

# Can Absolute Return Protect Against the Comeback of Volatility?

#### Key Ideas

- Institutional investors face a dilemma: Given the multi-year strong rally in equity markets, the challenge today is to preserve those gains should volatility make a comeback.
- Absolute return strategies hold the potential for improving portfolio efficiency and protecting on the downside, but the heterogeneity of this group of investments requires careful evaluation and application.
- We show that by focusing on absolute return outcomes instead of categorizations you can glean practical insight into their use: how to fund them, how to identify true sources of diversification and how to set your own return expectations.

#### **UNCORRELATED ANSWERS®**

#### Richard Yasenchak, CFA

Senior Managing Director, Head of Client Portfolio Management

#### Valerie Azuelos

Managing Director, Product Specialist

#### Kevin Armstrong, CFA

Managing Director, Consultant Relations



#### Introduction

Since the global financial crisis nearly a decade ago, institutional investors have looked at absolute return strategies to increase diversification and reduce portfolio volatility to improve risk-adjusted returns. Today, global equity markets have risen substantially while volatility has reached historical lows. How much longer can this continue? The dilemma for investors is preserving those gains in equities should volatility return to historically normal levels.

But are absolute return strategies the answer? We'll attempt to answer this question through the lenses of correlation, volatility and return.

#### Absolute Return to the Rescue?

We believe absolute return strategies can help protect the strong gains equity markets offered over the past nine years. After all, they tend to offer low correlation to traditional asset classes which can help reduce overall portfolio volatility and drawdowns. It's a nice promise, but the flexible nature of absolute return strategies make it difficult to understand how any one strategy might impact your portfolio.

Strategies of similar names or classifications can have a myriad of different attributes (e.g., benchmarks, beta exposures, investment horizons, timing decisions, etc.) that will drive a variety of results. To understand their impact on your portfolio, you need to see the forest through the trees. You need to ignore categorization; instead, focus on outcomes of correlation, volatilities and return given the common expectations for absolute return strategies (Table 1).

## TABLE 1 COMMON EXPECTATIONS FOR ABSOLUTE RETURN STRATEGIES

Common expectations	Attributes
Positive return regardless of market direction	Lower correlation
Focus on alpha with less beta risk	Volatility reduction
Reference point is cash plus	Higher risk-adjusted returns

# Absolute Return Correlations – Diversifying or Growth-Oriented Strategies?

You can generally think of absolute return as either growth oriented strategies (e.g., directional equity, event driven, relative value) that are geared to have higher correlations to equity markets or diversifying strategies (e.g., market neutral, global macro, multi-strategy) that should have lower correlations to equity markets. Overall, the correlations to equity will vary based on underlying objectives, but you should expect substantially lower correlations to equity from diversifying strategies given their lower return expectations and risk targets. The lower correlation characteristics of the diversifying strategies could justify a larger allocation than growth oriented strategies in the overall multiple asset portfolio.

<sup>1</sup> We broadly use the term of absolute return but recognize that not all hedge fund strategies have absolute return as their return objective.

#### Correlation

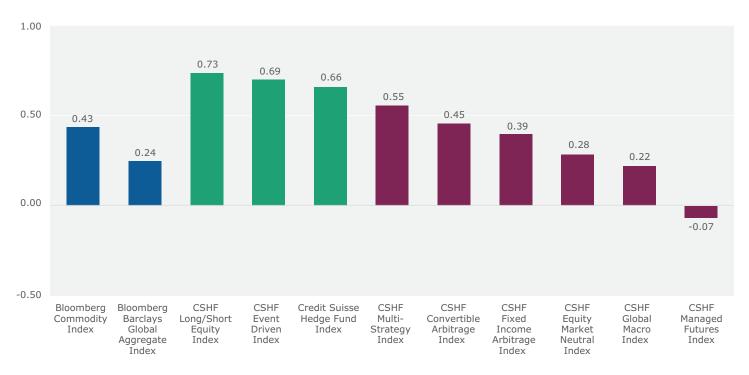
Correlation measures the tendency of two assets to move in tandem. It's the foundation of prudent portfolio construction. Investors recognize the benefit of reducing the average portfolio volatility by combining uncorrelated assets. Therefore, when considering absolute return strategies for your portfolio, it's critical to find options that have a low correlation with traditional asset classes.

In Figure 1, we highlight the correlation of various asset classes and absolute return strategies to global equity risk – the predominant risk in a multiple asset class portfolio.<sup>2</sup> The absolute

return strategies have a wide range of correlations relative to the global equity market index. While market neutral strategies have lower correlations to global equities since these strategies seek to offset most of the market risk, the correlation to the MSCI All Country World Index is still relatively high at 0.35 for a strategy that seeks to hedge out beta risk. Conversely, directional and event driven strategies tend to have the highest correlations given their net long bias. Overall, as a group, the absolute return categories exhibit higher correlations to global equities than what might be expected. The challenge is to find those individual absolute return strategies that show a tendency to provide lower correlations over time.

#### Many Absolute Return Strategies Exhibit High Correlations to Equities

FIGURE 1
CORRELATIONS OF ABSOLUTE RETURN STRATEGIES TO MSCI ALL COUNTRY WORLD INDEX
January 1, 1998 to December 31, 2017



<sup>&</sup>lt;sup>2</sup> We examine the returns of absolute return strategies that have exposure to equities and/or offset equity risk in some manner. Returns of the funds that composed HFRI indexes are net of fees.

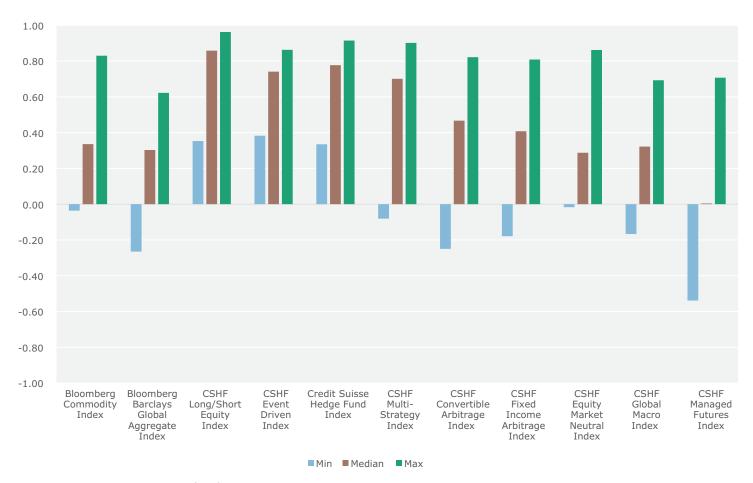
#### **Application**

All absolute return strategies attempt to help you dampen portfolio volatility but their correlations to risk assets can tell a great deal about how to use them. The replacement for some portion of the entire multiple asset portfolio is from a strategy that demonstrates diversification over various time periods and ideally preserves upside potential.

As shown in Figure 2, it's important to note that correlations can and will vary over time given certain market environments. Overall market volatility is a key driver impacting those variations. For instance, during periods of acute market stress, systematic risk overwhelms asset-specific risk as investors rush to quality; consequently, there's a tendency for risky assets to become increasingly correlated. What's more, the fact that assets move in the same direction is only part of the problem. The magnitude of those movements matter too. That's why absolute return investors also need to examine return volatility.

FIGURE 2
ROLLING 36-MONTH CORRELATION RANGES OF VARIOUS ASSET CLASSES TO
MSCI ALL COUNTRY WORLD EQUITY INDEX

January 1, 1998 to December 31, 2017



#### Volatility

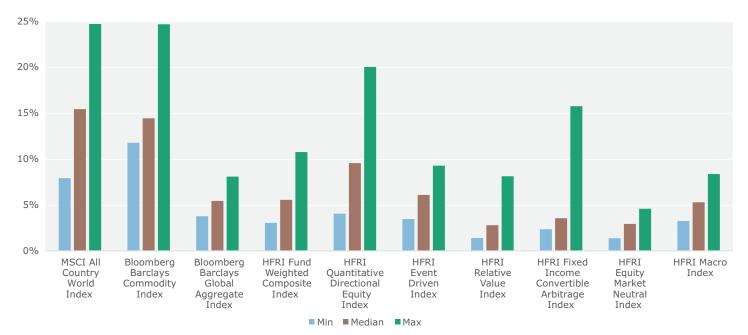
Diversification is not only about correlation. Standard deviation, as a straight-forward measure of volatility, is also an important factor in evaluating absolute return strategies. Like correlations, the volatility differences between absolute return strategies vary greatly over time. A beneficial absolute return strategy should offer not only the potential for significant volatility reduction, but also downside protection (relative to global equities) through a variety of risk regimes.

Figure 3 provides the range of rolling 36-month volatility of traditional asset classes and absolute return strategies. It's not surprising to see that global equity and commodities have the largest range of volatility as they tend to have more pronounced volatility regimes. The absolute return strategies generally provide a narrower range of returns relative to global equities, yet the range of returns across absolute return strategies is wide.

"Diversification is not only about correlation. Standard deviation, as a straight-forward measure of volatility, is also an important factor in evaluating absolute return strategies."

#### The Magnitude of Returns Can Vary Greatly

ROLLING 36-MONTH STANDARD DEVIATION RANGES OF VARIOUS ASSET CLASSES
January 1, 1998 to December 31, 2017



<sup>&</sup>lt;sup>3</sup> For purposes of this paper, we use standard deviation rather than beta because beta is a measure of both correlation and relative volatility, which are both covered in the paper to give better insight on what's driving the beta.

#### **Application**

These illustrations make it clear that any assessment of the diversification potential of absolute return strategies must look beyond just correlations. The range of returns matters too. Strategies with low correlation are good diversifiers, but lower variability in returns helps diversification as well.

As a simple example, consider the benefits of bonds as a diversifier for equities. Low correlation is not the only factor helping bonds dampen portfolio volatility; indeed, there are periods when bonds are more correlated to equities as observed in Figure 2. It's their lower total volatility that also helps bonds reduce average portfolio volatility.

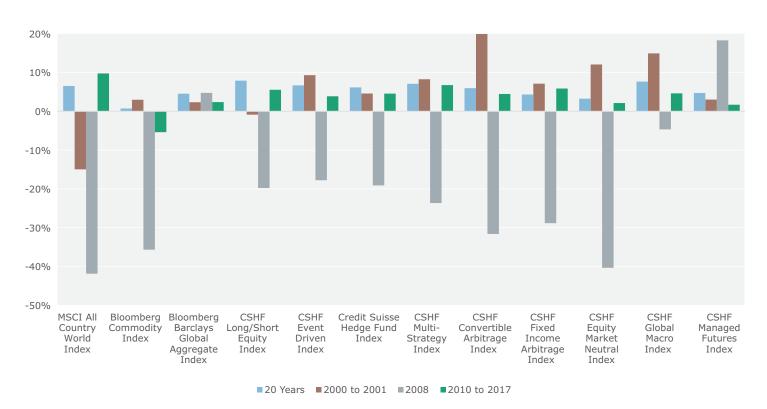
#### Returns

While correlation and volatility are important, they may not be your first thought when you're trying to cover your plan liabilities or meet return expectations. Positive returns are an expected feature of absolute return strategies. Unfortunately, providing consistent, positive returns is easier said than done.

Figure 4 illustrates the difficulty in generating positive returns. To get a better sense of the consistency in performance of absolute return strategies, we look at their results over various periods.

#### Returns are Positive Except When They're Not

FIGURE 4 **RETURNS FOR VARIOUS ASSET CLASSES**January 1, 1998 to December 31, 2017



Generally, absolute return strategies appear to provide consistent, positive returns over the long-term. Combined with correlation, this return profile can provide you with more confidence in funding absolute return strategies; however, returns during the global financial crisis might give you pause. At that time, many absolute return strategies experienced significant negative performance. Even equity market neutral strategies, which are expected to fully hedge market risk, may have disappointed investors seeking positive returns.

You should expect that returns are not always positive in the short-term even for absolute return strategies. For many absolute return strategies, the global financial crisis demonstrated their "expected worst case" risk, or maximum drawdown.

Whether returns are positive or negative, we believe that returns should compensate you for risk. Risk-adjusted measures of return and drawdown are important. To illustrate the point, we compare and contrast the risk and return characteristics of traditional asset classes and alternative return strategies over the previous 10- and 20-year time periods in Figure 5.

We shouldn't be surprised that absolute return strategies' 10-year returns are lower than their 20-year returns given that cash rates have been close to zero more recently. Sharpe ratio is the most common risk-adjusted return measure. By dividing the return by the risk (as measured by standard deviation), we get a sense of the return compensation by unit of risk taken. On average, risk-adjusted returns for absolute return strategies have declined over the past 10 years. Yet, many of these strategies provided higher risk-adjusted returns relative to traditional asset classes over 10 and 20 years evidenced by higher Sharpe ratios.

FIGURE 5
RISK-RETURN CHARACTERISTICS OF ABSOLUTE RETURN AND OTHER INVESTMENTS
January 1, 1998 to December 31, 2017

MSCI All Country World Index	Bloomberg Commodity Index	Bloomberg Barclays Global Aggregate Index	CSHF Long/Short Equity Index	CSHF Event Driven Index	Credit Suisse Hedge Fund Index	CSHF Multi- Strategy Index	CSHF Convertible Arbitrage Index	CSHF Fixed Income Arbitrage Index	CSHF Equity Market Neutral Index	CSHF Global Macro Index	CSHF Managed Futures Index
6.57%	0.76%	4.58%	7.94%	6.73%	6.20%	7.13%	6.01%	4.37%	3.29%	7.70%	4.77%
15.56%	16.24%	5.61%	9.08%	6.21%	6.14%	4.70%	6.61%	5.39%	9.94%	7.06%	11.38%
0.30	-0.07	0.46	0.66	0.77	0.69	1.10	0.61	0.44	0.13	0.81	0.25
54.57%	67.03%	10.08%	22.00%	19.15%	19.68%	24.72%	32.88%	29.02%	45.10%	26.79%	17.77%
0.12	0.01	0.45	0.36	0.35	0.32	0.29	0.18	0.15	0.07	0.29	0.27
3.51	4.13	1.80	2.42	3.09	3.20	5.26	4.97	5.38	4.54	3.79	1.56
	Country World Index 6.57% 15.56% 0.30 54.57% 0.12	Country World Index         Bloomberg Commodity Index           6.57%         0.76%           15.56%         16.24%           0.30         -0.07           54.57%         67.03%           0.12         0.01	MSCI All Country World Index         Bloomberg Commodity Index         Barclays Global Aggregate Index           6.57%         0.76%         4.58%           15.56%         16.24%         5.61%           0.30         -0.07         0.46           54.57%         67.03%         10.08%           0.12         0.01         0.45	MSCI All Country World Index         Bloomberg Commodity Index         Barclays Global Flong/Short Equity Index         CSHF ong/Short Equity Index           6.57%         0.76%         4.58%         7.94%           15.56%         16.24%         5.61%         9.08%           0.30         -0.07         0.46         0.66           54.57%         67.03%         10.08%         22.00%           0.12         0.01         0.45         0.36	MSCI All Country World Index         Bloomberg Commodity Index         Barclays Global Aggregate Fequity Index         CSHF Event Equity Index         CSHF Event Equity Index           6.57%         0.76%         4.58%         7.94%         6.73%           15.56%         16.24%         5.61%         9.08%         6.21%           0.30         -0.07         0.46         0.66         0.77           54.57%         67.03%         10.08%         22.00%         19.15%           0.12         0.01         0.45         0.36         0.35	MSCI All Country World Index         Bloomberg Gommodity Index         Barclays Global Equity Index         CSHF Long/Short Equity Driven Index         Suisse Hedge Fund Index           6.57%         0.76%         4.58%         7.94%         6.73%         6.20%           15.56%         16.24%         5.61%         9.08%         6.21%         6.14%           0.30         -0.07         0.46         0.66         0.77         0.69           54.57%         67.03%         10.08%         22.00%         19.15%         19.68%           0.12         0.01         0.45         0.36         0.35         0.32	MSCI All Country World Index         Bloomberg Golbal Index         CSHF Long/Short Equity Index         CSHF Event Priven Index         Suisse Fund Multi-Strategy Index         CSHF Multi-Strategy Index           6.57%         0.76%         4.58%         7.94%         6.73%         6.20%         7.13%           15.56%         16.24%         5.61%         9.08%         6.21%         6.14%         4.70%           0.30         -0.07         0.46         0.66         0.77         0.69         1.10           54.57%         67.03%         10.08%         22.00%         19.15%         19.68%         24.72%           0.12         0.01         0.45         0.36         0.35         0.32         0.29	MSCI All Country World Index         Bloomberg Gommodity Index         CSHF Long/Short Equity Index         CSHF Long/Short Event Priven Index         Suisse Hedge Fund Index         CSHF Multi-Strategy Index         CSHF Arbitrage Index           6.57%         0.76%         4.58%         7.94%         6.73%         6.20%         7.13%         6.01%           15.56%         16.24%         5.61%         9.08%         6.21%         6.14%         4.70%         6.61%           0.30         -0.07         0.46         0.66         0.77         0.69         1.10         0.61           54.57%         67.03%         10.08%         22.00%         19.15%         19.68%         24.72%         32.88%           0.12         0.01         0.45         0.36         0.35         0.32         0.29         0.18	MSCI All Country World Index         Bloomberg Goldbal Index         CSHF Long/Short Equity Index         CSHF Long/Short Equity Driven Index         Suisse Hedge Fund Index         CSHF Multi-Strategy Index         CSHF Convertible Arbitrage Index         Fixed Income Arbitrage Index           6.57%         0.76%         4.58%         7.94%         6.73%         6.20%         7.13%         6.01%         4.37%           15.56%         16.24%         5.61%         9.08%         6.21%         6.14%         4.70%         6.61%         5.39%           0.30         -0.07         0.46         0.66         0.77         0.69         1.10         0.61         0.44           54.57%         67.03%         10.08%         22.00%         19.15%         19.68%         24.72%         32.88%         29.02%           0.12         0.01         0.45         0.36         0.35         0.32         0.29         0.18         0.15	MSCI All Country World Index         Bloomberg Goldbal Index         CSHF Long/Short Equity Index         CSHF Long/Short Equity Index         Suisse Hedge Fund Index         CSHF Long/Short Equity Index         CSHF Long/Short Equity Index         CSHF Long/Short Equity Index         CSHF Long/Short Equity Index         CSHF Multi-Strategy Index         CSHF Convertible Arbitrage Arbitrage Index         Equity Index           6.57%         0.76%         4.58%         7.94%         6.73%         6.20%         7.13%         6.01%         4.37%         3.29%           15.56%         16.24%         5.61%         9.08%         6.21%         6.14%         4.70%         6.61%         5.39%         9.94%           0.30         -0.07         0.46         0.66         0.77         0.69         1.10         0.61         0.44         0.13           54.57%         67.03%         10.08%         22.00%         19.15%         19.68%         24.72%         32.88%         29.02%         45.10%           0.12         0.01         0.45         0.36         0.35         0.32         0.29         0.18         0.15         0.07	MSCI All Country World Commodity Fund Index   Subsection   Strategy World Index   Strategy   Stra

Source: FactSet. Credit Suisse Hedge Fund (CSHF) Index information is shown net of fees. Indexes are unmanaged and investors cannot invest directly in an index. Results reflect monthly data. All information is presented as of the date range shown. Information for other periods and more current periods will be different. Past performance does not predict future returns.

Another measure of risk is the maximum drawdown or percentage decline from a market high to a market low. After all, investors are concerned by risk to the extent that it translates into losses. We observe that the maximum drawdown for absolute return strategies was generally less than that for global equities since they protect against downside risk. Another helpful measure of risk-adjusted return can be calculated by dividing a strategy's annualized return by the maximum drawdown over the same period. A higher maximum drawdown lowers this ratio and reflects that the return realized comes with periods of higher losses. By limiting downside risk, you can see that this ratio is generally higher for absolute return strategies than that offered by the MSCI All Country World for both 10 and 20 year time frames.

#### **Application**

Returns fund your liabilities, but headline figures can set the wrong expectations for absolute return strategies. You're likely to see both positive and negative returns, depending on the risk environment. Accounting for the risk taken by a strategy to generate returns is always an important consideration.

A strategy's Sharpe ratio indicates the extra return a strategy generates adjusted by the realized risk over time. A good outcome for an absolute return strategy is to provide a higher Sharpe ratio than the traditional equity and fixed income asset classes.

Additionally, the expectation for positive returns from absolute return strategies requires understanding those returns against a different risk: drawdown. For common time periods, you can use the maximum drawdown adjusted return as a simple way to understand how well strategies have been compensated given their worst-case return scenario.

Simple measures can provide good reference points along the lines of return relative to volatility (Sharpe ratio) and return relative to drawdown. Of course, risk-adjusted measurements don't stop here, but the point is undeniable: returns may be absolute, but you should always view them through a lens of risk.

### Beware of the Impact of Incentive Fees on Risk-Adjusted Returns.

The returns of absolute return strategies in fund databases are generally net of management fees and incentive fees. These fees are accrued monthly, which reduces volatility and increases the Sharpe ratio of a strategy. They do this by lowering returns during positive performance months and raising them during negative months. For example, if a fund has a positive gross return in one month then a negative gross return the next month, the fund is credited back what it was overcharged in the prior month when it had a positive return. As a general rule: The higher the incentive fee, the lower the volatility and the higher the Sharpe ratio (even though total return is reduced). Incentive fees not only reduce the fund's performance but it also decreases its volatility.

<sup>&</sup>lt;sup>4</sup> The Calmar Ratio and Managed Account Reports (MAR) Ratio are additional measurements for drawdown adjusted returns.

#### Conclusion

Today's allocations to return-seeking investments requires a keener eye managing portfolio-level risk and institutions are often turning to absolute return strategies as a solution. But absolute return strategies are not a homogeneous group of investments. It's critical to determine if these strategies are different enough from traditional and other alternative assets classes to provide diversification opportunities while providing the returns you need to fund liabilities.

In this paper, we demonstrated how straightforward measures of diversification can be helpful in assessing the application of absolute return strategies in a multiple-asset portfolio. Taking a close look at diversification properties – correlation and volatility – we present practical use cases for absolute return strategies.

To help establish return expectations, we also examined the persistency of "absolute" returns over different market environments. We show that despite their unique performance contours, absolute return strategies are like their traditional counterparts when it comes to performance evaluation. You must use risk-adjusted metrics.

Absolute return strategies can help you preserve recent gains from exposure to stock markets and can protect against the comeback in volatility. We hope this simple picture of correlations, volatility and returns provides you with a framework for assessing the potential for absolute return strategies.

#### Disclaimer

#### **United States Investors**

The views presented are for general informational purposes and do not purport to address the financial objectives or specific investment needs of any individual reader, investor, or organization. The information expressed herein is subject to change based on market and other conditions and should not be used as the sole basis for investment decisions. Although the information contained herein has been obtained from sources believed to be reliable, its accuracy and completeness cannot be guaranteed.

All content is presented as of the date published or indicated only, and may be superseded by subsequent market events or for other reasons. Past performance is no guarantee of future results. Investing involves risk, including possible loss of principal and fluctuation of value. There is no guarantee that any absolute return strategy will be able to achieve its long-term objective or achieve positive absolute returns during up or down markets. While these strategies target a specific risk objective, actual or realized results for longer or shorter periods may be materially higher or lower than the stated objective depending on market conditions.

MSCI makes no express or implied warranties or representations and shall have no liability whatsoever with respect to any MSCI data contained herein. The MSCI data may not be further redistributed or used as a basis for other indices or any securities or financial products. This material has not been approved, reviewed, or produced by MSCI.

#### **Europe and Middle East Investors**

The views presented are as of the date published. They are for information purposes only and should not be used or construed as investment, legal or tax advice or as an offer to sell, a solicitation of an offer to buy, or a recommendation to buy, sell or hold any security, investment strategy or market sector. Nothing in this material shall be deemed to be a direct or indirect provision of investment management services specific to any client requirements. Opinions and examples are meant as an illustration of broader themes, are not an indication of trading intent, are subject to change and may not reflect the views of others in the organization. It is not intended to indicate or imply that any illustration/example mentioned is now or was ever held in any portfolio. No forecasts can be guaranteed and there is no guarantee that the information supplied is complete or timely, nor are there any warranties with regard to the results obtained from its use. Janus Henderson Investors is the source of data unless otherwise indicated, and has reasonable belief to rely on information and data sourced from third parties. Past performance does not predict future returns. Investing involves risk, including the possible loss of principal and fluctuation of value.

Not all products or services are available in all jurisdictions. This material or information contained in it may be restricted by law, may not be reproduced or referred to without express written permission or used in any jurisdiction or circumstance in which its use would be unlawful. Janus Henderson is not responsible for any unlawful distribution of this material to any third parties, in whole or in part. The contents of this material have not been approved or endorsed by any regulatory agency.

Janus Henderson Investors is the name under which investment products and services are provided by the entities identified in the following jurisdictions: (a) **Europe** by Janus Henderson Investors International Limited (reg no. 3594615), Janus Henderson Investors UK Limited (reg. no. 906355), Janus Henderson Fund Management UK Limited (reg. no. 2678531), Henderson Equity Partners Limited (reg. no.2606646), (each registered in England and Wales at 201 Bishopsgate, London EC2M 3AE and regulated by the Financial Conduct Authority) and Janus Henderson Investors Europe S.A. (reg no. B22848 at 2 Rue de Bitbourg, L-1273, Luxembourg and regulated by the Commission de Surveillance du Secteur Financier); (b) **Singapore** by Janus Henderson Investors (Singapore) Limited (Co. registration no. 199700782N). This advertisement or publication has not

been reviewed by Monetary Authority of Singapore; (c) Hong Kong by Janus Henderson Investors Hong Kong Limited. This material has not been reviewed by the Securities and Futures Commission of Hong Kong; (d) **South Korea** by Janus Henderson Investors (Singapore) Limited only to Qualified Professional Investors (as defined in the Financial Investment Services and Capital Market Act and its sub-regulations); (e) **Japan** by Janus Henderson Investors (Japan) Limited, regulated by Financial Services Agency and registered as a Financial Instruments Firm conducting Investment Management Business, Investment Advisory and Agency Business and Type II Financial Instruments Business; (f) Australia and New Zealand by Janus Henderson Investors (Australia) Limited (ABN 47 124 279 518) and its related bodies corporate including Janus Henderson Investors (Australia) Institutional Funds Management Limited (ABN 16 165 119 531, AFSL 444266) and Janus Henderson Investors (Australia) Funds Management Limited (ABN 43 164 177 244, AFSL 444268); (g) the Middle East by Janus Henderson Investors International Limited, regulated by the Dubai Financial Services Authority as a Representative Office. This document relates to a financial product which is not subject to any form of regulation or approval by the Dubai Financial Services Authority ("DFSA"). The DFSA has no responsibility for reviewing or verifying any prospectus or other documents in connection with this financial product. Accordingly, the DFSA has not approved this document or  $\,$ any other associated documents nor taken any steps to verify the information set out in this document, and has no responsibility for it. The financial product to which this document relates may be illiquid and/or subject to restrictions on its resale. Prospective purchasers should conduct their own due diligence on the financial product. If you do not understand the contents of this document you should consult an authorised financial adviser. No transactions will be concluded in the Middle East and any enquiries should be made to Janus Henderson. We may record telephone calls for our mutual protection, to improve customer service and for regulatory record keeping purposes.

For use only by institutional, professional, qualified and sophisticated investors, qualified distributors, wholesale investors and wholesale clients as defined by the applicable jurisdiction. Not for public viewing or distribution. Marketing Communication

Janus Henderson, Knowledge Shared and Knowledge Labs are trademarks of Janus Henderson Group plc or one of its subsidiaries.  $\odot$  Janus Henderson Group plc.

#### **Australia Investors**

This information is issued by Intech Investment Management LLC (Intech) and is intended solely for the use of wholesale clients, as defined in section 761G of the Corporations Act 2001 (Cth) and is not for general public distribution. Intech is permitted to provide certain financial services to wholesale clients pursuant to an exemption from the need to hold an Australian financial services licence under the Corporations Act 2001. Intech is regulated by the United States Securities & Exchange Commission (SEC) under U.S. laws, which differ from Australian laws. By receiving this information you represent that you are a wholesale client.

For educational purposes ONLY. This document does not constitute and should not be construed as investment, legal or tax advice or a recommendation, solicitation or opinion regarding the merits of any investments. Nothing in the document shall be deemed to be a direct or indirect provision of investment management services or an offer for securities by Janus Henderson Investors and its subsidiaries ("Janus Henderson") and is not considered specific to any client requirements. Anything non-factual in nature is an opinion of the author(s), and opinions are meant as an illustration of broader themes, are not an indication of trading intent, and are subject to change at any time due to changes in market or economic conditions. Janus Henderson is not responsible for any unlawful distribution of this document to any third parties, in whole or in part, or for information reconstructed from this document and do not guarantee that the information supplied is accurate, complete, or timely, or make any warranties with regards to the results obtained from its use. It is not intended to indicate or imply that current or past results are indicative of future profitability

or expectations. As with all investments, there are inherent risks that need to be addressed.

The distribution of this document or the information contained in it may be restricted by law and may not be used in any jurisdiction or any circumstances in which its use would be unlawful. This document is being provided on a confidential basis solely for the information of those persons to whom it is given. Should the intermediary wish to pass on this document or the information contained in it to any third party, it is the responsibility of the intermediary to investigate the extent to which this is permissible under relevant law, and to comply with all such law.

This document may not be reproduced or used for any purpose other than evaluation of a potential investment in Intech's products or the procurement of its services by the recipient of this document or provided to any person or entity other than the recipient of this document. We may record telephone calls for our mutual protection, to improve customer service and for regulatory record keeping purposes.

Past performance is not a guarantee of future results. There is no assurance that the investment process will consistently lead to successful investing.

The index returns are provided to represent the investment environment existing during the time periods shown. For comparison purposes, the index is fully invested, which includes the reinvestment of dividends and capital gains. The returns for the index do not include any transaction costs, management fees or other costs. Composition of each individual portfolio may differ from securities in the corresponding benchmark index. The index is used as a performance benchmark only, as Janus does not attempt to replicate an index. Because Janus' sector weightings are a residual of portfolio construction, significant differences between sector weightings in client portfolios and the index are common.

MSCI makes no express or implied warranties or representations and shall have no liability whatsoever with respect to any MSCI data contained herein. The MSCI data may not be further redistributed or used as a basis for other indices or any securities or financial products. This material has not been approved, reviewed, or produced by MSCI.

The opinions are those of the authors are subject to change at any time due to changes in market or economic conditions. The comments should not be construed as a recommendation of individual holdings or market sectors, but as an illustration of broader themes.

Data source is Intech throughout unless otherwise indicated.

Janus Henderson Investors US LLC serves as investment adviser. Janus Henderson, Knowledge Shared and Knowledge Labs are trademarks of Janus Henderson Group plc or one of its subsidiaries. © Janus Henderson Group plc.

Asia Investors

The information expressed herein is subject to change based on market and other conditions and is issued by Intech. The views presented are for general informational purposes only and are not intended as investment advice, as an offer or solicitation of an offer to sell or buy, or as an endorsement, recommendation, or sponsorship of any company, security, advisory service, or fund nor do they purport to address the financial objectives or specific investment needs of any individual reader, investor, or organization. This information should not be used as the sole basis for investment decisions. All content is presented by the date(s) published or indicated only, and may be superseded by subsequent market events or for other reasons. Past performance is no guarantee of future results. Investing involves risk, including possible loss of principal and fluctuation of value. Indexes are unmanaged and cannot be invested in directly.

Not all products or services are available in all jurisdictions. This material or information contained in it may be restricted by law, may not be reproduced or referred to without express written permission or used in any jurisdiction or circumstance in which its use would be unlawful. Intech is not responsible for any unlawful distribution of this material to any third parties, in whole or in part. The contents of this material have not been approved or endorsed by any regulatory agency.

For use only by institutional, professional, qualified and sophisticated investors, qualified distributors, wholesale investors, and wholesale clients as defined by the applicable jurisdiction.

MSCI makes no express or implied warranties or representations and shall have no liability whatsoever with respect to any MSCI data contained herein. The MSCI  $\,$ data may not be further redistributed or used as a basis for other indices or any securities or financial products. This material has not been approved, reviewed, or produced by MSCI.

Intech is a private, quantitative asset manager investing on behalf of pension funds, governments, endowments, foundations, and other institutional investors worldwide. Having pioneered the application of Stochastic Portfolio Theory in 1987, Intech continues to seek distinctive alpha sources for clients in five continents. Today, Intech provides investment solutions encompassing ESG, absolute return, defensive equity, and traditional long-only strategies.

#### Locations

#### **HEADQUARTERS**

250 South Australian Avenue Suite 1800 West Palm Beach, FL, 33401 United States of America +1-561-775-1100

#### INTERNATIONAL OFFICE

201 Bishopsgate London EC2M 3AE United Kingdom +44 (0)20 7818 5600

#### Contacts

#### **NORTH AMERICA**

John F. Brown EVP, Head of Global Client Development jbrown@intechinvestments.com 1-561-775-1163

#### INTERNATIONAL

David Schofield

President, International

dschofield@intechinvestments.com

+44 (0)20 7818 5600

