>24.3</td>
<td>Dev. ex-U.S.</td>
<td>8.4</td>
<td>60/40</td>
<td>-1.2</td>
<td>60/40</td>
<td>11.4</td>
<td>Natural Res.</td>
<td>1.5</td>
<td>High Yield</td>
<td>2.5</td>
</tr>
<tr>
<td>60/40</td>
<td>23.0</td>
<td>Inv. Grade</td>
<td>6.5</td>
<td>Global RE</td>
<td>8.1</td>
<td>Natural Res.</td>
<td>7.2</td>
<td>Inv. Grade</td>
<td>-2.0</td>
<td>Global Fixed</td>
<td>0.8</td>
</tr>
<tr>
<td>TIPS</td>
<td>11.4</td>
<td>TIPS</td>
<td>6.3</td>
<td>Dev. ex-U.S.</td>
<td>-11.8</td>
<td>TIPS</td>
<td>7.0</td>
<td>EM Equities</td>
<td>-2.3</td>
<td>EM Equities</td>
<td>-1.8</td>
</tr>
<tr>
<td>Global Fixed</td>
<td>6.9</td>
<td>Infrastructure</td>
<td>5.8</td>
<td>Natural Res.</td>
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<td>Global Fixed</td>
<td>4.3</td>
<td>Global Fixed</td>
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<td>Dev. ex-U.S.</td>
<td>-3.9</td>
</tr>
<tr>
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<td>5.9</td>
<td>Global Fixed</td>
<td>5.5</td>
<td>EM Equities</td>
<td>-18.2</td>
<td>Inv. Grade</td>
<td>4.2</td>
<td>TIPS</td>
<td>-8.6</td>
<td>Natural Res.</td>
<td>-9.7</td>
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<tr>
<td>Global Fixed</td>
<td>2.5</td>
<td>EM Equities</td>
<td>19.3</td>
<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

Performance of any given asset class can shift dramatically from year to year. A diversified multi-asset strategy may help smooth out that ride for clients in a cost- and risk-efficient way.

Source: Northern Trust Asset Management, Bloomberg. Gross total returns in USD. 10-year return and risk (standard deviation) columns are annualized through 12/31/2018. **Past performance is no guarantee of future results.** Periods greater than one year are annualised except where indicated. Returns reflect the reinvestment of dividends and other earnings and are shown before the deduction of investment management fees, unless indicated otherwise. Returns of the indexes also do not typically reflect the deduction of investment management fees, trading costs or other expenses. It is not possible to invest directly in an index. Indexes are the property of their respective owners, all rights reserved.
Attempting to time the market, and other investor behaviours, have resulted in the average investor tending to underperform both the equity and fixed income markets.

Multi-asset strategies can help mitigate emotional behaviour and keep clients invested.

### THE RESULTS OF INVESTOR BEHAVIOUR — ANNUALISED RETURNS FOR 1998–2017 (%)

<table>
<thead>
<tr>
<th></th>
<th>1 Year</th>
<th>5 Year</th>
<th>10 Year</th>
<th>20 Year</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>EQUITIES</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Average equity fund investor</td>
<td>20.6</td>
<td>10.9</td>
<td>4.9</td>
<td>5.3</td>
</tr>
<tr>
<td>S&amp;P 500 Index</td>
<td>21.8</td>
<td>15.8</td>
<td>8.5</td>
<td>7.2</td>
</tr>
<tr>
<td><strong>FIXED INCOME</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Average fixed income fund investor</td>
<td>1.5</td>
<td>1.3</td>
<td>0.5</td>
<td>0.4</td>
</tr>
<tr>
<td>Bloomberg-Barclays Aggregate Treasury Index</td>
<td>2.3</td>
<td>3.3</td>
<td>4.6</td>
<td></td>
</tr>
</tbody>
</table>

Average investor underperformance:
- 1 Year: 1.2%
- 5 Year: 4.9%
- 10 Year: 3.6%
- 20 Year: 1.9%

SCALABLE STRATEGIES CAN FREE UP (MUCH-NEEDED) TIME

Investing and responding to client inquiries are a full-time job.

~25 hours per week
The average time an advisor spends on investment functions¹

~19 meetings per week
The average number of client consultations an advisor has²

Leaving less time for...

...new client acquisition

...holistic financial planning

...managing regulatory requirements

...back-office operations

...training and office administration

¹ “The Race to Scalability 2018,” FlexShares Exchange Traded Funds. Includes advisor respondents ranging in AUM from < $75 million to > $3 billion.

² Meetings per week calculated by taking the average number of clients an advisor has, 185 (Source: “Portfolio Construction: The Advisor View,” FUSE & WealthManagement.com, June 2018), multiplied by the average client consultations they receive per year, 5 (Source: Qualtrics, “The Financial Advisor Client Experience Report”), then divide the total by an assumed rate of 50 working weeks a year.
ALLOWING YOU TO FOCUS ON...

1. **Client Reviews**
   Portfolio customisation requires time to prepare, discuss and explain to clients.

   **Aligning clients to similar strategies** helps streamline this process and allows time for more meaningful discussions.

2. **New Business**
   Scaling your investment process to allow for smaller accounts or more efficient management of larger accounts could help increase profit margins and revenue.

   A recent study found 62% of advisors that work with external managers have grown their client base and 30% realised an increase in overall revenue.¹

3. **Show Holistic Value**
   Investors are in a growing age of efficient markets, robo-advisory and changing dynamics of communication.

   There has never been a more critical time for advisors to showcase the holistic value they provide in addition to investment expertise.

¹ “The Race to Scalability 2018,” FlexShares Exchange Traded Funds. Includes advisor respondents ranging in AUM from < $75 million to > $3 billion.
A clearly defined investment process streamlines client communications while strengthening client relationships.

**BENEFITS OF A MULTI-ASSET STRATEGY WITH A DEFINED INVESTMENT PROCESS**

1. Implement consistent investment strategies for clients with similar risk profiles

2. Reduce meeting prep-time and simplify client conversations

3. Use investment strategies with documented due diligence and research coverage

4. Increase the opportunity to deeply understand and monitor fewer strategies, versus constantly reviewing various allocations across multiple groups of similar clients
A potential way to reduce fees and increase clients’ net returns

How Multi-Asset Strategies Can Help

<table>
<thead>
<tr>
<th>Gross Portfolios Returns</th>
<th>Find a multi-asset strategy that uses tactical management to potentially increase your gross returns.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Client Expenses:</td>
<td></td>
</tr>
<tr>
<td>Fund Fee</td>
<td>Leverage cost-efficient vehicles like ETFs or index-based strategies to bring down fund fees.</td>
</tr>
<tr>
<td>Management Fee</td>
<td>Reduce administrative fees with potential reduction of trading and due-diligence costs.</td>
</tr>
</tbody>
</table>

Client Net Returns

Multi-asset strategies are designed to add value across the spectrum so that advisors can deliver the net returns clients need to meet their goals.

The key is to use a strategy that implements efficiently.
Multi-Asset Investing at Northern Trust Asset Management

40+ years of demonstrated experience and commitment
Northern Trust Asset Management is a global investment manager that helps investors navigate changing market environments, so they can confidently realise their long-term objectives.

We have earned the confidence of investors worldwide by offering distinctive solutions, diverse insights and an exceptional client experience.

1Assets under management as of December 31, 2018.
2Pensions & Investments worldwide institutional assets under management as of December 31, 2017.
3Pensions & Investments total worldwide assets under management as of December 31, 2017.
4Pensions & Investments as of March 31, 2018.
We’ve honed our expertise over **four decades** as a discretionary asset manager — entrusted by institutional investors for total portfolio design and construction.

This provides a **distinctly informed** perspective and advantage.
The guide to multi-asset strategies

3 DISTINCT WAYS OUR TIME-TESTED APPROACH ADDS VALUE FOR MULTI-ASSET INVESTORS

1. **Optimise strategic asset allocation**
   Our strategic asset allocation serves as the foundation of every portfolio and is grounded by our “forward-looking, historically aware” approach.

2. **Capitalise on market opportunities through tactical asset allocation**
   We seek to add value by exploiting near-term financial market opportunities and tactically incorporating active risk constraints on asset class overweights/underweights.

3. **Implement efficiently**
   We implement our asset allocation through exchange-traded funds or passive vehicles designed to improve risk, cost and tax efficiency.

Our strategies are built with a time-tested, global asset allocation discipline and enhanced by extensive risk management and portfolio construction expertise.
As long-term investors, we don’t chase performance or the latest fads. We take a forward-looking and flexible approach based on our best thinking — proprietary capital markets research that identifies key market drivers — to thoughtfully navigate varying market environments and deliver on our clients’ goals.
Every investment we provide is efficiently managed, empirically driven and integrates the purposeful application of risk to strategies marked by high conviction, quality and transparency.

For illustrative purposes only.

THE GUIDE TO MULTI-ASSET STRATEGIES
Over the past 10+ years, Northern Trust Asset Management’s tactical portfolio has outperformed the benchmark with lower volatility.

**THE RESULTS: MORE VALUE WITH LESS RISK**

<table>
<thead>
<tr>
<th>CUMULATIVE GROWTH*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tactical Portfolio</td>
</tr>
<tr>
<td>---------------------</td>
</tr>
<tr>
<td>Cumulative Return</td>
</tr>
<tr>
<td>Tactical Portfolio</td>
</tr>
<tr>
<td>60/40 Portfolio</td>
</tr>
</tbody>
</table>

* Indexed to $100.

Source: Northern Trust Asset Management, Bloomberg. Performance and volatility data through 12/31/2018. Start date is based on the inception of the hypothetical model portfolio, 12/31/2007. The Tactical model portfolio asset class hypothetical expected returns are developed annually by Northern Trust’s Capital Market Assumptions Working Group. Tactical Portfolio is a hypothetical model portfolio based on Investment Policy Committee asset allocation decisions and asset class index proxies, which cannot be directly invested in and may change over time; return figures are gross of fees and exclude any potential transaction costs or expenses. Hypothetical performance results do not reflect actual trading and have certain inherent limitations. The 60/40 portfolio comprises the MSCI ACWI total return and Bloomberg Barclays U.S. Aggregate indices, respectively. All volatility figures are annualized and use weekly data. Past performance is not indicative of future results. There are risks involved in investing including possible loss of principal. There is no guarantee that the investment objectives of any fund or strategy will be met. Risk controls and models do not promise any level of performance or guarantee against loss of principal.
Northern Trust Asset Management has built a range of multi-asset strategies with different risk, return and time-horizon characteristics.

## Multi-Asset Strategies

<table>
<thead>
<tr>
<th>STRATEGY</th>
<th>OFFERINGS</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Core Global Asset Allocation</td>
<td>Managed Account: Managed to a 60/40 risk profile</td>
<td>Our Core Global Asset Allocation strategy puts our asset class outlook, market forecasts and global investment themes into action to create an optimal and efficient mix of global equities, fixed income, real assets(^2) and cash in an effort to outperform the 60/40 blended benchmark.(^3)</td>
</tr>
<tr>
<td>Global Diversified Portfolios</td>
<td>Managed Accounts: Target Risk Portfolios, Maximum Growth, Growth with Moderate Income, Growth with Income, Income with Moderate Growth, Income, Custom</td>
<td>Diversified Strategist Portfolios combine Northern Trust's asset allocation, portfolio construction, and risk management expertise with quantitative active equity and fixed income strategies to provide globally diversified, risk-efficient solutions across a range of investor goals.</td>
</tr>
<tr>
<td>Bespoke Solutions</td>
<td>Managed Account: Managed to the client's specific risk tolerance</td>
<td>Our bespoke solutions are designed to deliver improved investment outcomes with less risk over a range of time horizons. Investment mix and risk profiles are set by a client's specific objectives.</td>
</tr>
</tbody>
</table>

1 These Multi Asset Strategies have different investment objectives and risk tolerances.
2 Real Assets include Listed Infrastructure, Real Estate, Natural Resources, and Gold.
3 60/40 blended benchmark consists of 60% MSCI All Country World Index and 40% Bloomberg Barclays Global Aggregate Bond Index (USD Hedged). It is not possible to invest directly in an index.
ACCESSING OUR GLOBAL INVESTMENT INSIGHTS

Financial advisors have access to a broad array of thought leadership from Northern Trust Asset Management.
SUMMARY

1. The current low-return environment requires investors to assume more risk to achieve targeted returns.

2. Advisors increasingly rely on multi-asset class strategies to improve investor outcomes.

3. Utilising multi-asset class strategies enables financial advisors to focus on client relationships and business building.

4. Northern Trust Asset Management has been developing and refining multi-asset class strategies for more than 40 years.

LEARN MORE about Northern Trust Asset Management’s multi-asset class expertise. Please contact us at: +852 2918 2900 or clientserviceapac@ntrs.com
IMPORTANT INFORMATION

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IMPORTANT INFORMATION

continued

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Capital Market Assumption (CMA) model expected returns do not show actual performance. CMA model expected returns are based on IPC Forecasted Returns and reflect Northern Trust’s Investment Policy Committee’s (IPC) forward-looking annual capital market assumptions.

The Capital Market Assumptions Working Group (CMAWG), a subset of IPC members, publishes its assumptions as a white paper report. Forecasted returns are for average annual returns (geometric basis). Five-year forecasts are developed annually; most recent forecasts released [7/13/2018]. The model cannot account for the impact that economic, market, and other factors may have on the implementation and ongoing management of an actual investment strategy. Model outcomes do not reflect actual trading, liquidity constraints, fees, expenses, taxes and other factors that could impact the future returns. The model assumptions are passive only. References to expected returns are not promises or even estimates of actual returns an investor may achieve. The assumptions, views, techniques and estimates set out are provided for illustrative purposes only.

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The Northern Trust Company of Hong Kong Limited (CE no. ACO807) (TNTCHK) is incorporated in Hong Kong and is licensed by the Securities and Futures Commission (SFC) of Hong Kong to conduct Type 1 (dealing in securities), Type 2 (dealing in futures), Type 4 (advising on securities) and Type 9 (asset management) regulated activities pursuant to the Securities and Futures Ordinance (SFO) of Hong Kong. TNTCHK only deals with ‘professional investors’ (as defined by the SFO and its subsidiary legislation) and does not hold any client assets.

The Northern Trust Company has a Representative Office in Kuala Lumpur which is subject to regulation in Malaysia by Bank Negara Malaysia. The Northern Trust Company has a Singapore Branch, which is a foreign wholesale bank regulated by the Monetary Authority of Singapore.

The Northern Trust Company has a Representative Office in Seoul which is subject to regulation in South Korea by the Financial Services Commission of Korea.

Pursuant to Class Order/transitional relief granted by the Australian Securities and Investments Commission (ASIC), Northern Trust Global Investments Limited (“NTGIL”) is exempt from the requirement to hold an Australian Financial Services Licence (“AFSL”) under the Corporations Act. NTGIL is authorised and regulated by the FCA under UK laws, which differ from Australian laws. Similarly, The Northern Trust Company of Hong Kong Limited (“TNTCHK”) is exempt from the requirement to hold an AFSL under the Corporations Act. TNTCHK is authorized and regulated by the SFC under Hong Kong laws, which differ from Australian laws. For investors in Australia, this material is directed to and should only be accessed by wholesale and professional investors within the meaning of the Corporations Act 2001 (Cth) and is not intended for retail clients. For investors in New Zealand, this material is directed to and should only be accessed by registered financial service providers and is not intended for retail clients.

The Northern Trust Company ABN 62 126 279 918 holds AFSL No. 314970.

For more information, read our legal and regulatory information about individual market offices.

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